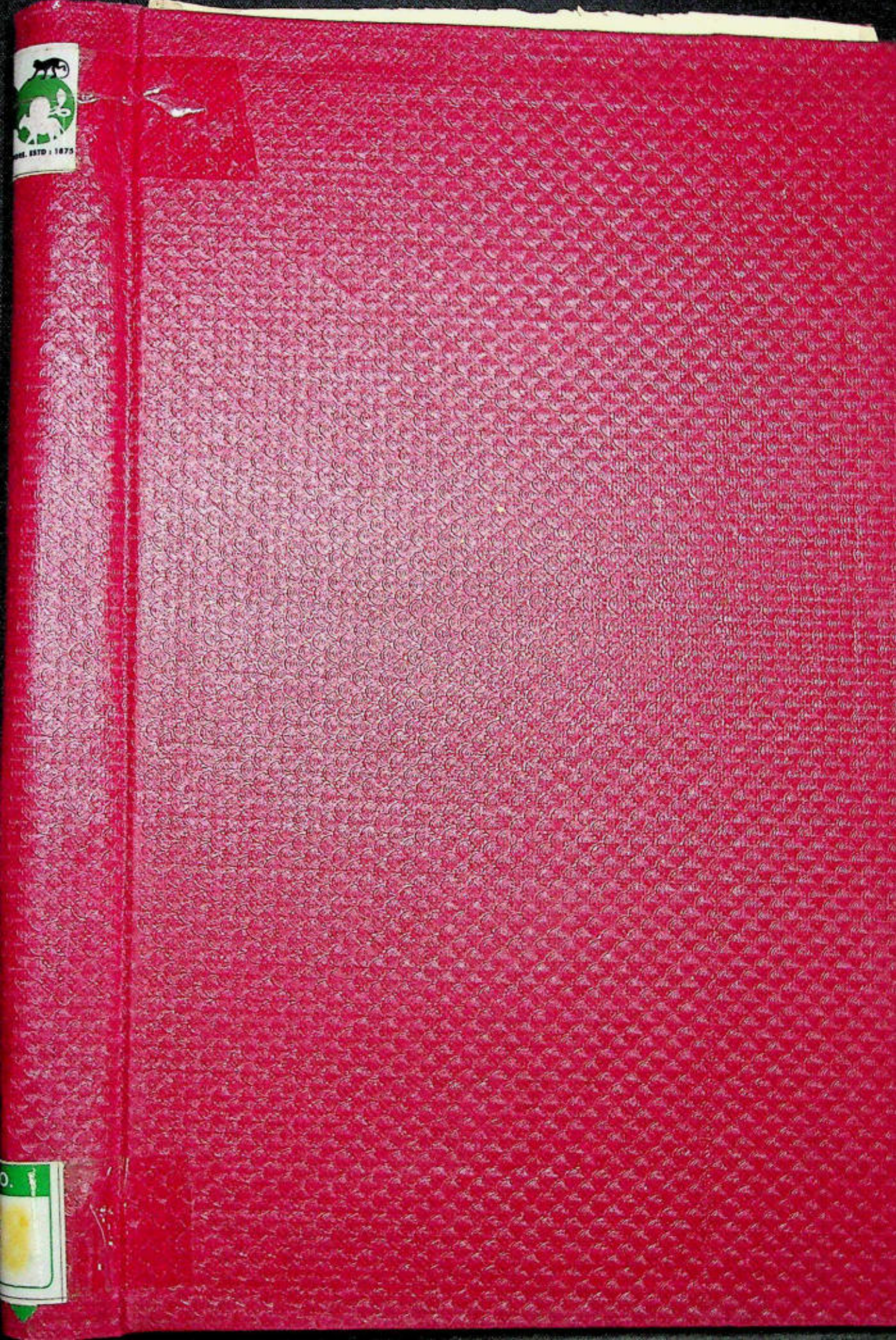


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STRAY FEATHERS

A JOURNAL OF ORNITHOLOGY FOR INDIA AND ITS DEPENDENCIES

EDITED BY

ALLAN HUME

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PREFACE.

In presenting this sixth volume, the Editor has, as usual, to make many apologies for having *done* much that he ought *not* to have done, and for having left *un*done much that he *ought* to have done.

Clearly it is not the correct thing to bring out a whole year's numbers of a magazine at once in one volume.

Still more clearly it is extremely improper for the Editor to fill that entire volume with his own writings, keeping back numerous far more valuable papers from contributors.

What is to be said of such reckless disregard of the proprieties? *Meliora videor proboque, deteriora sequor?* Certainly not! Simply that circumstances were too strong for the unhappy Editor.

Nearly the whole of this volume has been in type since the 1st of last December. The Printer *insisted* on printing it off—Collectors in Tenasserim protested that they *must,* and *would,* have a book on the birds of the province to help them, or they would leave off collecting. It seemed best to give the whole list in *one* volume, better far than dividing it into several. Even after excising all about nidification, it fills an entire volume.

Nolens volens, therefore, other contributions had to be kept back, *but* the publication of Vol. VII will commence at once, and probably during the present and next year, *three* volumes will be published instead of two.

Turning now to this irregular volume, which must be considered an extra one, the Editor would earnestly entreat his readers to *begin* by going carefully through the 1st Appendix, *Addenda and Corrigenda*, and correcting by this the errors in the text. He has taken the utmost pains with this list, but the indigenous devil has been too strong for him, and the number of errors that have, despite the greatest care, escaped notice (some of them entirely vitiating the sense of the passages in which they occur) is very grievous.

It will be observed that the form of index has been changed. Hitherto two separate indexes, both of specific names only, have been given—the one of *all* species mentioned in the volume, the other of those species *only* that have been therein described or discriminated

Many subscribers have objected, first to the double indexes, second to these being arranged only by *specific* names.

In deference to these remonstrances, the Editor has determined henceforth to have only a single index, in which every species noticed will be indexed both by specific and generic names; in fact an index similar to that appended to Count Salvadori's *Uccelli di Borneo*, which is the best form of index that he has seen. He sincerely hopes *now* that no one will write to him further on this subject, which is a very sore one with him, as, unlike European Editors, he has to prepare every index with his own hands—a by-no-means pleasing relaxation for a busy man.

A. O. H.

STRAY FEATHERS.

Vol. VI.] JUNE 1878. [Nos. 1—6.

A Revised List* of the Birds of Tenasserim.

By A. O. Hume & W. Davison.†

No one can be more alive than myself to the painfully imperfect character of this paper. It is in fact merely a series of fragments, intended, when pieced together with others unfortunately not yet available, to have formed the groundwork of an account of the birds of Tenasserim.

Nevertheless, the progress of our work necessitates its publication in its at-present unavoidably inchoate condition.

More than four years ago I deputed my friend Mr. Davison with a small staff which, under his able management, has yearly increased in numbers and efficiency to explore Tenasserim ornithologically, at that time certainly the least known of the provinces of the empire so far as its avifauna was concerned.

* For previous lists, see S. F., II., 467; III., 317; IV., 223.

† Although I have written the whole of this tedious paper, and am solely responsible for all its shortcomings, I consider that my friend Mr. Davison is *really* the author of its most valuable portions. In the first place *he* and his staff collected nearly 19-20ths of the specimens on which it is based. In the second place it was *he* who recorded most industriously the great mass of the measurements in the flesh, and the colours of the soft parts which are so often referred to. I find that he himself did this in the case of more than 1,300 specimens. Those and those only who have collected personally on a large scale in a warm climate, and in wild, out-of-the-way localities, where none of the commonest necessaries of European life are available, can appreciate the perseverance and endurance that the prompt and punctual record of such particulars involves in the case of a man who has been already fagging through the jungle for 8 or 10 hours, and may have to sit up half the night to get the bodies out of his specimens before they become putrid. In the third place the entire substance of what I consider the most valuable portions of the paper, those that relate to the habits of the several species, and that I have placed in brackets with his initials appended, is solely and entirely his, the result of four years of intelligent and unwearied observation.

It is a real misfortune that he so much prefers his gun to his pen, and that we have been unable to be longer together. I do not pretend to have extracted half the information he possesses. I scarcely ever mention a bird to him without hearing something new about it, but at any rate I have succeeded in getting placed on record a great deal that is entirely new in regard to numbers of species, which scarcely a single other competent observer has ever watched alive and in a wild state, and whatever he may say he is clearly entitled to be considered, *at least* joint-author of the paper in which his experiences are recorded.

Ever since then the party has been working there; Davison himself at times visiting and collecting in the Malay Peninsula with one or two assistants, during the height of monsoon, or joining me for a brief period at Simla, to go through the season's work.

During this period some 8,000* specimens have been collected, and I have received about 500 more collected within the province by Dr. Armstrong, Captain Bingham, Mr. A. L. Hough, and others.

But Tenasserim, even as it stood when we commenced work, bounded on the north by the Pah-choung or frog creek, and on the south by the Pakchan, was 625 miles in length, and over 70 miles in width in many parts—a province of the most varied physical configuration, embracing every conceivable variety of tropical and sub-tropical vegetation from the dismal mangrove swamps of the coast to the gloomy pine forests of the loftiest mountains—a province, broken up by innumerable rivers and interminable creeks, traversed in all directions by complex ranges of lower and higher hills—a province in which an hour's walk may take you from the shimmering velvet of the rice plains to the inaccessible precipices of the limestone hills, from the feathery sea of the bamboo jungle to the still recesses of the primeval evergreen forests—a province, vast portions of which were not only as yet unvisited by any European, but which pathless and uninhabited it seemed impossible to visit—a province teeming almost without parallel with wild fruit and flowers and insect life, and with an avifauna worthy of this glorious profusion, and this marvellous diversity of physical surroundings.

But since we commenced work, administrative exigencies have led to the still further extension northwards of this large province by the incorporation of the district of Tonghoo and the Karendoo and Karennee, the homes of the red and white Karens respectively.

Clearly, no one man, however gifted, could, within any reasonable period of time, achieve anything like an exhaustive exploration, even ornithologically, of this enormous and difficult tract. From the Pah-choung to the Pakchan, Davison has completed a sort of preliminary reconnaissance (impaired alas by some sad breaks), sufficient to give us some general idea of the avifauna of these portions of the province and its distribution, while Lieutenant Wardlaw Ramsay and Major Lloyd's collections in Tonghoo and the Karen country, little as we have

* Since this was in type Davison has brought up about 600 more specimens chiefly collected in the Tavoy district. These will be found referred to in Appendix I, *Addenda et Corrigenda*.

heard of them,* have answered to some extent the same purpose in the portions not visited by Davison.

But general ideas are quite insufficient; accurate and detailed knowledge of distribution is essential, and the time has clearly come when, if the work is really to be pushed to any thing like a satisfactory result, more labourers are required in Nature's vineyard.

Mr. Davison has been fortunate enough in the course of his explorations to enlist the sympathies of many in our work; untried hands for the most part, but willing to become tried ones if only they can be put to a certain extent in the way of knowing what is wanted, and enabled to identify the birds they meet with and distinguish those in regard to which information is more particularly required from those with which we are comparatively well acquainted.

This is my sole, and I submit not insufficient, excuse for publishing the fragmentary list, which is all that I can yet offer of the birds of Tenasserim.

At present, something like 150 of those species, in regard to which further information is most to be desired, are as it were beyond the possible ken of our would-be co-operators.

They are not included in Jerdon, neither have they been described in STRAY FEATHERS. The only descriptions of them, too often meagre and unsatisfactory ones, are scattered through old volumes of the J. A. S. B. (long since out of print), the huge series of the P. Z. S., the Revue. Zool. and Rev. et Mag. de Zool., and innumerable other works, all equally and utterly inaccessible to the sportsman with ornithological predelictions posted in the backwoods of British Burmah.

The first object, therefore, of this present paper is, while furnishing as complete a list as possible of all the birds known or asserted to have occurred in the province, to provide in the case of each species not described in Jerdon's "Birds of India," either a full description or a reference to some previous passage in STRAY FEATHERS where this already occurs.

But having placed our friends in a position to identify their specimens, it yet remains to show them the kind of locality, so far as we know, in which the several species are to be looked for; which are rare, which common, what we know (little though it be), about their distribution, and to give some idea of what we believe to be their habits.

The second object of the paper is to meet these requirements.

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* Since this was written I have had to thank Lieutenant Ramsay for a copy of a valuable paper which he has lately published, which I have repeatedly quoted further on.

I have entered each species under the name, which, so far as my present information goes, is that which, according to the British Association Code, it should bear. I have not yet half worked out the synonymy of this large body of species, and I do not doubt that a great number of errors will be found to exist in the nomenclature.

I have added some few synonyms and references which may be useful to my Indian readers, if they chance to meet with other books dealing with the same species.

Immediately, after the name of each species, I have added in brackets the number* of specimens (excluding some few given away) which we have procured of this species within the province. This will, to a certain extent, serve as a guide as to the comparative rarity or otherwise of the species in those portions of the province as yet explored by us, and will also indicate those species of which we most require additional specimens.

Then I have given, in small type, a complete list of all the localities arranged in order from north to south, at which the specimens obtained by us were procured. I have been unable to prepare a map showing all these localities, for the simple reason that not half of them occur on any existing map (the province is as yet unsurveyed), and of those that doubtless *must* be in the maps, not one-half can be recognized in the peculiar spelling adopted by geographers for Burmese names.

But though I have been foiled in furnishing a map, I have added (see Appendix II) an alphabetical list of all places from which Davison has procured any specimens, with an explanation of position and distance of each in regard to and from some really well-known place that *is* to be found in every map, as also, so far as it is known, the elevation above the sea-level of all places in the hills.

Further, I have added in italics and in brackets other localities from which we know that others (whose names are also given) have of recent years obtained the species, and I have been particularly careful to do this in the case of specimens collected by Major Lloyd and Lieutenant W. Ramsay in Tonghoo, Karendoo (or the Karen hills) and Karennee, as we have as yet no specimens thence.

To this follows as concise a resumé as possible of all I have been able to learn of the general distribution of the species within the province.

This will doubtless prove in many cases sadly incorrect, but it will show every one where they can put us right, and with the list of localities will enable them at once to see whether

* Excludes the 600 odd specimens collected in Tavoy subsequent to the "revised list" being printed off.

any observation they make as to the occurrence in *any* locality of *any* species will be of use in working out the distribution.

A few words of explanation as to the terms I have used in defining so far as it is known to me, the area of distribution of each species may here be useful.

By Tenasserim proper I intend to signify that portion of the province which was included within its limits when we commenced work, and to exclude Tonghoo, Karendoo and Karennee.

When I talk of the northern, and southern halves of the province, I understand the latitude of Moulmein to be about the line of division.

When I allude to northern, central and southern portions of Tenasserim, I consider the central portion to commence about or a little north of the 17° N. L. and to extend southwards to or nearly to the 13° N. L. I cannot here attempt any generalizations, the prime object of this paper being to elicit information on which such can be securely based, but I may remark that this latter boundary seems to be a true zoological one, and that a vast number of Malayan species, both birds and mammals, seem to extend northwards to about the 13° N. L., *i.e.*, the latitude of the head of the Gulf of Siam, and no further.

Moolyit, the only mountain of 6,000 feet and upwards that we have yet examined, will often be mentioned, and it may seem at first sight almost to have an avifauna of its own. But in the first place we have not yet explored, in fact nobody has, the (it is *said*) equally high or higher hills belonging to the same range further south in the latitude of Tenasserim town.

In the second place Moolyit, it will be borne in mind, belongs to a range that almost immediately north of this peak, runs *outside* our territory, and this will explain the apparent anomaly of many species occurring in Tonghoo or Karennee, and nowhere in the intervening 200 to 250 miles of country till Moolyit is reached. There is probably no real break, but the range by which all these species travel southwards to Moolyit lies outside our territory between this latter and Karennee, though some of its spurs come down near to Kyouk-nyat, which again accounts for isolated specimens of some of these species turning up in that neighbourhood.

Many of these species very probably also occur further south on the highest (and as yet entirely unknown) portions of this same range, and possibly in some of the higher hills in the intermediate ranges.

What is at present specially perplexing in Tenasserim is, that besides its main range, the back-bone of the Malay Peninsula, it includes one, two, or three, more or less parallel ones, between

this and the sea, not yet surveyed, and barely indicated on even the best maps, to each of which some species seem more or less confined, and that along these valleys and ridges, species seem to run further, sometimes a hundred miles further, south or north, in the valleys than they do in the hills, or in the hills, than they do in the valleys, in a perfectly (at present) inexplicable fashion. Doubtless, further researches and the co-operation of numerous local observers, which this paper is mainly designed to render possible, will clear up much, but the distribution of species in Tenasserim must long, I fear, remain, owing to the peculiar physical configuration of the province and its vast uninhabited and inaccessible tracts, a very perplexed question.

I attempt no comparative analysis of the birds of the province. This would be at present wholly premature; at least 200 species will, I apprehend, have to be added to our list before it is completed, and it so happens that certain huge blanks in our explorations cover tracts that we have reason to believe will yield a set of species, belonging to a foreign avifauna, hardly as yet represented in our list, and altogether vitiate any conclusions that could now be drawn as to the proportions in which the Indian, Indo-Burmese, Siamese and Malayan faunas are combined in those of Tenasserim.

The sum and substance of Davison's experiences, so far as I have had time to get them recorded (and intensely as he dislikes the bother nothing could exceed the willingness and zeal with which he has aided me in this matter), will convey a clear, if not very detailed, idea of the nature of the localities affected by, and the general habits of all those species, and they are very numerous, which he has been able to observe, and will show which those are of which we know least.

Besides the descriptions of species as yet undescribed in Jerdon and Stray Feathers, I have added dimensions and colours of the soft parts of many species in regard to which too little in these respects seemed to me to be on record.

I have not touched on nidification: a great deal has been done and learnt on this subject, but I hope soon to issue a revised and greatly enlarged draft of Nests and Eggs.

I had wished to give a general sketch of the distribution elsewhere within the British Indian Empire, of each species enumerated. I did this last year in preparing that part of the paper which refers to the Sunbirds, so as to send it to Captain Shelley for his work. I have let this stand as it was ready, but I have been unable to find time to do it for any other group.

As for the arrangement of the species, it is illogical and defective, but it follows my old catalogue which is based on Jerdon's work, and from this I could not well deviate, until my revised

catalogue, now long in hand, appears, but I have added (the more so as no two ornithologists now-a-days adopt precisely the same arrangement, and nobody ever knows where to look for any species in any other person's book) an alphabetical index of all the species included in the list.

This list includes altogether 721* species. Of these 580* have been obtained by Davison or one or other of our friends, and are represented by specimens in our museum. The names of these are printed in antique type. Of 89 species, although we have failed to procure specimens, (they having for the most part only occurred in Tonghoo, Karennee, and other similar northern localities not visited by Davison) I accept the occurrence as more or less well established. The names of these are printed in ordinary type: 52 species I consider doubtful; either I doubt the validity of the species, or I doubt its occurrence. In each case I have given my reasons for so doubting. The names of these species are printed in italics.

It will be observed that I thus at present only admit the occurrence of 669 species in the province as fairly established.

There occur, so far as my present information goes, 45 species in Pegu (including some that I reject as doubtful where Tenasserim is concerned), not accepted by me as occurring in Tenasserim, and again 57 species occur in Arakan, which do not, so far as I yet know, occur either in Pegu or Tenasserim. This makes the present Burmese total up to 771† species, but as I remarked

* Including four additional species included in "*Addenda et Corrigenda.*"

† Blyth's list (as edited by Lord Walden, and enlarged by the incorporation of over 40 species, first recorded from Burmah by myself in previous papers and lists) contained 620 species, out of which 41 must be rejected as bad species, or as not occurring, so far as we yet know, within the limits of British Burmah. Of these 41, four (marked with a star) were entered on my authority. These 41 are as follow (I use the numbers in Blyth's Catalogue):—

6. Palæornis vibrisca.
30. Teraspizias rhodogastra.
69. Athene whitleyi.
130. Sasia abnormis.*
133. Hierococcyx varius.
149. Centropus rufipennis.
150. Centropus eurycercus.*
156. Caprimulgus indicus.
165. Cypselus palmarum.
172. Pica media.
184. Acridotheres ginginianus.
188. Sturnopastor nigricollis.
193. Sturnia sinensis.
195. Calornis affinis.
202. Padda oryzivora.
204. Munia punctularia.
206. Munia leuconota.
210. Passer assimilis.
247. Monticola saxatilis.
276. Cyornis tickelli.
294. Phylloscopus brunneus.
315. Garrulax albigularis.
342. Machlolophus subviridis.
354. Pomatorhinus mariæ.
358. Pellorneum ruficeps.
364. Drymocataphus fulvus.
388. Muscetrea cinerea (separately entered as No. 406, *vide* S. F. V., 101.)
392. Horeites sericea.
396. Orthotomus edela.
407. Hemipus obscurus.
411. Volvocivora sykesi.
429. Hirundo horreorum.
431. Cecropis erythropygia.
441. Buchanga intermedia.
445. Tchitrea paradisi.*
458. Hemixus flavala.
502. Dicæum virescens.*
515. Columba livia.
520. Macropygia ruficeps.
528. Bambusicola fytchei.
553. Ægialites placida.

This leaves 579 species in the Blyth and Walden list, which there are in almost every

long ago (S.-F., III., 10), the real total will not, I apprehend, be ultimately found to fall short of 1,000 species.

In conclusion, I would urge that, imperfect as this account is, I have really (as I have above endeavoured to show) tried my best to make it as useful and complete as was possible with the defective materials* and the scanty leisure at my command.

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case (a few are doubtful) good reasons for believing to occur in Burmah, or which are represented there by nearly allied species, not discriminated when Blyth wrote and not included in the list. Our present total of 71 shows an advance of nearly 200 species.

* Subsequent to the entire revised list (which has been some seven months in type) being printed off, and to the whole of this introduction being in type, some 600 odd specimens, collected chiefly about the base of Nwalabo in the Tavoy district, have been received. These show how impossible it is at present to generalize safely as to distribution; many species have turned up at Nwalabo that have not hitherto been observed so far north or south, as the case may be, by, in some instances, a hundred miles or so; some of the more important points suggested by this collection are noticed in Appendix I, *Addenda et Corrigenda*.

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REVISED LIST.

2.—Otogyps calvus, *Scop.*

Observed near Moulmein by Captain Bingham, and by Mr. Davison about Malewoon; a specimen was also examined by Davison, but unfortunately not preserved, which had been shot by Mr. L. Hough, near the head waters of the Pakchan.

4.—Gyps indicus, *Scop.*

The late Captain Beavan (P. Z. S., 1866, p. 3) recorded specimens of this Vulture as observed at Zwagaben, commonly known as the Duke of York's Nose, a limestone rock, about 25 miles north of Moulmein. He does not appear to have procured specimens, and an identification of this Vulture on the wing is scarcely sufficient. Davison says he has never yet observed it; Captain Bingham, however, has seen it feeding along with *G. bengalensis*, and does not think the one rarer than the other in the neighbourhood of Moulmein.

5.—Pseudogyps bengalensis, *Gm.* (1).

Pabyouk.

Pretty common throughout Tenasserim (and Davison has seen it as far south as Malacca), but only in the more level and tolerably populated localities. Not seen in the Hills or in dense forest, in which latter, *calvus is* occasionally met with.

8.—Falco peregrinus, *Gm.* (2).

Thatone; Amherst.

Very rare; not observed as yet in the southern portions of Tenasserim.

9.—Falco peregrinator, *Sund.* S. F., V., p. 500.

Davison has never seen this species, neither have I ever received a specimen from any part of Tenasserim.

The late Colonel Tickell recorded (vide *Ibis*, 1876, p. 339) that this species was common at Amherst, breeding on the high

Gurjon-oil trees along the coast. There are, however, none about there *now*. Davison collected vigorously there, and Dr. Armstrong collected there for six months recently, and neither ever saw a specimen. There are *now* no Gurjon-oil trees left along this coast.

Lord Tweeddale, however, says (J. A. S. B., 1875, Extra No., p. 59) that an undoubted specimen of this species was sent to him from Tonghoo by Major Lloyd.

14.—Falco severus, *Horsf.*

Mr. Blyth (B. of B.,* p. 59) gives this from Tenasserim. He does not say whether he has actually seen specimens thence, but it very probably does occur there, though we have never *obtained* or *seen* any.

16 *bis.*—Poliohierax insignis, *Wald.* (4). Descr. S. F., III., p. 20.—P. feildeni, *Hume.* Pr. A. S. B., May, 1872, p. 70.

(*Tonghoo*, Lloyd, Rams.) Myawadee; Larthorjee.

As yet only observed in Tenasserim proper, in the dry country lying between Myawadee and the outer spurs of the Mooleyit Range, and rare, Ramsay says, about Tonghoo.

[The soil in the localities in which I met with this species is very sandy; white glistening quartz sand, sparsely covered with deciduous trees *(Dillenia)* with a few stunted teak and pine trees *(P. longifolia)* and kine grass. Here this species is not very uncommon. They sit habitually on high bare dead branches. Captain Feilden's account of their habits (S. F., III., p. 21) is very accurate. As far as my experience goes they feed entirely on locusts and other insects.—W. D.]

The following are the dimensions and colors of the soft parts of three fine males and a female, recorded in the flesh:—

Males.—Length, 10·2 to 10·4; expanse, 18·0 to 18·4; tail from vent, 4·8 to 5·1; wing, 5·6 to 5·7; tarsus, 1·4; bill from gape, 0·61 to 0·68; weight, 3 to 4 ozs.

Female.—Length, 10·5; expanse, 19·1; tail from vent, 5·2; wing, 5·8; tarsus, 1·5; bill from gape, 0·7; weight, 3·5 ozs.

The legs and feet, gape, cere, lower mandible, base of upper mandible and facial skin orange yellow; rest of upper mandible and tip, and a line along sides of lower mandible, and claws, dull black; irides pale to deep brown.

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* By "B. of B." I mean to refer to the "Catalogue of Mammals and Birds of Burma," by the late E. Blyth, published as an extra number, of Part II., of the Journal of the Asiatic Society of Bengal, for August 1875.

17.—Cerchneis tinnuncula, *Lin.* (3).

(*Tonghoo*, Lloyd—*Karennee*, Rams.) Theinzeik; Thatone; Amherst.

Very common, Ramsay says, in Karennee, but very rare elsewhere, and only seen as yet in the northern and central plains portions of Tenasserim proper.

17 *bis.*—*Cerchneis saturata*, Bly. J. A. S. B., XXVIII, p. 277, 1859.

Mr. Blyth originally described this species as follows :—

"*Tinnunculus saturatus*, nobis, N. S.—Many years ago the Society received a specimen from Ye (Tenasserim), presented by the Rev. J. Barbe, R. C. M., which is noticed in my Catalogue of Birds (No. 69, I), as perhaps the female of a distinct race, remarkable for the great development of the black markings of its plumage. Mr. Atkinson has now brought a young female of the same race, in which the cap is fuscous, with scarcely an indication of rufous margining the feathers; the fuscous colour also predominating over the rufous upon the whole upper plumage, and on the tail the rufous bands are narrower than the black bands. The adult male is still a desideratum."

Later he remarked, J. A. S. B., Extra No., 1875, p. 59 :—

"*T. saturatus*, nobis, from the Tenasserim Province is perhaps a distinct race, remarkable for the great development of the black markings on its plumage, but it requires further confirmation."

The Kestril is apparently very rare in Tenasserim proper, and we only obtained three specimens, neither of which differ appreciably from examples from different parts of India.

I think the validity of this supposed species very doubtful, the more so that even in India specimens occur answering fairly well to Mr. Blyth's description. (See also S. F., V., p. 129.)

20.—Microhierax cærulescens, *Lin.* (21). S. F., III., p. 23; V., p. 127.

Pahpoon; Sinzaway; Thatone; Wimpong; Myawadee; Thoungsheyen Sakan; Mgetan.

Confined to the northern and upper central portion of the province; not observed south of the 16° N. Lat.

[I found this species equally in the plains and in the lower hills. They are not met with in very dense forest, but are most numerous in clearings, where there are a lot of dead trees about. They are usually seen in small parties of 2 to 5, but occasionally singly.

I found that they affected the top of some large tree (usually a dead one) rising higher than its neighbours, and from this view-commanding perch they took longer or shorter flights, after insects apparently, returning again and again to the same perch, even after one or more of their number (when several were together) had been shot. Their flight is very rapid, partly sailing and partly flapping. The stomachs of those I killed contained, as a rule, insects, dragon flies, beetles, grasshoppers and the like, but in the stomach of one bird I found feathers, (primaries and body feathers) evidently those of a *Prinia*. During my residence in the southern portion of the Provinces, Col. E. B. Sladen, the present Commissioner of Arracan, shot a specimen of this species at Nga Beemah on the Attaran River south-east of Moulmein.—W. D.]

Although I do not say that it is necessary to separate them specifically, yet, certainly, the Hill Tenasserim race of this little Falconet is clearly distinguishable from the Himalayan one.

Any one could separate them, as a rule, at a glance. Both frontal band and collar are wider, generally conspicuously so; the black ear patch is narrower and longer; the white markings on the inner webs of the primaries are larger and more confluent, and there is one *constant* difference, *viz.*, that the white spot, which forms the representative of the fifth bar on the inner web of the outer tail feather, approaches much nearer the point of the feather than in the Himalayan species.

This latter distinction holds good in every one of over 60 Himalayan and 30 Pegu and Tenasserim specimens, but to take only 42 specimens, the sexes of which have been ascertained by dissection, the following is the distance by which the last white spot falls short of the tip of the external tail feather,

in *Himalayan*;	and in *Pegu & Tenasserim* specimens.
♂s 0·89; 0·89; 0·93; 0·75; 1·07; 0·82; 0·8; 0·8; 0·68; 0·8; 1·1.	♂s 0·43; 0·42; 0·42; 0·42; 0·4, 0·43; 0·35; 0·4; 0·43; 0·4; 0·37.
♀s 0·77; 0·87; 0·6; 0·72; 0·68; 0·62; 0·55, 0·85, 0·8.	♀s 0·4; 0·41; 0·46; 0·43; 0·43; 0·37; 0·41; 0·45; 0·43; 0·46; 0·5.

Generally, too, the white barring on the inner webs of all the lateral tail feathers is bolder and better marked in the Tenasserim birds.

Lastly, in not one single one of these latter have we any indication of the old adult plumage of the Himalayan bird, (*vide ante*, S. F., V., p. 127.) In every single specimen, male or female, the entire breast is pure white.

There is no appreciable difference in size, I think, between the two forms; the following are the dimensions of dry wings of

Himalayan and	*Pegu & Tenasserim* examples.
♂s 3·9; 3·9; 3·77 *juv*; 3·9; 3·8; 3·9; 3·94; 3·95; 3·95; 3·95; 3·92.	♂s 3·8; 3·95; 3·73; 3·7; 3·73; 3·8; 3·8; 3·95; 3·75; 3·97; 3·87.
♀s 4·13; 4·3; 4·47; 4·1; 4·4; 4·3; 4·18; 4·32, 4·25	♀s 4·17; 4·25; 4·2; 4·1; 4·15; 4·15; 4·12; 4·25; 4·25; 4·2; 4·32.

Thus it would appear that the males have the wings always under, the females always over, four inches; those of the males range from 3·7 to 3·97, and those of the females from 4·1 to 4·47. In the general run, however, of adult males the wings only vary from 3·8 to 3·95, and similarly in adult females the usual variation is only between 4·2 and 4·35.

I note that in this species the dry wing *averages* nearly one-tenth of an inch less than the fresh one, but that this is by no means a constant quantity.

20 *ter*.—Microhierax fringillarius, *Drap.* (21).

Meeta Myo; near Laynah; Pakchan; Bankasoon; Malewoon.

Common in the southern portions of the province, at least as high up as 3,500 feet elevation, but not further north than about the 14th degree N. Lat.

[These birds appear much bolder than their more northern congener. I saw one of these little Falcons (*fringillarius*) swoop at a Rock Thrush (*Cyanocincla solitaria*) that I had disturbed. On another occasion, about 30 miles inland from Malacca, I shot a male with a living *Hirundo gutturalis* (which it had seized on the wing) in its talons, and from which it had plucked all the back feathers as well as the secondaries and tertiaries from both wings, and nearly all the primaries from one. In the stomachs of the numerous specimens I shot, I continually found the bones and feathers of sundry birds, chiefly of small ones, such as Munias, &c., but on more than one occasion have I found the remains of birds larger than the Falcon, which had killed and eaten them. I have kept a tarsus and foot entire, which I took from the crop of a female that I shot, and which, as far as I can make out, is that of *Calornis chalybæus*. At Johore I shot a male *H. fringillarius* in a thick clump of kine grass, into which it had dashed after a flock of *Munia leucogastra*, but without succeeding in striking any.

Though feeding on birds, as a rule, smaller, but undoubtedly occasionally larger than itself, the chief food probably of this little Falcon is insects of various sorts, dragon flies, beetles,

and butterflies. I say butterflies, for, although I have never found the distinguishable remains of butterflies in those I examined, I have no doubt that they *do* capture butterflies largely, and of all sizes, for the nest of a pair that I found at Bankasoon consisted of a pad composed entirely of insect-wings and the mass of these were those of butterflies.—W. D.]

The following are the dimensions and colors of the soft parts, &c., of the Black-legged Falconet.

Male.—Length, 5·75 to 6·45; expanse, 11·75 to 12·12; tail, 2 to 2·75; wing, 3·62 to 3·82; tarsus, 0·62 to 0·75; bill from gape, 0·45 to 0·55; weight, 1· to 1·5oz.

Female.—Length, 6·4 to 6·7; expanse, 12·4 to 13·12; tail, 2·25 to 2·62; wing, 3·82 to 4·15; tarsus, 0·75; bill from gape, 0·55 to 0·6; weight, 2· to 2·5oz.

The bill, legs and feet black; the irides wood brown; the orbital skin plumbeous; the eyelids black.

Adults have a narrow frontal band, a streak from a little above the posterior angle of the eye, backwards over the ear-coverts, chin, throat, sides of the neck behind the ear-coverts, cheeks immediately under the eye, breast, wing-lining, and numerous bars on the inner webs of all the wing and lateral tail feathers, white.

The upper portion of the forehead, crown, occiput, nape, and a portion of the sides of the neck behind the white streak, ear-coverts, and posterior portion of cheeks, the entire mantle, upper tail-coverts, central tail feathers and outer webs of lateral tail feathers, glossy black, with greenish reflections; secondaries, primaries and their greater coverts and winglet, blackish hair brown; sides of the body, flanks, and hinder tibial plumes, and tips of longest lower tail-coverts, also more or less glossy black; abdomen, vent, front of tibial plumes, shorter lower tail-coverts, buffy white, or pale ferruginous, or even in the oldest birds rather deep ferruginous.

When these parts become this latter color, the chin and the greater part of the throat are generally suffused with pale ferruginous.

In the quite young bird the bill is yellow, the frontal band and the streak behind the eye are pale ferruginous; the patch below the eye and a margin round the black ear-patch rather paler ferruginous buff; margin of the wing tinged with the same color; no black tip to the lower tail-coverts; abdomen very pale fawn; feathers of the mantle very narrowly fringed with sordid white; upper tail-coverts more broadly fringed with buff.

This is a bird just out of the nest, the tail feathers still showing at the extreme tips, buffy nestling down; killed in April in the latter half of the month.

22 *bis.*—Lophospiza rufitinctus, *McClell.* (2). Descr., S. F., V., pp. 8, 124, 502.

North of Pahpoon, Salween district; Bankasoon.

Extremely rare, only seen twice and then in the hills, once at the extreme south and once near the northern limits of Tenasserim proper.

The following are the dimensions and colors of the soft parts of a fine female recorded in the flesh:—

Length, 18; expanse, 33·5; tail from vent, 8·75; wing, 9·9; tarsus, 2·9; weight, 1 lb.

The legs and feet dull chrome yellow; claws horny black; bill horny brown; lower mandible tinged bluish at base and sides; cere dull greenish yellow; irides bright yellow.

23.—*Astur badius*, Gm.

This species may occur in Arracan. It has been recorded from Tenasserim, but doubtless the next species, which had not then been discriminated, was what was really obtained.

23 *bis.*—Astur poliopsis, *Hume.* (22.) Descr., S. F., II., 325.

(*Tonghoo; Karen Hills*, 4,000*ft.*, Rams.) Pahpoon; Sinzaway; near Khyketo; Thatone; Wimpong; Thoungya Sakan; Kanee; Megaloon; Khayin; Moulmein; Pabyouk; Amherst; Pakchan.

Common throughout the province, but not ascending the hills above 4,500 feet.

[The Grey-faced Shikra occurs throughout Tenasserim, but is nowhere very common. In the north it was perhaps rarer than in the south, and during January and February it was not uncommon along the banks of the higher portion of the Pakchan. On all occasions, both in the north and south, I found these birds excessively shy, seldom allowing of even a moderately near approach, which accounts for my procuring only twenty-two specimens in all out of the great numbers I have seen.

Although, as above observed, I found them not uncommon in January and February along the Pakchan, yet in May, when the rains had set in, I failed to notice a single specimen in passing along the same route; they had all probably migrated to some drier region.

The food of this species, as far as my observations extend, consists entirely of insects and small reptiles. I have observed them dash at insects on the wing, and I have frequently seen them descend to the ground to pick up something. As a rule, they seem averse to long flights: I have never seen them

hunting over a field or clearing; they remain seated on some old stump or fence, from whence they keep a look out, securing their prey by a short, sharp dash, and whether secured or missed, they continue their flight only a short distance and perch again, never, that I am aware, returning to the same perch they started from.

As a rule, they seem to prefer clearings, studded over with dead trees and old stumps, and the bamboos overhanging the Pakchan were also favorite perches for these birds (as indeed they seemed to be for numerous other birds that take their prey on the wing, such as *Dendrochelidon longipennis*, *D. cornatus*, *Merops viridis*, and *M. leschenaulti*, &c.), but I have occasionally seen them in dense forest, and on one occasion shot one about 30 miles from Malacca in such a situation.

They have a sharp note, to which they often give utterance when seated.

Perhaps they prefer the well-wooded banks of rivers and creeks to any other locality.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 12·0 to 12·75; expanse, 24·0 to 26·0; tail from vent, 5·9 to 6·62; wing, 7·3 to 8·12; tarsus, 1·9 to 2·0; bill from gape, 0·8 to 0·85; weight, 5·0 to 6·5 ozs.

Females.—Length, 13·9 to 14·62; expanse, 26·75 to 28·37; tail from vent, 6·7 to 7·37; wing, 8·3 to 9·0; tarsus, 1·8 to 2·05; bill from gape, 0·9 to 1·0; weight, 8·0 to 9·0 ozs.

Legs and feet are gamboge yellow; claws black; base of upper mandible and lower mandible, except tips, plumbeous; rest of bill black; cere and gape greenish yellow, or pale green; the irides varied considerably, bright golden yellow, orange yellow, orange red, blood red, and lake; the eyelids pale green.

23 *ter*.—Astur soloensis, *Horsf.* (1).

Malewoon, Mergui district.

A rare straggler to the southernmost portions of the province.

Our only specimen was killed by Mr. A. L. Hough. This is a male, not adult, but distinguished at once by its pure unmarked pale buff wing-lining and buffy white axillaries. Our specimen measured in the flesh:—

Length, 11; expanse, 23·75; tail from vent, 5·0; wing, 7·5; tarsus, 1·62; bill from gape, 0·75.

The legs and feet bright orange; claws black; cere and nostrils orange; gonys and base of upper mandible plumbeous; rest of bill black; irides bright yellow.

The upper part of the head is deep slaty brown; the whole mantle brown; the feathers narrowly tipped with reddish buff;

the lores and cheeks greyish white ; ear-coverts like upper part of head, but paler ; sides of the neck behind these, the visible portion of feathers, brown, margined with rufous ; lower parts white, with more or less of a creamy tinge ; each feather of the throat with a narrow dark shaft stripe ; breast feathers with broad central brownish rufous stripes, generally more or less pear-shaped or drop like ; shafts darker ; flanks and sides of the abdomen with broad irregular transverse bars, much the same color ; middle of abdomen, vent, lower tail-coverts unbarred creamy white ; tibial plumes creamy white, barred externally with brownish rufous ; quills brown, blackish on the primaries, paling posteriorly, all very narrowly margined, whitish or rufescent white, at the tips ; most narrowly on the earlier primaries ; the tipping more and more conspicuous as the feathers recede from the edge of the wing ; inner webs white towards the bases of the earlier primaries ; the white extending further up as the feathers recede ; the white portion with narrow transverse widely separated dusky black bars not quite reaching to the margin. All the lesser and median coverts, and secondary greater coverts, dark brown, tipped with dull pale ferruginous ; upper tail-coverts similar, but paler, and with a slaty tinge ; central tail feathers brownish slaty grey, banded dark towards the point, and with three other transverse ill-defined dusky bands ; rest of the tail feathers ash brown, white towards the bases on the inner webs, all but the outermost with four broad blackish brown transverse bands on both webs ; the outermost feather, which is a paler brown than any, has six narrow transverse bands, on the basal three-fifths of the inner web ; no barring on the outer web, and only one small spot indicative of where a bar may have been on the terminal two-fifths of the inner web ; all lateral tail feathers narrowly tipped with creamy white.

The legs and feet are extremely delicate and slender ; the mid toe measures 0·92 ; the hind toe 0·51 ; bill along culmen from margin of cere 0·46.

The third quill is the longest, the second is 0·65, and the first 2·5 shorter than the third. The first two quills are conspicuously notched on their inner web, the third has a slight sinuation, the third and fourth quills are emarginate on their outer webs.

There is a very narrow ill-defined whitish eyebrow, and as usual in all these birds some white mottling on the nape owing to the bases of the feathers showing through.

Compared with a quite young male *virgatus* this latter has a distinct central throat stripe ; has the under wing-coverts spotted with black ; has the tarsus 1·73 ; the mid toe 1·15 ; and the culmen from margin of cere to tip 0·5.

Mr. Sharpe, it will be remembered, separates his genus *Astur* from his genus *Accipiter* with reference to the relation between the length of the mid toe and the culmen from the margin of the cere; where twice the culmen from the margin of the cere exceeds the mid toe there we have an *Astur*, where it falls short of the mid toe there we have an *Accipiter*.

Tested by this criterion, our *Accipiter virgatus* is a true Accipiter, but the present bird is neither an Astur nor an Accipiter, as twice the culmen exactly equals mid toe without claw. I have made the measurements several times over with great care, and there is no doubt that this result accurately represents the fact.

Mr. Sharpe thus describes the adult, Cat. I., 115 :—

"*Adult.*—The adult plumage appears to be gained by a gradual mersion (?) of the rufous stripes on the breast. Above light bluish grey, some of the feathers margined with darker grey; sides of face and neck grey, like the head, but a little more dingy; under surface of the body pale buffy vinous; the throat, flanks and thighs, as well as the under wing and tail-coverts, white, with a slight greyish shade on the sides of the breast; quills black externally, shaded with ashy grey; under surface white at base of inner web, but having no distinct bars above or below; tail dull bluish, grey above, ashy-white beneath, with four or five indistinct cross bands of dark brown, a little plainer underneath, but these not strictly continuous; cere yellow; gape and orbits yellowish; bill black, lead-colour at base; feet yellow; iris yellow. Total length, 11·8 inches; culmen, 0·75; wing, 7·9; tail, 5·4; tarsus, 1·9.

"*Observations.*—A specimen from the Philippines, nearly adult in every respect, is much deeper slate-colour above, and far more ruddy and vinous below than the one described."

24.—Accipiter nisus, *Lin.* (1).

(*Tonghoo*, Rams.) Mooleyit.

An extremely rare straggler.

[The only specimen of this species that I have ever seen in Tenasserim I killed at an elevation of over 6,000 feet.—W. D.]

25.—Accipiter virgatus, *Reinw. in Tem.* (1).

Thatone.

Mr. Blyth (B. of B., p. 62) notes this species as common in Arrakan and Tenasserim. It does occur, but it is certainly extremely rare in Tenasserim, where Davison never once saw it.

A single specimen, however, sexed a male, was procured for us by Mr. Davis at Thatone on the 15th August. In the dried

skin the wing measures 7·4; tarsus, 1·95; bill at front from forehead, 0·6.

The specimen is a young one, with buffy edgings to the feathers of the back and wings. The throat is pure white, except for a narrow central stripe extending from the chin to the base of the throat.

27.—Aquila mogilnik, *S. G. Gm.*

Davison saw a large Brown Eagle at Tavoy, much larger than *hastata*, which probably belonged to this species.

Also at the limestone rocks at Momenzeik, some miles north-east of Moulmein, he picked up a dilapidated carcase, of which he sent me the head and feet, the former still bearing the feathers and showing the buffy orange nuchal patch characteristic of the old birds of this species.

28.—Aquila clanga, *Pall.* (*Vide* S. F., IV., pp. 268, 271.)

Colonel Tickell recorded the occurrence of this species at Dau-lan, Tenasserim. (*Vide Ibis*, 1876, 332). Davison has never yet seen it.

31.—Hieraetus pennatus, *Gm.* (1).

Thatone.

Probably occurring in Tenasserim only in the tracts between the Salween and Sittang, and west of this latter river.

[I never saw this species anywhere in Tenasserim except in the dry plains portion bordering on Pegu, where I saw and shot a single specimen.—W. D.]

32.—*Neopus malaiensis, *Reinw. in Tem.*

Mr. Blyth says (B. of B., p. 63) that this species occurs in Tenasserim.

Davison saw, but failed to secure, a specimen just below the Peak of Mooleyit.

34.—†Spizaetus limnaetus, *Horsf.* (4.)

(*Tonghoo*, Rams.) Yeaboo; Bankasoon.

Sparingly distributed throughout the province.

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* Hodgson's original name *Heteropus* (1843), was preoccupied in 1834 by Dum. and Bibr. It seems even doubtful whether his name *Neopus*, which was only *mentioned* (Gr. Miscl. 81, 1844), can stand; if not Kaup's name, *Onychactus*, of the same year, must be adopted.

† I am not sure that the Asiatic *Spizaeti* are truly congeneric with the American ones. If not our birds, which are all of the *nipens* type, should stand as *Limnaetus* (Vig.) *caligatus*, (Raffl.); and if as Bernstein (wrongly *I* think) maintains, the uniform brown bird (*limnaetus*, Horsf.) is distinct, it should perhaps take the name of *L. horsfieldii*, Vig.

[Rare in Tenasserim, and not yet observed there by me, much north of 16° 15′ N. Lat.; south of this I may have observed it in all about a dozen times. I shot one at Yeaboo on the Attaran, as it was carrying off a specimen of *Parra indica* that I had winged. Three others I shot at Bankasoon. I have no doubt that the specimen I shot at Yeaboo, and another I saw there, procured their subsistence from among the numerous Bronzed Jacanas and Cormorants that were to be found about the large jheel, whose shores these marauders frequented. At Bankasoon, to my knowledge, the two pairs that affected the vicinity of the village fed chiefly on *Turtur tigrina* which were numerous about the paddy flats. Like Captain Feilden (S. F., III., p. 26) I have found this a wild and wary bird, but unlike him, I have found it a singularly silent one; never to my knowledge have I ever heard it utter any sort of cry; probably it is only during the breeding season that it is noisy. Seated on some huge dead tree in a clearing it watches you approach apparently quite unconcerned till you are within a hundred yards or so, when it quietly flies off a couple of hundred yards and perches, and if you persistently follow it up, on reaching the end of the clearing it sometimes flies into the forest and reseats itself, but more often it flies away well out of shot over the top of the forest, and circling widely rapidly rises higher and higher until it is well out of range of even rifle shot.

Besides Doves, &c., on which it feeds, it also strikes domestic poultry, and this so frequently as to have earned for it, at any rate among the Malays of Bankasoon and its neighbourhood, a name which signifies a slayer of fowls, "*ayambuns*."—W. D.]

34 *ter*.—Spizaetus alboniger, *Blyth*. (2.)

Bankasoon.

Davison never saw this bird alive; both specimens received by me were shot in *dense* forest near the foot of the hills, at the extreme south of the province, to which I fancy the bird is confined.

This species is exactly a minature of *Spizaetus nipalensis*, agreeing with it in having the feathering of the foot descending on the mid toe nearly to the first joint, and differing in its much smaller size; wings of males in this species run from 12 to 13 against 17 to 18 in *nipalensis*, and other dimensions in proportion.

Our two specimens are—one a young bird, recently from the nest, sexed by dissection a male; the other an old adult, not sexed, probably also a male. Neither specimens were, unfortunately, measured in the flesh. The following are dimensions taken from the skins:—

Male, juv.—Length, 20·42; tail, 9·5; wing, 12; tarsus, 2·85; bill from gape, 1·4; along curve of culmen from edge of cere, 1·08.

Adult (?) *male*.—Length, 21·5 ; tail, 10·0; wing, 12·6; tarsus, 2·95 ; bill from gape, 1·49 ; along culmen from edge of cere, 1·12.

The young bird has the entire under surface white, tinged with dull fawn color, most strongly on the middle of the abdomen ; a patch of brownish feathers on the side ; a trace of a dusky throat stripe (the throat being nearly pure white) and no other markings on the lower surface ; ear-coverts and sides of neck pale brown.

Top of the head, the feathers dingy white, brownish towards their tips ; a few of the feathers blackish dusky towards their tips ; on the occiput, a crest of four black feathers, narrowly tipped with sordid white, the longest 1·8 in length.

Primaries blackish brown, white on their bases on the inner webs above the emarginations ; inner webs with numerous broad widely separated blackish transverse bars, the bars imperfect towards their bases ; entire mantle, back, scapulars, tertiaries, wing and upper tail-coverts lightish brown of varying shades ; all the feathers margined whitish at their tips.

Some the feathers of the interscapulary region and the lesser coverts along the ulna much darker brown ; tail feathers lightish brown, narrowly margined at tips, with sordid white, with broad blackish brown ill-defined subterminal bars, and three other similar much narrower bars on their basal halves, the upper one hidden by the coverts, scarcely traceable on the outer webs of the lateral feathers ; under surface of the tail greyish white showing these bars more strongly.

The first five primaries notched on the inner webs, the sixth with a trace of the same, second to seventh emarginate on the outer webs, and pale brown just at the emarginations.

The old bird has the crown and occiput nearly black, a little mingled with reddish brown ; the lores sparsely covered with minute white feathers ; the feathers of the sides of the crown, occiput and neck ferruginous brown, black centered ; ear-coverts paler ferruginous brown, dark shafted ; feathers of the chin, throat and base of the lower mandible white ; an irregular central black throat stripe ; feathers of the chin, and sides of the throat and about base of lower mandible with black shaft stripes ; breast white, mottled and tinged with ferruginous fawn, each feather with a very broad black central stripe ; abdomen, sides, flanks, tibial and tarsal plumes and lower tail-coverts white, the former a good deal tinged with rusty fawn, all these parts with regular transverse blackish brown bars, closest and narrowest on flanks, tibial and tarsal plumes ; interscapulary region, lesser coverts, and lesser scapulars almost black, as are the outer webs of the earlier primaries.

Tail clear ash brown, tipped paler, a 1·5 subterminal and three other 1·0 inch blackish brown transverse bands, the third

nearly hidden by the upper tail-coverts; rest of wings, scapulars, back, and upper tail-coverts rich brown, varying in shade, and many of the feathers narrowly margined at the tips, the secondaries most conspicuously so, with sordid white.

The crest black, very narrowly tipped with dull white, about 2·25 in length.

37.—*Lophotriorchis* kienerii*, Gerv. S. F., I., p. 310; V., p. 10.

It is probable that this species *may* occur in Tenasserim, but I cannot discover that its occurrence there rests on any good authority.

39.—Spilornis cheela, *Lath.*

This species, and not the smaller *rutherfordi*, common throughout Tenasserim Proper, is said (B. of B., p. 60) to have been obtained by Ramsay at Tonghoo.

39 *ter*.—Spilornis rutherfordi, *Swinh.* (17.)

Phaya, Upper Winyo; Beeling; Thatone; Megaloon; Amherst; Tavoy; Pakchan; Bankasoon.

Generally distributed throughout the province.

[Taking into consideration the extreme rarity of diurnal birds of prey, excluding *Milvus* and *Haliastur* throughout Tenasserim, the present species may be said to be comparatively common in the southern and central portions. There is hardly a good big clearing, or fair extent of paddy land adjoining forest in these, where one or more may not be either seen or heard; but it is very wary, and consequently difficult to obtain.

Frequenting by preference cleared land, where it preys chiefly on lizards, locusts, &c., it is still occasionally found in dense forest, and three out of the numerous specimens I shot were there obtained. Indeed I have wondered that it was not more often found in thick forest than it is, for especially in the dense moist evergreen forests of the southernmost portion of the province not only does the ground abound with lizards, brown and grey, which one disturbs at almost every step, but green lizards, both large and small, throng the trees, running up and down the trunk, chasing each other about the branches, or lying motionless, with head slightly elevated and every sense alert to danger, sunning themselves on some log that has fallen across the path or over some stream, the only places where the sun manages to penetrate. Such places, one would imagine, would be the chosen hunting grounds of an

* I follow Sharpe in considering this species generically distinct from the preceding. It is a much more robust, compact, Falcon-like form.

exclusively reptile-loving species, rather than the open, where reptiles are comparatively scarce, and which are continually being hunted over by other birds of prey; but naturally wary, I imagine it is unwilling to venture, even with the prospect of a more abundant supply of food, into places where it would be less able to keep a successful watch against danger, or if surprised less able to escape quickly, than in the open. I got quite close to all the three specimens, that I obtained actually in the forest, before they were aware of my approach, and to one did I approach so closely while it was discussing the remains of a lizard that I had to let it fly some little distance before I fired for fear of injuring it as a specimen.

Although, however, they rarely enter the forest depths, they frequent their neighbourhood. Very often in the dense forests of the south there are hollows or little valleys, that in the rains are shallow jheels, or rather marshes, overgrown with rank grass and weeds, but which entirely dry up in the cold weather. The forest, of course, entirely surrounds these openings growing down to their very edges, leaving a space sometimes only forty or fifty yards long by perhaps half that width, at others a quarter of a mile long by a couple of hundred yards wide. These places are very favorite resorts of the Harrier Eagle, and I have hardly ever seen one of these places where one or more of these eagles were not to be seen, either seated on some neighbouring tree, or on a branch of some dead tree that had fallen from the forest partially across the marsh, or circling over head.

I have occasionally also seen them along the banks of streams, and I find I have a note of having shot one while seated on a mud bank in the Pakchan river.

Their cry, wild and querulous, is continually uttered both when seated and flying, but especially so as the bird circles high up overhead. It is quite characteristic of the genus and that of the present bird does not differ, at any rate, appreciably from that of *Elgini*, *Davisoni*, and the Malay, bird (*? pallidus*) the only other species with whose habits and cry I am acquainted.—W. D.]

The Harrier Eagle that I retain for the present under this name differs from *S. cheela*, chiefly in its duller coloration and smaller size; whether it merits specific separation, may be doubted. I shall deal hereafter separately with all the Indian, Burmese, Malayan, Ceylonese, Andamanese and Nicobarese races of this genus, and I shall not enter further into the question at present.

It is sufficient for my Indian readers to say that both old and young so closely resemble *cheela* that they cannot mistake the bird and to give the dimensions recorded from a large

series of both sexes, which, I may remark, differ very little in size :—

Males.—Length, 23 to 25 ; expanse, 50·5 to 54 ; tail from vent, 10 to 11·5 ; wing, 15·8 to 17 ; tarsus, 3·5 to 3·62 ; bill from gape, 1·75 to 2·0 ; weight, 2·0 to 2·4 lbs.

Females.—Length, 24·5 to 28 ; expanse, 52 to 56·37 ; tail, 10·5 to 12 ; wing, 15·25 to 18 ; tarsus, 3·5 to 3·62 ; bill from gape, 1·75 to 2·0 ; weight, 1·7 to 2·5 lbs. (only 2 weighed).

In the adult the bill is plumbeous blue, shaded with brown at the tip of the upper mandible ; the facial skin and cere bright yellow ; the irides bright yellow ; the legs and feet pale dirty yellow ; claws black.

In younger birds the bill is bluish horny ; the irides pale yellow ; the cere, gape, &c., dingy lemon yellow.

40.—Pandion haliaetus, *Lin.* (1).

Pakchan.

Very rare, only observed as yet in the extreme south of the province.

[I only met with the Osprey on a few occasions. One frequented the Malewoon stream just above the village of that name, and was generally to be seen perched on a huge dead tree growing close to the waters' edge ; but it was so excessively wary that I could never even obtain a shot at it ; once while canoeing up the Pakchan very early in the morning I disturbed one that was seated on a dead branch that overhung the stream, and within a foot of the water, intently eyeing the stream beneath. I obtained one specimen, a female, further up the same stream. Besides these three I noticed the bird perhaps a dozen times, and as far as my recollection serves me, only in the Pakchan. I can never remember seeing it anywhere on the coast, nor in any of the many rivers whose course I have ascended, so that except in the extreme south, it must, I think, be very rare in Tenasserim.—W. D.]

41.—Polioaetus ichthyaetus, *Horsf.* (3). S. F., III., pp. 29, 363.

(*Tonghoo*, Rams.) Thatone ; Pabyouk : Pakchan.

Sparingly distributed throughout the less elevated portions of the province.

[Though, owing to the extreme wariness of the bird, I only procured a leash of specimens, it is not very uncommon in the plains portions of the province, but I never met with it any where in the hills.

At inland pieces of water, in the Thatone plains, it was not rare ; on the coast, too, I have often seen it, and two or three

pairs are always to be heard about the Pakchan. I say heard, because this species has a very widely resounding weird unearthly cry, which often attracts attention when the bird is high up out of sight or effectually concealed.

They sit on trees overhanging the water, or very often on fishing stakes in the middle of the water, watching for fish, which seems their chief food. I have never seen them strike at fowl as *leucoryphus*, I am told, does.—W. D.]

41 *ter*.—Haliaetus humilis, *Müll. & Schl.* Descr. S. F., V., 129.

This species, I have good reason to believe, occurs on the coast of Tenasserim, though we have hitherto always failed to secure a specimen.

42.—Haliaetus leucoryphus, *Pall.* (2).

Thatone.

A magnificent adult male and a young female were shot at Thatone. They were both shot inland near a large jheel.

Though only two specimens were preserved this species is not uncommon in the western plains portion of Northern Tenasserim. Davison found it on the Thatone Creek and up the Sittang from the Wau Choung to the town of Sittang.

43.—Haliaetus leucogaster, *Gm.* (3).

Eight miles south of Mergui; Malewoon.

Sparingly distributed along the entire coast.

[This bird, though not rare, is yet not common. It is found everywhere along and near the coast in Tenasserim, but never except singly or in pairs, more frequently I think in pairs. I have seen it going up the Rangoon River as well as off Moulmein, and in many places along the coast. A pair used to frequent the harbour at Mergui, and many a weary hour have I spent in futile attempts to circumvent them.

Early in the morning as the fishing boats came in, accompanied by sundry *Sterna bergii*, *Gelochelidon anglica* and sometimes a specimen or two of *Xema brunneicephala*, these two eagles would swoop down from the neighbouring island of Patoe, where they were accustomed to spend the night, and commence slowly sailing round the canoes, keeping a sharp look-out for any refuse fish that might happen to be thrown overboard chasing one another, or some fortunate Tern that had secured a fish, and compelling it to relinquish its booty, keeping up the whole time their harsh duck-like quack. Then when the fish had all been carried off to market, and the fishermen had betaken themselves home, when the last piece of offal had

been disposed of, and no possible prospect remaining of any further supplies until the next morning, the Terns had all flown away out to sea, the pair, if it happened to be low water, would usually work along the exposed mud banks, picking up anything eatable left by the receding tide. Then after a time, or, if it happened to be high water, at once, they would betake themselves to one of the fishing stakes or some neighbouring tree where they would sit and perform their morning toilet, and this completed commence sailing in circles over the harbour or town.

I have often tried, when I thought them fully occupied with the fishing canoes, to steal up in a canoe and secure a specimen, but always without success; they were always too wary; I tried giving the gun to a Burman and sending him down to where the fish were landed, and this would have succeeded could the man have managed to shoot straight; for on the first two mornings he did succeed in getting a couple of very fair shots, but without doing any more harm than frightening the Terns, and a couple of score of crows that always took, or at any rate appeared to take, great interest in the unloading of the fish, to judge from the way in which they watched and followed every basket full.

In my trip down to Malewoon from Mergui in a native boat, all or nearly all the islands that I passed, or touched at, included a pair at least of these eagles in their fauna, but these were quite as wary as those of the Mergui harbour, and the consequence was that I only succeeded in procuring a couple.

Their food appears to consist of fish, water-snakes, and other marine edible objects, and of these only, for although I have often seen these eagles soaring about over the town of Mergui, I have never seen them even attempt to strike any of the numberless chickens that ran about the streets and outskirts of the place, and while any rubbish carted and thrown on the shore below highwater mark, was sure to attract all the crows of the neighbourhood and many Brahminy Kites (*Haliastur indus*); these eagles seldom even took the trouble to approach the spot, or if they did, (attracted by seeing all the kites and crows in the vicinity hurrying there) they merely circled once or twice over the spot and then hurried away seaward.—W. D.]

See further in regard to this species, S. F., IV., pp. 422-4, 461.

45.—Buteo plumipes, *Hodgs.* (1).

Thatone.

A rare straggler to the northern portions of the province. See also S. F., III., p. 30; IV., p. 360; V., p. 347.

A young bird, said to be a female, of this species was shot at Thatone on the 11th February, by some of my people, working under Mr. Davis' charge.

Wing, 15·5; tarsus, 2·7; bare front of tarsus, 1·5.

The upper surface is a pale wood brown; the edges of the feathers from being abraded appear much lighter; the lower surface is a dirty white, mottled with longitudinal brown spots; the sides and middle of the abdomen darker brown than the back; the lower abdomen, vent, and lower tail-coverts pure white.

The tibial plumes have the characteristic barrings of the Buzzards.

48.—Butastur teesa, *Frankl.* (3).

(*Tonghoo*, Rams.) Thatone; Amherst.

[I never once saw this species in Tenasserim.—W. D.]

Our only specimens were procured at Amherst by Dr. Armstrong and by Mr. Davis at Thatone, but it is not very rare in the country west of the Sittang.

48 *bis.*—Butastur indicus, *Gm.* (5.)

Amherst; Mergui; Pakchan; Bankasoon.

Not common even in the extreme south of the province; a rare straggler to the lower central portions.

[I had but scant opportunity of observing the habits of this bird, but from the little I did observe of it, it seemed to be of a confiding and somewhat indolent disposition, preferring to seat itself on some dry tree or other point of vantage, from whence it keeps a look-out for lizards, locusts, &c., of which its food seems principally to consist, as I found from an examination of the stomachs of those I killed.—W. D.]

This is very like *B. teesa*, but larger, and the adults always to be distinguished by the grey tint of the ear-coverts and the sides of the neck and head behind the ear-coverts and eyes, and also by the comparatively broad barrings on the tail. The following are the dimensions, &c., of adults :—

Males.—Length, 17 to 17·25; expanse, 40; tail, 7·75 to 7·8; wing, 13·12 to 13·75; tarsus, 2·15 to 2·25; bill from gape, 1·3 to 1·35; weight, 1·2 ozs.

Female.—Length, 18; expanse, 39; tail, 7·75; wing, 13·25; tarsus, 2·25; bill from gape, 1·45.

The irides bright yellow; legs and feet bright yellow; claws black; cere, gape, greater portion of lower mandible, upper mandible to 0·25 beyond nostril, and eye-shelf, orange yellow; rest of bill, black.

A fine male has the lores, eyelid feathers and the bases of the frontal feathers, white; rest of forehead, crown, occiput, and nape, earth brown; feathers inconspicuously darker shafted; upper part of sides and back of the neck grey brown; feathers inconspicuously darker shafted; cheeks, ear-coverts and lower half of sides of the neck brownish grey; chin and middle of throat and front of the neck white, or yellowish white, with a grey brown central stripe; the brown of the cheeks and sides of the throat, where it meets the white, a little darker; interscapulary region and scapulars earth brown, not so grey as the back of the neck; the feathers dark-shafted; the back and upper tail-coverts pure brown; the latter conspicuously tipped and barred with pure white; edge of the wing white, a little mottled with brown; winglet, primaries, and their greater coverts pure brown; the primaries with the greater portion of their inner webs white, with a ferruginous tinge on the upper surface on the white portion nearest the shaft, and with several narrow imperfect widely separated black bars on the inner web; the whole of the rest of the coverts and the secondaries visible in the closed wing brown, strongly overlaid with ferruginous red; many of the feathers dark-shafted, and the brown showing through here and there as a mottling; when the wing is open, the secondaries are found to have nearly the entire outer web ferruginous, a little mottled with brown and with several imperfect narrow brown transverse bars; the tips of the feathers are darkish brown; the extreme tips again being paler; the inner webs are white, shaded on their inner portions with dusky rufous and with several narrow transverse bars. The terminal portion of the tertiaries and later secondaries are pale earth brown, paling still further towards the tips; the tail is rather pale brown, with three broad transverse blackish bars on both webs, except on the outer tail feathers where the bars are nearly obsolete on the inner and quite so on the outer webs. One bar is about half an inch from the tip; the second about the middle of the tail; and the third a little beyond the tips of the upper tail-coverts; the interspaces between the 1st and 2nd and 2nd and 3rd bars are markedly paler in the central tail feathers. The breast is a nearly uniform brownish rufous, a little mottled with white, and the feathers dark-shafted; the abdomen, sides, flanks, tibial plumes are white, transversely barred with brownish rufous, the bars being broadest and closest on the upper abdomen; many of the bars, especially on the tibial plumes, are cuspidate; the lower tail-coverts are unmarked sordid white. The wing-lining is yellowish white, with numerous, more or less, arrowhead-shaped brownish rufous spots or bars; the lower surface of the tail is grey; the bars showing through very clearly, except on the outer tail feathers.

In younger birds the cheeks and ear-coverts are a darker grey; the occiput, nape, and sides of the neck are dark grey brown, streaked with rufous; the mantle is a nearly pure hair brown; the throat is much more tinged with buff; the breast is darker and more mottled; and the rusty rufous tinge is wanting on the wing.

In a still younger bird, the entire crown, occiput, nape, and sides of the neck are mingled darker and lighter brown, ferruginous and buffy white, and the cheeks are streaked with white, and the ear-coverts are streaked paler. The feathers of the breast are buffy white, with lanceolate rufous brown shaft stripes, the brown of the abdomen is darker, and the bars on the tail are much less conspicuous, while the bars on the tibial plumes are almost heart-shaped.

48 *ter.*—**Butastur liventer,** *Tem.* (2.) DESCR. S. F., V., III, 31.

(*Tunghoo*, Lloyd, Rams.) Kaukaryit, Hongthraw R; Amherst.

Confined to the northern and central portions of the province, and very rare except in the northernmost districts.

[Extremely rare in Tenasserim Proper. I never saw it except once at Kaukaryit, where I shot a male. Armstrong, however, shot one for us at Amherst. I do not believe that it occurs in the southernmost portions of the province, which I have comparatively exhaustively worked.—W. D.]

The following are the dimensions and colors of soft parts of a male:—

Length, 14·1; expanse, 35·0; tail from vent, 5·8; wing, 10·7; tarsus, 2·3; bill from gape, 1·2; weight, 12 ozs.

Legs and feet gamboge yellow; claws black; one-third of upper mandible and tip of lower mandible dull black; rest of bill, cere and gape, orange yellow; irides pale yellow, facial skin pale yellow; eyelids orange yellow.

52.—*Circus pygargus,* Lin.—*C. cinerarius,* Mont.

Blyth (B. of B., p. 61) gives this from Tenasserim; he quotes no authority; we have never seen it or heard of its occurrence there, which seems to me doubtful. At the same time it is right to note that Ramsay says, *Ibis,* 1875, p. 351, that he thought he saw this species once in Karennee.

53.—**Circus melanoleucus,** *Forst.* (6). S. F., III, 33; V. 11.

(*Tunghoo*, Rams.) Two days' march north of Pahpoon; Kedai Keglay; Thatone; Ngabeemah; Moulmein.

Very sparingly distributed throughout the province during the cold season.

[The Pied Harrier is, as far as I have observed, decidedly rare in Tenasserim. It occurs, however, though sparingly, throughout the province both in hills and plains, and extends much further south, as I have observed it at Tonka in the Malay Peninsula and even at Johore, the southernmost portion of the latter. I have seen and shot it at Pahpoon, and at Ngabeemah on the Attaran, and I have seen it on one occasion hawking over the extensive grassy hills at Malewoon, and on another occasion in the paddy flats near Kra.—W. D.]

54.—Circus æruginosus, *Lin.* (6.)

(*Tonghoo*, Rams.) Thatone; near Khyketo; Assoon; Amherst; Pakchan.

Generally distributed throughout the province during the cold season.

[I noticed a good many of this species, chiefly young birds, on the extensive plains lying between the Salween and Sittang rivers. I have observed it on other occasions in several other places in the north, and at Mergui, Malewoon, and Pakchan in the south of the province. As a rule, they seem to prefer to hunt over moist and marshy ground, though as at Malewoon I have occasionally seen them working the grassy sides of a hill. I have noticed in Burma, and I may add in Southern India as well, that immature birds are much more frequently seen than adults. As stated by Mr. Oates (S. F., III, p. 35), I have on more than one occasion seen this species attempt to strike wounded game, such as Snipe and Quail.—W. D.]

55.—Haliastur indus, *Bodd.* (13.)

(*Tonghoo*, Rams.) Moulmein; Amherst; Tavoy; Shymotee; Zadawoon; Mergui; Bankasoon.

Extremely common throughout the less elevated portions of the province.

[This is an excessively common bird throughout Tenasserim alike in the hills and plains, but only where there is water. It is more numerous in the north than the south, though even in the latter it is very numerous, and may there be said to be *the* Kite, for although *Milvus affinis* does occur, it is rare.

The Brahminy Kite is essentially a water-loving species, and is always most plentiful about the rivers, creeks, jheels, fisheries, &c. I saw numbers about the shipping in the harbour at Moulmein: at Mergui too I found them common. At high water, as a rule, they flew about over the town or betook themselves to the paddy flats and marshes inland, but when the tide ebbed and left the mud banks exposed, numbers were always to be seen working backwards and forwards along the shore, occasionally swooping down and seizing something

off the surface of the mud. I noticed it, too, at many places along the coast south of Mergui, and on some of the islands of the Archipelago, (but only on those on which a fishing station had been established), at Malewoon, and up both banks of the Pakchan many miles north of Kra. As far south as Penang in the Malay Peninsular the bird may be said to be common, but south of Penang, though I looked carefully for it, I never met with it.—W. D.]

56 *ter.*—Milvus affinis, *Gould* (3).

Kyouknyat; Pahpoon; Kedai-Keglay.

Rare in the province as a whole, but common enough in the western central portion.

[In October and November I noticed that this Kite was very common about the shipping in the Moulmein river. I carefully watched those I saw, but they all seemed to be of one and the same species. In February 1876, while marching from Thatone to the Sittang, I also saw numbers of these Kites, but it is only in these neighbourhoods that these Kites are at all numerous. On proceeding southwards their numbers diminish rapidly; at Tavoy it is rare to see one, and at Mergui I saw but one solitary individual all the time I was there. Further south I never once observed it in Tenasserim, but at Penang, Malacca and Singapore I occasionally noticed a small Kite, doubtless of this species.—W. D.]

For distinctions between the three species of Kites at present *known* to occur within the limits of our Indian Empire, see S. F., I., 160; III., 229.

57.—Pernis ptilorhyncha, *Tem.* (2).

(*Tonghoo*, Rams.) Moulmein; Amherst.

Rare and confined to the central and north-western portions of the province.

[I only once saw a Honey Buzzard in Tenasserim, and that was in Mr. Pattesson's garden in Moulmein where I shot a female. Armstrong procured us one specimen at Amherst.—W. D.]

A rare bird in Tenasserim; we only procured two specimens, both of the ordinary Indian type, with only incipient crests.

The following were the dimensions and colors of the soft parts of an apparently adult male, (the lores and the whole sides of the head grey,) shot at Moulmein:—

Length, 23; expanse, 48·5; tail from vent, 10·5; wing, 16; tarsus, 1·9, bill from gape, 1·7; weight, 1·75 lbs.

The legs and feet were yellow; claws black; irides dark brown (in adults in India they are usually brilliant yellow);

upper mandible and tips of the lower mandible black; rest of lower mandible plumbeous; cere greenish black.

I have already referred, S. F., III, p. 36, to Blyth's *P. brachypterus;* in his list of the birds of Burmah he unites this supposed species with the present. It was remarkable for its crest 2·5 inches in length. I have never seen any examples from India or Burma with a crest of this length, but Mr. Blyth's specimen was said to have come from Mergui, and I have a Malaccan specimen in which the crest is fully two inches.

The plumage of this Malaccan specimen is somehow different from, and altogether blacker and intenser than, that of any Indian specimen I possess or have seen, and I have shot great numbers of this species. I am not at all sure that, ultimately when more specimens are available, it will not be found right to separate the Indian and Burmese races from the Southern Tenasserim (?) and Malayan form.

I assume here that Blyth's bird was really killed near Mergui, but certainly the specimens of several species sent to Blyth from Mergui were never killed there, unless out of cages, and came really from the Malay Peninsular. In old days before steamers ran regularly along this coast, numbers of junks plied regularly between the Straits and Mergui, and constantly brought up with them caged birds and skins.

57 *ter*.—Machæramphus alcinus, *Westerm.* (1). DESCR., S. F., III, 269.

Malewoon.

A straggler to the extreme south of the province.

[I never saw this bird alive. A peon of Mr. Hough's shot and brought me, in the flesh, our only specimen. It must be *extremely* rare in Tenasserim.—W. D.]

58.—Baza lophotes, *Cuv.* (6.)

Choulai Creek; Palaw-ton-ton; Malewoon.

Rare and confined apparently to the southern portions of the province.

[I have only met with this species in Tenasserim, south of Mergui. I first observed it in December at a place called Choulai Creek, some three days' sail south of Mergui. Here the forest consisted for the most part of immense wood oil trees, the mass of them unbranched for the first 80 or 100 feet, and with very little undergrowth. High up amongst these trees there were a score or more of these Kites singly, in pairs, or in small parties; they kept to the topmost branches, fully 50 or 60 yards from the ground whence they made

short sailing flights after insects, perching immediately after they had seized their prey. At times they would cling head downwards for a few seconds to some of the smaller branches; they had a sharp kite-like squeal, to which they occasionally, but not often, gave utterance. I find the following note in my note-book: To-day, in the forests south of Bopyin, I had a good opportunity of noticing a *Baza* before I shot it. It was in the thickest part of the forest; it kept making sallies after insects, always catching them with its feet, sometimes in the air, sometimes picking them off a leaf before which it would flutter for a few seconds; after each flight it would perch rather low down, seldom returning to the perch from which it started. Both when seated, and when just about to start after an insect, it occasionally gave utterance to a peculiar note, or rather series of notes, between a squeal and a whistle. It confined itself to insects and did not attempt to strike any of the small birds that were about; in fact, the birds seemed to know that they were safe, as they did not apparently attend to the movements of the *Baza* in the least.

This is, I should say, eminently a forest bird; on only one occasion have I seen it in the open, and then there were three birds together flying at a good height; but they were making straight for a bit of forest about a quarter of a mile distant; they flew rather swiftly and with continued flappings of their wings. I found only the remains of insects, chiefly coleoptera, in the stomachs of those I examined.

This bird, when fresh, has a most peculiar and disagreeable odour; what might be termed a regular frog-like or bug-like smell; nor does this wear off till the skin has been exposed to the air for some considerable time.—W. D.]

The following are the dimensions and colors of the soft parts recorded in the flesh of two males and four females:—

Males.—Length, 12·35 to 12·5; expanse, 29·5 to 30·5; tail from vent, 5·3 to 5·5; wing, 9·0 to 9·5; tarsus, 1·0 to 1·12; bill from gape, 1·0 to 1·05; weight, 6 to 7 ozs.

Females.—Length, 12·0 to 13·0; expanse, 30·0 to 30·5; tail from vent, 5·8 to 6·62; wing, 9·5 to 9·82; tarsus, 1·0 to 1·1; bill from gape, 0·95 to 1·05; weight, 7·0 to 8 ozs.

Legs and feet plumbeous blue; claws horny black; bill and cere plumbeous blue; tip of upper mandible black.

53 *bis*.—Baza sumatrensis, *Lafres.* (1.) Descr. S. F. III., 313. B. incognita, *Hume, loc. cit.*

Between Hankachin and Bahonee.

Very rare and probably almost confined to the southernmos portions of the province.

[I only succeeded in getting one specimen, and that was shot and given to me by Mr. A. L. Hough. We were sitting together in an old clearing near Bahonee when the bird flew from an adjoining forest and settled on an old dead tree whence Hough shot it On one other occasion I saw one in a small clearing near Bankasoon. On both occasions the bird, when seated, kept its crest erected nearly at right angles to the top of its head. This, I believe, to be the normal position of the crest in *Baza*. I have seen a good number of *Baza lophotes*, and they always had their crests well-erected. Mr. Sharpe (Cat. B. I.) figures *Baza* with the crests lying flat along the head. This I believe to be incorrect, at any rate, as far as *lophotes*, and the birds identified by Mr. Hume as *sumatrensis* are concerned.—W. D.]

It is by no means *certain* that this bird is really *sumatrensis*. It *may* have to take my name,* *supra cit.*

59.—Elanus cæruleus, *Desf.* (1).

Thatone.

Blyth (B. of B., p. 60) gives this from Tenasserim, and it does occur in the western plains portion of Upper Tenasserim, where our people procured a single specimen; but all the other Burmese specimens that I have received have been from Pegu and Arrakan.

60.—Strix javanica,† *Gm.*

Blyth says (B. of B., p. 68) that this is common and generally diffused in Burma, thereby implying that it occurs in Tenasserim. I do not dispute the fact, but I can at the moment find no record of any specimen having been actually procured

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* It is by no means impossible, however, that this may be the *Spizaetus lathami*, Tickl., J. A. S. B., II, 569, 1833, (S. F., II, 378), or even *Baza jerdoni*, Blyth, J. A. S. B., XI, 464, 1842; XV., 4, 1846.

† Mr. Sharpe unites almost all the Barn Owls of the world under Linnæus' name, *viz*:—

flammea, of Europe and N. W. Africa.
insularis, of Cape Verde Islands.
poensis, of South Africa
indica, of India and Siam.
javanica, of Java, Lombok, &c.
rosenbergi, of Celebes, &c
delicatula, of Australia.
lulu, of Oceana.
pratincola, of N. America.
guatimalæ, of Mexico and the Northern half of S. America.
furcata, of Jamaica.
glaucops, of St. Domingo.
punctatissima, of the Galapagos

It is impossible for me to attack Mr. Sharpe's position; still I must say that my Javan and Indian specimens appear identical; Australian and European ones distinct. Therefore I retain Gmelin's name.

Probably the generic name *Strix* for this genus cannot be maintained, *vide* Newton, *Ibis*, 1870, 94.

within the limits of the province; and it is certainly rare there, if it does occur.

61.—Strix candida, *Tick.*

Has been sent from Tonghoo by Major Lloyd. Davison, who knows it well having often shot it on the Nilgheris, has never yet met with it, though he has visited pretty well all likely places from Kolidoo southwards. I expect that it does not occur in Tenasserim proper.

62.—Phodilus badius, *Horsf.*

Blyth (B. of B., p. 67) gives this from Tenasserim; Wardlaw Ramsay got it at Tonghoo and on the Karennee Hills. Davison has never yet met with it.

63.—*Syrnium indranee*, Sykes. (*B. of B.*, p. 67.)

We, ourselves, have never met with this species in Tenasserim; and if a bird of the kind occurs, it is quite as likely to be the Malayan as the Southern Indian form of this Owl. Tickell, we are told, *Ibis*, 1876, 342, figures a nestling, but nestlings of the two forms would hardly be distinguishable without careful comparison.

Mr. Sharp remarks (Cat. II., 283) that a Malaccan specimen submitted to him for examination was not to be separated from a skin of Dr. Jerdon's from Southern India. We have now a specimen from Kotagherry on the Nilgheris, which proves to be identical with Ceylon birds. There is no doubt, therefore, that *Syrnium indranee* (though the original description of it omits its most essential feature, *viz.*, the bright ochraceous disc) is the same bird that I described from Ceylon, S. F., I., 430, under the name of *ochrogenys*.

But I cannot agree with Mr. Sharpe that Malayan examples are not to be separated. They are larger, far deeper colored above, have a conspicuous chocolate chin patch and deep chocolate bands under the anterior portion of the disc barely indicated in *indranee*. They have a much more ferruginous face, and they want the conspicuous white eyebrow, which in *indranee* meets over the base of the bill, and thence runs on either side to quite over the centre of the eye. The corresponding less defined eyebrow in the Malaccan form is of the same color as the disc, a dull ferruginous, mingled with ferruginous buff.

To me it seems that Malaccan specimens can be separated at a glance, and such being the case, and the habitats being widly separated, I think the former should bear a distinct name, and I propose for the Malaccan race the name of *main-*

gayi in memory of a gentleman whose long labors in the cause of Botany and Natural History appear to have met with very scant recognition.

The Burmese specimen, referred to by Mr. Blyth, *loc. cit.*, and mentioned by me, Rough Notes, 351, was sent from Rangoon, and was said to have been procured in the Arrakan Hills. It was undoubtedly *newarense*, but it was a purchased skin, and I attach no certainty now to its alleged origin.

65 *bis.*—Syrnium seloputo,* *Horsf.* (1).

Bankasoon.

Very sparingly distributed in the better-wooded tracts of the southern and central portions of the province.

[This Owl appears to be very rare in Tenasserim. Anxious as I was to secure specimens, I only succeeded in shooting one. On one occasion I heard it near the village of Malewoon, and Mr. A. L. Hough heard it at Pakchan. A pair frequented the forest at the back of the village of Bankasoon. They used to make their appearance soon after dusk, and keep about the forest (I never knew them come into the open) till just about dawn, when they retired.

As they never came into the open (at any rate not to my knowledge, and not in the early part of the night) and were somewhat shy, it was some time before I managed to get a shot, but I did manage at last to secure one. I found in its stomach only the remains of some large beetles and nothing else.

The hoot of this Owl is very peculiar, once heard never either to be forgotten or confounded with that of any other Owl; it commences with a sort of rolling hoo-hoo-hoo, and ends with a prolonged and deep drawn hoo.

It is perfectly distinct from that of *indranee*, which is a hoo, then hoo-hoo, and then hoo, as also from that of *nivicola*, so common here at Simla, which is simply hoot, hoot, a double call repeated at intervals of some minutes.—W. D.]

A fine specimen, a male, measured in the flesh :—

Length, 18·5; expanse, 48·; tail from vent, 8·; wing, 13·25; tarsus, 2·4; bill from gape, 1·75; weight, 1·75 lbs.

The claws and visible portion of toes horny; bill and cere greenish black; irides dark brown.

The whole face ferruginous buffy; most ferruginous on the feathers behind the eye; cheeks nearly white, as is also the chin, all the feathers of these parts with disunited webs, as usual

* If Latham's name *sinense* could be proved to apply to this species, it would have precedence; but Latham's dimensions and description suit *ocellatum*, Less, better than this present species. I myself reject Latham's name altogether, its subject not being at present, to my mind, clearly identifiable.

amongst these Owls; a band across the middle of the throat, extending on either side, as far back as the ears (underneath the chocolate brown band that defines the disc from the edge of the lower mandible to the ears) rich buff, a little mottled with brown. A large patch at the base of the throat pure white; some of the lowest of the feathers with a narrow black bar at or near the tip; entire breast with the feathers rich buff, very soft and silky, barred at the tips where the texture is rather firmer, with two white and two blackish brown bars. The whole of the abdomen, vent, lower tail-coverts, sides, and flanks, white with regular transverse blackish brown bars, narrower than those in the breast feathers, and about twice as far apart; here also the bases of the feathers are a warm buff, but little of this shows through in these parts; wing-lining is similar, so are the feet, tibiæ and tarsi, but here the bars are still narrower, rather lighter in color and closer set; forehead, above the disc, crown, occiput, nape, deep blackish brown, a little of the buffy bases of the feathers showing through here and there, and most of the feathers with an imperfect white bar, or a pair of white spots near the tip; sides of the neck, barred like the breast, but less of the buff bases of the feathers showing through; a more or less imperfect buff collar at the base of the back of the neck.

Interscapulary region and upper scapulars a rich chocolate brown, with imperfect transverse bars, or series of irregular spots, white, margined with blackish brown; some of the under-scapulars, with the terminal portions pure white, a little fringed with buffy, and with narrow black bars on the outer webs, which on the inner webs open out, and enclose rufous chocolate brown patches; the coverts (except quite along the edge of the wing where they are buffy white, barred more or less like the wing-lining) much like the back, but the larger secondary ones broadly mottled with white on the outer webs towards the tips.

Primary coverts plain brown; primaries above the emarginations, and secondaries, browner than the back, not so chocolate, paler on the outer webs, with broad irregular imperfect white bars, more or less mottled with dusky and defined on either side by a dusky line; primaries below the emarginations dark brown, with white spots; inner webs, except towards the points, with great irregular pale bars, (buffy towards the shafts, nearly white towards the margins) which, towards the bases of the feathers coalesce more or less and occupy almost the whole surface. On the under-surface these feathers are a warm pinky buff.

The quills are tipped greyish white above, grey below; the tail is brown, tipped white above, grey below, with an orange buff shade on the outer webs most conspicuous towards the bases of the feathers.

On the central tail feathers and on the outer webs of the rest, there are a few small inconspicuous white spots looking like traces of obsolete bars; inner webs of the lateral tail feathers, with numerous pale bars which, towards the bases of the feathers, are strongly tinged with ferruginous buff, and there have a tendency to coalesce along the margins of the feathers.

Long ago I received this from Rangoon where later Mr. Oates procured many specimens. Captain Feilden got it at Thayetmyo. Davison not only shot it at Bankasoon, but heard it repeatedly at Malewoon and Mooleyit. Its note is quite distinct from that of *indranee* with which he has been for years familiar on the Nilgheris.

Mr. Blyth (B. of B., p. 67) quotes my remark (Rough Notes, 357,) that in Assam this species apparently replaced *S. occelatum*.

The late Mr. V. Irwin brought me to examine, when he was on his way home, a small lot of birds that he had obtained from a friend in Assam. Amongst them was a specimen of *seloputo*. All the birds had attached to them labels on which were noted "rare," "common," "pretty common," as the case might be. *Seloputo* was marked "pretty common," or "not rare," I forget which.

Since then I have seen no second specimen from Assam, nor has Godwin-Austen, I believe, procured it there, and I, therefore, now very much doubt whether that specimen was ever procured in, although it came from, Assam; the more so that the collection contained two other species—*Pitta moluccensis* and *Crypsirhina varians*, neither of which, I *now* believe, really occur in Assam.

68.—Asio accipitrinus, *Pall.*

A single specimen of this species was procured by Ramsay at Tonghoo; it has not as yet been observed elsewhere in Tenasserim.

71.—Bubo nipalensis, *Hodgs.*

Ramsay procured this species at Tonghoo.

Mr. Blyth remarks (B. of B., p. 65): "A specimen in nestling garb of *Huhua nipalensis* was obtained by Colonel Tickell upon Mooleyit, and described by him as *Ptiloskelos amherstii*. This species has been confounded with the Malayan *H. orientalis*, Horsf., which is a much smaller kind, and otherwise differs considerably. The young of both are in the British Museum, which enables me to confirm the present identification."

Colonel Tickell's description, J. A. S. B., XXVIII., 448, 1859, is as follows:—

"Nestling—Sex not distinguishable. Length, 15·5; wing, 10·5; tarsus, 1·75; femur, 4·25; bill, 1·81. Iris sepia; bill

and feet pale flesh colour, the latter with a yellowish tinge; claws blackish horny; head, neck and body, including scapulars and wing coverts, dirty white, tinged more or less deeply with orange tawny. Each feather marked near its end with an arrow-headed bar of sepia; head and nape with spots of the same; on the breast these marks take the form of wide broken bars, lapping round the neck; wing-coverts also irregularly barred. All the plumage is immature and deciduous, but the remiges (which usually at once assume the permanent colouring) are ashy sepia, barred broadly and softly with full sepia, with marbled interspaces; downy plumes of legs white."

With the greatest deference for Mr. Blyth's opinion, I must still point out that, in my opinion, the dimensions given by Tickell are altogether too small for even a quite young bird of *Huhua nipalensis*, and that they would much better fit a nestling of *H. orientalis*—a species which, as will be seen below, we obtained at the foot of the same range of hills to which Mooleyit pertains, though a long way to the south of this peak.

71 *bis*.—Bubo orientalis,* *Horsf.* (1.)

Near Haukachin.

Apparently very rare in Tenasserim, and probably entirely a forest and hill bird.

[Only on one occasion have I met with this species in Tenasserim, and that was in dense forest on the road between Malewoon and Mergui. It was a pouring wet day, and the poor bird was so drenched that I had no difficulty in *catching* it after a short chase. Its stomach was quite empty. I also shot it in the Malay Peninsular, but never heard its note, or had any opportunity of observing its habits.—W. D.]

Two males measured:—

Length, 18·0, 18·25; expanse, 48·25; tail from vent, 6·75; wing, 13·75; tarsus, 2·0; bill from margin of nostrils to point, 0·96, 1·1; from gape, 1·7, 1·9.

Feet clear yellow; chrome yellow; claws black; horny green, at base plumbeous; bill, cere, and eyelids yellow, clear in the one specimen, chrome in the other; irides dark brown.

Upper set of loral bristles, feathers immediately over and round the upper portion of the eye, black. These bristles white at their extreme bases; lower portion of loral bristles white, the longest with the terminal halves blackish brown; point of the forehead, and an obscure band on each side of

* If Schlegel is right in maintaining the distinctness of the Malayan and Sumatran birds from the Javan to which Horsfield's name applies, then our Tenasserim birds, which are identical with Malayan ones, will stand as *B. sumatrensis*, Raffl.

the anterior half of the crown, greyish white; middle of forehead barred greyish white and brown; crown, occiput, nape, upper portion of sides of the neck, and entire mantle, deep brown, with narrow wavy pale rufescent transverse bars, narrowest on the crown; aigrettes of numerous feathers, from about 2 to 2·5 long; upper feathers barred like the forehead, the lower ones blackish brown, unbarred or only slightly barred towards their margins or tips. Some of the under-scapulars white, with black bars; coverts about the shoulder of the wing, winglet, and primary greater coverts plain, very dark brown; rest of the coverts and scapulars much like the upper back, but the rufescent bars wider, and with mottled-brown centres, (in the lower feathers, often as it were dividing each rufescent bar into two), and a few of the coverts white-tipped. Tertiaries similar again, but the pale bars less rufescent, and more distinctly broken up by an interior brown line, or line of brown spots.

Upper tail-coverts hair brown, with narrow transverse rufescent bars like the upper back; tail deep brown, conspicuously white-tipped, the white a good deal freckled with brown, and with five rather narrow transverse rufescent white bars, also mottled and spotted with brown; inner webs of laterals broadly banded paler with white towards the bases where these bars are broadest, and grey brown towards the tips; primaries above the emarginations and secondaries with broad paler bars, more or less defined by a darker line on either side, and mottled with brown. These paler bars vary in color, in some places they are a pale fawn color, in others pale greyish brown, in others sordid lutescent white.

Primaries beyond the emarginations darker brown, with traces of paler bars; inner webs of quills broadly banded paler, white towards the bases where these coalesce more or less, and occupy the greater portion of the surface of the feather, and pale grey brown towards the tips; cheeks and ear-coverts mottled grey brown and dingy white; chin and bristles of the gape, and base of lower mandible white; entire throat and breast white, all the feathers towards their tips closely banded with blackish brown.

A more or less rufescent brown tinge on the feathers of the sides of the breast, extending in some right across the breast and forming a pectoral band.

Abdomen, sides, flanks, vent, lower tail-coverts white, with broader and more widely separated blackish brown bands; tibial and tarsal plumes similar, but the bands narrower and closer set.

Lowermost feathers of the feet and the inner portion of tarsi unbarred; axillaries barred like the flanks; wing-

lining white, irregularly barred or spotted with blackish brown.

In some specimens the grey frontal band is almost obsolete; the middle of the forehead, crown, occiput, nape, sides of the neck, and almost the whole of the aigrettes, are unbarred blackish brown.

I presume this difference is due to age; it is certainly not sexual; it may be individual.

72.—Ketupa ceylonensis, *Gm.* (5).

(*Tonghoo*, Rams.) Thatone; Amherst; Pakchan.

Sparingly distributed throughout the province, but not ascending the hills to any great elevation.

[Extends, at any rate, as far south as Malewoon, and I have seen it as far north as Pahpoon, but is by no means common as a rule. At Amherst it was not very uncommon, and occurred in about equal numbers with *Ketupa javanensis*. During the day they generally took shelter in some dense clump of bamboos or bushy tree, making their appearance soon after sunset. —W. D.]

We have not yet obtained this in the Malay Peninsular, but, as it is, the range of this species from Hong-Kong *viâ* the Pakchan estuary to Palestine is a wide one.

73 *bis.*—Ketupa javanensis, *Less.* (8) Descr. S. F., IV., p. 301.

Amherst; Tenasserim Town; Pakchan; Bankasoon; Malewoon.

Generally distributed throughout the province, but rare in the northern half.

[Captain Bingham obtained this in the Sinzaway reserve, but I myself never met with the species in the northern half of Tenasserim.

I first saw and shot it at Amherst, further south it was more common, and further south still as at Malacca it seemed to be very common Both when seated and when on the wing, this Owl utters at intervals of about half a minute a soft low whistling note, that might be syllablized to-wee, to-wee. The note is so soft, and withal so musical, that it seems strange it should proceed from such a comparatively large bird, and that too an Owl, but that it does utter this note, there is no doubt, as I have shot the bird in the act of uttering it. Besides this note, it has also a low querulous one, which is, however, much less often heard.

On several occasions I have flushed this Owl from a thick bamboo clump or bushy tree growing on the banks of some large stream. It appears to possess all its faculties, and to

see as well by day as by night. In the day it is very shy, and when once it has been disturbed will seldom permit of a near approach. The food consists apparently of insects, such as large beetles, &c.; at any rate I never found the remains of mammals, birds, fishes or reptiles in the stomachs I examined.—W. D.]

74.—Scops pennatus, *Hodgs.* (4).

Thoungsha, Gyne R.; Amherst; Mergui.

Generally distributed throughout the better-wooded portions of the province.

[May not be rare as one often hears the note; at Pahpoon, and throughout the pine forests, and near Mooleyit especially, they went on calling all through the night, but they are very difficult to obtain, and I know nothing of their habits.—W. D.]

I first entered these birds as *Scops stictonotus*, Sharpe, Cat., II., 54, his general remarks on the species applying extremely well. He says: "The general color is ashy brown above, without any greyish shade; the ear-coverts dusky grey; the collar round the neck is very indistinct, and is represented by certain pale buff-colored bars or spots, without any appearance of white whatsoever; on the back, however, are several very distinct spots and bars of the same pale buff color, giving a very marked character to these peculiarities."

Now this holds wonderfully true of some of the specimens, but in one there are some pale white, not buff spots about the neck, and Mr. Sharpe gives the wing at 5·5 to 5·75, and none of my birds have the wing under 6·0, and, moreover, I can match my specimens with examples of *pennatus* from the Malabar Coast, Saugor, and Hazara and other places, in all of which they are mixed up with more typical *pennatus*, and on the whole I think it best to keep my specimens under this name. I do not believe that they, at any rate, can be specifically separated.

I take this opportunity of noting that, while *Scops rufipennis*, Sharpe, Cat., II., 60, is a just distinguishable race, and I have five fairly typical examples before me, all from the immediate neighbourhood of Madras, it so runs into what I consider typical *pennatus*, that it seems to me almost doubtful whether it is rightly separable even as a sub-species.

Two males of the present species from the banks of the Gyne river, about 40 miles S. E. of Moulmein, measured as follows:—

Length, 7·27; expanse, 19·25 to 19·5; tail, 2·65 to 2·7; wing, 6·0 to 6·01; tarsus, 0·95 to 1·02; bill from gape, 0·8 to 0·7; weight, 2·5 ozs.

The feet were pale bluish brown, as were the claws; the irides bright yellow. In one the bill was pale greenish brown, the cere pale bluish brown, with a green tinge on culmen; in the other the cere was similar, the upper mandible was pale brown; the lower mandible pale horny white.

74 *nov.*—**Scops sagittatus,** *Cass.* (1). DESCR. S. F. V., 247.

Meetan, (*Malewoon*, Oates.)

Rare in Tenasserim and only found about the bases of the central range of hills in the southern and central portions of the province.

[I got my single specimen on the southern flanks of Mooleyit near Meetan. Oates' people got a specimen at Malewoon. The stomach of my specimen contained only insects, chiefly moths.—W. D.]

75 *quint.*—**Scops lempijius,** *Horsf.* (6).

(*Karen Hills*, Rams.) Pahpoon; Tavoy; Pabyin; Mergui; Tenasserim Town; Bankasoon.

Generally distributed throughout the better-wooded portions of the province.

[This is another species of which I know nothing, it being a bird one has no opportunities of [illegible]. It may be pretty [illegible] throughout the province, but is never seen by day and is very difficult to procure.—W. D.]

Our Tenasserim specimens are, when a series is compared, not to be separated from Malaccan ones, [illegible] clearly *lempiji* of Mr. Sharpe's Catalogue characterized by the completely unfeathered toes, the feathering never descending as far on the outer toe, and the outer side of the middle toe, as it does in *lettia*, which, otherwise in some of its phases, very closely resembles it. Both are characterized by the broad pale buff or ochraceous half collar.

The Marquis of Tweeddale observes (Birds of Burma, J. A. S. B., 1875, 65) that Malaccan individuals are distinct from true *S. lempiji*, Horsf., which is from Java. I observe, however, that Horsfield, in his Catalogue, I., 71, united Javan, Sumatran, Malaccan, Tenasserim, Nepal and Assamese birds.

The Nepal and Assamese birds are of course *lettia;* and when a large series of both forms are examined, many specimens are so extremely close that the two species can only be separated by a reference to the amount of feathering of the toes, and birds occur in Lower Bengal and Upper Burma which are quite intermediate between the two, so that I think it by

no means improbable that Horsfield's union of the races found in all the localities enumerated by him will prove scientifically sound, and I am not at all prepared to admit, without further proof, that Horsfield's *lempiji* from Java is distinct from Malayan and Tenasserim specimens.

It would seem, however, that some continental ornithologists assign Dr. Horsfield's name to quite a different bird; thus we have from Dr. Meyer a specimen from Java labelled *Scops lempiji*, which is *magicus, pur et simple*, and absolutely identical with another specimen collected by Dr. Steer in Celebes. Of course, any one who considers this bird *lempiji will* hold it distinct from the Malayan form, but Dr. Horsfield, with his own type specimens from Java and a Malaccan one before him, was surely the best judge as to the bird that he described, and as to the identity of the two forms, and if his *lempiji* was anything of the *magicus* type, he could not possibly have identified it with the Malaccan bird.

Two adult females measured in the flesh:—Length, 8·5; expanse, 23·5; tail from vent, 3·25; wing, 6·62 and 6·7; tarsus, 1·25; bill from gape, 1·0; weight, 5 ozs.

In both the feet were pale bluish fleshy; the claws very pale blue; the irides dark brown. In one the cere and the greater portion of the upper mandible were pinkish green, the rest of the bill pale horny; in the other the cere was very pale green; the bill dull white.

An adult male measured:—Length, 8·2; expanse, 21·75; wing, 6·2; tail, 3·12; tarsus, 1·15; bill from gape, 0·95; and weight, 4 ozs.

77.—*Glaucidium radiatum*, Tick.

This species is stated ("Ibis," 1876, p. 343) to have been recorded by Col. Tickell as "met with throughout the forest portion and lower hills of Arakan, Burma and *Tenasserim*."

It is extremely doubtful to me whether this bird really occurs in Tenasserim. If it did, I think it could hardly have escaped Davison and others during all these years.

At the same time it has to be noticed that Dr. Cantor is said (P. Z. S., 1854, 262) to have obtained a specimen at Keddah in the Malayan Peninsula. "I hae mi doots."

78 *ter.*—*Glaucidium castanopterum*, Horsf.

As noticed in my Rough Notes, p. 413, Dr. Helfer records this species from Tenasserim.

I do not myself in the least believe in its occurring there, but as it *might* turn up, I reproduce Horsfield's and Temminck's original descriptions, which will enable local observers to identify the bird if by chance it really should occur.

So far as I know the bird is peculiar to Java; and if a bird of the kind occurs in Tenasserim, it is probably a distinct species.

Horsfield says (Tr. L. S., XIII, 140) :—

"Narrowly banded transversely, grey and blackish; back and scapulars chestnut; belly mingled white and chestnut.

"Length, 8 inches.

"Quills and tail feathers brownish chestnut, banded grey; the margins of the scapulars and a longitudinal band on the middle of the wings white."

Temminck says (Pl. Col. 98, text) :—

"This little Owl is well characterized and easily recognizable by the fine purplish chestnut color of the back, wings and tail; the entire head, nape, the sides and front of the neck and breast are regularly and narrowly banded transversely with brown and dull yellow; the sides and flanks are colored like the back, and purplish spots occur on the thighs; the whole of the rest of the lower parts are pure white; large white spots occupy the outer webs of the scapulars, and some of the coverts near the fold of the wing; reddish yellow bands occur on the quills, and there are five narrow bands of this color on each of the tail feathers which are also tipped with it.

"Total length, 7·67 to 8·2 inches."

79.—Glaucidium cuculoides, *Vig.* (35).

(*Tonghoo*, Rams.) Kollidoo; Pahpoon; Younzaleen creek; Theinzeik; Thatone; Wimpong; Mynwadee; Thoungsheyen Sakan; Kaukaryit, Houngthraw R.; Kohbaing; Amherst; Tavoy; Shymotee.

Common alike in hills and plains throughout the northern and central portions of the province.

[The most common of all the Owls in the northern and central portions of Tenasserim. The most southern point at which I have obtained it was Shymotee; how far south of this it extends I am at present unable to say, but it certainly does not occur at Mergui, or any where south of that place. It is very common at Pahpoon and in its neighbourhood extending well up into the pine forests; it is also very abundant at Moulmein and in the adjacent country, but it becomes markedly scarcer as one goes south, and at Tavoy though occurring it is rather rare.

It is about very early in the evening, often before sunset, and I have frequently seen it moving about and feeding in shady gardens and jungle in the middle of the day, and I have constantly heard its cackling laughing call at all hours in the day; it frequents by preference gardens and thin tree jungle, apparently avoiding dense forest; it is also very partial to

bamboo jungle. During the day it generally rests on a branch or in a clump of bamboos.—W. D.]

The following are the dimensions, &c., of one male and five females:—

Male.—Length, 8·75; expanse, 20·0; tail from vent, 3·5; wing, 5·6; tarsus, 0·95; bill from gape, 0·9; weight, 5 ozs.

Females.—Length, 9 to 9·5; expanse, 20·25 to 21·25; tail from vent, 3·25 to 3·82; wing, 5·75 to 6·0; tarsus, 0·8 to 1·0; bill from gape, 0·82 to 0·9.

Legs and feet pale green; claws whitish at base, horny brown towards tip; bill pale green; cere darker green; irides bright yellow.

79 *bis.*—*Glaucidium whitleyi*, Bly.

This species is given by Blyth (B. of B., p. 66) as common in Tenasserim, but merely as a conjecture based on a difference in the habits of the Burmese and Himalayan Barred Owlets.

Mr. Blyth originally described this species from a *Japanese* specimen. He said:—

"The tail has only six narrow white bars, one terminal, and another of them at the extreme bases of the feathers, so that four only remain to constitute the conspicuous barring of the rectrices; the markings of the wing primaries and secondaries are also fewer and further apart than in the common Himalayan bird."

In the first place I confess that, unless other distinctions besides those pointed out exist, I do not in the least believe in the distinctness of this supposed species, it not being a fact (as I have already pointed out S. F., III., 40,) that Himalayan specimens *always* have seven bars on the tail.

In the second place if other distinctions do exist (and Mr. Sharpe, Cat. II, 222, seems to consider the species distinct, though he too I think rests mainly on the number of bars on the tail), and *whitleyi is* really a good species, then certainly not one of the very fair series preserved by us from all the northern parts of Tenasserim (it only extends a little further south than Tavoy) belong to this species; all are inseparable from the Himalayan *cuculoides*.

The following are the number of bars on the centre tail feathers of Tenasserim and Himalayan, &c., specimens, counting the white tip as one bar, and also reckoning the bar, or sometimes bars, hidden more or less completely by the upper tail coverts:—

Tenasserim—

Kollidoo, *male*, 6; Wimpong, *male*, 6; Kollidoo, *male*, 6; Houngthraw River, *female*, 8; Thatone, *female*, 7; Myawadee, *male*, 6; and no white tip to tail.

Thatone, *female*, 6; Pahpoon, *female*, 7; Shymootee, *female*, 7; Tavoy, *male*, 7; Pahpoon, *female*, 7; Wimpong, *male*, 8; Kollidoo, *female*. 7; Tavoy, *male*, 6; Pahpoon, *female*, 8; Kohbaing, *male*, 7; Thatone, *male*, 6; no white tip. Myawadee, *female*, 6; Kaukaryit, *female*, 7; Myawadee, *female*, 6; Wimpong, *male*, 7; Amherst, *male*, 5; Tavoy, *male*, 7; Pahpoon, *female*, 6; Pahpoon, *female*, 7; Amherst, *male*, 5; Theinzeik, *female*, 7; Kollidoo, *female*, 7; Younzaleen creek, *female*, 7; Tavoy, *female*, 7; Kollidoo, *female*, 7.

Himalayas—

Kotegurh, *female*, 7; Dhurmsala, *female*, 6; Mussoorie, *female*, 8; Simla, *male*, 7; Petoragurh, Almorah, *male*, 7; Sikim, *male*, 7; Kotegurh, *male*, 6; no white tip to tail. Sikim, *female*, 8; Hills north of Mussoorie, *male*, 8; Narkundah, *male*, 7; Kotegurh, *female*, 7; Sikim, *male*, 7; Simla, *male*, 7; Darjeeling, *female*, 7; Sikim, *female*, 7; Darjeeling, *female*, 6; Darjeeling, *male*, 9; Kotegurh, *male*. 8; Kotegurh, *male*, 7; Kotegurh, *male*, 8; Mongphoo, *male*, 7; Mongphoo, *female*, 6; Kotegurh, *male*, 7; Kotegurh, *female*, 7; near Darjeeling, *female*, 7; Hills north of Mussoorie, *male*, 7; near Darjeeling, *female*, 7; Kalsi Dhoon, *male*, 7; Gurhwal, *male*, 7; Sikim? 7.

Mirzapore, *male*, 7.

Cachar, ? 7.—? 7.

Tipperah, *female*, 6.

Pegu and Arrakan—

Arracan Hills, *male*, 7; Thayetmyo, *female*, 6; Thayetmyo, *male*, 6; no white tips to tail. Rangoon, *male*, 7.

These have been carefully recorded by Davison and myself, and in all abnormal cases the bars counted by both, in fact, in the case of the bird with 9 bars (!), these have been counted over and over again.

After arriving at results like these, I myself am unable to accept any species differing merely from *cuculoides* by the points indicated by Mr. Blyth.

80.—Glaucidium brodiei, *Burton* (6).

Kyouk-nyat; Mooleyit; Amherst; Meetamyo; Tavoy.

Confined to the better wooded tracts of the northern and central portions of the province; apparently rare, except about Mooleyit.

[I have seen this little Owlet on but few occasions. It occurs, so far as I have observed, only in the northern and central portions of the province, that is to say, from Tavoy northwards. At Mooleyit one day I heard a *Megalaima ramsayi* making a great outcry; going to see what the matter was, I found one of these Owlets, which I shot, with a half-fledged Barbet, firmly

grasped in its claws. The Owlet must have gone into the nest-hole, which I found in the same tree, and thence forcibly carried off the little nestling.—W. D.]

The following are the dimensions, &c., recorded in the flesh of three males and a female :—

Males.—Length, 6·2 to 6·3; expanse, 13·1 to 13·75; tail from vent, 2·1 to 2·22; wing, 3·55 to 3·7; bill from gape, 0·7 to 0·8; weight, 1·61 to 2 ozs.

Female.—Length, 6·75; expanse, 13·75; tail from vent, 2·4; wing, 3·75; tarsus, 0·8; bill from gape, 0·75; weight, 2·0 ozs.

Legs and feet pale green; claws dark horny; bill and gape yellowish green; cere pale green; irides bright yellow.

81 *ter*.—Ninox burmanica, *Hume* (11). S. F., IV., 285.

(*Karen Hills*, Lloyd; *Tonghoo*, Rams.) Kollidoo; Kyouknyat; Pahpoon; near Meetan; Amherst; Mergui.

Generally distributed alike in hills and plains throughout the province.

[Hawk Owls are fairly common, but like all nocturnal birds are much more often heard than seen. This species, though not so early as *G. cuculoides* in making its appearance of an evening, is about soon after sunset catching insects, such as moths, beetles, &c. During the day it roosts in some thick shady tree, and if flushed, seldom flies far, and is easily followed up and shot—W. D.]

After the examination of a very large series from different parts of India, Ceylon, Burma and the Malay Peninsular, I am of opinion that the Tenasserim form is a clearly distinguishable race, which I would define as follows :—

Upper surface dull dark, somewhat smoky brown, much darker than in any specimens of *lugubris* from the plains of Pegu, or any part of India, not so dark as in *scutulata* from Malacca, Singapore, and Sumatra, about as dark as the generality of the somewhat paler race of *scutulata* from Ceylon, and the extreme south of the Indian Peninsular, which, if considered distinct, must stand as *hirsutus*.

Head uniform with the back; tail intermediate between *scutulata* and *lugubris*; lower surface more blotched with reddish brown, and less white than *lugubris*; axillaries and wing-lining mingled fulvous buff and brown.

Wing, 8·3 to 8·8 (10 males and females measured,) from Mergui, Meetan, Amherst, Pahpoon, Kyouknyat, Kollidoo, against 7·1 to 8·3 in *scutulata* (12 males and females measured.)

Cachar birds are similar in size, or are a trifle larger but are darker still, being as dark as the little *scutulata*. For the Cachar birds I proposed the name of *innominata*, S. F., IV.,

286; V., 16; but I am now doubtful whether it is necessary to separate these.

The larger race on the Nicobars is very close to our present species, but runs smaller.

The Sikkim and Bhotan form is also very close to our present species. I formerly adopted for these Hodgson's name *nipalensis*; but, by reference to his original drawing, I found that he applied this name to *lugubris*, which occurs in the Cachar of Nepal and in the Terai, and which is conspicuously distinct form the dark hill form which I referred to above as being very close to the present species.

82 *bis*.—Hirundo gutturalis, *Scop.* (13).

(*Tonghoo*, Rams.) Khyketo; Thatone; Moulmein; Amherst; Tavoy; Tenasserim Town; Sadyin; Choungthapee; Malewoon.

Excessively common everywhere throughout the province, wherever there are clearings or open spaces.

All our specimens from Tenasserim belong to the smaller race separated as *gutturalis*. I can discover no structural differences between this and *rustica*, but it is constantly smaller, and is as a rule more generally rufescent on the lower parts than the European bird. Some specimens are difficult to separate from *tytleri*, and in fact there are many immature birds which may be either pale specimens of *tytleri* or specially rufescent ones of *gutturalis*.

In Sindh, Guzerat, and Western India generally we get, almost exclusively, true *rustica*, with a wing 4·8 to 5·0, and a tail from 4·7 to 5. Of *gutturalis* the measurements of the finest specimens we have out of over 40 are: Wing 4·3 to 4·55, and tail, 3·7 to 4·2.

Throughout India specimens occur, which may be almost indifferently assigned to either species, with wings varying from 4·4 to 4·8, and tails from 4· to 4·8. But, as I said, for the most part the specimens from the west of Continental India are pretty typical *rustica*, while in the East, as in Eastern Bengal, Assam, Burma, and Tenasserim, all the specimens are either *gutturalis* or are birds of an intermediate size, between what we call *gutturalis* and *rustica*.

In comparing a large series of European and Tenasserim specimens, I can discover no constant difference in the shape of the bills. *Gutturalis*, therefore, appears to me to be merely a small race of *rustica*, both races blending perfectly in the Continent of India.

82 *ter*.—Hirundo tytleri, *Jerd.* (15). B. of Ind., III., App. 870.

(*Karennee*, Rams.) Tavoy.

An occasional visitant to, or migrant through, the province.

[I only met with this race at Tavoy; they appeared for a few days in the latter end of April, and the early part of May, in great numbers, and then disappeared entirely; but whether moving north or south, I am unable to say.—W. D.]

See my remarks as to the migrations of this race, S. F., III., 41.

I have carefully compared a very large series of this bird from various localities in Burma and Eastern Bengal, with specimens of *cahirica* from Damietta on the Nile. The two are certainly very close, but I think that they are generally separable. The great majority of *tytleri* are much paler beneath, and even the very deepest colored ones are not quite so deeply colored as all my specimens of *cahirica*. Again, the black blue-glossed pectoral band appears, to judge from my few specimens, to be always continuous on the breast of *cahirica*, whereas in *tytleri* I have found no single specimen in full deep underplumage at all approaching in color to *cahirica*, which has not the pectoral band to a great extent interrupted or broken in front.

I can discover no other differences; in size the birds as a body do not differ, nor is there any constant difference in the amount of white on the lateral tail feathers, though, as a general rule, there is rather less white in the case of *tytleri*; nor again is there any constant difference in the *sheen* of the upper parts. In *tytleri*, no doubt, it is not unfrequently much more purple violet than it appears ever to be in *cahirica*, but again many birds are undistinguishable in this matter from the latter.

Whether under these circumstances *tytleri* should be kept *distinct* must remain a matter of opinion. I am inclined to think that they should be, because, while the habitats are separated by many thousand miles, any specimen of the one can, I think, be separated at once from the other if the color of the lower parts *and* the continuity of the pectoral band are duly taken into account.

82 *quint.*—*Hirundo horreorum*, Bart.

Lord Walden notes a specimen from Tonghoo as undistinguishable from Californian examples.

Some young specimens of *H. tytleri* appear to me not easily separable from this species. They have the forehead, throat and upper part of the breast chestnut, and the rest of the lower surface a pale yellowish brown, just as in *horreorum*, and they want the breast band. The wing, however, is shorter. It seems to me not impossible that Lord Walden's supposed *horreorum* may prove to be only this stage of the immature *tytleri*.

However, although I consider the occurrence of true *horreorum* in Tenasserim very doubtful, Lord Walden's identification may be correct,* and I quote from Swainson a full description of the species, which after all is itself doubtfully distinct from the South American *erythrogaster*, Bodd.

"Male."

"*Colors.*—Forehead, throat, and upper part of the breast pale chestnut; rest of the *under plumage* yellowish brown; top of the head and neck, *dorsal plumage*, lesser coverts and sides of the breast deeply glossed with violet-purple; the base of the plumage of these parts being grey, the middle greyish white and pitch black, next the purple tips; quills, greater coverts, and tail blackish brown, with dark green reflexions; all the tail feathers, but the central pair, having a large white spot on the middle of their inner webs; *bill* black; *irides* dark brown; *legs* blackish purple.

"The *female* has the under-plumage paler, the purple of the back less vivid, and the exterior tail feathers a quarter of an inch shorter.

"*Dimensions.*

	Inch.	Lin.		Inch.	Lin.		Inch.	Lin.
Length, total	... 7	3	Length of bill above	0	3	Length of middle nail	.. 0	2½
„ of tail	... 3	6	„ of bill to rictus	... 0	7½	„ of hind toe...	0	3
„ of tail in middle	... 2	0	„ of tarsus	... 0	6	„ of its nail...	0	2½"
„ of wing	... 4	8	„ of middle toe	0	5			

83.—Hirundo javanica, *Sparrm.* (3.)

Mergui.

Rare in Tenasserim, probably confined to the more southern portions of the province.

[I met with a few of this species at Mergui in June, but they were by no means numerous. They were, I believe, then migrating. I never saw them elsewhere in Tenasserim, but they are *the* commonest Swallow *all* the year round on the Nilgheris breeding in every out-house.—W. D.]

84.—Hirundo filifera, *Steph.* (2.)

(*Tonghoo*, Rams.) Pahpoon.

Apparently only occurring in the north of Tenasserim.

[I found this species flying over the paddy-fields in small numbers at Pahpoon and secured a couple. I did not notice it elsewhere in the province.—W. D.]

* It has since occurred to me that Lord Walden may have intended to suppress *fytleri* altogether. It undoubtedly runs very close to *horreorum*, and some immature specimens from America and Eastern Bengal are inseparable, but this has not been the case with any adult full-plumaged specimens that I have examined.

85 ?—*Hirundo striolata*, Tem.

Lord Tweeddale says (B. of B., p. 127.): "Karennee at 2,600 feet, in March; Karen Hills, at 3,000 feet, in January—Wardlaw Ramsay. Identical with Flores, Formosan, and Chinese examples. Quite distinct from *C. erythropygia*, which is barely separable from *C. rufula*."

I look upon the occurrence of true *striolata* in Tenasserim with much doubt. The birds referred to more probably belong to *nipalensis* or *sub-striolata*, S. F., V, 264. No one who has at all studied this group could talk of *erythropygia* as *barely* separable from *rufula*! The distinctions are pointed out S. F., V., 265, *et ante*.

85 *bis*.—Hirundo nipalensis, *Hodgs.* (9). Descr. S. F., V., 262.

Pahpoon; Pakchan; Bankasoon; Malewoon.

Sparingly distributed in suitable localities throughout the province.

[I only saw these Swallows in the extreme north and south of the province. They affect open grassy slopes, and these are not common elsewhere.—W. D.]

I have already, *loc. cit. sup.*, dealt fully with the sub-group of Swallows to which this species belongs. The birds here entered are of course the *daurica* of my first list. Moreover, the birds formerly entered in my second list, as *erythropygia*, proved on careful comparison to be *nipalensis* also.

87.—Cotyle riparia, *Lin.* (11). S. F., I, 164; III., 452, IV., 507.

Khyketo; Kedai-Keglay; Theinzeik; Thatone.

Confined apparently and as a seasonal visitant to the tracts between the Salween and Sittang.

[The European Sand Martin was common late in January and early in February over the whole of the level country lying in the Thatone sub-district, but I have not as yet seen it elsewhere in Tenasserim.—W. D.]

The following are the dimensions of four males and two females recorded in the flesh:—

Males.—Length, 4·6 to 5·1; expanse, 10·2 to 10·8; tail from vent, 1·9 to 2·1; wing, 3·7 to 4·0; tarsus, 0·35 to 0·4; bill from gape, 0·45 to 0·5; weight, 0·3 to 0·35 oz.

Females.—Length, 5·2 to 5·4; expanse, 10·7 to 11·0; tail from vent, 2·1 to 2·12; wing, 4·05; tarsus, 0·4; bill from gape, 0·4 to 0·5; weight, from a little over 0·25 to 0·4 oz.

Legs and feet very dark, or purplish brown; bill black; irides brown to deep brown.

89.—Cotyle sinensis, *Gray*. (2).

(*Tonghoo*, Rams.) Pahpoon.

Confined to the northern portions of the province.

[Rare in Tenasserim. I never saw it in the Gyne, Hongthraw, Attaran, or any of the more southern streams; in fact I only observed it at Pahpoon, where they occurred in moderate numbers. When I was leaving Pahpoon about the end of February these birds were just commencing to excavate their nest-holes in the banks of the Younzaleen.—W. D.]

Tenasserim specimens are, as pointed out, in the case of others from Thayetmyo, S. F., III., 42, slightly different from Indian ones; but, after examining good specimens, I am quite convinced that they are not sufficiently so to warrant specific separation, and I withdraw the name *obscurior* that I proposed for them if they proved really distinct.

90 *bis*.—Ptyonoprogne ?

Davison observed, about the inaccessible precipices on the eastern side of Mooleyit, near its summit, numerous specimens of a *Ptyonoprogne*, similar to, but smaller and much darker colored than, *rupestris*, which he knows well, as it is common about our own hill at Simla during October. He thinks it was exactly like *concolor*, but that is scarcely likely to have occurred there. Some such species, however, does occur about Mooleyit; he is perfectly certain of the flight, shape of wings, &c., and few people have shot as many or know as well the flight and shape of the *Collocalias*, Swifts, and Swallows of our part the world.

92.—Chelidon urbica, *Lin*.

Col. Tickell says that this species occurs in great numbers at Moulmein. In the B. of B. we are referred to J. A. S. B., XXIV, 809, for this remark of Col. Tickell's. It may save trouble to note that it really occurs, p. 227, *n*.

95 *bis*.—Chætura coracina, *Müll*. (4).

Choungthanoung; Pakchan.

Confined to the extreme southern portions of the province.

[I first met with this pretty little Spine Tail at Choungthanoung, where a few were flying about over the tin mines; further south I met with it on several occasions. Going up the Pakchan in a canoe I saw numbers hawking over the water in company with *C. indica*, *Cypselus infumatus*, &c., but shooting them out of a shaky canoe was out of the question. In habits they much resemble the greater Spine Tails, shooting down with the

rapidity of lightning with a shrill scream just touching the surface of the water, and rising again with equal rapidity, turning and swooping down again, up-stream and down-stream, for the hour together. It appears to be a forest-loving species, never being found far from it, and frequenting only those streams whose banks are lined with, and those clearings surrounded by, forest.—W. D.]

The following are the dimensions, &c., of this species recorded in the flesh :—

Males.—Length, 4·62 to 4·8 ; expanse, 11·25 to 11·75 ; tail to end of spines, 1·62 to 1·75 ; wing, 4·82 to 5·1 ; tarsus, 0·35 to 0·45 ; bill from gape, 0·5 to 0·76 ; weight, 0·5 to 0·6 oz.

Females.—Length, 4·75 to 4·8 ; expanse, 11·25 to 11·75 ; tail as above, 1·5 to 1·75 ; wing, 4·75 to 4·82 ; tarsus, 0·35 to 0·4 ; bill from gape, 0·55 to 0·6.

Legs and feet livid purple ; claws and bill black ; irides dark brown.

The rump and upper tail-coverts, which are very long, extending quite to the end of the webs of the tail feathers, in other words to the bases of the spines, a delicate pearl grey, each feather dark shafted. The whole of the rest of the bird is black (the bases of the feathers, however, being brown, which in bad specimens show through especially on the nape) with a deep blue gloss, slightly greenish, however, in certain lights.

96.—Chætura indica, *Hume*, (3). Descr. S. F., I., 471 ; IV., 287.

Bankasoon ; Malewoon.

Confined to quite the southern portions of the province.

[The Indian Spine Tail occurs but sparingly in the Tenasserim Provinces. I have seen it at Mergui, Malewoon on the Pakchan, and I obtained it at Bankasoon. It has a peculiar habit of appearing suddenly at a place, hawking backwards and forwards for some minutes, and then disappearing again, as suddenly as it appeared, not to appear again till next day, or several days after, or perhaps not at all. Having seen them in a place one day is no criterion that they will be found there again. Their flight is exceedingly swift.—W. D.]

96 *bis.*—Chætura gigantea, *Hasselt.* (1). Descr. S. F., IV., 287.

(? *Karennee Hills* beyond British boundary, Lloyd.) Malewoon.

Very rare in Tenasserim ; apparently only an occasional straggler to the extreme south of the province ; possibly elsewhere.

[Temminck's Spine Tail appears to be rare in Tenasserim, occurring apparently only in the extreme south. I obtained only one specimen shot at Malewoon, and this is the only one I have seen to identify, though there might have been birds of this species among the other Spine Tails that I saw, but did not shoot. One cannot *always* bag these Spine Tails.—W. D.]

Lord Tweeddale (B. of B., p. 84) gives this species from Tonghoo*, but as he adds "*C. indica*, Hume, is synonymous," which is not the fact, in my opinion, and shows that he is unable to discriminate the two species, it is doubtful whether Major Lloyd's bird belonged to the present or last species.

100 *bis*.—Cypselus subfurcatus, *Blyth*. (7). Descr. S. F, II., 524.

Choungthapee; Malewoon.

Very rare and confined to the southernmost portions of the province.

[On one occasion only did I meet with this Swift in the Tenasserim Provinces, and this was at a small Siamese village called Choungthapee, about half way between Mergui and Malewoon. There were a good number, fifty I should say, flying rapidly to and fro over a stream, picking insects off the surface. I shot more than a dozen, but unfortunately we had a very long march to do (we did not get to the end of it till about 9 P. M., and our men, and amongst them the man with the birds, did not arrive till some time after midnight, others not till morning) and the weather was unpropitious; consequently when I came to measure and skin the birds, out of all the Swifts I had shot only five were worth the skinning. Some of our people later shot a couple of specimens at Malewoon.—W. D.]

The following are the dimensions of two males and two females recorded in the flesh:—

Males.—Length, 5·7 to 6·0; expanse, 13·25 to 13·5; tail from vent, 2·12 to 2·25; wing, 5·5 to 5·65; tarsus, 0·4; bill from gape, 0·7 to 0·75; weight, 1 oz.

Females.—Length, 5·75; expanse, 12·75 to 13; tail from vent, 2·0 to 2·12; wing, 5·25 to 5·75; tarsus, 0·35 to 0·4; bill from gape, 0·7 to 0·8; weight, 1·0 to 1·25 oz.

The legs and feet varied a good deal; in one male and one female, these parts were fleshy, tinged on toes and claws with dark brown; in the other male and female they were purplish black; bill black; irides dark brown.

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* Ramsay points out that the bird sent by Major Lloyd really came from the locality cited above, and not as Lord T. supposed Tonghoo.

101 *bis*.—Cypselus pacificus, *Lath.* (2). DESCR. S. F., III., 43.

Amherst ; Bankasoon.

Only observed in the southern half of the province.

[I have noticed this Swift on several occasions at Amherst and southwards, but it cannot be said to be common anywhere. I only secured two specimens—one at Amherst and one at Bankasoon.—W. D.]

The following are the dimensions of a male and female recorded in the flesh :—

Male.—Length, 7·5 ; expanse, 16·5 ; tail from vent, 3·15 ; wing, 6·8 ; tarsus, 0·4 ; bill from gape, 0·85 ; weight, 1 oz.

Female.—Length, 7·25 ; expanse, 15·75 ; tail from vent, 3·12 ; wing, 6·5 ; tarsus, 0·5 ; bill from gape, 0·75 ; weight, 1·75 oz.

Legs and feet purplish black ; claws horny black ; bill black ; irides deep brown.

102.—*Cypselus batassiensis*, J. E. Gray.

I gather from Mr. Blyth's remarks (B. of B., p. 84) that he was of opinion that this species occurred in Tenasserim. I however doubt its occurrence. Mr. Davison tells me that near Khyketo he saw a number of small Swifts flying in and out and about the fronds of a set of palm trees. He made sure that they were *batassiensis*, but on shooting specimens they proved to be *infumatus*. Other people shooting this latter, before *infumatus* became generally known, may probably have reported the occurrence of *batassiensis*, but there is no reason to believe that this does really ever visit Tenasserim.

102 *bis*.—Cypselus infumatus, *Sclater*, (16). DESCR. S. F., III., 44.

(*Tonghoo*, Rams.) Palpoon ; Khyketo ; Amherst ; Mergui ; Bahonee ; Pakchan ; Malewoon.

Common throughout the plains portion of the province, but especially abundant in the south.

[At Amherst all round the circuit bungalow, at Mergui on the five pagoda plains, on the Thatone plains, in fact wherever the ground was open, many of these birds might be seen hawking close over the ground. I have once seen them about the fronds of a toddy palm. I do not know where they roost or breed. They seemed to me to be permanent residents.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 4·62 to 5·0; expanse, 10·5 to 11·37; tail from vent, 2·0 to 2·62; wing, 4·45 to 4·75; tarsus, 0·3 to 0·37; bill from gape, 0·5 to 0·45; weight, 0·3 oz.

Females.—Length, 4·62 to 5·0; expanse, 10·12 to 11·0; tail from vent, 2·0 to 2·5; wing, 4·1 to 4·8; tarsus, 0·3 to 0·35; bill from gape, 0·5 to 0·52; weight, 0·37 to 0·38 oz.

Legs and feet dark purple; bill black; irides deep brown.

103 *bis.*—Collocalia linchi, *Horsf.* Descr. S. F., I., 296; II., 157.

Blyth says (B. of B., p. 85) that this occurs in the Mergui Archipelago. It very probably does, but not on Mergui Island itself, nor on any of the small islands near it.

Lord Tweeddale again repeats, *loc. cit.*, that this is the true *fuciphaga*, Thun. It seems to me that where a description is like Thunberg's (quoted S. F., I., 294) clear and explicit we must go by it, and to my mind the "corpus supra atrum, *vix* nitens," and the "cauda *rotundata*, supra *infraque* atra." of Thunberg's description, are perfectly irreconcilable with *linchi*, and either Thunberg's bird was distinct, or his description was so directly at variance on important points with fact, that his name must be rejected altogether.

103 *ter.*—Collocalia innominata, *Hume* (6.) Descr S. F. I., 294.

Mergui; Bankasoon.

Confined to the southern portions of the province.

[This species appears at Mergui and southwards, from time to time, in moderately large numbers, (though nothing like those in which *spodiopygia* occurs,) hawking about along the coast, up estuaries, along the course of creeks and rivers, over paddy fields, and sometimes a little way inland.

During the day they usually keep high up and out of shot, but descend lower in the evening. They fly swiftly, and are not always easy to shoot.

They come and go, and probably breed on some of the islands of the Mergui Archipelago. At the Andamans I only saw a single specimen. Here, at the extreme south of Tenasserim, they are not rare.—W. D.]

In my list, S. F., IV., 223, I mentioned a *Collocalia* under the name of *Collocalia maxima*. I had then only two specimens from Tenasserim, adults, and did not recognize their identity with *C. innominata*, which was described, as it now appears, from an

immature specimen. Having now obtained other specimens, old and young, male and female, I find that the Bankasoon birds are *innominata*.

The adult has the whole of the forehead, crown, occiput, nape, mantle, and upper tail-coverts smoky black; the rump a rather pale brown; the feathers dark shafted; the wings and tail blackish brown, the latter with a distinct bluish lustre towards the tip; the tail, except the external tail feathers, which are about 0·05 shorter than the penultimate when fully spread, is perfectly square, and therefore when partly closed has the appearance of being somewhat emarginate.

There is a similar bluish gloss towards the tips of all the later primaries, while on the head and back there is a faint greenish gloss.

There is a black line which surrounds the eye in front below and behind; a greyish white spot, conspicuous in good specimens, in the lores just in front of the eye; the rest of the lores, cheeks, ear-coverts, throat, breast, abdomen, vent, and lower tail-coverts, a dusky grey brown; all the three latter with the feathers conspicuously dark shafted; wing-lining and axillaries blackish brown.

In younger specimens the colors are everywhere lighter, and some immature birds, like the type specimen, show a distinct darker cap.

In some specimens the rump is greyish white and the under parts pale brownish grey. But at all ages in good specimens the black orbital line, the greyish white lores spot, and the darker shafting of the abdomen, vent, lower tail-coverts and rump, coupled with the large size of the species, serve to distinguish it.

The dimensions are as follows:—

Length, 5·1 to 5·3; expanse, 12 to 12·62; tail, 2·1 to 2·2; wing, 5·2 to 5·5; tarsus, 0·4 to 0·5; bill from gape, 0·6; weight exceeding 0·75 oz.

Legs feathered almost to the foot, blackish brown; feet and bill black.

At the Andamans we only procured a single specimen, but about Mergui and the rest of the Tenasserim provinces south of this they are very common in June, and there can be no possible doubt of their distinctness from *spodiopygia*, which is common in Tenasserim all the year round, as indeed it is at the Andamans, and again from *Collocalia unicolor*, Jerdon, which, with trifling variations in color, we have from Ceylon, the Assamboo hills, the Nilgheris, and the Himalayas from Murree to Sudiya. It is unnecessary to add that *linchi*, which belongs to quite a different sub-group, is distinct from all these.

103 *quat.*—Collocalia spodiopygia, *Peale.* (28). DESCR. S. F., I., 296; II., 160.

Mergui; Pakchan; Bankasoon.

Extremely common throughout the year in the southern portions of Tenasserim, and breeds largely in the islands of the Mergui Archipelago from Tavoy Island southwards.

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 4·7 to 4·9; expanse, 10·82 to 11·5; tail from vent, 2·0 to 2·15; wing, 4·62 to 5·0; tarsus, 0·35; bill from gape, 0·5 to 0·55; weight, 0·4 to 0·5 oz.

Female.—Length, 4·65 to 4·85; expanse, 10·82 to 11·65; tail from vent, 1·9 to 2·12; wing, 4·62 to 4·85; bill from gape, 0·5 to 0·55; weight, 0·5 oz.

Legs and feet purplish brown; bill black; irides very dark brown.

104.—Dendrochelidon coronata, *Tick.* (2).

(*Tonghoo, Karennee at* 1,700 *feet*, Rams.) Pine forests, Salween; Ngabeemah.

Rare in Tenasserim and only found in the northern and central portions.

[I never met with this species further south than Ngabeemah on the Attaran.—W. D.]

104 *bis.*—Dendrochelidon comata. *Tem,* (2).

Choungthanoung; Pakchan; Bankasoon; Malewoon.

Confined to the extreme south of the province, but rather common there.

[I first met with this lovely little Tree Swift at the Choungthanoung tin mines, some 90 miles south of Mergui, where there were several seated on the dead trees about the mines, occasionally swooping down and hawking over the water collected in the abandoned pits. Further south it occurred more numerously, and in February I found it comparatively common on the higher portion of the Pakchan, seated singly, or in pairs, on the bamboos overhanging the stream. This and the next species I found frequented by preference Toungyahs, or clearings, where there were numbers of dead trees standing about, where they could perch and get a good view all round. Sometimes I have seen both species flying about over the top of heavy forest; as a rule they avoid settling on leafy trees. They are not at all shy birds.—W. D.]

The following are dimensions, &c., of this species recorded in the flesh:—

Males.—Length, 6·12 to 6·5; expanse, 12·25 to 12·9; tail, 2·8 to 3·3; wing, 4·82 to 5·12; tarsus, 0·2 to 0·3; bill from gape, 0·62 to 0·7; weight, 0·5 to 0·65 oz.

Females.—Length, 6·05 to 6·6; expanse, 12·25 to 13·25; tail, 3·05 to 3·4; wing, 4·82 to 5·25; tarsus, 0·25 to 0·3; bill from gape, 0·65 to 0·7; weight, 0·65 to 0·75 oz.

Legs and feet purplish pink; bill black; irides dark brown.

A narrow frontal band continued over the eyes, and along the margin of the eye tufts, chin, margin of the throat, and long moustachal plumes, snow white; lores black; posterior portion of cheeks and ear-coverts bright chestnut in the male, unicolorous with crown in female; forehead, crown, occiput, a band behind the ear-coverts, upper throat and sides of lower throat, wing-coverts, and outer margins of quills deep glossy steel blue; on the nape, a greener metallic band; a trace of the same on the sides of the neck, and at the junction of the wing with the body. The rest of the back, sides of the neck, rump and upper tail-coverts, breast and abdomen, glossy metallic bronze; lower tail-coverts pure white; so are the short tertiaries; wing-lining glossy blackish blue; inner webs of quills deep brown; tail, outer feathers brown, paler on the outer webs; rest of tail feathers blackish brown with a greenish blue gloss. There is also sometimes a greenish gloss on the tips of the secondaries, and all but the earlier primaries. Sometimes the lower abdomen is much more drab-colored and less metallic, and the feathers about the vent as well as the lower tail-coverts are white. The shafts of the tail feathers on their lower surface are pure white; those of the quills black or brown.

104 *ter.*—Dendrochelidon longipennis, *Rafin.* (16).

Mergui; Hankachin; Pakchan; Bakasoon; Malewoon.

Confined to the southern portions of the province.

[This species extends further north than the last, for I have obtained it at Mergui; it may extend further north still, but not much further, as I failed to notice it at Tavoy or its neighbourhood. Its habits are the same as that of the last and of *D. coronatus*; it frequents the same situations, and like them seems to avoid grass land. Both species are, I believe, permanent residents in Southern Tenasserim.—W. D.]

Unfortunately only one specimen, a female, was measured in the flesh. Her dimensions were:—

Length, 7·7; expanse, 16·72; tail, 3·6; wing, 6·8; tarsus, 0·83; bill from gape, 0·75; weight, 1·5 ozs.; but they run up to fully 8 inches in length, with a wing of 7·0.

Lores black; forehead and frontal crest, crown, occiput, and wing-coverts, nape, sides of neck and interscapulary region, metallic green; all but the three latter, which have a more bronzy lustre usually, but not invariably, more or less streaked

or patched with deep blue; ear-coverts in the male deep chestnut; in the female dusky, with a slight greenish gloss; middle of back, rump, and tips of longest scapulars, hoary grey; upper tail-coverts and all but the outer tail feathers, which are blackish brown, dark glossy green; quills blackish on their outer webs, with a bluish green gloss; inner webs paling towards the margin, where they are pale brown; chin, throat and breast, grey, the latter with faint greenish reflections; sides of abdomen and sides a lighter grey; middle of abdomen, vent, and lower tail-coverts pure white; flanks slightly darker grey; wing-lining very dark green, glossed. Tertiaries more or less white or greyish white.

A young bird has the feathers of the head and back narrowly tipped with buffy white; all the primaries narrowly and all the shorter quills broadly tipped with white; the upper tail-coverts are also tipped with white. The colors generally, but specially the grey of the back, duller, and there is a line of white mottling from the chin on either side down the sides of the throat.

105 *quat.—Batrachostomus affinis*, Bly. DESCR. S. F., II., 351.

Blyth remarks that Mason gives this species without mentioning any locality. If Mason ever obtained the bird it was probably from the Hills above Tonghoo, and therefore within the limits of Tenasserim as now limited, but there is no reason as yet to suppose that this species occurs beyond the limits of the Malay Peninsular, and Mason's bird, if he ever got one, and not merely heard of it, belonged probably to the next species.

106.—Batrachostomus hodgsoni, *G. R. Gr.* S. F., II., 349.

Lieutenant Ramsay obtained a male of this species in grey mottled plumage in Karennee, at 6,000 feet. He notes the "iris marbled buff; bill light madder; legs light madder, tinged violet."

Lord Tweeddale, in the "Birds of Burma," fell into the error of uniting *B. castaneus*, nobis, (which, as I suggested when describing it, is probably one *sex* of the present species) with *affinis* of Blyth, as also of uniting *punctatus*, nobis, with *moniliger*, Layard.

This was pointed out, S. F., IV., 376.

His Lordship then writes a long* letter to the *Ibis* to prove that he is right, and that *affinis* is *castaneus*, &c.

This is, of course, a mistake. Any one who has once seen *affinis* could never confound it with *castaneus*, but there was a serious blunder in my paper, which his Lordship failed to detect, and that was, that in copying from the paper in which dimensions of the several species were recorded, the dimensions of the bills of *javanensis* were given for those of *affinis*, I having (though perfectly correct as to the entire distinctness of *affinis* and *castaneus*) made in writing out my paper hurriedly from notes almost as great a muddle as his Lordship.

However, the main point for ornithologists is the distinctness of the several species; and, pending the appearance of a monographic note on the Indian and Malayan species which I have by me, I reproduce, to prevent any miscomprehension amongst my Indian readers, extracts from a letter which I recently addressed to the Editors of the *Ibis*.

"There exist in the Malay Peninsula, besides the magnificent *B. auritus*,† which cannot well be confounded with any other Asiatic form, two distinct rufous forms of *Batrachostomi*.

"The one, the larger *javanensis*, apud Blyth, with conspicuous white wing spots, with the wing usually measuring from 4·75 to 5, and with a bill from 1·3 to 1·4 wide at base, and from 1·37 to 1·49 straight from angle of gape to tip of bill. I have *twenty* specimens of this form now before me They vary a great deal in the tone of the upper and lower plumage; the upper surface from light dingy chestnut to a very deep rufous brown‡ and the lower surface correspondingly, though in a lesser degree, but all unmistakably belong to the same species.

"The other, the smaller, *affinis*, apud Blyth, with in three specimens out of four, *no* white spots on the wings, with wings varying from 4·28 to 4·6§ and with bills varying in width, at gape from 0·95 to 1·13 and in length from gape to tip from 1·05 to 1·33. I have *four* specimens of this form before me; one is *precisely* similar to the type; three answer well to Blyth's description, but the fourth has some spots upon the wing, and *may*,

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* His Lordship in this letter seems to think that any one who ventures to dispute his dicta is a public offender. This is very childish; we are all quite willing to give him full credit for all the good work he does and has done; but of course if he *will* mar the effect of this by flagrant self-sufficiency and an affectation of being the supreme authority in such matters, he *will* be laughed at, despite all his merits, and when he makes blunders, as he and *all* of us too often do, *of course* he *will* be more sat upon than other less pretentious mortals.

† This is also the *Bombycistoma fullertonii* vel *bombycivoras*, Hay, J. A. S. B, X., 574, a voluminous designation that requires a mouth almost proportionally as large as the bird's own to give it a duly sonorous utterance. This grand designation was bestowed, the author naively tells us, "the supposition being that it rests on branches to receive and devour that immense moth, the Bombyx atlas."!

‡ *In* this stage it seems to be *stictopterus* of Cabanis.

§ Blyth gives the wing as 4·5.

perhaps, notwithstanding the extreme narrowness of its bill, and short wings, belong to the other form (which it closely resembles) as it has the bill 1·33 in length, whereas in the other three specimens the bills are only 1·05, 1·1, and 1·2 in length.

"Setting aside this possibly doubtful specimen, I have *three* specimens, at any rate, of typical *affinis*, all shot in the neighbourhood of Malacca. Wings 4·28, 4·5, and 4·6, with tails 4·4 and 4·5, answering in every respect to Blyth's description, and which, in my opinion, no one who compares them with either type or description can possibly doubt to be the form described by Blyth as *affinis*.

"I have also before me four chestnut *castaneus*, wings, 5·2, 5·25, 5·25, and 5·5. It seems to me that this difference in size alone is sufficient to separate the two; *castaneus* is really more than double the bulk of *affinis*, but the whole character and color of the plumage is also totally different. The plumage in *affinis* is of the same color and character as that of *javanensis*, apud Blyth, and both are clearly different to any practised eye from that of *castaneus*. The plumage of this latter is softer and silkier, and the chestnut is brighter everywhere (but most conspicuously so on the throat and breast) in the dullest *castaneus* than in the brightest *javanensis* or *affinis*.

"I say nothing now of the grey white mottled birds from Malacca, and the similar, though immediately distinguishable, ones from the Himalayas. I assert nothing as to the validity of Blyth's *affinis*, nor as to the correct name that this or *javanensis*, apud Blyth, should bear.

"I merely assert that in the Malayan Peninsula occur two forms, a larger and a smaller (both fully represented in my museum), agreeing alike with the descriptions and the types of *javanensis** and *affinis*, Blyth, and both absolutely and unmistakably distinct, and distinguishable at a glance from *castaneus*.

"Secondly as to *punctatus* and *moniliger*. I have *moniliger* both from the Travancore Hills and from Ceylon perfectly identical. In no adult *moniliger* does the wing fall short of 4·7. In *punctatus*, on the other hand, of which several specimens have now, Mr White informs me, been obtained, the wing appears to be always under 4·5 (in the type it is only 4·3), and though unquestionably there is a strong family resemblance between the males of *moniliger* as sexed by Mr Bourdillion (for I have no really reliably-sexed specimens except his) and *punctatus* as described (I have not yet seen the rufous form of this), the difference between the two birds in every dimension and even in plumage is such that no one who compares them can ever confound the two."

* By types of *javanensis* I mean the specimens labelled with this name by Blyth himself.

I note further that in his remarks on the late Col. Tickells' manuscript illustrations of Indian Ornithology, *Ibis*, 1876, 355, His Lordship further remarks that the first plate in Col. Tickell's volume VII, "illustrates a species of *Batrachostomus*, obtained near Tongu-ngoo, Burma, and identified by Col. Tickell with *B. moniliger* (Layard). The figure very acutely represents *B. affinis*, Blyth, in bright chestnut plumage, a species which can hardly be separated from *B. moniliger*."

Now *B. affinis* never has bright chestnut plumage; it varies through the same shades as does *javanensis*, apud Blyth; but Lord Walden intended to refer probably to *B. castaneus*, nobis, which is, as I originally suggested, probably one sex of *B. hodgsoni*.

But, admitting this, how any one who has examined a series of both can possibly talk of *moniliger* being barely separable from *castaneus*, altogether passes my comprehension; *affinis*, Blyth, *castaneus*, vel *hodgsoni* and *moniliger*, are three about as easily separable species as can be met with.

107.—*Caprimulgus indicus*, Lath.

Blyth gives this as generally diffused throughout Burma, but he probably referred to the larger race of this species, now-a-days identified as *jotaka*, the next species (?).

107 *bis*—Caprimulgus jotaka, *Tem.* and *Schl.* (4).

(*Tonghoo*, Lloyd.) Choungthanoung; Bankasoon.

Very sparingly distributed throughout the more open portions of the province.

[Appears to me to be very rare in Tenasserim. I distinguished them from *macrourus*, but put them down as *indicus*. I certainly shot the only two I saw, and these occurred quite at the south of the province.—W. D.]

The birds here entered appear to be similar to those identified by Godwin-Austen, the Marquis of Tweeddale and others as *Caprimulgus jotaka*. Whether really identical with Japanese specimens I am hardly in a position to decide, as I have only a single Japanese bird; but this, though slightly more rufescent, agrees fairly well with our Tenasserim examples.

In former lists I identified these specimens as *indicus*, which Mr. Blyth (B. of B., p. 83) says is generally diffused in Burma, extending southward to Malacca and Sumatra, and, except in the matter of size, I can discover no constant point of difference between the two species.

Taking *indicus* to be the bird of the plains of the Punjab, the North-West Provinces, Oudh, the Central Provinces, and of the whole of Peninsular India, it may be broadly stated

that the wings of the adult males in this species vary from 7·4 to 7·6; also that the white of the tips of the lateral tail feathers usually extends to the very end of the feathers.

Typical *jotaka*, we are informed, has in the male the wing 8·8, and the white in the lateral tail feathers occurs as a broad penultimate band, distant from half to a quarter of an inch from the end of the tail.

In the so-called *jotaka* from Tenasserim, the Karen Hills, the Khasia Hills, Assam, Sikhim, Gurhwal, Kotegurh, and right away to Hazara in Abbottabad, the wings in the males vary from 8 to 8·6, and average about 8·3, and the white occurs in a penultimate band; in some cases no doubt more than half an inch distant from the tip of the tail, in other cases less than a quarter of an inch, and in one specimen before me less than one-tenth of an inch.

Taken as a body, the males of the so-called *jotaka* are, I think, more silvery than the generality of the plains *indicus*, in fact resembling in tint the typical Nilgheri and Ceylon *kelaarrti*; but there are plains *indicus* with wings only 7·6, and with the white separated from the tip of the tail by a dark band, inseparable from Hazara males with the wing 8, which again are inseparable from Sikhim and Tenasserim males, with the wings 8·6.

The breadth of the bars of the flanks and lower tail-coverts is also a character, by which, as a body, the so-called *jotaka* might possibly be distinguished; but this even does not hold absolutely good, and will not suffice to separate the birds from *indicus*, and the same may be said of the wing-lining, which in most of the Himalayan and Burmese *jotaka* is a brighter rufescent fulvous, less barred and marked with dusky than in the majority of the plains *indicus*. After examining carefully a large series of both these forms, I can discover no absolute diagnosis beyond that of size. It remains to be seen whether the birds identified as *jotaka* from Burma, &c., are really, as my one specimen leads me to infer, identical with the Japanese birds. In no Indian or Burmese specimen that I have seen has the wing come quite up to Professor Schlegel's dimensions of 8·8. The largest specimen that I have met with has the wing 8·6, while of my Japanese specimen the wing is only 8·35, but then the first three primaries are not fully developed.

109.—Caprimulgus albonotatus, *Tick.*

This species is said (B. of B., p. 83) to have been procured at Tonghoo by W. Ramsay. It is very probable that some of the specimens I have entered as *macrourus*, would be identified by others as *albonotatus*.

110.—Caprimulgus macrourus, *Horsf.* (28.)

(*Toughoo*, Rams.) Pahpoon; Thatone; Wimpong; E-poo; Moulmein; Amherst; Yea; Pabyin; Mergui; Bankasoon; Malewoon.

Common everywhere except in dense forest throughout the less elevated portions of the province.

[In habits this species differs in no way from the other and better known species of the genus. Its note might be syllablized tok tok tok, repeated quickly three or four times, then a short pause, when it is again repeated. I know of nothing so thoroughly disagreeable when one is lying ill with fever in the jungle as the monotonous call of this Night Jar, which goes on incessantly from early in the evening till dawn next morning.—W. D.]

I have entered all our Tenasserim specimens as *macrourus*, and some of these are what I consider typical *macrourus*, but the great mass are neither typical *macrourus* nor typical *albonotatus*, but an intermediate form, such as one gets about Dacca also. When I speak of *macrourus* I mean *macrourus* such as one gets about the southern extremity of the Malay Peninsula. I have no Javan specimen by me at present to compare.

Jerdon pretty clearly discriminated *albonotatus* from *macrourus*. Typical *albonotatus* is altogether a larger bird, (wing 9, against 7·75 to 8·0 in *macrourus*,) both above and below altogether a lighter colored and more buffy bird, with broader white or buffy or creamy white margins to the scapulars and wing feathers, and with the whole lower parts comparatively uniform; whereas in *macrourus* the breast is much darker and contrasts strongly with the much paler abdomen.

These points indicate the differences observable between specimens at the extreme ends of the scale, but in between them every possible intermediate form occurs, and in this, as in many other cases, I see no way so to define both species as not to exclude at least one-third of all the specimens one procures. It must be noticed that in no locality that I know of is either species absolutely true. I have obtained specimens at Etawah in the North Western Provinces much nearer to *macrourus* than to *albonotatus*, and Davison shot at Pulo Seban, 22 miles from Malacca, along with a typical *macrourus* male, a female, that, so far as coloration goes, is a typical *albonotatus*, but has the wing only 7·3, so that to a great extent the discrimination of these two species must depend upon dimensions. Amongst the Tenasserim specimens the majority show the dark breast, but a few show no traces of this, and several show it very faintly.

The wings of those that show no trace of the dark breast, and that are miniatures of typical *albonotatus*, measure as follows:—

Female.—7·5, Malewoon; absolutely identical with the Pulo Seban *female* already referred to.

Female.—8·1, Myawadee, but with the upper surface greyer and darker than in true *albonotatus*, though not nearly so dark as in typical *macrourus*.

Male.—7·81, Mergui, of the *albonotatus* type above and below.

All the other specimens, some of them shot at the same time and place with these three, show more or less distinctly the darker breast, and are, without exception, somewhat greyer and darker above than *albonotatus*, and some few of them are typical *macrourus* in every respect.

The following are dimensions of wings :—

Males.—7·8 ; 7·51 ; 8·2 ; 7·5 ; 7·9 ; 8·2 ; 8·0 ; 8·25 ; 8·12 ; 7·5 ; 7·5 ; 7·98 ; 8·0.

Females.—8·2 ; 8·0 ; 7·7 ; 8·0 ; 8·1 ; 7·9 ; 7·9.

It will be observed that the dimensions vary immensely, but it is quite impossible to separate these birds into two species, and curiously enough some of the biggest birds, for instance the first female, is one of the closest to the typical *macrourus* in plumage. On the whole, both as regards dimensions and plumage, the birds, as a body, are much nearer *macrourus*, and they all so grade into each other that I cannot consistently enter them under different names.

The following are the dimensions of a very large series recorded in the flesh :—

Males.—Length, 11·75 to 12·3; expanse, 23·5 to 24·75 ; tail from vent, 5·8 to 6·62; wings, 7·5 to 8·25 ; tarsus, 0·65 to 0·75 ; bill from gape, 1·15 to 1·62 ; weight, 3 ozs.

Females.—Length, 11·6 to 12·0 ; expanse, 22·75 to 25 ; tail from vent, 6·25 to 6·5 ; wing, 7·3 to 8·2 ; tarsus, 0·62 to 0·75 ; bill from gape, 0·7 to 1·5 ; weight, 2·5 to 2·75 ozs.

The legs and feet are pinkish brown, dull brown, or yellowish brown ; bill black ; edges of both mandibles and gape pinkish brown ; irides very narrow, and so dark a brown as to be barely distinguishable from the pupil.

112.—Caprimulgus asiaticus, *Lath.* (1).

Amherst.

Must be extremely rare in, and is probably only a straggler to, Tenasserim. Davison never once met with it, but Dr. Armstrong obtained a single specimen near Amherst.

114.—Caprimulgus monticolus, *Frankl.* (7).

(*Tenghoe*, Rams.) Pahpoon ; Thatone ; Yea-boo ; Amherst.

Confined to the northern and upper central portions of the province.

[This Night Jar also occurs in Tenasserim, but its range to the south appears to extend only about as far as Amherst ; below this I have not yet observed it.

On the 3rd March 1874 I shot a female of this species off her nest containing two eggs at Yea-boo up the Attaran.—W. D.]

114 *bis.*—Lyncornis cerviniceps, *Gould.* (34).

(*Toughoo*, Lloyd.) Kollidoo ; Pahpoon ; Thatone ; Pabyin ; Bankasoon.

Generally distributed throughout the better-wooded portions of the province up to 4,000 feet.

[This grand Night Jar is not at all uncommon in the well-wooded portions of Tenasserim from north to south, but it does not seem to occur in those portions that are scantily wooded, or where the forests or the greater portion of them are deciduous and not evergreen, as in the vicinity of Moulmein and between that place and Tavoy. South of Mergui, as at Malewoon and Bankasoon, it is common.

It makes its appearance soon after sundown, flying at a great height, and numbers coming from the same direction (though quite independently of one another and not altogether), uttering its full and clear whistle. As the evening advances, they descend lower and lower, till by the time it is quite dark they are flying about within a few feet of the ground. I have noticed (and I have had great opportunities of observing them) that only for about an hour after their first appearance of an evening do they call, after which they are neither seen nor heard again till dawn the next morning, when numbers are again heard calling and seen wending their way back in the direction from whence they came the preceding evening.

I have travelled through many and many a mile of forest land, and I have flushed a great many *Caprimulgi*, but only on one occasion have I ever seen a *Lyncornis* during the day, and that one I flushed and shot in a narrow strip of thin tree jungle at Malewoon as she rose from her nest containing one egg, quite fresh ; the egg was laid in a slight depression on the bare ground, without the slightest apology for a nest.

I cannot imagine, and I have often wondered, where these birds roost during the day. I have walked up hill and down dale over many hundred miles of country, and over ground covered in every conceivable way, with dense forest (sometimes so dense that every step of the way had to be cut), with thin tree jungle, with grass, and with nothing but stones and rocks, and yet only once have I flushed a *Lyncornis* and that was brooding. I have thought that they might possibly roost on the larger limbs of trees during the day ; but I hardly think it possible that I should have failed to find them if they did, for many a time have I detected and shot other species of *Caprimulgi* during the day, roosting on the larger limbs of trees. I have noticed that, when they make their appearance

of an evening, they always come from the direction of the mountains, numbers following exactly in the trail of those that had gone before, and all going back exactly the same way at dawn the next morning*. This I have not only noticed to be the case with *L. cervinicops*, but also with the smaller *L. temminckii* of the Malay Peninsula.

The note of the present species is, as I mentioned before, a full clear whistle which can be heard a very long distance off; it might be syllablized two-wee-oo, each syllable lengthened out, but specially so the middle one. Occasionally the first syllable is double and shortened too-too-wee-oo; this whistle the bird repeats at irregular intervals, one calling and another answering.

Unlike the ordinary Night Jars, they appear to settle but seldom. I have never seen them settle on the ground, but on one occasion, and on one occasion only, while lying at anchor close to the bank in the creek at Choungthanoung, a *Lyncornis* settled on an old stump within twenty yards of the boat, where it remained some six or eight minutes, uttering at short intervals its fine whistle; it was a clear moonlight night, and I could see it distinctly, and I noticed that, when about to whistle, its head shot forward with a jerk. Its position when seated was the same as that of *Caprimulgus*, squatting, with the lower breast and abdomen resting on the thing on which it was seated.

In the majority of the specimens I obtained (thirty-four), the whole of the abdomen down to the vent was covered with a thick layer of white fat, half an inch thick in some cases, lying between the skin and the muscular tissue, but which separated without difficulty from the skin.

The food, of course, consists entirely of insects, which are taken on the wing.

This species extends as far south, certainly, as Tonka in the Malayan Peninsular, but how much further south it goes, and where it meets with *L. temminckii*, I am unable to say.—W. D.]

The following are the dimensions of numerous specimens measured in the flesh:—

Males.—Length, 14·9 to 16·5; expanse, 34 to 37·25; tail, 8 to 9; wing, 11·4 to 12·5; tarsus, 0·7 to 0·9; bill from gape, 1·62 to 1·9; weight, 8 ozs.

Females.—Length, 15·12 to 16·5; expanse, 34·5 to 36·25; tail, 7·9 to 9·0; wing, 11·37 to 12·62; tarsus, 0·75 to 0·82; bill from gape, 1·7 to 2·0; weight, 8 ozs.

The legs and feet varied; some were brownish pink, some dull purpish brown, some light plumbeous brown; the irides were dark brown.

* It is *just* possible, though by no means probable, that like some near allies the *Lyncornis* may roost in caves in the hills.—A. O. H.

The bill with the tips of both mandibles black, pinkish or dark fleshy at the base and gape.

It is impossible to describe this magnificent bird in detail at all satisfactorily, because I find that, with more than thirty magnificent specimens before me, not two are alike. I shall, therefore, only endeavour to give such a general description as will, coupled with the dimensions already given, enable any one to identify the birds.

The chin, upper part of throat and breast are intense brown; the feathers often more or less margined at the tips with bright ferruginous; right across the throat is a snow-white band, forming more or less of an angle in the middle, and passing to buffy behind the ear-coverts; the deep color of the breast is encircled by a buffy white to rich buff collar, which nearly joins the prolonged ends of the white throat band behind the ear-coverts: though generally conspicuous, in some specimens this collar is barely traceable; the whole of the rest of the lower parts are blackish brown to greyish dusky; the feathers broadly tipped with yellowish white to rusty buff, producing a barred appearance; the lower tail-coverts are buff, with conspicuous transverse, more or less cuspidate, blackish brown bands, which are dotted and pencilled over with the same color as the rest of the feather. The lower surface of the tail feathers is blackish brown, with very broad mottled bars on both webs, from fulvous white to golden buff.

The lores and ear-coverts are deep brown, pencilled and tipped more or less with light to deep ferruginous; the forehead, crown, occiput, and inner feathers of the great ear tufts are buff or yellow, or pale ferruginous of different shades in different specimens, excessively, minutely and delicately pencilled all over with blackish brown zig-zag lines, finer and closer in some, coarser and further apart in others, so that the heads in some look a great deal greyer and browner, and in others a great deal yellower and brighter. Some of the feathers of the crown and occiput in most birds, many in a few, but none in exceptional cases, exhibit larger or smaller black spots near the tips, which spots again vary both in shape and in position; sometimes there are several rows, sometimes a single row quite on one side of the head, more generally they are in an irregular row down the centre of the crown and occiput; sometimes there is only a single spot, sometimes a number; not unfrequently some or all the feathers of the head have a very decided blue grey shade; the longer and outer feathers of the ear tufts are black, tipped and sometimes a little mottled with fulvous white to deep ferruginous; the primaries and secondaries are blackish brown, with very close set mottled bars (in some of the later secondaries almost confluent) which

are buff to deep ferruginous; tail feathers black, with broad mottled transverse bars, the upper portion of each bar being pale to bright ferruginous buff, and the lower portion much paler, almost pure white in some specimens.

The mantle is a constantly varying combination of a paler color, varying from nearly white to rich buff, most delicately pencilled all over black, and more or less spotted with black, and with black mottled and margined with deep ferruginous. In no two specimens that I have met with are the backs precisely alike.

Mr. Gould's plate of this species, Icones Avium, Pt. II., pl. 4, is extremely good.

115 *bis*—Harpactes duvaucelii, *Tem.* (17).

Palaw-ton-ton; Bankasoon; Malewoon.

Confined to the extreme south of the province, but fairly common in the forests there.

[This handsome little Trogon is not uncommon, from about midway between Mergui and Malewoon southwards to Johore, the extreme point of the Malayan Peninsula. In habits it resembles the other members of the genus, inhabiting the most shady depths of the evergreen forests, sitting quietly on some low branch, from which it occasionally swoops off to seize an insect, and at intervals uttering its soft note, which much resembles that of the other Trogons, but is much softer, and consists of the three syllables, too-too-too, repeated quickly. When suddenly alarmed it has a peculiar note, a sort of kir-r-r-r, which it utters as it takes flight.—W. D.]

The following are dimensions and colors of the soft parts recorded in the flesh from a very large series of specimens obtained in the extreme south of the province of Tenasserim :—

Males.—Length, 9·5 to 10·25; expanse, 12·5 to 13·75; tail from vent, 5·26 to 5·62; wing, 4·2 to 4·37; tarsus, 0·35 to 0·45; bill from gape, 0·85 to 1·0; weight, 1·25 to 1·5 oz.

Females.—Length, 9·25 to 9·62; expanse, 13 to 13·25; tail from vent, 4·25 to 5·5; wing, 4·12 to 4·25; tarsus, 0·37 to 0·4; bill from gape, 0·9; weight, 1·5 oz. (Only two females measured.)

The colors of the soft parts do not differ appreciably in the two sexes, but they are, perhaps, slightly duller in the female.

Legs and feet pale smalt blue, smalt blue, dark purplish blue; claws horny; irides deep brown; bare space over eye, deep to bright smalt blue; gape, to within 0·5 of tip of bill, a rich cobalt, shading to pale cobalt at tip of lower mandible; tip and ridge of culmen and a narrow streak on each side horny black;

or, gape and sides of bill cobalt blue; culmen, tips of upper and lower mandibles, and edges of both for about one-third of their length measuring from the tip, black.

The perfect plumaged adult male has the entire head and upper neck all round, velvet black; the entire breast, abdomen, vent, lower tail-coverts, rump and upper tail-coverts a bright crimson scarlet, fading a little on the lower tail-coverts; entire back, scapulars, lower part of sides of the neck, bright brownish ochraceous, paler and brighter in some specimens, darker and browner in others; central tail feathers a light bright bay, as a rule, conspicuously tipped with black, but this is entirely wanting in some specimens. The next two pairs of feathers jet black; the three outer pairs very broadly tipped with white obliquely, so that there is very much more white on the outer web than on the inner margin of the inner web; wings blackish brown; the outer web of the first primary, the winglet, coverts, tertiaries and outer webs of secondaries very closely barred with very fine white lines, preceded by still narrower lines of a darker shade than the ground color of the feather.

A younger male has the black of the head patched with brown; the rump only patched with the ochraceous of the back, the whole abdomen ochraceous buff, patched here and there with crimson; many of the lines of the barring on the wings ochraceous buff instead of white, and the outer webs of the secondaries with much broader and more distant pale buffy bars.

In some adult males the primaries are conspicuously margined on their outer webs towards their bases with white, which, in some specimens, forms a continuous line, in others a line of white dots.

In the perfect plumaged female the cap is a moderately dark, somewhat olivaceous, brown; the lores and sides of the head similar, but more rusty; the chin and throat brownish rusty; the extreme upper portion of the breast rusty pale buff, slightly tinged with rosy crimson; the whole of the rest of the lower parts a delicate rosy crimson; tail as in the male, but usually with less white on the lateral tail feathers; back as in the male, but duller and with an olivaceous shade; rump and upper tail-coverts much the same, but very strongly tinged and overlaid with crimson; the wings are as in the adult males, but the barrings are everywhere pale buffy yellow, and the white margins of the second and succeeding primaries are generally more conspicuous.

In the young female the head is a somewhat lighter and more distinctly olivaceous brown; the back is as in the adult, but even duller; the rump and upper tail-coverts of the same bright ochraceous as the back of the adult male, without the faintest tinge of crimson; the breast, abdomen, and lower parts

orange-buff, slightly shaded with olivaceous on the breast and sides, and with a faint tinge of rosy here and there on the abdomen. The wings are as in the adult female, but the barrings on the outer webs of the secondaries are comparatively broad and far apart, as described in the young males.

At this stage the central tail feathers very generally want the black tippings; a little later a crimson tinge begins to appear on the rump, and the abdomen acquires a beautiful rosy orange tinge, but the broad barring of the secondaries remains for long an indication of immaturity.

Every male of our large Tenasserim series is distinctly *duvaucelli*. We have obtained no specimen in this province referable to *rutilus*, Vieill., *orrophaeus*, Cab., but from the neighbourhood of Malacca and Singapore we have obtained numerous adult males of this latter species or supposed species, which differs in having, in the perfect adults, the rump and upper tail-coverts uniform with the back, and in having the lower parts a somewhat dingier and less bright crimson, with a greater tendency to pale excessively towards the vent and lower tail-coverts. The birds have been described as larger and with stouter bills, and it does appear to me that there is some truth in this, but the most careful measurements of tails and wings fail to show any decided superiority in size, and though the bills may be broader on the average at the base, it is impossible to establish this when a series of both are measured.

How the females of the two forms are to be distinguished I am unable to say. We have not yet met with in the Malayan Peninsula any fully adult female entirely devoid of all tinge of crimson on the rump. We have specimens entirely devoid of this, but then the comparatively broad banding of the outer webs of the secondaries shows that they are not mature, and then again we have specimens which are mature by the wing, which show extremely little of the crimson a mere tinge, or patches here and there, but we have these equally from Tenasserim, where we have never seen the male *rutilus*, and from the southern portion of the Malay Peninsula, where these latter are common, and we have among the Tenasserim females birds exhibiting all degrees of amount of red on the rump, from the merest trace to what I have described as the plumage of the adult bird.

On the one hand it is extremely unlikely that we should have obtained several female *rutilus* in Tenasserim and no males; on the other hand, it is extremely improbable that none of our numerous females from the south of the Malay Peninsula should belong to this species, where so many of our males from the same locality unquestionably do. I am

inclined to believe that the females of the two species (or races) will be found to differ only in that those of *rutilus*, as a body, have somewhat less crimson on the rump than those of *duvaucelli*.

116.—Harpactes hodgsoni, *Gould.* (5)

(*Karennee, at* 4,000 *ft*, Rams.) Pine forests, Salween; Kyouknyat; Pahpoon; Mooleyit.

Confined to the hill forests of the northern and central portions of the province, and even there it is not common.

Our specimens from various parts of the Tenasserim Hills from Mooleyit to Pahpoon are apparently precisely identical with specimens from Sikkim, and so are specimens from Tipperah, the Nepal Terai, the Arrakan Hills, the eastern and western Pegu Hills, and Thayetmyo, and I confess that I do not at present believe in *H. erythrocephalus*, Gould, as a distinct species.

The following are the dimensions and the colors of the soft parts of three very fine Tenasserim specimens, one male and two females:—

Male.—Length, 13·5; expanse, 17·0; tail, 7·5; wing, 5·7; tarsus, 0·6; bill from gape, 1·0.

The legs and feet were dark fleshy pink, tinged blue; the irides light brown; orbital skin, gape, and lower mandible to angle of gonys, and upper mandible to 1·25 inch beyond the nostril, deep smalt, tinged purple; rest of bill blackish horny.

Females.—Length, 13·25 to 13·9; expanse, 17·5 to 18·25; tail, 7·4 to 8·2; wing, 5·62 to 6·05; tarsus, 0·6 to 0·65; bill from gape, 1·05 to 1·1; weight, 2·5 oz.

In one female the legs and feet were dark brownish pink; the irides pale clear red; orbital skin and gape a clear light purple, bluer from the gape, and the color gradually shading to a cobalt blue; the terminal portion of both mandibles blackish horny.

Gould figures (B. of As., XVII., Pl. 1.) the male with the iris red, the female with the iris brown; most unfortunately we neglected to record the colors of the irides in more than two specimens, and in these it was the male that had the brown irides and the female that had the red.

116 *bis.*—Harpactes oreskios, *Tem.* (58.) Descr. S. F., III., 48.

(*Karen Hills*, Rams.) Kyouk-nyat; Dargwin; Pahpoon; Thatone; Wimpong; Meetan; Amherst; Lemyne; Yea; Omagwen; Meeta Myo; Tavoy; Mergui; Pakchan; Bankasoon; Malewoon; Victoria Point.

Generally distributed throughout the province up to elevations not exceeding 4,000 feet.

[This Trogon occurs throughout Tenasserim, but is, I should say, less numerous in the north and south than in the central portion, that is between Moulmein and Tavoy. It is less exclusively addicted to heavy forest than any of the other species with which I am acquainted, occurring in thin tree jungle, bamboo forest, and even in isolated clumps of trees, provided they are not too far off from some considerable extent of forest.

In habits and food it resembles the other Trogons.

It lives entirely on insects, chiefly bugs and beetles, which it habitually catches on the wing, darting from its perch like a Flycatcher or Roller, but rarely returning with its prey to the same perch. Not unfrequently it descends to the ground to pick up insects, and I once shot one dusting its feathers in the middle of the road like a sparrow or a fowl.

They are very tame birds, very easy to shoot, but owing to their flimsy skins very difficult to skin, and in consequence of the feeble attachment of their feathers, numbers of which fall out if the bird drops from a height of only a few feet, still more difficult to make into really perfect specimens.—W. D.]

117.—Merops viridis, *Lin.* (21).

(*Karen Hills. Tonghoo Hills*, Rams.) Dargwin ; Pahpoon ; Kedai-Keglay ; Moulmein ; Amherst ; Tavoy ; Mergui.

Common throughout the more open portions of the province to an elevation not exceeding 3,000 feet from Mergui northwards.

[Occurs as far south as Mergui ; further south in Tenasserim I did not observe it. By preference it frequents open land, such as paddy land, open downs, covered with short turf, and avoids forest.

Everywhere north of Mergui, in the plains outside heavy forest, it is excessively abundant, but it never seems to get south of Mergui, and I never saw it in the Malay Peninsula. —W. D.]

118.—Merops philippinus, *Lin.* (3).

(*Tonghoo*, Rams.) Thatone ; Amherst ; Bankasoon.

Apparently rare in Tenasserim, and only appearing there occasionally. Armstrong got a specimen or two at Amherst, and Davison says :—

[Only on one or two occasions have I met with this Bee-eater in Tenasserim ; once, quite at the latter end of February 1875 ; a small flock appeared at Malewoon, out of which Mr. Hough shot one ; on the 27th February the same flock, apparently, appeared at Bankasoon, settling on the fences and dead trees about, and hawking over the paddy land : next morning they had all disappeared, probably migrating further north.

Again I saw them in the Thatone plains in November, but at no other place, and on no other occasion did I meet with them in Tenasserim, though they are common enough towards the south of the Malay Peninsula.—W. D.]

119.—Merops leschenaulti, *Vieill.* (16).

(*Karennee*, Rams.) Pahpoon ; E-poo ; Moulmein ; Meetan ; Karope ; Amherst ; Tavoy ; Pabyin ; Tenasserim Town ; Palaw-ton-ton ; Bankasoon.

Generally distributed throughout the province in all well-wooded localities to an elevation not exceeding 3,000 feet.

[The only place where I found this species abundant was up the head waters of the Pakchau. There immense numbers were perched about in company with *Dendrochelidon*, &c., on the bamboos overhanging the stream. Other favorite resorts of this bird were the tin mines ; these are usually surrounded by forest, and have numbers of dead trees dotted about them, and the old abandoned pits usually contain stagnant or semi-stagnant water, which apparently attract numbers of insects, dragon flies, &c., so that there is an abundance of insect food about such places, which are consquently frequented by Bee-eaters, Tree, and other Swifts, Rollers, &c.

These birds never eat the wings of butterflies. You see one of them swoop on to a butterfly close at hand ; then you hear a little click of the bill, and as the bird flies off the pair of wings come slowly fluttering down to the ground.—W. D.]

Lord Tweeddale remarks (B. of B., p. 27) that the Malaccan habitat of this species is doubtful. Davison shot two specimens on Penang Island.

122.—Nyctiornis athertoni, *Jard. and Selb.* (10).

(*Karen Hills, Tonghoo*, Rams.) Pahpoon ; Thatone ; Salween River ; Thoungsha, Gyne River ; Kaneo ; Khyin ; Amherst.

Sparingly distributed throughout the better-wooded and less elevated parts of the northern and central portions of the province.

[The Blue-bearded Bee-Eater I met with only at Amherst and northwards of that place ; it was nowwhere very common, and only occurred in the better-wooded portions of the country. As a rule it prefers to keep to the forest, but it occasionally wanders into gardens, and at Amherst I shot two specimens off a large peepul tree growing some considerable distance from any forest.

I have not met with this species south of Amherst, though it possibly does occur somewhat further south.—W. D.]

The following are the dimensions, &c., of a male and female recorded in the flesh :—

Male.—Length 13·5 ; expanse, 18·0 ; tail from vent, 5·75 ; wing, 5·5 ; tarsus, 0·65 ; bill from gape, 2·3 ; weight, 3·12 oz.

Female.—Length 14·12 ; expanse, 18·5 ; tail from vent, 5·62 ; wing, 5·5 ; tarsus, 0·7 ; bill from gape, 2·2.

Legs and feet dull greenish brown ; claws bluish horny ; bill dark horny brown, bluish at base of lower mandible ; irides brown.

122 *bis*.—Nyctiornis amicta, *Tem.* (29).

Thoungya Sakan ; fifty miles South of Yea ; Pakchan ; Palaw-ton-ton ; Bankasoon ; Malewoon.

The Red-bearded Bee-Eater is confined to the southern and southernmost central portions of the province.

[The most northern point at which I saw and obtained this species in the plains was at a village, four days' march south of Yea, about 14° 30′ N. Lat. From this point it gets less uncommon as one goes south. In the hills, however, it extends further north, and on the slopes of Mooleyit I got it in nearly 17° N. Lat. This species less often occurs away from forest than *athertoni*, but although, keeping, as a rule, to the woods, it avoids the denser portions, frequenting those parts where the larger trees are somewhat scattered, and where plenty of sun light penetrates ; favorite places are the banks of large streams, and the borders of swamps and shallow lagoons surrounded by forest.

The note of this bird is something similar to that of *N. athertoni*, and is a hoarse quo-quâ-quă-quă uttered at irregular intervals. When one calls it is usually answered by its mate, the birds being generally found in pairs, seldom singly, and never that I know of in parties. When uttering its note the bird leans forward, stretches out its neck, and puffs out the feathers of its throat, and at each syllable of its note bobs its head up and down.

It breeds, I should say, about March and April, as on the 20th of March I shot a female, out of which I took an egg that was fully formed, but still quite soft ; but I was unable to find the nest.

I have not noticed that either this bird or *athertoni* were crepuscular. Occasionally on a clear moonlight evening, about about 7 or 8 o'clock, I have heard the note, but there are numbers of birds that, of a bright evening, or if they have been in any way disturbed, will call. Like the true Bee-eaters it lives entirely on insects which it takes on the wing.—W. D.]

Cabanis (Mus. Hein., II., 136, 1859-60) described *N. malaccensis* a supposed new species, in the following terms :—

"*Minor, rostro breviore, graciliore ; sincipite late rubro, verticem roseo-lilacinum, cervicem sensim rosescente ; gula jugulo-que minus late rubris, harum apicibus angustius nigris.*"

On this Count Salvadori (Uccelli di Borneo, 92., 1874) remarks that "the characters given as distinctive of this supposed species are exactly those of the female of *N. amicta.*"

The Marquis of Tweeddale (*Ibis,* 1877, 298) remarks on this : "Count Salvadori refers *N. malaccensis,* Cab., to the female, thus assuming that the female wants the crimson pectoral and pink frontal plumes. I rather incline to the belief that the adult birds of both sexes are alike, and that the uniform green birds belong to a young stage of plumage. One of the examples obtained by Mr. Buxton is in plain green dress (*N. malaccensis*), but has one small frontal plume, pink."

This is hardly correct. In the first place Salvadori does not assume that the female wants the crimson pectoral and pink frontal plumes. In the second place the *adult* birds of both sexes are not alike. In the third place the plain green dress is not what was described as *malaccensis.*

What Cabanis *did* describe as *malaccensis* may be seen by a glance at the original description above quoted, and Count Salvadori was perfectly correct in identifying *malaccensis* of Cabanis with the adult females of *amicta.*

We have shot and sexed scores of these birds.

The adult males invariably have larger bills than the females.

The following are the dimensions of bills of adult specimens of both sexes, rejecting all specimens in which the bills are at all broken at the point (a thing very common in this species) and measuring the bills with compasses from the frontal bone to the tip :—

Males.—2·28 ; 2·29 ; 2·28 ; 2·2 ; 2·2 ; 2·22 ; 2·39 ; 2·25 ; 2·26 ; 2·32 ; 2·22 ; 2·22 ; 2·39 ; 2·28 ; 2·3 ; 2·24 ; 2·2.

Females.—2·07 ; 2·0 ; 2·06 ; 2·05 ; 2·12 ; 2·07 ; 2·1 ; 2·15 ; 2·12 ; 2·0 ; 2·05 ; 2·0.

Then the fully adult male has the entire forehead, except a pale bluish green line along the base of the bill ; the whole or at times only the upper portion of the lores, and nearly the whole of the crown, what I should call peach-blossom colored, shaded with lilac posteriorly. A patch at the base of the lower mandible, and often more or less of the lower portion of the lores, the upper portion of the throat, and a broad band down the front of the neck to the breast, scarlet to crimson scarlet ; there is generally a bluish peach bloom line in old adult males from the anterior angle of the eye some distance down along the margin of the red throat patch.

The feathers of the lower eyelid are bluish green or greenish blue.

In the perfectly adult female the forehead (excepting always the greenish blue line) and the entire lores are concolorous with the throat. The peach bloom behind this does not extend so far back on the crown as it does in the male. The feathers of the lower eyelid are green, unicolorous with the back, and the eye stripe is entirely wanting or at most in some few exceptional cases just indicated.

As for the black on the tails, as an average, the band is undoubtedly less wide in females than males, but the birds cannot be discriminated by this, as one or two of the females have the bands comparatively broad, and one or two of the males have this narrow.

As regards the throat band, as a rule, the females have this somewhat narrower, paler, more scarlet and less tinged with crimson than the males, but neither is this a certain diagnosis, as some females and males can be selected out of a very large series which hardly differ in this respect.

The nearly adult male (except as regards the size of bill) precisely resembles the female; gradually the feathers of the lower lid become bluish, the peach bloom begins to mottle, the scarlet of the forehead and the bluish peach bloom stripe from the front of the eye begins to show out.

The young birds of both sexes are entirely green, and of a darker and different green to that of the adults.

The Marquis of Tweeddale remarks that he has one specimen in the plain green dress with one small frontal plume pink. This is most remarkable, because in the normal stages of plumage no pink shows itself on the forehead until after the whole forehead has become scarlet.

The following are further dimensions of this species :—

Males.—Length, 12·75 to 13·4; expanse, 17 to 18·25; tail, 5·05 to 5·5; wing, 5· to 5·5; tarsus, 0·55 to 0·62; bill from gape, 2·34 to 2·55; at front, 2·2 to 2·39; weight, 3 to 3·25 ozs.

Females.—Length, 12·25 to 12·75; expanse, 17 to 17·25; tail, 4·6 to 5·0; wing, 4·82 to 5·3; tarsus, 0·55 to 0·65; bill from gape, 2 to 2·37; at front, 2· to 2·15; weight, 2·5 to 3 ozs.

Legs and feet pale green, often dingy, sometimes bluish; bill black, whitey brown at base from nostril to gape of upper mandible, and lower mandible from about angle of gonys to base; irides bright yellow to orange yellow; eyelids dark plumbeous green.

I may add to what I said above that the abdomen, vent, and lower tail-coverts are white, tinged with green, but the whole

of the rest of the upper and lower plumage, not scarlet or peach bloom, is dark grass green; on the lower surface, the tail has the terminal one-third of all the feathers, and entire outer web of outer rectrix, black; rest golden ochre; inner webs of quills hair brown; wing-lining and margins of inner webs of quills pale yellowish buff.

124.—Coracias affinis, *McClell.* (34).

(*Tonghoo*, Rams.) Kollidoo; Pahpoon; Khyketo; Theinzeik; Thatone; Moulmein; Pabyouk; Amherst; Tavoy; Choungthanoung.

Common throughout the more open and better cultivated plains portions of the province, except in the extreme south.

[This species is very common, but only in those parts where the country is open. It avoids forest and affects principally the inhabited and cultivated parts. Though plentiful in all suitable localities it is particularly abundant in some localities, as for instance in the plains country lying between the Salween and Sittang. In some places I have found it shy and difficult to procure, in others not at all so. In habits, &c., it did not differ that I could see from its Indian ally, *C. indica*. I never saw it about Bankasoon or Malewoon, nor in any part of the Malay Peninsula.—W. D.]

126.—Eurystomus orientalis, *Lin.* (15).

(*Karen Hills*, Rams.) Bopyin; Choungthanoung; Pakchan; Bankasoon; Malewoon.

Confined to the southern portions of the province and the Karen Hills, but common enough there.

[In habits the Broad-billed Roller differs conspicuously from *C. affinis*. During the day it, as a rule, keeps to the forest, or, at any rate, within its immediate vicinity, and is not at all active, remaining seated on the topmost branches of some tall dead tree for hours at a time. In the morning and evening, but especially during the latter time, it is very active; it then comes into the clearings, and from some commanding perch keeps a sharp look-out for any passing insect, generally seizing them on the wing, but often descending to the ground to pick one up. They might almost be termed crepuscular in their habits, for, when all, or nearly all, other diurnal birds have gone to roost, and only Night Jars, Owls* and Bats are abroad *Eurystomus* is still busy hawking for insects. In the morning and evening they are generally easily approached and shot, but, as a rule, during the day they are shy, at least this is my experience of them in Burma.

* I think I have noticed some of the *Dicruri* about quite as late as *Eurystomi*. —A. O. H.

Unlike *C. affinis*, it avoids the open or sparsely-wooded portions of the country, being (so far as I have observed) found only in the evergreen forests, and their immediate vicinity. The most northerly place at which I observed it was on the island of Mergui. Here I noticed a few in the forest towards the north-east end of the island; further south I obtained it at different places, as at Bopyin, Choungthanoung, &c., and at Bankasoon I found it common; it extends much further south, as I observed it at Malacca and Johore—W.D.]

127 *bis*.—Pelargopsis burmanica, *Sharpe*. (50). Descr. S. F., II., 165.

(*Karenuee*. Rams.) Kyouk-nyat; Palpoon; Younzaleen Creek; Salween R.; Khyketo; Thatone; Wimpong; Kanee; Ko-go-Houngthraw; Moulmein; Moumenzeik; Pabyouk; Karepe; Amherst; Yea; Tavoy; Mergui; Pakchan; Bankasoon.

Common throughout the province, but not ascending the hills to any considerable elevation.

[This species is sometimes found about the mouths of tidal creeks or along the sea shore, but this is comparatively rare. By preference it frequents fresh water, being most common along the higher portion of streams, far beyond tidal influences, inland ponds and even swamps.

Like all the other Stork-billed Kingfishers, with which I am acquainted, it is an excessively noisy bird, darting off when disturbed with a harsh chuckling scream, which it continues for some time after it has reseated itself. Though its food chiefly consists of fish, frogs, &c., taken from the water, yet it not unfrequently feeds on lizards, &c., which it secures on dry land.

It breeds apparently in the latter end of April and the commencement of May. At Meeta Myo I found a pair on the 18th April at work, excavating their nest hole in the clayey bank of a stream.—W. D.]

The following are the dimensions, &c., of adults, recorded in the flesh from a very large series:—

Males.—Length, 14·5 to 15; expanse, 21·0 to 22·25; tail from vent, 4·25 to 4·75; wing, 5·82 to 6·12; tarsus, 0·65 to 0·75; bill from gape, 3·55 to 4·0; weight, 6·0 to 6·25 ozs.

Females.—Length, 14·82 to 16·25; expanse, 21·25 to 22·5; tail from vent, 4·7 to 4·82; wing, 6·0 to 6·7; tarsus, 0·55 to 0·8; bill from gape, 3·75 to 3·95; weight, 6·5 to 7 ozs.

128.—Pelargopsis amauroptera, *Pearson*. (6).

Amherst; Mergui; Laynah; Malewoon.

Pretty common everywhere along the Tenasserim *coast*, not extending far inland.

[This species, unlike *P. burmanica*, is eminently a Sea-water Kingfisher. It occurs along the sea coast about the mouths of tidal creeks, and up these creeks only so far as the tideway reaches. I noticed it first in the Yea River, near its mouth; again at Amherst in the Waghrau Creek, where it was not uncommon; at Mergui, about the numerous creeks, it was quite common, and I noticed it also frequently along the coast to the south of this, as far as Junk Ceylon, (about 8° N. L.) but did not meet with it further south.

In voice, food, flight, &c., it resembles the other members of the genus.—W. D.]

129.—Halcyon smyrnensis, *Lin.* (17).

(Tonghoo, Rams.) Pahpoon; Myawadee; Kaukaryit Houngthraw R.; Thatone; Moulmein; Meetan; Karope; Amherst; Tavoy; Mergui; Pakchan.

Common throughout the less-elevated portions of the province.

[I found this species everywhere moderately abundant, occurring alike on the sea coast, along the banks of streams, in marshy land, in gardens, clearings, both cultivated and abandoned, and even occasionally in thin tree jungle. If it does give any preference to any of these localities, it is perhaps to moderately-wooded cultivated land. It never, that I am aware, plunges into the water after its food, but picks it off the ground.

To the southward it extends quite to the south of the Malay Peninsula, as at Singapore and Johore.

The skins of this species are collected and exported to China. I have seen at Moulmein and Singapore shops kept by Chinamen, which contained many hundred flat skins of this bird; each skin is said to be worth four annas. The skins of the other species, though as brightly colored, are not valued.—W. D.]

130.—Halcyon pileata, *Bodd.* (38).

Thatone; Karope; Amherst; Tavoy; Pabyin; Mergui; Tenasserim Town; Pabyin; Pakchan; Bankasoon.

Confined to the central and southern portions of the province.

[I did not notice this species in the most northern portion of Tenasserim that I visited, but to the south I found it in some places very common, at others rare, and in the same places too the numbers varied according to the season. For instance, in January and February I found it excessively numerous along the higher portions of the Pakchan, 60 or 70

miles beyond the influence of the tide; but on going over the same part of the river in May, not a single bird was to be seen.

Like *H. smyrnensis*, this species is found in gardens, &c., but unlike *smyrnensis* it appears never to wander from the vicinity of water. I have seen and shot it at many places along the sea-coast at Mergui and to the south, but I have found it most numerous along the higher portions of the Pakchan river, Malewoon and Bankasoon creeks. It is not at all exclusively a sea-water Kingfisher like *amauroptera*. I have shot it far inland as at the head waters of the Pakchan, and again at Kuroo, 32 miles inland from Malacca.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 11·5 to 12·0; expanse, 18·25 to 19·25; tail from vent, 3·5 to 3·75; wing, 5·0 to 5·3; tarsus, 0·5; bill from gape, 2·75 to 2·82; weight, 2·5 to 3 ozs.

Females.—Length, 11·62 to 11·82; expanse, 18·25 to 20·75; tail from vent, 3·35 to 3·82; wing, 5·05 to 5·55; tarsus, 0·5 to 0·62; bill from gape, 2·75 to 2·95; weight, 3 to 4 ozs.

The legs and feet varied from orange red, dirty red, to vermilion red; the bill bright coral or vermilion red; irides dark brown.

131.—Halcyon coromanda, *Lath.* (9).

(*Tonghoo*, Lloyd) Thatone; Amherst; Meeta Myo; Tavoy.

Sparsely distributed throughout the province, but perhaps in most places more as an occasional straggler than as a permanent resident.

[Though by no means a common species anywhere, this Kingfisher occurs most plentifully along the coast, and about the creeks where there is a good growth of Dhuny (*Nipa fruticans*) or other heavy cover, but it also occasionally occurs along the banks of inland streams where these are well-wooded. I shot one specimen at Meeta Myo, about 40 miles north of Tavoy. I have a note of having seen another on a small forest stream, many miles away from the sea-coast, and Mr. A. L. Hough, while Assistant Commissioner at Malewoon, procured a specimen in the fresh water portion of the Malewoon creek.

This species is very shy and courts concealment. I found it common at Amherst.—W. D.]

The following are the dimensions, &c., of a series of both sexes recorded in the flesh:—

Males.—Length, 10 to 10·5; expanse, 15·62 to 15·8; tail from vent, 2·62 to 2·75; wing, 4·12 to 4·25; tarsus, 0·62; bill from gape, 2·45 to 2·5; weight, 2·5 ozs.

Females.—Length, 10·25 to 10·35; expanse, 15·75 to 16·5; tail from vent, 2·62 to 2·75; wing, 4·3 to 4·5; tarsus, 0·62 to 0·75; bill from gape, 2·5; weight, 2·75 ozs.

A young male measured :—

Length, 7·5 ; expanse, 13·75 ; tail from vent, 1·12 ; wing, 3·5 ; tarsus, 0·62 ; bill from gape, 1·75 ; weight, 2 ozs.

In this the irides were bluish grey ; the legs and feet dark red brown ; soles pale red ; bill dark brown, except at the extreme tip of lower mandible for about 0·25 from tip ; the sides and angle of gonys, the gape, and one-third of upper mandible from tip gradually coming to a point on ridge of culmen, which were a very pale yellowish orange.

131 *bis*.—Halcyon* concreta, *Tem*. (7).

Bankasoon ; Malewoon.

Confined in Tenasserim to the immediate neighbourhood of the estuary and river which form its southern boundary.

[I only saw and obtained this species in the extreme south of Tenasserim at Malewoon and Bankasoon. The first specimen I obtained was given to me by Mr. Hough, who shot it in the forest at Malewoon. Subsequently I myself shot a couple more, both females, in the heart of the dense forest at Bankasoon, and on two occasions I saw, but did not secure it, and subsequently I obtained four more all in deep forest. The species is evidently rare, and the Pakchan seems to be its northern limit. This is not a water Kingfisher at all, but feeds on the ground, almost exclusively on lizards and the large wood-lice so common in these damp woods. It is shy and difficult of approach, and when disturbed it flies off with a sort of low chuckle.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Male.—Length, 9·4 ; expanse, 16·3 ; tail from vent, 2·4 ; wing, 4·4 ; tarsus, 0·75 ; bill from gape, 2·4 ; weight, 3 ozs.

Females.—Length, 9·62 to 9·82 ; expanse, 16 to 17 ; tail, 2·62 to 2·75 ; wing, 4·62 to 5 ; tarsus, 0·65 to 0·7 ; bill from gape, 2·3 to 2·4 ; weight, 3 to 3·5 ozs.

Legs, feet, and claws, chrome yellow, sometimes with a dingy greenish tinge ; irides deep brown ; lower mandible, gape, and a narrower or broader stripe on the upper mandible parallel to commissure from base to point, bright yellow to orange chrome yellow ; eyelids of the same color ; rest of upper mandible, dull black.

My friend, Mr. Sharpe, was not correctly informed about this species, and was apparently not aware that the adults of the two sexes differed, as indeed do the young. The young male being very like the old one, and the young female close to the old females.

* I rather doubt whether the small sub-group to which this species belongs, should not be generically separated. If so it would stand as *Actenoides*, Hombr. and Jacq.

The perfect adult male has a broad ferruginous buff stripe, beginning at the nostrils and running over the lores to the top of the eye where it almost disappears, and just re-appearing again over the posterior half of the eye and a little beyond, and there slightly mixed with green; the forehead, crown, occiput, and nape, rather dingy green, margined along the sides of the crown and occiput bluish, and with the tips of the hindermost feathers pure pale blue, forming a distinct line across the nape, intervening between the dull green, and the black collar which, beginning in the lores, narrowly encircling the eyes, runs backward from the posterior angles of the latter to and round the nape. From the base of the lower mandible a broad stripe of ultramarine blue runs down the sides of the neck to a little beyond the tips of the ear-coverts. The chin is white, tinged buffy; the throat between these stripes more decidedly, and the breast below still more decidedly orange buff.

Between these stripes and the black band posterior to the eye the feathers from the gape backward, are pale orange buff, the same color as the middle of the throat; just where the blue mandibular patches cease, this pale stripe joins the broad bright ferruginous buff collar which succeeds the blue and black lines already referred to; this collar joining on either side the somewhat less ferruginous color of the breast just below the ends of the blue mandibular patches. This bright ferruginous buff collar again is bounded by a broad black band which begins on the sides of the breast. The interscapulary region, scapulars, coverts, (except the primary greater ones,) outer webs of secondaries, visible portion of tertiaries, upper tail-coverts, except just the central ones, and the tail (which, however, is rather paler and duller) deep ultramarine blue.

Middle of back and rump and central shorter upper tail-coverts intense silvery smalt; sides of rump and back blackish; primaries and their greater coverts and inner webs of secondaries rather pale hair brown; first primary margined on the outer web towards the base with bright buff; edge of wing, sides, wing-lining, much like the breast; middle of abdomen, vent, and lower tail-coverts creamy white.

A quite young male that we obtained, bill entirely blackish horny, yellowish white just at the tips of both mandibles; the bill only 1·6 long at front from forehead to point, against fully 2·1 in an adult, is precisely similar to the old bird, except that the color of the head is duller; the blue nape line almost entirely wanting; the buff gape stripe, abdomen, sides, and flanks, narrowly barred with black hair lines. There is not a trace of spotting on the wing anywhere. The changes that occur between the just flown nestling male now described, and the perfect adult male first described, require elucidation.

Another young male which is precisely like the adult, (except that the blue nape line is little developed, and that there is just a trace of black barring on the gape stripe,) has a tiny pale buff speck or spot just at the tips of all the wing-coverts. While again another, in every other respect perfect adult male, has the coverts hair brown instead of deep ultramarine, margined everywhere with a rather brighter ultramarine, tinged just inside this greenish, and in the middle of this tinge a small buff-colored spot.

These birds were severally sexed by dissection, and it seems rather inexplicable now, that beginning as the nestling male does almost precisely like the adult, there should be an intermediate stage, in which the wings are slightly spotted, recalling the female garb.

The adult female is like the male, except that the inter-scapulary region coverts, (except the primary greater ones,) outer portions of secondaries, visible portions of tertiaries and scapulars, are all green, all the feathers of the coverts and scapulars, with a conspicuous buffy white sub-terminal spot, and that the smalt of the middle of the rump is decidedly less silvery.

There is no doubt, I believe, that this is the plumage of the adult female; all the five females we obtained were in this plumage, the younger ones only differing in the somewhat duller colors; the larger size of the spots and traces of transverse dusky hair line barring on the upper abdomen, sides, and flanks.

132.—Halcyon chloris, *Bodd.* (22).

Thatone creek; Amherst; Yea; Mergui.

Confined apparently to the immediate neighbourhood of the sea-coast and to the southern half of the province.

[About the creeks and sea shore at Amherst and southwards, I found this species not uncommon. It was perhaps most numerous about Mergui. In December, when I was in Mergui, I found that this species kept entirely to the sea-coast and banks of the creeks, but in June, after the rains had commenced, they became very numerous about the gardens, and even in the town itself, and I noticed them often seated on the house-tops, they were then pairing and were excessively noisy, chasing one another from tree to tree with their harsh laughing call.

Like *H. occipitalis*, this species also nests in deserted ants' nests. I found a nest in such a situation at Mergui, but failed to secure the eggs, as the nest was also tenanted by a swarm of Hornets, who resented my interference, and whom the owner of the garden in which the nest was refused to allow me to smoke out on the absurd grounds that they would probably bother him after I had left.—W. D.]

132 *ter*.—Carcineutes pulchellus, *Horsf.* (17).

Meetan; Amherst; Mergui; Palaw-ton-ton; Bankasoon; Malewoon.

Not uncommon in the southern half of the province, but not as yet observed in the northern.

[I did not meet with this species to the north of Amherst, but there and to the southward it occurred sparingly. Of course, as is well known, this species is not a water Kingfisher. It frequents the forest, avoiding the denser parts. I have killed a good number both in Tenasserim and the Straits, but I have not, as described by Mr. Wallace (Sharpe, Mon. Alcd., p. 251), met with them, specially frequenting thickets near streams. I have found them in all kinds of localities in the forest, sometimes it is true near streams, sometimes many miles away from any water. Their food I found consisted chiefly of small lizards and various insects, such as wood-lice, &c.—W. D.]

Having now preserved a very large series of this species from all parts of Tenasserim, south of Amherst and Meetan, say the 16° N. Lat., and also in the Malayan Peninsula, I entertain no doubt that my *Carcineutes amabilis*, S. F., 1873, 474, is, as asserted by Mr. Sharpe, S. F., 1874, 484, identical with the present species.

The following are the dimensions and colors of the soft parts recorded from numerous Tenasserim specimens:—

Males.—Length, 8·5 to 9·0; expanse, 11·75 to 12·5; tail, 2·82 to 3·12; wing, 3·33 to 3·45; tarsus, 0·55 to 0·62; bill from gape, 1·8 to 1·85; weight, 1·8 to 2 ozs.

Legs and feet dull pale green; claws black; bill vermilion red; base of lower mandible brownish red; gape generally yellowish white; irides purplish grey.

Females.—Length, 8·12 to 8·8; expanse, 11·8 to 12·5; tail, 3· to 3·12; wing, 3·3 to 3·45; tarsus, 0·5 to 0·62; bill from gape, 1·7 to 1·95; weight, 1·75 to 2·25 ozs.

Colors of the soft parts as in the male.

In the quite young bird the bills are dark horny brown, with extreme tips pale orange brown; later the lower mandible becomes orange, the upper mandible gets a redder tinge, and so the bill passes gradually to the brilliant vermilion of the adult.

In the male, the forehead and anterior half of the crown, lores, cheeks, ear-coverts, and sides of the neck dark chestnut; chin and throat pure white; posterior half of crown, occiput, and nape pure smalt blue, in very perfect specimens absolutely unbroken, but this blue is merely a broad tipping to the feathers, which inside are grey, banded with white and black towards the tips, and a good deal of this white and black often shows through amongst the blue of the crest. The color of the blue of the head varies according to the time that has elapsed since the

bird has moulted; in freshly moulted specimens it is more violet, in more or less weathered specimens it is greener.

The entire mantle is closely barred, the feathers being tipped blue, preceded by a broad black band, which again is preceded by a rather narrower white band; the blue tippings also vary much in shade. The primaries and winglet are deep hair brown; the secondaries similar, becoming almost black towards the tertiaries, and conspicuously margined at the tips with white and with three imperfect white bars on both webs; the coverts, mostly black, tipped blue like the back; the tail black, with about seven transverse, somewhat slaty, blue bars, (which bars become more or less white on the inner webs,) and tipped with the same color as the bars.

The breast, abdomen, and vent sullied white; the sides fulvous buff; the edge of the wing at the carpal joint rather brighter fulvous buff; the rest of the edge of the wing and the wing-lining white, with more or less of a creamy tinge; the lower surface of the tail is rather pale hair brown, with numerous, more or less imperfect, greyish white bands.

In most adults the red of the sides of the neck is continued as a collar round the back of the neck, but in some specimens—and one of these formed the type of my *amabilis*—not the smallest trace of this exists, and in a good many specimens this collar is very much reduced in size. After carefully considering our large series, I believe these differences to be individual and quite independent of age, as we have both young and old birds of both types.

The female has the entire upper surface and the entire sides of the head and neck a rich buff, in some more golden, in some more ferruginous, everywhere regularly and closely barred with black; the width of the bars and their distance apart varying a great deal in different specimens, but always being narrowest and closest on the head and neck, broadest on the body and wings, and usually furthest apart on the tail; the primaries, their greater coverts and winglet are plain blackish hair brown; the secondaries similar, but with imperfect buffy bars, corresponding with those of the back; chin, throat, and entire lower parts, including wing-lining, white, only across the breast and on the sides and flanks, traces of narrow transverse dusky bars. In younger birds these are very strongly marked on the breast, but as the birds grow older these bars almost entirely disappear from the breast; still, out of thirty specimens, there is not one that is entirely free from these markings.

133.—Ceyx tridactyla, *Pall.* (25).

Karope; Yea; Meeta Myo; Bankasoon; Malewoon.

Not uncommon in the southern half of Tenasserim.

[I found this lovely little Kingfisher not at all uncommon in the evergreen forests of the southern portion of Tenasserim, especially in the neighbourhood of Malewoon. Though not uncommon, they are difficult to procure, as they remain perfectly still till one is within a few feet of them, when they dart away with great rapidity, uttering a sharp Kingfisher-like note, very similar to that of *A. bengalensis*, but much more shrill.

Though often found along forest streams, it by no means confines itself to these, but is just as often met with in the forest away from water; usually it is found singly, though sometimes in pairs. It never, that I am aware, leaves the forest and goes into the open, nor does it occur apparently in any but the heavy evergreen forests. I have shot it as far south as Malacca. I never found it on the sea coast.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 5·25 to 5·5 ; expanse, 8·0 to 8·3 ; tail from vent, 0·8 to 1·12 ; wing, 2·2 to 2·35 ; tarsus, 0·3 to 0·4 ; bill from gape, 1·5 to 1·6 ; weight, 0·62 oz.

Females.—Length, 5·25 to 5·62 ; expanse, 8·25 to 8·6 ; tail from vent, 1·0 to 1·2 ; wing, 2·12 to 2·25 ; tarsus, 0·3 to 3·6 ; bill from gape, 1·5 to 1·62 ; weight, 0·6 oz.

Bill, legs, and feet bright vermilion red ; irides brown.

134.—Alcedo bengalensis, *Gm.* (30).

(*Tonghoo, Karennee*, Rams.) Palchoung ; Kollidoo ; Kyouknyat ; Dargwin ; Pahpoon ; Thatone ; Younzaleen Creek ; Moulmein ; Pabyouk ; Paraduba ; Meetan ; Amherst ; Yea ; Tavoy ; Pabyin ; Mergui ; Pakchan ; Bankasoon ; Malewoon.

Common throughout the province, but not ascending to quite the summits of the highest hills.

[This species frequents alike the sea shore, creeks, inland streams and tanks, paddy fields, &c.

It extends quite to the south of the Malayan Peninsula and Singapore Island, and is equally common everywhere. I have noticed that, on the streams flowing through the dense virgin forest of the southernmost portion of the province, this species, though occasionally met with, is comparatively rare ; it seems to prefer keeping to the open or thinly wooded portions of the country.—W. D.]

135 *bis.*—Alcedo nigricans, *Bly.* (5). J. A. S. B., XVI., 1180, 1847.

Thoungsheyen Sakan ; Bankasoon.

Rare in Tenasserim ; confined apparently to the neighbourhood of the bases of the main range of hills, and to the southern half of the province.

[The note of this bird is similar to that of *A. bengalensis*, and it also resembles that species to a certain extent in habits, [illegible] it keeps entirely to those streams whose banks are cov[illegible] with forest. When disturbed, it leaves the stream and bet[illegible] itself to the forest; it is exceedingly shy. I have usually seen it in pairs, and at the outside I may have met with a dozen pairs from first to last. This is eminently a Water Kingfisher, and lives, I believe, entirely on fish.—W. D.]

I retain for the present Blyth's name for the species which is not very uncommon in the southern part of the Tenasserim provinces, and even extends along the foot of the hills as far north at any rate as Mooleyit.

We preserved three males and two females, all adults apparently, as one pair of them were constructing their nest-hole in the banks of the Bankasoon Creek when shot, and the others are similar to this pair.

Mr. Oates' men obtained a sixth specimen, a male, similar to our males.

Either Professor Schlegel's and Mr. Sharpe's descriptions and plates of *A. euryzona*, Tem., are more or less erroneous, or else our bird, which is unquestionably Blyth's *nigricans*, is distinct.

In the first place, the birds described as the young by both these authorities, appear to be females. At any rate the adult females wear a garb very similar to what they describe as the dress of the young.

In the absence of specimens of the true *euryzona* to compare, it is impossible to be certain that our birds are distinct; but they agree so imperfectly with the descriptions referred to, which are those of the greatest living authorities in regard to this group, that I prefer to retain Blyth's name, although the dimensions agree well enough.

The following are the dimensions recorded in the flesh, colors of the soft parts, and description of an adult pair:—

Male.—Length, 8·0; expanse, 12·6; tail, 1·6; wing, 3·4; tarsus, 0·5; bill from gape, 2·4; from margin of feathers, 1·7; weight, 1·75 oz.

Upper mandible black; lower mandible very dark brown, almost black, paler at base; iris deep brown; legs and feet vermilion.

Female.—Length, 7·9; expanse, 12·5; tail, 1·65; wing, 3·52; tarsus, 0·45; bill from gape, 2·3; bill from margin of feathers, 1·68; weight, 1·75 oz.

Upper mandible black; lower mandible pale red; iris very dark brown; legs and feet pale vermilion; claws pale orange.

The upper surfaces of the two sexes are precisely simi[illegible] namely the whole upper parts (except the back and upper

coverts, and an imperfect nuchal collar wanting on the middle of the nape for about three-quarters of an inch) sooty black; the whole of the feathers of the head and nape very narrowly margined at the tips with pale dingy greenish blue, resulting in a regular banding of these parts, the bands being about 0·1 apart.

All the coverts, except the lesser ones, and the quills very narrowly margined with dull greenish blue, rather brighter colored on the median coverts, which are margined at the tips also, and which exhibit exactly at the tips a rather brighter spot of blue in the middle of the dull blue margin.

The tail rather purer black and faintly shaded with a deep blue.

The imperfect collar above referred to bright ferruginous; the back and rump silvery blue.

The upper tail-coverts deep blue—a point specially referred to by Blyth, but not noticed by either Sharpe or Schlegel.

The greater part of the lores ferruginous buff. In the female a small streak of the same color at the gape just below the eye.

The ear-coverts and cheeks dusky greenish blue, the dusky bases of the feathers shewing through more or less in different specimens.

The chin and throat white, more or less tinged with fulvous buff.

On either side of the breast a blackish dusky patch.

In the male the whole of the rest of the breast dusky blue, mottled with white, the bases of the feathers only being white, the terminal portion blue.

Middle of abdomen, vent, tibial plumes, lower tail-coverts, wing-lining and axillaries varying in different specimens from nearly pure white to pure buff; flanks and sides similar, but broadly streaked with blackish dusky.

In the female the breast, abdomen, vent, lower tail-coverts, sides, flanks, wing-lining are a bright ferruginous buff, most ferruginous on the breast, sides and edge, of the wing. There is no dusky streaking on the sides and flanks of the female.

All six specimens examined, two of which were actually breeding when shot, are precisely similar.

135 *ter*.—Alcedo meninting, *Horsf.* (6).

Bankasoon.

Confined to the extreme south of the province.

[I have only met with this species in the extreme south of the province, and even there it is decidedly rare. It prefers to keep along the smaller forest streams; in habits, voice, &c., it much resembles *A. bengalensis*.—W. D.]

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All the coverts, except the lesser ones, and the quills very narrowly margined with dull greenish blue, rather brighter colored on the median coverts, which are margined at the tips also, and which exhibit exactly at the tips a rather brighter spot of blue in the middle of the dull blue margin.

The tail rather purer black and faintly shaded with a deep blue.

The imperfect collar above referred to bright ferruginous; the back and rump silvery blue.

The upper tail-coverts deep blue—a point specially referred to by Blyth, but not noticed by either Sharpe or Schlegel.

The greater part of the lores ferruginous buff. In the female a small streak of the same color at the gape just below the eye.

The ear-coverts and cheeks dusky greenish blue, the dusky bases of the feathers shewing through more or less in different specimens.

The chin and throat white, more or less tinged with fulvous buff.

On either side of the breast a blackish dusky patch.

In the male the whole of the rest of the breast dusky blue, mottled with white, the bases of the feathers only being white, the terminal portion blue.

Middle of abdomen, vent, tibial plumes, lower tail-coverts, wing-lining and axillaries varying in different specimens from nearly pure white to pure buff; flanks and sides similar, but broadly streaked with blackish dusky.

In the female the breast, abdomen, vent, lower tail-coverts, sides, flanks, wing-lining are a bright ferruginous buff, most ferruginous on the breast, sides and edge, of the wing. There is no dusky streaking on the sides and flanks of the female.

All six specimens examined, two of which were actually breeding when shot, are precisely similar.

135 *ter*.—Alcedo meninting, *Horsf.* (6).

Bankasoon.

Confined to the extreme south of the province.

[I have only met with this species in the extreme south of the province, and even there it is decidedly rare. It prefers to keep along the smaller forest streams; in habits, voice, &c., it much resembles *A. bengalensis*.—W. D.]

This species is very close to, and runs into, *Alcedo beavani*, Wald., described under the name of *asiatica*, S. F., II., p. 174.

If we compare Andaman specimens of the one, and Singapore and Malaccan specimens of the other, we shall find that the birds do not differ in size, but the Andaman males differ in having the blue bars of the head somewhat paler and greener, in having the blue of the back, rump, and upper tail-coverts, a clear smalt blue instead of a deep violet blue as in *meninting*, and in having the abdomen, breast, and lower tail-coverts a deeper and more intense chestnut. In addition to this the female of *beavani* differs further from the female of *meninting* in having less of the bill red, and in having the cheeks and ear-coverts like the crown, instead of chestnut, as in the Straits' birds.

Out of the Andamans I do not think that quite typical *beavani* occurs. I have already, S. F., IV., 383, explained how the Continental form of *beavani* varies—none of the females having the entire cheeks blue, and birds from Sikkim and Northern Tenasserim exhibiting a depth of color not far short of what is observed in typical *meninting*. Under the present species I have only entered those specimens which are inseparable in depth of color from Straits' specimens; they have the same deep purple blue of the entire upper surface, but though much nearer *meninting* than *beavani*, they are not typical specimens of the former, because, in several of them, the ferruginous chestnut of the under-surface is as intense as in any *beavani*, and the females show more or less violet blue mingled with the red of the cheeks and ear-coverts. Still, as they are manifestly much closer to *meninting*, I have entered them accordingly. All these specimens were procured at Bankasoon in the extreme south of Tenasserim.

135 *quat.*—**Alcedo beavani**, *Wald.* (14). DESCR. S. F., II, 494; IV, 287, 383.

Sinzaway; Moulmein; Amherst; Yea; Bankasoon; Malewoon.

Occurs sparingly throughout the whole province.

[In its habits this species is inseparable from *meninting*.—W. D.]

From Bankasoon and from all other localities northwards of this, to near Pahpoon, we have numerous specimens, which, though far removed from typical Andaman specimens, yet show so much more of a greenish tinge in the blue barring of the head that I think they must be considered to be on the whole closer to the present than to the preceding species. One of these, an adult female from Bankasoon, with the whole of the lower mandible and the base of the upper mandible

dull red, has the entire cheeks and ear-coverts blue; but as a rule the females have the cheeks and ear-coverts red, traversed by a broader or narrower blue band. I have unfortunately only a comparatively small series from the Straits, but my impression is, that with a series from Singapore to Penang, such as I possess, from Burmah, India and the Andamans, it would be easy to show a perfectly unbroken series of forms, both as regards color of upper parts and color of the cheeks and ear-coverts in the females. I am, therefore, inclined to doubt the validity of *beavani* as a species.

136.—Ceryle rudis, *Lin.* (14).

(*Tonghoo.* Rams.) Sittang River; Khyketo; Theinzeik; Megaloon; Moulmein; Attaran River; Yea-boo; Amherst.

Pretty common in the northern and upper central portions of the province, (?) on fresh water only; not observed on the sea coast.

[This species apparently does not occur much to the south of Amherst. It is found on the Sittang and Salween rivers and on inland tanks, &c. I found it very numerous on a large tank, a short distance from the hot springs of Yea-boo on the Attaran, and again on the fisheries on the flat country between the Salween and Sittang rivers. I also noticed a few at a small tank at Pahpoon.—W. D.]

Whatever the habits of this species in Tenasserim, it is in other places by no means confined to fresh water.

137.—Ceryle guttata, *Vig.* (2).

Kollidoo.

Only observed in the hill streams of the higher hills of the northern and central portions of the province.

[This species occurs in the hills to the north of Pahpoon. I obtained two specimens, male and female, on a stream below the stockade of Kollidoo, and saw it on two or three other occasions in the Pahchoung Creek and on the higher portion of the Younzaleen. I also met with it in the hill streams about Mooleyit. The bird is rare even where it does occur.—W. D.]

The following are the dimensions of a fine adult male:—

Length,* 16·5; expanse, 25·9; tail from vent, 5·0; wing, 7·5; tarsus, 0·5; bill from gape, 3·4; weight, 9 ozs.

* This is quite as large as a Japanese male with which I have compared it, and yet not a bit larger than several Himalayan males, and is smaller than one of these latter. Of course I have also several Himalayan males that are smaller; like all birds, the adults vary somewhat in size. As to the supposed greater compression of the beak in the Japanese bird, the single specimen of the latter, which I have examined,

237 *bis.*—Calyptomena viridis, *Raffl.* (31).

Amherst; Laynah; Palaw-ton-ton; Bankasoon; Malewoon.

Confined to the southern and lower central portions of the province; rare in the latter; common enough in the former.

[This lovely bird occurs in Tenasserim from Amherst southwards. It keeps to the forest, perferring moderately thin tree jungle, and frequents the tops of the trees, singly, in pairs, or in small parties; feeding, so far as I have observed, and I have dissected numbers, *entirely* on fruit. The note is a soft sort of whistle.

It is only in the morning or evening that they seem at all active. During the day they remain seated quietly about the tops of the trees, and are excessively difficult to detect. They are not at all shy, but at the same time not stupid, like the Broadbills, with which I may remark that they have nothing in common, neither habits, food nor note.

When feeding they hop about on the branches, picking off berries and figs, just like other fruit-eating birds, or like many of the omnivorous species, like *Irena*, *Calornis*, when feeding on fruits, which they generally do when they can.—W. D.]

The following are the dimensions, &c., recorded in the flesh of this species:—

Males.—Length, 7·25 to 7·82; expanse, 13·75 to 14·5; tail, 1·82 to 2·12; wing, 4·12 to 4·3; tarsus, 0·75 to 0·82; bill from gape, 1·0 to 1·12; weight, 2 to nearly 3 ozs.

Females.—Length, 8 to 8·12; expanse, 14·5 to 14·62; tail, 2 to 2·12; wing, 4·37 to 4·45; tarsus, 0·82; bill from gape, 1·05 to 1·1; weight, 2·8 to 3·2 ozs.

The legs and feet vary, but are generally pale dirty or horny green, sometimes with a bluish tinge, sometimes a pinkish grey tinge; the irides are very dark brown, appearing black at times; the gape is always more or less orange; the tip of the upper mandible and the lower mandible are light reddish horny, or brownish orange, or fleshy, shaded with orange towards the gape; the upper mandible, except the tips, varies from pale horny to brown, dark horny brown, and black, or almost black.

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had not the bill a bit more compressed than *some* of my Himalayan specimens. I have myself no doubt that *lugubris* is not a good species.

I take this opportunity of pointing out, as I have not, I think, before done so in STRAY FEATHERS, that contrary to what has been said (*Sharpe*, Monogr. Alced. *et auct.*) the sexes are *not* alike. In the adult male the under wing-coverts are *always* white; in the female, the greater portion of these are pale cinnamon. Besides this, *many* males have a great deal of rusty cinnamon patching or blotching about the sides of the throat and breast, whereas it is very rare to meet with a trace even of this, in the females. The colour of the under wing-coverts is an absolute sexual diagnosis in adults.

The adult male is an intense glittering green, paling and losing much of its gloss on the abdomen; the lower tail-coverts, which extend almost to the tip of the tail, delicately [illegible] with green; the lores and almost the entire surface of the upper mandible are covered with dense tufts of feathers, unicolorous with the back; inside these tufts the bases of the frontal feathers on either side are velvet black, and form a large black spot, very conspicuous in life, but hardly seen in many skins; from above the eye to this black spot runs a narrow bright yellow line, also imperfectly visible in most skins; the longest ear-coverts velvet black, forming an imperfect black half moon on the side of the neck; wing-coverts, except primary greater coverts, velvet black, broadly tipped with bright-green and green at their bases; primary greater coverts almost entirely green, margined brighter; quills black; second and succeeding primaries margined for a greater and greater length successively on their outer webs with green, brightest at the extreme margin; secondaries, with nearly the whole of the outer webs, and tertiaries with nearly the whole of both webs green; tail dark green, unicolorous with the tertiaries, blackish brown on the inner webs of the laterals; lower surface of the tail blue or greenish blue; lower surface of the outer margins of quills blue generally; lower surface of all the green feathers blue or greenish blue—any turned feathers thus producing a blue mottling; axillaries and wing-lining, except at the carpal joint, intense black.

Adult female; the whole upper surface a nearly uniform green, duller than, and wanting the gloss of that of the male; the loral tufts much duller colored; no black frontal patch, only a yellowish green indication of the yellow line of the male; feathers round the eye a rather brighter and yellower green; no black spot on the sides of the neck, no black on the coverts; portions of the quills not green, pale hair brown, and not black; axillaries and wing-lining very pale fawn color, slightly tinged with green; visible portion of under surface of quills grey brown, with pale fawn color or creamy margins to inner webs. (In the male the entire visible portions of the under surface of the quills is black, though not the intense black of the axillaries and wing-lining.) Chin, throat, and breast dull, rather pale green, a little mingled with whitey brown, owing to the bases of the feathers showing through somewhat; abdomen, vent, and lower tail-coverts pale greyish white, tinged and overlaid with pale green; under surface of the tail blue or greenish blue, as in the male.

The old female in full plumage sometimes has a very faint trace of the same gloss on the upper plumage that the male exhibits.

The quite young birds of both sexes are like the female above, but duller colored; have only very thin loral tufts; the chin and throat very scantily feathered with greyish white feathers; the breast very pale green, and the rest of the lower parts, except the tips of the lower tail-coverts, greyish white, with faint green tinges here and there.

Later, in the males the black ear-coverts begin to appear; the loral plumes increase in size; then the black spots begin to appear on the coverts; the yellow eye line appears, and at the same time the black frontal patches; the gloss developes more and more, first on the upper, and then on the upper *and* lower surfaces, and last of all the wing-lining and the quills become black.

138.—Psarisomus dalhousiæ, *Jamieson*. (11).

(*Karen Hills, at* 3,000 *ft.*, Rams.) Mooleyit; Meetan.

Only observed in Tenasserim proper in the low hills around, and on Mooleyit itself, to an elevation of 6,000 feet, but re-appearing further north in the continuation of the same range.

[In habits this species greatly resembles the other Broadbills, going about, however, usually in pairs. They feed entirely on insects, specially the green tree grasshoppers. They continually seize insects on the wing, but do not, as a rule, return to the same perch to devour their prey. They don't seem to move about the branches; they make short flights, and where they alight, there they, as it were, squat with their heads tucked in.

Unlike most of the other Broadbills, which are found in thin tree jungle, gardens, and even in bamboo jungle, I have always met with these exclusively in the thick forest, often in dark ravines. Though by no means shy, they are rather more alert to danger than the other Broadbills.—W. D.]

The following are dimensions and colors of soft parts recorded from the fresh bird. The sexes do not appear to vary in size:—

Length, 10·6 to 10·9; expanse, 12·8 to 13·5; tail from vent, 4·9 to 5·35; wing, 4·05 to 4·15; tarsus, 1·0 to 1·12; bill from gape, 1·2 to 1·3; weight, 2·2 to 2·5 oz.

The legs and feet are pale green or bluish green; claws black. In the male the upper mandible is pale green, bluish at tip and edges; the lower mandible is greenish or orange yellow, bluish at tip: the irides are salmon pink, darkening to deep grey on the outer edge, sometimes pinkish grey, darker on the outer edge.

In the female, the bill was greenish yellow; both mandibles bluish at tip and base.

139 *bis.*—Serilophus lunatus, *Gould.* (25). Descr. S. F., III., 54.

(*Karen Hills, 30 miles north of Tonghoo,* Lloyd ; *Karennee at 3,000 to 4,000 ft.,* Rams.) Paphoon ; Thenzanee Sakan ; Thoungya Sakan ; Thoungsheyen Sakan ; Kaukaryit, Houngthraw R. ; Assoon ; Mooleyit ; Meetan ; Amherst ; Om-a-gwen.

Confined to the northern and central portions of the province ; not rare there in suitable localties.

[This little Broadbill I found from Pahpoon to Om-a-gwen, a village three days' march south of Ye ; but I did not meet with it anywhere further south. The only places where I found it very common was at Pahpoon, and all about the forests going up to Mooleyit.

The Broadbills, I think, might well be designated a stupid set of birds, but this species is the most stupid of the lot. They usually move about in small parties, and when one meets with a party, every bird of which it consists can, without difficulty, be secured, as the birds take no notice of their companions being shot, and do not appear to be at all alarmed at the report of the gun, seldom moving further than the next branch, sometimes not moving at all, when the gun is fired.

Their call consists of a single chir-r-r-r. They never walk or hop about the branches, though they will fly from branch to branch. They feed chiefly on insects, many of which they seize on the wing.—W. D.]

The following are dimensions, &c., recorded in the flesh from a very large series :—

Males.—Length, 6·8 to 7·35 ; expanse, 11·0 to 11·5 ; tail from vent, 2·75 to 2·82 ; wing, 3·37 to 3·5 ; tarsus, 0·75 to 0·85 ; bill from gape, 0·82 to 0·9 ; weight, 1·12 to 1·25 oz.

Females.—Length, 6·9 to 7·0 ; expanse, 10·75 to 11·0 ; tail from vent, 2·75 to 2·9 ; wing, 3·37 to 3·45 ; tarsus, 0·7 to 0·75 ; bill from gape, 0·8 to 0·9 ; weight, 1·1 to 1·2 oz.

Legs and feet are pale green ; the claws pale or whitish blue ; the upper mandible, as far as nostril, and lower mandible, to angle of gonys, orange yellow ; rest of bill bright smalt blue ; the edges of both mandibles along commissure very pale, almost white, tinged greenish towards basal portion ; irides from deep brown to deep claret red, always shot, and powdered with gold.

139 *ter.*—Eurylæmus javanicus, *Horsf.* (19).

(*Tonghoo Hills,* Lloyd.) Meetan ; Amherst ; Lemyne ; Yea ; Om-a-gwen ; Zadee ; Bankasoon.

Confined in Tenasserim proper to the southern and southern central portions of the province, but re-appearing, it would seem, again in the hills in the extreme north.

[This species occurs throughout the southern half of the province, sparingly about Ye, more common further to the south. It feeds on insects and small reptiles. One that I shot had swallowed, head foremost, a small green lizard, over four inches in length. When I picked the bird up nearly the whole of the lizard's tail was hanging out on one side of the bird's mouth. The lizard had apparently only just been swallowed, but was quite dead.

Both this and the next two species have a very peculiar note, not easy to express in words, but once heard not soon forgotten. It consists of a few single notes uttered at short intervals, and ending in a sort of rolling, metallic sounding chir-r-r-r. Though the note of all three species is of precisely the same type, yet they are notably distinct.

One commences, then another takes it up, and then another, till you have a dozen calling in the woods around, and the note is one that can be heard a long distance. This species frequents forests and shady gardens, coming less into the open than *Cymborhynchus*. It moves about pretty well all day, like the other Broadbills, catching much of its food on the wing, and never, to the best of my belief, touching fruit. This, too, never walks or hops about the branches like Barbets or *Calyptomena*, but sits and squats or flies.—W. D.]

The following are dimensions, colors of soft parts, &c., recorded in the flesh :—

Males.—Length, 8·82 to 9·72 ; expanse, 14 to 14·9 ; tail, 2·75 to 3·25 ; wing, 4·3 to 4·5 ; tarsus, 1·0 to 1·1 ; bill from gape, 1·5 to 1·62 ; weight, 2·25 to 3·5 oz.

Females.—Length, 8·32 to 8·5 ; expanse, 13·72 to 14·25 ; tail, 2·62 to 3·2 ; wing, 4·12 to 4·37 ; tarsus, 1·05 to 1·1 ; bill from gape, 1·52 to 1·6 ; weight, 2·75 to 3 ozs.

Upper mandible bright blue to within one-third of tip ; rest of upper mandible pale sea green ; lower mandible pale greenish blue ; both mandibles edged and tipped with brownish red ; irides bright blue ; legs and feet fleshy ; claws brown.

The adult male has the lores and the feathers immediately around the eye, and sometimes the extreme bases of the frontal feathers, blackish or black ; forehead, crown, occiput, and nape, a dull dusky vinous purple ; ear-coverts, sides of the neck, and an ill-defined narrow band on the nape, a purer redder vinous purple ; a narrow line of white feathers immediately below the eye, often not visible in skins ; chin and throat something the same color as the head, but paler, and with a greyish shade ; a narrow black collar at the base of the throat ; a broad ill-defined brownish band on the sides of the neck and the upper back ; feathers of the breast immediately below the black line, grey or brownish grey, or brown ; rest of the

breast and abdomen dull reddish vinous purple; tibial plumes blackish dusky; feathers of the flanks fringed yellowish or brownish orange; lower tail-coverts pale brownish vinous, more or less fringed with yellow—in some specimens much suffused with this color; edge of the wing, axillaries, and the greater part of the wing-lining, pale bright yellow; greater and median primary lower coverts black or blackish; inner margins of quills towards their bases white or fulvous white; wings, back, rump, tail, upper tail-coverts, (except terminal portions of primaries, which are hair brown) mingled black and bright yellow; the middle of the back and rump, and the tips of the tail-coverts, and the longer and outer scapulars, and a broad patch on the outer webs of all the secondaries and tertiaries being of this latter color. All the feathers of the tail, except the central ones, with a broad white or yellowish or fulvous white subterminal patch, largest and extending over the whole of both webs in the outermost feathers, smallest and confined to the inner web on the feathers next the centre. Some specimens, I believe younger ones, have the abdomen a great deal mottled with a dull reddish orange.

The female only differs from the male in wanting the black pectoral band—a curious fact, seeing that in *Serilophus lunatus* it is the females that have the pectoral band, the males want it (*vide* S. F., III., p. 53.) We have not yet obtained nestlings.

139 *ter A.*—Eurylæmus ochromelas, *Raffl.* (19).

Yea; Laynah; Pakchan; Bankasoon; Malewoon.

Confined to the southern half of the province.

[This species is comparatively rare in Tenasserim. It occurs apparently only from just north of Yea to the Pakchan, but is nowhere common. In habits it resembles the other Broadbills, and like the rest is chiefly insectivorous. I have often shot these birds, while catching insects on the wing, exactly after the manner of a Drongo or Flycatcher. Its note is like that of *javanicus*, but shriller and finer drawn. They are like the rest easy to shoot when you can see them, but I have often sat several minutes under a tree on which one was calling without being able to detect it.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 6·25 to 7; expanse, 10·12 to 11; tail, 2·25 to 2·37; wing, 3·1 to 3·35; tarsus, 0·7 to 0·83; bill from gape, 0·95 to 1·12; weight, 1·25 to 1·61.

Females.—Length, 6·25 to 6·75; expanse, 10 to 10·75; tail, 2·12 to 2·9; wing, 3·12 to 3·37; tarsus, 0·76 to 0·8; bill from gape, 1·05 to 1·2.

Legs and feet dark but fleshy pink; claws brown; irides bright yellow; lower mandible and upper mandible to 0·25 beyond

nostril, bright smalt blue; rest of upper mandible bright green; edge of both mandibles along commissure black. Of course the blue and green shade into each other; sometimes the terminal portion of the lower mandible is also green.

The adult male has the whole of the upper part of the head and whole upper plumage, (except the white collar) where not yellow, (except also the primaries, which are hair brown) the chin, cheeks, lores, and upper half of throat and a broad pectoral band, black; a fine line under the eyes, the basal portion of the throat, the sides of the neck including the terminal portion of the ear-coverts, and a narrow nuchal collar, white; the middle of the back, rump, and upper tail-coverts, the outer and longer scapulars, and a patch on the outer webs of all the secondaries and tertiaries, lower tail-coverts, flanks, and vent feathers, bright pale yellow; breast pale vinous pink; abdomen rather darker colored, mingled with yellow towards the flanks and vent; tibial plumes black; wing-lining, except some of the primary lower coverts, pale yellow. All the feathers of the tail with a white or yellowish white subterminal spot on the inner web, extending on the outer tail feathers over both webs.

The female only differs in the pectoral band being wanting in the middle of the breast.

The nestling has the black replaced by sooty brown; the yellow as in the adult, but much paler, and with the median coverts tipped with yellow, as are the frontal feathers, and a narrow pale yellow supercilium from the nostrils over lores and anterior two-thirds of eyes; the lores alone are jet black; there is no pectoral band; the chin and throat are white, only a blackish patch at each side of the throat below the eyes; the breast and sides are brownish grey, a little streaked with greyish white; the feathers faintly tipped yellowish whitish, the tippings preceded by a slightly darker hair line; the abdomen and flanks are greyish white, white, and very pale yellow streakily intermingled.

139 *quint.*—Cymborhynchus macrorhynchus, *Gm.* (39).

Lemyne; Yea; Om-a-gwen; Tavoy; Mergui; Tenasserim Town; Choulai Creek; Bopyin; Pakchan; Bankasoon; Malewoon.

Confined to the southern half of the province.

[The Common Rouge-et-noir Bird is not uncommon between Yea and Tavoy, and is excessively abundant further south. In its habits, food, &c., it resembles the two foregoing species, but unlike them is constantly found in gardens, and even in trees growing in and about villages. I found it especially abundant

in the gardens and Durian and other fruit plantations in the island of Mergui, and I have also seen and shot it on the trees growing in the town of Mergui.

This, too, to the best of my belief, never touches fruit; insects are their food, and often great big ones too; I have seen one devouring a huge locust. Very likely they also at times eat small lizards, but I have had no proof of this. The note is similar to that of the two previous species, but yet distinguishable at the first sound by a practised ear. South of Tenasserim I found this common everywhere to the southernmost point of the Peninsula.—W. D.]

Count Salvadori, Atti R., Ac. Sc., Tor. IX, 425, 1874, separates the Malayan Rouge-et-noir* Bird under the name of *malaccensis* from the Bornean, on the grounds that the Bornean adults have the outer tail feathers devoid of white markings, while the Malayan have more or less of white markings on the inner webs of the three outer pairs of rectrices.

It appears that three specimens of Doria's collection from Sarawak have the tails entirely black; that two from Labuan and one from Baugermassing in the Marquis of Tweeddale's collection are similar; that two others from Labuan from the same collection have a certain amount of white on the exterior pair of tail feathers. (Salvad. U. di B., 110). Mr. Sharpe also informs us (*Ibis*, 1876, p. 48) that of two specimens collected by Mr. Everett in Borneo, one has only an obscure oblique spot of white on the outer tail feathers, while the other has the two outer tail feathers spotted; also that of two other Bornean specimens in the British Museum one has an uniform tail with nothing but a faint white shade near the apex of the inner web of the outermost rectrix, and the other has a decided spot on the outer tail feather and a faint one on the penultimate one. He also notes a Sumatran specimen with the two outer tail feathers marked; Malaccan specimens with two and three pairs thus marked; Tenasserim with five and four pairs thus marked; Siam with five pairs thus marked; and Cambodia and Saigon specimens with three pairs thus marked.

Lord Tweeddale, *Ibis*, 1877, p. 317, notices six Sumatran specimens, all with the three outer pairs more or less marked with white.

We, I find, have shot and preserved 89 specimens from various parts of Tenasserim and the Malay Peninsula, and an examination of 80 of these and purchased specimens in which the tails are sufficiently perfect (a large number are *im*perfect) to enable me to ascertain certainly the number of rectrices bearing white marks, gives the following results. Note that

* These are not *Todys*, neither are they true *Broadbills*.

wherever there is a clear white spot, no matter how small, I have entered that feather as white marked; when, instead of a clear white spot, there is merely an albescent patch, I have entered it as "a trace":—

Number of pairs of white marked rectrices in tails of following specimens:—

Two days' march north of Lemyne.—Female 5.

Lemyne.—Male 5; bands on first four very broad; abdomen and lower tail-coverts profusely mottled with bright orange.

Om-a-gwen.—Male 3.

Tavoy.—Male 4; female 5; male 3; male 1.

Mergui.—Male 5; male 5-4*; male 3, trace on fourth; male 4; female 4; female 3; male 5; female 4; female 5; female 2, trace on third; female 5; female 4; female 4.

Tenasserim Town.—Female 3; male 3-4.

Coast 80 miles south of Mergui.—Female 5.

Bopyin.—Female 5.

Malewoon.—Female 4; female 4.

Bankasoon.—Male 3; female 3; male 4; female 4; male 5; female 4-5; female 4; male 5.

Pakchan.—Female 4.

Malacca.—†? 2; ? 2; female 3; ? 3; ? 4; ? 3; ? 3; ? 2; ? 2; ? 3; ? 2, trace on third; ? 3; ? 4, trace on fifth; ? 4, and 3 middle pairs on one side white tipped; ? 3, and trace on fourth.

Nealys.—Female 4; male 2; male 3; female 2-3; male 3-4; male 4.

Pulo Seban.—Female 2; ? 4; male 2; male 2; female 4; male 4; female 3; female 3; male 3; male 3; male 3; female 4; female 3; female 4.

Kurroo.—Female 4; male 4; female 2-3; male 3.

Chochong.—Male 1; female 3; male 3; female 2, trace on third; male 4; male 3.

Singapore.—Female 2, trace on third.

It will be observed that the number of pairs of rectrices, more or less marked with white, varies in Tenasserim from one to five, and in the southern portion of the Malay Peninsula from one to four. Moreover the *amount* or *breadth* of the white varies extremely. In some specimens the marks are all great broad bands, in others all small spots, most generally the markings are largest on the outermost, and decrease on each succeeding rectrix. Not only this, but in several specimens more feathers are white spotted on one side than the other, and this in quite perfect tails.

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* *i.e.*, five feathers white marked on *one* side of the tail; four *only* on the *other*.

† Specimens not sexed were purchased.

Taking all the facts of the case, I entirely agree with Mr. Sharpe that no separation of the Bornean bird, simply on the strength of the absence of white on the tail feathers, can be accepted. Two specimens from Borneo in the Marquis of Tweeddale's collection, and considered by him adults, have white on the outermost pair of tail feathers, and a really large series from Borneo would, doubtless, show many more such, and probably some few at any rate, with spotting on the two, or perhaps even the three, outermost pairs.

All we can predicate, as Mr. Sharpe says, is that as the bird extends northwards, so the average amount of white on the tail increases.

As far as we know this species does not extend quite as far north as Amherst. Then comes a break in which no species of this genus occurs; and then on the other side of the Gulf of Martaban in the Arracan Hills, straying at times into the low country, is another species, *affinis*, in which there appears to be not only invariably a white patch on all five lateral pairs, but in which the white on the first three extends on to the *outer* webs also, thus carrying out the view that the further north we get the more white is developed on the tail.

The other differences between *affinis* and the present species have been pointed out clearly by Mr. Oates, S. F., III., 336.

I note that, even admitting the distinctness of the Bornean race, I am unable to agree with Count Salvadori that to it should attach Gmelin's name *macrorhynchus*, founded on Latham's Great-billed Tody.

Latham's type is still in the Vienna Museum, but no longer possesses its own tail.

It is impossible now to determine independently to which race Latham's original Great-billed Tody pertained, because he himself tells us, Gen Hist., IV., 95, that the specimen he so described had an imperfect tail not rounded, as he had found it to be in more perfect specimens subsequently examined. In all probability, the bird even when Latham saw it had not its own tail, or if it had, the lateral tail feathers, which would have borne the white marks (if it had any), were wanting. Failing independent evidence, we necessarily fall back on what Latham himself understood by his Great-billed Tody. This he shows us apparently *loc. cit.*, when he specifies the white on the two outer pairs of tail feathers, though it must be confessed that his statement of the white being on the *outer* webs, his *white* edge to the wing, excessively short tail, and above all whole lower *half* of the back red, somewhat complicates the identification.

Anyhow Latham's *macrorhynchus*, as identified by himself, is not the *Bornean* race; and, if the latter were separated, it

would be this and not the Malayan form in my opinion that would require a new name.

The following are dimensions and colors of the soft parts recorded in the flesh from a number of Tenasserim specimens :—

Males.—Length, 9·0 to 9·75 ; expanse, 12·82 to 13·25 ; tail, 3·25 to 3·82 ; wing, 4 to 4·1 ; tarsus, 0·9 to 1·0 ; bill from gape, 1·2 to 1·25 ; weight, 2·25 to 2·5 ozs.

Females.—Length, 8·5 to 8·82 ; expanse, 12·4 to 12·82 ; tail, 3·5 to 4 ; wing, 3·75 to 4 ; tarsus, 0·85 to 0·95 ; bill from gape, 1·12 to 1·2 ; weight, 1·75 to 2 ozs.

The colors of soft parts and plumage of the two sexes are absolutely similar ; they only differ in size.

The legs and feet vary from bright smalt to dark purplish blue ; the claws are brown ; the irides vary from deep green to bright green shot with gold, and this latter is the usual color ; eyelids black ; inside of mouth bright blue ; upper mandible and edges of lower mandible bright smalt blue ; the rest of lower mandible bright chrome yellow, shading a little to green towards gape ; the upper mandible is often tinged greenish towards the tip ; the lower mandible is quite wrongly coloured in Mr. Gould's B. of As., Pt. V., Pl. 7.

Except in the particular points dwelt on by Mr. Oates (S. F., III., p. 336) the adults of this species, though larger, so exactly resemble those of *C. affinis*, fully described *loc. cit.*, that no separate description is here required ; but I note that in fine specimens the tips of the longest ear-coverts are delicately tipped with a hair line of silver.

Of the young birds it may be useful to remark that the youngest specimens we have obtained have the entire wings, except the smallest row of coverts along the ulna, a rather pale hair brown instead of black, both median and greater coverts with round or triangular white spots just at the tip, which spots however in some specimens are buffy instead of white. These spots disappear first from the greater coverts. In the quite young birds—I mean the youngest we have obtained—the rump is strongly mottled with black as is the broad red throat patch ; the feathers of the chin and upper throat are whitey brown, fringed and tipped with sooty black ; the white scapulars are very little developed.

The edge of the wing, however, is bright yellow, as in the adult, and the abdomen is very much mottled with orange and a little with dusky. This orange mottling, however, is not confined to the young. One magnificent specimen, a male from Lemyne, has the whole of the abdomen, vent, and lower tail-coverts, *thickly* mottled with bright orange ; and, though traces of the same are observable in many adults, this is the only one

out of about a hundred which I have examined in which it occurs to this extent.

139 *sextus*.—Corydon sumatranus, *Raffl.* (20).

(*Karen Hills*, Rams.) Pahpoon ; Younzaleen Creek ; Bankasoon ; Malewoon.

Generally diffused throughout the province, except in the drier, more open, deciduous-leaved tree tracts, but nowhere common.

[This species is spread throughout Tenasserim, but is nowhere abundant, being found in pairs or small parties, usually in moderately thin forest, but it occurs also in dense forest. During the day it is sluggish, and a party will, like *S. lunatus*, allow themselves to be shot one after the other without any attempt to escape.

They have an oft-repeated mellow, rather musical note, quite different from, and not at all of the same class as, that of the three preceding species, and also a clear whistle which they utter when flying from tree to tree.

It does not ascend the higher hills, nor indeed do any of the three preceding species. Not only is their note entirely different, but they are far more sluggish than the rest of the Broadbills, feeding almost exclusively morning and evening, and sitting for hours motionless on a branch, sometimes high up and sometimes low down, in a slouching attitude, with their necks drawn in and their bills pointing upwards. They are not at all shy, and by no means curious about what is passing round them ; but one day, when I was waiting by a clear pool watching for *Alcedo nigricans*, one came and sat on a branch about ten feet distant. He clearly thought me a very strange animal, for, though he did not attempt to go away, he kept craning out his neck and peering down at me in a stupid inquisitive fashion. Thus we remained for about two hours, when *A. nigricans* not appearing, I shot my stupid neighbour.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 10·9 to 11·0; expanse, 17·25 to 17·75 ; tail, 4 to 4·5 ; wing, 5·25 to 5·62 ; tarsus, 1 to 1·12 ; bill from gape, 1·5 to 1·62 ; weight, 4·25 to 5 ozs.

Female.—Length, 10·5 to 11·25 ; expanse, 17·75 to 18·25 ; tail, 4·12 to 4·4 ; wing, 5·4 to 5·62 ; tarsus, 1·12 to 1·15 ; bill from gape, 1·5 to 1·7 ; weight, 4·5 to 5 ozs.

Legs, feet, and claws black ; irides deep brown ; upper mandible in some dark reddish brown, in others dark fleshy pink to pale horny brown, whitish at tip, and shading to fleshy pink at base ; orbital skin, gape, and a streak about middle of lower mandible dark fleshy pink ; rest of lower mandible pale fleshy,

whitish at tip. Sometimes the whole of both mandibles are pale fleshy pink, bluish towards the tip. In one specimen part of the skin of the upper mandible had peeled off from some natural cause, showing below a dull horny blue.

The sexes do not differ, that I can discover, in plumage. The entire chin, throat, and upper breast is a dull fulvous or rusty white, some of the feathers often more or less margined with ferruginous, or occasionally in the case of some few feathers with dull crimson. A patch in the middle of the back (not seen when the bird is at rest) of varying size, and varying in color from a pale rosy orange to orange crimson; a broad white band at the base of the first eight quills on both webs; a white mark, sometimes a band across both webs, sometimes a spot on both webs, sometimes on one web only, on from the five to the one exterior pair of tail feathers. Most commonly, I think, the *three* outer pairs have it; but it varies, as above, from a broad band on all five to a small spot on the outer web of the external feathers only, and this is instructive as indicating the weight that should be given to similar differences in the white markings of the tail of *Cymborhynchus macrorhynchus*. The whole of the rest of the plumage of the bird is dull black, but with, in fine adults, a decided greenish tinge on rump and upper tail-coverts.

The youngest bird that we have obtained, shot on the 1st of May, soon after leaving the nest, was everywhere a dull sooty black, wanted the red patch on the back, and had only a yellowish patch in the middle of the throat. The white on the primaries was as in the adult.

140.—Dichoceros cavatus,* *Shaw*. (21). S. F., IV., 384.

(*Tonghoo*, very common, Rams.) Kollidoo; Pahpoon; Yea; Pakchan; Bankasoon; Malewoon.

Occurs throughout Tenasserim, except in the more elevated portions of the higher hills, but is especially abundant in the evergreen forests of the south.

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* Mr. Elliot maintains, *Ibis*, 1877, p. 416, that the Linnæan name *bicornis* ought to be retained for this species. I consider that it ought to be rejected altogether.
The case stands thus:—
Linnæus himself described the plumage of *affinis* or *albirostris*, and a head and casque, most probably of *cavatus*. He gave references.
Pet. Gaz. 43, *t.* 28, *f.* 6 *and t.* 31, *f.* 1.
To this work I have not access.
Will. Orn. t. 17, *f.* 1.
This Mr. Elliot says is the head of *cavatus*.
Edw. Av. 2, *p.* 151, *t.* 281, *f. D.*
This is unmistakeably the head of *convexus*.
Briss. Av., *p.* 568.
Here the head of *cavatus* and a plumage nearest approaching to that of *convexus* are described.
Now I submit that no name based on such heterogenous foundations can stand for any species, and I reject it altogether.

[This species is usually found singly or in pairs, occasionally in parties, but this is not very often, except in the mornings and evenings, when they, in common with other species of birds, frequent certain fruit-bearing trees to feed. As far as I can judge this species eats nothing but fruit; nothing but fruit was ever found in the stomachs of any of my numerous specimens.

Their note is a hoarse sort of bark, which can be heard at a great distance; their flight consists of alternate flappings and sailings, the wings producing a loud noise.

As already noticed (S. F., III., p. 414,) the irides of the two sexes differ in color, that of the female being opalescent white, and that of the male, deep red.—W. D.]

The skins of all Hornbills, but especially of these large ones, are everywhere separated from the muscles of the body by a deep stratum of air cells, so much so that the body of the bird comes out of the skin almost as easily as the fruit portion does out of the rind in a loose-skinned orange.

At Malewoon Davison shot a specimen of this present species from the top of a ravine, at the bottom of which ran a shallow stream; the bird falling from a height of about 80 yards flat on its breast on to the surface of the water, the entire skin was split from the base of the throat to near the vent—a thing which could only have happened in a loose-skinned bird like this.

Davison measured a number of specimens in the flesh, chiefly from the southern extremity of the province, and it is notable that these southern birds do seem to run smaller than Himalayan examples, and even than those from the extreme south of India. (See further S. F., IV., pp. 385-6.)

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 45 to 47·0; expanse, 63 to 66·0; tail from vent, 15·5 to 16·75; wing, 18·25 to 19·0; tarsus, 2·73 to 3·0; bill from gape, 9·75 to 10·6; weight, 6·25 to 7·0lbs.

Females.—Length, 41·75 to 44; expanse, 54 to 59·28; tail from vent, 14·5 to 17·75; wing, 17·25 to 18·25; tarsus, 2·45 to 2·75; bill from gape, 8·25 to 9·0; weight, 4·5 to 5·75 lbs.

The legs and feet are dull greenish plumbeous, or pale dingy glaucous green; claws dark greenish horny.

In the male the irides are blood red; in the female pearly or opalescent white; the orbital region dark fleshy pink; the eye-lids black.

The general color of the bill and casque is yellow, always paler on the lower mandible, but varying very much in depth of color.

The upper mandible is always more or less tinted with red at the tip and with orange in the medial portion. The sides

of the casque have generally an orange tinge, and the flat or rather curved upper portion of the casque is generally tinged with orange, intermingled with red.

In some specimens the coloration is very bright; in others the whole bill and casque is duller and paler. As to the brightness or the reverse of the *yellow* of the bill this probably depends upon whether the latter has or has not recently had a fresh coat of paint. This the bird undoubtedly lays on from the uropygial glands; you may see them sitting rubbing all parts of the bill against the glands, and then a little later rubbing the bill against the bases of all the quills, whence the yellow tinge, so generally noticeable there and in other parts of the body, and all transferred there by the bill from the gland.

In the male the posterior portion of the casque, a triangular patch on each side of the casque in front, and the truncated portion of the culmen from three to five inches downwards from the anterior margin of the casque, are black.

In the female the posterior portion of the casque is red, there is no patch on the side of the casque, and the truncated portion of the culmen in front of the casque or more is less red.

142.—Hydrocissa albirostris,* *Shaw.* (24).

(*Tonghoo, Karen Hills*, Rams.) Palpoon; Salween R.; Thatone; Assoon; Meetan; Karope; Amherst; Yea; Zadee; Meeta Myo; Tavoy; Mergui; Tenasserim Town; Pakchan; Bankasoon.

Common throughout the less densely wooded portions of the province.

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* The name *malabaricus*, Gmel., often applied to this species, cannot possibly stand for it.

Gmelin's own description, though extremely brief, sufficiently indicates either *affinis* or *albirostris*, but his dimensions (length 2½ to 3 feet French, or 33 to 39½ inches English) at once show that he had *affinis* in view. The references he gives certainly do not much help to fix the species. He refers to Edward's Gleanings, t. 281, fig. D., which is a head of *convexus*; to Buffon's Calao de Malabar, P. E. 873, which is *coronatus*; and to Latham's Pied Hornbill, Syn. I, 1, 319, *n.* 6, t. 11, which, with a length of 35 inches including bill, is clearly *affinis*.

If, therefore, Gmelin's name is used at all, it must be applied to *affinis*; but considering not merely that the bird never occurs in Malabar, but that the name is taken directly from Buffon's name, which applied to a totally different species, it may be doubtful whether Gmelin's name should not be wholly rejected.

As to the name that the smaller race should bear, it may be that *albicornis*, Wilkes, Ency. Lond., III, 479, 1808 (a work to which I have not access, and the authorship of the ornithological part of which is said to be unknown) may apply, and if so it will have precedence, otherwise Shaw's *albirostris*, founded on Le Vaill, "Calao à bec blanc" must stand. Although Le Vaillant says the bird was killed at Chandanagore, he clearly refers to the smaller form. His figure is particularly good (for him) and his dimensions, length from the top of the head to end of tail 20 French (21·9 English) inches, and bill 4·65, English, suit admirably, a rather small specimen of the Indo-Burmese Pied Hornbill, with a casque at the stage represented in the figure. As Shaw's name is based simply on a translation of Le Vaillant's description, we may unhesitatingly accept it.

[This species ranges throughout Tenasserim. It is very abundant, indeed, in those portions of the country that are covered with moderately thin jungle or deciduous trees, or secondary scrub. It is very partial to detached groves and small clumps of trees growing in cultivated tracts, and is not uncommonly met with in gardens in the immediate vicinity of houses, and is almost always to be met with on the banks of rivers where these are not too heavily wooded.

In the teak forests about Pahpoon, where the trees are scattered and there is comparatively little undergrowth, all along the banks of the Salween, where these are moderately wooded, all about Moulmein, in the sparsely wooded portions of the country lying between the Sittang and Salween, in the thin dry deciduous jungle between Moulmein and Tavoy, and all about Tavoy and southwards in suitable localities, it is excessively numerous; but in the heavy evergreen virgin forests of the south of the province it is hardly ever met with. In the island of Mergui, on which nearly all the original forest has been felled and replaced by gardens and secondary scrub, it is also common, and it is not unfrequently met with along the banks of the Pakchan where the country is open or cultivated.

It is an excessively noisy bird, going about in parties of from 5 to 15 or more, uttering in chorus at short intervals, a series of discordant cackling notes.

It feeds on different kinds of fruit, especially wild figs.*

Its flight, for a Hornbill comparatively noiseless, is performed with alternate flapping and sailing.—W. D.]

The following are dimensions of numerous specimens recorded in the flesh:—

Males.—Length, 27·5 to 29·5; expanse, 35·75 to 37; tail, 10·5 to 11·5; wing, 10·5 to 11·12; tarsus, 2 to 2·12; bill from gape, straight to point, 4·9 to 5·4; weight 1·5 to 1·75lbs.

Females.—Length, 26·25 to 27; expanse, 33 to 35·25; tail, 9·5 to 10·5; wing, 9·5 to 10·5; tarsus, 2 to 2·12; bill from gape, 4 to 4·7; weight, 1·25 to 1·5lbs.

The measurements of bill and casque of our finest specimens of each sex are as follows:—

Male.—Length of casque at top along curve, 5·75; height of casque, 1·3; bill from gape straight to point, 5·4; greatest depth of the two mandibles exclusive of casque, 1·5.

Female.—Length of casque at top along curve, 3·8; height of casque, 0·9; bill from gape straight to point, 4·7; greatest depth of the two mandibles exclusive of casque, 1·4.

In both sexes the legs and feet vary from plumbeous to dirty greenish horny; the bills, except in the blackish or black-

* "Extremely partial to dead snakes," Wardlaw Ramsay. As to its fish-eating propensities, see S. F., V., p. 20.

ish brown portions, are pale yellowish white; the irides in the adult are deep red, darkest towards the pupil, but one female was recorded as having the irides wood brown, and one young male had it pale hazel brown, while another possibly older had it lake.

The orbital skin and wide patch at base of lower mandible is skim milk blue; in a younger bird pale pinkish, with a bluish tinge; the eyelids black.

Dr. Jerdon, in speaking of this species which he calls the Bengal Pied Hornbill, and the nearly allied *affinis*, Hutton, which he calls the Dehra Dhoon Hornbill, remarks of the former: "This Hornbill takes the place of *coronata* in Northern India. It is found in the Midnapoor jungles, in Rajmahal and Monghyr and at the base of the Himalayas, and it spreads eastward to Assam, Sylhet, and Burmah."

Of the latter he says: "Has hitherto been found only in the Dehra Doon."

This, however, is not strictly correct. Our specimens show that it is *affinis* which is found alike in the Dhoon, the Rohilkund Terai, the submontane districts of Oudh, the Darjeeling Terai, Dacca, Midnapoor and the Khasia Hills. From Cachar*, however, we have the present species, which should stand as the Indo-Burmese Pied Hornbill, *affinis* standing as the Indian Pied Hornbill.

Both species are precisely similar in every respect, but they differ so conspicuously in size that, in the absence of specimens of intermediate size, I think they may be fairly maintained as distinct.†

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* Jerdon, *Ibis*, 1872, p. 5, wrongly says: "This is the *Cachar* bird noted by Major Godwin-Austen in his list of birds (J. A. S. B., 1870, p. 95) as *coronata*." Elliot, without verifying the reference, reproduces this error in his synonymy (Monogr. Hornbills). The fact is the reference should be J. A. S. B., 1870, 266, and the specimens were obtained *not* in Cachar, (which is low lands) but in the West Khasia Hills.

† My friend Mr. Elliot has been misinformed, when in his monograph of the *Bucerotida* (only received when this was going to press) he states that as small birds are found amongst Dehra Dhoon, examples as are met with from other localities. I have given above the dimensions in the flesh of over 30 specimens of *affinis* and over 20 of *malabarica*, and my readers can judge whether differences like these in dimensions, where no intermediate forms occur (and I have met as yet with none such), warrant specific separation. This is a mere matter of opinion; but the non-occurrence of the smaller form in the Dhoon is, I think, a matter of fact. I must have examined fully 100 adults from the Dhoon. I have shot numbers there myself. Dr. King alone sent me 40 specimens; Captain Hutton at least 20; Colonel Thelwall had a considerable series. In none of these very numerous adults did the dimensions fall short of those given above. Of course there were plenty of *small* young birds, but these were to be recognised at once by the shape and size of casque.

On the other hand I have more than 50 of the smaller form from Tenasserim, other parts of Burmah, &c., and in none of these do the dimensions exceed the maxima given above for the smaller race.

If adult birds of the same sex be compared, the difference in size is very great and constant. The heaviest male of the smaller form that we met with weighed 1 75 lbs. The only two Dehra Dhoon specimens (males), whose weight I have recorded, weighed

This will be seen from the following dimensions, taken from some thirty odd specimens of *affinis* from the various localities above enumerated.

Males.—Length, 33 to 38 ; expanse, 38 to 45·5 ; tail 13 to 14·5 ; wing, 11·8 to 13.

Females.—Length, 29·5 to 33 ; expanse, 38·5 to 39·5 ; tail, 11·5 to 13·8 ; wing, 11 to 12.

The measurements of bill and casque of fine specimens are as follows :—

Male.—Length of casque at top along curve, 7 ; height of casque, 1·75 ; bill from gape straight to point, 6·25 ; greatest depth of the two mandibles, exclusive of casque, 1·75.

Female.—Length of casque at top along curve, 4·75 ; height of casque, 1·5 ; bill from gape straight to point, 5 ; greatest depth of the two mandibles, exclusive of casque, 1·5.

In both species it will be observed that the males are larger and have much larger bills and casques than the females, but there is another difference between the two sexes which is overlooked by Dr. Jerdon, and which I have never yet seen pointed out, although this doubtless may have been done.

In both sexes the base of the lower mandible is black ; in the female this is followed by a deep red brown patch which is wanting in the male. In the male there is a narrow black band along the commissure not extending to the tip ; in the female this is broader, extends quite to the tip, and thence spreads upwards along the culmen (leaving only a narrow line of yellow on the forward half of the upper mandible uncolored,) and over the whole anterior half of the casque, and very often a considerable portion of the tip of the lower mandible also is black. In the male, the whole of the culmen beyond the casque is white ; a black patch begins at the anterior point of the casque and slopes down obliquely backwards, extending for a short distance on to the upper mandible.

144 *bis.*—Ocyceros tickelli, *Blyth.* (2).

Thoungyen R. ; Thoungsheyen Sakan.

Confined apparently to the dense forests about the base of Mooleyit and the adjacent ranges.

2·62 and 2·87 lbs—both no doubt very fine birds.

The following is according to my views, the synonymy of the two species :—

142.—Hydrocissa albirostris, *Shaw.*
Gen. Zool., VIII., 13, 1811 ; ex *Le Vaill*, II. N. d'Ois.
Nouv. and Rares, 39, t. 14, 1811.
? albicornis, *Wilkes*, Enc. Lond. III, 479, 1808.
leucogaster, *Blyth*, J. A. S. B., X, 922, 1841 ; XII, 177, 1843.

143.—Hydrocissa affinis, *Hutton.*
J. A. S B., XVIII, 802, 1849.
? malabaricus, *Gm.*, S. N. I., 359, 1788.
nigralbus, *Hodgs.* Gr. Zool. Misc., 1844, 85, *sine* descr.
coronatus, *God-Aust.*, J. A. S. B., XXXIX, 266, 1870, nec. *Bodd.*

[This species is exceedingly shy and difficult to approach, as much so in fact as *Rhinoplax vigil* or *A. galeritus*. It goes about in small parties of from 5 to 15 or even more, keeping to the tops of the higher forest trees, which are in the localities, these birds affect, from 50 to even 70 yards high. Like *H. malabarica*, they keep continually uttering their cackling note alike when flying or sitting. Like *malabarica*, they always fly in strings. One starts off suddenly, followed by another and another, each as it were taking its regular turn till all have left; and in the air they retain the positions in which they started, just as a string of *Urocissas* do. They are very restless, not remaining for more than a few minutes on the same tree, but, as a rule, only taking short flights. Their note is like that of *malabarica* but not so harsh. Their flight is that of *Hydrocissa*, a few rapid flaps, a sail, again a few flaps. The flight is a comparatively noiseless one, though not really noiseless like that of *Berenicornis comatus*. They never, I believe, descend to the ground. The stomach of the only specimen I succeeded in shooting (I *saw* at least fifty) contained nothing but fruit.—W. D.]

Davison has only succeeded as yet in obtaining one specimen, a female, of this species, which is as unlike as it can possibly be the figure of this *species* in the *Ibis*. Probably the sexes differ very much in plumage; anyhow, a young male procured for me by Capt. Bingham is very different.

Davison's specimen, a perfectly adult female, in perfectly fresh plumage, measured:—

Length, 27·75; expanse, 38·75; tail, 11·5; wing, 12·25; tarsus, 1·9; bill from gape, 4·3; weight, 1·62lbs.

The legs and feet were dark reddish brown; the bill black; base of lower mandible blue; irides wax yellow; facial skin blue; gular skin bluish pink.

The forehead, crown, occiput, and very full occipital crest rather dark brownish grey with a faint greenish lustre, most noticeable on the crown; the feathers obscurely tipped with a very pale slightly rufescent brown, and with both webs greyish white at the extreme bases of the barbs, producing, as the feathers are rather lax and the barbs far apart, the appearance of a row of greyish white specks on either side of the shaft.

Interscapulary region, lesser and most of the median coverts, back and rump, grey brown, with an olive green lustre; the feathers firm and compact, but their extreme edges everywhere frayed or serrated as in some of the Owls, thus producing a regularly scaled appearance on these parts.

Primaries black or blackish brown; all but the first and the two hindermost with a creamy white line or patch on the outer webs just below the emarginations; the secondaries dark green,

edged paler, and as they recede from the primaries, with more and more of their outer webs overlaid with pale grey or brownish grey; the tertiaries, almost wholly of this color, only showing the green towards their bases at the centres of the feathers; they are, however, obscurely tipped browner. The primary greater coverts dark brown with a faint greenish tinge, obscurely edged paler or greyer; their lesser coverts and the greater coverts of the secondaries and tertiaries grey or brownish grey, according to the light in which you hold the wing, and more or less margined at the tips with brown, which has a dull greenish reflection.

The upper tail-coverts draby brown, with a trace of the greenish gloss that pervades the back, which even there is dull and only noticeable in certain lights.

The central tail feathers much the same color as the tertiaries, also with a faint greenish gloss in certain lights, and a little freckled at the tips with white.

The next three feathers on either side dark green, tipped for about three-quarters of an inch to an inch with white, a little freckled with brown; outer tail feathers nearly the same color as the central ones, tipped like the preceding.

The tail is rounded; the four central feathers are nearly of the same length; the next 0·2, the next 0·7, and the outermost 1·7 shorter.

There is a white or fulvous white patch on the edge of the wing at the base of the primary coverts; the chin, throat, cheeks, ear-coverts, breast, and sides of the neck, dull pale brownish ferruginous, with a darkish patch under the orbit, and another at the base of the lower mandible, and a trace of the same from the chin inside the rami of the lower mandible, and all the feathers more or less conspicuously grey centred, in the same manner as the feathers of the head; all the feathers of the breast, abdomen, vent, lower tail-coverts, tibial plumes, are grey, darker on the two latter; each feather fringed at the margins, which are lax and disunited, with very pale rusty fulvous, and on the lower abdomen, and about the vent, these fringes are so broad that the grey of the bases is not seen; wing-lining grey.

The length of the bill measured along the sharp ridge of the casque, from the back of the casque to the tip, is 4·9. The greatest height of the upper mandible and casque, from the commissure to the highest point of the casque, is 1·3.

There is a slight ferruginous tinge about the bases of the feathers that spring from the posterior margin of the nostril.

A young male of this species was shot by Captain Bingham on the 12th of October last, on the banks of the Thoungyen.

The specimen is manifestly immature, and is totally unlike the female obtained by Davison. It more resembles, as far

as I can remember, the figure in the *Ibis* which I have not by me now for reference.

The following are the dimensions, &c., recorded in the flesh by Captain Bingham :—

Length, 29·4; expanse, 40·0; tail from vent, 12·0; wing, 12·6; tarsus, 1·93; bill from gape, 4·9.

Bill whitish, tinged greenish yellow; bare skin of chin and behind and above the eyes, purplish pink; remainder of bare facial skin, fleshy white; irides with an inner circle of brown and an outer circle of grey; legs and feet greenish plumbeous; claws horny.

Upper plumage, except that of head and neck, as in the adult female; entire lower surface, except wings, wing-lining and tail, a warm ruddy buff, palest on the throat; all the feathers of the throat and many of those of the breast and abdomen centered whitish; under surface of tail and wings and wing-lining, as in the female; forehead, crown and occipital crest, rather dark ferruginous brown; the feathers, especially those of the crest, strongly tinged grey, as are also the feathers of the tibiæ.

The primary greater coverts, the outer margins of the primaries, and some of the secondaries margined whitish buff; tail feathers, winglet and primaries tipped white.

145 *ter*.—Berenicornis comatus, *Raffl.* (8).

Bankasoon.

Confined to the forests of the extreme south of the province.

[This species was only obtained in the forests of Bankasoon, and, as far as we yet know, does not extend further northwards; it also occurs in the forests about Malacca.

It keeps in small parties about the lower trees and undergrowth, but is very shy.

When disturbed one or more utter a soft "hoo," when the whole party fly off at once, seldom reseating themselves until they have flown to some considerable distance; they almost always perch low, avoiding the high and more exposed branches. When feeding or moving about the forest they give utterance to a peculiar cry which might be syllablized hoo-hoo-hoo-hoo, repeated twelve or fourteen times in rapid succession, one commencing and several more of the party taking up the cry.

They do not live entirely on fruit, but eat freely lizards and small birds. In the stomachs of the specimens I examined (seven in number) I found in five the remains of lizards as well as a quantity of fruit, and in two, fruit, a quantity of feathers, and small bones of birds and half-digested lizards.

They probably obtain these lizards on the ground, to which they constantly resort. *Hydrocissa nigrirostris* of Malacca is another species that often descends to the ground.

The present species (*B. comatus*) has a remarkably soft flight for a Hornbill; it progresses by an almost noiseless but rapid flapping of the wings without the intermediate sailing periods characteristic of the flight of *Hydrocissa*, *Dichoceros*, &c.

It keeps entirely to the denser portion of the forests it inhabits, never coming into the open or thinly-wooded places.—W. D.]

In this species the bill and casque are devoid of rugations or plications. The casque is of moderate size, merely a more or less elevated and compressed ridge extending along about three-fifths of the culmen. There is a bare orbital space, and the base of the lower mandible is also bare. The chin and throat are sparsely feathered. There is no conspicuous angulation at the gonys.

The tail is much rounded, the central pair, however, being considerably more than proportionally developed. The central pair exceed the next by fully three inches; these latter only exceed the exterior pair by the same distance.

The leading characteristic of this species is the huge and peculiar crest. Immediately behind the nostrils and between these and the eyes is a large tuft of stiff white erect feathers, the webs entirely disintegrated (the longest of which measure 4·5 inches in the adult male) which are spread out into a complete fan, the front part of which reaches down on to the casque, quite concealing its posterior portion, and the hinder portion of which is blended with the long stiff also disintegrated webbed feathers of the forehead, crown, and occiput, which set out fully 2·5 inches from the skull, giving an appearance of great size to the bird's head.

The following are the dimensions recorded in the flesh of several specimens:—

	Length.	Expanse.	Tail from vent.	Wing.	Tarsus.	Bill from gape.	Bill from posterior margin of casque along ridge and culmen to point.	Height of upper mandible and casque at middle of latter.	Height of upper mandible only at same place.	Weight.
Male, old adult ...	42·0	50·0	20·5	15·0	2·45	6·82	8·0	1·6	0·7	
„ nearly adult ..	39·5	48·0	18·5	15·25	2·5	5·9	6·5	1·7	0·8	2 75lbs.
„ young ...	38·0	47·0	18·0	14·5	2·35	5·2	5·5	1·43	...	2·5lbs.
„ rather younger	38·0	45·75	17·75	14·25	2·45	5·05	5·5	1·5	...	2 25lbs.
Female, old adult ...	40·0	48·0	20·75	14·0	2·55	5·75	6·5	1·5	...	3·25lbs.
„ nearly adult	36·5	47·0	16·5	13·75	2·5	5·82	6·75	1·6	...	4lbs.

The legs, feet, and claws are black, apparently at all ages; the irides in the adults are wax yellow, but oil yellow in the younger birds. In the old adults the facial skin and the base of the lower mandible are a deep, but rather dull blue; in somewhat younger birds it is a paler blue; in the next stage, pink, tinged with blue, and in the youngest bird pink.

In the oldest adult the bill is perfectly black, except the ridge of the casque, and a slight mottling of a pale dull green at the bases of both mandibles.

In the youngest birds almost the whole of both mandibles are of this dull horny green color; only on the upper mandible there is a large patch of horny black on either side just in front of the casque, and behind this the sides of the upper mandible and casque are a duskier horny green than elsewhere.

It is only, as far as I can judge, in the old adult males that there is any clear separation between the casque and the upper mandible; in these there is a groove running away from the nostrils which serves to divide casque and mandible. But this seems to be wanting in the younger males and even in an apparently very old female; similarily it is only in the oldest males that there is any marked step on the culmen indicating the termination of the casque; in the old female, casque and culmen run together in one unbroken curve.

The adult male has the whole of the head, neck all round, breast, upper and middle abdomen, and a few of the vent feathers, a patch on the under side of the wing just below the winglet, broad tippings to primaries and secondaries (except the first two primaries) and the entire tail, white—the feathers of the head having a creamy tinge; the rest of the bird dull black, with greenish reflections on the feathers of the wings; there is just a trace of a white tipping to some of the primary greater coverts.

A somewhat younger male differs only in having a black line along either side of the shafts of the two central tail feathers on their basal halves, in wanting the white patch at the carpal joint, in having the white tippings of the primary greater coverts a little better marked, and in having the middle and upper abdomen mottled with black.

Younger birds have the whole breast and neck all round more or less mottled with black, have some of the feathers of the crest tuft black shafted, the tippings to the primary greater coverts much larger, and the whole of the tail feathers black, broadly tipped with white.

In the youngest of all, the rump, the whole of the greater and median wing-coverts, and the winglet a rich warm auburn brown; the outer webs of most of the quills and the lateral

portions of the four central tail-feathers towards their tips suffused with the same color.

The adult female has the point of the chin, the patch below the carpal joint, the tips of the quills and the entire tail white; the entire crest, including the eye tuft, feathers of the forehead, crown, and occiput, creamy white; all the feathers conspicuously black shafted; the rest of the plumage black; wings and scapulars with a faint greenish gloss, and feathers of the neck all round with something of the same over their central portion.

145 *quat.*—Anorrhinus galeritus, *Tem.* (1).

Bankasoon.

Confined to the extreme south of the province.

[Though this species was not uncommon in the forests around Malewoon and Bankasoon, yet it was so very wary and difficult of approach that only one specimen, a male, was procured. We found them in small parties of five or six, keeping to the most dense portions of the forest, and always about the tops of the higher trees. They have a note very similar to that of *Hydrocissa malabarica*, and like them keep uttering it at short intervals.

In Tenasserim we did not notice this species anywhere except in the evergreen forests at Malewoon and Bankasoon; they are perhaps more numerous further south in the Malayan Peninsula.

The stomach of the specimen obtained contained only fruit.

It is strictly arboreal in its habits, never descending to the ground as *B. comatus* does, as also the small Black-billed *Hydrocissa nigrirostris*, Blyth, of the Malayan Peninsula.—W. D.]

In the present species the casque is only about the same height as the upper mandible; sharply carinated above, extending for about two-thirds the length of the bill. It is not a well-marked casque, looks very much as if the culmen of the bill had been pinched into a sharp ridge.

There is a large bare orbital space extending for nearly an inch backward from the eye; the chin and throat as far back as the base of the lower mandible are also bare.

The following are the dimensions and a description of our male, a fine adult:—

Male.—Length, 33·0; expanse, 46·74; tail from vent, 13·0; wing, 14·25; tarsus, 2; bill from gape, 5·75; from posterior margin of casque along ridge and culmen to tip, 6·75; of casque, only 4; height of upper mandible and casque, at centre of casque, 1·46; of upper mandible only at the same place, 0·79; weight, 2·5lbs.

In the adult male the legs, feet, and claws are black; the irides lake red; the gular and orbital skin pale blue, darker at

anterior angle of the eye ; angle of the gonys and base of throat, and eyelids mottled black and white.

Dr. Cantor, no doubt, describes the same parts of the Malaccan bird as being black. Possibly he described from a female and the colors not improbably differ in the sexes, or he may have described from a dried skin, in which the parts do become black ; and as alike in Tenasserim and the Malay Peninsula these birds are extremely shy and difficult to shoot, Dr. Cantor is not likely to have shot one himself, and in that climate the colors of the soft parts change very rapidly after death.

The feathers of the occiput and sides of the head elongated so as to form an excessively full crest, extending backwards 5·25 inches from the posterior margin of the casque ; the forehead, entire top, back, and sides of the head and neck, crest, and entire upper parts, dark brown, with a strong metallic green reflection ; ear-coverts rather darker and wanting this reflection ; feathered portion of throat, breast, abdomen, a dull chocolate brown, somewhat paler in the middle of the abdomen ; the feathers somewhat glossy, but almost entirely wanting the marked green reflections of the upper surface ; tibial plumes similar but darker, and exhibiting more of these reflections ; vent paler and drabby ; lower tail-coverts a somewhat pale drab brown, fringed paler.

Wing, as usual, much rounded ; fifth, sixth, and seventh quills equal and longest; tail somewhat rounded ; external feathers 1·5 shorter than central ones.

Tail with about the basal three-fifths greyish drab ; terminal two-fifths black or nearly so, glossed with green, as the rest of the upper parts.

The quills have a barely perceptible pale brownish margin to the outer webs.

Temminck's figure, Pl. Col., 520, which is extravagantly ill-colored, clearly represents a not perfectly adult bird ; the white patches on the beak and the conspicuous pale margins to the quills being, as we know, from young specimens obtained in the Straits, signs of immaturity : in the young bird, besides these points of difference, the crest is much less developed, the colors are everywhere duller, the basal portion of the tail is browner and less of a greyish drab, and the entire lower breast and abdomen is much paler and more of an earthy brown. In the adult in good plumage the lower surface of the basal portion of the tail is pure grey.

146.—Aceros nipalensis, *Hodgs.*

Colonel Tickell recorded this from the Tenasserim Hills, and Davison saw it repeatedly at Mooleyit, and near enough to

identify it, he says, with perfect certainty, though he failed to procure any specimen.

146 *bis.*—Rhyticeros undulatus, *Shaw.* (38).

Zadee; Mergui; Choungthanoung; Pakchan; Bankasoon; Victoria Point.

Confined entirely apparently to those portions of the province south of Amherst, and only abundant in the southern half of these.

[This is the common species of South Tenasserim. It is very numerous in the forests about the Pakchan, and on the islands of the Mergui Archipelago; it becomes much less numerous as one proceeds north, the nearly-allied *subruficollis* taking its place. All that I have said about the habits, voice, and food of *R. subruficollis* will apply equally well to this.—W. D.]

I may, however, here perhaps repeat that, besides the difference in size which distinguishes the present species, and the very nearly allied *subruficollis*, there is another mark of distinction which appears to be quite constant. In *plicatus*, in both sexes, the naked gular skin has a dark band about half an inch wide, broken in the middle, stretching across it just below the base of the lower mandible; this band appears to be always wanting in *subruficollis*. Moreover, there is a very marked difference in the shape of the wings, the primaries in the closed wing being equalled or very nearly so* in length, in all specimens of *undulatus* from the extreme south of the Tenasserim provinces, by the longest tertiaries and secondaries, whereas in *subruficollis* they exceed these latter by fully three inches.

It is worthy of note that specimens of *undulatus* from Cachar and Sylhet have larger bills that the largest of our extensive South Tenasserim series, and are altogether somewhat larger birds,—a fine male having the wing 20·8 against 19·5 in the largest of our South Tenasserim specimens. Moreover, in the Cachar specimens the primaries exceed the secondaries and tertiaries almost as much as in *subruficollis*. It is curious, and may be accidental, that our solitary specimen from Zadee Central Tenasserim has a larger bill than any of the South Tenasserim specimens; in fact almost the same size as those from Cachar, while in this bird also the longest primaries exceed the longest secondaries and tertiaries in the closed wing by some two inches.

The following are the dimensions of fine adults of South Tenasserim specimens:—

Males.—Length, 39·0 to 41·5; expanse, 58·0 to 64·75; tail, 12 to 13·0; wing, 18·75 to 19·5; tarsus, 2·38 to 2·62; bill from

* In two out of thirty-seven South Tenasserim specimens the longest primaries exceed the longest secondaries and tertiaries by about 1 inch; in all the rest they only equal them. In one single Central Tenasserim specimen, they exceed them by nearly 2 inches.

gape, straight to point, 7·6 to 8·5; bill from posterior margin of casque along casque and culmen to point, 8·5 to 9·4; height of upper mandible and casque, at middle of casque, 1·75 to 2·05; weight, 5 to 6 lbs.

Females.—Length, 33·0 to 36·5; expanse, 54·0 to 57·0; tail, 10·2 to 12·0; wing, 16·0 to 17·6; tarsus, 2·05 to 2·36; bill from gape, straight to point, 5·8 to 6·85; from posterior margin of casque along casque and culmen to point, 6·25 to 7·2; height of upper mandible and casque at middle of casque, 1·51 to 1·81; weight, 3·75 to 4·4 lbs.

The legs and feet dusky plumbeous blue to blackish; the irides pale red. In one specimen, a middle-aged female, the irides were orange yellow; the orbital skin pink; the gular skin in the male bright saffron yellow, in the female smalt blue, sometimes more or less mottled with yellow, and both sexes with the imperfect blackish transverse band already referred to. The bills are precisely similar as regards general color and plications to those of *subruficollis*, but the adults have at the sides of both the upper and lower mandibles towards their base, several, at times as many as seven, narrow wrinkle-like ridges, and the whole space over which these wrinkles extend is more or less tinged with brownish red. In the youngest birds, with only two plaits to the casque, there is only one such wrinkle on the sides of the mandibles, with traces of a second. None of our numerous specimens exhibit more than seven plaits on the casque.

The plumage precisely resembles that of *subruficollis*, and need not be particularly described; but I would notice that two of the females of the present species exhibit large irregular black patches on the exterior tail feathers; these are not young birds, as one has six, and the other five, plaits on the casque.

146 *ter.*—Rhyticeros subruficollis, *Blyth.* (8).

(*Tonghoo*, Rams) Karope; Amherst; Yea; Om-a-gwon; Meeta Myo; Baukasoon.

Practically confined to the central portions of Tenasserim proper, but re-appearing in Tonghoo.

From Moulmein to Tavoy, and in the neighbourhood of these places, this species is common; south of this only a single straggler was obtained. Among some forty specimens of Plaitbill Hornbills, shot about Baukasoon and the Pakchan, but one belonged to the present species, while all those shot to the north of Tavoy belonged, with one single exception (already noticed), to the present species. At the same time the present species does not, so far as I know, extend further north than Arracan and Pegu, while *undulatus* occurs in Sylhet and Cachar.

[This species usually occurs in parties varying from half-a-dozen to twenty or more, and on one occasion I saw a flock of 33 flying over the town of Moulmein. This and the preceding species are remarkably strong on the wing, and morning and evening, where they occur, numbers may be seen flying far overhead, sometimes at such a height that they look not bigger than crows. The strokes of their wings are accompanied by a peculiar metallic or resonant swish which can be heard at an incredible distance. One is often made aware of these birds flying far overhead by the sound of their wings, and on looking up, the birds are seen at such an immense height as to be only just distinguishable. While flying they give utterance occasionally to a short hoarse bark; this bark they also utter when seated or feeding.

They are entirely frugivorous, and appear occasionally to go long distances to feed.

During the day they usually rest on the large branches of the highest forest trees, but even then are not very easily approached.

A young male of this species that I had tame, and which was said to be nine months' old when I obtained it, although it [illegible] the head and neck colored as in the adult male, had the gular [illegible]n blue like the adult female. This young bird used always [illegible]o catch any morsel of plantain or other fruit thrown to it between the points of its bill, toss it up in the air, and catch it in its mouth. It did not, however, immediately swallow it; on the contrary it would cram the upper part of the throat as full as possible with food, and then sitting quite still would, from time to time, press its pouch against its breast so as to force one morsel up into the mouth; it would then throw its head back and swallow that particular morsel. A few minutes afterwards it would so dispose of another piece, and so on, until, in the course of half an hour or so, it had swallowed the whole meal. It never drank or seemed to want to drink though it sat for hours, at a time, on the gunwale of the low boat close to the water: when it slept it slouched its body, so that its chest rested on its perch, dropped its wings slightly, and tucked its head under one of them. It did not, as has been asserted in the case of some Hornbills, sleep with its tail over its back; on the contrary when asleep its tail hung down almost perpendicularly.—W. D.]

In this species, as in *undulatus*, *ruficollis*, and *narcondami*, the casque merely consists of a broad obtusely convex plate with numerous transverse, laterally obliquely-sloping ridges and furrows, covering the basal two-fifths to nearly one-half of the culmen.

In the youngest bird there is no trace of this plication on the basal portion of the culmen. After one year of age

one fold is said to form on the bill, to which another is added the second year, another the third, and so on until six, or possibly seven, may be counted, but the seventh appears to be always imperfect, and it is quite clear from our specimens that, after six or seven plications have been formed, the number never increases—the ones nearest the point of the beak dropping off as fresh ones are formed posteriorly. Our specimens seem to show this very clearly.

Typically the basal portion of the sides of both mandibles in this species are smooth, but some specimens show faint traces of wrinkles just at the base, but this is very different from the conspicuous ridges observable on the bases of the bill of *undulatus*, in which species even in the youngest specimen that we have obtained, one very distinct wrinkle, at any rate, is apparent.

The following are dimensions and a description of this species :—

Male.—Length, 34 to 35·25 ; expanse, 53 to 56 ; tail, 10·75 to 12 ; wing, 15·8 to 17 ; tarsus, 2·2 to 2·3 ; bill from gape, 7·0 ; bill from posterior margin of casque along culmen to point, 7·5 to 8·0 ; height of upper mandible and casque, at middle of casque, 1·75 ; weight, 3·75 lbs.

Female (a rather small bird.)—Length, 30·0; expanse, 48·0 tail, 9·0 ; wing, 14·5 ; tarsus, 2·1 ; bill from gape, 5·62 ; from posterior margin of casque, along culmen to point, 6·4.

In both sexes the legs, feet, and claws are black ; the irides light red ; eyelids fleshy pink ; in both sexes the chin, the bases of the lower mandible, and the throat are bare ; in the male this gular skin is a vivid turmeric yellow ; in the female a clear pale blue ; both sexes want the imperfect black band across these parts that characterize the similar parts in *undulatus*. The bills are a very pale yellowish white, generally strongly tinged with brownish red on the sides of both mandibles at their bases ; the posterior plait of the casque is also generally tinged with the same color ; the ridges of the casque are rather yellower than the rest of the bill, and the furrows are a dirty brownish black, as if filled with dirt.

The female has the tail white ; the whole of the rest of the plumage black ; the upper surface strongly glossed with green (in some specimens somewhat purplish) reflections.

The feathers of the occiput somewhat disintegrated and developed into a full crest.

The male differs in having a line from the nostrils round the posterior margin of the casque, a broad line across the crown, and the occipital and nuchal crest a deep maroon brown ; the rest of the forehead and crown, ear-coverts, sides and front of the neck, a pale fulvous or golden yellow, with

more of a golden tinge on the head and paler on the front of the neck.

R. narcondami, nobis, STRAY FEATHERS, I., 111, is in many respects a miniature of this species; in fact, the female is an exact miniature, and weighs one lb. against three lbs., in *subruficollis*.

The male is, however, more exactly a miniature of the true *ruficollis* from New Guinea, having the head and neck a bright chestnut, but it differs from this latter species not only in its much smaller size, but also in the fact that the bare gular skin does not extend over the throat even as far down as a line joining the ends of the lower mandible.

146 *quint.*—Rhinoplax vigil, *Forst.* (1).

Bankasoon.

Confined to the southernmost extremity of the province.

[The only place where the Solid-billed Hornbill was met with was in the evergreen forests at Malewoon and Bankasoon; and, although they were seen and heard on several occasions, it was only after a week or ten days' hard work, tramping through the forests over hill and dale the greater part of each day, that I succeeded in securing a single specimen. The birds are so excessively shy that it is next to impossible to get near them, and this is not to be wondered at, for when one by chance appears anywhere near a village, everyone who can shoot or can get hold of a gun is sure to try and shoot it, for the heads are in great demand, bringing, it is said, as much as fifty rupees. They are carved in relief in the most outrageously indecent manner, and are considered most potent love charms—the happy possessor, it is said, being able to work his wicked will with the most virtuous and modest.

As has already been remarked, the birds are excessively shy and rare, and they confine themselves almost exclusively to the evergreen forests, where they frequent the very highest trees. Their note is very peculiar, and can be heard at the distance of a mile or more. It commences with a series of whoops, uttered at intervals of about half a minute for five or ten minutes; then the interval between each whoop grows shorter and shorter, till the whoop, whoop, whoop, is repeated very quickly ten or a dozen times—the bird ending up by going off into a harsh quacking laugh. There is then a pause of ten minutes or a quarter of an hour or more, and then it recommences. It chiefly utters this call in the morning and evening, but occasionally also during the day. I heard and saw this species also more than once in the Malay Peninsula.

The specimen shot had eaten only a quantity of fruit; no specimen was ever seen to descend to the ground.—W. D.]

This well-known species differs in many particulars, essentially from all other known species of the family. The casque, which extends over half or more of the upper mandible, forms as it were one piece with the upper mandible—a section through both being a somewhat elongated horse shoe. The casque is only divided off from the upper mandible by a narrow projecting ridge beginning at the top of the orbital cavity; the front of the casque is abruptly truncated; the whole of the sides, the top of the casque, and the sides of both upper and lower mandible as far as the casque extends, are deep crimson; the truncated front of the casque and the whole of the upper mandible beyond the casque are a bright orange yellow; the effect produced is precisely as if the casque and the upper half of the upper mandible had been filed away, and a diminutive false anterior portion of the upper mandible thus formed. In the lower mandible, however, the red shades gradually into the orange, and looks natural, but no one I think can examine a head of this species for the first time without a conviction that the anterior portion of the casque and upper mandible have been artificially manipulated.

The casque and the upper portion of the upper mandible are apparently quite solid, and of a texture as close as that of vegetable ivory.

Then the bird has the whole of the chin and throat and neck all round, and a long triangular patch from the back of the neck nearly to the rump, some two inches broad at top, and narrowing as it recedes downwards, bare, and of a dull dirty brick-red color. Even under the feathers, all over the bird, the skin is of this same nasty dull-red color; the tail is much rounded, and the central tail feathers project in some specimens that I have seen fully eighteen inches beyond the other tail feathers, though in the particular specimen we obtained they project only about eight inches. Altogether it is a perfect nightmare of a bird.

They always, Davison tells me, go about in pairs, and the female appeared only to differ in the somewhat smaller size and shorter tail, but we only obtained a male.

The following were its dimensions:—

Length to end of ordinary tail feathers, 43·5; expanse, 64·5; tail to end of ordinary tail feathers, 18·0; to end of central tail feathers (which are not yet fully developed and in parchment at the base), 26·0; wing, 19·25; tarsus, 3·0; bill from gape straight to point, 6·75; length of casque along its upper ridge, 3·0; height of upper mandible and casque, 3·5; weight, 6·75 lbs.

The irides were dark litharge red; legs and feet dirty orange brown; skin of eyelids the same dirty red as the other bare portions.

The feathers round the eye, the ear-coverts, gape, and immediately behind the ear are deep ferruginous, more or less streaked with blackish brown; the rest of the feathers of the top, back, and sides of the neck, including a rather full but short occipital crest, blackish brown.

The feathered portion of the interscapulary region and the breast blackish brown, almost black; the wings and scapulars a somewhat paler brown; rump paler and more drabby brown; shorter upper tail-coverts drab colored, longer ones white; two central tail feathers drab or greyish drab, with a three-inch white tipping, and a two-and-a-half penultimate black band; rest of the tail feathers white, with a three-inch black transverse band about 2·5 inches from their tip; primaries and secondaries broadly tipped with white; abdomen, flanks, vent, lower tail-coverts, pure white.

What little wing-lining there is, is white.

147 *bis*.—Palæornis magnirostris, *Ball.* (20). Descr. S. F., I., 60; II., 176.

(*Tenghoo*, Rams.) Salween R.; Theinzeik; Thatone; Wimpong; Moulmein; [illegible]ouk; Yea-boo; Amherst.

Confined to the central and northern plains portions of the province.

[The range of this species in Tenasserim is limited. I only observed it about Moulmein, up the Attaran and Salween rivers to a certain distance, but not far, and in the country lying between the Salween and Sittang rivers. I did not observe it as far north as Pahpoon, nor to the south did I see it for any distance south of Moulmein. Where it does occur it is common, but not so common as *melanorhynchus* or *cyanocephalus*, and unlike them it is seldom seen in large flocks, being usually met with in pairs or small parties. It avoids hilly and densely-wooded country, and is most plentiful in dry plains dotted about with deciduous leaved trees.—W. D.]

I retain all our Tenasserim birds under this name, because, although, as the Marquis of Tweeddale remarks, J. A. S. B., 1875, extra No. 55 N., the bills of Andamanese specimens do run constantly larger than those of our bird, yet our birds are nearer to the Andamanese than to any of the Continental Indian species.

The Insular Singalese *P. eupatrius* differs from all the Continental races by its much smaller size, and it need not be further referred to here. We have then three species not very dissimilar in size—*sivalensis*, Hutton; *nipalensis*, Hodgson; *magnirostris*, Ball.

I say not very dissimilar in size, but at the same time neither *nipalensis* nor *sivalensis* ever have quite such long tails as the Andamanese and Burmese birds have. I have for years now been specially collecting this group, and have over a hundred fine specimens from different parts of the British Indian Empire. I have taken every opportunity of shooting them and getting them shot. I have never met with a specimen of *sivalensis* or *nipalensis* exceeding 21 inches in length; the majority of the finest adult males do not exceed 20, but both Andamanese and Burmese birds run to 23.

The adult males of the three species may be at once simply diagnosed:—

	Nape and Sides of Head.	Mandibular Stripes.	Base of Throat.
P. sivalensis	Suffused with glaucous grey.	Very broad.	Like breast.
P. nipalensis	Like top of head.	Broad.	Like breast.
P. magnirostris	Like top of head.	Narrow.	Pale yellow.

Now the Burmese birds, no doubt the finest of them, have smaller bills than either of these three, but they agree with *magnirostris* in the very narrow black, mandibular stripe, in the decided yellow of the base of the throat, and in the entire absence of the glaucous grey shade on the face and nape, and therefore I prefer to retain them under Mr. Ball's name.

148.—Palæornis torquatus, *Bodd.*

Blyth remarks, talking of Burmah as a whole: "Resorts to open country as elsewhere, and is therefore chiefly met with in the interior, beyond the maritime belt of forest. Dr. Cantor procured it so far southward as in Wellesley Province."

I have every reason to believe that it never occurs in Tenasserim proper. As for Dr. Cantor procuring it in Wellesley Province, if he did so, it was probably, as he must have procured *P. caniceps*, *i.e.*, in a cage or as a skin. I have the strongest grounds for believing that it never occurs in the Malay Peninsula or in any part of Tenasserim, except in the extreme north which I have not yet had worked.

Lieutenant Ramsay, who *has* worked these parts, tells us that he only once met with this Parakeet, and then on the lower slopes of the Karen Hills.

149 *bis*.—Palæornis cyanocephalus, *Lin.* (64). Descr. S. F., V., 16.

Kyouk-nyat; Pahpoon; Theinzeik; Thatone; Wimpong; Megaloon; Moulmein; Kohbaing; Amherst; Tavoy; Shymotee.

Confined to the northern and central portions of the province.

[From Pahpoon to Tavoy this species is common, especially so towards the north, but it confines itself principally to the low country not ascending the hills to any height. Like *magnirostris* it always avoids dense forest. It goes about in flocks, sometimes very large, and feeds a good deal in the rice-fields. At Mergui, or to the south of that place, I have never come across it. I do not think that it ranges much south of Tavoy.—W. D.]

150.—*Palæornis schisticeps*, Hodgs.

This is noted from Tonghoo by Lord Tweeddale (B. of B., p. 55), but he explains that the specimens belong to the next species, of which having since obtained a magnificent series of adults from further south, I entertain no doubts of the entire distinctness.

150 *bis*.—Palæornis finschi, *Hume*. (20). DESCR. S. F., II., 509.

(*Tonghoo Hills*, Rams.) Kollidoo; Kyouk-nyat; Salween R.; Myawadee Lar[illegible]horgee; Topee; E-poo.

Confined to the hills of the main Tenasserim range, in the northern and central portions of the province, but not ascending to the summits of the higher hills.

[I only met with this fine species in the hills to the north of Pahpoon, and from Myawadee to the foot of Mooleyit. Even in those localities it is by no means abundant. It occurs in small parties, frequenting the edges and thinner portions of the forest and the banks of streams. Its voice is very similar to that of *P. schisticeps* of India.

In its habits it much resembles other Paroquets. I found it feeding on the large red flowers of a silk cotton tree (*Bombax*— ?) north of Pahpoon, and about Myawadee on the large crimson flowers of a huge creeper.—W. D.]

The following are the dimensions, &c., of a fine series recorded in the flesh:—

Males.—Length, 16·0 to 18·12; expanse; 17 to 18; tail from vent, 9·0 to 12·25; wing, 5·8 to 6·2; tarsus, 0·5 to 0·7; bill from gape, 0·7 to 0·85; weight, 3·0 to 3·75 ozs.

Females.—Length, 14·0 to 14·4; expanse, 16·82 to 17·5; tail from vent, 8·25 to 8·4; wing, 5·75 to 5·82; tarsus, 0·6 to 0·7; bill from gape, 0·8; weight, 3·25 ozs.

The legs and feet are a pale dirty green; upper mandible orange vermilion, tipped yellowish; lower mandible pale yellow; the irides are usually creamy white, but in some specimens grey, with a fine inner ring of golden yellow; in others pale brown, with an outer ring of white.

152.—Palæornis melanorhynchus, *Wagler*. (58). S. F., V., 21.

(*Tonghoo*, Rams.) Pahpoon; Salween R.; Thatone; Wimpong; Myawadee; Tavoy; Moulmein; Pabyouk; Kohbaing; Yea-boo; Meetan; Amherst; Myo; Tavoy; Shymotee; Mergui; Choungthapee.

Generally distributed throughout the less elevated portions of the province.

[The most common and widely distributed Paroquet in Tenasserim, extending from the extreme north to the Pakchan, though rare in the extreme south.

Over the whole country, from Pahpoon to Tavoy, it is common to a degree, flying about in small parties or large flocks. It does not, that I am aware, ascend the hills to any height; and one day's march north of Pahpoon it is quite lost sight of.

It avoids the dense evergreen forests, and is consequently very rare in the extreme south.—W. D.]

153.—Loriculus vernalis, *Sparrm.* (30).

Kyouk-nyat; Pahpoon; Makana; Moulmein; Pabyouk; Meetan; Amh... Lemyne; Yea; Zadee; Thayetchoung; Mergui; Bankasoon; Malewoon.

Common everywhere throughout the province, alike in hi... and plains, in forest and in open country.

[This species is especially fond of frequenting tounyahs or other clearings where there are a number of dead trees standing. They feed much on the nectar of flowers.—W. D.]

153 *ter.*—Psittinus incertus, *Shaw.* (13).

Bankasoon; Malewoon.

Only a seasonal visitant to the extreme south of the province.

[This pretty little species occurs only about Malewoon and its neighbourhood. It frequents principally old tounyahs and other places where there is a dense growth of secondary scrub. It feeds chiefly on the small gummy flowers of a plant that always springs up where forest has been felled and burnt. It goes about in small flocks of 15 or more, and is not at all shy or wild.

It is migratory in Tenasserim, coming in just before the setting in of the rains, about April and May, though a very few do arrive earlier, about the last week in March. In June and July, I am told, they are very common about Malewoon.

They have nothing of the harsh screaming notes of the Paroquets, their usual note being a sharp whistle not unlike that of *Calornis;* they have also a series of pleasant notes, a warble in fact which they chiefly give utterance to when seated.

Though collecting vigorously about Malewoon and Bankasoon, from April to July 1877, and continually about the localities where I at the same season obtained specimens in 1875 and 1876, I did not meet with a single bird.

It has a rapid flight, and you often see small parties of them (like *Loriculus*) flying about round and round over the tops of the trees apparently for fun or exercise, now settling for a moment, then off again, whirling round and round, and all the time whistling at the tops of their voices.—W. D.]

Davison shot and sexed 25 specimens of this species, young and old, in Tenasserim and the Malay Peninsula, and I can state positively that in the adult female the cap is vinaceous or purplish vinaceous; the sides of the head and lores very pale brown, more or less tinged or overlaid with this color, and the throat yellowish, the feathers more or less dark-shafted.

Younger females have the top and sides of the head browner and less purple. The young of both sexes have the head entirely green, generally with a tinge of blue upon the forehead.

It is, I think, absolutely certain that the females do not, as supposed possible by Dr. Finsch (Die Papageien, II., 615), ever assume the blue head, as out of 13 adults with blue heads, sexed by dissection,* not one was a female, while in company with these were shot five clearly adult birds with vinaceous caps, all of which *were* females.

In the young females, the red brown begins to appear on the occiput. Most of the quite young birds of both sexes entirely want the red wing spot, but it appears very soon, and apparently earlier in some specimens than in others.

How the change from the green head to the blue is effected in the male I cannot yet positively say, because I have one nearly perfectly plumaged male, shot on the 24th of December, in which the blue of the head is still a good deal mottled with green feathers, and a certain amount of greenish is intermingled with the dusky of the back; the rest of the plumage being that of the perfect adult. On the other head, I have another young male, killed on the 23rd of April, entirely in the green plumage (except of course the blue patch on the lower back), except that 3 or 4 feathers of the upper back have assumed a dusky tinge, and that vinaceous brown feathers are intermingled in the green of the cap.

I cannot at present reconcile the discordant indications afforded by these two specimens.

In the adult males the upper mandible is orange vermilion; the lower mandible is dusky or dull reddish brown, or sometimes pale horny streaked with dusky; the legs and feet are pale

* Some shot in Tenasserim and some further south in the Malay Peninsula.

dirty green; the eyelids and cere greenish brown or dusky green; the irides creamy white.

As to the females and young birds our records of colors are so discrepant that I think I had better say nothing further about them for the present.

Males.—Length, 7·25 to 7·75; expanse, 14·8 to 15·5; tail from vent, 2·0 to 2·12; wing, 4·82 to 5·26; tarsus, 0·5; bill from gape, 0·65 to 0·8; weight, 2·5 to 3·0 ozs.

Females.—Length, 7·25 to 7·5; expanse, 14·12 to 15·25; tail from vent, 1·75 to 2·1; wing, 4·8 to 5·0; tarsus, 0·5; bill from gape, 0·75; weight, 2·5 to 2·75 ozs.

The adult male has the entire cap and sides of the head pale lavender blue, often much mixed with pale greenish on the cheeks; upper back and the entire scapulary region brownish dusky, often a good deal suffused with dark green; the lower part of the middle of the back, rump, and all but the longest central upper tail-coverts a bright violet blue; longest upper tail-coverts usually green or yellowish green, more or less margined and tipped with the color of the rump; central tail feathers grass green; all the lateral ones yellow, more or less margined, and a little suffused on the outer webs with green; wings and scapulars green; almost the whole of the first primary and more or less of the inner webs of all the quills deep hair brown; primary greater coverts deep dull blue, tinged greenish at their bases; some of the winglet feathers also usually margined bluish; primaries margined with a brighter and yellower green; lesser and median coverts, and secondary greater coverts and scapulars and tertiaries more or less conspicuously margined with more or less bright, more or less greenish, yellow. A crimson spot near the ulna near its base, varying very much in shade and size.

Chin and upper throat dingy yellowish or fulvous or sordid white; breast pale greyish, often somewhat glaucous green, some of the feathers often darker shafted; the feathers not unfrequently obsoletely fringed at the tips with a more fulvescent shade; abdomen and sides similar but bluer, often strongly overlaid with lavender blue; vent, flanks, and lower tail-coverts bright yellowish green, the feathers more or less fringed at the tips with pale lavender; edge of the wing just above the base of the primaries, yellow, elsewhere green; wing-lining just inside the edge of the wing, dark greenish, more or less tinged with blue; lower primary greater coverts, like the lower surface of the quills, glossy grey brown; the whole of the rest of the wing-lining and axillaries bright crimson.

The adult female has the entire cap a dull pale vinaceous; the lores, cheeks, and ear-coverts very pale brownish or yellowish white, dark-shafted, and more or less overlaid with the color of the cap; the whole upper surface green, except the crimson wing

spot, and a larger or smaller patch of blue on the middle of the back, (sometimes extending to the rump, wings, and tail as in the male,) and all the feathers of the upper back and interscapulary region faintly, and of the rump and upper tail-coverts more distinctly, fringed at the tips with a somewhat paler and yellower shade of green; the chin and upper part of the throat pale whitey brown; lower part of the throat whitish; feathers darker shafted and tinged towards the tips with pale yellow, sometimes a little shaded with green; the whole of the rest of the lower surface a comparatively pure yellowish green, rather greyer on the breast, brighter and purer on the flanks, vent, and lower tail-coverts. In some females the vinaceous of the cap extends unbroken and almost uniform in color over the whole of the cheeks and ear-coverts; some have the upper breast slightly tinged with a rufescent shade.

157.—Picus macei, *Vieill.*

Obtained by Ramsay in Karennee at 4,000 feet, and in the Karen Hills at 3,000 feet. Not met with as yet in any other part of Tenasserim.

157 *ter.*—Picus analis, *Horsf.* Descr. S. F., III., 37.

Met with nowhere in Tenasserim by us, but obtained by Ramsay in Tonghoo and Karennee, which really belong to a different zoological sub-division to the rest of Tenasserim.

157 *quat.*—Picus atratus, *Blyth.* (6).

(*Karen Hills*, 3,000 to 4,000 feet, Rams.) Pine forests, Salween; Paraduba; Mooleyit.

Confined to the forests of the northern and central portions of the outer Tenasserim range, and not occurring much, if at all, below 3,000 feet elevation.

[I have had few opportunities of observing this. Even where it occurs it is extremely rare; but I should say that its habits were precisely those of the Himalayan *P. brunneifrons*, and its note very similar.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 8·12 to 8·62; expanse, 14·4 to 15·0; tail, 3·25 to 3·5; wing, 4·5 to 4·75; tarsus, 0·7 to 0·75; bill from gape, 1·1 to 1·3; weight, 1·5 to 1·82 oz.

Females.—Length, 8·35 to 8·6; expanse, 15 to 15·3; tail, 3 to 3·4; wing, 4·75 to 4·9; tarsus, 0·7 to 0·8; bill from gape, 1·1 to 1·3; weight, 1·5 to 1·75 oz.

Legs and feet dark plumbeous or plumbeous brown; claws very dark brown; irides light wood to deep brown; upper mandible dull black, dark brown, or horny brown; lower mandible and extreme base of upper mandible pale plumbeous or bluish white.

The male has the forehead pale brown, varying in breadth in different specimens; the lores similar but paler; feathers round the eye, cheeks and ear-coverts forming a large patch on the side of the head and neck, silvery white; a conspicuous black mandibular stripe from the gape down the sides of the neck; chin and upper throat white unmarked, or the latter with a few minute black streaks; lower part of throat white, sometimes with a brownish or yellowish tinge, streaked with black; breast and abdomen clear brownish yellow or somewhat olivaceous brown, varying in tint in different specimens; the middle of the abdomen always yellowish; the breast sometimes whitish, in some specimens a little tinged with crimson; all the feathers with black shaft streaks, largest and most conspicuous on the breast, nearly obsolete in the middle of the abdomen; flanks barred white and greyish brown; lower tail-coverts crimson; posterior part of forehead, crown and occiput crimson; interscapulary region, upper tail-coverts and four or six central tail feathers pure black; rest of back and tail and wings black, barred with white; the primaries paler colored or darkish hair brown; first primary with only a trace of one, the others with two or three bars on the outer webs and corresponding spots on the inner webs; the bars imperfect on all the quills, represented by spots on both webs; wing-lining mingled black and white.

The females never have any red tinge on the breast, and they have the frontal band somewhat greyer and narrower, and the whole upper part of the head black.

The only two Tenasserim Woodpeckers with which this species could be confounded are *Picus analis*, Horsf. (*pectoralis*, *Blyth) and *Picus macei*.

Analis is much smaller, and has the rump, upper tail-coverts and central tail feathers barred with white; *macei* has the entire under parts pale fawny, with only faint black striations, the color of the lower parts in our bird being totally different.

Lord Tweeddale remarks, *Ibis*, 1876, 313, that *atratus* is distinguished from *macei* by having the uropygium uniform black and not marked with white, but in all my specimens of *macei* I find that there is precisely as much of the rump and upper tail-coverts uniform black as in the present species.

160.—Picus mahrattensis, *Lath.* S. F., III., 58.

Ramsay obtained specimens of this species at *Tonghoo*. It does not, I believe, occur in Tenasserim proper.

* I unite these two on other people's authority. I have never seen a Javan specimen.

163 *bis*.—Yungipicus canicapillus, *Blyth*. (25) J. A. S. B., XIV., 197, 1845. DESCR. S. F., III, 60.

? variegatus, *Lath*. apud *Wagl*., Syst. Av. Gen. Pic. sp. 26, 1827, nec. *Lath*.

? bicolor, *Gm*., S. N. I., 438, 1788 apud *Wagl*. loc. cit, 1827 nec. *Gm*.

? moluccensis, *Tem*. nec *Gm*. Tabl. Meth. 63, 1838.

? sondiacus, *Wall*. apud *Gray*. Hand List 8589, 1870; apud *Tweedd*., Ibis, 1877, 290; *Wall*. in Uccelli di Borneo, 43, *n*. 1874.

? fuscoalbidus, *Salvad*. U. di B., 42, 1874.

(*Tonghoo, Karennee*, at 4,000 feet, Rams.) Kyouk-nyat; Pahpoon; Thatone; E-poo; Amherst; Yea; Zadee; Meeta Myo; Mergui; Bankasoon; Malewoon.

Generally distributed throughout the province to an elevation not exceeding 5,000 feet.

[This species chiefly frequents old clearings, moderately thin jungle, groves of trees, &c., but avoids, as a rule, dense forest or bamboo jungle.

It extends quite to the south of the Malayan Peninsula. I have shot it in Johore, and have seen it in Singapore.—W. D.]

Sumatran and Malaccan specimens, and (the Marquis of Tweeddale informs us, *Ibis*, 1877, 290,) Javan ones also, are identical. Again Malaccan specimens and others from different portions of the Malay Peninsula are inseparable from others from all parts of the Tenasserim provinces, Upper Burma, Tipperah and Cachar. From all localities the size is somewhat variable. In all localities the extent of the brownish grey of the crown, the width and depth of color of the dark occipital patch and lateral crown stripes varies, as does also the amount of spotting on the central tail feathers.

Assuming that the Javan birds *are* identical with the Sumatran and Malaccan, then, if we reject Wagler's name, all the birds must stand under Blyth's name.

I am not sure whether, strictly speaking, according to the Code, Wagler's name can be rejected. It involves doubtless an erroneous identification, but it was the first distinctive appellation bestowed upon the species, and was accompanied by a detailed description.

Anyhow if we reject Wagler's name we must accept Blyth's.

It has been said that *canicapillus* is larger, has a greater extent of grey on the crown, a darker tone of coloration on the upper surface, &c.; but, as a matter of fact from Sumatra to Cachar, the species is absolutely one and the same. Individuals vary, but there does not appear to be the smallest *constant local variation* in either color or size.

I give the size of wing of a number of specimens :—

Johore,	3·1 ; 3·2 ; 3·1 ; 3·1	(The extreme south of the Malay Peninsula.)
Victoria Point,	3·15 ;	(The southernmost point of the mainland of Tenasserim.)
Malewoon,	3·3 ; 3·3 ; 3·1 ; 3·1 ; 3.	
Mergui,	3·13.	
Amherst,	3·1.	
Thatone,	3·2 ; 3·2.	
Wimpong,	3·27 ; 3·15.	
Myawadee,	3·3.	
E-poo,	3·23.	
Pahpoon,	3·2 ; 3·26 ; 3·1 ; 3·25 ; 3·13 ; 3·1 ; 3·3.	
Kyouk-nyat,	3·2 ; 3·25.	
Thayet Myo,	3·1 ; 3·1.	
East Pegu Hills,	3·22.	
Commilla, Tipperah	3·0 ; 3·3.	
Dilkoushah, Cachar,	3·35 ; 3·2.	

I might multiply measurements, but the above I conceive are sufficient to show that, from the extreme south of the Malay Peninsula, there is no appreciable variation in size, and the same may be said of plumage.

I *do* think that, taken as a body, the heads of the southern birds *average* slightly browner, and those of the north slightly greyer; but browner headed birds are equally met with in the north, and greyer ones in the south, and this slight difference in the *average* shade cannot possibly constitute grounds for specific separation.

Note that I only unite Javan birds on the Marquis of Tweeddale's authority. Wagler and others give the wings of Javan specimens considerably shorter than those of any specimens that we have.

Again, the Marquis of Tweeddale unites *sondiacus* of Wallace fully described in Salvadori's work *loc. cit.*, with Sumatran and Malaccan specimens under the name *fuscoalbidus* applied by Salvadori to the Bornean specimens. But Wallace gives the wing as 2·88, agreeing therefore with the dimensions given for the Javan form.

Is it possible that a second smaller race occurs both in Sumatra and the Malay Peninsula, and that *canicapillus*, a distinct and larger race, also extends to both of these?

We have collected largely in the southern portion of the Malay Peninsula, but we have come across no specimens with the wings appreciably less than the dimensions above given. Unfortunately, Salvadori does not *give* the dimensions of the

wings of his Bornean specimens, nor does the Marquis of Tweeddale give those of *his* Sumatran ones; and all I can say positively therefore is that, while I entertain no doubt that certain Sumatran and Malay Peninsula specimens are referable to *canicapillus*, it is possible that another smaller race occurs in Java, and that this same smaller race may also occur in Borneo and along with *canicapillus* in Sumatra and the Malay Peninsula.

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 5·35 to 5·75; expanse, 10·0 to 10·62; tail from vent, 1·75 to 2·12; wing, 3·1 to 3·3; tarsus, 0·5 to 0·6; bill from gape, 0·75 to 0·8; weight, 0·67 to 0·75 oz.

Female.—Length, 5·3 to 5·75; expanse, 10·62 to 10·8; tail from vent, 1·75 to 2·12; wing, 3·12 to 3·27; tarsus, 0·5; bill from gape, 0·65 to 0·7; weight, 0·5 to 0·7 oz.

Legs, feet, claws, and lower mandible plumbeous; upper mandible horny brown; irides red brown.

165 *bis*—Hemicercus canente, *Less.* (43). Descr. S. F., III., 61.

(? *Karen Hills*, from 500 *to* 4,000 feet, Rams.) Pahpoon; Salween R.; Beeling; Thatone; Wimpong; Kaukaryit, Hongthraw R.; Khyin; Meetan; Amherst; Zadee; Meeta Myo; Zadawoon; Tenasserim Town; Laynah; Pakchan; Bankasoon.

Generally distributed throughout the province.

[The Burmese Heart-spotted Woodpecker, though widely diffused, is nowhere common. It is chiefly met with in moderately thin jungle and clearings, in pairs, sometimes in families, and is very sprightly in its movements. It has a peculiar note, a sort of long-drawn chur-r, which it constantly utters as it moves about the branches, and by which it often betrays its presence. Both sexes of this species like *H. cordatus* bear tufts of bristly feathers in the middle of the back, which are usually covered with a gummy substance, which has a very strong peculiar, somewhat resinous, but decidedly pleasant smell. Both the viscidity and the scent completely disappear after the specimen has been preserved a short time.—W. D.]

I give the Karen Hills doubtfully as a habitat of this species, because the Marquis of Tweeddale says of the species occurring there:—

"Two males are sent by Mr. Ramsay; one has the head uniform deep black; the other, with a few buff markings on the feathers of the forehead and crown."

This, if accurate, seems to indicate a distinct species. I have examined over 50 specimens of this species, and never yet saw one with the head uniform deep black. Davison has seen many more and says the same. Neither have we ever seen one with

buff *markings*, properly so called, on either forehead or crown. Mere specks are not markings, and these are all we have ever seen on the heads of adult males and in the young male the buffy head becomes black, beginning at the forehead, [illegible] speckles show out there. Either Ramsay's specimens [illegible] to a distinct race, or they are altogether abnormal.

The following are dimensions, &c., recorded of this species:—

Males.—Length, 6·35 to 6·5; expanse, 12·75 to 13·0; tail from vent, 1·75 to 2·12; wing, 3·8 to 3·9; tarsus, 0·75; bill from gape, 1·0 to 1·15; weight, 1·75 oz.

Females.—Length, 5·62 to 6·37; expanse, 11·45 to 12·55; tail from vent, 1·5 to 1·82; wing, 3·45 to 3·75; tarsus, 0·62 to 0·7; bill from gape, 0·82 to 0·92; weight, 1·25 to 1·5 oz.

Legs and feet very dark green, sometimes so dark as to appear black; bill black, bluish at gape; irides dark reddish brown.

165 *bis A.*—Hemicercus sordidus, *Eyton.* (1).

Bankasoon.

Only a straggler to the extreme south of the province.

Ornithologists are not by any means agreed as to the number of species of this genus inhabiting the Malay Peninsula, Java, Sumatra, and Borneo.

Count Salvadori (Uccelli di Borneo, 46) gives the following diagnosis of the four species which he admits:—

i. H. concretus, *Tem.*

Male.—Crest in front reddish yellowish brown, behind red.

ii. H. hartlaubi, *Malh.*

Male.—Crest entirely red, uniformly colored.

iii. H. sordidus, *Eyton.*

Male.—Crest in front red, behind ashy; rump and under tail-coverts isabelline.

iv. H. brookeanus, *Salvad.*

Male.—Like *sordidus*, but rump and lower tail-coverts lemon yellow.

The Marquis of Tweeddale, *Ibis*, 1877, 291, unites *sordidus* and *brookeanus* and *concretus* as defined by Salvadori, while he unites *hartlaubi* with the true *concretus*, ex Java of the Pl. Col., and remarks that the occurrence of true *concretus* beyond Java rests on no good authority.

There is no doubt as to the identity of *brookeanus* and *sordidus*. Freshly-moulted specimens, shot in the Malay Peninsula, often have a more or less bright lemon yellow tinge on rump and lower tail coverts, and in some of our specimens this tinge pervades all the paler portions of the plumage.

There is also no doubt that *hartlaubi* is Javan. Mr. Gould figures an unmistakeable specimen of *hartlaubi*, Birds of Asia,

XXVII., pl. 10, from Javan specimens, and there is also, I think, no reason to doubt, judging from the great variations observable in specimens of *sordidus*, that the specimens he figures at pl. 9 from Java under the name of *concretus* are identical with *hartlaubi* and with the true *concretus* of the Pl. Col. No. 90.

In fact these three figures represent the progress of the male from the early to the old adult stage. Fig. 2 of Pl. XLI., Malherbe's *Mon. Picidæ*, shows the quite young bird, of which I have a specimen now before me, only somewhat younger; in that the whole of the feathers of the breast and abdomen are broadly fringed with ruddy isabelline.

Assuming for the moment the distinctness of *concretus* vel *hartlaubi*, from *sordidus* vel *brookeanus*, I think the occurrence of the former elsewhere than in Java rests on very fair authority.

Temminck, in the Texte of the Planches Col. 90, remarks that males from Sumatra have "the forehead and the *whole* of the feathers of the crest a bright vermilion." This can only apply to the form known as *hartlaubi*; it does not apply to any of the stages usually accepted as pertaining to *sordidus*.

Malherbe gives this species from Borneo. Count Salvadori mentions specimens in the Milan Museum recorded from Borneo: Mr. Gould distinctly says that he has a skin of the same species from Malacca.

We have a specimen shot on the 14th November at Nealys, 31 miles from Malacca, in which only just the under feathers of the crest at the base of the occiput are grey brown, or greyish olive—the whole visible portion of crown and crest being crimson, so that if *hartlaubi*, as at present usually defined, is, as there seems no doubt, identical with *concretus*, we must I think accept a wider habitat for it than Java.

The Marquis of Tweeddale gives the following stages of plumage of head, for male, of what he considers *sordidus*:—

Crown deep crimson; post occipital crest plumes dark greyish olive.

Crown and all crest plumes dingy reddish buff or yellowish red.

Crown almost all pure crimson; post occipital plumes changing from reddish tawny to olive grey.

Crown ruddy buff; elongated occipital crest feathers flame red with yellowish buff shaft line and tip.

Crown mixed bright crimson and pale ruddy buff; post occipital plumes dark greyish olive.

To which we may add—

Crown and crest crimson; basal occipital feathers concealed by upper more elongated ones, greyish olive.

Crown and crest mixed crimson and reddish tawny; occipital feathers, concealed by upper more elongated ones, greyish olive.

Crown and upper part of occiput brownish ruddy buff; each feather narrowly tipped with dark brown; crest feathers of the same color, and similarly tipped, but the basal two-thirds crimson, except at the margins and on the shafts, which are concolorous with the tip.

One of our specimens, shot at Pulo Seban, 22 miles from Malacca on the 12th of November, matches Mr. Gould's figure of *concretus* from Javan specimens, as regards the crest, except that the crimson portion of the posterior crest is not quite so bright as exhibited by him.

Having no adult male Javan specimens to compare, I cannot offer any opinion as to the distinctness or otherwise of *concretus*, but I feel quite convinced that no distinctive characters can be based upon the color of the head and crest, and if the birds are distinct, the distinction must be based upon other characters.

To judge by Mr. Gould's figures, the Javan birds are of a much darker color on cheeks and breast, and exhibit much more isabelline on the occiput, back of the nape, and cheek stripe than *sordidus* ever does, and have moreover a much more marked squamification of the lower surface than is ever observable in *sordidus*; but these characteristics are not traceable in Malherbe's figures, nor in Temminck's, and cannot be relied on.

The following is a description of a young male *sordidus* (assuming that there are two distinct species) shot at Bankasoon on the 10th June. This is obviously a bird just from the nest, and is absolutely identical with a Javan specimen of the same age:—

The entire crown brownish ruddy buff; each feather narrowly tipped with dark brown; crest similar and similarly tipped; basal two-thirds of elongated crest feathers dull crimson; the margins and shafts colored like the terminal portion.

Back of neck and head, under crest, ruddy buff; chin, throat and sides of head olive brown; centre of chin and throat with a greyish tinge; a narrow ruddy buff streak from the gape under the ear-coverts joining into the ruddy buff of the nape.

Breast and abdomen olive brown; each feather broadly fringed at the tip with rufescent buff; under tail-coverts black, broadly tipped with rufescent white; primaries and their greater coverts, secondaries, and tail feathers black; hinder secondaries margined on the outer webs with isabelline.

Entire mantle and tertiaries rufous isabelline, palest on the tertiaries; the feathers black centered, but the rufous margins so broad as to leave comparatively little of the black centering visible; rump and upper tail-coverts, except the very longest, rufous isabelline, excessively narrowly margined at the tips with black; longest lateral upper tail-coverts black, tipped with rufous isabelline.

The females of *sordidus* and *concretus* are inseparable.

Personally I doubt the distinctness of the two species, though the Javan birds may run smaller, and if identical all will stand as *concretus*.

165 *ter*.—Meiglyptes tristis, *Horsf.* (21).

Hankachin; Bankasoon.

Confined to the extreme south of the province, and there not rare.

[This species is usually found in dense forest, not coming out to clearings and open tree jungle. It goes about generally in pairs, hunting the branches and trunks of trees like *Picus*, but never descending to the ground as *Gecinus* and others of that sub-group so often do. None of these *Meiglyptes* have the strongly scented tuft in the middle of the back that is found alike in the Malayan, Burmese, and South Indian *Hemicerci*. Though I have watched these closely (they are not shy). I never noticed anything peculiar in the habits of any of the species of *Meiglyptes*.—W. D.]

The following are dimensions, &c., of this species recorded the flesh:—

Males.—Length, 6·82 to 7·12; expanse, 12·5 to 12·72; tail, 2·12 to 2·4; wing, 3·75 to 4·05; tarsus, 0·65 to 0·7; bill from gape, 0·9 to 1·0; weight, 1·5 to 1·75 ozs.

Females.—Length, 6·75 to 6·85; expanse, 12·35 to 12·85; tail, 2·12 to 2·4; wing, 3·85 to 4·0; tarsus, 0·65 to 0·75; bill from gape, 0·9; weight, 1·5 ozs.

The legs and feet dirty, dingy, or glaucous green; claws plumbous; bill black; edge of eyelids black; irides, in about half the specimens of each sex, deep brown, in the other half dull red.

Lores, feathers immediately round eye, the point of the chin, and the base of the lower mandible, brownish buff. In the male a patch of crimson at the base of the lower mandible on either side; the rest of the head and neck all round white to buffy white or buff, every where *very* narrowly and closely barred with black or deep brown; breast similar, but the bars rather broader and wider apart; flanks and sides of abdomen and lower tail-coverts similar, but the bars much broader and wider apart; middle of abdomen the barrings more obsolete and confused, in many specimens dark brown, spotted with buff; wing-lining and axillaries creamy buff, as are also the middle of the back and the rump; interscapulary region, wings and tail black, barred with buff or buffy white, in some specimens nearly pure white on the tail and towards the tips of the secondaries; the bars are more or less imperfect on both quills and rectrices,

being represented by spots on both webs, except towards the tips of the primaries where the spots are on the outer webs only. On the inner webs of the quills these spots are much larger, and have a tendency to coalesce towards the bases of the feathers.

The females only differ in wanting the red mandibular patch; specimens differ a good deal in appearance, as some have the paler portions of the plumage whiter and others have it much more buffy.

165 *quat.*—Meiglyptes jugularis, *Blyth.* (15). DESCR. S. F., III., 63.

Pahpoon; Assoon; Meetan; Amherst; Lemyne; Yea; Meeta Myo; Tavoy.

Confined to the northern and central portions of the province.

[Like *tristis* in voice and habits, but not nearly so much of a forest bird, being often found in large clearings and open jungle, and even in bamboo jungle.—W. D.]

165 *quint.*—Meiglyptes tukki, *Less.* (13).

Bankasoon.

Confined to the extreme south of the province.

[This is a bird of the dense forest; it is common enough in the Malay Peninsula and on Singapore Island, but only just extends within our limits.

All the three species of *Meiglyptes* occurring within our limits are very similar in their habits and voice. The note is a regular Woodpecker note, a sort of rolling kirr-r-r.—W. D.]

The following are dimensions, &c., recorded in the flesh of this species:—

Males.—Length, 8·45 to 9·1; expanse, 12·75 to 13·75; tail, 2·75 to 3·2; wing, 4·1 to 4·25; tarsus, 0·7 to 0·9; bill from gape, 1·05 to 1·1; weight, 2 to 2·25 ozs.

Females.—Length, 8·12 to 8·75; expanse, 13· to 13·75; tail, 2·82 to 3·0; wing, 4·05 to 4·1; tarsus, 0·76 to 0·7; bill from gape, 1·05 to 1·12; weight, 2·25 ozs.

Legs and feet dull or brownish green; claws a little paler; irides brown; upper mandible black; lower mandible pale plumbeous blue, in some greenish; in many the tip is dark plumbeous and the base is also at times a darker plumbeous.

In the male, a bright crimson stripe on either side at the base of the lower mandible; in some males the feathers of the forehead slightly tipped with crimson; both these are wanting in the female; in other respects the plumage of the two sexes does not differ.

The entire top, back and sides of the neck, olive brown, paler on the sides of the head, darker on the occiput and nape; chin and throat buffy white, very narrowly and closely barred with blackish brown; a black patch at the base of the throat in front running up on each side of the throat a little way, to where, in the male, it meets the red mandibular stripe; immediately behind the red mandibular stripe commences a pale creamy buff stripe, which runs down the side of the neck, narrow above, broader below; breast blackish brown, very narrowly barred, but not near so closely as on the throat, with yellowish white; abdomen and rest of lower parts a dull, somewhat olivaceous brown, unbarred in the middle of the abdomen, elsewhere barred, more broadly than on the breast, with fulvous white; upper parts colored much like the occiput, but a rather purer brown; lesser and most of the median coverts unbarred; rest of the mantle, back, rump and upper tail-coverts with narrow transverse yellowish white or pale fulvous bars, which in the quills and rectrices are represented by spots or imperfect bars on both webs, except towards the tips of the earlier primaries where there are no markings on the inner webs. On the inner webs of the quills towards their bases the spots are much larger. Wing-lining nearly uniform creamy buff.

166.—Chrysocolaptes sultaneus, *Hodgs.* (41). S. F., III., 64.

(*Tonghoo*, Rams.) Kollidoo; Kyouk-nyat; Pahpoon; Younzaleen Creek; Thatone; Tavoy; Thenganee Sakan; Moulmein; Yea-boo; Amherst; Zadee; Shymotee; Mergui; Pakchan, Bankasoon.

Common throughout the province up to elevations of 5,000 feet.

[Found in all kinds of localities, dense and thin, evergreen and deciduous forests, clearings, &c. Captain Feilden has well described the habits of this species, S. F., III., 65.—W. D.]

Tenasserim specimens are, I think, on the whole nearer the Himalayan than the Southern Indian form *delesserti* of Malherbe. Which species Tickell's *P. guttacristatus* (J. A. S. B., II., 578) belonged to must remain doubtful, until further specimens are obtained in Bhorabhum and Dholbum. I have seen no specimens of either *sultaneus* or *delesserti* thence, but the dimensions given—length 10·5 and bill 1·8—show clearly that if Tickell's bird was either of these, it belonged to the smaller southern form, for which even the total length is too small. Tickell's name cannot at present be properly applied to *any* species.

168.—Muelleripicus pulverulentus, *Tem.* (21).

(*Karen Hills*, Rams; *Tonghoo*, Lloyd.) Pahpoon; Younzaleen Creek; Larthorgee; Thatone; Amherst; Pakchan: Bankasoon; Malewoon; Kohtoung.

Sparingly distributed throughout the better-wooded and less-elevated portions of the province and ascending, Ramsay says, the Karen Hills to a considerable elevation.

[This species cannot be said to be common anywhere. It almost always goes about in small parties of from four to six or eight, following each other about from tree to tree, keeping up the while a querulous call totally unlike that of any other Woodpecker I know. Even when at work tapping, they desist at intervals and call, being answered by one or more of the party, which is usually scattered about on neighbouring trees. With a little patience, and by carefully following them as they move through the jungle, the whole party may be secured with little difficulty.

They do not restrict themselves to any particular localities, but are met with in dense and thin forest, in clearings, in fact wherever there may happen to be trees. They very rarely work low, but keep up on the higher branches of the trees. They keep pretty much on the alert, and the moment they catch sight of you, they twist out of sight behind the branch on which they happen to be; in fact, the best way to shoot them is to have them driven off the tree and then take them as they fly.—W. D.]

The following are the dimensions and colors of soft parts of a large series recorded in the flesh :—

Males.—Length, 19·0 to 20·0; expanse, 29·0 to 30·5; tail from vent, 7·25 to 7·75; wing, 8·36 to 9·5; tarsus, 1·39 to 1·5; bill from gape, 2·75 to 3·1; weight, 1·0 to 1·5 lbs.

Females.—Length, 18·25 to 19·5; expanse, 27·5 to 29·75; tail from vent, 6·6 to 7·6; wing, 8·8 to 9·37; tarsus, 1·35 to 1·5; bill from gape, 2·65 to 2·75; weight, 12 to 16 ozs.

Legs and feet are dark plumbeous; claws dark bluish horny; bill dull pale blue, gradually shading white, tinged blue at tip; orbital skin very dark plumbeous or plumbeous grey; irides dull leaden blue or deep brown.

169 *ter*.—Thriponax crawfurdi, *J. E. Gr.* (8). Descr. S. F., III., 66.

(*Tonghoo*, Rams.) Kyouk-nyat; Pahpoon; Thatone; Wimpong; Larthorgee.

Confined to the northern portions of the province; quite in the south replaced by the next species; but between occurs, I believe, a wide break in which neither is found.

[I only met with this species at Pahpoon and in the hills to the north of that place, in the plains country between the Salween and Sittang, and again near Myawadee. It is rare, for I have not seen it more than a score of times from first to last. I have shot it in the tree jungle and in old clearings, but I have also seen it in comparatively thick forest.

I have noticed in this species and in the nearly allied *T. javensis* what Captain Feilden has recorded (S. F., III., 68) *viz.*, that when tapping the strokes are delivered slowly, and not in rapid

succession, producing a rapid roll as is the case with *M. pulverulentus* and *C. sultaneus*. I can add nothing to Captain Feilden's excellent account.—W. D.]

169 *quat.*—**Thriponax javensis**, *Horsf.* (7). S. F., III., 67.

Laynah; Bankasoon; Malewoon.

Confined to the southernmost district of the province.

[In all its habits, the localities it frequents, voice, &c., this species resembles exactly the last.—W. D.]

Malherbe doubted the occurrence of this species in Tenasserim, but south of Mergui it is not uncommon. I have already, S. F., III., 67, pointed out briefly how this and the allied Indian Black Woodpeckers differ. The only Burmese species with which this could be confounded is *crawfurdi* (S. F., III., 66), which is distinguished at once by its white rump, and by the great amount of white on the inner webs of the primaries.

The present species varies a good deal in size; the birds probably take some years to attain their full dimensions.

Males.—Length, 15·5 to 17·75; expanse, 26 to 28·25; tail, [illegible] to 7·26; wing, 8·75 to 9·2; tarsus, 1·25 to 1·35; bill from [illegible]pe, 2·25 to 2·6; weight, 8 to 12 ozs.

Females.—Length, 16·25 to 18·12; expanse, 26 to 28·5; tail, 6·2 to 7·5; wing, 8·5 to 9·4; tarsus, 1·25 to 1·45; bill from gape, 2·2 to 2·35; weight, 8 to 12 ozs.

Legs and feet pale plumbeous to leaden blue; iris creamy white, creamy yellow, clear yellow; orbital skin very dark plumbeous; bill black; lower mandible plumbeous blue to dusky plumbeous.

In the males the forehead, crown, occiput and occipital crest, and a broad patch on either sides at the base of each mandible are intense crimson. In the female these patches are wanting, and the forehead and crown are black. Excepting the red positions, the entire upper surface of the bird, tail, sides of the neck, and breast are black; the upper plumage, in fine specimens, with a certain amount of a bluish or greenish lustre; the chin and throat and front of the neck, except at the base, black, speckled with white; the sides of the head are black, but there is a little white speckling immediately behind the ear-coverts; the entire abdomen, sides, and flanks are pale yellowish creamy; the lowest feathers of the breast are tipped whitish; the lowest feathers of the abdomen, flanks, and tibial plumes have a blackish brown, more or less cordate spot near the tip; the lower tail-coverts are black. The primary lower wing-coverts black; the lowest of them greyish brown; the rest of the wing-lining creamy white.

The quills have a little white or yellowish white at their extreme bases, variable in amount. One very fine male has not a trace of this on the base of the primaries, only on the bases of the secondaries and tertiaries. One female—and the females seem to show it more than the males—has the basal three-quarters of an inch of the inner webs of the primaries white.

171.—Gecinus striolatus, *Bly.*

Said by Lord Tweeddale (B. of B., p. 76) to have been obtained at Tonghoo by Major Lloyd, but seen nowhere else in Tenasserim as yet.

171 *bis.*—Gecinus vittatus, *Vieill.* (68). Descr. S. F., III., 69.

(*Tonghoo*, Rams.) Pahpoon; Sittang R.; Theinzeik; Thatone; Wimpong; Thenganee Sakan; Myawadee; Topee; Karope; Amherst; Yea; Meeta Myo; Tavoy; Shymotee; Usheetherrpone; Mergui; Tenasserim Town; Bopyin; Choumpyah; Pakchan; Bankasoon.

Extremely common throughout the province, except in the hilly portions above 3,500 feet elevation.

[This is one of the commonest of our Woodpeckers, ex[illegible] in the extreme south, and even there it is far from rare.

I have not yet met with it anywhere in the Malay Peninsula south of the Pakchan.

Its habits and notes are *precisely* like those of the other *Gecini—occipitalis, squamatus*, &c.—W. D.]

171 *ter.*—Gecinus nigrigenis, *Hume.* (30). Descr. Pr. A. S. B., 1st May 1874., S. F., II., 244 and 471 *n.*

(*Foot of Karen Hills, to 600 feet; Tonghoo*, Rams.) Pachoung; Kollidoo; Dargwin; Makana; Myawadee; Endingnone; Larthorgee; E-poo; Paraduba.

Confined to the drier and more thinly-wooded hills of the outer Tenasserim range in its northern and central portions and there not rare.

[I only obtained this species in the hills to the north of Pahpoon, and again all about Myawadee and the country between this and Mooleyit. It is not a bird of the dense forests, and does not ascend Mooleyit. In its voice it is quite similar to the other members of the genus. It does not, that I am aware, extend to the low flat country anywhere, nor do I know of its occurring anywhere south of Paraduba. I did not find it anywhere about Meetan. It is most abundant in open bamboo jungle and about clearings; it goes about in parties or families of 4 to 6, and like other *Gecini* habitually feeds on the

ground. It is very shy, and after one shot very difficult to come up with again.—W. D.]

I still consider the Siamese *G. erythropygius*, Elliot, Nouv. Arch., 1866, Bull. p. 76, recognizably distinct; but a comparison of more specimens from Siam may disprove this view, in which case our bird must take my friend Mr. Elliot's name.

The following are dimensions, &c., of a large series recorded in the flesh:—

Males.—Length, 12·82 to 13·3; expanse, 19·5 to 20·5; tail from vent, 4·8 to 5·6; wing, 6·25 to 6·45; tarsus, 1·15 to 1·25; bill from gape, 1·6 to 1·75; weight, 5·5 to 6·0 oz.

Females.—Length, 12·25 to 13·25; expanse, 18·25 to 20·25; tail from vent, 4·6 to 5·5; wing, 6·0 to 6·4; tarsus, 1·1 to 1·2; bill from gape, 1·45 to 1·6; weight, 4·75 to 5 ozs.

Legs and feet dirty brownish or plumbeous green; bill dark horny brown or blackish, yellowish at base of lower mandible; irides pale to bright gamboge yellow.

172.—Gecinus occipitalis, *Vig.* (19).

(*Tonghoo*, Rams.) Dargwin; Pahpoon; Sinzaway; Myawadee; Kanee; Bayouk; Kohbaing; Paraduba; Amherst; Meeta Myo.

Confined to the northern and central portions of the province.

[This species is nowhere common. I have not observed it anywhere south of Tavoy. It is most frequently seen in the immediate vicinity of Pahpoon, but does not ascend the hills to the north of that place for any distance.

It is a bird of the thin forests, bamboo jungles, and clearings, too well known to call for further remark.—W. D.]

173.—Chrysophlegma flavinucha, *Gould.* (16).

(*Karen Hills, Tonghoo*, Rams.) Kollidoo; Kyouk-nyat; Pahpoon; Younzaleen Creek; Thatone; Wimpong; Myawadee; Megaloon; Larthorgee.

Confined to the low hills and their neighbourhood in the northern and central portions of the province.

[This species generally goes about in pairs; it keeps to clearings and thin forest; feeds a great deal on the ground; very rarely to be seen high upon trees. It is nowhere *common* in Tenasserim, though at the same time it is not rare. It does not appear to get down as far south as Meetan.

I got one specimen of this, which had obviously been well grilled in some jungle fire some little time previously, and yet, strange to say, seemed in very good condition; the upper mandible had been nearly entirely destroyed, the toes and claws were burnt off, and the quills were chiefly singed away, and yet the bird was well and hearty. This could only have happened in the case of a ground-feeding Woodpecker.—W. D.]

174.—Chrysophlegma chlorolophus, *Vieill.* (15).

(*Tonghoo, Karennee Hills at 3,000 feet*, Rams.) Pine forests, Salween; Kollidoo; Kyouk-nyat; Pahpoon; Wimpong; Myawadee; Endingnone; Kaukaryit, Houngthraw R.; Mooleyit; Amherst.

Confined to the northern and central portions of the province, occurring alike in the lower and highest hills, and even in the plains, though rare there, and not very common anywhere.

[Another ground-feeding Woodpecker, occurring alike in moderately thin and dense forests, and found right up to the top of Mooleyit.

It goes about generally in pairs, but at Myawadee I met with huge troops of Woodpeckers consisting of this species; *flavinucha, occipitalis, nigrigenis, vittatus, C. sultaneus, T. intermedia, Micropternus phaioceps, T. crawfurdi, Gecinulus viridis, Yungipicus canicapillus*, all moving about, as if working in concert, mixed up with a lot of *Garrulax belangeri*, and *moniliger* and *Cissa speciosa, &c.*, like a mob of *Parus, Lophophanes, Abrornis, Sitta* and *Certhia*, such as one often sees near Simla. Such a Paradise of Woodpeckers I never saw. It was open bamboo jungle, interspersed with teak and other trees, with here and there cleared patches in which there are always numb of dead trees standing or lying on the ground.—W. D.]

175 *bis.*—Calolophus mentalis, *Tem.* (4).

Bankasoon.

Confined to the extreme south of the province, and very rare there. Probably only an occasional straggler.

The following are dimensions, &c., of the species:—

Males.—Length, 10·75 to 11·25; expanse, 17·25 to 17·5; tail, 3·74 to 4·25; wing, 5·4 to 5·5; tarsus, 0·85 to 0·9; bill from gape, 1·4 to 1·65; weight, 3·75 ozs. (only 2 measured.)

Females.—Length, 10·5 to 11·0; expanse, 16·0 to 17·62; tail, 3·2 to 4·5; wing, 5· to 5·4; tarsus, 0·8 to 0·9; bill from gape, 1·4 to 1·5; weight, 3·5 to 4 ozs.

Legs and feet green; claws plumbeous; upper mandible dull black; lower mandible and edges of upper mandible near nostril, pale plumbeous; orbital skin dark green, at times pale green; irides deep red.

In this species the males have the point of the chin and a broad stripe of feathers at the base of the lower mandible brown, spotted with brownish white.

The middle of the throat streaked black and pure white; the lores nearly bare, brownish; the feathers immediately under the eye, and ear-coverts, dull olive green; the whole top of the head and the anterior portion of the occipital crest are a rather brighter olive green; terminal portion of occipital crest

extremely clear bright yellow; sides and front of the neck chestnut; back, scapulars, rump, upper tail-coverts, the smallest coverts along the ulna, breast, abdomen, vent, flanks, and lower tail-coverts, green, brightest on the middle of the back and scapulars, duller and duskier towards the vent; the whole of the rest of the coverts, the outer webs of the secondaries, and more or less of the basal portion of the tertiaries (the terminal portions being green) deep crimson; winglet and tips and margins of some of the earlier primary greater coverts green; primaries dull black, with reddish buff spots on the outer webs, and similar but much larger bar-like spots on the inner webs; the outer webs of the earlier primaries are suffused with crimson above the emargination, the later ones nearly to the tips; the inner webs of the secondaries barred like those of the primaries. Tail uniform black; wing-lining dark green, closely barred with greenish to fulvous white.

The female has the point of the chin, and a patch on either side of the base of the lower mandible of the same color as the sides and front of the neck. In other respects her plumage does not differ from that of the male.

175 *ter.*—Callolophus puniceus, *Horsf.* (12).

Laynah; Bankasoon.

Confined to the southern district of the province, and there not rare.

[This bird has some rather anomalous habits for a Woodpecker, and it has besides a very peculiar note, not in the least resembling any of the varied notes of other Woodpeckers. It inhabits the evergreen forests, occasionally coming into *tounyahs* or clearings. It has a habit of working its way to the *very* top of some high dry tree, and remaining there for half an hour or more sometimes, uttering, at short intervals, its peculiar note. In the dusk of the evening, when other Woodpeckers cease to be heard, it gets very noisy, and then may be heard calling in many directions, shewing that it is not very uncommon; it is however more often heard than seen.

It occurs, so far as I am aware, only in the south of the province. I found it most common about Laynah.

It almost always, I may remark, goes about singly, and I have never seen it descend to, or feed upon, the ground, as *Gecinus* and *Chrysophlegma* so constantly do.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 9·25 to 10·75; expanse, 15 to 16·75; tail, 3·5 to 4·25; wing, 4·75 to 5·25; tarsus, 0·85 to 0·95; bill from gape, 1·15 to 1·4; weight, 2·75 to 3·25 ozs.

Females.—Length, 10·25 to 11·0; expanse, 15·25 to 17·25; tail, 3·82 to 4·35; wing, 5·12 to 5·5; tarsus, 0·85 to 0·9; bill from gape, 1·35 to 1·45; weight, 2·75 to 3·25 ozs.

Legs and feet pale green, sometimes dingy, sometimes slightly yellowish; claws pale greenish horny; eyelids dull black; orbital skin lavender blue, bright plumbeous blue, pale blue, sometimes glanced with green close to the eye; irides crimson; lower mandible and base of upper mandible chrome to greenish yellow; rest of upper mandible, black; gape lavender.

The males have a broad crimson stripe at the base of the lower mandible on either side; in other respects the plumage of the two sexes does not differ, but birds of the same sex differ a good deal, *inter se*, as I think, in consequence of differences of age.

Whole top of the head and anterior portion of occipital crest and entire visible portion of closed wings, except the outer webs of the primaries below the emarginations, and the tips of the tertiaries, brilliant crimson; rest of occipital crest pale bright yellow; back, scapulars, rump, and upper tail-coverts, and more or less of tips of tertiaries, bright grass green; the feathers of the upper back narrowly fringed with bright yellow, those of the rump and lower back so broadly fringed with this colour that it becomes dominant; a blackish dusky line on the upper part of the lores; chin, throat, ear-coverts and sides of the neck a sordid dingy greenish brown, greener on the ear-coverts; breast and rest of lower parts dull olive green, becoming browner on the vent and lower tail-coverts; sides and flanks more or less spotted with white or greenish white; in some specimens the sides and flanks are regularly barred with greenish or fulvous white, and the whole abdomen is spotted, and occasionally these spots extend to the lower tail-coverts also, and again in some specimens there is barely a trace of any spots at all; the tail is uniform black; the outer webs of the primaries below the emarginations, and the whole inner webs, deep brown; the inner webs on their basal portion with numerous moderate sized white spots at the margins; wing-lining white or fulvous white; all the feathers margined with green or dusky, so as to produce a spotted appearance.

Some birds are almost entirely brown below, some have the throat pale almost whitey brown.

Some have the whole throat a dingy rusty brown; many are much duller on the upper surface than I have described.

175 *quat.*—Callolophus malaccensis, *Lath.* (15).

Mergui; Tenasserim Town; Bopyin; Bankasoon; Malewoon.

Confined to the southern portions of the province and there rather common.

[A bird of the evergreen forests, not occurring in open country, but unlike the other *Callolophi* rather partial to mangrove swamps, in which I have often shot them. These, too, I never saw on the ground. It has none of the peculiar habits of *puniceus*, and its note, as well as that of *mentalis* (of which I shot many in the Straits), rather resembles that of the *Gecini*. All three species, however, as a rule go about singly.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 9·5 to 10·62 ; expanse, 15·75 to 17·12 ; tail, 3·1 to 3·82 ; wing, 4·85 to 5·5 ; tarsus, 0·8 to 1·0 ; bill from gape, 1·05 to 1·37 ; weight, 3·5 to 4·5 ozs.

Females.—Length, 9·5 to 10·82 ; expanse, 15·55 to 16·5 ; tail, 3·62 to 3·75 ; wing, 4·85 to 5·37 ; tarsus, 0·8 to 1·0 ; bill from gape, 1·05 to 1·3 ; weight, 4 to 4·5 ozs.

Legs and feet pale dingy green ; claws bluish or greenish dusky horny ; irides commonly red, in some specimens almost brown, in one pale crimson ; eyelids pale plumbeous to dark grey ; upper mandible black ; lower mandible pale plumbeous to pale bluish white.

The adult male has the forehead, crown, occiput, the greater portion of the occipital crest, and the upper portion of the sides of the neck, and the whole visible portion of the closed wings, (except the inner webs of the tertiaries, and the outer webs of the primaries below the emarginations,) very deep crimson, brighter on the sides of the occiput and upper neck ; the posterior portion of the crest pale yellow ; the extreme base of the forehead often brownish or dusky ; the feathers under the eye, cheeks, patch at the base of lower mandible and the ear-coverts pale chestnut brown ; all the feathers more or less, in different specimens, broadly tipped with crimson ; chin, throat, rest of sides of neck, and sometimes upper breast, the same pale chestnut brown ; breast and entire lower parts closely barred, blackish brown and sordid white; the whole breast, more or less tinged with the color of the throat, which, in some specimens, completely overlays the uppermost feathers and obliterates the barrings there ; the upper back is normally green, barred with ruddy or greenish white, or again pale yellow, but in some specimens many of the feathers, especially towards the sides of the back, are blotched with crimson, and sometimes there are such blotches even in the middle of the upper back.

The scapulars are green at their bases, generally barred like the upper back, sometimes unbarred, but crimson at their tips and on their outer webs ; the rump and central portion of the shortest upper tail-coverts are green ; the feathers so broadly fringed with very pale yellow that scarcely any other color is seen ; the rest of the upper tail-coverts brownish black, sometimes tinged with green, with pale spots near the tips, some-

times brownish, sometimes rusty, sometimes yellowish white. Tail uniform black; quills, where not crimson, hair brown, with brownish white imperfect bars on the margins of the inner webs except towards the tips of the primaries, and with pale brown spots on the outer webs of the primaries where not crimson, *i.e.*, below the emarginations; the wing-lining is white, barred and mottled with brown.

The female differs from the male in having the ear-coverts untipped with crimson, and in having a broad frontal band, the lores, cheeks, feathers at the base of the lower mandible, chin and upper part of the throat, with a white spot at the extreme tip of each feather surrounded on the feather side by a dusky line. In some specimens, this peculiar marking is wanting on the chin and upper throat, and in some specimens again it extends over the entire throat, front and anterior portion of sides of neck, and even on to the uppermost part of the breast.

In some specimens (but this is very rare amongst our Tennasserim birds, while on the other hand it seems to be very common among Malaccan birds) the barring on the interscapulary region is almost entirely obsolete.

Our Tennasserim birds have, as a body, conspicuously larger bills than those from the southern part of the Malay Peninsula, and they seem to be larger altogether. Moreover, a greater number of them show the crimson blotching on the upper back, and show it to a greater extent; in fact our Tennasserim birds appear to me to approach more closely to *miniatus* than do the Malaccan birds. See further on this subject, S. F., III., 324*n*.

176.—Venilia pyrrhotis, *Hodgs.* (6).

(*Tonghoo Hills*, Rams.) Kollidoo; Kyouk-nyat; Dargwin; Pahpoon; Mooleyit.

Confined to the upper and lower ranges of hills in the northern and central portions of the province.

[I was greatly puzzled when I first met with this species; it never, for a moment, struck me that it could be a Woodpecker. I found it first in dense kine grass, and when disturbed it darted further away into the grass with a sharp single cry. It was only after a good deal of fagging and a determination to find out what the bird was that I succeeded in shooting my first specimen. It is a rare and very shy bird. I afterwards found it at Pahpoon and in the hills to the north of that place, in low dense underwood, and again in similar situations on the north-west slope of Mooleyit. It avoids the more open portions of the forest, and is usually to be found moving about close to the ground. It is almost always in pairs. I have never seen them until disturbed ascend any tree.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 11·2 to 11·5; expanse, 18·0 to 18·75; tail from vent, 3·5 to 4·25; wing, 5·62 to 5·9; tarsus, 1·0 to 1·05; bill from gape, 1·9 to 2·0; weight, 6·0 oz.

Female.—Length, 11·0; expanse, 17·5; tail from vent, 4·0; wing, 5·4; tarsus, 1·1, bill from gape, 1·75.

Legs and feet very dark green, sometimes so dark as to appear black; claws dark horny brown; bill pale greenish yellow, strongly tinged green at base and whitish and semi-transparent at tip; irides reddish orange to brownish red.

176 *bis*.—Venilia porphyromelas, *Boie*. (30).

Bopyin; Palaw-ton-ton; Bakasoon; Malewoon.

Confined to the Mergui or southernmost district of the province, but very common there.

[Like its congener (for it is a true *Venilia*, though going by many strange names, *Lepocestes*, *Blythepicus*, &c.) it is very shy and keeps much to the undergrowth and smaller trees of the evergreen forests; it is also very fond of working about the [illegible] trees; it seems (like *V. pyrrhotis*) to avoid studiously the [illegible]e open portions and larger trees of the forest.

It is almost always found in pairs, and utters incessantly a [illegible]ingle sharp metallic note.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 9 to 9·35; expanse, 15 to 15·25; tail, 3 to 3·25; wing, 4·75 to 5; tarsus, 0·8 to 0·9; bill from gape, 1·45 to 1·6; weight, 3 oz.

Females.—Length, 8·5 to 9·5; expanse, 14·6 to 15·82; tail, 3·2 to 3·4; wing, 4·62 to 5·0; tarsus, 0·82 to 1·0; bill from gape, 1·3 to 1·5; weight, 2·25 to 3 ozs.

Legs and feet dark, varying in shade very much, generally somewhat purplish or purplish brown, sometimes greyish purple, or very dark greyish, or greenish brown; the irides are red, crimson, scarlet, or even salmon pink; the orbital skin varies much like the legs and feet, dark purplish grey, dark greyish brown, or brownish green, to almost black; the bill is chrome yellow, more or less strongly tinged with green towards the base.

The adult male has the forehead, crown, occiput, cheeks, and ear-coverts a dingy, somewhat coffee, brown; a broad patch on either side of the occiput, nearly extending to the nape, the most intensely brilliant crimson; back, scapulars, dull deep maroon crimson; rump and upper tail-coverts sooty brown, narrowly and obscurely banded with pale brown or brownish white, and more or less suffused or overlaid with the same color as the back, in some very fine specimens obliterating almost all traces of the barring; secondaries, tertiaries, lesser and median coverts, and

secondary and tertiary greater coverts like the rump, dusky brown, with narrow transverse bars, more or less imperfect on the inner webs of the secondaries, and strongly overlaid with the crimson maroon of the back, so that, in fine specimens, the banding is barely traceable in the closed wing, except on the inner webs of the tertiaries, to which the maroon very seldom extends; winglet, primary greater coverts, and primaries hair brown; the two latter obscurely banded with brownish or rufescent white, which is almost obsolete on the inner webs of the primaries towards their bases.

Tail, which is almost invariably extremely worn and dilapidated, black, with narrow transverse pale brown or rufescent white bars; chin and throat much like the crown, but usually paler on the chin and darker, grading into the color of the breast, on the lower part of the throat; an obscure reddish tinge, not only in the male, but equally in the female, on the feathers on either side of the throat at the base of the lower mandible; breast and entire lower parts a deep sooty, at times somewhat chocolate, brown, almost black on the sides, often with a faint maroon tinge on the breast and flanks; lower tail-coverts often with obscure very narrow paler transverse bars; edge of the wing deep br[illegible]; wing-lining and lower surface of quills grey brown, with [illegible] merous narrow pale transverse bands, obsolete towards the ti[illegible] of the quills.

In some specimens the frontal feathers are paler and have more or less of a rusty tinge; sometimes all the feathers of the crown and occiput are feebly tipped with this paler color; the whole coloring of the bird varies in different specimens; some specimens are almost black below; some have the head a moderately dark earth brown; in some specimens the red patches on the sides of the occiput extend laterally as a narrow half collar, nearly or quite meeting on the nape.

Females only differ in wanting the crimson patches just referred to; they have, equally with the male, the reddish moustachial tinge.

Young females appear to be precisely similar to the adults, but everywhere duller colored. Young males appear, to judge from a single specimen we have, to be also like the adults, but to want the crimson patches and instead to have all the feathers of the crown and occiput suffused on their terminal halves with dull maroon red.

177 *bis.*—Gecinulus viridis, *Blyth.* (22). DESCR. S. F., III, 71.

(*Tonghoo Hills*, at 2,500 feet, Rams.) Kyouk-nyat; Dargwin; Pahpoon; Head waters of the Thoungyen; Assoon; Meetan; Yea; Meeta Myo; Pabyin; Mergui; Pakchan.

Not uncommon throughout the province in suitable localities.

[This species is very partial to bamboos, and, except in the extreme south of the province, where it is rare, may be met with wherever there is bamboo jungle. It is, however, nowhere seen in great numbers, though most common in the north. It goes about usually single, sometimes in pairs, never in small parties.

I never saw it feeding on the ground, nor did I ever meet with it in dense forest, or at any great elevation on the hills, as there you get into country unsuited to it.—W. D.]

The following are dimensions and colors of the soft parts recorded in the flesh :—

Males.—Length, 10·0 to 10·6; expanse, 16·75 to 17·25; tail from vent, 4·0 to 4·25; wing, 5·05 to 5·5; tarsus, 1·0 to 1·05; bill from gape, 1·2 to 1·25; weight, 3 ozs.

Females.—Length, 10·25 to 10·62; expanse, 16·0 to 17·0; tail from vent, 3·9 to 4·25; wing, 5·1 to 5·25; tarsus, 0·82 to 0·95; bill from gape, 1·15 to 1·5; weight, 2·75 to 3 ozs.

Legs, feet and claws pale dirty green; bill pale bluish white, strongly tinged with blue at base; irides pale brown to deep red brown.

178.—Micropternus phaioceps, *Blyth.* (33).

onghoo, Rams.) Pahpoon; Beeling; Thatone; Wimpong; Myawadee; go-Houngthraw; Kaukaryit, Houngthraw R.; Moulmein; Karope; Amherst; eeta Myo; Tavoy.

Confined to the northern and central portions of the province; but see my remarks on this and the next species S. F., V., 472, *et seq.*

[This is quite a bird of the open cultivated country, very fond of gardens and bamboo clumps, usually met with singly, feeding at no great height from the ground, and sometimes on it. They are always smeared with some gummy substance, always have a strong peculiar smell, and almost always have the tails more or less studded with ant's heads. These are the large red ants of the open jungle, who, once they seize anything, never lose their hold. You may pick them to pieces, but their heads hold on still. These are the *sumput-api* or fire-ants of the Malays, and they bite unpleasantly. These seize hold of the tail feathers of these Woodpeckers; their bodies get rubbed off, but the heads remain, sometimes in scores, adhering to the lateral webs of the tail feathers.—W. D.]

178 *bis.*—Micropternus brachyurus, *Vieill.* (13). Descr. S. F., V., 473.

Mergui; Pakchan; Bankasoon; Malewoon.

As yet only observed in the southernmost district of the province.

[Habits, voice, &c., as in preceding.—W. D.]

184.—Tiga javanensis, *Ljungh.* (69).

(*Tonghoo, Karennee,* Rams.) Kyouk-nyat ; Pahpoon ; Salween R. ; Thatone ; Wimpong ; Pabyouk ; Kohbaing ; Karopo ; Amherst ; Yea ; Meeta Myo ; Tavoy ; Shymotee ; Usheetherrpone ; Mergui ; Tenasserim Town ; Pakchan ; Bankasoon ; Malewoon.

Common to a degree throughout the province, but not ascending to elevations above 3,500 feet.

[Decidedly the most common Woodpecker in Tenasserim, occurring from the extreme north to the extreme south, and equally abundant everywhere and in all sorts of localities where there are any trees, big or small. It is found singly or in pairs. Its note is similar to that of *C. sultaneus* but not so harsh.—W. D.]

I have already pointed out that *T. rubropygialis*, Malh., and *T. intermedius*, Bly., are not in my opinion separable (S. F., III., 328; IV., 390). Sumatran and Malayan specimens (and Lord Tweeddale says Javan also) though averaging *perhaps* slightly smaller, are equally I think inseparable, and Ljungh's name dating from 1797 must therefore be adopted.

185 *bis.*—Gauropicoides rafflesii, *Vig.* (14).

Thengance Sakan ; Bankasoon.

Confined to the dense evergreen forests along the bases of the southern and central portions of the outer Tenasserim range.

[A rare bird, met with only in the evergreen forests of the extreme south of the province, and at the base of the Mooleyit range. Its habits are just the same as that of the preceding species (except that it keeps, as far as I have observed, entirely to the forest, never coming into the clearings or open), and its voice is hardly to be distinguished from it.

I have seen this low down and even on fallen trees, but never feeding on the ground. It is not shy. It is generally met with in pairs, sometimes singly, never in parties.—W. D.]

The following are dimensions, &c, recorded in the flesh :—

Males.—Length, 12·4 to 12·7 ; expanse, 18·25 to 20 ; tail, 5 to 5·1 ; wing, 5·75 to 6·15 ; tarsus, 0·92 to 1·0 ; bill from gape, 1·4 to 1·65 ; weight, 4·25 to 5 ozs.

Females.—Length, 11·4 to 12·25 ; expanse, 18·2 to 18·75, tail, 4·5 to 4·75 ; wing, 5·45 to 6·05 ; tarsus, 0·9 to 1·0 ; bill from gape, 1·45 to 1·6 ; weight, 3·5 to 5 ozs.

Legs and feet dark green ; claws dark plumbeous ; irides deep brown to deep brownish red ; upper mandible black or bluish ; tip of lower mandible generally blackish ; rest of lower mandible dark plumbeous to plumbeous blue in different specimens.

The males have the anterior portion of the lores, and a narrow ill-defined frontal band, pale orange rusty; the rest of the forehead, crown, occiput and full occipital crest, bright scarlet; the posterior portion of the lores, and a stripe under the eye, including the basal portion of the ear-coverts, and a broad stripe down the sides of the neck, and a long stripe from behind the eye, bordering the red of the occiput, and almost meeting under the crest, white; a band running between these two stripes from behind the eye, across the ear-coverts, bordering the white stripe last referred to, and meeting on, and occupying the nape, black; as is also another stripe on either side, beginning at the gape and running down, bordering the white neck stripe first referred to. The whole space between these black gape stripes, chin, throat and feathers at the base of the lower mandible, pale buffy orange, most orange on the last-named parts; entire back and rump, scapulars, coverts, (except the primary greater coverts) outer webs of secondaries, and visible portions of both webs of tertiaries, golden olive; all the feathers of the back, rump, and lesser and median coverts marginally fringed with pure golden; upper tail-coverts and tail uniform black, the former sometimes a little suffused towards their tips with the color of the back; breast, abdomen, vent, lower tail-coverts dull dark brown; the extreme upper part the breast and the sides of the same, more or less suffused with a golden olive tinge, and the central portion with less of this but with an obscure chocolate tinge; flanks greener, irregularly barred or spotted with dull white; the size and extent of this spotting varies greatly in different specimens, in some it extends to all the lower tail-coverts, and occupies all the sides of the abdomen, and even the lower central part of the abdomen; in others it is almost obsolete every where. Note that in many males the golden fringing of the feathers of the back is so broad as to become the dominant color, and that again in many males some or all the feathers of the rump have more or less of a crimson or orange crimson tinge towards their tips.

The primaries and their greater coverts and the inner webs of the secondaries are black or blackish brown; the primaries paling somewhat on their terminal portions, and the second to the seventh more or less tipped with pale fawny brown; the earlier primaries generally exhibit a few line-like spots of the same color as the tippings above referred to on the margins of their outer webs, and all the quills exhibit larger or smaller white spots on the middle of their inner webs, not quite extending either to margins or shafts. This is said to be the only Woodpecker in which these central spots are exhibited.

I should notice that in this species also the color of the lower parts is very variable, some specimens having a strong olivaceous tinge on the whole of these.

The female only differs from the male in having the orange or orange buff frontal band broader, and the whole of the crimson of the head replaced by black. The young birds are like the females, but want an orange tinge on the forehead, are everywhere duller colored, and have the chin, throat, and feathers at the base of the lower mandible a more or less pale drabby dusky brown.

186.—Vivia innominata, *Bart.*

Blyth gives this from the Tenasserim Mountains, where Davison has hitherto failed to find it, though Wardlaw Ramsay obtained it in the Karen Hills at 2,000 feet.

187.—Sasia ochracea, *Hodgs.* (11).

(*Tonghoo Hills*, Rams.) Pine forests, Salween; Pahpoon; Meetan; Yea; Tavoy; Thayetchoung; Pabyin; Mergui; Choungthanoung; Bahonee.

Throughout the province, but rather rare, and not ascending the higher hills.

[This species occurs throughout the province (wherever the country is moderately open, especially where there are bamboos) even in the extreme south, where one would expect to meet with the nearly allied *S. abnormis*. It keeps to the undergrowth and secondary scrub and bamboo jungle, working about the fallen logs. It is astonishing what a loud sound one of these little fellows can produce when tapping a bamboo. I have more than once thought that it must have been some large Woodpecker, and was astonished that I could not see it, and when at last I did discover the tiny object, I felt quite as much astonished at the sound it was able to produce, as it was at my sudden advent. It is very fond of knocking about in low brush wood. I do not know its call, nor do I think I ever heard it. It is usually alone, but sometimes pairs are met with.—W. D.]

The specimen entered by me in one of my former lists as *abnormis* is, I now consider, a very young bird of *ochracea*.

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 3·3 to 3·5; expanse, 6·5 to 7·12; tail from vent, 0·75 to 0·9; wing, 2·0 to 2·5; tarsus, 0·45 to 0·5; bill from gape, 0·55; weight, 0·3 oz.

Females.—Length, 3·5; expanse, 6·75 to 6·82; tail from vent, 0·82 to 1·0; wing, 2·0 to 2·1; tarsus, 0·45 to 0·5; bill from gape, 0·6; weight, 0·3 oz.

Legs and feet dull orange; claws very pale brown; upper mandible and tip of lower mandible dark horny brown; rest of lower mandible pale bluish; irides from pale red to dark crimson; orbital skin dull crimson.

188.—Yunx torquilla, *Lin.*

Obtained by Ramsay in Karennee and apparently in Tonghoo [redacted] not met with elsewhere in Tenasserim as yet.

[redacted]—**Caloramphus hayi**, *Gr.* (4).

Bankasoon; Malewoon.

Confined to the extreme south of the province, and there even excessively rare.

[For a Barbet this species has a most extraordinary note, a low soft whistle. It is generally found in small parties of three and four, sometimes in pairs and occasionally singly, hunting about the leaves and branches and trunks of trees, peering into every crevice and cranny in the bark, and clinging about in all sorts of positions far more like a Tit than a Barbet. Its food consists quite as much of insects as of fruits. It is a forest bird. I have never seen it in gardens; and, though I have shot so few in Tenasserim, I have had ample opportunities of watching it further south.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 7· to 7·5; expanse, 11· to 11·5; tail, 2·05 to 2·25; wing, 3·1 to 3·5; tarsus, 0·75 to 0·8; bill from gape, 1·15 to 1·3; weight, 1·5 to 1·75 oz.

Females.—Length, 6·75 to 7·5; expanse, 10·75 to 11·25; tail 2· to 2·2; wing, 2·15 to 2·55; tarsus, 0·8; bill from gape, 1·15 to 1·2; weight, 1·25 to 1·75 oz.

Count Salvadori, U. di B., p. 40, infers that the two sexes of the nearly allied *C. fuliginosus* of Borneo differ in the color of their bills. In this he is doubtless correct, because in the present species the males have the bill black, while the females have it dull reddish brown to a dirty orange or ochraceous brown; in both sexes the legs and feet are orange, the claws black, the irides dull red or brownish red, occasionally dark brown, with scarcely any perceptible red tinge. The orbital skin, brown.

The two sexes only differ in this matter of the color of their bills.

In full plumaged adults the entire upper surface is brown, somewhat of an umber brown on the head, more of a hair brown elsewhere; the feathers of the head excessively narrowly margined with a rustier brown, and all the feathers of the mantle, rump, and upper tail-coverts narrowly margined with excessively pale yellow or greenish yellow, besides which there is just a perceptible olivaceous shade over the whole of these parts, and on the outer margins of the tail-feathers towards their bases.

The yellow or greenish yellow margins referred to are always more distinct on the upper tail-coverts, and the whole of these margins are often wanting in birds in worn plumage.

The shafts of the feathers of the head are black or blackish, spine-like and shining; the chin and throat are pale rufescent brown or rufous fawn; the ear-coverts and sides of the head [illegible] times like the throat, but rustier, sometimes brown like t[illegible] but then more or less finely pencilled and intermingled w[illegible] rufescent; the breast, abdomen, vent and lower tail-coverts are silky yellowish white, with a more or less conspicuous tinge of pale primrose down the middle and on the sides of the abdomen, as also generally on the upper breast; the sides are slaty grey; the tibial plumes dark brown, more or less fringed at the tips with pale greenish yellow; sometimes there is a tinge of yellow in the middle of the throat.

I don't think these birds are Barbets at all. Setting aside their notes and habits, the peculiar pinched-up culmen, reminding one of that of *Machœramphus alcinus*, is altogether unbarbet-like. I have an idea that they are near *Indicator*.

191.—Megalæma grandis, *Gould.* (marshallorum, *Swinh.* virens apud, *Jerd.*)

Obtained in the Karen Hills by Ramsay. Elsewhere we only met with the true *virens*, the Chinese race. I carefully compared all our specimens with Chinese ones.

191 *bis.*—Megalæma virens, *Bodd.* (4).

Kollidoo; Kyouk-nyat; Thengauee Sakan.

Confined to the northern and central sections of the main Tenasserim range, ascending to the summit of even Mooleyit.

[I often heard this bird in the hills to the north of Pahpoon, and shot one specimen near Kollidoo at an elevation of about 5,000 feet, and another at Kyouk-nyat on the banks of the Salween in amongst the hills. Again I met with it at Mooleyit. It frequents the higher forest trees, and has the same wailing cry of pio-pio-pio, as the nearly allied Himalayan species.

To judge from the numbers I heard they did not appear to be rare, but the four I obtained were the only ones that I actually *saw*.—W. D.]

The Tenasserim hill specimens (and the bird never occurs in the plains) differ uniformly from the Himalayan *Megalæma grandis*, Gould nec. Gm., *marshallorum*, Swinh., by having the entire head a dull greenish blue, instead of a violet blue, and in wanting entirely in *some* specimens, and *almost* entirely in others, the yellow striation of the feathers of the nape. They are identical with Chinese specimens with which I have carefully compared them.

192.—Megalæma hodgsoni, *Bonap.* (50).

(*Tonghoo*, Rams.) Kollidoo; Pahpoon; Younzaleen Creek; Sinzaway; Thatone; Wimpong; Myawadee; Kaukaryit, Houngthraw R.; Moulmein; Pabyouk; Paraduba; Amherst; Meeta Myo; Tavoy; Shymotee.

Generally distributed throughout the northern and central sections of the province (common in the former, growing rapidly rarer in the latter), alike in hills and plains, but not ascending the highest hills.

[From the hills north of Pahpoon to, at any rate, as far south as Shymotee (south of Tavoy), this species occurs. It probably extends somewhat further south, but I have not yet worked the country lying between Tavoy and Mergui, but at this latter place or anywhere south of it, it does not, I believe, occur. In its habits it is similar to *M. viridis* of Southern India, and it has the same note but louder.—W. D.]

195.—Megalæma asiatica, *Lath.* (3).

(*Tonghoo*, Rams.) Kollidoo; Pahpoon.

Confined to the less-elevated and better-wooded tracts of the northern portion of the province, replaced in those of the central portion by the next species.

[I met with this Barbet but rarely and only at Pahpoon and the hills north of that place. I obtained three specimens, all of which I shot in heavy forest. Its note and habits are well known.—W. D.]

195 *bis.*—Megalæma davisoni, *Hume.* (8). Descr. S. F., V., 108.

Thenganee Sakan; Thoungya Sakan; Meetan.

Confined to the bases of the lower spurs of the central section of the main Tenasserim range.

[Habits and voice precisely those of *asiatica*.—W. D.]

195 *ter.*—Megalæma incognita, *Hume.* (4). Descr. S. F., II., 442, 486.

Karope; Amherst; Yea.

Apparently confined to the plains country of the central portion of the province.

[I first met with this novelty at the village of Karope; further south I obtained it again at Yea, and later in the year I got two more at Amherst. All the specimens I obtained were shot in thin tree jungle. I have not since come across the bird. It seems to be very local. At Tavoy and southward I kept a

special look-out for it, but failed to see it, so that it probably does not occur so far south. Its note is very similar to that of *M. asiatica*, and so are its habits. Those I shot had eaten only fruit.—W. D.]

196.—*Megalæma franklini*, Blyth.

Stated by Tickell to swarm in the Tenasserim Hills, but the bird he referred to was without doubt the nearly-allied *M. ramsayi*.

196 *bis*.—Megalæma ramsayi, *Walden*. (24). Descr. S. F., III., 402.

(*Karennee*, Rams.) Above Paraduba; Mooleyit.

Confined in Tennaserim proper to the higher slopes of Mooleyit, but re-appearing in the continuation of the same range in Karennee.

[I only met with this species on the Mooleyit range about 3,500 feet. I never saw it in any of the many hills rising far above this elevation, northward of this. On Mooleyit it is the commonest and the noisiest of birds.—W. D.]

The following are dimensions, &c., recorded of five males and one female :—

Males.—Length, 8·5 to 9·2; expanse, 13·4 to 13·75; tail from vent, 2·4 to 2·8; wing, 3·9 to 4·05; tarsus, 0·9 to 1·05; bill from gape, 1·35 to 1·4; weight, 3 ozs.

Female.—Length, 9·25; expanse, 13·75; tail from vent, 2·7; wing, 4·0; tarsus, 1·0; bill from gape, 1·5; weight, 3·25 ozs.

Legs and feet pale dirty bluish green; claws greenish horny; base of upper mandible and lower mandible to angle of gonys pale plumbeous; rest of bill black; irides red brown.

196 *quat*.—Megalæma mystacophanos, *Tem*. (38).

Om-a-gwen; Mergui; Hankachin; Palaw-ton-ton; Bankasoon; Malewoon.

Confined to the southern *half* of the province, but rare except in the southern *quarter*.

[This bird has a peculiar note which might very well be syllablized by tok-toktok—tok-toktok uttered incessantly. In the forests where it does occur, its note may be heard nearly all day and nearly all night on a bright moonlight night, but it is most noisy during the evening soon after dusk.

Though very often heard, it is but comparatively seldom seen, for it keeps either to the tops of the highest trees or to the very bushy ones. It is very fond of clinging to the trunks of trees and tapping away like a Woodpecker, and many of those I obtained I shot while so engaged. As a rule it keeps to the

dense evergreen forests, but I have seen and shot it in comparatively thin tree jungle.

It is common in the evergreen forests of the extreme south, and it even extends north of Tavoy, for I shot one specimen close to the Heuza Basin, but so far north it is very rare.—W. D.]

I am disposed to agree with Count Salvadori that *M. humei*, Marshall (*Ibis*, 1870, p. 536), is a stage of the young of *M. mystacophanos*, but Captain Marshall, who has examined our series, and Mr. Davison, who has shot an enormous number of *mystacophanos* in all stages of plumage, are still inclined to consider *humei* distinct. Undoubtedly, Salvadori figures a specimen of *humei*, but then his bird is from Borneo, whence *humei* was said to come, and Captain Marshall's contention is that, though very closely resembling one stage of *mystacophanos*, and occurring with it in Borneo, it is distinct and probably peculiar to Borneo.

We have an enormous series of this bird in every stage of plumage, collected by ourselves in various parts of Southern Tenasserim and the Malay Peninsula, where it is very common, and it is certain that we have obtained no specimen which agrees perfectly with the specimens figured by Captain Marshall.

One thing is clear, *viz.*, that, as a rule, immature *mystacophanos* never shows much of the red breast patches, until a considerable portion of the chin and throat are also red. Occasionally, these patches may be found represented by single specks, whilst the chin and throat are still yellow, but in no single instance is there a conspicuous red breast patch, until a considerable amount of red has been developed on chin and throat, whereas in the type of *humei* the red patches are strongly developed, and there is not the smallest tinge of red on the throat.

To my mind, however, this does not go for much; true, we have some 20 young specimens approximating to the *humei* stage, but all distinguished as above, but the changes of plumage in this species are so irregular and variable that I do not think any conclusions can be safely based even upon this number of specimens.

The youngest specimens we have, birds killed in June and probably just out of the nest, are a nearly uniform green, save only that the cheeks below the eyes, and an ill-defined band across the forehead from eye to eye, have a bluish tinge, and that there is a small reddish orange spot at the base of the bill in front of the eyes. From this stage the normal change clearly is for the throat to grow yellow, for the forehead just above the bill to grow dusky, mingled with orange, and for a few red feathers to break out in the centre of the crown. Then the red of the crown extends; the cheeks become more decidedly blue; the throat more decidedly golden; in the midst of this golden

more orange feathers appear, and then red ones, and by the time the greater portion of the chin and throat are red, the red breast spots begin to show out, and the whole forehead becomes more or less golden.

But then we have other young birds in which the chin and throat have become red, and the forehead golden orange, without the slightest appearance even of red on the crown; and others in which the whole crown is red, the chin and throat pure pale yellow, and the whole forehead still green; and again others in which the whole forehead has become bright yellow, without the appearance of any red on either crown or throat, so that it is clear that there is considerable irregularity in the stages by which the uniform green bird passes into the brilliant plumage of the adult, and I do not, therefore, think that the point on which Messrs. Marshall and Davison are disposed to rely for separating *humei*, even coupled with the fact that we have never obtained a specimen in Tenasserim or the Malay Peninsula, corresponding exactly with *humei*, is at all conclusive as to the specific distinctness of this latter. It is quite possible, however, that *humei may* still prove to be a distinct and very closely allied Bornean race, but I personally do not expect this.

The following are dimensions, colors of the soft parts, and description of perfect adults:—

Males.—Length, 8·0 to 9·5; expanse, 12·75 to 13·6; tail, 2·3 to 2·62; wing, 3·76 to 4·2; tarsus, 1·0 to 1·05; bill from gape, 1·6 to 1·8; weight, 2·75 to 3 ozs.

Females.—Length, 9·12 to 9·25; expanse, 13 to 13·5; tail, 2·4; wing, 3·85 to 4·1; tarsus, 0·95 to 1·12; bill from gape, 1·75 to 1·8; weight, 2·75 to 3·5 oz.

Legs and feet very pale bluish or horny green; irides deep brown; bill black; orbital skin dark greenish or greyish brown.

The adult has the whole forehead and anterior half of the crown golden yellow; the posterior part of the crown, and the centre of the occiput crimson; a spot at the base of the bill in front of the eye; chin and upper part of throat, and a spot on either sides of the base of the throat, crimson; cheeks and basal portion of ear-coverts, and basal one-third of throat, blue; feathers immediately above the eye, and a short broad streak running backwards from the posterior upper half of the eye, black; a patch of bright pale yellow, followed by pale verditer blue, at the base of the lower mandible on either side; rest of the plumage (except the inner webs of the quills and lateral tail feathers, and the outer webs of the first primary, and of the succeeding primaries below the emarginations, which are deep hair-brown) bright grass green, paler on the lower surface, and the feathers of the neck, and more or less of the back and breast, and generally the upper tail-coverts, more or less conspicuously

margined with a brighter and yellower green, giving on the neck, especially, a somewhat scaly appearance.

Lower surface of tail greenish blue; edge of the wing dark green; wing-lining pale grey; some of the feathers margined with white, and centred with greyish green; margins of the inner webs of the quills towards their bases very pale buffy or pale fawn.

197.—Xantholæma hæmacephala, *Müll.* (3).

(*Tonghoo, Karennee,* Rams.) Dargwin; Pahpoon; Gyne River; Moulmein; Ngabeemah; Amherst; Zadee; Tavoy; Mergui; Pakchan; Bankasoon.

Common throughout the province, but only in open country; not found in dense forest.

[The Coppersmith is quite as common over a great portion of Tenasserim as it is in many parts of India, but towards the south it is much less often met with, and in the immediate vicinity of the Pakchan it occurs but rarely.—W. D.]

198 *quat.*—Megalæma cyanotis, *Blyth.* (17). Descr. [illegible], III., 77.

(*Ka[illegible] Hills,* Rams.) Thatone; Kyouk-nyat; Meeta Myo; Bankasoon; Male[illegible].

[illegible]t throughout the province, but rare, except in the south.

[The little Barbet occurs throughout Tenasserim, wherever there is any evergreen forest, and even in cultivated land near this, and I have seen it actually in the town of Moulmein. It is rare, however, in the north, and nearly wanting in the comparatively dry country between Moulmein and Yea. About Tavoy even it is not common, but becomes so towards the south, and is very abundant indeed everywhere south of Mergui, and on those islands of the Archipelago that I visited.

It usually perches itself on the very summit of some tall tree, and keeps calling for hours at a time, and in the forests of the south its call may be heard in many places throughout the day, and is one of the commonest sounds one hears.

The call (koo-turr, koo-turr) is quite unlike that of *Xantholæma*, and closely approximates to that of *Megalæma*. It is in fact much more of a *Megalæma* than a *Xantholæma*. I have always met with it singly.—W. D.]

The following are dimensions, &c., recorded in the flesh—

Males.—Length, 6·25 to 6·9; expanse, 10·0 to 11·0; tail from vent, 1·87 to 2·3; wing, 3·0 to 3·3; tarsus, 0·7 to 0·82; bill from gape, 1·0 to 1·1; weight, 0·8 to 1·25 oz.

Females.—Length, 6·12 to 6·6; expanse, 10·0 to 10·25; tail from vent, 1·82 to 2·12; wing, 2·82 to 3·0; tarsus, 0·75 to 0·76; bill from gape, 1·05.

Legs and feet dirty green; claws bluish black; bill black; base of lower mandible slightly tinged reddish horny; irides very dark brown.

199.—Cuculus canorus, *Lin.*

Blyth says that a specimen of this bird in immature plumage was shot in his presence in the garden of the Commissioner of Moulmein.

Wardlaw Ramsay also obtained it in Karennee at 3,500 feet, but Davison has never yet met with it in Tenasserim.

200.—Cuculus striatus, *Drap.* (1).

Kanee.

Apparently not rare in Tenasserim north or south, though only a single specimen was preserved.

202.—Cuculus sonneratii, *Lath.*

Blyth (B. of B., p. 80) gives this fromTenasserim, and says that as an Indian bird he has only seen it from Malabar and Ceylon.

It most probably does occur in the lower hills of Tenasserim, though we have not yet met with it; as an Indian bird, besides the localities mentioned, my museum contains it from near Mussoorie, from Kumaon, from Sikhim, from the Lower Hills of the Bhotan Doars, from Raepoor, Central Provinces, and from Matheran (above Bombay).

Blyth also quotes Lord Walden's remark that *pravatus*, Horsf., which inhabits Malacca, Sumatra, &c., is considerably smaller.

The following measurements of the wings of a number of Indian and Malayan specimens, taken at random from our large series, quite confirm this view:—

Indian.—5·0; 4·65; 4·8; 4·6; 4·9; 4·65; 4·65; 4·9; 4·9.

Malayan.—4·25; 4·25; 4·4; 4·6; 4·25; 4·4; 4·2.

I think, moreover, that taking the birds as a *body*, though this cannot be predicated of single specimens, the bills in *pravatus* are proportionally larger and wider at the base. Still I am disposed to believe that a really large series from Sikhim to Sumatra would prove the two forms to grade insensibly into each other.

203.—Cuculus micropterus, *Gould.* (2).

Mooleyit; Choulai Creek.

Rather rare in Tenasserim.

205 *bis.*—**Hierococcyx nanus,** *Hume.* (4). DESCR. S. F., V., 490.

Bankasoon.

Confined, in Tenasserim, to the evergreen forests of the extreme south of the province; probably a mere straggler from Siam.

206.—**Hierococcyx nisicolor,** *Hodgs.* (1). DESCR. S.F., V., 96, 347.

Thatone.

Only once met with in Tenasserim.

I have already written at some length in regard to this species, *loc. cit.*, but I wish here to notice further that we obtained an adult of this species in the neighbourhood of Malacca agreeing feather for feather with our Himalayan and Thatone specimens, but whereas in no one of ten Himalayan and one Thatone specimen does the wing exceed 7 inches, and in seven out of the ten it is less than this; in our Malayan specimen the wing is 7·35. Of course, this bird cannot be confounded with *fugax*, which has a very much larger bill.

207.—**Hierococcyx sparveroides,** *Vig.* (10).

(*Karennee*, at 4,000 feet, Rams.) Pahpoon; Thatone; Moulmein; Amherst.

Common in the plains country between the Sittang and Salween rivers; rarer elsewhere. Confined to the northern and central portions of the province.

[Frequents gardens and thin tree jungle. Feeds chiefly on insects. Has a fine loud call. Threads its way through the trees of a clump and flies out suddenly from one clump of trees to another, creating a great commotion amongst all the small birds of the neighbourhood, parties of whom continually follow and chase it, mistaking it, as indeed I myself have often done, for a Hawk, which in its flight it exactly resembles.—W. D.]

As I have shown elsewhere Gould's *strenuus* is only a large specimen of this species. The plumage he admits himself is identical, and exceptionally fine Tenasserim and Himalayan specimens quite come up to, and in several cases considerably exceed his dimensions of *strenuus*. Southern Indian specimens run considerably smaller.

The following are dimensions and colors of soft parts recorded of three males and two females:—

Males.—Length, 16·3 to 16·5; expanse, 25·8 to 27·5; tail from vent, 8·0 to 9·0; wing, 9·2 to 9·8; tarsus, 1·05 to 1·1; bill from gape, 1·35 to 1·5; weight, 6 to 7 ozs.

Females.—Length, 15·0 to 15·5; expanse, 24·5 to 25·8; tail from vent, 7·8 to 8·8; wing, 8·5 to 9·0; tarsus, 0·97 to 1·1; bill from gape, 1·4 to 1·5; weight, 5·75 ozs.

Legs, feet, claws, gape, and eyelids bright yellow; upper mandible black; lower mandible pale green; irides orange yellow, orange red, or pale red brown.

209.—Cacomantis threnodes, *Cab.* (24).

(*Tonghoo, Karennee*, Rams.) Pahpoon; Khyketo; Thatone; Moulmein; Yen-bee; Meetan; Amherst; Mergui; Bopyin; Pakchan; Bankasoon.

Common throughout the whole of the province, but not ascending the hills to any height.

[Most frequently met with in gardens and clearings, low scrub, &c.; it avoids dense forest. It is a very noisy bird, and is continually calling. Its call is a series of whistled notes, beginning rather low and ascending rapidly by semi-tones. It is not nearly so plaintive as that of the Indian bird (*passerina*.) It was common to a degree on the Thatone plains, about and actually in the village of Meetan and on the island of Mergui.—W. D.]

I am unable to discover any difference whatsoever, except that of size, between the Eastern Bengal and Upper Burmese form which Jerdon designated, *Ibis*, 1872, p. 15, *rufiventris*, and the Malaccan form *C. threnodes*, Cab. (Mus. Hein., pt. IV., 19, 1862), and it has to be noticed that, as we proceed southward in Tenasserim, the birds grow smaller. The great majority of the adult males, moreover, from the extreme south of the Tenasserim province have wings under 4·2, and must, therefore, necessarily be designated *threnodes* (though some adults of this have the wings only 3·9) even if the two forms are held to be distinct.

In Bengal and Assam adult males the wings run up to 4·7, but even in these localities I find some adult males in which the wings are less than 4·5. As a body the bills of the true *threnodes* do appear to me to be broader at the base than those of *rufiventris*, but intermediate forms occur. Again, some birds are everywhere greener above, others are much purer ashy on head, nape, and rump, others have the chin, throat, and breast, a much purer and bluer grey, whilst in others there is a good deal of rufous edging to the feathers of the middle of the throat and upper breast. But none of these differences coincide with differences of habitat or size of wing or breadth of bill; and so far as I can judge, from the very large series (some 70 specimens in all) before me, *threnodes* and *rufiventris* can only be separated arbitrarily on the ground of difference of size.

Those who still consider the two species distinct must *add* *rufiventris* to the list, but not excise *threnodes*, to which

unquestionably South Tenasserim specimens belong. For my part, seeing that between the largest Eastern Bengal specimen (wing of male, 4·7) and the smallest Singapore one (wing of male 3·9), there is a perfect gradation in size, I doubt the expediency of maintaining two species, and adopt Cabanis' name as it has priority of Jerdon's.

The following are dimensions, &c., of some few of our Tenasserim specimens recorded in the flesh :—

Males.—Length, 7·35 to 9·0; expanse, 11·75 to 13·0; tail from vent, 3·4 to 5·0; wing, 4·0 to 4·4.

Females.—Length, 8·8 to 9·5; expanse, 12·75 to 13·5; tail from vent, 4·5 to 5·12; wing, 4·25 to 4·62; tarsus, 0·6 to 0·75; bill from gape, 0·9 to 1·0; weight, 1·25 oz.

Legs and feet chrome yellow, tinged red in some specimens; upper mandible and tip of lower mandible black; rest of lower mandible red brown; irides varied, some were pale wood brown, some buffy brown, and others crimson.

210.—Surniculus lugubris, *Horsf.* (13).

(*Toughoo Hills, Kareunee*, Rams.) Moulmein; Amherst; Yea; Shymotee; Mergui; Choulai Creek; Bankasoon.

Confined apparently to the southern half of Tenasserim proce, and common there only in the southernmost quarter, but -appearing in the northern recently incorporated tracts.

[I shot quite a young bird of this species in some secondary jungle at Mergui; it was in company with two *Dicrurus annectans*, by one of which it had just a few minutes before been fed. So it is very probable that this species deposits its eggs in the nests of the different species of *Dicruri*.

In the north of the province I hardly ever met with this bird, and only shot one specimen close to Yea, but at Mergui and southward it was far from rare, and I obtained a number of specimens. It frequents the forests, secondary scrub, and gardens, but apparently gives the preference to the former.

Although I have had many opportunities of observing the bird, I never, that I am aware of, heard it utter any note.—W. D.]

I am quite unable to recognize any valid specific difference between Malayan and Himalayan Drongo Cuckoos, although, no doubt, the latter may average slightly larger.

Cabanis says, Mus. Heine, IV., 18 *n*, that the Malayan *lugubris* differs in its smaller size, and, not wholly constant, feebler furcation of the tail; and he says that the wings in *Dicruroides* measure 6·03 (5·5 French) against 5·2 (4·75 French) in the Malayan.

But the fact is that the Indian Continental species does not, as a rule, measure six inches, nor have I ever met with one single

specimen, of which the wings were as large as this. Possibly, Cabanis does not use the old Paris inch adopted by most Continental ornithologists.

I am not very well off for this species, but the following are the dimensions of the wings of all the Indian specimens (29 in number) in my museum, or at least that I can at present lay my hands on :—

Sikim and Bhootan Doars.—5·4 ; 5·7 ; 5·27 ; 5·48 ; 5·5 ; 5·6 ; 5·5 ; 5·4 ; 5·6 ; 5·5 ; 5·75.

Upper Assam.—5·47 ; 5·6 ; 5·7 ; 5·25 ; 5·4 ; 5·2 ; 5·5 ; 5·35 ; 5·4 ; 5·25 ; 5·25 ; 5·6 ; 5·2.

Sylhet.—5·4 ; 5·55.

Tipperah.—5·3.

Raipore, Central Provinces.—5·3.

Kyoukphyow.—5·7.

And the following are dimensions of eleven Tenasserim specimens :—

Moulmein.—5·5.

Lemyne, north of Yea.—5·1.

Mergui.—5·2 ; 5·2 ; 5·4 ; 5·45 ; 5·2.

Bankasoon.—5·2 ; 5·4 ; 5·25.

Malewoon.—5·4.

And the following of seven Malayan :—

Penang.—5·3 ; 4·9.

Malacca.—4·8 ; 5·2 ; 5·0.

Singapore.—4·9 ; 5·1.

It is clear that differences in dimensions like these will not suffice to separate the two supposed species, and I have been unable to discover any other differences between Malayan, Tenasserim and Continental birds. In all three sets of specimens, some birds have the tail more, and others less forked ; some have stouter and longer, and some slenderer and shorter bills ; neither this nor the differences in other dimensions appear to depend upon sex, almost all our specimens are sexed by dissection, and I find equally large and small, males and females.

Again from all localities some specimens exhibit a conspicuous white nuchal patch, and some show no traces whatsoever of this.

The following are dimensions, &c., of five males and three females from Tenasserim, recorded in the flesh :—

Males.—Length, 9·5 to 10·12 ; expanse, 15·12 to 16·0 ; tail from vent, 4·9 to 5·37 ; wing, 5·2 to 5·5 ; tarsus, 0·6 to 0·65 ; bill from gape, 1·0 to 1·12 ; weight, 1·25 oz.

Females.—Length, 9·75 to 10·25 ; expanse, 15·5 to 16·0 ; tail from vent, 5·0 to 5·5 ; wing, 5·1 to 5·4 ; tarsus, 0·65 to 0·7 ; bill from gape, 1·1 to 1·2 ; weight, 1·2 to 1·5 oz.

Legs and feet dark plumbeous blue ; claws dark horny ; bill black ; irides dull brown.

211.—Lamprococcyx maculatus, *Gm.* (7).

(*Tonghoo*, Lloyd. ; *Karen Hills*, at 4,200 feet, Rams.) Thoungsha Gyne R. ; Moulmein ; Mooleyit ; Meetan.

Chiefly confined to the central hills, but occurring as a rare straggler throughout the central and northern portions of the province.

[This species has a very fine clear, and, for the size of the bird, loud whistling call of three notes, rapidly uttered. It was very common on the higher portions of Mooleyit. The food of this species is entirely insects. It is chiefly a forest bird, though I killed one specimen in a garden at Moulmein. It is very seldom seen, as it keeps up in the higher branches of trees, but on the hills is continually heard, as, on moonlight nights at any rate, it calls at intervals throughout the night as well as the day.—W. D.]

The specimen I formerly with doubt identified as *basalis* is, I am now convinced, either an abnormal specimen of the young of *maculatus*, or the young of some yet undescribed species. It is too large for *basalis*.

Lord Tweeddale remarks of *maculatus* (*Ibis*, 1876, 346) : "In fully adult plumage it has the chin and throat, but not the breast, unbarred emerald green like the upper plumage."

Lord Tweeddale can never have seen an adult. I have, I find, at present, only twenty Himalayan specimens of this little Cuckoo, but no less than five have the entire breasts uniform emerald green. This perhaps is an abnormal proportion, as at least thirty more specimens from the Himalayas have passed through my hands, and probably I have retained an undue proportion of the fullest plumaged birds. Certainly, however, at least one in ten have the entire breast uniform metallic green. Out of seven Tenasserim specimens one has it.

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 5·9 to 6·8 ; expanse, 12·5 to 12·6 ; tail from vent, 2·4 to 2·8 ; wing, 4·3 to 4·4 ; tarsus, 0·6 to 0·62 ; bill from gape, 0·85 ; weight, 0·8 to 0·85 oz.

Female.—Length, 7·0 ; expanse, 13·0 ; tail from vent, 2·9 ; wing, 4·4; tarsus, 0·65; bill from gape, 0·9; weight, nearly 1·0 oz.

Legs and feet dark brownish green ; bill bright orange yellow, tipped black ; irides red brown.

211 *bis.*—Chalcococcyx xanthorhynchus, *Horsf.* (2).

Descr. S. F., II., 191. ? *juv.*, III., 81.

Kanee ; Amherst.

Extremely rare in Tenasserim.

213.—Coccystes coromandus, *Lin.* (2).

(*Karennee*, at 1,600 feet; March, Rams.) Meeta Myo; Amherst.

Extremely rare in Tenasserim.

[I have but very rarely met with this species in Tenasserim. I shot one specimen at Meeta Myo in some low scrub close to the village.

It extends its range to, at any rate, as far south as Malacca in the neighbourhood, of which place I have met with a few specimens. I have never heard the note that I know, for it does not ascend our hills in Southern India.—W. D.]

214 *bis.*—Eudynamys malayana, *Cab. and Heine.* (42.) Descr. S. F., II., 193.

(*Tonghoo*, Rams.) Pahpoon; Thatone; Kanee; Pabyouk; Kohbaing; Karope; Amherst; Tavoy; Shymotee; Mergui; Bopyin; Chounpyah.

Common in spring and summer throughout the more open portions of the province.

[During the months of December, January, and February, this species, though met with, is very rare; but suddenly in March the whole place becomes alive with them, and they continue very numerous till July. In August, September, October, and November again not one is to be met with—all have apparently migrated. When they are in season they are one of the commonest birds, and their whistling call, which resembles the words "who are you," is heard so incessantly as to become a perfect nuisance. They, of course, avoid the heavy forest, or are, at any rate, only found on its outskirts; they are most abundant in and about villages and towns.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 16·5 to 16·75; expanse, 24·5 to 24·75; tail from vent, 7·8 to 8·5; wing, 7·9 to 8·25; tarsus, 1·45 to 1·55; bill from gape, 1·5 to 1·55.

Females.—Length, 16·0 to 17·0; expanse, 24·0 to 24·5; tail from vent, 7·5 to 8·25; wing 7·62 to 8·0; tarsus, 1·45 to 1·5; bill from gape, 1·5 to 1·75.

Legs and feet dull plumbeous; bill greenish horny, plumbeous at base of lower mandible; irides crimson.

215.—Rhopodytes tristis, *Less.* (46).

(*Tonghoo, Tonghoo Hills, Karennee*, Rams.) Kollidoo; Pahpoon; Younzaleen Creek; Theinzeik; Thatone; Moulmein; Pabyouk; Yea-boo; Karope; Amherst; Meeta Myo; Tavoy; Tenasserim Town.

Common in the northern half, rarer in the southern central portion, and absolutely wanting in the extreme south of the province.

Mergui and the Tenasserim River seem to indicate the southern limit of this species, and it is met with, I should say, so far south only as a straggler from the more northern portions of the province. About Pahpoon and between that place and Moulmein and its vicinity it is very common, but less so south of Moulmein to Tavoy.

[Singly or in pairs it frequents thin tree jungle, gardens, and secondary scrub, and is particularly fond of this latter, especially when it is very dense and impenetrable. Its flight is weak, and it relies more for its safety on the dense and impenetrable character of the places it prefers to frequent. It has a marvellous capacity for making its way through dense cover. Its note is a peculiar cat-like chuckle, often heard when the bird is threading its way through dense cover.—W. D.]

The following are the dimensions, &c., recorded in the flesh:—

Males.—Length, 21·0 to 23·0; expanse, 18·12 to 18·5; tail from vent, 13·75 to 15·75; wing, 6·12 to 6·42; tarsus, 1·45 to 1·6; bill from gape, 1·62 to 1·75; weight, 4 to 5 ozs.

Females.—Length, 23·5 to 23·75; expanse, 18·0 to 19·25; tail from vent, 15·5 to 16·6; wing, 6·12 to 6·37; tarsus, 1·46 to 1·5; bill from gape, 1·62; weight, 4·75 ozs.

Legs and feet dark greenish plumbeous; bill pale green, tinged at gape and near base with red; irides brown or reddish brown; facial skin dull dark to bright crimson.

215 *bis*.—Rhopodytes diardi, *Less.* (10).

Usheetherrpone; Hankachin; Bankasoon; Malewoon.

Entirely confined to the southernmost district of the province; meets *tristis* about Mergui and replaces it southwards of this.

[In its habits and notes this species resembles *R. tristis*, but I have occasionally found it in the evergreen forests of the Pakchan. I found it very common everywhere in the Malay Peninsula and shot many, but noticed nothing distinctive in its habits, food or voice.—W. D.]

This species is not unlike *R. viridirostris* of Southern India, and it is about the same size, and has a very similar bill; but it differs in having the chin, throat, and breast uniform ashy, without the dark mottling of the throat and striation of the breast of the Indian species; in wanting altogether the fulvous tinge on the breast, abdomen, and lower tail-coverts, which characterizes this latter; in having the bare orbital space larger and crimson (blue in the Indian bird), and in having the white tippings to the tail feathers, about one-third of the length of those in *viridirostris*. The tail also runs shorter, and the upper surface is darker.

In the present species the sexes do not appear to differ in dimensions, or, as far as we have noticed, in any other particular.

Length, 14· to 15·5; expanse, 14·5 to 15·5; tail, 8·12 to 9·25; wing, 4·9 to 5·25; tarsus, 1·25 to 1·47; bill from gape, 1·37 to 1·5; weight, 2·75 to 3 ozs.

The legs and feet are dark plumbeous green; the bill pale green; the irides dark brown; the bare orbital space crimson; edges of eyelids black.

The head, cheeks, ear-coverts and sides of the neck dark slaty grey; the feathers mostly faintly darker shafted; the chin, throat and breast, grey, paler than the head, somewhat albescent on the chin, throat, and sometimes on the breast; breast gradually shading into upper abdomen, which is darker and duskier, and this again into the lower abdomen and vent, which, with the lower tail-coverts, flanks, and wing-lining, are blackish dusky, the three latter mostly with more or less of a greenish lustre; the upper back like the crown, but more or less glossed with metallic green; the whole of the rest of the upper surface dark metallic green, with a bluish lustre in some lights, especially on the inner webs of the quills; the tail obsoletely rayed transversely, and all the feathers tipped for a breadth of from 0·3 to 0·5 with pure white.

A narrow velvet black line dividing the crimson facial skin from the base of the upper mandible.

215 *ter.*—Rhopodytes sumatranus, *Raffl.* (19).

Mergui; Bankasoon; Malewoon.

Common, but only in the southernmost district of the province.

[In the secondary scrub, with which a great portion of the island of Mergui is covered, this species was quite a common bird. To the north of Mergui I did not meet with it at all, and to the south but seldom, although I met with many places that appeared to me quite as suitable as the places it frequented on the island of Mergui. Its note is precisely like that of *R. tristis*, and so are its habits. In fact all these Malhokas, and even *P. erythrognathus* are exactly alike in all these respects.—W. D.]

This species is extremely like the preceding, but is distinguished by its somewhat larger size, longer and more conspicuous bill, by its clear orange facial skin shading to blood red on the posterior portion, and by its deep chestnut middle abdomen, vent and lower tail-coverts. The black band dividing the facial skin from the base of the upper mandible is broader, and an excessively narrow white line in most specimens borders the feathers of the head along the upper margin of the bare orbital

space, and some traces of this are sometimes observable on the lower margin immediately under the middle of the eye. No further separate description seems necessary.

The following are dimensions, &c. :—

Males.—Length, 15·7 to 17·0; expanse, 16·75 to 17·5; tail, 9·25 to 10·25; wing, 5·5 to 5·82; tarsus, 1·4 to 1·5; bill from gape, 1·5 to 1·62; weight, 3·5 to 3·75 ozs.

Females (only 2 measured).—Length, 15·82, 16·12; expanse, 16·5; tail, 9, 9·62; wing, 5·45, 5·5; tarsus, 1·5; bill from gape, 1·5, 1·55.

Legs and feet plumbeous green; bill pale green; irides pale blue; bare orbital space clear orange, palest round the eye, shading to blood red at the posterior angle.

216 *ter*.—Phœnicophaus erythrognathus, *Hartl.* (26).

Yea; Mergui; Laynah; Choungthapee; Bahonee; Palaw-ton-ton; Bankasoon; Malewoon.

Very common in the southernmost portions of the province; getting rarer as you proceed northwards, and apparently not occurring north of the Yea River, which seems the boundary of several species.

[I obtained one specimen of this bird about 48 miles south of Yea, but in this locality it appeared to be very rare. At Mergui and southwards to the Pakchan it is common. As I have elsewhere mentioned the iris of this bird in the male is a pale clear blue, in the female usually bright yellow, sometimes an opalescent white tinged with yellow; in the young of both sexes it is a deep reddish brown. In habits this bird generally, I think, resembles the other *Zanclostomi*, and in the localities it frequents also, *viz*., open forest, gardens and thick secondary scrub, by preference the latter.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 18·5 to 19·25; expanse, 19·5 to 21; tail, 10·5 to 10·75; wing, 6·65 to 7·12; tarsus, 1·6 to 1·8; bill from gape, 1·8 to 2·0; weight, 5 to 7ozs.

Females.—Length, 17 to 19; expanse, 18·4 to 20·12; tail, 9·12 to 10·75; wing, 6·25 to 6·82; tarsus, 1·62 to 1·75; bill from gape, 1·7 to 1·98; weight, 5 to 6·5 ozs.

Legs and feet dark plumbeous, or dark bluish or plumbeous green; facial skin deep red; lower mandible to beyond the gonys, and upper mandible at base below the nostril, dark maroon red; rest of upper mandible pale green; rest of lower mandible green, generally darker than the upper mandible, sometimes shaded with dusky; irides turquoise or pale blue in the male, bright-yellow in the female; this is invariable in the adults. One quite young bird, sexed a female just out of the nest, had the

irides opalescent white, other young birds had them reddish brown.

An excessively narrow white line bounds the upper margin of the bare orbital space, and is more or less apparent on the lower margin also; the entire top of the head dark green with more or less of a green lustre; the chin white, greyish white, or grey; a stripe from the base of the upper mandible below the orbital space over the greater part of the ear-coverts, and joining the grey of the occiput behind the orbital space, a purer grey; the entire upper parts from the nape, dark glossy metallic green, with more or less of a blue lustre on the quills, especially on their inner webs, and all the feathers of the tail tipped for from 2·5 to 4 inches, it varies a good deal in different specimens, with deep maroon. Throat, breast, abdomen and lower halves of sides of the neck deep chestnut; lower abdomen and tibial plumes dusky; the former fringed with dull maroon, the latter with green reflections; the lower tail-coverts dull maroon; lower wing-coverts glossy green, a little mingled with maroon chestnut.

Very young birds are somewhat duller colored, have the orbital pace paler, no red on the bill, and the whole of the two, in one specimen four, central tail feathers, uniform glossy metallic green. As one of our specimens has all four of the central feathers like this, and two others only two, it is not impossible that other young ones may have all the tail feathers like this, and if so, such a specimen may have been the foundation of Verreaux's *P. æneicaudus* (Mag. de Zool., 1855, 357) as indeed has been suggested long ago by Stoliczka.

In some specimens, in other respects apparently adult, with the full-sized broad tail feathers (the young always have these narrower), the maroon on the central tail feathers is reduced to a mere spot on both webs near the tips; but we have not yet met with a perfect adult with the red fully developed on the bill, in which the *whole* of the central tail feathers were green.

216 *quat.*—Rhinortha chlorophæa, *Raffl.* (12).

Lemyne; Yea; Tavoy; Thayetchoung; Tenasserim Town; Palaw-ton-ton; Bankasoon.

Confined to the southern three-fourths of the southern half of the province.

[This species ranges as far north at any rate as Lemyne, a village about a day's march north of Yea, but is rare till you get further south, and even there is nowhere very common. By preference, it frequents the densest parts of the evergreen forests, and cane-brakes and densest of scrubby jungle. In all its habits it resembles *Rhopodytes*, but has quite a different note, a peculiar cat-like *mew* (not the chuckle of the others), which it utters at short intervals as it threads its way through the tangled foliage.

It is almost invariably found in pairs. These also feed apparently entirely (I have dissected many) on insects.—W. D.]

In this species, despite all that has been said, there is no possible doubt, (as Davison has sexed scores of specimens in Tenasserim and the Malay Peninsula,) that the adult males have the rufous head and black banded tails, and the females, the grey heads and the chestnut tails.

The sexes do not vary in size. The following are dimensions :—

Length, 12·5 to 13·75; expanse, 12·75 to 13·7; tail, 6·82 to 8·25; wing, 4·26 to 4·62; tarsus, 0·95 to 1·12; bill from gape, 1·3 to 1·4; weight, 1·75 to 2 oz.

Legs and feet dark plumbeous; claws black; bill apple green; orbital skin pale green, inclining to bluish; irides, in the only specimen in which these were recorded, dark brown.

The males have the whole top and sides of the head, sides and back of the neck, and entire mantle, and all but the tips of the quills, (which are dusky or deep hair brown,) chestnut, brighter on the head and neck, where the paler orange buff bases of the feathers show through a good deal, darker on the other parts; rump, upper tail-coverts and tail blackish dusky; all the feathers of the latter tipped white for about half an inch, and the feathers blackening and losing their bands about half an inch inside these tippings; the whole of the rest of the tail feathers narrowly, closely, and rather obscurely banded with pale somewhat yellowish brown; upper tail-coverts more narrowly, more closely, but somewhat less obscurely similarly banded; rump with traces of similar but still finer and closer banding; chin, throat and breast much paler than the head and back, a warm full-colored buff; upper abdomen this same color, shaded with smoky grey; lower abdomen and thigh coverts smoky grey, passing into smoky dusky on the lower tail-coverts, and all these dusky parts very finely and obsoletely banded.

The females have the whole head, neck all round, chin, throat and breast pale grey, becoming albescent on the lower surface, and generally a little stained with fulvous on the middle of the breast; upper abdomen grey, shading into fulvous, and the fulvous again passing to a dusky on the flanks and lower tail-coverts and tibial plumes, which are all more or less fringed with dull rusty towards the tips of the feathers; the entire tail chestnut (like the wings,) tipped for half an inch with pure white, and with a sub-terminal black band of about the same width.

216 *quint.*—Zanclostomus javanicus, *Horsf.* (4).

Bankasoon; Malewoon.

Confined to the southernmost extremity of the province, and very rare there.

[This is a very rare bird in Tenasserim. I got one, a male, at Bankasoon, and Mr. A. T. Hough shot another near Malewoon, and these and two others shot later at Malewoon are the only specimens I have ever seen in Tenasserim. In the Malay Peninsula further south, the bird is less uncommon, frequenting the outskirts of the forest and undergrowth. Its habits are just those of *Rhopodytes*.—W. D.]

All our specimens procured in Tenasserim were males. Only one of our Malayan specimens, a female, was measured, and of this the colors of the soft parts were not recorded.

The sexes do not appear to differ in size or plumage, but the following dimensions and colors of the soft parts refer only to males :—

Length, 16·5 to 18·0; expanse, 15·25 to 17; tail, 10·37 to 10·8; wing, 5·25 to 5·75; tarsus, 1·35 to 1·5; bill from gape, 1·42 to 1·8.

The legs and feet plumbeous, dark, and with more or less of a green shade; bill coral red; gape dull smalt; naked space round eye blue, in some pale, in some a bright smalt; irides brown, in some deep, in some light. In somewhat younger birds the culmen and tip of lower mandible are black; very likely in the quite young bird the whole mandible is reddish dusky, but we have as yet obtained no nestlings.

In the adult male the forehead and anterior part of the crown are a light grey brown, (with more or less of a fulvous tinge and dark-shafted,) passing into the purer grey of the posterior portion of the crown; occiput, back and sides of the neck behind the eye, the lores and feathers immediately under the eye, chin, entire throat, and front and lower portion of sides of the neck pale, ferruginous buff; breast and upper abdomen clear pearl grey, shaded and overlaid with dingy buff; lower abdomen, flanks, tibial plumes and lower tail-coverts rather bright chestnut, deepest on the lower tail-coverts; sides, axillaries, wing-lining, a beautiful clear grey, with a little pale fulvous patch just under the carpal joint; wings, scapulars, upper tail-coverts, and tail, dull greyish metallic green, with more or less of a blue lustre; the lesser coverts and the shoulders of the wing greyer and paler; the tail darker and greener, obsoletely rayed, and with all the feathers tipped with from 0·6 to 0·9; (the central ones slightly less broadly than the others) with pure white.

The back and rump dark grey; the feathers lax, and with more or less of a greenish lustre.

217 *quat.*—Centrococcyx intermedius, *Hume*. (35).

DESCR. S. F., I., 454.

(Karen Hills, Toughoo, Rams). Pahpoon; Thoungsha Gyne R.; Pabyouk; Karope; Amherst; Meeta Myo; Taroy; Mergui; Pakchan.

Common throughout the province, but only where the country is fairly open and not ascending the higher hills.

[This species has the same notes and habits as the common Southern Indian *rufipennis*. It avoids the dense forests and the heavy kine grass, and greatly affects gardens and fields. It feeds about chiefly on the ground, stalking about slowly with its tail carefully lifted. They eat every living thing they can seize, devouring small mammals, reptiles, insects, and possibly small stranded fish and crustaceans, as I have continually seen them prowling about on mud banks of rivers just above the water's edge.—W. D.]

The whole of the specimens, thirty-five in number, preserved by us from all parts of Tenasserim from the extreme north to the Pakchan Estuary, belong to this species.

Formerly, some of our specimens were recorded as *eurycercus*, a totally different and immensely larger species which we have since obtained in the Malay Peninsula, but which does not, so far as we know, ever extend so far north as the Pakchan Estuary.

The present species varies a good deal in size, chiefly according to sex; in the adult females the wings vary from 7·75 to 8·4, and in adult males from 7·3 to 7·9.

This species differs from *rufipennis*, Illiger, in having the whole interscapulary region red, even in birds in the barred plumage of the young. It differs from the true *eurycercus* in its much smaller size, (as will be seen from the dimensions of this latter species given further on,) and in its conspicuous green tail (I speak of course of adults), the tail being blue in *eurycercus*. It differs from *maximus, nobis* (described at the same time as *intermedius*), which has the wing 9 to 9·5; in its smaller size, deeper chestnut tinge, and in the decided blue of its breast and abdomen, in full plumaged adults; these parts having a decided green shade mixed with the blue in *maximus*. Lastly, it differs from the Acheen species which I formerly erroneously identified* with *eurycercus*, in its smaller bill (sex for sex) deeper chestnut, and much more purely green tail.

The following are the dimensions of some few specimens of the present species, five males and three females, measured in the flesh. Unfortunately, having measured so few birds, our dimensions do not fully represent the limits within which the two sexes vary:—

Males.—Length, 17·75 to 19·75; expanse, 22·25 to 24·5; tail, 9·0 to 10·75; wing, 7·3 to 7·75; tarsus, 2·12 to 2·35; bill from gape, 1·75 to 1·82; weight, about 8 ozs.

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* S. F., I., 153.

Females.—Length, 20 to 21·62; expanse, 24 to 25; tail, 10·5 to 11·62; wing, 7·75 to 8·25; tarsus, 2·37 to 2·5; bill from gape, 2·0; weight, about 12 ozs.

The legs, feet, and bill are black; the irides crimson.

We have this species not only from all parts of Tenasserim, but also from numerous localities in Pegu, from Akyab, the Arracan Hills, Dilkhushah, Cachar, and Dacca, and we have a quite young bird from Dehra Doon just out of the nest with the wing 8·0, which may belong to this species, or may be *maximus*.

Maximus we have still only from Sindh, Sikim, Goorgaon (whence also we have true *rufipennis*), and strange to say Cawnpore, and possibly the young specimen from the Dhoon may belong to this species.

Rufipennis we have still only from Delhi, Gourgaon, Allahabad, Raipore, Sumbulpore, and other places in the Central Provinces, from Ootacamund, Seegore, Colachul, Anjango, and other localities in the south of India.

By some inexplicable oversight, while we have nearly 60 specimens of *intermedius*, we have only twenty of the common *rufipennis*, and we are therefore quite unable at present to define at all accurately the limits of the three species; but *rufipennis* appears to be the bird of Southern and Central, *ma*[illegible] of Western and North-western Continental India, *interm*[illegible] of Eastern Continental India, and the whole of Burma.

I take this opportunity of noting that the bird that I described from Acheen as *Centrococcyx eurycercus*, Hay, was not really that species but distinct. I observe that Lord Tweeddale remarks that the *Centrococcyx* from the south-east of Sumatra is identical with Malaccan *eurycercus*, but this is certainly not the case with the *Centrococcyx* from Acheen, the north-west extremity of Sumatra.

The following are the dimensions of the true *eurycercus* from Malacca and Pulo Seban:—

Sex.	Wing.	Tail.	Bill from Gape.	Bill from Frontal bone to Tip.	Height of both Mandibles at Margin of Feathers.	Tarsus.	Mid Toe and Claw.	Hind Toe and Claw.
Male	9·1	13·	1·97	1·72	0·7	2·45	2·15	1·72
Male	9·2	13·5	1·96	1·83	0·79	2·4	2·15	1·8
Male	8·9	13·	1·92	1·87	0·87	2·7	2·25	1·65
Male, Juv.	8·5	12·25	1·95	1·8	0·75	2·35	2·2	1·8
Female	8·5	13·2	1·9	1·68	0·73	2·48	2·1	1·62
Female, Juv.	8·5	13·0	1·8	1·65	0·7	2·1	1·97	1·75
Female, Juv.	8·0	12·5	1·9	1·77	0·68	2·27	2·06	1·7

Contrast these with similar dimensions of a very fine Acheen adult:—

Male	7·9	*10·	1·95	†1·83	0·64	2·05	1·84	1·39

* From vent, 9·5.

† From margin of feathers, 1·4.

I may add that the total length of this bird in the flesh was 19·8; of the adults of *eurycercus* from 22 to 24.

This Acheen species is, therefore, very much smaller than the true *eurycercus*, with as long, or perhaps longer, but considerably slenderer bill. The hind claws are markedly shorter.

The tail blue, with a marked green shade; the adults in fact with tails colored like those of somewhat immature *eurycercus*.

Sex for sex the Acheen birds have much larger bills than *intermedius*, and moreover have nothing of the bright pure green gloss on the tails of the perfect adults of that species.

I propose to distinguish this form for the present under the name of *Centrococcyx acheenensis*.

218.—Centropus bengalensis, *Gm.* (4).

(*Karen-nee*, Rams.) Kollidoo; Tavoy; Bankasoon; Malewoon.

Occurs, though very sparingly, in suitable localities throughout the province.

[This species occurs but sparingly in the province, and only in those portions where there is kine grass or rank low herbage. When flushed it flies but a short distance and drops into the grass. I have never seen it either in forest, or even in the scrubby jungle that the larger Coucal loves to frequent. The note and habits of this species are admirably described by Mr. Gam[illegible] V., 385.—W. D.]

I refer all my specimens as *bengalensis*, Gm. Cabanis gives two nearly allied species, *C. lepidus*, Horsf., from Java, and *C. bengalensis*, Nepal. The Marquis of Tweeddale, Tr. Z. S., VIII., 58, assigns Burmese & Javanese examples to the first, and adds Malacca, Banjermassing, and Celebes to the original Javan habitat.

It may be that the Marquis of Tweeddale is in error in identifying Malaccan examples with the Javan species, but it appears to me very certain that there is only one species of this type from Singapore to Suddya on the one side, and Nepal on the other.

The distinctions drawn by Cabanis between his *lepidus* (*javanensis* apud Lord T.) and *C. bengalensis* are briefly these: —

Lepidus	*Bengalensis*
black, with greenish lustre	black, with a bluish lustre.
Wings and interscapulars pale ferruginous red. Some of the shafts of the lesser wing-coverts white.	Wings and interscapulars cinnamon red.
Bill very short.	Bill moderate.
Claws long.	Claws excessively long.
Length, 13·7; wing, 5·75.	Length, 15·32; wing, 6·85.
Tail, 7·4; culmen, 0·91.	Tail, 8·77; culmen, 1·1.
Height of bill, 0·55; tarsus, 1·65.	Height of bill, 0·55; tarsus, 1·65.
Middle toe, excluding claw, 1·1.	Middle toe, excluding claw, 1·19.
Hind toe claw inside, 1·1.	Hind toe claw inside, 1·29.

Dr. Cabanis appears to have had one adult of the one supposed species, and one adult of the other before him.

I have now eight from the Malayan Peninsula, and thirty-one from different parts of Tenasserim, Pegu, Eastern Bengal, and Assam before me, and I cannot entertain a doubt that from all these localities the species is one and the same.

First as to the lustre. In perfect adults, whether from the Straits, Burma, Bengal, or Assam, the lustre is bluish, not the bright blue of the upper back of *rectunguis*, but still a decided blue. In some younger birds, there is more or less of a greenish tinge about the feathers of the head and nape, and sometimes all the basal and central portions of the feathers have a decided greenish tinge, but this is equally observable in birds from Assam, Calcutta, Tenasserim, and Singapore. Every Malayan specimen can be exactly matched by specimens from different parts of Bengal and Assam.

And the same may be said as to the colors of the wings and interscapulary region, which, in some specimens from both localities, may be properly called pale ferruginous [illegible] cinnamon.

As for the white shafts to some of the lesser [illegible] these are observable in 9-10ths of all apparently full-plumaged birds from Nepal to Johore, only about one in [illegible] apparent adults lose this entirely.

There remain differences in size, alike in bills and claws, and in other dimensions. Dr. Cabanis had very few specimens, or he would have found great variation in the size of both his larger and smaller supposed species; and if the Marquis of Tweeddale is correct in identifying Javan and Malay Peninsula specimens, his birds must have been incorrectly sexed, or he would have discovered that all the large ones were females, and the small ones males.

The following are dimensions recorded in the flesh of a number of adult males from various localities, from Johore to Suddya:—

Length, 12·7 to 13; expanse, 15·9 to 17·2; wing, 5·25 to 5·5; tail, 6·75 to 7·7; tarsus, 1·45 to 1·55; bill from gape, 1·1 to 1·9; hind toe claw inside, 0·7 to 0·95.

The following are dimensions of adult females:—

Length, 14·25 to 15; expanse, 18·25 to 18·75; wing, 6·5 to 6·8; tail, 8·4 to 8·6; tarsus, 1·6 to 1·7; bill from gape, 1·25; hind toe claw inside, 0·9 to 1·1.

And the bills of the females are not only longer, but markedly stouter as a body than those of the males.

Younger birds of both sexes are considerably smaller than the adults.

It may be that the Javan bird is distinct, but certainly all those that we have seen from the Malayan Peninsula have been identical with those from various parts of India and Burma The females from both localities answering fairly to Cabanis

bengalensis, and the males to his *lepidus*, with the sole exception that from Singapore upwards all the perfect plumaged adults have a bluish and not a greenish lustre on head and neck, though a certain amount of greenish lustre is observable on these parts in a somewhat less advanced stage of plumage.

If any other allied species occurred in the Malay Peninsula, I think we must have obtained it just as we have obtained *rectunguis* and *eurycercus*, and it seems to me to follow that either the Marquis of Tweeddale is wrong in identifying Malaccan and Javan specimens, or that *lepidus*, Horsf., *javanensis*, Dumont, is not distinct from *bengalensis*, Gm.

223.—Arachnothera magna, *Hodgs.* (3).

Kyouk-nyat ; Salween R.

Confined to the northernmost portions of Tenasserim proper. [I only observed this species in the hills to the north of Pahpoon, and even there it was rare. The specimens I obtained I shot on Bombax trees, which these birds frequented, in company with many other species, to feed on the nectar of its flowers. All the species of *Arachnothera* that I have observed are very similar in their habits and voice.—W. D]

The Large Indian Spider-hunter is extremely common in Sikhim and parts of Nepal in the hills and valleys, from an elevation of about two to five thousand feet according to season, and descending at times in the winter to even a lower elevation, and being found though as a straggler and exceptionally in the Doars and the Terai in the cold weather.

I am not aware that it is ever found further west than Nepal; but if it does occur at all in Kumaon, it can only be as a straggler. Eastward in the western portions of Assam, always, be it understood, in hilly tracts, it appears to be common, and I have now numerous specimens from Suddya, the very eastern point at which in the province. Southwards it is found in the Khasia Hills, Hill Tipperah, the hilly portions of Chittagong, and Arrakan. It does not occur, so far as I yet know, in the dry northern portions of Pegu, but east of the Sittang it occurs in the northern portions of the Tenasserim province, as far south as Pahpoon. Further south than this Davison has never observed it. Beavan, however, undoubtedly obtained a specimen at Kyodan, which is some 30 miles south of Pahpoon, but 70 miles north of Moulmein. Col. Tickell is said to have obtained it twice in Tenasserim, but this was probably in the hills, dividing this from Siam, and Horsfield gives a specimen, Cat. B. E. I. C., p. 727, from Helfer's collection, but Davison has for more than four years collected vigorously in most parts of Tenasserim, and he has never met with a specimen

south of Pahpoon, although, by a misprint in my first list, S. F., II., p. 473, I am made to record a specimen from near Yea.

There is little to be said of the habits of these *Arachnotheras*, which are all very similar to those of other Sunbirds frequenting large flowering trees, like the silk cotton tree (Bombax, several species) and feeding chiefly on nectar, though unquestionably also consuming insects, the remains of which are continually found in their stomachs.

If the trivial name Spider-hunter is meant to indicate that they are chiefly insectivorous, I doubt its correctness, as I believe that their chief staple of food is nectar.

They have a feeble chirruping note, uttered chiefly while the bird is feeding, but occasionally also as they fly from tree to tree.

Their flight is swift and direct, with rapid beats of the wings, but they seldom, if ever, appear to take any lengthened flight.

Further particulars will be found, STRAY FEATHERS, Vol. III., p. 85, but the first paragraph of page 86 must be considered cancelled, except the first line and a half. It is true that male *aurata* has almost the same dimensions as female *magna*, and also that the striation on the back of female *magna* is somewhat less marked than in the male; but male *aurata*, with its excessively fine striæ of the lower surface, and its almost unstriated back, can never be mistaken for female *magna*.

223 *bis*.—Arachnothera aurata, *Bly*. DESCR. S. F., III., 85.

Has occurred at Tonghoo and in the Karen Hills, but has not been as yet observed elsewhere in Tenasserim.

224.—Arachnothera longirostra, *Lath*. (27).

(*Tonghoo*, Rams.) Pahpoon; Moulmein; Thayetchoung; Pabyin; Tenasserim Town; Pakchan; Bankasoon.

Rather common throughout the province.

[This is the most widely-distributed Spider-hunter in Tenasserim, occurring throughout the country from its northern to its southern limits, but it is nowhere very abundant. I have always found it most abundant in plantain gardens, where it may be seen clinging head down and sucking the nectar from the plantain flowers. I have also found it not uncommon in cocoanut plantations, and the undergrowth on the outskirts of forest, and in scrub jungle.—W. D.]

The little Spider-hunter is common in Hill Tipperah and the Cachar Hills, Chittagong, and the Arrakan Hills, but it does not seem to extend northwards into Assam, the Doars, or Sikhim

It does not occur, so far as I yet know, in the dry portion of Upper Pegu, but throughout the whole Tenasserim provinces, from Tonghoo to quite the Pakchan, I have seen specimens from almost every locality.

Davison always found it in Tenasserim as elsewhere most numerous in plantain gardens, where it may be seen generally upside down clinging to the purple bract leaves of the young plantain bunches, its head turned up inside the bract, and thus hidden from sight, busily sucking the nectar from the inflorescence concealed beneath the purple sheath.

Southwards in the Malay Peninsula, Davison obtained it at Singapore and at Nealys, 30 miles north-east of Malacca, and saw it at Johore and other places, but it is not nearly so abundant in the Peninsula as in Tenasserim, and is to a great extent replaced in the former by *modesta* and *flavigaster*.

In the southern portion of the Indian Peninsula again we have it from Kotagherry and other localities on the Nilgherris, the Wynaad, the Malabar Coast, and the Hills of S. Travancore, and though not so abundant as in Tenasserim, it is not really rare; four or five may be seen in a morning about the euphorbia hedges of the Coonoor Ghat.

Specimens from all these localities are identical.

In this, as in all the other species of *Arachnothera* with which I am acquainted, the male is the largest. The following are measurements taken in the flesh of a very considerable number:—

Male.—Length, 6·12 to 6·5; expanse, 7·8 to 8·62; tail from vent, 1·62 to 1·9; wing, 2·5 to 2·7; tarsus, 0·62 to 7; bill from gape, 1·38 to 1·62; weight, 0·45 to 0·55 oz.

Female.—Length, 5·62 to 5·75; expanse, 7·5 to 7·75; tail from vent, 1·62 to 1·75; wing, 2·2 to 2·5; tarsus, 0·55 to 0·6; bill from gape, 1·2 to 1·46; weight, 0·4 to 0·5 oz.

The irides are always deep brown, but there is a great variation in the color of the soft parts, certainly not dependent on age, as we have obtained both old and young birds exhibiting both types of coloration; probably it is seasonal, as birds killed in December and January exhibit both types; those killed in June, August, and September exhibit only the first type, but then we have only three birds killed in June, and one in August, and one in September.

First Type.—Legs and feet dark plumbeous blue; upper mandible black; lower mandible pale plumbeous blue.

Second Type.—Legs, feet and claws, pale yellowish fleshy; upper mandible horny brown; lower mandible, except towards the tip and gape, yellowish fleshy.

Specimens exhibiting intermediate coloring are often procured. A bird killed on the 17th of December had the legs and feet pale plumbeous, mottled with dull yellow; another killed two

days later had the legs pale lavender; the feet dull yellow; another killed about the same time had the entire legs and feet a pale lavender; the colors of the bills being similarly intermediate.

224 *bis*.—Arachnothera modesta, *Eyton* (12).

Thoungsheyen Sakan; Meeta Myo; Baukasoon.

Confined to the forests of the southern and central portions of the province.

[This species, the Grey-breasted Spider-hunter, is rare in Tenasserim.

The most northerly point at which I have as yet met with it has been on the north-western spurs of Mooleyit. But in the Malay Peninsula it is much more abundant. In fact, in the whole country all about Malacca, and again about Johore, it is perhaps the commonest species of the genus.

Like the other species it most especially affects plantain gardens and cocoanut trees, and, so far as voice and flight are concerned, offers nothing to remark as distinguishing it from the other nearly-allied species.—W. D.]

In this species, as in most of the *Arachnotheras*, the males are considerably larger than the females, but the two sexes do not differ in plumage:—

Males.—Length, 7·0; expanse, 10·25 to 10·5; tail, 2· to 2·12; wing, 3·25 to 3·37; tarsus, 0·6 to 0·7; bill from gape, 1·45 to 1·55; weight, 0·75 to 0·85 oz.

Female.—Length, 6·25 to 6·75; expanse, 9 to 9·5; tail, 1·62 to 1·85; wing, 2·8 to 2·9; tarsus, 0·62 to 0·7; bill from gape, 1·35 to 1·4; weight, 0·55 to 0·6 oz.

The legs and feet vary from reddish ochre to pale reddish brown; the upper mandible is black; the lower reddish horny to pale reddish brown; irides brown.

The entire upper surface (except the tips of the primaries and a band just inside the tips of the tail feathers, which are hair brown like the inner webs of all the quills, and almost the whole of the first and second primaries) is a moderately bright olive yellow; the feathers of the forehead and crown brown centred, giving a scaly appearance to those parts; lores, cheeks, basal portion of ear-coverts, chin, throat, and breast dull pale greyish green; all the feathers of the chin, throat and front of the neck more or less conspicuously dark-shafted; rest of lower parts similar, but rather paler and more lutescent, and all the under tail-coverts broadly tipped with yellowish white. In many specimens the greater part of the breast is darker shafted, and there is a certain amount of obscure dark striation down the centre of the abdomen.

The two or three outer tail feathers on either side have a dull whitish spot or band on the inner webs close to the tip; the edge of the wing is bright yellow; the wing-lining partly white and partly greyish brown; axillaries white, tinged with pale yellow towards their tips.

224 *ter*.—Arachnothera chrysogenys, *Tem.* (4).

Mergui; Malewoon.

Confined to the southernmost portions of the province.

[The lesser Yellow-eared Spiderhunter ranges northwards, at least as far as Mergui. It is not uncommon in the many gardens of Mergui Island, and from thence southward I have obtained it in many localities down to the extreme southern point of the Malay Peninsula. It affects gardens more than any of the other species; in fact, all our specimens were obtained in gardens, and none about cocoanut groves and forest trees; and, though of course it must occasionally occur about these also, I do not think that I have ever observed it in forest, or scrub jungle, or anywhere, except in and about villages. In all its habits, &c., it resembles the other species.—W. D.]

I may perhaps here add that, although the Spiderhunters, like all the Sunbirds and Flowerpeckers do feed on small insects, such as flies, &c., still dissection shows that they subsist chiefly on the nectar of flowers.

The sexes seem to differ less in this species in size than is the case with the other *Arachnotheras*, but we have unfortunately measured very few specimens in the flesh. One male measured:—Length, 7; expanse, 10·82; tail from vent, 1·7; wing, 3·5; tarsus, 0·75; bill from gape, 1·65.

Females.—Length, 6·75; expanse, 10 to 10·25; tail from vent, 1·5 to 1·62; wing, 3·12 to 3·25; tarsus, 0·7 to 0·75; bill from gape, 0·62 to 0·65; weight, 0·75 oz.

Specimens killed in November had the legs and feet fleshy white; the bill darker horny brown; the edges of both mandibles to within 0·6 of tip, dirty yellow; gape fleshy white; irides brown.

I do not think that in either this species, or the nearly allied *flavigaster*, there is any seasonal change in the colors of the soft parts.

The vent, lower tail-coverts, a patch at the base of the lower mandible involving the ear-coverts, and a narrow line round the anterior portion, and encircling the whole upper portion of the eye, bright pale yellow; abdomen greenish grey, shaded with this same yellow; chin, throat and breast greyish green, yellower on the throat, greyer on the breast; forehead, lores beyond

yellow line, top, back and sides of the head, excluding the yellow patch, and back and sides of the neck, dull olive green, the feathers of the head faintly browner centred; mantle, back and upper tail-coverts a somewhat brighter olive green; quills hair brown; primaries narrowly, secondaries broadly, overlaid on their outer webs, with a yellow olive; tail like the outer webs of the secondaries; the inner webs browner or brown; edge of the wing whitish; wing-lining, yellowish white.

224 *sext.*—Anthreptes hypogrammica, *Müll.* (8).

Palaw-ton-ton; Bankasoon; Malewoon.

Confined to the extreme south of the province, and even there rare.

[Found in Tenasserim only, so far as I know in the vicinity of the Pakchan, and thence it occurs, though everywhere a rare bird, southwards to Johore and Singapore.

In all its habits, mode of flight and voice, it is closely allied to *Anthreptes malaccensis*, being more of an insect-eater and less of a honeysucker than the *Arachnotheras* and *Arachnechthras*. But while *Anthreptes malaccensis* swarms in every garden, the present species occurs (mostly in pairs, though sometimes singly), for the most part only in the forest or on its outskirts; occasionally of course it does occur in gardens where it may be seen, haunting trees and shrubs that are in flower, feeding on the nectar at times, but often hunting the foliage also for insects. The note like that of *A. malaccensis* is a feeble chirrup.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 5·62 to 5·8; expanse, 8 to 8·25; tail from vent, 2 to 2·12; wing, 2·55 to 2·66; tarsus, 0·55 to 0·7; bill from gape, 0·85 to 1·0; weight, 0·4 to 0·5 oz.

Females.—Length, 5·4 to 5·6; expanse, 7·62 to 7·75; tail from vent, 1·85 to 2·12; wing, 2·4 to 2·55; tarsus, 0·6 to 0·62; bill from gape, 0·85 to 0·9; weight, 0·4 to 0·5 oz.

The legs and feet are greenish brown or dark plumbeous green; the bill is horny black, and in the male the gape is dull yellow. This may be the case also in the female, but Davison has not noted it in the case of any of his specimens; the irides are dark brown.

The male has a narrow nuchal collar, the rump and upper tail-coverts, bright metallic steel blue; the whole top and back of the head olive green, the feathers obscurely centred browner; the sides of the head, back, scapulars and coverts, a rather yellowish olive green; the quills hair brown, margined on the outer webs with olive green, and the tertiaries with the whole outer webs of this color; tail blackish brown, obsoletely rayed; the two, or sometimes three, outer feathers

on each side narrowly tipped, generally on the inner webs only, sometimes on part of the outer webs also, with dull white. In some specimens a trace of this, a mere speck, may also be observed on the two pairs next the central feathers. Lores, cheeks and ear-coverts a rather duller greyer green; in some specimens the lores more decidedly grey; lower parts green, palest on the chin and throat; all the feathers of the chin, throat, breast, and abdomen to near the vent margined with white, yellowish white, or pale yellow, giving a striated appearance to these parts. In many specimens the lower tail-coverts are much yellower. In some they are almost pure yellow, and the flanks and feathers about the vent are then a good deal fringed with yellow. The wing-lining is white, a little tinged with pale yellow towards the edge, and the inner margins of the quills, except towards the tips, are satin[illegible]

[illegible]les are precisely like the males, except that they [illegible]ts that are steel blue in the male, colored like the [illegible]oth sexes the outer webs of the tail feathers towards [illegible]ases are often a good deal suffused with the color of the [illegible]er surface, and in many cases the first three quills and their primary coverts and the winglet show very faint traces of the olive green margins.

22[illegible]-Æthopyga cara,* *Hume*. (11). DESCR. S. F., II., 473*n*.

(*Tonghoo*, Lloyd.) Beeling; Kaukaryit, Houngthraw R.; Moulmein; Meetan; Lemyne; Yea; Tavoy; Shymotee; Pabyin; Mergui; Tenasserim Town.

Occurs throughout the province, except in the north about Pahpoon and in the extreme south.

[I obtained this species everywhere from Mergui northwards, through Tavoy and Moulmein to Beeling, on the Thatone plains, between the Sittang and the Salween, and it probably extends somewhat further north than this between these two rivers. East of the Salween I did not observe it much further north than Moulmein. South of Tenasserim Town I have not yet observed it.

This and all the other true Honeysuckers were met with in gardens, secondary growth (which springs up on forest clearings), and on the outskirts of forests; once only a little south of Yea a few were seen in thick forest in a dense cane-brake.

Of course, they are most abundant where flowers are most numerous, and cocoanut palms when in flower† are a particularly favorite resort for this and other closely-allied species.

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* For key to all known species of *Æthopyga*, vide S. F., V., 71.

† As they almost always *are*, for they throw out a new inflorescence spike *almost* every month.—A. O. H.

The Darling Honeysucker was generally seen singly or in pairs; sometimes three or four would visit the same tree at the same time, but more than a pair never act in concert.

The song is very feeble, only a few twittering notes uttered generally when the birds move about from one bunch of flowers to another. Only on a very few occasions have I seen this species hovering in front of a flower, and then only for a few seconds, rather as if looking for a convenient perch than as attempting to feed. When feeding, it alights sometimes above the flower, and head downwards turns its head up into the flower, and sometimes below the flower, when it thrusts its bill straight up into the latter. It generally seems to require half a dozen successive sips to exhaust the nectar in each flower.—W. D.]

This species differs conspicuously from *siparaja* in its larger bill and longer tail, and in the much greater extent of the metallic cap which is green instead of violet; in the absence of the yellow bases to the throat feathers which in *siparaja* often show through recalling *vigorsi*; in the absence of the black line inside the violet throat stripes, and in the color of the upper tail-coverts, green in the present species, violet in *siparaja*.

Males.—Length (according to length of tail), 4·6 to 5·25; expanse, 6·62 to 7·2; tail from vent 1·75, to 2·35; wing, 2·05 to 2·35; tarsus, 0·46 to 0·6; bill from gape, 0·7 to 0·75; weight, 0·75 oz.

The legs and feet are dark horny; in some greenish brown, the soles reddish yellow; the upper mandible is dark horny brown; in some almost black; the lower mandible pale reddish brown; the irides dark brown.

Female.—Length, 4·3; expanse, 6·25; tail from vent, 1·45; wing, 2; tarsus, 0·5; bill from gape, 0·65; weight, ? 0·25 oz.

The legs and feet in this female were a dark reddish brown.

227 *bis.*—Æthopyga dabryi, *Verr.* (7).

(*Karennee*, 4,000 feet, Rams.) Mooleyit.

Confined in Tenasserim, so far as is yet known, to the summit of Mooleyit and the higher portions of Karennee.

[I only met with this beautiful species in one locality, and that was near the summit of Mooleyit. I never observed it much below an elevation of 6,000 feet. It was frequenting a number of large flowering forest trees, at that time covered with masses of red bell-like blossoms. Its habits were precisely those of all the *Æthopygas*. Even at Mooleyit it was decidedly rare, and I myself only succeeded in shooting four males and one female; but I saw perhaps a dozen more. They were very difficult to procure, because they did not permanently

hang about the trees on whose nectar they were feeding, but suddenly emerging from the surrounding deep forest, in which it was quite impossible to see or find them, would appear about one of the blossoming trees, hover about it for a few seconds, and then dart away. This was in February, and on dissection they exhibited no signs of breeding.—W. D.]

The following are the dimensions, &c., of five adult males :—

Length, 5·6 to 5·8; expanse, 6·6 to 7·0; tail, from vent, 2·55 to 2·75; wing, 2·11 to 2·28; tarsus, 0·55; bill from gape, 0·7; weight, 0·25 oz.

The legs and feet dark horny brown; bill dusky black; irides deep brown. In a younger male, whose plumage I shall describe presently, the lower mandible was a very dark brown.

The lores and a narrow oval patch occupying the greater portion of the chin non-metallic black; the rest of the chin and throat metallic puce color; cheeks and ear-coverts dark hair brown, a little tinged sanguineous under the eye, and the longest ear-coverts tipped with the same color as the throat; forehead, crown, occiput, metallic puce, like the throat, bluer in some lights, purpler in others; scapulars, back, nape, sides of the neck, a stripe on the sides of the head running over the eye almost to its anterior angle, and another stripe dividing the ear-coverts and posterior portion of the cheeks from the metallic throat patch, a deep blood red; entire breast crimson scarlet; upper abdomen the same, a little mingled with bright yellow; middle abdomen bright yellow; lower abdomen, vent, and lower tail-coverts, successively paler, and a little pencilled with olive; rump intense yellow; upper tail-coverts and broad margins, in fact nearly the whole webs, of the basal three-fourths of the central tail feathers, and the extreme margins of the next two or three feathers towards their bases, steel blue; rest of tail deep hair brown, almost black; the three outer feathers on each side more or less tipped with sordid white; a trace of the same on the fourth; wing-lining and axillaries and margins of inner webs of quills towards their bases, pure white; a few of the axillaries, and the feathers just under the carpal joint, with the faintest possible yellow tinge; sides and flanks and sides of the rump deep grey brown; the feathers fringed broadly with yellow or slightly olivaceous yellow towards their tips; there is a small puce-colored metallic spot on the breast, on either side, just at the base of the neck. The wings are deep hair brown; the quills and their greater coverts margined with yellowish olive, and the rest of the coverts more or less margined, or in some cases completely overlaid, with the color of the back.

In a younger male the metallic portion of the chin and throat are replaced by pale dull greyish yellowish white feathers.

The whole metallic portion of the head is here grey brown, and this is the color of the nape and upper back also. The central tail feathers are not fully developed, but the visible portions of them about 1·25 in inch length show no metallic colors.

The lores, cheeks, ear-coverts are black, with a little grey speckling under the eye; only one or two of the very longest uppermost ear-coverts exhibit specks of metallic puce color; in other respects the bird does not differ from the adults.

Unfortunately, I have no female to describe. I sent the only one we procured to Captain Shelley, and I quote his description, which, although our descriptions of the males do not exactly agree, is, I doubt not, most complete:—

"*Adult Female.*—Upper parts olive-green, rather browner on the head and neck; wings dark brown; the feathers broadly edged with olive-green of a yellow shade on the quills; a broad dull patch on the lower back; tail dark brown; the feathers edged with olive and tipped with white, most broadly towards the outer feathers; under-parts uniform, very pale olive; under-surface of the wings dark brown, with the inner margins of the quills and the coverts white; bill and legs dark brown. Total length, 3·5 inches; culmen 0·6; wing, 1·7; tail, 1·3; tarsus, 0·55."

231 *bis.*—Æthopyga sanguinipectus, *Wald.* (9). Descr. S. F., III, 402; V., 51, 71 *n.**

(*Karennee*, 2,500—3,000 *feet*, Rams.) Mooleyit.

Confined apparently in Tenasserim to the higher portions of Mooleyit and Karennee.

[I only observed this species on the higher slopes of Mooleyit, not below 3,000 feet elevation. It is a forest bird, frequenting flowering trees, with much the same habits as *cara*, not nearly so shy as *dabryi*, and much more given to settling quietly. Where I met with it, it was moderately common. Its note is the usual *Æthopyga* "chirp." I noticed nothing in any way peculiar about its habits.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 5·3 to 5·9 to end of central tail feathers; expanse, 6·4 to 6·5; tail from vent, 2·55 to 2·9 to end of central feathers; wing, 2·05 to 2·12; tarsus, 0·55; bill from gape, 0·75 to 0·82; weight, 0·2 to 0·25 oz.

Female.—Length, 3·9; expanse, 5·7; tail from vent, 1·1; wing, 1·8; tarsus, 0·5; bill from gape, 0·75; weight, 0·2 oz.

* I renamed this species *Æ. waldeni*. The Marquis of Tweeddale has recently been pleased to sneer at me for this. This is noteworthy, because it was solely the extreme incorrectness of his own original description, that led me to believe that I had secured a new, though nearly allied species.

Legs and feet very dark reddish or purplish brown; bill black; irides very deep brown.

231 *bis*.—**Chalcostetha insignis**, *Gould*. (2). Female, — Descr. S. F., III, 319 *n*.

Patoe Island; Malewoon.

A rare straggler to the extreme south of the province, but perhaps extending somewhat further north amongst the islands of the Mergui Archipelago.

[This species swarms in the cocoanut plantations at Singapore. Any number were procurable there, in August, September, and October; but I observed it nowhere else in the Malay Peninsula except at Copah (Junk Ceylon), where I saw several haunting the mangrove swamps on the 4th December, the mangroves being then in flower. Curiously enough I searched in vain for this species day after day in the extensive cocoanut plantations of Malacca and its neighbourhood, and other localities intervening between Copah and Singapore.

Further north again, on the 18th of November, I saw a pair of this species, and shot the female, as usual feeding on cocoanut flowers, at the north-western corner of the island of Patoe, immediately opposite of Mergui. Later I obtained a male at Malewoon in a mangrove swamp.

At Singapore it was, excluding *Anthreptes malaccensis*, the most common Sunbird. All that has been said of the habits of *Æ. cara* would equally apply to this species, but its note differs considerably, being a sharper one, sounding like the word, chin, chin, chin, very often repeated.—W. D.]

We only procured a single pair of this species in Tenasserim, a male at Malewoon in April, a female at Patoe Island in the Mergui Harbour in November, seeing the male at the same time; but Davison shot and preserved between sixty and seventy specimens in the Malay Peninsula, and I am therefore able to give the dimensions of a very large series of measurements recorded in the flesh:—

Males.—Length, 5·25 to 5·75; expanse, 7·35 to 7·75; tail from vent, 2 to 2·75; wing, 2·35 to 2·5; tarsus, 0·5 to 0·6; bill from gape, 0·8 to 0·9; weight, 0·35 to 0·4 oz.

Females.—Length, 4·85 to 5·25; expanse, 6·75 to 7·12; tail from vent, 1·75 to 1·95; wing, 2·12 to 2·35; tarsus, 0·5 to 0·55; bill from gape, 0·8 to 0·85; weight, 0·25 to 0·33 oz.

The legs and feet are black or bluish black; the bill black; the irides dark brown.

Mr. Gould, B. of Asia, Pt. XIX, Pl. 6, figures what I suppose to be this same species, but he omits, alike in the plate and in the description, the most characteristic feature in the bird's

plumage, *viz.*, the magnificent golden bronze of the central portion of the throat and upper breast.

The male has the entire cap emerald metallic green, somewhat darker than in *L. braziliana*; the lores, sides of the head and neck, interscapulary region, and upper back velvet black; lesser and median coverts, scapulars, lower half of back, rump and upper tail coverts, metallic green in one light, more or less puce color in another; tail black, with a violet tinge, becoming puce in all lights on the margins of the feathers, especially towards their bases; chin, and sometimes a little of the middle of the upper throat joining the chin, black; rest of the middle of the throat, front of the neck, and upper breast, a magnificent golden bronze; more bronzy in one light, redder in another, especially on the upper part of the throat; a line running down from the base of the lower mandible on either side bounding the golden bronze, lower part of breast and upper part of abdomen metallic, more or less violet in one light, puce-colored in another; axillary tufts bright yellow; wing-lining, sides (a little streaked with greyish white), lower abdomen, vent, and lower tail-coverts black or dusky black; quills and their greater coverts blackish brown, paling on the inner webs, and the coverts with a faint purplish reflection.

In some specimens the margins to the tail feathers are decidedly green; in others patches of green are intermingled with the violet or puce.

Of the female a very careful description will be found, S. F., III., 319 *n*, and it will be noticed that she has conspicuous white tips to the lateral tail feathers, of which there is no trace in the male.

In a young male the top and sides of the head, back and sides of the neck and upper back are grey brown, with a few green feathers breaking through on the occiput, a few black ones on the middle of the back and sides of the neck, and the ear-coverts are entirely black; on the lower parts there are only a few puce-colored feathers; the parts usually of this color being yellowish white. The golden bronze patch is less in extent, and the central tail feathers are not fully developed; otherwise the bird is like the adult.

233 *bis.*—Leptocoma braziliana,* *Gm.* (33).

Moulmein; Amherst; Yea; Om-a-gwen; Tavoy; Pabyin; Mergui; Choungthanoung; Bankasoon; Malewoon.

Occurs from Moulmein southwards, rare at first, becoming more common lower down the province.

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* For reasons for adhering to this name, *vide* S. F., V., 278.

[The head-quarters of this lovely species seems to me to be the extreme south of Tenasserim. About Mergui, and between Mergui and the Pakchan Estuary, it was common to a degree; frequenting principally the gardens and cocoanut palms, but found also occasionally in forest where this is not too thick, and in the mangroves that everywhere about Mergui fringe the interminable labyrinths of creeks. Northwards I obtained it at Tavoy and Yea, but did not observe it further north in Tenasserim, though it has been obtained at Moulmein, where however it is rare.—W. D.]

Neither have I received it from Pegu, but it again appears in the Arracan Hills, Chittagong, and Hill Tipperah, where I have obtained it, and whence many specimens were sent me long ago by the late Mr. Irwin.

As far as I can judge from our very large series killed at different times, this species has no distinctive non-breeding plumage.

This species is a true Honeysucker, feeding almost exclusively on nectar, and its note like that of the rest of its congeners [illegible] very feeble chip, chip, uttered as its flies from flower to flower.

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 3·8 to 4·12; expanse, 5·85 to 6·25; tail from [illegible] to 1·45; wing, 1·75 to 1·95; tarsus, 0·45 to 0·5; [illegible] gape, 0·6 to 0·65; weight, 0·2 to 0·25 oz.

Females.—Length, 3·75 to 3·85; expanse, 5·82 to 6·12; tail from vent, 2·12 to 2·25; wing, 1·75 to 1·85; tarsus, 0·5; bill from gape, 0·62 to 0·65; weight, 0·2 to 0·25 oz.

The bill, legs and feet are black; irides deep brown.

The adult male has the entire cap and nape intensely bright metallic green; lores, ear-coverts, sides and back of neck, and upper back, tips of the longest scapulars and median wing-coverts, velvet black; lesser wing-coverts, greater part of the scapulars, middle of back, rump and upper tail-coverts bluish metallic green, with purplish reflections in certain lights; chin, throat, front of the neck, and just the upper margin of the breast, intense rich metallic purple, redder in one light, bluer in another. In dried specimens, a slight rumpling of the feathers of the chin and the middle of the upper part of the throat produce the effect of a black patch, but there is really nothing of the kind, the metallic purple is unbroken to the base of the bill; breast and sides of the base of the neck and upper abdomen deep blood red, with a maroon tinge; wing-lining (except towards the edge of the wing where it is black), sides, flanks, lower abdomen, vent and lower tail-coverts, dusky, pencilled especially on the flanks with grey; tail black, with faint violet reflections on the central feathers, and the outer

margins of the others; quills and greater coverts blackish brown; the former with excessively narrow paler margins on the outer webs, scarcely perceptible.

The female is a dull olive green above; the wings pale hair-brown; the coverts margined with olive green; the quills, especially some of the secondaries, with more rufescent olive; the tail blackish brown with bluish reflections, margined towards the bases with olive, and the exterior tail feathers broadly, and the rest, excepting the central tail feathers which have a mere trace of it, more and more narrowly margined at the tips with dull white; entire lower parts pale greenish yellow; purer yellow on the middle of the abdomen, and more richly colored, perhaps with the faintest tinge of orange, on the breast.

233 *ter*.—Anthreptes malaccensis, *Scop.* (37).

Amherst; Thayetchoung; Shymotee; Mergui; Patoe Island; Sadyiu; Chounpyah.

Common along and near the coast line southwards from Amherst.

[I never met with this species north of Amherst; and thence southwards until Mergui is reached the species must be accounted a rare one. Southwards from Mergui, in our own territory, and along the western coast of the Malayan Peninsula to its extremity at Johore, it is *one* of the most, if not actually *the* most, common of all the Sunbirds, occurring in numbers in every garden and cocoanut plantation, amongst the mangroves that fringe the shores, and almost wherever flowers are to be seen; only it seems to shun the denser portions of the forest and the dense scrub jungle.

Both this species and *nuchalis*, which is truly an *Anthreptes* in all its habits, differ somewhat from the true Honeysuckers, in feeding more largely on insects, and less on nectar, and in making more use of their feet and less of their wings when moving about among the flowers and foliage.

The male of this species occasionally utters a feeble song, if its few twittering notes can be dignified by this appellation, but it is very distinctly more of a song than the chirruping of an *Æthopyga*.—W. D.]

Although in Tenasserim this species has not yet been observed north of Amherst, yet it occurs, I know, along the Arracan coast, and I have received specimens of it from Akyab. It seems to me to be a sea-coast loving bird, and hence probably does not get above Amherst, the most northerly point on the Tenasserim coast, to which the pure *sea* extends; above that the whole head of the Gulf of Martaban is just a great common estuary of a number of huge rivers. Again, the whole southern coast of

Pegu is a mere network of the mouths of the Irrawaddy, and it is not till you round the corner at Cape Negrais, that you get real pure sea again, and not till then that you again meet with this pretty species. Such at least is my present theory, and I propound it *tamquam valeat*.

This species has no special breeding plumage; this we can pretty confidently assert, having obtained it at all seasons.

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 5·12 to 5·4; expanse, 8·12 to 8·62; tail from vent, 1·75 to 2·0; wing, 2·5 to 2·75; tarsus, 0·62 to 0·65; bill from gape, 0·75 to 0·8; weight, 0·4 to 0·5 oz.

Females.—Length, 4·75 to 5·12; expanse, 7·9 to 8·12; tail from vent, 1·5 to 1·75; wing, 2·37 to 2·5; tarsus, 0·55 to 0·62; bill from gape, 0·7 to 0·8.

Colors of the soft parts are variable; the legs and feet are generally a dark sap green, or dirty green, with the feet slightly lighter colored, and the soles pale yellowish green, but the feet have sometimes a yellowish tinge, and are sometimes orange, barely tinged with green, and with the soles a clear orange; the claws are generally green; the bill is dark horny brown, in some nearly black; the gape orange; the irides vary most of all—equally in both sexes and killed at the same season,—from light red to dark brown. Neither does this appear to be due to age, as we have some clearly adult full-plumaged males, with light red irides.

The male has the lores, cheeks, ear-coverts and sides of the head behind the eye dull yellow olive; a narrow metallic puce-colored stripe from the base of the lower mandible on either side right to the breast; the chin and rest of the space enclosed between these two stripes pale reddish brown; forehead, crown, occiput, nape, sides of the neck behind the olivaceous face patch, entire interscapulary region, and all but the longest scapulars, metallic green, glossed with pinkish purple; lesser and some of the median wing coverts, rump and upper tail-coverts metallic violet, glossed with purple or puce color; median coverts and longer scapulars ferruginous olive; quills and greater coverts dull hair brown; primaries excessively narrowly, secondaries and tertiaries and their greater coverts more broadly, margined with olive yellow; breast and entire rest of lower parts clear yellow, shaded with olive on the flanks and sides, and sometimes a little on the breast; edge of the wing brown; wing-lining white, tinged brownish towards the edge of the wing, and faintly with olive elsewhere; tail feathers hair brown, blackish on the central ones, and on the outer webs of the next two or three pairs, and all these like the central ones more or less margined metallic on the outer webs, dull blue in most lights, a little greenish in some.

In the female a narrow line from the nostrils to the anterior angle of the eye, and eyelid feathers, greenish white; entire upper parts, except wings and tail, dull olive green, greyer about the nape, yellower on the upper tail-coverts; feathers of the crown obscurely brown-centred in some specimens, producing a slight scaly appearance; wings and tail hair brown; cheeks, ear-coverts, and sides of the neck unicolorous with the nape, but with traces of a dark line under the orbit; entire lower parts dull pale yellowish green, brightening to pale yellow on the middle of the breast and abdomen; wing-lining nearly pure white, with here and there a faint yellow tinge; wings and tail hair brown, the feathers narrowly margined on the outer webs with an olive yellow, much the color of the upper tail-coverts.

The young males are very like the females, but are a darker and more olive green above; the wing margins are more rufescent, and the chin, throat and upper breast are overlaid with a faint ochreous shade, and they want the pure yellow of the middle of the abdomen.

233 *quat.*—Anthreptes simplex, *S. Müll.* (6). ♀
DESCR. S. F., III., 320 *n.*

Pabyin; Tenasserim Town; Bankasoon; Malewoon.

Confined to the extreme south of the province.

[A very rare bird, whose habits I have had no opportunity of observing as, unlike many of the rarer Tenasserim forms, I never met with this further south in the Malay Peninsula. One I shot was hunting about in the topmost branches of a large tree in open jungle.—W. D.]

The specimen described by me, *loc. cit. sup.* as *A. xanthochlora*, has been pronounced by Captain Shelley to be the female of this species. Another female subsequently obtained is still smaller, and has the wing only 2·0. It seems almost incredible that this tiny bird should be the female of *simplex*, but it may be a young female.

The adult males are much larger.

Length, 4·75 to 5·25; expanse, 7·37 to 7·75; tail from vent, 1·82 to 2·0; wing, 2·38 to 2·4; tarsus, 0·6; bill from gape, 0·65 to 0·67.

The legs and feet were pale dirty green; the bill dark horny brown; the irides wood brown.

As for the plumage, the description given in the case of the female, will apply precisely, except that the lower surface of the male is pale greenish grey, rather than pale green, and that the male has a small black frontal patch, glossed with metallic green. Note that the outermost pair of tail feathers are 0·15 shorter than the rest, and not 1·05 as misprinted *loc. cit.*

233 *sext.*—Chalcoparia singalensis,* *Gm.* (42). DESCR. S. F., III., 86.

(*Tsughoo*, Rams.) Pahpoon; Salween R; Kaukaryit, Houngthraw R; Moulmein; Pahyouk; Yea-boo; Amherst; Tavoy; Mergui; Tenasserim Town; Pakchan; Bankasoon; Malewoon.

Found throughout the province, but not ascending the hills.

[In its habits this species differs conspicuously from all its congeners, reminding one very much of the White-eyed Tit (*Zosterops palpebrosus*), or again of *Timalia* (*Cyanoderma*) *erythroptera*. Except perhaps during the breeding season, it goes about in small parties of from five to ten in amongst the under-growth, or the skirts of the forest, or in scrub jungle, hunting amongst the foliage and roots of the trees for insects on which it chiefly subsists, and keeping up the while an incessant twittering.

Of other species of Sunbirds a dozen, or even at times fifty, may be seen about a single tree; but in the case of these there is never any concerted action between mor than a single pair. They do not go about in flocks, though many individuals may happen to collect in a single place, but the present species, when not breeding, is almost always seen in flocks working together in concert, invariably moving away from one place to another at the same time, and hunting some high and some low, just as a mob of our Titmice on the Himalayas may often be seen doing.—W. D.]

The most northerly point from which this species has been obtained is the Bhootan Doars; thence it stretches southwards along the Brahmapootra, and eastwards across them into Assam, the Khasia Hills, Mymensing, Sylhet, Cachar, Dacca, Tipperah, Chittagong, Arracan, and Pegu, avoiding however the dry northern portion of the latter province, but being common enough about Rangoon and the neighbourhood of the Sittang (where Mr. Oates has found it breeding, and has taken many nests), throughout the entire length of Tenasserim, from Tounghoo to the Pakchan, and thence southwards throughout the Malay Peninsula (I mean of course the western half of this, of the eastern transmontane portion I know as yet nothing) to Johore and Singapore.

In the lower portions of Pegu, about Moulmein and southwards to the Pakchan Estuary, it is common and abundant; but it is much rarer both northwards and southwards of this tract of country, which appears to be, on the mainland at any rate, its head-quarters.

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* For reasons for the retention of this name, *vide* S. F., V., 978.

Male.—Length, 4·25 to 4·62 ; expanse, 6·75 to 7 ; tail, 1·5 to 1·75 ; wing, 2· to 2·12 ; tarsus, 0·62 to 0·75 ; bill from gape, 0·6 to 0·62 ; weight, 0·25 to 0·3 oz.

Female.—Length, 4·25 to 4·3 ; expanse, 6·5 to 6·75 ; tail, 1·6 ; wing, 1·85 to 2·12 ; tarsus, 0·6 to 0·62 ; bill from gape, 0·55 to 0·6.

The legs and feet are a dark brownish green or greenish horny ; the feet sometimes paler ; the claws dirty green ; the bill black, or dark horny brown, paler at the angle of the gonys ; the gape yellowish ; the base sometimes reddish brown; the irides in some dark brown, in others crimson lake. This, as in *Anthreptes malaccensis*, not dependent apparently either on sex or age.

234.—Arachnechthra asiatica, *Lin.* (17).

(*Tonghoo, Karennee*, Rams.) Kyouknyat ; Pahpoon ; Salween R. ; Theinzeik ; Wimpong ; Thoungsha Gyne R. ; Kanee ; Monmenzeik ; Ngabeemah ; Amherst ; Lemyne.

Confined to the northern and central portions of the province, not ascending the hills or entering the thick forests.

[This species occurs from Pahpoon to about Yea, but does not apparently occur any where south of that place even as a straggler. I have kept a special look-out for it, but the most southernly point at which I saw it or obtained it, was Lemyne, about one day's march north of Yea, so that we may, I think, safely take the northern bank of the Yea river as its most southern range. When it does occur it is found in gardens and cultivated ground, and in the uncultivated parts in places that are only thinly wooded or quite bare, with the exception of a few bushes studded about. It appears to avoid entirely the more densely-wooded portions of the country. As is well known the male of this species in the non-breeding plumage is very similar to the female, but has a dark stripe running down from the chin to the lower abdomen.—W. D.]

This pretty species has been rather hardly treated by us in India of late years; first I divided off the larger billed, more brilliant colored eastern and southern birds as *intermedia*, and more recently Mr. Blanford has separated the rather smaller shorter billed western birds (which moreover have the undersurface in the winter plumage paler and whiter) as *brevirostris*.

In my opinion neither of these species merit retention, but certainly of the two, *intermedia* is the most strongly characterized ; *brevirostris* appears to me to be nothing but the ordinary *asiatica* of the whole of the dry plains portion of India, and I think I understood Mr. Blanford himself to say that Sindh specimens were probably not separable from *brevirostris*.

I have measured the bills of a considerable number of specimens and with the following results :—

Length of bill.	Localities from which the specimens were obtained.
0·6	Sehwan, Sindh ; Larkhana, Sindh ; Sambhur ; Lahore ; near Moulmein.
0·62	Rangoon ; Kutch ; Mt. Aboo.
0·63	Dera Ghazi Khan ; Muttra ; Sambhur ; Sehwan ; Goorgaon ; and *brevirostris*, Rampur, Beloochistan.
0·64	Goorgaon.
0·65	Bombay ; Goorgaon ; Sambhur ; Mussoorie ; Attaran River, Burma ; Pahpoon, Burma.
0·67	Goorgaon ; Raipoor ; Rangoon.
0·68	Muttra ; the Guj, Sindh ; Raipoor ; Ootacamund.
0·69	Kyoukphyoo ; Tuticorin ; Simla ; Agra.
0·7	Tipperah ; Mynal, Travancore ; Tipperah ; Ootacamund ; Raipoor ; Dacca ; Matheran ; Salween District, Burma.
,,	
0·72	Salem ; Sumbulpoor.
0·73	Raipoor ; Salem ; Tipperah ; Dacca ; Tipperah.
0·74	Raipoor.
0·75	Raipoor ; Dacca.

All these specimens are perfect adult males ; other dimensions vary somewhat similarly, but not quite proportionally. I cannot see myself how the difference in dimensions will assist any one to divide this species. *Brevirostris* is said to have a green instead of a purple gloss on the upper parts ; but so have at least three-fourths of the Indian birds, from the drier plains portions of the country. I have a dozen specimens from different parts of India absolutely inseparable in every respect, from one of the types of *brevirostris* obtained from Mr. Blanford. To see the purple gloss in its perfection you must get a Rangoon or Commilla bird. In my opinion all that can be said is, that the western birds from the dry plains country run smaller and greener, while those from the well-watered, eastern and southern regions run as a rule larger and purpler.

I should unhesitatingly suppress *intermedia* myself, and I think that *brevirostris* should, *a fortiori*, be suppressed.

As to distribution I need only say that it extends far into the Himalayas, that I have obtained it in the valley of the Beas, almost at the foot of the Rohtung Pass, in the valley of the Sutlej as far as Chini. In the valley of the Ganges or rather Bhagarutti to within four or five marches of Gungootri, but eastward of this I do not remember observing it, at any great distance from the plains. Westward, if I am correct in uniting *brevirostris*, it extends to the borders of Persia. Eastwards it is found far up in the valley of Assam, and thence extends

through the Burmese countries and British Burma to Arracan, Pegu, and the northern and central portions of Tenasserim, but the river Yea appears to be here its absolute southern boundary, beyond which Davison has never observed a single specimen.

234 *ter*.—Arachnechthra flammaxillaris, *Blyth*. (41).

DESCR. S. F., IV., 314.

Salween R; Wimpong; Kanee; Kaukaryit, Houngthraw R.; Megaloon; Moulmein; Yea-boo; Meetan; Amherst; Yea; Pabyin; Zadawoon; Mergui; Kolan Island; Tenasserim Town; Choungthanoung; Palaw-ton-ton; Malewoon.

Almost confined to the southern and central portions of the province. Rare in the north.

[At Mergui and along the coast to Malewoon it is extremely abundant, at any rate in December and January, and it was then in full breeding plumage. Like *asiatica* the males put off the breeding plumage, and assume a dress precisely similar to that of the female, except in so far that they retain a gular stripe. Specimens killed at the close of April had nearly completed the change.—W. D.]

The exact limits of this species have yet to be defined. All I can say certainly about it is that it occurs in Arracan southwards of Akyab, that it occurs in the southern half of Pegu, in Central and Southern Tenasserim, and thence again along the west coast of the Peninsula at Tonka and Penang. Further south than this I have not obtained it.

Males measured.—Length, 4·4 to 4·5; expanse, 6·3 to 6·8; tail from vent, 1·45 to 1·55; wing, 1·95 to 2·12; tarsus, 0·5 to 0·55; bill from gape, 0·7 to 0·8; weight, a little over, 0·25 oz.

Females.—Length, 4·27 to 4·37; expanse, 6·25 to 6·5; tail from vent, 1·3 to 1·45; wing, 2· to 2·05; tarsus, 0·45 to 0·5; bill from gape, 0·7 to 0·75.

Legs, feet, bill and claws, black; irides dark brown.

236.—Dicæum cruentatum, *Lin*. (45).

(*Tonghoo*, Rams.) Wimpong; Kaukaryit, Houngthraw R.; Thatone; Moulmein; Monmenzeik; Pabyouk; Yea-boo; Letet; Karope; Amherst; Yea; Meeta Myo; Taroy; Shymotee; Pabyin; Mergui; Patoi Is.; Tenasserim Town; Malewoon.

Apparently confined in Tenasserim proper to the central and southern portions of the province, but re-appearing again in the extreme north.

[From Moulmein to the Pakchan this is a common species occurring in gardens, cocoanut plantations, scrub jungle, and wherever there are any flowers.

In habits this and the other species of Burman Flowerpeckers quite resemble the Indian ones, *D. concolor*, and *erythrorhyncha*.

They have a sharp note, or rather series of notes (which might be [illegible] nearly imitated by drawing the point of a nail or hard-[illegible] substance in a series of jerks over a pane of glass) which [illegible]tter at short intervals. They are particularly fond of [illegible]equenting the dense clumps of parasitical plants growing on other trees, and feeding on the fruit, especially of the *Loranthus*. They also feed on minute insects and on the nectar of flowers, as is shown by the forehead and crown being often coated with pollen.—W. D.]

Count Salvadori (U. de B.) seems disposed to accept *ignitum* of Begbie from Malacca as distinct on the strength of Lord Walden's remark, P. Z. S., 1866, 544, that the specimens he had seen from the Peninsular differed in being smaller and having a shorter bill, and by the black portion of the plumage being a deep blue rather than a deep green black; the red plumage also being of a richer tone.

We have an enormous series of these from all parts of Tenasserim, from Malacca, from Akyab and Rangoon, Calcutta, Commilla, Dacca, and Assam, and I must confess my inability to discover the slightest difference in coloration between the birds as a body from these different localities.

Individual specimens in each locality differ a little in the points noticed by Lord Walden, and this is due apparently to the season at which they are killed.

As regards size of bill again I cannot detect the smallest constant difference, but it seems to me that in Malayan specimens the wings do perhaps *average* from 3 to 5-hundreths of an inch shorter than Indian ones. There is no such thing, however, as discriminating Straits specimens from Indian ones by measurement; some Indian specimens have the wing only 1·8, and none of the Straits specimens that I possess have smaller wings than this. I speak of course of males, and the wings of these in the Straits run up to 1·95 against 2·0 as a maximum of Indian specimens. Most certainly the Malaccan birds are not distinct. I do not think that they are even a distinguishable race.

The following are dimensions, &c., recorded in the flesh of Tenasserim specimens:—

Males.—Length, 3·5 to 3·82; expanse, 6·25 to 6·5; tail from vent, 1·0 to 1·6; wing, 1·85 to 2·0; tarsus, 0·45 to 0·55; bill from gape, 0·4 to 0·5; weight 0·25 oz.

Females.—Length, 3·5 to 4·82; expanse, 6·0 to 6·25; tail from vent, 0·82 to 1·12; wing, 1·75 to 2·0; tarsus, 0·45 to 0·5; bill from gape, 0·42 to 0·5; weight, about 0·2 oz.

Legs, feet and claws black or blackish brown; bill black; irides dark brown.

236 *bis*.—Dicæum trigonostigma, *Scop.* (18).

(*Karen hills* at 3,000 feet, Rams.) Moulmein; Amherst; Ushe[illegible]none; Mergui; Bopyin; Bankasoon.

Only observed in Tenasserim proper, southwards [illegible] mein, but re-appearing in the Karen hills in the extreme north[illegible]

[To the north of Mergui this species is but seldom met with, but at Mergui and to the south of this place to the Pakchan it is by no means uncommon. Amherst was the most northerly point in Tenasserim at which I procured it.

In its habits, the localities it frequents, &c., it quite resembles the more common *D. cruentatum*.—W. D.]

The following are dimensions, &c., of this species recorded in the flesh :—

Males.—Length, 3·45 to 3·75; expanse, 6 to 6·5; tail from vent, 0·82 to 1·0; wing, 1·76 to 2·05; tarsus, 0·5 to 0·52; bill from gape, 0·49 to 0·55; weight, 0·23 to 0·28 oz.

Female.—Length, 3·62; expanse, 6·12; tail from vent, 1·0; wing, 1·82; tarsus, 0·5; bill from gape, 0·55; weight, ? 0·5 oz.

The males have the legs and feet horny black; the bill black; irides brown.

The females have the legs, feet, and claws greenish to dark plumbeous; the upper mandible from tip to nostril, and tip of lower mandible, blackish horny; base of upper mandible reddish brown; lower mandible (except the tip) and gape pale orange brown to orange vermilion; irides grey to dark brown.

The male has a broad line through the lores dusky blackish; forehead, crown, occiput, nape, and a small portion of the upper back, upper portion of sides of the neck, scapulars and wing-coverts, dull leaden blue, with a faint glossy sheen; cheeks and ear-coverts in some duskier, in some rather paler; chin, throat, extreme upper portion of breast and lower half of sides of the neck very pale clear grey; breast, abdomen and rest of lower parts bright orange yellow, more fiery on the breast and upper abdomen; wing-lining and axillaries pure white; inter scapulary region, where not blue, and part of middle of the back, flame colored; rest of back and upper tail-coverts, more or less fiery orange; quills hair brown, edged with the same color as the coverts; tail blackish brown, margined similarly; the longest of the upper tail-coverts are also generally of this same leaden or dark slaty blue.

The female has the crown, occiput, nape, mantle, lores, cheeks, ear-coverts and upper part of sides of the neck, dull olive green, more or less greyish in some specimens, with generally a certain ferruginous orange tinge in the middle of the back; the rump is yellow, slightly orange, slightly pencilled with olivaceous, and all but the longest upper tail-coverts a decided orange.

The upper surface in some birds is greyer, and the orange tinge in the middle of the back is almost wanting, but I have seen no unfaded specimen, anything like so grey as the figure in the *Ibis*, Pl. X., 1876, and the bill is not correctly colored.

The chin and upper part of the throat is a sordid greenish white; the rest of the throat and breast and lower halves of sides of the neck, grey or greyish white, with a greenish tinge; the middle of the abdomen, vent and lower tail-coverts bright yellow, with more or less of an orange tinge, especially in some specimens, on the latter; wing-lining and axillaries pure white; sides of the abdomen and flanks greyish olive fringed and shaded with yellow; wing dark hair brown; coverts and tertiaries margined with olive green or olive yellow; primaries and secondaries with bluish grey to greyish white margins; tail hair brown; some of the longest upper tail-coverts are sometimes olive green, with only a faint orange tinge; tibial plumes in both sexes whitish.

237.—Dicæum chrysorrhæum, *Tem.* (15).

(*Tonghoo*, Rams.) Pahpoon; Kaukaryit, Houngthraw R.; Shymotee; Pabyin; Mergui; Malewoon.

Occurs throughout the province, but sparingly, and does not ascend the hills.

[Occurs throughout Tenasserim, except, so far as I know, in the dry deciduous forests south of Moulmein, but it is nowhere common. Like the other species of the genus, it feeds much on the glutinous fruit of the *Loranthus*. It never goes far into dense forests, though I have shot it at their edges.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 4·2 to 4·4; expanse, 7·4 to 7·6; tail from vent, 1·2 to 1·4; wing, 2·35 to 2·4; tarsus, 0·5 to 0·6; bill from gape, 0·48 to 0·55; weight, 0·3 to 0·4 oz.

Females.—Length, 4·12 to 4·25; expanse, 7·2 to 7·5; tail from vent, 1·25; wing, 2·2 to 2·45; tarsus, 0·45 to 0·6; bill from gape, 0·5; weight, 0·3 to 0·4. oz.

Legs and feet very dark plumbeous; upper mandible and tip of lower mandible black; rest of lower mandible plumbeous; irides orange red to bright crimson.

237 *ter.*—Dicæum olivaceum, *Wald.* (7). Descr. S. F., III., 403; IV., 498.

(*Tonghoo Hills, Karen Hills*, Rams). Pahpoon; Salween R.; Wimpong; Meetan.

Confined to the northern and central hilly portions of the province.

The specimens entered in my first list (S. F., II., 473) as *virescens*, Hume, prove on examination to belong to this present species.

The following are dimensions, &c., of two males and one female recorded in the flesh:—

Males.—Length, 3·2 to 3·45; expanse, 5·7 to 5·82; tail from vent, 0·9; wing, 1·7 to 1·8; bill from gape, 0·4 to 0·46.

Female.—Length, 3·5; expanse, 5·75; tail from vent, 1·0; wing, 1·75.

Legs and feet very dark plumbeous; upper mandible and tip of lower mandible very dark brown or black; rest of lower mandible pale plumbeous; irides deep brown.

238.—Dicæum erythrorhyncha, *Lath.* (1).

Blyth says (B. of B., p. 143): "Exceedingly abundant in the jungles near Moulmein." They doubtless must be so, but it can only be at one particular season, as Bingham and Davison have hunted these jungles, day after day, for weeks at a time, the former only obtaining it, and then only a single specimen. Davison, during four years of constant collecting work, has never seen this species anywhere, as yet, in Tenasserim.

240 *quat.*—Prionochilus percussus, *Tem.* (1)

Bankasoon.

A mere straggler at the extreme south of the province.

[Though I obtained only one specimen in Tenasserim, I had ample opportunities of observing this species in the Malay Peninsula.

It has much the same sharp note as the *Dicæums* have, and very similar habits. It is generally seen in pairs or singly, never in flocks, feeding by preference on the fruit of various Loranths. They may often be seen working in and out amongst the smaller branches of trees, and the tufts of parasites hanging to these; but I have never seen them in brushwood or near the ground. They do partly eat insects, but only I think when they can find no small berries, for though they vastly prefer that of the Loranth, they apparently eat any small fruit that they can find.—W. D.]

The following are dimensions recorded in the flesh:—

Males.—Length, 3·6 to 4·0; expanse, 6·25 to 7·0; tail from vent, 1·05 to 1·35; wing, 2·05 to 2·2; tarsus, 0·5 to 0·55; bill from gape, 0·4 to 0·5; weight, 0·25 to 0·3 oz.

A fully adult female measured:—

Length, 3·75; expanse, 6·4; tail from vent, 1·0; wing, 1·9; tarsus, 0·5; bill from gape, 0·4; weight, 0·26 oz.

The male has a patch of bright scarlet, beginning about the middle of the forehead, and occupying the centre of the crown.

The size of this patch varies in different specimens. In the finest it is about 0·4 long, and 0·2 broad in front to 0·3 behind. A small white moustachial stripe at the base of the lower mandible; lores just in front of the eyes blackish; rest of top, back and sides of the head, black; scapulars, wing-coverts, rump and upper tail-coverts, dull leaden blue. Sometimes there is a very narrow black frontal band, and the whole lores are then black; sometimes again the ear-coverts and cheeks are blackish; but more commonly all these parts are as above described. Quills and tail dark hair brown, margined except towards the tips of the earlier primaries, with the color of the back; the central tail feathers and the visible portions of the tertiaries being almost overlaid with this color; point of the chin white; wing-lining and the immensely developed axillary tufts, satin white; lower tail-coverts yellowish white; rest of lower parts very bright yellow paling towards the vent, a little lined with grey on the flanks, and with a scarlet flame-colored patch at the base of the neck in front, in the middle of the upper breast; a narrow dark line divides the white moustachial stripe from the yellow of the throat.

In somewhat younger males the throat patch is paler; a little [illegible]e green is mingled with the blue of the mantle, and the [illegible]maries and secondaries are margined with greenish olive [illegible]llow.

A younger male still has the whole upper surface dark olive green, yellower on rump, upper tail-coverts and margins of quills and tail. Three or four blue feathers on the head, where the flame-colored patch is only about 0·15 in diameter; lower surface, a dark sordid olive green, mixed with grey, and one or two yellow feathers on the throat.

Quite young males and females are nearly uniform dull olive green above, a little brighter on the rump, upper tail-coverts, edges of wing and tail. The whole lower surface a nearly uniform greyish olive green, a little greener only on the breast, and a shade yellower on the abdomen; no trace of yellow or blue or of crown or breast patches.

In this stage the bird is very like the young and female of *thoracicus*. The bill of this latter is generally broader and more massive, but this distinction is not to be absolutely relied on, as the size of the bill varies in both species, and a large bill in *percussus* is not always to be distinguished from a small bill in *thoracicus*. In this latter, however, the wing is longer, and there is always, alike on rump, upper and lower tail-coverts, and edges of quills, a brighter yellow tinge than in any specimen of *percussus*.

The adult female of *percussus* has yet to be described.

She is above a rather pure dark green, tinged yellower on the rump and upper tail-coverts, and on the margins of the secondary greater coverts. In the middle of the crown there is a pretty large patch, exhibiting a faint reddish tinge; she has a pale grey moustachial streak shorter than in the male; the chin and throat are grey, pencilled with pale yellow and dull olive green; the breast and sides of the abdomen are a greyish greenish yellow; in the middle of the breast is a tolerably bright yellow patch, and the middle of the upper abdomen is pale yellow; the middle of the lower abdomen, vent, and lower tail-coverts, yellowish white.

I may mention that we only procured a single specimen, an adult male, in Tenasserim. The above description and measurements are taken from a large series of this species, collected, sexed, and measured in the flesh by Davison and his staff in different parts of the Malay Peninsula.

I think it very probable that the nearly allied *thoracicus*, Tem., may also occur in Tenasserim, though we have never as yet obtained specimens there; and I therefore take this opportunity of adding dimensions and a brief description of this species also. Unfortunately but few of our specimens were measured in the flesh.

Prionochilus thoracicus, Tem. *Male.*—Length, 4; expanse, 7·[illegible]; tail from vent, 1·2; wing, 2·4; tarsus 0·6; bill from gape, 0·5.

Female.—Length, 4·0; expanse, 7·12; tail from vent, 1·0; wing, 2·2; tarsus, 0·6; bill from gape, 0·5.

The adult male has the bill black; a younger male has the lower mandible, (except the tip and gape,) and basal part of upper mandible, orange yellow; rest of upper mandible dusky. An adult female has the upper mandible dull black; the lower mandible blackish plumbeous. Both sexes at all ages appear to have the legs, feet, and claws very dark plumbeous, and the irides deep brown.

The adult male has a small patch on the crown, and a huge oval patch at the base of the throat and on the breast, brilliant crimson; the whole of the rest of the head and neck all round, uppermost part of the back and the breast, velvet black.

The back and scapulars rather dull, perhaps slightly olivaceous yellow; lesser wing-coverts, rump and upper tail-coverts intensely bright yellow; rest of coverts and tertiaries and tail black or blackish; primaries and secondaries hair brown, more or less, but always very narrowly, margined on the outer webs with pale yellow; middle of abdomen and lower tail-coverts clear yellow, paler and not near so intense as the rump and upper tail-coverts; rest of abdomen and flanks greenish olive, mingled with grey; wing-lining and large axillary tufts, satin white.

The adult female—I rely on Davison's sexing—has the entire forehead, crown and occiput dusky greyish, with however in the middle of the crown a greenish olive patch; back, scapulars, lesser and median coverts a dull greenish olive yellow; rump and upper tail-coverts yellow; quills and greater coverts hair brown, margined on the outer webs with olive yellow; chin and centre of upper throat greenish white; rest of throat, neck in front, and sides of the head, grey; the breast feathers greyish at their bases, mingled olive and yellow towards the tips, and with a distinct, though ill-defined, scarlet tinge at the base of the throat in front; the middle of the upper abdomen and the lower tail-coverts pure yellow; vent feathers creamy white or yellowish white; flanks and sides of abdomen mingled grey and dull olive green; wing-lining and axillaries as in the male.

A young male is very similar, but wants the dusky on the head and grey on the sides of the neck; has already the upper tail-coverts a much brighter yellow, and some of the small coverts also bright yellow; has the whole chin and middle of the throat right down to the breast greenish white, and a dark moustachial stripe running from the lower edge of the lower mandible under the cheeks and ear-coverts, and partly round the ends of these; traces of a shorter similar stripe from the gape; the top and sides of the head are olive green.

The bill is as already described.

240 *quint.*—Prionochilus maculatus, *Tem.* (5).

Usheetherrpone; Pakchan; Bankasoon; Malewoon.

The southern portions only of the province, not extending many miles north of Mergui.

[I may here mention that in their habits both the present species and *P. modestus*, Hume, resemble precisely the different species of *Dicæum*, as they do also in the localities they frequent. There is really nothing further to be said about them. The present species was only met with occasionally, and may be accounted rare in Tenasserim.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 3·8 to 3·82; expanse, 6·82 to 6·9; tail from vent, 1· to 1·2; wing, 2·12 to 2·2; tarsus, 0·5; bill from gape, 0·45 to 5·0; weight, 0·25 oz.

Female.—Length, 3·55; expanse, 6·6; tail from vent, 0·95; wing, 2·0; tarsus, 0·5; bill from gape, 0·45.

In the males the legs and feet were very dark plumbeous; in the female dirty smalt blue; the upper mandible and lower mandible to angle of gonys black; rest plumbeous in males; smalt blue in the female; irides dull red.

In this species, the sexes apparently differ only, so far as plumage is concerned, in the males having a brighter, larger and more flame-colored crown patch, which in the females is smaller and more orange. Here again I trust to Davison, who only sexed one adult female.

The lores are greyish; the whole of the top of the head, (excluding the scarlet or flame-colored crown patch,) the back and sides of the neck, back, rump, lesser and median coverts and upper tail-coverts, a moderately bright olive green, yellower on the rump and upper tail-coverts; quills and their greater coverts and tail feathers, pale hair brown, margined, except towards the tips of the earlier primaries, with much the same color as the upper tail-coverts. In some specimens there is a distinct narrow white line running through the lores. Cheeks and ear-coverts somewhat greyer olive green; a broad white mandibular stripe from the base of the lower mandible; chin white, continued as a broad whitish or pale yellow streak down the middle of the throat; lower tail-coverts, feathers of the vent, and a broad stripe down the middle of the body clear yellow, much brighter in some specimens, duller in others, always more intense on the breast; sides of the throat, sides of the breast, abdomen and flanks dull greyish olive green, more or less streaked with pale yellowish or greenish white.

240 *sext.*—Prionochilus modestus, *Hume.* (10). Descr. S. F., III., 298.

Amherst; Mergui; Malewoon.

[This species is also confined to quite the south of the province, occurring only at Mergui and to the south of that place. It was somewhat more common than the preceding species, but could not be accounted a common bird. I never met with it myself in the Malay Peninsula, but obtained a single specimen from a dealer in Malacca.—W. D.]

241.—Myzanthe ignipectus, *Hodgs.* (3).

(*Karennee*, 4,000 feet, Rams.) Mooleyit.

Only found near the summit of Mooleyit, and again high up in the continuation of the same range, in Karennee.

[I had few opportunities of observing this species; their habits appeared to be those of *Dicæum*, and their sharp note precisely similar.—W. D.]

245.—Certhia discolor, *Blyth.* S. F., V., 76, 78.

Obtained by Ramsay in Karennee at from 5,000 to 6,000 feet Not as yet observed elsewhere.

248 *quat.*—Sitta magna, *W. Ramsay*. DESCR. S. F., V., 343.

Obtained by some member of the recent Karennee boundary expedition; probably hardly occurs within even the wide limits now assigned officially to Tenasserim. Note that the bird described was a female and not a male as misprinted in the P. Z. S., 1876, 677.

250 *bis.*—Sitta neglecta, *Wald.* (7). DESCR. S. F., III. 88.

(*Tonghoo, Karennee*, Rams.) Dargwin; Head waters of Thong Yen; Kaukaryit, Houngthraw R.; Larthorgee; E-poo.

Confined to the dry forests of the northern and central portions of the province, and rather rare even there.

[I have only met with this in the deciduous-leaved *Dillenia* forests, between Kaukaryit on the Houngthraw river, and the base of the northern spurs of Mooleyit; but I obtained a specimen (free from the flesh) from a Burman said to have been shot somewhere near Dargwin. It is usually seen in pairs, and has the same note and habits as our common Himalayan Nuthatches.—W. D.

The following are dimensions, &c., of five males and two females:—

Males.—Length, 5·6 to 5·8; expanse, 9·5 to 10·1; tail from vent, 1·6 to 1·8; wing, 3·05 to 3·3; tarsus, 0·7; bill from gape, 0·85 to 0·88; weight, 0·62 to 0·7oz.

Females.—Length, 5·6; expanse, 9·6 to 9·8; tail from vent, 1·6 to 1·65, wing, 3·1 to 3·15; tarsus, 0·7 to 0·75; bill from gape, 0·8 to 0·91; weight, 0·62 oz.

Legs and feet deep greenish plumbeous, or greenish black; upper mandible tip and edge of lower mandible, along commissure, black; rest of bill plumbeous; irides deep brown.

253.—Dendrophila frontalis, *Horsf.* (25).

(*Tonghoo, Karennee*, Rams.) Pine forests, Salween; Kyouk-nyat; Dargwin; Pahpoon; Salween R.; Thatone; Wimpong; Kanee; Ngabeemah; Meetan; Yea; Meeta Myo; Choungthapee; Pakchan; Baukasoon.

Common everywhere throughout the province, but does not ascend above 4,500—5,000 feet.

[The Velvet-fronted Nuthatch ranges through the entire extent of Tenasserim; but is nowhere seen in such numbers as in the Nilgheris and other places in Southern India. I have shot specimen from Pahpoon to the Pakchan which resembles each other precisely. They frequent both dense and deciduous forests, usually in small parties of four or more, sometimes singly

or in pairs. They are always busy, working up and down, and round and round the branches and trunks of trees, standing and fallen; sometimes even foraging in brushwood; always like the rest of the *Sittas* coming down head foremost, never tail foremost, as some Woodpeckers will; feeding exclusively on insects; often hammering away at the bark, like a little *Sasia*, and constantly uttering a sharp chick, chick, chick, rapidly repeated as they work about, but not as they fly.—W. D.]

254 *bis.*—Upupa longirostris, *Jerd.* (33). Descr. S. F., III., 89.

(*Tonghoo*, Rams.) Kollidoo; Pahpoon; Theinzeik; Thatone; Wimpong; Moulmein; Amherst; Pakchan.

Common throughout the province in suitable localities.

[This bird entirely avoids forests, and even the more densely-wooded portions of the cultivated country. It is spread over the whole province, but keeps to the open gardens, fields, grass lands, &c. I found it very common in the plains country lying between the Salween and Sittang rivers; it was also very numerous on the banks of the Pakchan all about Nallansine (known generally as Pakchan) and Kraw, where there is a good deal of cultivation and waste ground, only very sparingly dotted with trees, and little or no herbage of any kind. I have not yet noticed this any further south in the Malay Peninsula.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 12·12 to 12·5; expanse, 17·0 to 18·25; tail from vent, 3·82 to 4·25; wing, 5·15 to 5·62; tarsus, 0·82; bill from gape, 2·62 to 2·8; weight, 2·5 oz.

Females.—Length, 11·5 to 11·75; expanse, 16·25 to 17·35; tail from vent, 4·0 to 4·12; wing, 5·25 to 5·35; tarsus, 0·8 to 0·95; bill from gape, 2·2 to 2·46; weight, 2·5 to 2·75 oz.

Legs and feet pale dull slaty or plumbeous blue; bill horny brown; lower mandible to angle of gonys and upper mandible to nostrils, fleshy pink; irides dark red brown.

258.—Lanius tephronotus, *Vig.* (1).

Kyouk-nyat.

Only a straggler to the northern portion of the province. Davison never saw any but the single specimen he shot.

259.—Lanius nigriceps, *Frankl.* (5).

(*Tonghoo*, Rams.) Pine forests, Salween; Pahpoon; Younzaleen Creek; Khyketo.

Confined to the northern half of the province, and even there uncommon.

[I met with this bird at Pahpoon and the hills to the north of it, as far as the skirts of the pines. I also saw several individuals among the kine grass between Thatone and the banks of the Sittang. I did not meet with it elsewhere in Tenasserim.—W. D.]

260 *ter*.—**Lanius colluroides**, *Less.* (4). DESCR. S. F., III., 90.

(*Tonghoo, Karennee*, Rams) Kollidoo; Moulmein; Amherst.

A rather rare straggler to the northern and central portions of the province.

[I only met with this bird on one occasion, when I saw a pair among some kine grass below Kollidoo, and secured the female, which still showed signs of immaturity.—W. D.]

Capt. Bingham procured a couple in Moulmein.

The following are dimensions, &c., of an adult female measured in the flesh:—

Length, 7·6; expanse, 10·7; tail from vent, 3·6; wing, 3·5; tarsus, 0·93; bill from gape, 0·80.

Bill dark horny; gape and base of lower mandible fleshy white; legs, feet, and claws black; irides dark brown.

Dr. Armstrong also sent me a specimen from Amherst.

260 *ter*.—**Lanius magnirostris**, *Less.* (1).

Tavoy.

A rare straggler to the extreme south of the province.

[Though very rare in Tenasserim I found this plentiful in the Malay Peninsula. I observed nothing special in its habits. It kept in open county and about cultivated lands in the neighbourhood of villages, and comported itself precisely after the manner of *L. erythronotus*.—W. D.]

We only secured one specimen, an old adult, of this species in Tenasserim, but I am able to supply full dimensions and description from specimens collected by Davison in the Malayan Peninsula.

It is extraordinary how seldom adults are met with; out of over 30 specimens only 3 are really adult.

The sexes do not differ perceptibly in dimensions or plumage.

Length, 6·75 to 6·85; expanse, 10 to 10·5; tail from vent, 2·82 to 3·0; wing, 3·12 to 3·37; tarsus, 0·8 to 0·9; bill from gape, 0·85 to 9·0; weight, just over 1 oz.

Legs and feet pale plumbeous blue, lavender blue, sometimes almost smalt blue; irides deep brown; edges of eyelids black; more or less of both mandibles pale plumbeous or pale dull blue.

The old adult has a narrow frontal band, a line over the eye, a streak under the eye, and a broad patch behind the eye,

involving the ear-coverts, black; a faint white line over the eye, sometimes continued over a portion of the black ear patch; the whole of the rest of the forehead, crown, occiput, back and sides of neck, and just the upper portion of the back, very clear pale grey; rest of back, rump and upper tail-coverts, wing-coverts, (except the greater coverts) pale brownish chestnut; all the feathers banded with narrow black bars, (the first interspace generally paler); the general color rather browner on the upper back and more rufous on the rump and upper tail-coverts; the secondary greater coverts and tertiaries similar, but paler and browner, tipped somewhat paler, with one sub-terminal dark band, having a tendency to run up as a dark line just inside the outer margin; winglet, primaries and their greater coverts hair brown; the primaries just perceptibly margined paler, and the secondaries obscurely tipped paler, and the margins rufescent; tail dull pale brownish chestnut; all but the central feathers narrowly tipped with white, with a dark very narrow sub-terminal band; all the tail feathers obscurely transversely rayed paler and darker.

The entire under-parts unmarked and unbarred white; a few only of the posterior flank feathers, nearest the rump, faintly rufescent and barred; a very faint creamy tinge on the throat.

A somewhat younger bird has the whole back and wings pure chestnut, a distinct creamy tinge over the whole throat, breast and abdomen, and a few bars on the sides of the abdomen, as well as on the flanks.

In the stage in which the bird is most commonly met with the whole of the parts that are grey in the adult are a dull rather deep brownish ferruginous (except on the sides of the neck, which are fulvous white), the whole obscurely but narrowly banded with black or blackish brown; the lores and frontal streak are fulvous brown; ear-coverts rufescent, or mingled rufescent and pale fulvous; the sides of the lower mandible and all but the middle of the breast and abdomen barred with blackish brown, the whole lower parts having a creamy tinge, more rufescent on the sides of the abdomen and flanks. Gradually the top of the head and nape become a uniform brownish red, black feathers begin to appear in the lores, and amongst the ear-coverts, the lateral barrings on the lower surface begin to diminish in extent; then pale blue grey feathers begin to appear on the forehead and nape; and gradually the bird passes into the comparatively rare adult stage already described.

261.—Lanius cristatus, *Lin.* (23).

(*Karennee*, Rams.) Kyouk-nyat; Pahpoon; Thatone; Megaloon; Moulmein; Ngabeemah; Amherst; Tavoy; Mergui; Pakchan.

Occurs as a cold weather visitant throughout the province, and is then not uncommon in gardens and the more open portions of the country.

261 *bis*.—Lanius lucionensis, *Lin.* (1). Descr. S. F., II., 199.

Malewoon.

A rare straggler to the southernmost extremity of the province.

263.—Tephrodornis pelvica, *Hodgs.* (39). S. F., III., 92.

(*Karen Hills*, Sims.) Kollidoo; Palipoon; Myawadee; Kankaryit, Houngthraw R.; Topee; Mergui; Pabyouk; Ngabeemah; Paraduba; Meetan; Amherst; Moetama; Pelandoon; Bankasoon. Malewoon.

Common throughout the province, but not ascending the higher hills.

[The Pelandoon bird occurs throughout the province in all kinds of localities where there are any trees. It is found at times in pairs, more often in small parties of from six to eight. It feeds entirely on insects, for which it industriously hunts the leaves and branches of trees, never capturing any on the wing. It is an extremely stupid bird, not minding the report of a gun in the least; so that when you meet a party you may shoot the whole lot. They are very restless; always on the move, and such silent birds that I cannot remember ever to have heard their note.—W. D.]

Although I have entered all our specimens as *pelvica*, they are neither all quite alike, nor are any of them quite identical with specimens from Nepal and Sikim. Beginning at the north at Kollidoo where the birds are largest, the majority are somewhat smaller, and specially have slenderer bills than Himalayan examples; as you proceed southwards, the birds grow distinctly smaller in size, and begin to acquire more of an ashy tinge on the back. In Sikim specimens, and indeed in those from Kollidoo, the grey is confined to the head and neck; but in the most southerly examples from Bankasoon a certain amount of grey on the back, which is characteristic of the more southern *gularis*, begins to appear. In this respect, however, all our specimens are nearer to *pelvica* than *gularis*; but as regards size some of our southern birds are not separable from *gularis*. I have little doubt that, between the Pakchan and Malacca, the most northern locality in the Malay Peninsula from which we have specimens, the two species will be found to grade perfectly into each other. Our forty specimens from various parts of Tenasserim grade so absolutely the one into the other, that it is quite impossible to separate *them*.

The following are the dimensions of the specimens measured in the flesh by us from various parts of Tenasserim, north and south:—

Males.—Length, 7·75 to 8·3; expanse, 13· to 14·35; tail from vent, 3 to 3·5; wing, 4·2 to 4·6; tarsus, 0·7 to 0·8; bill from gape, 1·1 to 1·2; weight, 1· to 1·3 oz.

Females.—Length, 7·79 to 8·62; expanse, 13 to 15·8; tail from vent, 3·1 to 3·5; wing, 4·15 to 4·7; tarsus, 0·75 to 0·85; bill from gape, 1·13 to 1·2; weight, 1·4 to 1·5 oz.

In both sexes the legs and feet are plumbeous, (darker in the male) and the irides yellowish brown, passing to wax yellow; the claws we have recorded as black in the male and plumbeous in the female, but we have only noticed this in three specimens, and it may not be constant.

In the male the bill is black; in the female the bill is darker or lighter horny brown, paler, and sometimes pinkish, at the base.

In younger birds the legs and feet are dirty green or greenish brown.

In the adult male, the lores, a line above and below the eye, and a broad streak behind the eye, enveloping the upper portion of the ear-coverts, are velvet black.

In the females these parts are brown, darker behind the ear and on the lores. In the young male they are as in the female.

Gularis from Sumatra and the Straits only differs in its smaller size, greyer back, nearly unicolorous with the head, much more marked grey, pectoral band, and purer and darker brown tail and wing.

A fine adult female shot at Johore measured:—Length, 7·35, expanse, 12·75; tail from vent, 3·0; wing, 4·25; tarsus, 0·7; bill from gape, 1·1; and weight, 1 oz.

A young male had precisely the same dimensions, except that the wing was only 4·0. It had the legs and feet pale lavender; claws and lower mandible pale horny brown, and the upper mandible dark brown.

265.—Tephrodornis ponticeriana, *Gm.*

Obtained at Tonghoo by Ramsay. Not observed elsewhere as yet in Tenasserim.

266.—Muscitrea grisola, *Blyth.* (5). Descr. S. F., II., 201; V., 101.

Thatone; Kolan Is.

A rare visitant to the province; if common any where, only in the islands of the Mergui Archipelago.

The following are dimensions, &c., of one male and three females recorded in the flesh :—

Male.—Length, 6·5 ; expanse, 10·5 ; tail from vent, 2·9 ; wing, 3·5 ; bill from gape, 0·8 ; weight, 0·75 oz.

Females.—Length, 6·12 to 6·6 ; expanse, 10·2 to 10·5 ; tail from vent, 2·5 to 2·75 ; wing, 3·2 to 3·37 ; tarsus, 0·76 to 0·8 ; bill from gape, 0·76 to 0·8 ; weight, just over 0·75 oz.

Legs and feet dull dirty smalt ; claws paler ; in the male the bill was black ; in the female the upper mandible was pale brown ; the lower mandible fleshy brown, in one pale plumbeous ; irides deep brown or dark red brown.

266 *bis.*—Muscitrea cyanea, *Hume.* (2). Descr. S. F., V., 101. June 1877.

Niltava (!) leucura, *Tweed.* A. & M. N. H., August 1877, p. 95.

(*Taoo* 5,000 ft., Limborg.) Meetan.

A rare straggler to the forests of the lower eastern hills, probably from Siam.

[This is eminently a forest bird. I only met with it on the lower south-western spurs of Mooleyit.

I only saw males singly. They live on insects, which I have once or twice seen them seize on the wing like Flycatchers. They are very restless birds, and move about through the trees constantly, never descending to the ground. When resting for a moment they have a habit of rapidly expanding the tail so as to show the white in it, much as *Myiomela leucura* does. I did not hear them utter any note, and I never saw a female.—W. D.]

Although the Marquis of Tweeddale has called his bird a *Niltava*, to which genus the species cannot possibly be assigned, (see my remarks at the bottom of p. 103, vol. V), the dimensions and description leave no doubt that his bird and mine, both, by the way, collected within a score of miles of each other, are identical.

267.—Hemipus picatus, *Sykes.* (18).

(*Tonghoo, Karennee* at 1,500 feet, Rams.) Kyouk-nyat ; Pahpoon ; Salween R. ; Myawadee ; Meetan ; Amherst ; Lemyne ; Tavoy ; Bopyin ; Pakchan ; Baukasoon.

Generally diffused throughout the province, but nowhere very abundant.

[Generally met with in pairs or small parties of four to six on the outskirts of forests, or in thin tree jungle, and occasionally in gardens when these are near the forest.

They are rather Flycatchers than Shrikes in their habits, moving about, no doubt, amongst the leaves at the tops of trees like

the Woodshrikes, but continually darting out and seizing insects on the wing which the Woodshrikes never, I think, do.

They continually call to each other, uttering a soft sharp note.—W. D.]

If *H. capitalis*, McClelland, *H. picæcolor*, Hodgs., is really distinct from *picatus*, the distribution of the two species is, to say the least, remarkable.

Blyth says of *capitalis* that it "is larger with a proportionately longer tail and has a brown back." As regards size I can discover no difference between specimens from Ceylon, Anjango, and typical *capitalis* from Assam; but I notice that, whereas in Southern Indian birds, and again in our very numerous Tenasserim specimens, almost without exception birds that have black heads have also black backs. In Assam, Sikkim, and Kumaon specimens they have as a rule brown backs; out of ten males from Darjeeling one only has the back jet black; two have the backs mingled black and very dark brown, and the remaining seven have them a darker or lighter shade of brown. The only male I have from Kumaon has the back a very light brown. It seems difficult to suppose that, out of eleven apparently adult birds, only one should be really so. On the other hand a male shot in the Oudh Terai has the back glossy black, and so have two males from Commilla, Tipperah. Again from Assam I have only one male from Shillong, and that has the back brown, a little intermingled with black in the middle of the back. Again I have two from Suddya, one has the back brown, the other brown, with a decided admixture of black. From Assam and the Himalayas, therefore, I have fourteen males, all with glossy black heads; of these, only one has a glossy black back, four have brown backs, more or less intermingled with black, and nine have brown backs of varying shade; thirteen out of the fourteen, therefore, must be more or less immature, and this is a far greater proportion of immature birds than we should expect to procure; unless, indeed, we suppose that the majority of the adult males do assume the black backs.

Though I have at present apparently in my museum only one fully black-backed male from Darjeeling, I have had others and seen several others; still the specimens we *have* are *primâ facie* evidence that these are very rare at Darjeeling as compared with the brown-backed ones.

Can it be that both species occur in the Himalayas, the brown-backed as the resident one, the black-backed as a straggler from below (the birds from the Oudh Terai, it will be remembered, has a jet black back)?

Or is it a case similar to that of *Iora typhia* already fully discussed, S. F., V., 428, *et seq.*, in which in one part of the country

the males always assume a more or less black upper plumage, and in other localities very rarely?

Unfortunately, I do not possess a sufficient series of specimens to decide the point, but I will note the species now for special observation, and shall hope to be able to settle the question before very long.

267 *bis.*—*Hemipus obscurus*, Horsf.

Blyth records this species from Mergui (B. of B., p. 122), I know not on what authority; and, as the neighbourhood of Mergui and the whole country south of this has been exhaustively worked for years by Davison, and when he was elsewhere, by some of his assistants without its ever being obtained *or* seen, I now consider the occurrence of this species within our limits very doubtful.

However in case it should occur, I append dimensions and description taken from specimens collected by Davison in the Malay Peninsula:—

Males.—Length, 5·62 to 5·75; expanse, 8·62; tail from vent, 2·25; wing, 2·5 to 2·7; tarsus, 0·45; bill from gape, 0·75 to 0·85; weight, nearly 0·5 oz.

Females.—Length, 5·35 to 5·8; expanse, 8·75; tail from vent, 2·12 to 2·5; wing, 2·65; tarsus, 0·45 to 0·5; bill from gape, 0·8 to 0·85.

The legs and feet are dark purplish brown to black; bill black in the male; paler, especially on the lower mandible, in the female; irides dark brown.

The male has all but the longest upper tail-coverts and the tips of the posterior rump feathers, chin and throat, lower abdomen, vent and lower tail-coverts, pure white; top and sides of the head and neck, and the rest of the upper plumage, including wings and tail, glossy black, with more or less of a dull greenish reflection; breast and upper abdomen brownish grey.

The female differs in having the black of the male everywhere replaced by a more or less dark brown.

The outer web of the exterior tail feather is in some specimens entirely white, in others narrowly edged with white; sometimes there is barely a trace of this, and sometimes the inner webs of the outer tail feathers are also margined with white.

This species differs from *picatus* in its larger bill, absence of white on collar and on wings, by the want of the conspicuous white tippings to the lateral tail feathers, and by the more pronounced and much darker pectoral band.

268 *bis.*—Volvocivora avensis, *Blyth.* (2). DESCR. S. F., III., 93.

Kaukaryit, Houngthraw R.; Moulmein.

A rare straggler to the dry portions of Central Tenasserim.

268 *quat.*—Volvocivora neglecta, *Hume.* (15). DESCR. S. F., V., 203.

Mergui; Tenasserim Town; Pakchan; Bankasoon; Malewoon.

Confined to the more southern portions of the province, where it replaces *intermedia*.

269 *bis.*—Volvocivora intermedia, *Hume.* (28). DESCR. S. F., V., 205.

Pine forests, Salween; Kollidoo; Kyouk-nyat; Pahpoon: Salween R; Khyketo; Wimpong; Moulmein; Pabyouk; Yea-boo; Mooleyit; Meetan; Quanlah; Amherst; Yea; Zadee; Mergui.

Very common throughout the province, except south of Mergui, where it is replaced by *neglecta*.

[The habits and voice (which by the way one seldom hears, as they are very silent birds) of all these *Volvocivoras* are much the same.

I have found them in the densest forests, in thin jungle, in gardens, in fact, wherever there were trees. They are usually met with singly, never in parties; rarely I have seen a pair together. They never descend to the ground to feed; but if you are sitting about mid-day near a stream, you are sure to see two or three of these birds come down to bathe and drink. As indeed do all the Bulbuls and *Malacopterons*, and scores of others. When feeding, they hunt about the leaves and branches, occasionally seizing insects on the wing.—W. D.]

270.—Graucalus macii, *Less.* (33).

(*Tonghoo Hills, Karennee*, from 2,500 to 4,000 feet, Rams.) Kollidoo; Pahpoon; Thatone; Kaukaryit, Houngthraw R.; Moulmein; Pabyouk; Karope; Amherst; Tavoy; Shymotee; Tenasserim Town; Pakchan.

Generally distributed throughout the less densely wooded portions of the province.

[Although occurring throughout the province, this species is very rare indeed in the extreme south. From Tavoy northwards it is comparatively common, keeping to the thinner portions of the forest, and occasionally venturing into gardens. It has a fine whistling call, uttered chiefly as it flies from tree to tree, but occasionally when seated. It is never seen in parties, usually singly, sometimes in pairs. It is generally seen quietly seated, not threading through the branches like *Volvocivora*, nor capturing insects on the wing. In fact, while it undoubtedly does live on insects, I am rather puzzled as to how it gets them, and I have seen and watched hundreds

not only in Tenasserim, but also in the Andamans, where they are extremely abundant.—W. D.]

271 *ter*.—Pericrocotus elegans, *Mc. Clell.* (20). DESCR. S. F., III., 95 ; V., 194.

(*Tenghoo, Karennee*, Rams.) East Karennee ; Kyouk-nyat ; Pahpoon ; Thoungsheyen Sakan ; Kaukaryit, Houngthraw R. ; E.-poo ; Moulmein ; Pabyouk ; Meetan ; Lemyne ; Malewoon.

Pretty common in the northern and central sections of the province, but very rare in the southern.

[From the Karennee frontier in the north to Tavoy this species is not uncommon, occurring in all the well-wooded portions of the country in small flocks, or sometimes in pairs. I have occasionally met with them in well-wooded gardens.

All the species of *Pericrocoti* have the same habits and much the same note; going about in small flocks, usually amongst the tops of trees, they hunt for insects, which they not unfrequently seize on the wing; they keep much together and are usually very active.

I have at times in the case of this and other species met with parties composed entirely of males or females, but usually the flocks contain both sexes in about equal proportions.—W. D.]

273.—Pericrocotus brevirostris, *Vig.* (1).

(*Karennee* at 3,000 feet, Rams.) Pine forests, Salween.

A single imperfect specimen, which may possibly belong to *neglectus*, as indeed may, not improbably, Ramsay's specimens.

273 *bis*.—Pericrocotus igneus, *Blyth.* (3). DESCR. S. F., V., 190.

Choungthanoung ; Pakchan.

Confined to the neighbourhood of the Pakchan.

273 *ter*.—Pericrocotus neglectus, *Hume.* (2). DESCR. S. F., V., 771, 189.

Mooleyit ; Meetan.

Confined apparently to the hill forests of the central portion of the province.

273 *quat*.—Pericrocotus flammifer, *Hume.* (14). DESCR. S. F. III., 321 *n*., and V., 195.

Pakchan ; Bankasoon.

Common in the neighbourhood of the Pakchan; but not yet observed further north.

Since my article on the *Pericrocoti* was written S. F., V., 195, I have received 12 more specimens of this species corresponding entirely with the original specimens, and fully confirming, if this was necessary, the distinctness of the species. The wings of 7 adult males are 3·49; 3·5; 3·5; 3·6; 3.5; 3·52; 3·47. Of a young male 3·42; this is just changing from the yellow to the red plumage, and accordingly a narrow line of red is just beginning to show on the outer web of the fourth primary. The wings of four females are 3·55; 3·3; 3·4; 3·5.

These taken with the dimensions previously given at page 196, males, 3·5; 3·47; females 3·35; 3·42; sixteen specimens in all, suffice to show the limits within which the species varies. In all the specimens, the first three primaries in the adult male, and the first four in the adult female lack the bright colored patch.

274.—Pericrocotus solaris, *Blyth.* (5). S. F., V., 186.

Thatone; Paraduba; Mooleyit.

Only observed at the base and on the slopes of Mooleyit and near Thatone.

275.—Pericrocotus roseus, *Vieill.* (15). S. F., [illegible].

(*Tonghoo*, Rams.) Palpoon; Salween R.; Beeling; Kaukaryit, [illegible] Amherst; Mergui.

Occurs everywhere throughout the province in suit[illegible] except south of Mergui, but is nowhere very abundant.

276.—Pericrocotus peregrinus, *Lin.* (10). S. F., I., 178; V., 179.

(*Tonghoo*, Lloyd; *Karennee*, Rams.) Thatone; Pabyouk; Yea-boo; Amherst; Sadyin.

Irregularly distributed (in Tenasserim proper chiefly near the coast), and by no means common.

[I have noticed both in Tenasserim and the Andamans that this species is specially partial to mangrove swamps, in which I have never once seen a specimen of any of the other species.—W. D.]

277 *bis*.—Pericrocotus albifrons, *Jerd.* DESCR. S. F., III., 96.

Procured at Tonghoo by Major Lloyd. Not yet observed elsewhere in Tenasserim.

277 *ter*.—Pericrocotus ? cinereus, *Lafres.* (8), ?—modestus, *Strick.* ?—immodestus, *Hume.* DESCR. S. F., V., 175–7.

Mergui; Hankachin; Bankasoon.

Not uncommon in the southernmost district of the province.

[Within our limits from Mergui southwards to the Pakchan, this was not an uncommon species, though not very abundant. In its habits, &c., it resembles the other species of the genus, but is perhaps more often met with in scrub jungle than in the forests.—W. D.]

278.—Buchanga atra, *Herm.* (18).

(*Tonghoo, Karennee*, Rams.) Moulmein; Amherst; Tavoy; Mergui; Pakchan; Malewoon.

Apparently does not occur east of the Sittang; south of Moulmein it is not rare, and extends to the Pakchan.

[This Drongo was most numerous about gardens in both towns and villages, and numbers might always be seen in the extensive ground attached to Salween House, Moulmein—W. D.]

I quite agree with Mr. Sharpe that the various races of this type of Black King Crow so grade into each other that it is inexpedient to make more than one species out of them.

279.—Dicrurus annectans, *Hodgs.* (20).

Shymotee; Mergui; Tenasserim Town; Palaw-ton-ton; Bankasoon; Malewoon.

Confined to the southern third of the province, and here not uncommon.

280.—Buchanga longicaudata, *Hay.* (21).

Moulmein; Yea-boo; Amherst; Tavoy; Mergui.

Met with throughout the province and not rare.

Mr Sharpe, in his admirable Catalogue, Vol. III., 250, remarks:—"Mr Hume would unite *B. pyrrhops* and *B. intermedia* to *B. longicaudata*, as he has examples of all three forms from Dacca. Although it is possible that at Dacca the ranges of these races may coalesce, I agree with Lord Tweeddale that they should not be specifically united."

Now I must first point out that Mr. Sharpe is here using *intermedia* of Blyth as synonymous with *leucophæa*, Vieillot, *cineracea* of Horsfield.

I, however, judging both from the relics of the type and the description, considered *intermedia*, Blyth, to be simply a small specimen of the race designated *pyrrhops* by Hodgson, and this apparently was the view subsequently taken by Lord Walden (Birds of Burma, extra No. J. A. S. B., 1875, p. 130), when he says of *pyrrhops*:—"In coloration they do not differ from *B. intermedia*, but their dimensions are considerably larger."

Cineracea, or *leucophæa*, the Grey Drongo of Malayana, of which we have a very large series, differs very markedly in color from *pyrrhops*, being very much paler and greyer, and indeed in some old specimens making a decided approach towards the coloration of *leucogenys*, though always distinguishable from even the young of that species by its black lores.

Certainly, I have never ventured to question the distinctness of this species. The two races, whose specific distinctness I have doubted, are the larger and smaller forms which both lie intermediate in color between *cineracea* and *longicaudata*.

Mr. Sharpe does not give *longicaudata* from Burma, but as will have been seen above, we have obtained this species in numerous localities. And here I must explain that whatever my own views may be on the subject, I have, in deference to Mr. Sharpe's opinion, entered under *longicaudata* only absolutely typical specimens. I took Madras and Southern Indian birds as typical *longicaudata*, and then I turned out of my supposed Tenasserim *longicaudata* every specimen that I could not precisely match with Southern Indian specimens. I did not even allow myself to include in the comparison Northern Indian specimens, as I find that many of these are slightly paler in color then the Southern Indian birds, and not unfrequently have a faint greyish tinge on the margins of the tail feathers towards their bases; not a well-marked grey shade as in typical *pyrrhops*, but a sort of representative indication of this.

All the specimens entered by me as *longicaudata* are truly identical with Southern Indian birds, while all the intermediate forms, which resemble the Northern Indian birds, referred to, have been entered under *pyrrhops* in the sub-division non-typical.

Conceding at once that the large typical *pyrrhops* with the strong grey shade on the tail, and much paler underparts and somewhat paler upper surface, is a very different-looking bird to *longicaudata*, I yet submit that throughout Tenasserim, Burma, Eastern Bengal and Sikim, innumerable specimens occur intermediate between these two forms, and that to me, therefore, it seems doubtful whether they can be properly considered distinct species.

Amongst the specimens which I have entered as non-typical are specimens that only differ from *longicaudata* of Southern India in having in certain lights a just perceptible greyish shade on the extreme outer edges of the tail feathers towards their bases, and between these incipient *pyrrhops*, and the fully developed form, every possible intermediate gradation of coloration occurs.

On the other hand the specimens that I recognize as belonging to *cineracea* are unmistakably distinct, and would be picked out by a novice without a moment's hesitation.

I find no intermediate forms between these and *pyrrhops*. *Buchanga longicaudata* of Southern India grades by absolutely insensible degrees into *pyrrhops*, but *pyrrhops* does not grade into *leucophæa*, or as Mr. Sharpe calls it, *cineracea*.

This being understood, there is no objection to retaining *pyrrhops* as a sub-species, but it should, I think, be placed under *longicaudata*, and not under *cineracea*.

I note that in my opinion *intermedia* of Blyth is identical with *pyrrhops*, rather than with *cineracea*; and I also remark that long and short-winged birds of the *pyrrhops* type co-exist everywhere, and that it is impossible in this sub-species to make any second division founded on dimensions.

Cineracea comes up, absolutely unchanged, from the extreme south of the Malayan Peninsula, keeping however to the hills or near to their bases, to the extreme northern extremity of Tenasserim at Kollidoo. I have seen no specimens of this as yet from Pegu, Arracan, or Eastern Bengal.

The most typical examples of *pyrrhops* that I have seen have been from the Sikim Terai, Bootan Doars, Dacca, and Lower Pegu; but the form exists as a recognizable race throughout Eastern Bengal, the whole of British Burma, and the greater portion, I believe, of the western part at any rate of the Malay Peninsula; and wherever it occurs, both large and small specimens are found, and along with these occur typical *longicaudata*, and numerous forms, more or less intermediate between *longicaudata* and *pyrrhops*.

In Southern India only typical *longicaudata* as a rule occurs, though I have one specimen from Travancore with a great deal of grey on the sides of the tail feathers, and with a somewhat paler tone of plumage; but in Upper India, and especially in the Himalayas, distinctly intermediate forms occur; and it was to one of these, according to the type in Col. Tytler's Museum, that the late Capt. Beavan applied the name of *waldeni*.

I may add that it was to another of these intermediate forms that Tytler applied his name of *himalayensis*, which is therefore a synonym of *longicaudata* or *pyrrhops* (though the type, which I have, is nearer the former) but under no circumstances of *atra* (or *albirictus*) as Mr. Sharpe makes it, Cat. III., p. 246.

I have never seen specimens of the Javan form, to which the name *leucophæa*, of Vieillot, applies, nor can I discover where Mr. Sharpe assigns this name in his Catalogue.

Lord Walden, *loc. cit. sup.*, seems to consider it as only differing in size from *pyrrhops*, in which case this name would have precedence both of *pyrrhops*, and if I am correct in uniting *intermedia*

with this, of Blyth's name also; but I had considered, judging from pl. 170 of Le Vaillant's Oiseaux d' Afrique, that *leucophæa*, Vieill., founded on this plate,* was identical with *cineracea*, Horsfield.

Anyhow it will tend to explain what I have said above to state that Le Vaillant's plate above referred to represents by no means badly as Le Vaillant's plates go, the species that I have above identified as *leucophæa*, Vieill., *cineracea* of Horsfield. It wants the dark lores, but the general colour and shape of tail are tolerably close; quite as much so as his representations usually are.

280 *bis*.—Buchanga pyrrhops, *Hodgs.* (Typical, 8, non-typical, 8.)

Kollidoo; Pahpoon; Wimpong; Monlmein; Pabyouk; Yea-boo; Assoon; Amherst; Yea; Malewoon.

Occurs, though nowhere very abundant, throughout the province.

I have already dealt with this sub-species when treating of *longicaudata*.

280 *ter*.—Buchanga leucophæa, *Vieill.* (14).

Kollidoo; Kyouk-nyat; Pahpoon; Thatone; Tenasserim Town; Malewoon.

Occurs but very sparingly throughout the province.

This species also I have fully discussed under *longicaudata*.

280 *quat*.—Buchanga leucogenys, *Wald.* (36). Juv. DESCR. S. F., II., 210.

Mergui; Patoe Is.; Tenasserim Town; Bopyin; Pakchan; Palaw-ton-ton; Bankasoon; Malewoon.

Confined to the southernmost district of the Province, but there most abundant.

[I first met with this species on the Island of Mergui, and both there and thence to the southern limit of our territory I found it very abundant.

This is much more of a forest species than any of the other King Crows, but it also occurs in clearings, and occasionally in gardens.

Its note and habits are much the same as that of the other species, and like them it is fond of perching on the top of some

* No doubt, Le Vaillant says, Le Drongri is from Ceylon, but then he gives the very next species, Drongri à ventre Blanc, as from Java, and as Sundeval points out this is not impossibly from Ceylon, and the localities of the two may have been transposed. This latter species, however, is not the young of *leucopygialis*, which has less white, Holdsworth says, than the adult; but it may be the young of *cærulescens*, incorrectly represented.

dead tree, or other commanding station, from which it constantly makes short sallies after passing insects. It is always seen singly.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 10·5 to 11·5; expanse, 16·12 to 17·5; tail from vent, 5·4 to 5·9; wing, 5·36 to 5·8; tarsus, 0·65 to 0·75; bill from gape, 1·1 to 1·15; weight, 1·34 to 1·75 oz.

Females.—Length, 10·12 to 11·0; expanse, 16·5 to 16·75; tail from vent, 4·82 to 5·62; wing, 5·45 to 5·62; tarsus, 0·63 to 0·75; bill from gape, 1·1 to 1·15; weight, 1·45 to 1·5 oz.

Legs, feet, claws, bill, and eyelids black; irides pale lake to crimson.

Lores, eyelid feathers, a line above and below the eye, and a broad patch behind the eye silky white; a narrow frontal band black; crown, back and sides of the neck, and the whole of the rest of the upper surface, (except the first and second primaries and the tips of the later ones, and the outer webs of the outer tail feathers, which are black or blackish dusky, and the shafts of the tail feathers and quills which are brown), a beautiful clear pale blue grey; a little darker and bluer on the crown, where there are faint traces of reflections, and paler and clearer on the tail and wings; extreme point of the chin, and feathers at base of the lower mandible, just in front of the gape, the rest of the lower parts the same delicate pale grey becoming almost white on the middle of the abdomen; the lower tail-coverts, axillaries and wing-lining pure white, with the faintest possible grey tinge.

Younger birds are darker coloured both above and below; in fact, have more of a plumbeous shade on the upper surface. They want the white ear patch, but the lores, even in the youngest birds that I have seen, were still sordid white, by which they are distinguished at once from what I take to be the true *cineracea* of Horsfield, which has dusky or black lores.

The young birds of this present species were described by Blyth under the name of *cineracea*, and his description will be found, S. F., II, 210 *n*.

When writing the note referred to, I said that *cineracea*, Horsfield, was probably the same species, but I now know that there is quite a distinct, extremely light grey, species, *leucophæa*, which was probably Horsfield's bird, and to which I have referred more in detail when dealing with *B. longicaudata*.

282.—Chaptia ænea, *Vieill.* (25).

(*Tonghoo, Karen Hills, Karennee*, Rams.) Pahpoon; Theinzeik; Thatone; Moulmein; Meetan; Letet; Amherst; Yea; Meeta Myo; Tavoy.

If distinct from the next, confined to the northern and central sections of the province.

282 *bis.*—Chaptia malayensis, *Blyth.* (8).

Amherst, Meeta Myo; Pabyin; Pakchan; Bankasoon.

If distinct from the preceding, whose range it overlaps, confined to the southern half of the province.

Although specimens from Malacca on the one hand, and Sikhim or the Nilgheris on the other, are readily separable, the Malayan bird being brighter and somewhat smaller, and the Indian birds being somewhat larger, with a perceptible grey dulness on the rump, and grey tinge on the abdomen, still in Tenasserim, forms so entirely intermediate occur that I for one have considerable doubts as to the real value of these two generally accepted species. Under the present species I have entered only those specimens in which the abdomen is black, and the glittering feathers continue unbroken over back, rump and upper tail-coverts. Under *ænea* I have entered not only those specimens from Northern Tenasserim, which agree fairly well with Indian examples, but also the more or less intermediate forms which occur in Central Tenasserim.

Ænea, as above defined, does not occur at or south of Mergui; both forms occur at Tavoy, Meeta Myo, Amherst, but the Malayan form does not appear to get north of this. More or less intermediate forms seem to occur, so far as we can judge, everywhere from Moulmein southwards to some point intermediate between Tavoy and Mergui.

283.—Bhringa remifer, *Tem.* (8).

(*Tonghoo, Karen Hills*, Rams.) Palpoon; Kaukaryit, Houngthraw R.; Mooleyit; Amherst.

Sparingly distributed throughout the province, but only as far south as Amherst. Rarer even in the plains than in the hills.

This is of course purely a forest species, never coming into gardens or cultivated lands; moving about singly and catching insects on the wing like other Drongo Shrikes, turning rapidly and returning to the same perch. It is very odd to see the bird, as we both often have, passing high over head. You see the black bird and apparently two large black bees steadily pursuing it, never losing, never gaining ground, always maintaining the same relative position.

The following are the dimensions recorded in the flesh :—

Males.—Length, 10·1 to 10·5, to end of central tail feathers; 24·0 to end of long lateral feathers; expanse, 16·25 to 17·0; tail from vent, 4·9 to 5·72, to end of central tail feathers; wing, 5·25 to 5·6; tarsus, 0·6; bill from gape, 0·9 to 1·15; weight, 2 oz.

Bill, legs, feet and claws black; irides deep brown.

284.—Dissemurus malabaroides, *Hodgs.* (1).

Kollidoo.

Out of the enormous series of *Dissemuri* which we have collected, only one single specimen from Kollidoo, the northernmost point of Tenasserim (excluding Tonghoo, Karennee, &c.), is referable to the Northern Nepalese and Sikim long-crested long-winged form christened *malabaroides* by Hodgson. This specimen has the wing 6·9, and the longest crest feathers 1·95 inches in length, and must I think be referred as above.

285 *bis.*—Dissemurus paradiseus, *Lin.* (82).

(*Karennee, Tonghoo*, Rams.) Pahpoon; Sittang R.; Thatone; Wimpong; Moulmein; Pahyouk; Yea-boo; Karope; Amherst; Yea; Meeta Myo; Tavoy; Thayetchoung; Shymotee; Mergui; Tenasserim Town; Pakchan; Bankasoon; Malewoon.

Common throughout the province, alike in hills and plains.

[Very common throughout Tenasserim, frequenting chiefly the forests, but occurring also in gardens, scrub jungle, &c.

The variety of notes, and the power of imitating the notes of other birds, that this species possesses is perfectly marvellous. Its normal note is a harsh metallic one, but there is scarcely a single note heard in the forests that it does not imitate to perfection. I have heard it take off *Garrulax belangeri*, so that I am sure the birds themselves would not have detected the imposture. These Babbling Thrushes by the way always associate with other kindred species in large flocks, hunting straight on end right through the forest, and you will invariably find two or more of the *Dissemuri* following or accompanying each such flock.

Whenever there is a flight of white-ants, you are sure to see numbers of these Rocket-tailed Drongos hawking them, till it is quite dark, in company with Rollers, Night Jars and other birds.

They are very bold birds, not in the least afraid of men or guns, and could be shot by hundreds.—W. D.]

In Tenasserim proper the present species commences from Pahpoon, only some 40 or 50 miles south of Kollidoo. No doubt, some of the Pahpoon birds average rather larger and have rather longer crests, but they are much nearer *paradiseus* than *malabaroides*. Further north in Tonghoo and Karennee, this present species (*vide* Lord Tweeddale) also occurs.

Commencing now at Pahpoon, and travelling southward to the Pakchan Estuary, the southern boundary of Tenasserim, we observe no important variation in size till we reach Mergui. There is perhaps a slight diminution in size, and certainly an appreciable decrease in the length and amount of crest, as we proceed southwards, but it is not until we get to Mergui that any very marked change in these respects is observable.

To show the decrease in size, I subjoin measurements of the wings of adults from north to south :—

Pahpoon, 6·5; 6·2; 6·4; 5·8; 6·5; 6·2; 6·2; 6·4; 6·2; 6·1; 6·1; 6·1.

Sittang River, near Guaybenzike Channel, 6·4;
Thatone, 6·3.
Wimpong, 6·27; 6; 6·2; 6·6; 6·2; 6·6.
Moulmein, 5·85; 6·2; 6·25.
Yea-boo, Attaran R., 6·3.
Pabyouk, Attaran R., 6·25.
Amherst, 6·45, 5·6; 6·4; 6·3; 6·3; 6·6; 6·3; 6·2; 5·9; 5·9; 6·2.
Karope, 6·4; 6·1.
Yea, 6·2.
Tavoy, 6·0; 6·0; 6·27; 6·0; 6·1; 6·1; 6·0; 6·0; 6·25; 5·8; 6·1; 6·1.
(Hills) Meeta Myo, 6·4; 5·9; 6·1.
Shymootee, 6·15.
Tenasserim Town, 6·3; 6·3; 5·95.
Mergui, 5·8; 5·85.
Pakchan, 5·8; 5·9; 5·85; 5·8; 5·77; 5·8.

I add for purposes of comparison the dimensions of a few specimens from the south of the Malay Peninsula.

Malacca, 5·6; 5·7; 5·8; 5·6; 5·7; 5·5.

It will be observed that the specimens from Pakpoon and below Tavoy continued pretty uniform in dimensions, but from Mergui they are much reduced in size, scarcely exceeding at all the dimensions of Malayan *platurus*, and though reduced in size, and though exhibiting very much smaller crests than birds from the rest of Tenasserim, they yet have a very appreciable frontal crest which divides them at a glance from birds obtained in the south of Malay Peninsula.

With this large Tenasserim series I have compared an equally large series from Southern India and the Malabar Coast, and I am quite convinced that these are not separable, and that *malabaricus* must be united with *paradiseus*.

The following are the dimensions of wings of a small number of specimens of the Malabar bird, taken at random.

Hills north of Khandeish, 6·6.
Mysore, 5·8.
Nilghiris,* 6·3; 6·2.
Kotagherry, 6·1.
Kullar, 5·9; 6·0; 6·4.
Coonoor, 6·05.
Goodalore Wynaad, 5·9.
Coorg, 6·25.
Travancore, Anjanjo, 5·9; 5·8.
Mynaal, 6·2; 6.

* Exact locality not specified—Kotagherry, Kullar and Coonoor, are of course all on the Nilgherris.

One of our large Burmese series we can match every single Malabar and Southern Indian specimen, as to size, size of crest of bill, and size and shape of racket.

Mr. Sharpe unites all the species of *Dissemurus*, but recognizes certain differences of race.

I notice that he lays some stress upon the flatness, or twisted character of the racket. I believe this character to be perfectly worthless, and to depend to a great extent upon the mode in which the skin has been put up. I observe from every locality, whence I have large series, some specimens with twisted, and others with flat rackets. Perhaps the most curious instance of this is a specimen from Palpoon, of which one racket is perfectly flat, as figured by Mr. Sharpe (Cat. III., 282 fig. 5) for *formosus*, and the other twisted exactly as figured (*loc. cit.*, fig. 4) as characteristic of *platurus*.

We have been collecting birds of this species vigorously for some years, and have over two hundred specimens from all parts of India, Burma, the Malay Peninsula, the Andamans and Nicobars, and I am quite convinced that, as regards individual specimens, neither the size nor the amount of the curve in the racket is of any value as a diagnosis. It may be that in particular races, as in *brachyphorus* from Borneo, the rackets are *invariably* small, and that this may afford grounds for the separation of this race; but I can show individuals apparently adult too, from India north to south, from Burma, and from the Andamans and Nicobars, with rackets quite as small as that figured by Mr. Sharpe (*op. cit.*, 265, fig. 3) for *brachyphorus*.

The Andaman and Nicobar birds (*c. f. S. F.*, II, 212) as a body no doubt have larger bills and smaller crests than *malabaricus* from Southern India, and *paradiseus* from Tenasserim; but putting huge series from these three localities side by side, it is quite clear that the birds cannot be specifically separated, as a good many birds in each can be absolutely matched by others from the two other localities.

In this genus nothing can be made out of a few isolated specimens from each locality, such as Mr. Sharpe had to deal with; and, as it is only from India, Burma, the Malay Peninsula, the Andamans and Nicobars that I possess really large series, it is only with the races inhabiting these divisions that I can pretend to deal, and in regard to these my conclusions differ from Mr. Sharpe's.

I consider that there are three fairly recognizable species within the limits above indicated, *viz.*:—

1*st*.—*D. malabaroides*, Hodgs., with a very large crest, and wing from 6·75 to 7, from the Himalayas, Assam, Lower Bengal, Chota Nagpur, the Tributary Mehals, Sumbulpore, and the extreme north of Pegu and Tenasserim.

2*nd*.—*Dissemurus paradiseus*, Lin., with medium-sized crest, and wing about 6 to 6·6, from the whole of Southern India and Ceylon, the Western Ghauts, as far north as Khandeish, the greater part of Burma and Tenasserim, the Andamans and Nicobars.

3*rd*.—*D. platurus*, Vieill., from the southern portion of the Malay Peninsula, practically without any crest, and with a wing about 5·4 to 5·8.

Ceylonensis is certainly not separable, and the specimen from which Mr. Sharpe took his figure of the racket of this species is certainly not a fair average one. So again the head that he figures of *D. affinis* is clearly immature. Old adults have crests quite as long as the majority of Central Tenasserim specimens, though never as long as the longest crested specimens of these latter.

Javan and Sumatran races seem to be universally admitted (I have too few specimens of my own to offer any opinion on the subject) to be inseparable from that inhabiting the south of the Malay Peninsula, and the only question that appears to me to remain for decision is, whether the Bornean race *brachyphorus*, Tem., is or is not entitled to specific separation on account of its alleged *constantly* smaller racket.

286.—Chibia hottentota, *Lin.* (8).

(*Tonghoo Hills, Karen Hills*, Rams.) Pahpoon; Salween R.; Amherst; Mergui; Bopyin.

Rather sparsely distributed throughout the province, except in the southernmost district, where it has not been observed.

[This bird is very rare as a whole; and, though in one particular spot you may see 20 or even 50, you may march as many miles further through precisely similar localities without catching a glimpse of another. It is in fact excessively locally distributed. About a couple of days' march north of Kaukaryit, on the road to Pahpoon, I found it excessively common in a narrow tract of country about half a mile long, and almost entirely covered with bamboo; neither to the north nor south of this tract for some 50 miles did it again occur, except as a straggler usually singly. On another occasion to the north of Pahpoon I found great numbers frequenting some large silk-cotton trees that were in flower. To the south of Moulmein I met with it occasionally, but never in any numbers. The furthest point south at which I obtained it was Bopyin, about half way between Mergui and Moulmein.—W. D.]

The following are the dimensions of two males and two females recorded in the flesh:—

Males.—Length, 12·0 to 13·25; expanse, 19·5 to 21·12; tail from vent, 5·5 to 6·62; wing, 6·46 to 7·0; tarsus, 1·1 to 1·12; bill from gape, 1·62 to 1·75.

Females.—Length, 12·0 to 12·25; expanse, 18·75 to 19; tail from vent, 5·0 to 5·75; wing, 6·25.

Bill, legs, feet, and claws black; irides dark brown.

287.—Artamus fuscus, *Vieill.* (2).

(*Tonghoo, Karen Hills,* Rams.) Amherst.

Only occurs as a rare straggler in Tenasserim proper.

[I never once saw the bird during more than four years in Tenasserim, but Dr. Armstrong shot and sent us specimens from Amherst.—W. D.]

289.—Muscipeta affinis, *Hay.* (34). S. F. III., 102.

(*Karen Hills,* Rams.) Mooleyit; Laynah; Choungthanoung; Pakchan; Palaw-ton-ton; Bankasoon; Malewoon.

Apparently confined to the evergreen forests of the southern and central sections of the province, but reappearing in the Karen Hills.

Note that the specimen entered in one of my former lists as *M. paradisi* proves on careful re-examination to be referable rather to *M affinis.*

[This species was not uncommon in the forests of the southern portion of the province. I met with them singly, or in pairs. Their note is very similar to that of *Myiagra azurea*, but louder and harsher. Three males that I obtained, one in the white, and two in the chestnut garb, had the eye surrounded by a thick fleshy scalloped ring from 0·06 to 0·1 in width, of a bright smalt blue, a brighter and clearer blue even than that of the bill. Numerous other specimens had not this ring. It was, I should say, seasonal, as these birds were obtained in March, April and May, while others killed in November, December and January were without it. Dr. Jerdon says nothing about the existence of this ring in either the present or Southern Indian species.—W. D.]

289 *ter.*—Philentoma pyrrhopterum, *Tem.* (9).

Bankasoon; Malewoon.

Confined entirely to the extreme south of the province.

[This species appears to occur only in the evergreen forests of the extreme south, about Bankasoon and Malewoon, though I saw one specimen at Laynah. Its habits are similar to that of the next species, but its note more resembles that of *Hypothymis azurea.* It is a true Flycatcher, not at all wary or shy, catching its food entirely on the wing, and never descending to the ground.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 6·8; expanse, 10· to 10·12; tail from vent, 2·75 to 2·85; wing, 3·12 to 3·27; tarsus, 0·65 to 0·7; bill from gape, 0·9; weight, 0·6 oz.

Females.—Length, 6·75; expanse, 9·82 to 10; tail from vent, 2·62 to 3·0; wing, 3 to 3·12; tarsus, 0·65 to 7; bill from gape, 0·82 to 0·95; weight, 0·5 to 0·6 oz.

In the males the legs, feet, and claws were pale purplish blue; bill black; irides crimson.

In an adult female the legs, feet, and claws were plumbeous olive; the upper mandible pale horny brown; the lower mandible fleshy white; iris dull red. In a younger female the legs and feet were pale horny red, and the iris pale red, speckled with white.

The male has the entire head and neck all round, the upper back and upper part of breast, and most of the lesser and median coverts, pale dirty indigo blue, brightening a little on the lores and more so in a stripe over, and extending a short distance behind the eye; a trace of a dusky spot at the gape and base of the lower mandible; rest of breast and lower parts sordid white, with more or less of a fulvous or creamy tinge, and shaded with earth brown on the sides; middle of back mingled blue and dull pale earth brown; tips of some of the scapulars, rump and upper tail coverts, pale earthy brown; secondary greater coverts, tertiaries, outer webs of secondaries, and tail, clear light chestnut; primary greater coverts dull bluish; primaries and inner webs of secondaries hair brown, the former margined on their outer webs with pale greyish rusty.

The female has the top, back, sides of the head and nape, an extremely dull bluish greenish grey; the entire back, scapulars, lesser and median wing-coverts, and upper tail-coverts, dull earth brown, slightly olivaceous on the upper back and wing-coverts; chin, throat and breast fulvous white, more distinctly buffy at the base of the throat; rest of the lower parts as in the male, but rather more fulvescent; rest of wings and tail as in the male.

Edge of the wing and coverts immediately under it blue; rest of wing-lining in the male mingled grey and creamy white; entire wing-lining of the female pale pinkish buff.

289 *quat.*—Philentoma velatum, *Tem.* (18).

Meetan; Yea; Tenasserim Town; Palaw-ton-ton; Bankasoon; Malewoon.

Occurs almost throughout the entire southern half of the province in suitable forests, but rare, except in the extreme south.

[This species ranges considerably to the north of Tavoy. I shot a specimen at Meetan. Towards the south it was not

uncommon. It keeps entirely to the evergreen forests, never that I know of straying even to their outskirts. I have always met with it in pairs; it has a harsh grating metallic-sounding note. Like the preceding it is a true Flycatcher in all its habits.—W[illegible]

[illegible]ollowing are dimensions, &c., recorded of this species:—

Males.—Length, 7·5 to 8·25; expanse, 11·5 to 12·25; tail from vent, 3·37 to 3·82; wing, 3·63 to 3·9; tarsus, 0·6 to 0·75; bill from gape, 0·85 to 1·0; weight, 0·8 to nearly 1 oz.

Females.—Length, 7·5 to 8·2; expanse, 10·75 to 12·12; tail from vent, 3·2 to 3·62; wing, 3·5 to 3·75; tarsus, 0·7; bill from gape, 0·9 to 0·95; weight, 0·7 to 0·8 oz.

Legs and feet bluish or purplish black; bill black; irides lake to crimson.

The male has the lores, a moderately broad frontal band, a line round the eye, cheeks and greater parts of ear-coverts, chin and extreme upper parts of throat, velvet black; rest of throat and upper parts of breast dull deep maroon; the whole of the rest of the plumage, except the inner webs of quills and lateral tail feathers, which are blackish brown, a rather pale clear leaden blue; the breast and abdomen are a shade darker, and the white bases of the feathers, even in the best specimens, show through a good deal on the flanks and towards the vent.

The female is rather smaller, and has the black and maroon of the male replaced by dusky blackish cyaneous; everywhere the color is somewhat duskier and duller.

290.—Hypothymis azurea, *Bodd.* (28).

Pahpoon; Dargwin; Wimpong; Topee; Moulmein; Yea-boo; Meetan; Amherst; Pabyin; Mergui; Tenasserim Town; Bankasoon.

Common almost everywhere thoughout the province and thence south along the Malay Peninsula to its southernmost extremity.

291.—Leucocerca albicollis, *Vieill.* (5).

(*Karennee Hills*, 4,000 feet, Rams.) Near Pahpoon; Kyouk-nyat; 2,000 feet above Paraduba; Mooleyit.

Confined apparently to the forests of the outer Tenasserim range and adjacent spurs, at elevations of from 2,000 to 6,000 feet.

292.—Leucocerca albofrontata, *Frankl.*

Blyth notes this from Tonghoo; we have met with it nowhere in Tenasserim proper.

293 *bis*.—Leucocerca javanica, *Sparrm.* (5). DESCR. S. F., I., 455.

Tavoy; Mergui.

Confined apparently to the coast region of the s[illegible]n portion of the province.

[This species occurs in the province from Tavoy southwards; it is not abundant, and I have noticed that it seems to prefer the mangrove and Nipa swamps to almost any other locality; but I have seen and shot it in bushes on the banks of streams and edges of paddy flats; but never to my knowledge have I seen it far from the coast.—W. D.]

I described this species, *loc. cit.*, from Acheen. My Sumatran specimen had an abnormally long bill, and I proposed for it, if new, the name of *infumata*. I have now no doubt that it is properly referable to the present species. I have only to add to my former description that the entire throat, and not merely the central portion, is often white, and to subjoin certain measurements recorded in the flesh from Tenasserim specimens.

Males.—Length, 7·5 to 7·62; expanse, 9·5 to 10; tail from vent, 3·62 to 3·82; wing, 3 to 3·25; tarsus, 0·76 to 0·8; bill from gape, 0·6 to 0·75; weight, 0·5 to 0·55 oz.

Female.—Length, 7·12; expanse, 9·25; tail from vent, 3·5; wing, 3; tarsus, 0·76; bill from gape, 0·7.

294.—Chelidorhynx hypoxantha, *Bly.*

Obtained by Ramsay in the Tonghoo Hills.

295.—Culicicapa ceylonensis, *Swains.* (8).

(*Karennee*, at 3,500 feet, Rams.) Pahpoon, Salween R.; Wimpong; Mooleyit; Meetan; Choungthanoung; Bankasoon.

Generally distributed throughout the whole province.

[This little Flycatcher occurs sparingly throughout Tenasserim in pairs, about gardens, thin jungle, and forest. It extends the whole way down the Malayan Peninsula and to Singapore Island.

It is a permanent resident.—W. D.]

296.—Hemichelidon sibericus, *Gm.* (5).

(*Tonghoo Hills, Karennee Hills*, at 700 feet, Rams.) Thoungsheyen Sakan; Mergui; Choungthanoung; Malewoon.

Very sparsely distributed during the cold season throughout the province.

[I met with this species occasionally on the outskirts of the forest, and in clearings about Mergui and the Pakchan, and

again on a large clearing on the road to Mooleyit. It is never seen far away from forests, and is everywhere scarce.—W. D.]

297.—Alseonax latirostris, *Raffl.* (13). S. F., II., 219.

(*Tonghoo*, Rams.) Pabyouk; Meetan; Moulmein; Amherst; Meeta Myo; Pabyin; Mergui; Tenasserim Town.

Only observed by us as yet in the southern half of the province, and not common even there, but probably occurring sparingly, in all the more open parts of the province up to an elevation of 3,500 feet.

299.—Alseonax ferrugineus, *Hodgs.* (1).

Bankasoon.

I give this species rather doubtfully; our only specimen is a nestling; it is clearly a *Hemichelidon;* it is not *H. fuliginosus*, and from its general ferruginous tint it appears to belong to this species, but it is not in the same stage as other nestlings of *ferrugineus* which we have. It very possibly belongs to some species new to our avifauna.

301.—Stoporala melanops, *Vig.* (18).

(*Karennee*, from 700 to 5,000 feet, Rams.) Kollidoo; Kyouk-nyat; Palpoon; Mooleyit; Amherst; Mergui; Tenasserim Town; Bopyin; Pakchan; Bankasoon; Malewoon.

Generally distributed during the cold season alike in hills and plains throughout the province.

[This species chiefly frequents the outskirts of the forest clearings and secondary scrub jungle. It is a migratory species, I think, as I have not noticed it after February.—W. D.]

304.—Cyornis rubeculoides, *Vigors.* (26).

(*Tonghoo Hills, Karen-nee*, from 600 to 2,000 feet, Rams.) Pine forests, Salween; Kollidoo; Kyouk-nyat; Dargwin; Palpoon; Thatone; Wimpong; Kaukaryit, Houngthraw R.; Monmenzeik; Meetan; Yea; Choungthanoung; Bankasoon; Malewoon.

A permanent resident throughout the province, but not ascending the highest hills.

[Not an uncommon bird throughout Tenasserim, but most abundant in the north. It chiefly confines itself to the evergreen and bamboo forests, and is usually found in pairs, occasionally singly.—W. D.]

Although I enter all the specimens as *rubeculoides*, I am by no means convinced that the Tenasserim specimens are identical with Indian ones. Following Blyth, I considered the somewhat

larger race found in Burmah to be *elegans*, but assuming *elegans* to be the species from Borneo and Sumatra described, *Ibis*, 1872, 374, as follows, it is quite clear that the Tenasserim birds are not *elegans*.

"Chin, the entire throat, forehead, superciliary stripe, upper tail-coverts, and shoulders of the wing, bright cobalt blue.

A patch of pale rufous on the breast; flanks, very dilute rufous; lower breast, belly and under tail-coverts pure white; lores and under surface of rectrices black; remainder of plumage rich indigo blue."

This is the Marquis of Tweeddale's description of a Bornean specimen, and he assures us, *Ibis*, 1877, p. 316, that Sumatran specimens (and Temminck's type came from Sumatra) are identical. This does not agree over well with Temminck's description or picture.

Temminck says: "A bright and brilliant azure blue covers the chin and the cheeks, and extends as a frontal band and in broad eyebrows above the eye, and is exhibited on the shoulder of the wings and the rump; the rest of the upper parts, wings and tail are indigo blue; the breast has a golden reddish tint; the flanks are a very light rufous, and the rest of the lower parts are pure white; the under surface of the tail, feet, and bill black. Length, about 5·75 English inches, It will be observed that the first description gives the chin and entire throat as bright cobalt blue, not the cheeks, while the second description gives the chin and cheeks, and not the throat. as brilliant azure.

Under any circumstances, however, though some of our Tenasserim specimens are brighter than Indian ones, and though the wings in some of them run to over 3·1 against 2·9, a maximum according to my experience for Indian specimens, it is quite clear that our Tenasserim birds cannot properly be identified with *elegans*—a species which, accepting Lord Tweeddale's description, we have from near Malacca.

Not only do the males differ as above indicated, but the females are of a much warmer olivaceous tint than the Indian ones, and generally, though not universally, both sexes seem to have larger bills.

The amount of rufous on the throat is also greatly in excess of what is observable in Indian specimens.

In Indian specimens in about one in every twenty adult males the rufous of the breast is continued upwards as a narrow stripe towards, and in rare instances quite to, the chin.

In the Tenasserim birds this stripe exists in twelve out of fifteen adult males. In several specimens the stripe is broad, and in one the entire chin and throat are concolorous with the breast.

Certainly the birds are not altogether the same as the Indian *rubeculoides*; even the color of the breast differs, being, as a rule, more of a golden rufous than in the Indian birds, but for the present at any rate it seems best to retain them under Vigors' name of *rubeculoides*.

305 & 306.—*Cyornis tickelli*, Bly.

This species is said by the Marquis of Tweeddale to have been obtained in Karennee by Ramsay. This is utterly out of the range (very well defined) of this species, and I cannot avoid suspecting that there has been some accidental oversight in the identification of the specimen referred to.

307 *ter*.—Cyornis olivacea, *Hume*. (7). DESCR. S. F., V., 338.

Tenasserim Town ; Bankasoon ; Malewoon.

Confined to the southernmost portions of the province.

[This species, like its other congeners, keeps to the forest or its outskirts, and is usually seen singly. True Flycatchers they perch on commanding twigs, whence they capture passing insects with short sharp flights, returning to the same perch. Not unfrequently they may be seen flying from branch to branch, evidently not feeding, and as they alight, lowering their wings, jerking their tails, and uttering their peculiar prolonged chir-r-r.

I have never seen one on the ground, though often in low brushwood.—W. D.]

308.—Cyornis magnirostris, *Blyth*. (6).

Laynah ; Hankachin ; Bankasoon ; Malewoon ; Victoria Point.

Confined to the extreme south of the province, and rare there.

[Habits precisely those of its congeners.—W. D.]

309 *bis*.—Cyornis vivida, *Swinh*. (9).

Mooleyit.

Only met with on the highest portions of Mooleyit.

[This is not quite so much of a Flycatcher as the other *Cyornis*, though it also captures its prey on the wing. I have seen it moving about the tops of the trees by short flights, and sitting about like *Niltava grandis*. I never saw a pair together or even two males. I always met with them singly. On Mooleyit they were very common, but I unfortunately mistook them for *Niltava sundara*, and only shot a few. Those I dissected had eaten nothing but insects. They were very often in low bushes; but never, so far as I saw, actually descending to the ground. They were not in the least shy or wild ; on the contrary very tame. I never heard them utter any note.—W. D.]

I must first premise that the figure of this species in the *Ibis*, 1866, pl. 11, is, at any rate in my copy, so extremely wrongly coloured that it thoroughly convinced me that my bird was not *vivida*. Luckily I remembered that I had specimens of *vivida* from Mr. Swinhoe (from Formosa and Fungshan), and a comparison with these specimens showed that mine were true *Cyornis vivida*.

The best general description I can give my Indian readers of this species is to say that males and females are marvellously like those of *Niltava sundara*, but they are rather larger birds and have conspicuously larger and basally broader bills; the blue of the head and rump is a little more violet, the ferruginous orange of the breast runs in a tongue a little way up the middle of the throat, and all the rest of the feathers of the throat are tipped with dull *cyaneous* instead of being plain black as in *sundara*. The female wants the blue patch at the base of the neck on either side, has a longitudinal pale buff stripe down the front of the lower part of the throat instead of the transverse white band that *sundara* has, and has the whole upper parts greyer and less olivaceous.

Males.—Length, 7 to 8·1; expanse, 11·3 to 12·35; tail from vent, 3 to 3·5; wing, 3·75 to 4·05; tarsus, 0·7 to 0·75; bill from gape, 0·8 to 0·85; weight, 1 to 1·12 oz.

Females.—Length, 7·1 to 7·6; expanse, 11·7 to 12; tail from vent, 3·1 to 3·3; wing, 3·75 to 3·95; tarsus, 0·7 to 0·8; bill from gape, 0·8 to 0·82; weight, 1·12 oz.

The legs and feet are dark brown, purplish brown, purplish plumbeous; bill black; irides deep brown.

The male has the lores and a narrow frontal band velvet black; cheeks and ear-coverts dull black, with in some specimens a faint purplish shade; chin and throat (except a tongue running up for about 0·5 in the middle of the basal portion of the latter, which tongue is colored like the breast) black; all the feathers tipped with dull purplish blue; forehead, crown, occiput and nape, rump, and all but the longest upper tail-coverts cobalt blue, brightest perhaps on the forehead, and with a certain amount of violet tinge; a transverse band on either side of the neck; behind the ear-coverts the same color but duller; lesser and basal portion of the median coverts similar; interscapulary region and scapulars dull dusky purplish blue in most lights, a richer blue in certain lights; quills and their greater coverts hair brown, some of the latter margined towards the tips with purplish blue; tail hair brown; the feathers margined and suffused on their outer webs, and the central feathers with the greater portion of both webs, deep blue with a violet tinge; breast, axillaries, wing-lining, abdomen, and lower tail-coverts orange ferruginous, very much as in *Niltava sundara*, but not quite so bright.

The female has the lores, chin, and feathers at the base of the lower mandible mingled grey and pale fulvous, and there is a very narrow pale fulvous frontal band. The rest of the forehead, crown, and occiput are somewhat olivaceous grey; the feathers margined paler, producing a scaly appearance. The entire mantle olivaceous, becoming rusty on the upper tail-coverts; tail feathers dull brownish chestnut, margined more rusty towards their bases; wings hair brown, the feathers margined externally with a rusty olivaceous; throat, sides of the neck, and breast, greyish olivaceous, with a broad pale creamy longitudinal band towards the base of the throat; abdomen, sides and flanks like the breast, but more albescent and greyer; lower tail-coverts pale creamy buff, with narrow longitudinal pale brown central stripes; wing-lining and axillaries yellowish white.

314.—Niltava sundara, *Hodgs.*

Blyth says this occurs in the mountains of Tenasserim. Lord Tweeddale says that Wardlaw Ramsay obtained it in Karennee at 4,000 feet.

We have never seen it in the Tenasserim Hills, but it is curious that Davison there found plenty of *Cyornis vivida*, which he, sharp sighted as he is, mistook and sent me for this present species, and it is not impossible that others may have made the same mistake.

315.—Niltava macgrigoriæ, *Burton.* (1).

(Karennee at 5,000 feet, Rams.) Salween R. north of Pahpoon.

A mere straggler to the hills of the northern and perhaps the central sections of the province. Davison looked specially for it about Mooleyit, but during his prolonged stay there failed to find it.

The specimen for which I had formerly suggested, if distinct, the name of *vivida* differs from the great majority of Sikim specimens in its brighter tints, and in having the chin, throat, and breast almost precisely the same color as the back, instead of black, with a purplish tinge as in the great majority of Darjeeling specimens; but I find in my museum a Sikim specimen of *macgrigoriæ* not separable from the Tenasserim Hill form, and I have therefore no doubt now that this should stand as *macgrigoriæ*. We have not enough specimens to enable us to determine whether really the Tenasserim form averages much brighter than the Himalayan form.

[I obtained a single male of this species in the hills to the north of Pahpoon. It was seated among some low bushes on the banks of a forest stream, and kept seizing insects on the wing, exactly after the manner of a Flycatcher.—W. D.]

316.—Niltava grandis, *Blyth.* (20).

Paraduba; Mooleyit.

Confined *apparently* to Mooleyit and its spurs, where not uncommon.

[Is quite a forest bird; seen only in trees, dry brushwood, and even fallen trees, but never, by me, actually on the ground. It occasionally catches insects on the wing, but this is not its common practice. It seems a sluggish bird, sitting for half an hour at a time, quite still and silent, on a branch. Indeed I never heard its note, but then I never met with it during the breeding season. It is usually alone, not in pairs; at least this was the case in January and February. Those I dissected had eaten nothing but insects.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 8·0 to 8·8; expanse, 13·0 to 13·8; tail from vent, 3·5 to 3·8; wing, 4·1 to 4·3; tarsus, 0·85 to 0·95; bill from gape, 0·9 to 1·02; weight, 1·0 to 1·5 oz.

Females.—Length, 8·2 to 8·4; expanse, 12·5; tail from vent, 3·4 to 3·6; wing, 4·0 to 4·1; tarsus, 0·9 to 0·95; bill from gape, 1·0; weight, 1·4 to 1·5 oz.

Irides deep brown; in the male the bill is black; legs and feet black, or very dark plumbeous; in the female the bill is brownish black; the legs, feet and claws fleshy pink.

317.—*Anthipes moniliger*, Hodgs.

Blyth gives this from Tenasserim. Wardlaw Ramsay is said to have obtained it in Karennee; the Tenasserim birds certainly, the Karennee ones probably, belonged to the next species.

317 *bis.*—Anthipes submoniliger, *Hume*, (6). Descr. S. F., V., 105.

Paraduba; Mooleyit; near Meetan.

Apparently confined to Mooleyit and its spurs.

[A perfect little forest Flycatcher, with the same habits and notes as *C. rubeculoides*. It was common enough about Mooleyit and its spurs, but I never saw it elsewhere.—W. D.]

319.—Siphia strophiata, *Hodgs.* (1).

Mooleyit.

[I only saw one solitary specimen on Mooleyit, and I have never met with it elsewhere.—W. D.]

322.—Sipha erythaca, *Blyth & Jerd.* (5). Descr. S. F., II., 458.

(*Karen Hills*, at 4,000 feet, Rams.) Pine forests, Salween; Mooleyit.

Confined to the higher hills of the northern and central portions of the province.

[I met with this bird only in the pine forests and their outskirts, to the north of Pahpoon, and near the summit of Mooleyit. The species was very rare, and I only noticed a few individuals. They are true Flycatchers. I shot one still catching insects, when it was so dark that I had no idea, until I picked it up, what the bird could be.—W. D.]

The following are dimensions, &c., of 3 males and 2 females recorded in the flesh:—

Males.—Length, 5·0 to 5·4; expanse, 8·4 to 8·82; tail from vent, 2·1 to 2·3; wing, 2·75 to 2·9; tarsus, 0·61 to 0·65; bill from gape, 0·6 to 0·65; weight, 0·3 to 0·4 oz.

Females.—Length, 5·3 to 5·25; expanse, 8·3 to 9·0; tail from vent, 2·12 to 2·3; wing, 2·75 to 2·9; tarsus, 0·6 to 0·7; bill from gape, 0·6; weight, 0·4 oz.

Legs and feet are dark red brown; upper mandible black; lower mandible brown; irides dark brown.

323.—Erythrosterna albicilla, *Pall.* (14).

(*Karen Hills*, Rams.) Kollidoo; Pahpoon; Younzaleen Creek; Kaukaryit, Houngthraw R.; Yea-boo; Tavoy; Mergui; Tenasserim Town.

A cold weather visitant throughout the province, but not ascending the higher hills.

[Met with in all kinds of localities, except dense forest; in brushwood, thin tree and bamboo jungles, gardens and even bare land, where there were only a few stakes to perch on. They are true Flycatchers, seizing all their prey on the wing; always seen singly seated on some spray convenient for a sally after a passing insect; never descending to the ground. By the middle of March all appear to have left for their breeding quarters. I never saw a specimen in breeding plumage.—W. D.]

325.—Erythrosterna acornaus, *Bly.*

Beavan recorded this from Zwagaben, a limestone rock, a few miles north of Moulmein. Ramsay is said to have obtained it in Karennee, at 2,500 feet elevation. It is a very doubtful species, with which however I shall deal separately hereafter; in the meantime see Brooks, S. F., V., 471, on this supposed species.

326.—Erythrosterna maculata, *Tick.* (6).

(*Karennee*, from 3,000 to 5,000 feet, Rams.) Mooleyit.

Observed only near the summit of Mooleyit, say above 5,000 feet elevation, and again above 3,000 feet in Karennee.

329.—Pnoepyga squamata, *Gould.*

Obtained by Ramsay in Karennee at 4,000 feet.

330.—Pnoepyga pusilla, *Hodgs.* (4).

Mooleyit.

Observed only high upon Mooleyit, and even there comparatively rare.

[I always met with this in the dense fern-growth edging the mountain streams in heavy forest, creeping in and out amongst the stalks of the ferns and little stones, like a mouse. Usually I saw only one; sometimes two or three were together. As a rule, they do not fly when disturbed, but scuttle away out of sight in the undergrowth, but when they do fly it is only for a few yards, and they always rise with a very sharp "chick, chick, chick." Those I examined had fed exclusively on insects.—W. D.]

The following are the dimensions, &c., of 3 males recorded in the flesh:—

Length, 3·4 to 3·7; expanse, 6·4 to 6·6; tail from vent, 0·5 to 0·55; wing, 1·9 to 2·1; tarsus, 0·8; bill from gape, 0·6 to 0·65; weight, 0·5 to 0·55 oz.

Legs and feet pale brown; upper mandible blackish; lower mandible pale brown; irides deep brown.

332 *ter.*—Turdinulus roberti, *God.-Aust.* and *Wald.* (6). Descr. S. F., IV., 18.

Mooleyit.

Observed only at Mooleyit at 5,500 feet and upwards.

[Generally seen in pairs, occasionally three or four together, hopping about on the ground or about the stems of the undergrowth only in the densest portions of the forest and not preferentially near water. When alarmed like *T. brevicaudatus*, they all raise a note of alarm, chick—chick, chick, chick; chick—chick, chick, chick, which they continually and unceasingly utter, until either you have passed on, or they think they have got out of sight and danger. They are not shy, and do not fly unless very closely pressed, and then only for a short distance. As a rule when disturbed they leave the ground and thread their way with great rapidity amongst the stems of the brushwood,

clinging sideways to these as many birds do. They are entirely insectivorous.—W. D.]

I think it quite impossible either to retain this species in the genus *Pnoepyga*, to which Major Godwin-Austen assigned it, or to include it in *Turdinus*, to which it is, in my opinion, far more closely affined. I cannot agree with Major Godwin-Austen that it is even at all closely related to the extremely aberrant *Pnoepyga longicaudata*.

I know no genus in which it can be included, and I propose for it the generic name

Turdinulus, *Gen. Nov.*

Like *Turdinus*, but with the bill proportionately longer, and much more compressed at the base, and with the tail extremely short.

Plumage, soft and full, very full and lax on rump and flanks.

Bill large, straight, much compressed throughout its entire length; culmen almost perfectly straight, curved downwards just at the tip; upper mandible projecting appreciably beyond lower mandible; a notch in the upper mandible; nostrils large in a triangular basal fossa, nearly covered in by a membraneous shelf.

Wings short, about three times the length of the bill from forehead to point, very much rounded; 5th, 6th, 7th, and 8th subequal and longest, sometimes 5th a shade shorter, sometimes 8th a shade shorter or longer. First four quills graduated, 1st quill longer than bill from forehead.

Legs and feet very strong; mid toe without claw equal to bill at front; tarsus rather longer; hind toe and claw rather shorter; outer toe longer than inner toe; outer toe and claw a little longer than inner toe and claw.

Tail very short rounded, about half as long again as bill from forehead.

I have not had the good fortune to meet with Major Godwin-Austen's *Pnoepyga chocolatina*, and I cannot therefore say whether that species is congeneric with the bird so common at Mooleyit, which I identify as *Turdinulus roberti*.

? 333.—*Troglodytes*——— ?

Davison is of opinion that he saw some species of this genus (which he knows well, having watched and shot *nipalensis* repeatedly about our own hill here at Simla) a little north of Pahpoon, but failed to secure a specimen. It might, however, have been a *Pnoepyga*, because once, some years later, when at Mooleyit, he saw another bird which he thought was a *Troglodytes*, and on shooting it, it proved to be *Pnoepyga pusilla*.

336.—Brachypteryx nipalensis, *Hodgs.* (7).

Mooleyit.

Only observed near the summit of Mooleyit, where com

[I always met with two of these together, and the curious thing is that I never saw a blue one, and that all the birds I killed, and they were all brown, were *males*. They keep entirely to the ground, hopping about amongst the dead leaves and moss or on fallen trunks, and picking up insects, just like the [illegible] *Larvivora*. They are found only in dense forests, by preference the banks of streams; not shy, hopping off out of sight you get near, never flying except when suddenly startled, then dropping behind the first little bush. I never [illegible] to have heard them utter any note.—W. D.]

Mooleyit specimens (males, I suppose young) are [illegible] identical with Sikhim females.

338.—Brachypteryx cruralis, *Bly.*

Obtained by Wardlaw Ramsay in Karennee at 5,000 [illegible]

343.—Myiophoneus temmincki, *Vig.*

Lord Tweeddale says that Ramsay obtained this in the Karen Hills, and it is quite possible that this and *not* the next species occurs there, but when he goes on to say (B. of B., p. 98) that *M. eugenei*, Hume, is synonymous, he is simply under a mistake, and can never have seen *eugenei*, of which we have since obtained a fine series, and which is as clearly distinct as any species can well be. (See also S. F., V., 113 *n.*)

343 *bis.*—Myiophoneus eugenei, *Hume.* (14). DESCR. S. F., I., 475.

Pine forests, Salween; Kollidoo; Kyouk-nyat; Pahpoon; Wimpong; Thoungsha Gyne R.; Paraduba.

Confined to the hills and isolated limestone rocks of the northern and central portions of the province.

[Occurring in hills and in the plains in the neighbourhood of the various isolated limestone outcrops. In the hills, like its Indian congener, it was usually found about mountain torrents and rocky ravines. Its notes and habits are also quite similar to those of the Indian bird. About the limestone rocks there are no torrents, and there they keep about the brushwood, chiefly near their bases. They feed largely on small landshells, which are extremely abundant about these rocks, and it is this great supply of their favourite food which, I believe, attracts them to these, apparently, otherwise scarcely congenial

localities. No one who has handled many fresh specimens of both can doubt the distinctness of this and the Himalayan species. You could distinguish them in the jungle by the color of the bil alone.—W. D.]

—*Hydrornis nipalensis*, Hodgs.

Blyth (B. of B., p. 97) gives this from Tenasserim, but he had doubtless failed to note the distinctions between true *nipalensis* and *oatesi*, the form that really occurs in Tenasserim. There is no reason to believe that true *nipalensis* does occur *any* where in Tenasserim, as even in Karennee; in the extreme north Ramsay procured *oatesi*.

344 *bis*.—**Hydrornis oatesi**, *Hume*, (22). DESCR. S. F., I., 477.

(*Karennee*, from 2,500 to 4,000 feet, Rams.) Assoon; Mooleyit; Meetan.

Confined to the hilly portions of the northern and central sections of the province.

[Excessively numerous in thin tree jungle at the base of the south-western spurs of Mooleyit, and occurring, though rarely elsewhere, on the hills to 5,000 feet elevation. I saw, but failed to secure, a specimen near Pahpoon. Like other *Pittas*, they keep to the ground, industriously turning over the dry leaves. When suddenly disturbed or put up by dogs they will rise and fly, but I never saw *these* light upon any tree or bush; they always drop again on the ground after flying, sometimes as much as an hundred, sometimes only a few yards. They have a clear, full, double-whistled note, which they utter occasionally, not nearly so often as most of the other species. They feed on insects, grubs, slugs, and small shells, and like all *Pittas* largely also on ants.—W. D.]

The following are dimensions and colors of soft parts of a large series recorded in the flesh:—

Males.—Length, 9·25 to 10·0; expanse, 15·5 to 15·75; tail from vent, 2·5 to 2·7; wing, 4·6 to 4·85; tarsus, 2·1 to 2·2; bill from gape, 1·31 to 1·4; weight, 4·25 to 4·75 ozs.

Females.—Length, 9·25 to 9·75; expanse, 15·25 to 15·6; tail from vent, 2·4 to 2·6; wing, 4·65 to 4·9; tarsus, 2·0 to 2·2; bill from gape, 1·3 to 1·4; weight, 3·5 to 4·5 ozs.

Legs and feet are dark pinkish fleshy, or pale fleshy brown; claws whitish; the upper mandible varies from pale brown to almost black; lower mandible very pale brown to fleshy white.

344 *ter*.—Pitta cyanea, *Blyth*. (32). Descr. S. F., III., 107.

(*Karen Hills*, at 2,000 feet, Rams.) Dargwin; Pahroon; Beeling; Thatone; Thenganee Sakan; Assoon; Mooleyit; Meetan; Amherst.

Occurs throughout the northern and central portions province, but is nowhere very common.

[This species occurs in Tenasserim to, at any rate, as far south as Tavoy, where I saw but failed to obtain it. It is nowhere very numerous, but is most so in the *north* about Pahpoon, and again further south about the bases of the south-western spurs of Mooleyit. Where I found it in the north, it was frequenting chiefly bamboo jungles; but I shot many in thin tree jungle at Beeling and Meetan, and one I got at Ahmerst was also shot in the tree jungle at the foot of the hills. In notes and habits it resembles *H. oatesi*; in fact it is impossible to distinguish the notes of these two. Although occurring in the hills, even high upon Mooleyit, they are rare there, and are more birds of the plains than of the hills.—W. D.]

The following are dimensions, &c., recorded from a large series:—

Males.—Length, 8·8 to 9·4; expanse, 14·8 to 15·4; tail from vent, 2·3 to 2·45; wing, 4·4 to 4·75; tarsus, 1·7 to 1·8; bill from gape, 1·12 to 1·25; weight, 3·75 to 4·25 ozs.

Females.—Length, 8·75 to 9·75; expanse, 15·0 to 15·12; tail from vent, 2·1 to 2·6; wing, 4·5 to 4·6; tarsus, 1·7 to 1·8; bill from gape, 1·2; weight, 3·5 to 4·25 ozs.

Legs, feet, and claws fleshy white; sometimes tinged purplish; bill black; gape fleshy white to yellowish brown; irides deep brown.

344 *quat*.—? Pitta cœrulea, *Raff*. (4). ? *P. davisoni*, Hume. S. F., III., 321 *n*.

Bankasoon.

A rare visitant to the evergreen forests of the southern extremity of the province.

[I first obtained this species on the 26th March in the evergreen forests of Bankasoon, two males, on the same day; one I found, caught in one of my traps in the morning, the second I shot as it was hopping along the forest path the same evening. For a couple of months previously I had daily been exploring these forests, but had never met with the bird, and it is my belief that they had then only just arrived. From this time up to my departure from Malewoon, in July, I on several occasions saw the bird; the most northern point at which I observed it was near the village of Laynah, on the 16th of

May. The next year in April I shot a third male at Bankasoon, and in May we obtained our first female. They are extremely shy, and not at all like the other *Pittas*. Directly they catch sight of you, they rise flying low, but rapidly, and not alighting under 200 or 300 yards, when, of course, in the dense forests, where alone they occur, all trace of them is lost. They doubtless must call, but I have never heard their note to distinguish it. My specimens had fed entirely on large black ants.—W. D.]

I cannot help doubting that this is the real *P. cærulea* of Raffles, but if not, it is certainly a very closely allied representative species.

We have now procured three males and one female, and all differ in the way pointed out in my note, *loc. cit. supra*, from all the descriptions and plates which I have been able to examine of *cærulea*.

Two males measured.—Length, 11·0 to 11·62; expanse, 20·25 to 20·8; tail from vent, 2·2 to 2·75; wing, 6 to 6·37; tarsus, 2·3 to 2·45; bill from gape, 1·75 to 1·76; from frontal bone, 1·75 to 1·9; weight, 7 and 8 ozs.

Another male has the most extraordinarily developed bill, 2·01 from gape, and exactly the same from frontal bone to tip.

A female in the skin has the wing 5·9; the tail, 2·7; tarsus, 2·3; bill at front, 1·7.

In the male, the legs and feet were bluish fleshy or dark fleshy, tinged with pale plumbeous; the bill black; the inside of the mouth white; eyelids and gape very dark fleshy; irides hazel grey.

The male has the forehead, anterior portion of crown, and a very broad stripe above the eye, and extending backwards to the nape, a very pale grey brown, suffused with a pale greenish glaucous tinge. All the feathers of the forehead, front, and sides of the crown margined at the tips with black; middle of crown, occiput, and nape intense velvet black; chin and upper part of throat whitish; lores and feathers immediately overhanging the lores pale brown, with a slight rufescent tinge; cheeks, ear-coverts, and sides of the neck, colored like the feathers of the forehead and sides of the crown, but with the glaucous tinge less strongly developed.

On the sides of the neck immediately behind, but rather above the ear-coverts, a black velvet patch, which is really continuous with the black of the nape, but which, except when the bird is excited, appears divided from this by the ends of the elongated glaucous grey plumes, forming the stripe already referred to, and which spring from the sides of the occiput. The feathers of the occiput are elongated, forming apparently a full crest, which, however, Davison assures me, is not erected by the bird

in life; these feathers are generally, but not always, extremely narrowly fringed at the tips with greyish brown. A broad black half collar encircles the back and sides of the neck, and immediately below this the plumage of the bird is a bright smalt blue, changing gradually into the rich cobalt of the back, rump, scapulars, and upper tail-coverts. Most of the coverts, tertiaries and all but the basal portions of the outer webs of the secondaries and the tail-feathers, a rather duller cobalt blue, the latter, however, fringed brighter at the margins. The winglet, primary greater coverts, primaries, except just at the tips which are bluish, inner webs of all the secondaries and their outer webs for a short space below the coverts, deep blackish brown; sides of the neck in front very pale brownish fulvescent, most of the feathers just perceptibly margined darker at the tips, so as to give here also a scaly appearance, entirely wanting on the chin and middle of the throat; the breast and upper abdomen pale fulvous, a little pencilled and shaded with olive grey. Lower abdomen clear fulvous; vent feathers creamy; lower tail-coverts slightly greenish white. In some specimens the black bases of the feathers show through just at the base of the throat and produce the effect of an imperfect collar there.

The female has a comparatively narrow frontal band, and a broad stripe over the eye backwards to the nape, a somewhat pale glaucous grey brown.

The whole of the rest of the forehead, crown, occiput and elongated occipital feathers, greyish, like the streaks on either side, closely barred with black, and more or less tinged with rufescent. The black spot on the side of the neck, and the black collar, as in the male; cheeks and sides of the head also much as in the male, but browner; whole interscapulary region behind the black collar, scapulars, most of the lesser and median coverts, and the middle of the back, rich rather brownish chestnut; lower back, dull somewhat greenish blue; some of the feathers a little fringed with this chestnut. Rump and upper tail-coverts smalt blue; tail cobalt blue. Primaries and their greater coverts much as in the male, but the tips of the longer primaries a paler slaty grey; secondaries and their greater coverts more or less suffused with chestnut, but tipped blue, or bluish in the later secondaries; lower parts as in the male, but the feathers of the sides and front of the neck not dark edged, and not therefore presenting the same scaly appearance.

345 *bis.*—Pitta moluccensis, *P. L. S. Müll.* (94).

DESCR. S. F., III., 106.

Moulmein; Amherst; Tavoy; Shymotee; Bankasoon; Malewoon.

A common seasonal visitant to the whole province.

[For many months after my arrival in Burma, I did not meet with this species; but while at Tavoy, towards the latter end of April, after a few good showers of rain, they suddenly appeared in great numbers in the gardens and plantations in and about Tavoy. Before the rain I can safely affirm that there were none about the place, for day after day for the greater part of the month had I been working the country in which they subsequently became so numerous. From this time till I left Burma in July they were numerous everywhere

Subsequently I have, year by year, noticed the annual migration throughout the southern and central portions of the province. Very likely they extend to the north, but I have never been there at the right season. I suspect, however, that they are rather a coast-loving species.

Although the great mass of the birds come as described, a few, I think, remain all the year round in the mangrove swamps of the southern extremity of the province; at any rate I have found them there from January to July.

This species is very fond of perching on trees; you may continually see them high up upon high trees calling vociferously.

They are not at all wild or shy birds; they feed freely on ants and their larvæ, all insects, grubs and land shells. I never noticed this or any of its congeners coming to the water to drink.

This and the closely-allied *P. megarhyncha* seem to frequent most commonly thin tree jungle, where there is not much under-wood and the mangrove swamps, but they also occur abundantly in gardens and plantations. They both have a fine clear double note, which may constantly be heard in the morning and evening wherever they occur. They are decidedly noisy and often call all day, and on moonlight nights a great part of the night also.—W. D.]

Somebody said, I forget who, that *Pitta bertæ*, of Salvadori, is only the young of this species; but I feel pretty certain that this is not the case, as I have examined quite young birds and have not found them resemble or approach *bertæ* in any way. *Bertæ* has all but the middle portion of the crown and occiput chestnut; a very conspicuous buffy white supercilium; green secondaries; very pale blue rump and upper tail-coverts; rosy middle of abdomen and vent. At no age has *moluccensis* any one of these.

The following are dimensions, &c., recorded in the flesh :—

Male.—Length, 7·75 to 8·25; expanse, 16·12 to 17·12; tail from vent, 1·5 to 1·75; wing, 4·75 to 5·2; tarsus, 1·65 to 1·75; bill from gape, 1·15 to 1·2; weight, 2·75 to 3·0 ozs.

Females.—Length, 8·0 to 8·12; expanse, 16·12 to 16·5; tail from vent, 1·5 to 1·75; wing, 4·75 to 4·82; tarsus, 1·55 to 1·6; bill from gape, 1·5; weight, 3 ozs.

Legs, feet, and claws dark pinkish flesh color; bill black; irides dark brown.

A young female measured:—Length, 7·12; expanse, 13·82; tail from vent, 0·62; wing, 3·7; tarsus, 1·62.

It had the legs and feet flesh colored, mottled with du[illegible] bill light horny brown; the tips of both mandibles and ga[illegible] vermilion; the irides hazel brown.

345 *ter*.—Pitta megarhyncha, *Schl.* (4).

Amherst; Tavoy; Shymotee; Choulai Creek.

A rare seasonal visitant, accompanying the preceding, to the southern and central portions of the province.

[This species is met with in company with the last, but is very much less numerous. I have shot it at Tavoy, Amherst, and south of Mergui, and I have seen specimens obtained in the Delta of the Irrawaddy in the collection of Lieutenant Raikes, and in Malewoon in the collection of Mr. A. L. Hough. In all its habits, the localities it frequents, &c., it resembles the last. It is distinguishable at a glance from *moluccensis*.—W. D.]

The Marquis of Tweeddale apparently thinks (B. of B., p. 167) that the specimens I have recorded as *megarhyncha* are only *moluccensis*. There is, however, not the slightest doubt, as to our specimens being all true *mergarhyncha* which is distinguished from *moluccensis* not only by its much longer, slenderer and excessively straight culmened bill, but by the duller and darker brown of the head, the absence of the central black band, the greater narrowness of the black collar, the paler and less rich tint of the breast, and the slightly duller and paler, and generally somewhat greener tint of the outer webs of the terminal inch or so of the secondaries. Lastly, the bird is not only longer in the bill, but it is longer in the body, as will be seen by the following dimensions; first of the largest *moluccensis*, measured by Davison, and secondly of *megarhyncha*:—

	Length.	Bill from gape.	Bill at front.
P. moluccensis	8·25	1·2	1·17.
P. megarhyncha	9·12	1·62	1·5.

Other dimensions do not differ from those of *moluccensis*.

Males measured.—Length, 9·0 to 9·12; expanse, 16·25; tail from vent, 1·5 to 1·82; wing, 4·75; tarsus, 1·55 to 1·62; bill from gape, 1·62; weight, 4 ozs. against 3 ozs., which is about the maximum of *moluccensis*.

The legs and feet were dark fleshy; bill black; irides deep brown.

Forehead, crown, occiput, and nape a dull wood brown; feathers of the occiput much more developed than in *moluccensis*, and in the bird when at rest or in skins descending much lower on the nape than in *moluccensis*, and all but concealing the black nuchal collar. Moreover, the brown of the head in the present species extends further laterally on the sides of the head behind the eye, so as to reduce the amount of black on the sides of the head also. Lores, an excessively narrow line over the eye; feathers at the base of the lower mandible and under the eye, ear-coverts and a band extending from behind these round the nape black. Chin and throat white; feathers about vent and lower tail-coverts intense crimson scarlet; rest of lower parts rather dull buff, rather paler on the lower abdomen on either side of the red, and shaded with green at the sides of the breast; entire back, upper part of rump, whole of scapulars, visible portion of tertiaries and their greater coverts, and the visible portions of two or three of the later secondaries and their greater coverts, dull dark grass green, not quite so pure a color as in *moluccensis*. The whole of the lesser and median wing-coverts, the lower rump, and upper tail-coverts, which extend within 0·2 of the end of the tail, glistening smalt blue. Primaries and their greater coverts black, most of the latter more or less overlaid at the tips with dull bluish green. The primaries with an immense white band extending over both webs of all but the first, beginning about the middle of the first quill, and extending further and further towards the tip on each succeeding primary, until at the 7th or 8th it quite involves the whole tip; secondaries black; their greater coverts, and their outer webs for about the terminal one inch, dull pale greenish blue.

346.—Pitta cuculata, *Hartl.* (29).

Amlferst; Bankasoon; Malewoon.

A seasonal visitant to the southern and central portions of the province.

[This species is much rarer and more of a forest bird than *moluccensis*. Its call is similar, but not nearly so often heard; firstly because the bird is only about one-tenth as numerous, and secondly because those that are there, call *much* less frequently. These also sit about in trees a great deal, and like *moluccensis* are, I believe, merely migrants, as I have only shot them from April to July.

I have remarked nothing special about their habits, but they seem with us to cling a good deal to the coast, although I have never seen *them* in mangrove swamps.—W. D.]

The following are dimensions, &c., of adult males recorded in the flesh :—

Length, 6·8 to 7·62 ; expanse, 14·5 to 15·25 ; tail from vent, 1·5 to 1·62 ; wing, 4·35 to 4·5 ; tarsus, 1·45 to 1·62 ; bill from gape, 1·0 to 1·12 ; weight, 2· to 2·5 ozs.

Legs and feet fleshy white ; bill black ; irides dark brown.

346 *bis*.—Pitta gurneyi, *Hume*. (62). DESCR. S. F., III., 296, Pl. (III.)

Laynah ; Palaw-ton-ton ; Bankasoon ; Malewoon.

A seasonal visitant to the evergreen forests of the southernmost portions of the province.

[This is apparently only a migratory species in Tenasserim, and occurs, so far as I have observed, only in the southern portion of the province. Laynah was the most northern locality at which I observed it, and Kenong within the estuary of the Pakchan, but on the Siamese or southern side, the most southern.

A few specimens begin to make their appearance in the forests round Malewoon and Bankasoon (where my specimens were mostly collected) about the 10th or so of February ; but they remain scarce during February, March, and the first two weeks in April. After that they become rather more numerous, and continue so till the end of May, and until the regular monsoon rains have set in, when they rapidly disappear, though even in July a few specimens may be met with. The bird confines itself to the evergreen forests, never, that I am aware, venturing into the open or even into gardens. It is shy and retiring, and on the slightest indication of danger hops rapidly away managing generally to keep some obstacle intervening between itself and the approaching person. It is by no means a common bird even where it does occur, and it was only by persistently hunting them, and never missing an opportunity of securing a bird where possible, that I and my people succeeded in getting the number we did.

Its habits are like those of other members of the genus, keeping to the ground ; it feeds on snails, worms, slugs and insects of all kinds. When disturbed, unless closely pressed, it seldom flies, but hops rapidly away, until it gains the cover of some tangled cane break or other refuge, where it remains until satisfied that all danger has passed, it emerges again into the more open spots. Favorite resorts are the narrow valleys lying between the hills. These, though densely wooded, contain little or no undergrowth.

The note is quite that of *Pitta*, but yet differs notably from that of the other species. When suddenly come upon or otherwise alarmed it utters a peculiar note—a sort of kir-r-r. It has

a habit of jerking up its tail and dropping its wings slightly as it hops along, which I have never observed in its congeners.

As above mentioned, it is almost exclusively a ground bird, but one evening I shot a male high up in a tree; it attracted my attention by the peculiar short double note it was uttering, quite unlike its ordinary note, and every time it uttered it, it flapped its wings and jerked up its tail. Usually it is found singly, occasionally a couple together. During the morning and evening they call, and may then be heard answering one another in all directions.

They do not breed, I think, within our limits, but go probably to Siam or into the higher portions of the hills dividing Siam from Tenasserim. At any rate specimens dissected in April, May and June showed no signs of breeding.—W. D.]

346 *ter*.—Anthocincla phayrei, *Blyth*. (3). *Male*. DESCR. S. F., III., 109, pl. 2.

(*Tonghoo*, Phayre.) Dargwin; Sinzaway Reserve; Younzaleen; Wimpong.

Very sparingly distributed in suitable localities throughout the northern and central portions of the province.

[A very rare bird in Tenasserim, and confined apparently to the plains and low hills. I have seen it only some half a dozen times. It has all the habits of a true *Pitta*, keeping and feeding, so far as I have observed, exclusively on the ground. It affects moderately thin tree jungle. I observed it on one occasion close to Meetan. I have never, that I am aware, heard the note of this Thrush.—W. D.]

I formerly described the male from Dargwin in the Salween District, a place about 120 miles north of Moulmein. Another male, kindly shot for me by Captain Bingham in the Sinzaway forests near Pahpoon, measured in the flesh:—

Length, 9; expanse, 13·4; wing, 3·9; tail, 2·3; tarsus, 1·2; bill from gape, 1·6.

The plumage and the colors of the soft parts were as in the specimen originally described.

A female shot at Wimpong, fifteen miles south-east of Thatone, measured:—Length, 9; wing, 3·9; tail, 2·35; tarsus, 1·2; bill to forehead, 1·4.

The female only differs from the male in having the breast and sides more densely black spotted, in having the ear-coverts much the same color as the back, only a little pencilled with blackish dusky instead of, as in the male, black, a little pencilled with the color of the back, and in having the nape, occiput, and middle of the crown unicolorous with the back instead of jet black as in the male. The aigrettes are also a little shorter and rather less pure white. The under tail-coverts are very much more faintly tinged with red.

350 *bis.*—Zoothera marginata, *Blyth.* (3).

(*Karennee*, from 1,500 to 3,000 feet, Rams.) Dargwin; Mooleyit; Meetan.

Confined apparently to the hills of the northern and central sections of the province, and their neighbourhood.

[This too is a very rare bird in Tenasserim, frequenting low tree jungle like the last, but apparently ascending the hills higher, for I have shot it at about 5,000 feet on the Mooleyit range. Its food (as I found by an examination of the stomachs of those I obtained) consists of insects of various sorts and their larvæ, and small land shells. I have never heard the note of the bird, and know next to nothing about its habits. All the specimens I obtained were shot on the ground where they were busy turning over dead leaves as so many Thrushes do.—W. D.]

We only obtained females of this species, and curiously enough my only *sexed* specimens of this species, from Sikim and the Bootan Doars, are also females. The bird is a miniature of *Zoothera monticola*, but is a somewhat more rufescent olive brown above, without the darker margins to the feathers of the back, which in *monticola* give these parts a scaly appearance; and with the feathers of the middle of the breast and abdomen regularly margined with olive brown, giving these parts a scaly appearance, which is wanting in *monticola*.

The following are dimensions and colors of the soft parts of females:—

Females.—Length, 9·5 to 10·12; expanse, 15·75 to 16·12; tail from vent, 2·8 to 3·62; wing, 4·85 to 5·05; tarsus, 1·1 to 1·2; bill from gape, 1·45 to 1·6; weight, 3·0 to 3·75 ozs.

The legs and feet varied from dark brown to pale bluish brown; the claws pale horny; the upper mandible and lower mandible from tip to angle of gonys from black to very dark horny brown; rest of lower mandible reddish to bluish fleshy; gape yellowish or fleshy white; irides deep hair brown.

The entire upper parts are a rich olive brown, slightly rufescent on the back, more decidedly so on the rump, and usually paler and still more rufescent on the wings. Some few of the median and secondary greater coverts with rufous buff tippings; primary greater coverts tipped with brown. Some birds are much more, and others much less, rufescent on back and wings, and the tippings above described are very conspicuous in some, almost obsolete in other birds. The inner webs of the quills are hair brown with a broad buff or rufous buff patch on the inner webs towards the bases of all but the first three primaries and with a trace of the same on the third. The central tail-feathers and the outer webs of the lateral ones are the same color as the rump, that is, more olivaceous in some specimens, more rufescent in others.

The lores and feathers under the eye are white, speckled with brown, and so are the feathers immediately surrounding the eye everywhere. The ear-coverts are olive brown, more or less streaked with white, (it varies very much in different specimens,) and the posterior ones tipped black or blackish.

From the gape and again from the lower edges of the rami of the lower mandible, two narrow dusky olive streaks run down to the breast, near the breast becoming broader and blacker. These streaks, very apparent in the fresh bird or in very fine specimens, get very much jumbled up in in different ones. The upper two-thirds of the space enclosed between these two stripes on either side, white, regularly and narrowly banded with dusky olive. The entire chin, throat, and front of the neck bounded by the innermost stripe of each pair on either side, white, not very pure, sometimes unmarked, sometimes showing traces of banding similar to that on the spaces between the pairs of stripes. Sides of the neck olive brown, with more or less of black central stripes; sides of breast and abdomen olive brown; the feathers with larger or smaller central white markings, sometimes large white oval spots, sometimes mere shaft lines, sometimes almost, if not quite, obsolete on the sides of the breast. Middle of breast buffy or buffy white; middle of abdomen white; the feathers of both parts margined with olive brown or olive dusky, imparting a scaly appearance; lower abdomen, immediately above the vent, pure white; lower-tail coverts dull olive brown, with larger or smaller buffy white or buffy fawn colored markings, beginning as a shaft line, and expanding towards the tips, where, of course, they are broadest; in some specimens these markings occupy the greater portion of the feather; in others they are quite small and inconspicuous. Lower coverts at the shoulder of the wing and basal halves of axillaries white, with in some a faint buffy tinge; rest of axillaries and rest of the coverts, except just at the base of the earlier primaries, moderately dark brown, sometimes olivaceous, and the hinder secondary greater coverts broadly tipped with pale buff. In *monticola*, the axillaries, though similar, are conspicuously tipped with white, and the band on the inner webs and the tippings to the secondary greater coverts, are white and not buffy.

351.—Cyanocincla cyana, *Lin.* (40).

(Tonghoo, Karen Hills, from 2,000 to 4,000 feet, Ramsay.) Pine forest, Salween; Kollidoo; Dargwin; Thatone; Myawadee; Kaukaryit, Houngthraw R.; Larthorgee; Moulmein; Momenzeik, Pabyouk; Meetan; Amherst; Lemyne; Tavoy; Mergui; Sadyin; Bopyin; Bankasoon; Malewoon.

A very abundant cold weather visitant to every portion of the province.

[Occurs throughout the province alike in hills and plains. I saw one specimen on the top of the little pagoda built at the summit of Mooleyit. It is only a cold weather visitant, departing early in March.—W D.]

Although I have entered a certain number of specimens as *Cyanocincla solitaria*, I am bound to say that I incline to Mr. Swinhoe's opinion that this supposed species is not really a good one.

It appears to me that we have here a case precisely analogous to that of *Iora typhia*, *zeylonica* and *scapularis*, in which while throughout the range the females are identical, the males in certain localities assume no black, in certain localities a great deal, and in others a varying amount; so here, too, it seems to me that from Spain to Amoy the females are undistinguishable, while within certain geographical limits the majority of the males assume a greater or less amount of chestnut in the lower plumage, nothing like which is seen in specimens obtained in other parts of the birds' geographical range.

I have just examined 110 specimens of this species from Spain, Asia Minor, Muscat, Kelat, all parts of India and Burma, and Hainan, Amoy and Formosa. I can discover no valid difference between the females, in what appears to me to be the normal adult garb of the female, though I think that as a body European and Indian specimens, obtained west of an imaginary line drawn from somewhere in Nepal to some point a little west of Calcutta, are rather dingier, and have the spots of the throat and breast rather more rufescent than those obtained eastward of this line; but this distinction is not absolutly constant, and does not appear to me to possess any real value.

On a former occasion, S. F, III., 113, I disputed Mr. Sharpe's conclusion that the adult females were precisely similar to the males. I still doubt that the females normally assume the complete blue garb of the male. I personally have never met with a female in this garb, but I have now out of an immense number of females, three, two from India and one from Burma, the latter of which at any rate ought to be thoroughly reliably sexed which are in the blue plumage, and I have another specimen from Burma also, like the other above referred to, sexed by Davison, which has the upper surface almost like that of the male, and with a very strong blue tinge on the sides and flanks.

If, however, the adult female normally assumed this garb there ought to be at least five times as many blue females amongst my specimens sexed by dissection; and it is impossible to avoid the conclusion that, if these exceptional specimens have been correctly sexed, then the females only assume the blue plumage either when very old or abnormally, as is the case with the hen birds which are barren, or have diseased ovaries, in many species.

All the specimens, therefore, that I have noted as *solitaria*, with the exception of the one female from Burma already referred to, are males. Of course female birds were shot along with these, and some of these must have belonged to the same race as the birds exhibiting red in their plumage, but along with these were also shot numbers of males in every stage from the quite young to the perfectly adult bird, exhibiting no vestige of rufous plumage, and some of the females must have belonged to these also; and I am totally unable to discover any diagnosis by which the females pertaining to the so-called *solitaria* race can be distinguished from those belonging to the *cyana* form.

Amongst the birds that I have recorded as *solitaria* is a male absolutely identical with one from Grenada in Spain, except in having a chestnut edge to two of the feathers of the lower tail-coverts. Amongst them are also two birds with the whole of the abdomen, vent, lower tail-coverts, sides, axillaries, and wing-lining, deep chestnut, and all the other specimens are intermediate, as regards the amount of rufous exhibited, between these latter and the specimen first referred to.

Besides these Tenasserim specimens, I have Indian and Burmese specimens, showing more or less chestnut, generally on the vent and under tail-coverts only, but in one or two cases on the abdomen also, from Diamond Island, Akyab, Thayetmyo, Dacca, Tipperah, Cachar and Sikim, but we have no specimen in our museum obtained west of the imaginary line above referred to, exhibiting any rufous whatsoever in the plumage, nor amongst the hundreds of specimens that I have examined from all parts of the empire west of this line have I seen such.

It may be well to state for what it is worth that, of the few males killed in the extreme south of Tenasserim, not one but exhibits some trace of rufous, and birds exhibiting rufous have been obtained throughout the whole length of the Tenasserim provinces, but except perhaps in the extreme south, the *cyana* form seems greatly to predominate; for instance out of between 30 and 40 specimens obtained by Dr. Armstrong* at Amherst only three exhibited any trace of rufous.

It appears to me that such evidence as we possess is entirely against the specific distinctness of the eastern race. The females are alike, but within certain geographical limits a certain number of the males, greater or less in different localities within that area, assume a certain amount of chestnut in the lower plumage, varying from a single feather to more than half the plumage. But if Messrs. Sharpe and Dresser's surmise is correct, and the rufous plumage, even in the birds that do

* Not retained by me, and so not included in the number of our specimens.

assume it, is altogether dropped in maturer age, this, coupled with the facts above stated, seems to me to give the *coup de grâce* to this supposed species.

351 *bis.*—Cyanocincla solitaria, *Müll.* (12).

Kyouk-nyat; Palpoon; Khyketo; Thoungsha Gyne R.; Meetan; Amherst; Zadee; Pakchan; Bankasoon.

Occurring as a cold weather visitant throughout the province.

[Only a cold weather visitant, departing about the same time as the preceding, and resembling it in habits, being very partial to ruins and rocks; the dried trees standing about old clearings are also a favorite resort. One never sees two of these Blue Rock Thrushes together, but you always meet with both supposed species in the same tract.—W. D.]

352.—Orocetes erythrogaster, *Vig.*

Lieutenant Wardlaw Ramsay notes (P. Z. S., 1876, 677) that a specimen of this species was procured by some member of the recent Karennee-boundary expedition; but this may of course have been (the locality was not noted) somewhere just outside the limits to which the present list refers.

355.—Geocichla citrina, *Lath.* (23).

(*Tonghoo, Karennee,* Rams.) Amherst; Yea; Pakchan; Bankasoon; Malewoon.

Apparently confined in Tenasserim proper to the southern half of the province, and there to the neighbourhood of the coast, but reappearing in the extreme north in the recently incorporated tracts.

[Occurring from Amherst southwards, but nowhere very plentifully. It keeps to the forest, but to the more open portions, along the beds of streams, near the forest paths, &c. It feeds usually on the ground, turning over the dead leaves hunting for insects which chiefly constitute its food.—W. D.]

Blyth's species, *G. innotata,* from the Malayan Peninsula, appears to me to be a very doubtful species. The full description will be found quoted S. F., I., 69.

The points relied on are greater intensity of coloration, no white upon the wings, and lower tail-coverts only, and *not* the vent also, white. We have never succeeded in obtaining specimens which we could satisfy ourselves were distinct from *citrina.*

As regards the white on the lower parts, some specimens of *citrina* have the entire flanks, lower abdomen, vent and lower tail-coverts snow white; such is a specimen now before me killed at Bankasoon, 13th December 1875; this has a huge

patch of white on the wing. Another specimen, killed close by Malewoon, 13th December 1875, also with a conspicuous white wing patch, has scarcely more than the lower tail-coverts white. Another specimen killed at Bankasoon, 27th December 1875, has not only all the white described in the first, but has nearly the whole abdomen and one side of the body white. No doubt this is abnormal, but it helps to show what a variable character the amount of white on the lower parts is.

Then we have a male and female both from Bankasoon, both without any white on the wings, but neither of them a bit more intensely colored than some other *citrina*, and both of them with the vent, flank, feathers and lower tail-coverts white. Some specimens have the whole of the median and primary coverts broadly tipped with white, forming a conspicuous bar. Some have only three or four of the coverts thus tipped, some only two, some only one, and the two specimens above referred to, none. The absence of white in the wing, therefore, does not seem to be a very good character.

Lastly, specimens vary very greatly in the intensity both of the ferruginous and ash.

Innotata may be a good species, but we have failed to procure it both in Tenasserim and the Malay Peninsula, and if distinct requires, I think, fuller definition.

The following are dimensions, &c., recorded in the flesh of a large series of *citrina*:—

Males.—Length, 8·12 to 9·0; expanse, 14·0 to 15·0; tail from vent, 2·82 to 3·12; wing, 4·4 to 4·82; tarsus, 1·2 to 1·35; bill from gape, 1·05 to 1·2; weight, 2·0 to 3·0 ozs.

Females.—Length, 8·2 to 8·5; expanse, 13·75 to 14·5; tail from vent, 2·75 to 3·25; wing, 4·5 to 4·62; tarsus, 1·2 to 1·25; bill from gape, 1·1; weight, 2·25 ozs.

Legs, feet, and claws fleshy white; gape and base of lower mandible fleshy white; rest of bill black; irides dark brown; nude patch behind eye flesh coloured.

369 *bis*.—Turdus obscurus, *Gm.* (24).

Kyouk-nyat; Younzaleen Creek; Mooleyit; Amherst; Bankasoon; Malewoon.

A seasonal visitant throughout the province, alike to hills and plains.

[During the cold weather this species is widely spread throughout the province, moving about in large flocks, the majority of the birds keeping together, but many straggling from the main body. They feed chiefly on the ground, and when disturbed rise generally *en masse*, and scatter into the neighbouring trees. They have a soft pleasant note, very like that of *Planesticus atrogularis* (which indeed they resemble very closely

in habits, &c.) which they utter while feeding. They feed on insects, grubs, seeds and berries. During the day they usually remain quiet in some shady tree, moving about and feeding as a rule only in the mornings and evenings. I do not know exactly when they arrive, but they all leave before the end of March.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 9·0 to 9·62 ; expanse, 15·0 to 15·5 ; tail from vent, 3·4 to 4·1 ; wing, 5·0 to 5·45 ; tarsus, 1·1 to 1·3 ; bill from gape, 0·95 to 1·12 ; weight, 2·25 to 2·75 ozs.

Females.—Length, 8·82 to 9·5 ; expanse, 14 to 15·5 ; tail from vent, 3·25 to 3·75 ; wing, 4·65 to 5·2 ; tarsus, 1·1 to 1·25 ; bill from gape, 1·05 to 1·15 ; weight, 2 to 2·75 ozs.

Legs and feet tawny or dull fleshy yellow, sometimes with a greenish tinge on the front of the tarsus; the claws greenish horny ; irides dark brown ; edge of eyelids yellow ; upper mandible and tip of lower mandible, black or blackish horny ; rest of lower mandible, gape and edge of upper mandible to nostrils, yellow.

I do not know whether the differences in the sexes of this species have been previously pointed out.

The male has the lores velvet black, the chin pure white, and the whole of the rest of the front and sides of the throat and neck unbroken ashy. The female has the lores brown, the whole of the chin and a very broad stripe down the middle of the throat and front of the neck white, more or less speckled with brown on the upper part, and more or less tinged with pale brown or pale ashy on the lower parts, and with a more or less distinct white stripe from the base of the lower mandible, running down under the ear-coverts. The sides of the head and nape are also much greyer in the adult male than in the female.

Immature males resemble the females, but have the throat more ashy, and, as a rule, almost entirely want the white stripe from the base of the lower mandible. I do not know what the quite young birds are like, as we have never procured any such.

The fully adult male has the lores velvet black, and a greyish white stripe beginning over the lores, extending over the eye and over a portion of the ear-coverts. Feathers immediately below the orbit and behind the eye dusky blackish ; chin and the feathers just at the base of the lower mandible pure white ; the rest of the throat, sides of the head, front and sides of the neck, clear pale ashy. The upper part of the throat and sides of the face obscurely streaked ashy ; the top of the head and back of the neck olive brown, much mingled with grey on the occiput and nape ; the entire mantle and rump, a rich warm olive brown ; tail-coverts less olivaceous, but margined with the same color as the rump ; the wings, hair

brown; the earlier primaries and their greater coverts margined with greyish white. The rest of the feathers, coverts and quills margined on, or with the whole, outer webs olive brown. Tail-feathers hair brown, the central ones with a faint olive tinge on their outer webs, sometimes on both webs, and the lateral feathers margined towards their bases with olive. The outer two feathers on either side with a narrow white band at the tips across the corner of the inner webs; and, as a rule, these and most of the rest of the tail feathers excessively narrowly margined along the whole tips with white, or pale greyish brown. The breast, (except the central portions of the lower breast) the sides of the abdomen, and upper part of the flanks, dull, pale, somewhat ochraceous buff. Middle of lower portion of breast, middle of abdomen, vent, lower portion of flanks and lower tail-coverts, pure white; the latter more or less of a grey brown towards their bases, which, when the feathers are disturbed, show through; feathers of the tibial plumes pale greyish brown, fringed at the tips with greyish white; axillaries and wing-lining delicate pale grey, some of the feathers fringed whitish at their tips.

The females differ as already pointed out, have no grey on the sides of the head, none on the occiput and nape, which are uniform with the back, and further have the ochraceous buff of the lower surface, I think, a little less pure.

Younger birds have the ear-coverts all white shafted, and have conspicuous though narrow white tips to the secondary greater coverts.

I may note that *Turdus chrysolaus*, a bird very likely to occur in the Tenasserim Hills, is extremely like the present species, but has the whole top, back and sides of the head, chin and throat olive brown like the back, wants the white eyebrow, and has the breast more ferruginous, and the sides and upper part of the flanks decided ferruginous.

369 *ter.*—Turdus pallidus, *Gm.* (1).

(*Karennee*, at 5,000 feet, Rams.) Mooleyit.

Apparently a rare straggler during the cold season to the higher ranges of the province.

We only procured one specimen, a female, which I provisionally thus identify. Assuming that *Turdus daulias*, of Temminck, (P. C., 515, and T. and S., Faun. Jap. 62, *pl.* XXVI.) is identical with *pallidus* of Gmelin, and this I think Latham's (alas! too brief) original description renders probable, then our specimen differs from all plates and descriptions of this species, and from a Formosan specimen from Mr. Swinhoe, in having a most conspicuous white eyebrow, almost from nostrils to nape; in its delicate pure grey breast, upper abdomen,

sides and flanks only tinged on the sides of the breast with olive brown; and in wanting entirely alike the brown markings on the sides, and the conspicuous brown flank patch figured by Temminck, and conspicuously present in the Formosan bird.

As regards dimensions, however, and the color of the upper parts, our bird agrees perfectly with Mr. Swinhoe's, and I can only conclude that ours is a perfectly adult female, older than any that has hitherto been described.

Our bird when shot was not discriminated from *obscurus*, with huge flocks of which it was associating. It was not, therefore, measured in the flesh, as great numbers of *obscurus* had been already measured. The dry skin measures:—

Length, 8·3; wing, 4·9; tail, 3·6; tarsus, 1·2; bill at front, from frontal bone, 1·02.

The upper mandible and the tip of the lower mandible blackish; rest of lower mandible and edge of upper mandible towards the base, yellow; legs and feet apparently brown, paler on the upper portions of the tarsi.

A dusky streak commences at the nostrils and continues as a mere line to the lores, where it widens out and occupies the greater portion of these. Between the point of the lores and the nostrils commences a conspicuous white stripe which runs backwards almost to the nape; a large patch immediately under the eye white, divided from a small white patch on the side of the lower mandible by a brown line. The whole of the rest of the upper plumage, except the terminal portions of the primaries, and the inner webs of the secondaries, a rich warm olive brown, deepest, and with a warmer shade on the head; ear-coverts and sides of the neck similar, but a few of the former with greyish white shafts towards their bases, and the latter with the grey bases of the feathers, showing through a little; chin pure white; upper part of middle of throat ditto, with a few very narrow tiny olive brown streaks.

Sides of the upper throat, and the whole of the rest of the throat grey, closely streaked with olive brown, the streaks being smaller and less close on the median portion; breast, abdomen, sides, and flanks a clear grey; some of the feathers on one side of the breast suffused towards their tips with the olive of the back. Middle of lower part of abdomen, vent, and lower tail-coverts pure white, the latter grey brown towards their bases, and the brown running downwards along the margins of the feathers, the brown not visible unless the coverts are disturbed. The wing-lining and axillaries are excessively pale grey brown; the inner margins of the quills on their lower surfaces something similar, but with perhaps a faint fulvous tinge; tibial plumes pale yellowish brown; the extreme, outer margins of the three first quills are very pale, not greyish but with a fawny tinge.

I can scarcely doubt that this is *pallidus* vel *daulias*, but the large conspicuous white superciliary stripe certainly puzzles me.

369 *quat.*—Turdulus sibericus, *Pall.* (1).

(Karennee, at 2,500 feet, Rams.) Mooleyit.

Apparently only a rare straggler during the cold season to some of the higher ranges, and the most northern portions of the province.

[I never saw but one single specimen which was sitting on the ground near a stream, close under the cone of Mooleyit, at an elevation of 6,000 feet. When alarmed by me it flew up into a little tree, whence I shot it. I hunted the whole neighbourhood with all my people for a fortnight after that, but never saw another specimen. I thought the bird was new, and hence the special pains I took.—W. D.]

Of this species also we procured only a single specimen, an old male. This measured in the flesh:—

Length, 9·4; expanse, 14·3; tail from vent, 3·8; wing, 4·9; tarsus, 1·25; bill from gape, 1·05; weight, 2·75 ozs.

Bill black; legs yellowish brown; feet and claws paler; soles bright yellow.

A long conspicuous snow-white supercilium from near the point of the lores over the eyes and ear-coverts; the two outer tail-feathers on either side, with a very narrow white tipping to the inner web, and the portion of the outer web, immediately adjoining the shaft, and a speck at the extreme end of the third feather, white; the tips of all the lower tail-coverts, and the tips of the longest flank feathers, from 0·1 to 0·12 in width, white; the basal halves of the axillaries, and the coverts immediately inside of the wing, and a band about 0·5 wide, on the inner webs of all the quills (except the first three) only occupying however the outer two-thirds of the web, and not extending to the shaft, white. A faint trace of this band on the inner web of the third (second long) primary.

The whole of the rest of the bird black, pure on the head and neck all round, and nearly so on the interscapulary region; the rest of the body feathers, shaded at their tips with dusky slaty, these shadings becoming broader, and more conspicuous towards the tail, both above and below, and on the lower abdomen and flanks, becoming dominant; all the coverts and the quills are more or less margined on their outer webs, and the coverts at the tips also with the same slaty dusky.

I believe that it is not usual to meet with birds in this stage of plumage. Usually the bird is bluer and slatier, the whole of feathers of the middle of the abdomen and vent are white; white predominates on the lower tail-coverts, and the lateral tail-feathers are broadly tipped with white.

Mr. Dresser thus describes what he considers an adult female and a young male :—

"*Adult Female.*—Upper parts warm hair-brown, with a faint olivaceous tinge ; crown darker, and the feathers on the back with somewhat darker centres ; a dull yellowish indistinct streak passes over and behind the eye ; quills dark brown, externally margined with warm reddish olivaceous ; spurious wing dark towards the tip, and wing-coverts tipped with warm ochraceous ; tail dark brown, the upper surface with an olivaceous tinge, the outer rectrix with a terminal patch of white on the inner web ; sides of the head white, with a yellowish tinge, and spotted with brown ; chin yellowish white, bounded by a dark brown streak from the base of the lower mandible ; rest of the under parts white ; the throat washed with yellowish ; throat, breast, and flanks marked with semilunar brown markings ; centre of the abdomen pure white ; under tail-coverts white, slightly varied with brown ; the characteristic oblique bar on the under surface of the wing yellowish white, and not pure white. Culmen, 0·85 inch ; wing, 4·6 ; tail, 3·45 ; tarsus, 1·2.

Young Male.—Upper parts as in the adult male, and duller, and tinged, especially on the head, with brown ; superciliary stripe narrow and yellowish white ; throat and sides of the head as in the female ; rest of the underparts as in the old male, but paler and duller ; the upper part of the breast marked with light yellowish brown as in the female."

Quite young males appear to be like the females, and later they are met with in all kinds of parti-colored plumage combining patches of the black or cyaneous dusky of the male with the plumage of the female.

370.—Oreocincla molissima, *Bly.*

Obtained by Ramsay at Tonghoo and in Karennee at 5,000 feet, but not as yet observed anywhere in Tenasserim proper.

371.—Oreocincla dauma, *Lath.* (2).

(Tonghoo, Karennee, at 5,000 feet, Rams.) Paraduba ; Mooleyit.

A rare straggler during the cold season to the northern and central portions of the province, probably chiefly to the slopes of the higher hills.

Our specimens appear to be *dauma*. They are rather a more golden brown and slightly brighter colored altogether than Himalayan ones ; and I think they are somewhat larger also, but they are not *varia*, a species which I have at last had an opportunity of examining having, by Mr. Brooks' kindness, obtained a specimen, a *male*, killed at Cheefoo, on the 6th October 1873, I believe, from Mr. Swinhoe's museum.

This species is extremely like *dauma*, but is decidedly larger. I give the measurements from the skins of the two Tenasserim specimens and of *varia* :—

	Length.	Wing.	Tail.	Tarsus.	Bill at front.
O. varia, male	12·0	6·6	5·2	1·4	1·2
O. dauma, female	11·0	5·55	4·4	1·35	1·15
„ *male*	11·3	5·55	4·3	1·3	1·22

The bird, therefore, has a much longer wing and tail. As regards the plumage, that of my specimen of *varia* is absolutely identical, as far as I can see, with some Himalayan specimens.

In the shape of the wing, I notice a slight difference ; in *dauma* it appears to me that the 3rd and 4th quills are sub-equal and longest, 2nd and 5th about equal ; in my specimen of *varia* the 3rd is longest, and the 2nd and 4th are equal.

The wing is in fact altogether more pointed. The point of the wing, *i.e.*, the distance by which the longest primary exceeds the secondaries, being 2·4 in *varia*, against about 1·9 in *dauma*.

Then the tail is more rounded ; in *varia* the outermost tail-feather is 0·7 shorter than the longest ; in *dauma* it is about 0·4 shorter.

And now comes the most astounding difference, to which Mr. Brooks first drew my attention, though who the original discoverer may be I cannot say, and that is that *varia* has fourteen tail-feathers, whereas *dauma* has of course only twelve.

374.—Paradoxornis gularis, *Horsf.*

Another species obtained by Ramsay in Karennee, but not yet seen elsewhere in Tenasserim, though likely to occur in the cold season, as in Cachar and Sylhet, in grass jungles at the bases of the mountains.

375.—Paradoxornis ruficeps, *Blyth.* (1).

(*Karennee* at 2,500 *feet*, Rams.) Pahpoon.

Confined to quite the northern portions of the province, and very rare even there.

[I only met with this reed bird on one occasion, a couple of days' march north of Pahpoon. They consisted of a small party of five or six in a thick clump of kine grass and reeds, about and amongst which they were working much after the manner of *Timalia*.—W. D.]

The following are the dimensions and colors of the soft parts of a male, recorded in the flesh :—

Length, 7·4 ; expanse, 11·12 ; tail from vent, 3·75 ; wing, 3·55 ; tarsus, 1·1 ; bill from gape, 0·65 ; weight, 1·45 ozs.

Legs and feet and claws clear plumbeous blue; upper mandible and tip and edges of lower mandible along commissure, light horny brown; rest of lower mandible fleshy pink; irides deep wood brown; orbital skin bright smalt blue.

378 *bis.*—Suthora ———?

Davison met with a small flock of *Suthoras* just at the base of the cone of Mooleyit, but failed to secure a specimen. He noticed that the heads were bright rufous, with a dark stripe on each side of the crown. The species was probably *S. munipurensis*, God.-Aust. (DESCR. S. F., IV., 216) with which *S. daflaensis*, of the same authority, (DESCR. S. F., IV., 490) is now said to be identical.

384 *bis.*—Gampsorhynchus torquatus, *Hume.* (1). DESCR. Pr. A. S. B., 1874, 107, and S. F., II., 416.

(? *Karennee*, Rams.) Younzaleen Creek.

Confined to the northern portions of the province, and there very rare.

[I only met with a party of these birds on one occasion on the banks of the Younzaleen, north of Pahpoon; they were in thin jungle largely intermixed with bamboos.—W. D.]

No second specimen of this species has been obtained by us, as we have not been able to re-visit the locality in which it occurs; but, after re-comparing it with a very large series of Himalayan birds, I cannot avoid the conclusion that it is distinct. No single Himalayan bird approaches it, either in its well-marked torque or in the tint of the rufous of the nape, &c.; and, until I can approximately match it with some Himalayan specimens, or can obtain other specimens from the same locality which agree with Himalayan specimens, I think it ought to be retained as distinct.

Blyth enters *Gampsorhynchus rufulus* from Tenasserim, but it is not likely that two such closely-affined species should occur in the same locality; and therefore, so long as I retain *torquatus*, I do not think it necessary to enter *rufulus* separately in the list. I am in doubts as to whether the *Gampsorhynchus* obtained by Ramsay, in Karennee, was *rufulus* or *torquatus*.

385.—Pyctoris sinensis, *Gm.* (3).

(*Karennee*, Rams.) Kyouk-nyat; Pahpoon; Beeling.

Confined to the northern half of the province, and rare even there.

[I found this bird rare in Tenasserim, and occurring only to the north of Moulmein, frequenting grass clumps and thick low scrub, generally in small parties or in pairs.—W. D.]

387.—Trichastoma abbotti, *Blyth.* (46).

(*Tonghoo, foot of Karen Hills,* Rams.) Thenganee Sakan; Thoungya Sakan; Thoungsheyen Sakan; Assoon; Meetan; Lemyne; Yea; Tavoy; Shymotee; Usheetherrpone; Mergui; Choulai Creek; Bahonee: Pakchan; Bankasoon; Malewoon.

Nearly confined in Tenasserim proper to the southern half of the province, but extending a little north of Moulmein, and re-appearing in the extreme north in Tonghoo, &c.

[This species is excessively common in the south, but much rarer further north towards Moulmein. It keeps to the forest and is found usually in small parties, sometimes singly or in pairs among the brushwood, feeding habitually on the ground, on insects of various sorts. It is a very tame bird, but when disturbed takes refuge in some thick bush or cane break. It has a rather pleasant note, which it utters from time to time, as it hops about the ground.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 5·5 to 6·6; expanse, 9·0 to 9·75; tail from vent, 1·82 to 2·25; wing, 2·75 to 3·1; tarsus, 1·0 to 1·05; bill from gape, 0·75 to 0·95; weight, 1·0 oz.

Females.—Length, 5·62 to 6·25; expanse, 8·75 to 9·5; tail from vent, 1·62 to 1·8; wing, 2·63 to 2·82; tarsus, 0·9 to 1·0; bill from gape, 0·82 to 0·95; weight, 0·8 to 1·0 oz.

Legs, feet and claws fleshy white; upper mandible pale horny brown; lower mandible bluish white; irides red or sienna brown.

387 *bis.*—Trichastoma minor, *Hume.* (10). Descr. S. F., II., 535.—Drymocataphus fulvus, *Wald,* S. F. III., 403; V., 59.

(*Karennee,* at 2,500 feet. Rams.) Thoungya Sakan; Myawadee; Mooleyit; Meetan; Lemyne; Yea; Tavoy; Pabyin; Mergui; Laynah.

Confined in Tenasserim proper to the central and southern portions of the province, and everywhere rare, but reappearing in Karennee.

[In habits, note, &c., this bird in general resembles *T. abbotti*, but is perhaps more often found in pairs and singly than in small parties. It is also perhaps less partial to the evergreen forests, being found not uncommonly in bamboo jungle, and even in secondary scrub jungle.—W. D.]

This is the species that Major Godwin-Austen and the Marquis of Tweeddale *now* identify as *Pellorneum Tickelli.* After so long denying the distinctness of this latter bird, it is unfortunate that when they did admit it they could not hit upon the real bird, a typical *Pellorneum*, which the present species certainly is not. It is now admitted, *Ibis*, 1878, 115, that *D. fulvus*, of Walden, is merely a synonym of this

species. I strongly suspect, despite what Godwin-Austen says, that his *Turdinus garoensis* is also synonymous, in which case that name would have precedence. (See further my remarks under 399 *ter.*) I wish to notice here that Major Godwin-Austen, not content with misidentifying *Tickelli*, has (Pr. A. S. B., June 1877) placed *this present species* as *Alcippe*, which it certainly *is not*. It is intermediate between *Drymocataphus*, in which Lord Tweeddale placed it, and *Trichastoma*, in which I placed it with the remark that it was aberrant.

The following are dimensions, &c., of 3 males and 2 females recorded in the flesh.—

Males.—Length, 6·0 to 6·1; expanse, 8·1 to 8·12; tail from vent, 2·1 to 2·3; wing, 2·5 to 2·55; tarsus, 1·05; bill from gape, 0·75 to 0·8; weight, 0·6 to 0·62 oz.

Females.—Length, 5·5 to 5·6; expanse, 7·5; tail from vent, 1·8 to 2·0; wing, 2·25 to 2·38; tarsus, 1·0; bill from gape, 0·75 to 0·82; weight, 0·6 to 0·65 oz.

Legs, feet, and claws fleshy white; upper mandible pale brown; lower mandible fleshy white; irides pale wood brown.

387 *ter.*—Trichastoma rubiginosa, *Wald.* Descr., S. F., III., 404.

Obtained in Karennee by Ramsay.

388.—Alcippe nipalensis, *Hodgs.* (9).

Pine forests, Salween; Mooleyit.

Confined to the northern and central sections of the main Tenasserim range.

[Occurs only in the forests of the higher hills, going about the brushwood in flocks, and hunting about amongst the leaves, and on the ground for insects, on which they live. They are very lively birds, moving about quickly, and the whole flock keeping up a continual twit, twit, twit.—W. D.]

388 *bis.*—Alcippe phayrei, *Blyth.* (30). Descr. S. F., III., 116.

(*Karennee Hills*, at 3,000 feet [*A. magnirostris*, Wald.] Rams.) Pahpoon; Younzaleen Creek; Thoungya Sakan; Kaukaryit, Houngthraw R.; Meetan; Yea; Meeta Myo; Pabyin; Mergui; Bankasoon; Malewoon.

Moderately common in suitable localities throughout the province.

[Occurs throughout the province, but only in the low hills and at their bases wherever the country is well wooded. It avoids

the dry deciduous forests. In habits, voice, &c., it exactly resembles the preceding species.—W. D.]

Blyth's original description of this species has been already given, S. F., III., 16. As was pointed out, S. F., V., 60, Lord Walden re-described this species under the name of *magnirostris*, and his description will be found *vol. cit*, p. 56.

I am much inclined to suspect that Major Godwin-Austen's *Alcippe fusca*, of which a description will be found, S. F., V., 54, is also the same species. The very meagre description agrees well with our bird, and so do the dimensions, except the bill at front, which he gives at 0·47; but M. Oustalet says that the culmen is 13 milims., and in some specimens of *phayrei* the bill is not longer than this, though in some it runs up to 16·5 milims. However, without comparison of specimens, or without a fuller description, it is impossible to say what *Alcippe fusca* may be.

Phayrei may be distinguished at once from *nipalensis* by its larger size, much larger bill, browner ear-coverts, and by the almost entire want in most specimens, and the comparatively feeble trace in the rest, of the very conspicuous black sincipital stripes which characterize *nipalensis*. We preserved about 30 specimens of *phayrei* from all parts of Tenasserim from north to south, from low or comparatively low country. Of *nipalensis* we only procured a third of this number of specimens, and these only on the high pine forests of the Salween, elevation about 6,000 feet, and on Mooleyit at about the same elevation.

Of the present species the following is the *resumé* of a very large series of measurements in the flesh :—

Length, 6 to 6·5; expanse, 8·5 to 9; tail from vent, 2·6 to 2·96; wing, 2·75 to 2·85; tarsus, 0·8 to 0·85; bill from gape, 0·7 to 0·75; weight, 0·6 to 0·75 oz.

The colors of the soft parts vary a good deal.

The legs, feet, and claws are always fleshy, sometimes dark fleshy, sometimes fleshy white, sometimes very pink.

The irides vary from slaty grey to slaty yellow; the eyelids greenish yellow; the gape yellow, or yellowish or fleshy white; the upper mandible is dark horny brown, its edges and the lower mandible pinkish white, sometimes tinged browner.

I should note that all the above measurements are measurements of males. By some curious coincidence not a single female was measured in the flesh, but the females do not seem to be very much smaller. The following are the dimensions of wings of females :—2·83; 2·78; 2·8; 2·6; 2·82; 2·74; &c., but as regards the bills, I think perhaps those of the females run a trifle smaller, though not to an extent that it is possible to show by any measurements that we can give.

In *Alcippe nipalensis* the wing runs from 2·3 to rarely 2·5.

390 *quat.*—Turdinus crispifrons, *Blyth.* (82). DESCR. S. F, V., 87.

Wimpong ; Thoungsha Gyne R. ; Momenzeik, near Moulmein.

Confined to the isolated limestone rocks of the central portions of the province.

[This *Turdinus* is entirely confined to the ranges of limestone rocks that occur in Tenasserim.

They are found singly, or occasionally in pairs, but more often in small parties about the rocks from their bases to their summit, and never wandering away from the rocks even for a few yards.

They are excessively lively, sprightly birds, keeping up continually a twittering chattering note, and occasionally one will perch itself on some point of rock, and with lowered wings and erected tail pour forth a fine and powerful song. They feed principally upon insects and small land shells, but I have found small white round seeds, about the size of mustard seed, in their stomachs. When shot, unless killed outright, they at once scramble into one of the numerous holes or crevices with which these rocks are everywhere honey-combed, and are of course lost.

They are not shy birds, and from the limited nature of their habitats are not difficult to procure.—W. D.]

390 *quint.*—Turdinus brevicaudatus, *Blyth.* (6).

Mooleyit.

Apparently confined to the higher slopes of Mooleyit.

[I have only met with this *Turdinus* at Mooleyit and its slopes from 5,000 feet and upwards. The slopes of the Mooleyit hills are very generally covered with masses or boulders of rocks of all sizes lying about in chaotic confusion; and in such situations, and in such only, is this species found, hopping about on and amongst the rocks, and turning over the leaves in its quest for insects. Like the last it occurs in small parties, in pairs and occasionally singly. When disturbed it utters a long drawn kir-r-r, and keeps on uttering it till the cause of its disturbance has passed or it has retreated into safer quarters. Unless suddenly alarmed it seldom flies, but retreats by hopping rapidly away. I have never heard this bird sing, as I have heard *T. crispifrons* do.

Of course these rocky slopes that the bird frequents are densely wooded. I have never seen the bird anywhere in the open, or in any place that was not rocky as well as wooded. The species may be said to be rare even when it does occur.

So far as habits go, this is more akin to *Turdinulus* and *Trichastoma*; it is not nearly so close to *crispifrons*, which is *really* a "little Thrush."—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 5·45 to 5·75; expanse, 8·2 to 8·4; tail from vent, 1·9 to 2·0; wing, 2·49 to 2·6; tarsus, 0·95 to 1·0; bill from gape, 0·75 to 0·85; weight, 0·85 oz.

Females.—Length, 5·5 to 5·7; expanse, 7·9 to 8·2; tail from vent, 1·6 to 1·85; wing, 2·45 to 2·55; tarsus, 0·95 to 1·0; bill from gape, 0·82 to 0·85; weight, 0·8 to 0·85 oz.

Legs and feet and claws pale brown to pale fleshy brown; upper mandible very dark brown; lower mandible plumbeous to pale plumbeous; irides deep brown, red brown, cinnamon red.

Lores and a broadish stripe completely over the eye, and extending a short distance beyond it, grey; cheeks similar or browner; ear-coverts greyish or tinged with olivaceous brown, obscurely centred paler; chin, throat, and in some specimens middle of upper part of breast, white, with dusky longitudinal striations; sides of the neck, sides of the breast, abdomen and flanks olivaceous brown; the feathers tinged towards their margins with dull ferruginous, which becomes the dominant color on the flanks and lower tail-coverts, which latter are also often tipped obscurely paler; middle line of the abdomen, in some specimens greyish white, the feathers a little suffused centrally with rusty olive, in other specimens there is no white at all here, which is more or less uniform pale rufescent buff; the feathers of the sides of the abdomen not unfrequently show traces of pale greyish white mesial lines; the sides of the body and posterior part of the flanks are darker, and more purely olivaceous, as indeed are sometimes the anterior portion of the flanks also; generally I may say that some specimens are altogether darker and more olivaceous below, and others are paler and more ferruginous, and the white dusky-streaked throat band in some barely descends to the base of the neck, in others extends half way down the breast; the wing-lining, which is extremely scanty, is grey brown, one or two of the feathers tipped paler, and the rest broadly tipped with rusty fulvous; the bases of the external frontal feathers are greyish, producing the effect of an obscure greyish frontal band; the whole of the rest of the top of the head, back, and upper portion of sides of the neck, scapulars and the upper and middle back clear light greyish olive, each feather with the shaft greyish white, and margined all round with black, running into deep brown, much like the same parts in *T. crispifrons*; rump and upper tail-coverts nearly uniform ferruginous brown, more rusty in some specimens, with more of an olivaceous tinge in others; wings deep hair brown,

with almost the whole of both webs of the tertiaries and the outer webs of all the other quills and coverts, overlaid with pure olive brown; a pure white spot at the tip of each tertiary, and specks of the same at the tips of the later secondaries, the greater secondary coverts and sometimes the median secondary coverts also; tail olive brown; the shafts darker.

390 *sext.*—**Turdinus guttatus,** *Tick.* (7). DESCR. S. F., V., 252.

Meetan. (*Malewoon*, Oates.)

Confined to the lower spurs of the central and southern portions of the main Tenasserim range.

[I have only met with this species in the low hills about and just to the north of Meetan, and even there they are not common. Unlike the two former species it does not affect rocky grounds, but the forests in general, and even where these are comparatively open, or composed to a great extent of bamboo, it may be found. It goes about in small parties, and keeps much to the undergrowth, but I have never seen it on the ground. Its food consists, so far as I have observed, of insects. It has a note much resembling that of *T. brevicaudatus*. It does not, that I am aware, ascend the hills to any height. In habits this species exactly resembles *Timalia nigricollis*, *poliocephala* and *maculata*, all of which I have watched closely in the Malay Peninsula.—W. D.]

The following are the dimensions and colors of the soft parts, recorded in the flesh of 3 males and 3 females:—

Males.—Length, 6·5 to 6·9; expanse, 9·1 to 9·2; tail from vent, 2·1 to 2·3; wing, 2·7 to 2·85; tarsus, 1·0 to 1·05; bill from gape, 0·9 to 0·92; weight, 1·12 to 1·3 oz.

Females.—Length, 6·3 to 6·7; expanse, 8·9 to 9·0; tail from vent, 2·3; wing, 2·7 to 2·8; tarsus, 1·0; bill from gape, 0·85 to 0·9; weight, 1·0 to 1·25 oz.

Legs and feet pale dingy green; lower mandible and edge of upper mandible along commissure plumbeous; rest of bill black; irides crimson lake.

391.—Stachyris nigriceps, *Hodgs.* (4).

Younzaleen Creek; Sinzaway; Meetan; Tenasserim Town.

Very sparingly distributed throughout the forests of the province, and not ascending the higher hills.

[This is a very rare bird in Tenasserim, but apparently occurring from the north to at any rate as far south as Tenasserim town. Those specimens that I observed were always in moderately thick forest, in pairs or singly, keeping much to the undergrowth, especially when this was particularly dense. They

appeared to be very shy, and when disturbed retreated rapidly through the dense underwood. I don't think I ever heard them utter a note.—W. D.]

393.—*Stachyris ruficeps*, Bly.

Lord Walden remarks, B. B., p. 116: "A single Karennee example (collected by Ramsay) in very indifferent order appears to belong to this species."

The specimen, also an indifferent one, obtained by us near Pahpoon, and entered under this species in our first list, proves, on careful re-examination, to belong to the next species. *Rufifrons* goes right up to the Bhootan Doars, and it is unlikely that *ruficeps* really occurs in Karennee.

393 *bis.*—Stachyris rufifrons, *Hume*. (3). Descr. S. F., I., 479.

Youzalin Creek; Meetan; Mergui; Bahonee.

Very sparingly distributed throughout the forests of the province.

[This, too, is a rare bird in Tenasserim, but also occurs throughout the province. It is a forest species. In all its habits, &c., it closely resembles the last.—W. D.]

394 *bis.*—Stachyris assimilis. *Wald.* (5). Descr. S. F., V., 96.

(*Karennee*, 2,800 feet, Rams.) Mooleyit.

Confined apparently to the higher slopes of Mooleyit, and the continuation of the same range in Karennee.

[I observed this bird on several occasions, but only at Mooleyit above 5,500 feet elevation. They were always in small parties, hunting about the bushwood in company with only *Alcippe nipalensis*. I never heard them utter any note that I can remember. They were not rare, but owing to the rapidity with which they moved through the dense brushwood were difficult to procure.—W. D.]

The following are dimensions, &c., of 2 males:—

Length, 4·3 to 4·4; expanse, 6·2 to 6·5; tail from vent, 1·7 to 1·8; wing, 1·9 to 2·0; tarsus, 0·7 to 0·75; bill from gape, 0·55 to 0·6; weight, 0·35 oz.

Legs and feet fleshy yellow; upper mandible brown; lower mandible pale plumbeous, fleshy at base; irides deep red brown.

395.—Mixornis rubricapillus, *Tick.* (26).

(*Karennee*, Rams.) Kyouk-nyat; Dargwin; Pahpoon; Salween R.; Kaukaryit, Houngthraw R.; Megaloon; Moulmein; Yea-boo; Meetan; Amherst; Lemyne; Meeta-Myo; Tavoy; Thayetchoung; Shymootee.

Very abundant throughout the province (though not ascending the higher hills) as far south as 13° N. L.

[From the north of the province to the south of the Tavoy district, its southern limit, this is the commonest and noisiest bird one meets with, frequenting alike forest, secondary jungle, and in fact any place where there are trees. Except at the breeding season, when it occurs in pairs, it is usually found in small parties, hunting about from the low brushwood to the tops of the highest trees, keeping up incessantly its monotonous metallic chunck-chunck note. It is very common, not at all shy, and one might without difficulty shoot twenty or more specimens a day. Its food consists of insects.—W. D.]

395 *bis.*—Mixornis gularis,* *Horsf.* (12).

Pabyin; Mergui; Tennasserim Town; Choulai Creek; Bopyin; Palaw-ton-ton; Bankasoon; Malewoon.

Common throughout the southern third of the province.

[Perhaps quite as common and quite as noisy where it occurs (which is at any rate from Mergui to the southernmost point of Singapore,) as its northern congener *M. rubricapillus*, which it exactly resembles in habits and voice.—W. D.]

The specimens that I have entered as *gularis* are not as a rule quite identical with *gularis* from Johore, Malacca, &c. One or two of them are absolutely identical with Johore specimens, but the majority are a little smaller, a shade paler, and with the stripes of the throat and breast slightly less developed; in other words they show a tendency to approach *rubricapillus*.

Rubricapillus and *gularis* (at any rate the bird we call *gularis* from the south of the Malay Peninsula; I have never obtained a Javan specimen) differ—

First in size, *gularis* being a little larger, the wings in the males (the females are considerably smaller) averaging, I think, about 2·4 or 2·45 against about 2·2 in *rubricapillus*.

Second, in the dark striation of the throat, which, in *gularis*, is much more strongly marked and conspicuous, being regular shaft stripes extending on to the upper breast, while in *rubrica-*

* I assume here, without I fear sufficient warrant, that Javan specimens, which I have not seen, are identical with Malayan and Sumatran ones. If this is not so, these latter should perhaps take the name *sumatranus*? Schlegal; *c. f.* Blyth, *Ibis*, 1870, p. 170, who has however missed, I suspect, the real point. Blyth seems to have fancied that the Indian, Malayan and Sumatran specimens were alike, and that *sumatranus* was a mere synonym of *rubricapillus*, whereas they are really quite distinct; and it was probably a perception of this that led to the assignment in the Leyden Museum of the name *sumatranus* for the Malayan and Sumatran form.

pillus it is confined to the throat or nearly so, and is only dark shafting to the feathers.

Throat, in the very conspicuous yellow supercilium of *rubricapillus* almost obsolete in *gularis*.

Breast, in the much deeper red of the crown of *gularis*, and the strong rufescent tinge on its back and wings, which is almost wanting in *rubricapillus*.

Flanks, in the deeper olive green of the sides of the head, neck and body in *rubricapillus*.

Now, if you examine specimens beginning at the extreme north of Tenasserim above Kyouknyat, you find these and others from Dargwin, Pahpoon, Salween District, 100 miles north of Moulmein, Kaukaryit on the Houngthraw River, Moulmein, Yea-boo on the Attaran, Amherst, Lemyne, Meetan, Meeta Myo, Tavoy, Shymootee, south of Tavoy and Thyetchoung, 20 miles south of Tavoy, all true *rubricapillus*, but at Mergui, and every locality in Tenasserim south of this, you meet with *gularis*, or rather in the case of nine specimens out of ten, birds much nearer to *gularis* than to *rubricapillus*.

Some specimens, as already remarked, are absolutely identical, but the majority are to a certain extent intermediate; the striations of the throat extend on to the breast, and are much broader than in *rubricapillus*, but are yet not quite so strong as almost *gularis*; the size is larger, but does not average quite that of *gularis*; the coloration is deeper everywhere than *rubricapillus*, but yet not so deep as in what I consider typical *gularis*; but the yellow supercilium is more strongly developed as a rule than in either species. Unfortunately, owing to local administrative difficulties, we have been unable to explore the country intervening between Thayetchoung and Mergui, a breadth of about 110 miles, and we are unable at present to say whether, in this intervening tract, the two forms gradually grade off one into the other, or whether, as is most probable, they divide abruptly somewhere between Mergui and Tavoy. I say more probably for this reason that a vast number of the Malayan forms do suddenly cease to appear somewhere between Tavoy and Mergui.

396.—Timalia pileata, *Horsf.* (6).

(*Tonghoo*, Rams.) Pahpoon; Yea-boo.

Sparingly distributed, where high grass occurs, at any rate in the northern and central portions of the province.

[In the dense kine grass at Pahpoon this species was not rare, but very difficult to obtain, owing to the grass being so thick that it was impossible to see more than a foot or two, so that when one did see the bird it was too close to fire, and on trying

to increase the distance the bird was lost sight of. At Yea-boo, on the Attaran, I also met with a few specimens in the grass growing on the river banks. As far as I have observed they keep in pairs and exclusively to dense grass jungle.—W. D.]

I retain all our specimens under Horsfield's name; firstly, because if there *are* two species, Tenasserim birds are, I apprehend, nearer to *pileata* than to *bengalensis*, God.-Aust. (*jerdoni*, Walden); and, secondly, because I am by no means yet convinced that there are two distinct species.

Lord Walden's original description of *jerdoni* is quoted S. F., III., 118. In that he distinctly says true *T. pileata* is a larger bird, and he gives dimensions showing the wing in *pileata* as 2·62, and in *jerdoni* 2·36. When evidence is adduced to show that the Indian and Burmese form has a wing as long as that which he ascribes to *pileata*, his lordship remarks, B. B., p. 114: "As the specific validity of the species in *no way* depends on its dimensions, the information quoted has no bearing on the point."

Major Godwin-Austen, I find from the first, laid no stress upon difference of size. His description of his *bengalensis*, (J. A. S. B., XLI., pt. II., 143, 1872) which I quote *verbatim*, as it is a little involved, runs as follows :—

"The Indian form differs from the Javanese in the whi[te] the forehead being larger, of darker brown on the head darker tint of the back, and decidedly darker hue of the In size there is no perceptible difference."

A reference to page 119, S. F., III., will show the corresponding points in coloration on which Lord Walden laid stress.

Now the Tenasserim specimens without exception have the back, wings and tail, especially the latter, paler than the Indian specimens; and they also have the lower parts, I mean abdomen, vent, and lower tail-coverts, pale tawny or buffy, and not chiefly olivaceous as in the Indian birds. The grey also of the sides of the neck is a little paler than in Indian specimens. As to the color of the crown and occiput, however, I can discover no difference; alike in Indian and Tenasserim specimens the red of these parts varies much in depth and intensity of shade.

In these Tenesserim specimens, as in the darker race from Eastern Bengal, the Sikim Terai, Bootan Doars, &c., the wings vary from 2·3 in females to 2·6 in males, and the bills in the males are markedly deeper and larger than the females. I cannot myself see that the bills in Tenasserim examples, sex for sex, are larger than the Indian ones. The difference in size of wing, bill, &c., dwelt upon by the Marquis of Tweeddale in his original description as serving to distinguish "true *pileata*" from the Indian bird, are only such as exist in examples of the two sexes of Indian birds, but on my pointing out that his Lordship had

probably been comparing a Javan male with an Indian female, he assures us that "the information has no bearing on the point!" If so, why did *he* dwell on the size? Why did he not confine himself to matters that did bear on the point? The Javan bird *may* be different, since Godwin-Austen also thinks so, but a careful comparison of a really large series from both localities is still wanted.

396 *bis*.—Cyanoderma erythroptera, *Blyth*. (17). DESCR. S. F., III., 322 *n*.

Tenasserim Town; Bankasoon; Malewoon.

Common in the extreme south of the province.

[This bird is very abundant in the forests in the extreme south of Tenasserim and in the Malayan Peninsula. It is always found in small parties in the evergreen forest, frequenting the brushwood and tops of the moderately sized trees, canebrakes or any other dense cover. It lives on insects of various sorts, which it obtains about the foliage, hunting this over persistently and systematically like a Tit; it does not, that I am aware, ever descend to the ground. It has a very peculiar note, a sharp metallic rolling sound, which it utters chiefly when alarmed, but also at other times. I found it very common further south in the Malay Peninsula, where I preserved a large series of specimens.—W. D.]

I have already, S. F., III., 322 *n*., given Blyth's original description of this species; but, as we measured a large series of both sexes, it may be useful to give a *resumé* of the results:—

Males.—Length, 5 to 5·6; expanse, 7·25 to 7·75; tail, 1·9 to 2·12; wing, 2·25 to 2·37; tarsus, 0·75 to 0·82; bill from gape, 0·65 to 0·75; weight, 0·47 to 0·53 oz.

The bill is dark plumbeous blue; the upper mandible darkest, in some brownish; visible skin of cheeks and orbits from pure light to dull dirty smalt blue; irides madder red to deep brown; legs, feet and claws very pale, almost white, tinged greenish, or yellowish green.

Females.—Length, 5 to 5·7; expanse, 7 to 7·12; tail, 1·8 to 1·9; wing, 2·25 to 2·37; tarsus, 0·75 to 0·8; bill from gape, 0·62 to 0·67; weight, 0·5 to 0·55 oz.

Colors of soft parts as in the male.

The plumage of the two sexes is absolutely identical. I have already, *loc. cit. sup*., expressed my belief that Count Salvadori was in error in stating that *bicolor*, of Blyth, was the male of the present species. I can now state this positively, Davison having sexed fourteen males and twelve females of this species by dissection, and having found the plumage of the two sexes invariably identical, without moreover ever yet having come across a

single specimen of *bicolor* either in Tenasserim or the Malay Peninsula.

Nor can *bicolor* well be a stage of plumage, say the breeding plumage of this species, as we have both sexes shot in January, February, March, April, May, August, October, November, and December, and what is more, Davison found the nest just as he was leaving Bankasoon one time on the 23rd of April, and the breeding birds were just like all the others. Unfortunately the birds had not yet laid. The nest was a ball, composed of dry reed leaves, about 6 inches in diameter externally, with a circular aperture on one side, very like that of *Mixornis rubricapilla*, and of *Dumetia*, and again not at all unlike that of *Ochromela nigrorufa*, but placed in a bush about 4 feet high and not on the ground.

396 *ter*.—Malacopteron magnum, *Eyton*. (2).

Pakchan.

Confined to the neighbourhood of Pakchan.

[A very rare bird in Tenasserim, and evidently only a straggler just within our southern limit from further south. About Malacca, where it is very common, I found that it kept to the forests singly, in pairs or in small parties, hunting about in the leaves and bushes in a desultory sort of way, and not in the systematic fashion that *Cyanoderma* and *Alcippe* do, though of course this latter often or generally comes down to the ground, which the present species, I think, never does. It has not much of the habits of the Timaline birds, but more resembles the Bulbuls in its deportment. So far as I am aware it is solely insectivorous.—W. D.]

The species that I have entered as *magnum*, of Eyton, is the larger of the two nearly allied species, to which the name of *majus*, Blyth, also applies. Count Salvadori and others have assigned Eyton's name to the smaller species, reserving Blyth's for the larger of the two.

Two very nearly allied species occur plentifully in the Malay Peninsula, where we have shot and sexed numbers of both, but only the larger of the two occurs, so far as we yet know, in Tenasserim.

In both species the males are considerably larger than the females; but the females of the larger species are only a shade larger than the males of the smaller species. The two species however may, independent of other differences, be distinguished by a glance at their crowns—the red feathers of the crown being never, in either sex, black-tipped in the larger species, while, in the smaller species, they are always so tipped in both sexes.

Eyton, P. Z. S., 1839,103, described two species as follows :—

"MALACOPTERON MAGNUM.

Male.—With the forehead and tail ferruginous; nape black; back and a transverse band on the chest ashy; wings brown; bill yellow.

Total length, 6 inches; bill, $\frac{7}{10}$ inches; tarsi, $\frac{3}{4}$ inches.

Female.—Smaller than the male; head and nape ferruginous, spotted with black.

MALACOPTERON CINEREUS.

Male.—Similar to the female of the preceding species, but much smaller.

Total length, $5\frac{1}{2}$ inches; bill, $\frac{5}{10}$ inches; tarsus, $\frac{8}{10}$ inches."

Eyton was clearly describing from indifferently prepared native skins.

Looking through the whole paper it is clear that he only assumed the sexes indicated in this case.

What he did is very apparent. He got a female of the large species, of which native skins are about six inches in length, a bad skin, with the throat and breast jumbled up together, such as may be bought to this day at Malacca, thus producing the effect of an ashy band on the breast, whereas in the fresh bird, with the throat and breast in their natural condition, these are seen not to have one transverse band, but numerous longitudinal ashy striæ. This female he assumed to be a male, and described as *Malacopterun magnum*. It had, as already explained, no black spots on the crown. He took at the same time a male of the smaller species, which is slightly inferior in size to the females of the larger one, and described this as the female, it having of course, as both sexes of the smaller species have, a conspicuous intermixture of black, with the red of the crown. This was his female *magnum*.

Then he got the female of the smaller species exactly similar to the male, but very much smaller, assumed this to be the male of a distinct species, and described it as *Malacopteron cinereus*.

Notwithstanding all the errors, these names of his have priority, and the large species must henceforth stand as *magnum*, of Eyton, and not *majus*, of Blyth, and the smaller as *cinereum* and not *magnum*, Eyton.

I will now give full measurements, colors of the soft parts, &c., recorded in the flesh from a large series of both species :—

M. magnum, Eyton; *M. majus*, Blyth; *Male.*—Length, 7·12 to 7·5; expanse, 10·25 to 10·82; tail, 3· to 3·12; wing, 3·35 to 3·7; tarsus, 0·9 to 0·95; bill from gape, 0·9 to 1·05; weight, 1 oz. or a little over.

Female.—Length, 6·7 to 6·82; expanse, 9·75 to 10·12; tail, 2·7 to 2·8; wing, 3·2 to 3·25; tarsus, 0·8 to 0·9; bill from gape, 0·8; weight, 0·75 to 0·8 oz.

The legs and feet and claws are blue, varying in shade from pale plumbeous to pale smalt blue; the upper mandible is dark horny brown; the lower mandible and often edges of upper mandible are plumbeous blue, or white, tinged with blue, fading to bluish white at the tip; the irides vary from carmine to orange red, I think according to age, as a younger bird has them pale sienna brown.

The lores, a narrow band on the forehead, and the feathers round the eye, are pale bluish grey; the latter dotted with white; the rest of the forehead and crown deep ferruginous; occiput and nape black; ear-coverts and sides of the neck, and upper back immediately below the black nape, slightly olivaceous ashy; entire mantle and visible portion of the closed wings, (except primary greater coverts, which are blackish brown) olivaceous brown, rather greyer on the interscapulary region, and more rufescent on the rump; inner webs of quills hair brown; upper tail-coverts rather deep ferruginous; central tail feathers, and outer webs of lateral ones, rufescent brown, margined more ferruginous; inner webs of laterals less rufous; the feathers of the ear-coverts in many specimens are paler shafted; chin, throat, and entire lower parts white; the chin, throat, breast, and sides streaked with pale ashy; flanks tinged olivaceous; tibial plumes with ashy olivaceous brown; edge of the wing just at the base of the primaries white; wing-lining and axillaries pale ashy.

M. cinereum, Eyton; *M. magnum*, Eyton, *apud* auct. *nec* Eyton. *Male.*—Unfortunately only one measured in flesh:—Length, 6·75; expanse, 9·5; tail, 2·75; wing, 3·12; tarsus, 0·8; bill from gape, 0·8; weight, 0·75 oz.

Females.—Length, 5·75 to 5·82; expanse, 8·5 to 8·75; tail, 2·25 to 2·5; wing, 2·7 to 2·8; tarsus, 0·75 to 0·8; bill from gape, 0·7 to 0·75; weight, 0·5 to 0·6 oz.

The legs, feet, and claws are fleshy white, with in some specimens a bluish tinge; the eyelids pale greenish yellow; the upper mandible varies from black to pale brown, according, I think, to season; the lower mandible from fleshy white to pale yellowish; the gape always yellowish; the irides light red to carmine, in a younger specimen grey brown.

In plumage this species differs but little from the preceding, but the feathers of the crown are always conspicuously black-tipped; the sides of the head are more olivaceous; the ear-coverts as a rule, distinctly shafted with pale fulvous; the chin and throat are almost unstreaked; the breast is more feebly blotched with a more olivaceous grey, and the sides are darker; moreover,

the whole of the white of the breast and abdomen is a little less pure than in the preceding species.

This smaller species does not, so far as we yet know, occur anywhere in Tenasserim. The larger species just enters this province, and is found within its extreme southern limits, though even here it is not found in large numbers.

396 *quat.*—Malacopteron ferruginosum, *Blyth.* (3).

Pakchan; Malewoon.

Also entirely confined to the neighbourhood of the Pakchan.

[A very rare bird in Tenasserim, and occurring only in the dense forests of the extreme south. In habits it is like *Trichastoma*, and keeps habitually on the ground, only flying up into the bushes and trees when disturbed.

I never heard the note that I am aware. I never met with this species in the Malay Peninsula.—W. D.]

We only obtained two adult females of this species and one nestling; but, so far as I know, the sexes do not differ. This is the bird that I referred to as *bicolor* of Lesson, Stray Feathers, II., 536.

Our birds are identical with Blyth's type of *ferruginosum*, with which I compared them; but, as Salvadori mentions, it is doubtful whether Lesson's bird, of which he gives the dimensions as only 5·5 inches, is identical with the present species, and I therefore retain our birds for the present under Blyth's name, which undoubtedly pertains to them.

The following are dimensions, &c., of the females, obtained by Davison at Malewoon and on the Pakchan.

Length, 6·25 to 6·85; expanse, 9·25 to 9·75; tail from vent, 2·25 to 2·5; wing, 2·85 to 3·0; tarsus, 1·05; bill from gape, 0·82 to 0·9; weight, 0·8 oz.

Legs and feet fleshy white; upper mandible dirty white; lower mandible dark brown; irides pale wood brown.

The lores, sordid white; eyelid feathers white; entire top and back of the head ferruginous; back and upper portion of sides of neck, back, scapulars, rump and lesser wing-coverts along the ulna, rusty or ferruginous olive; upper tail-coverts and tail bright chestnut; wings hair brown; outer webs of all the feathers and both webs of the tertiaries a duller and browner chestnut, and the outer webs of the earlier primaries paler and more fulvous; cheeks and ear-coverts like the head; in one specimen the occiput is darker, and has an olivaceous tinge on it; the ear-coverts also have an olivaceous tinge; entire lower parts white, suffused brownish or reddish across the breast, with a trace of the same on the sides of the abdomen; sides of the

body mingled with grey; wing-lining, inner margins of the quills, except towards the terminal portions of the primaries, pale salmon buff. Three or four very large and conspicuous black bristles spring from the middle of the lores, which quite at their bases are whitish.

396 *quint*.—Malacopteron magnirostris, *Moore*. (16).

Palaw-ton-ton; Bankasoon; Malewoon.

Common at the extreme south of the province.

[This species is usually found in small parties, hunting about the brushwood and tops of the smaller trees for insects. I have never seen it descend to the ground. Occasionally I have seen them in pairs or singly, but always restless, moving from one branch to the other. I have also seen them occasionally seize insects on the wing after the manner of Flycatchers. I cannot remember having heard their note.

I never found anything but insects in the stomachs of those I dissected. I found this species common in the Malay Peninsula right down to its southern extremity.—W. D.]

The following are dimensions, &c., recorded in the flesh from a large series of this species, which, though classed as an *Alcippe*, by Moore, is, I should say, clearly a *Malacopteron* closely allied to *ferruginosum*:—

Males.—Length, 7·0 to 7·25; expanse, 9·75 to 10·0; tail from vent, 2·75 to 3·25; wing, 3·1 to 3·35; tarsus, 0·82 to 0·9; bill from gape, 0·82 to 0·85; weight, 0·8 oz.

Females.—Length, 6·4 to 6·62; expanse, 9·25 to 9·5; tail from vent, 2·5 to 2·62; wing, 2·82 to 2·9; tarsus, 0·82 to 0·9; bill from gape, 0·8 to 0·82; weight, 0·75 oz.

Legs, feet, and claws pale bluish, sometimes a little darker and more plumbeous; upper mandible dark horny brown, almost black in some; lower mandible bluish white, pale blue or plumbeous; gape dull yellow; irides red, varying from cinnabar to lake, and lake to crimson.

The lores and the extreme point of the forehead and a stripe over the eye pale grey, or greyish white; eyelid feathers white; an ill-defined dusky ash stripe from the base of the lower mandible down the sides of the throat; the basal portions of the exterior frontal feathers greyish; the feathers of the rest of the forehead, crown and occiput, grey brown, dark shafted, more or less broadly overlaid towards the margins with an olivaceous tint; ear-coverts greyish brown, sometimes with an olivaceous tinge, more or less obscurely pale-shafted towards their bases.

Back, scapulars and nape clear light olive brown; lower part of back and rump and shorter upper tail-coverts the same,

with a ferruginous tinge; tail a brighter or duller chestnut; the margins of the feathers and the longer upper tail-coverts a bright or deep ferruginous red; wings pale hair brown; both webs of the tertiaries and the outer webs of all the other feathers more or less broadly margined with a faintly rusty olive, the outer webs of the earlier longer primaries being paler; the chin and throat are white, but the base of the throat is generally a little streaked with ashy olive; the breast is white, more or less suffused with pale brown or ashy olive, or a mixture of the two, producing the effect of an ill-defined pectoral band; in some specimens almost entirely wanting in the middle of the breast.

The whole of the rest of the lower parts, even the tibial plumes, are white; the sides and flanks are more or less shaded with the color of the pectoral band; sometimes the tibial plumes are a little mingled with pale brown; the wing-lining is white, with a faint fulvous tinge, and the inner margins of the quills, except of the terminal portions of the earlier primaries, creamy white to pale fulvous; the edge of the wing at the carpal joint is white.

The appearance of the head in this species varies a good deal; in some it is distinctly squamated; in some it is a nearly uniform olive, scarcely darker than the back; in some there is a perceptible rufescent tinge on the back of the occiput. The feathers are very tender in this species, and, specially on the nape, have a good deal of the greyish white or pale grey bases of the feathers showing through, giving a pale appearance to that part, except in very good specimens.

396 *sept.*—Drymocataphus nigricapitatus, *Eyton*. (2).

Bankasoon; Malewoon.

A rare straggler into the extreme southern portions of the province.

[I always found this bird singly, or in pairs; most often singly, and *always* on the ground. Even when disturbed it does not take refuge in trees or bushes, but moves rapidly away along the ground; if hard pressed they fly some distance, but invariably alight on the ground. When disturbed they often, but not always, utter a long drawn single note, somewhat after the manner of *Turdinus brevicaudatus*, but quite distinct for all that. They are shy birds, frequenting only the densest portions of the forest, and specially addicted to dense cane brakes. Their food consists of insects, such as ants and their larvæ, &c.

Although so rare in Tenasserim, I shot numbers further south in the Malay Peninsula, and had abundant opportunities of

observing their habits. In these they, to a limited extent, resemble *Trichastoma*, but yet differ in many ways.

On the whole their habits more resemble those of *Turdinus macrodactylus* than of any bird I know.—W. D.]

Count Salvadori, in his invaluable work on the Birds of Borneo, thus defines the three most nearly-allied species of this genus:—

1. *D. capistratus*, Tem., from Java.

Supercilium fulvous chestnut; cheek in male ashy, in female fulvous chestnut.

2. *D. capistratoides*, Tem., from Borneo.

Supercilium white; cheeks, black.

3. *D. nigricapitatus*, Eyton; from Malacca, Sumatra (and I may add Southern Tenasserim).

Sides of the head ashy, lined with white. N.B.—The lineation is often not very distinct, and the ear-coverts are often strongly tinged with ferruginous.

This species is very rare, even in the extreme south of Tenasserim, and we only obtained two specimens, one a male, the other, perhaps, a female. The male measured :—

Length, 7·12; expanse, 9·0; tail from vent, 2·5; wing, 2·75; tarsus, 1·25; bill from gape, 0·95; from frontal bone, 0·83; weight, 1·25 oz.

The other bird (?) a female. Length, 6·8; expanse, 2·0; tail from vent, 2·35; wing, 1·7; tarsus, 1·25; bill from gape, 0·9; at front, 0·75; weight, a little over 1 oz.

The legs and feet, in the first, were fleshy white, slightly tinged with brown, in the second reddish horny; in both the upper mandible was black; the lower mandible fleshy white; irides rhubarb red.

Lores, cheeks and a broad stripe over and behind the eye, meeting or all but meeting at the base of the occiput, grey, the latter streaked, the rest more or less speckled with white; the ear-coverts more or less ashy at the base, and sometimes over, perhaps, half their length, but generally the greater portion of them pale ferruginous, more or less streaked with a darker color, and paler shafted; a black line from the base of the lower mandible to just below the middle of the ear-coverts; the chin and throat between these lines snow white; the rest of the throat in front, mesially white, a little tinged with ferruginous; side of the throat and neck, entire breast, and more or less of the upper abdomen and of its sides, bright ferruginous; rest of abdomen and vent duller and browner; lower tail-coverts darker and browner still; upper parts, from the nape, including all the visible portions of the wing when closed, and tail, deep ferruginous brown, paler on the nape, where the feathers are slightly paler shafted, reddest and most ferruginous on the upper tail-coverts, deepest, becoming almost a maroon on the tail; forehead, except the extreme point,

which in some is greyish, crown, and occiput inside the grey stripes, black, the shafts of the feathers often just perceptibly paler; inner webs of the quills hair brown; wing-lining pale salmon buff, as are the narrow inner margins to the quills towards their bases and axillaries, and some of the coverts near the joint of wing paler or brighter ferruginous.

399.—*Pellorneum ruficeps*, Swains.

Blyth gives this from Tenasserim; but *ruficeps* is a purely Southern Indian bird, and most certainly does *not* occur in Tenasserim. Doubtless Blyth referred to *subochraceum*, Swinh., which he sent as *ruficeps* to that gentleman, and which he clearly neither distinguished nor remembered, as he gives it (B. of B., p. 114) as a synonym of the extremely different species *P. tickelli*.

399 *ter*.—Pellorneum tickelli, *Bly.* (1). Descr. S. F., I., 299*n*.

Amherst.

Lord Tweeddale (B. of B., p. 114) remarked that my *P. minus* was a synonym of *tickelli*. This, however, it is now admitted is not the case. *Pellorneum minus* is, as I myself first pointed out, in all probability a synonym of *P. subochraceum*. Anyhow it is utterly unlike *P. tickelli*, which occurs both in Assam and Burmah, and of which the original descriptions by both Blyth and Tickell, (reproduced *loc. cit. sup.*) leave me absolutely nothing to add on this head.

As there had been a great deal of controversy about this species, I sent a specimen of what I called *P. tickelli* home to the Editors of the *Ibis*, suggesting that they should examine the question and give the ornithological world the benefit of *their* opinion.

The Editors made over the specimen to Major Godwin-Austen, *i.e.*, transferred the case to one of the defendants, my contention being that he and Lord Tweeddale have been persistently wrong throughout.

Major Austen says, *Ibis*, 1878, 115, that the bird I call *P. tickelli* is his *Turdinus garoensis*; he also says that my *Trichastoma minus* is *Drymocataphus fulvus*, of Walden, and according to him it is also *P. tickelli*.

The Editors say that they believe it impossible to decide whether the original *P. tickelli* was the bird I assert, or the bird Austen asserts, though "the size of the specimens sent by Mr. Hume seems to us to favour his view," and they suggest that it would be best to suppress Blyth's name altogether.

I am very sorry I cannot see my way to this. I cannot suppress a name which, to my mind, stands as clearly established

as any in the whole list. We have two original descriptions by two different persons; the birds I put forward agree in the minutest particulars with these descriptions. No human being would ever have dreamt of questioning the identification had not Lord Tweeddale and Major Godwin-Austen muddled the whole question by a series of erroneous assertions. Are we to sacrifice Blyth's claim as namer of the species because these two gentlemen make mistakes?

I venture to predict that 25 years hence, when we are off the stage and independent men, reinvestigate the question, they will be lost in astonishment at the persistent way in which Major Austen has shut his eyes to an undisputable fact.

There is no doubt, in my mind, that our successors will say "*P. tickelli* is as clear as possible; the two descriptions and measurements taken together preclude any possible uncertainty, and we shall, therefore, certainly not suppress the name," and this being so, I see no use in my attempting in deference to the views of my friends, the Editors of the *Ibis*, to initiate a suppression that posterity will never ratify.

But I have a crow to pick with these Editors. I wanted *their* unbiassed and independent opinion founded on their own personal comparison. I did not want Major Godwin-Austen's opinion. What value can I attach to this in this kind of case, when after saying that his *Turdinus garoensis* is the same as the bird I call *P. tickelli*, he goes on to say that my *Trichastoma minus* is "very close" to his *T. garoensis!* It is absurd! The two birds I sent are as far apart as any species of this group can be. It is like a man not used to sheep from his childhood who tells you gravely that all sheep are very much alike, when you know that every single face is as distinct as distinct can be.

For my part I cannot avoid a suspicion, that when some one with an eye for species, like Brooks or Seebohm for instance, takes the question up, they will find that it is Austen's new *Turdinus nagaensis* and *not* his *T. garoensis* that equals, and is a synonym of *P. tickelli*, and that *garoensis* really equals and takes precedence of my *T. minus*, which equals and takes precedence of *D. fulvus*, Walden. Anyhow *T. nagaensis* cannot stand as if not equal to *P. tickelli*, then it must inevitably equal *P. ignotum*, nobis (S. F., V., 334) which name has precedence.

399 *sextus*.—Pellorneum subochraceum, *Swinh.* (37). DESCR. S. F., II., 298; III., 120; IV., 406.

P. minus, *Hume.*—P. tickelli, *Wald.*, B. of B., 114, nec *Blyth*.

(Tonghoo, Karen Hills, Rams.) Dargwin; Pahpoon; Wimpong; Myawadee; Endingnone; Kaukaryit, Houngthraw R.; Moulmein; Meetan; Amherst; Lemyne; Yea; Meeta Myo; Tavoy; Mergui; Pakchan; Bankasoon.

Common throughout the entire province, but not ascending the higher hills.

[This is found equally in all localities—dense forest, thin tree or bamboo jungle, and even in well-wooded gardens, not however in high grass or quite open land. It usually goes in pairs, rarely singly, never in parties. It feeds almost entirely on the ground amongst the dead leaves, which it hunts through and turns over much like *Trichastoma* in a steady business-like fashion. It is not at all shy, but when disturbed it usually flies into some bush or bamboo clump, never high up into a tree, and very soon descends to the ground again.

Its note is a clear double whistle, which sounds exactly like the words "Pretty dear, Pretty dear, &c."

This they are continually uttering, and it is one of the pleasantest calls one hears in the jungle, and may even be heard inside the town of Moulmein.

They live exclusively on insects, and their larvæ and eggs, ants' eggs especially. On sunny days in Burmah many species of ants bring all their eggs out to sun them, especially if there has been a good deal of rain recently, and then it is a grand find for one of our "Pretty dears," when he happens to hit upon such a drying ground and whips off all the eggs before the poor ants well know what is happening.—W. D.]

401 *bis.*—*Pomatorhinus phayrei*, Bly.

Said by Blyth to have occurred at Tavoy; also he says in Sikhim, the Khasias and Arracan.

I think there is some mistake about its occurring in Sikhim. It is difficult to make out from Blyth's original remarks in regard to this species whether he did actually get a specimen from Sikhim. It seems to me rather as if he simultaneously got *ferruginosum* from Sikhim, and *phayrei* from Arracan, and assumed the latter to be females.

Certainly hitherto neither Mr. Mandelli nor Mr. Gammie have succeeded in obtaining *phayrei* anywhere in Sikhim, and it is hardly possible that any birds should have escaped Mr. Mandelli's collectors for all these years.

This species is of the type of *schisticeps*, but has no bright rufous collar, and has the whole breast and abdomen uniform rufous buff. I have unfortunately no specimen to describe, so I am compelled to transcribe Blyth's not very clear descriptions.

I note that Godwin-Austen, J. A. S. B., XLIX., pt. II., 103, 1870, gives the dimensions of this species as:—

"Length, 9 inches; extent, 10·75; wing, 3·4; tail, 4·5; tarsus, 1·45; bill, 1·15; irides, pale yellow."

Blyth first noticed this species, J. A. S. B., XIV., 597, as the female of *P. ferruginosus*.

"*P. ferruginosus*, nobis.—This beautiful species measures about nine inches long, of which the tail is four and a quarter; wing

three and a quarter; bill to forehead an inch to one and one-eighth and tarsi an inch and three-eighths. Colour greenish olive-brown above; the cap black in the male only; lores and ear-coverts also black in both sexes, extending a little along the sides of the neck; a long white supercilium, tinged with rufous on the sides of the forehead in the male; throat, towards the chin, also white, but the rest of the under-parts bright ferruginous, fading on the belly; bill deep coral-red; and legs dusky-brown. It is unusual, if not previously unexampled, for the sexes in this genus to present any marked difference of colouring. The species inhabits Darjeeling, and the mountains of Arracan."

But he later returned to the subject, J. A. S. B., XVI., 452, as follows. Note that he calls the bird *rubiginosus* by mistake :—

"*P. rubiginosus*, nobis, XIV., 597.—All the specimens of this bird which I have hitherto seen, from Darjeeling, correspond with my description of the supposed male, having the cap black, and some erect lengthened plumes above the lores of the same deep rufous as the breast; but the Arracan specimens, three in number, which I have now seen, alike correspond with my description of the supposed female, having the crown of the same olivaceous hue as the rest of the upper-parts, being of a greener tinge than in the Darjeeling birds; feathers above the lores short and white, like the rest of supercilium, and the rufous of the under-parts is much wea and more fulvescent. Hence, I now suspect that they ar two distinct species, and shall designate that of Arracan, *P. phayrei*."

We have neither seen nor heard anything of this species about Tavoy, and I cannot but look upon its occurrence, in Tenasserim at all, as doubtful.

401 *ter.*—*Pomatorhinus mariæ*, Wald. Descr. S. F., III., 404.

This bird was described from specimens obtained in the Tonghoo Hills by Wardlaw Ramsay; but, as already pointed out, S. F., V., 136, I am unable to discover how it differs from *P. albigularis*, Blyth. This latter species we have from the precisely same locality from which the type came, and it agrees precisely with Lord Walden's description of *mariæ*; if, therefore, *mariæ* does differ, the very points of difference have been most unfortunately omitted from the description.

For the present, therefore, I hold the distinctness of this species to be doubtful, the more so that Lieutenant Wardlaw Ramsay in his latest Paper seems equally doubtful of this.

401 *quat.*—Pomatorhinus ochraceiceps,* *Wald.* (5). DESCR. S. F., III., 282.

(*Tonghoo, Karennee Hills*, at 2,500 feet, Rams.) Paraduba; Mooleyit.

Hitherto only observed in Tenasserim proper on the higher slopes of Mooleyit, but re-appearing further north in the continuation of the same range in Karennee, &c.

[I found this species from 3,000 feet and upwards on the Mooleyit range, and always in pairs. They are very shy indeed, and retreat rapidly on the slightest sign of danger. They frequent the brushwood, but I have seen them moving about the branches moderately high up in trees. I have seen and shot them among rocks and bushes in comparatively open places.

They have the usual note, a sort of hoot, hoot, hoot, uttered rapidly, of the *Pomatorhini*, but yet recognizably distinct from the others. Like all the *Pomatorhini* they descend to the ground and feed on insects.—W. D.]

The following are the dimensions and colors of the soft parts, recorded in the flesh, of 2 males and 3 females :—

Males.—Length, 9·75 to 10·0; expanse, 10·7 to 11·5; tail from vent, 4·2 to 4·5; wing, 3·4 to 3·8; tarsus, 1·3; bill from gape, 1·5; weight, 1·65 oz.

Females.—Length, 9·3 to 9·8; expanse, 10·9 to 11·05; tail from vent, 4·1 to 4·5; wing, 3·5 to 3·55; tarsus, 1·2 to 1·25; bill from gape, 1·3 to 1·32; weight, 1·2 to 1·3 ozs.

Legs, feet and claws pale dingy green or greenish brown; bill pale bright vermilion red; shelf of nostrils black; the irides varied much, being pale greyish brown, very pale yellowish red, light Indian red, and pinkish yellow.

401 *quint.*—Pomatorhinus albigularis, *Blyth.* (12).

(? *Tonghoo Hills*, [P. *maria*] Rams.) Mooleyit.

Observed only on the higher slopes of Mooleyit, and, if *P maria* is identical, on the Tonghoo Hills.

[I met with this species less often than the last, and found it even more shy. Sometimes I saw it in pairs, more often in small parties, always among the undergrowth in the jungles and in dense ringal jungle. Its habits and voice are much the same as those of the last species. Like all the *Pomatorhini* the birds are continually calling to and answering each other. They all feed exclusively, so far as my observations go, on beetles, ants, grubs and the like. They may eat small shells, but I have not found these in their stomachs.—W. D.]

* For the *very* closely allied (if indeed specifically distinct) *P. stenorhynchus*, Gould, Aust., *vide* S. F., V., 342, 343 *n*.

We only measured two specimens of this species, both males, of which the following are the dimensions, colors of the soft parts, &c., recorded in the flesh :—

Length, 9·6, 10·0; expanse, 11·7, 12·0; tail from vent, 4·2; wing, 3·8, 3·9; tarsus, 1·35, 1·4; bill from gape, 1·[illegible]; weight, 2·5 oz.

The legs and feet are a pale greenish brown, sometimes a dingy brownish green; bill vermilion red; irides creamy white.

The lores, the feathers immediately under and behind the eye, ear-coverts, and some of the feathers behind the ear-coverts, forming together a broad patch on the side of the head and neck, black.

A line from the nostrils, over the eye, and over the black patch above referred to, rufescent white just where it impinges on the nostrils, elsewhere pure white; a narrow frontal band continued, further diminished in breadth, on either side as a boundary to this white stripe throughout its entire length, black; chin, throat and feathers on the sides of the base of the lower mandible, generally pure white, occasionally a little patched here and there with fulvous; front and sides of neck behind the black patch, breast and greater portion of abdomen, delicate pale buffy; the sides of the breast, the sides of the abdomen, sides, flanks, and lower tail-coverts pure olive brown, the latter with a slightly more rufescent tinge; tibial plumes somewhat rufescent brown.

Wing-lining partly brown, partly unicolorous with the inner margins of the quills, which are a sort of pale salmon buff; rest of lower surface of quills glossy hair brown; coverts just under the carpal joint greyish brown; lower surface of tail feathers yellowish olive brown.

Entire top of head and nape, inside the black frontal band and its lateral continuation, a rich rufescent, or perhaps somewhat ochraceous olive brown; back, scapulars, rump and upper tail-coverts very similar, but not quite so brightly colored, or with so much of the ochraceous tint; wings hair brown; all the feathers suffused on their outer webs, and the tertiaries on both webs, with the same color as the head, or a slightly more rufescent shade of the same; the outer webs of the earlier primaries, below the emarginations, being decidedly yellower and more of a fawny brown than the rest of the wing; tail a slightly rufescent brown, tinged olive, and margined strongly towards the bases with the same color as the upper tail-coverts.

403.—Pomatorhinus leucogaster, *Gould.* (7).

Pine forests, Salween; Pahpoon; Head waters of Thoungyen; Younzaleen Creek; Thatone.

Confined to the hills on the north-eastern portions of the province.

[I myself only shot this species in the hills to the north of Pahpoon. It was usually seen in pairs on the outskirts of forest and in bamboo jungle, but never, I think, any distance from good cover.

They go about much on the ground, turning over the leaves in quest of insects. When disturbed they generally make their way through the brushwood, and not unfrequently commence climbing up the trees, keeping themselves well screened however, till they reach the top, when they fly off to another tree, or else down into brushwood again. As they move about, or while feeding at short intervals, they keep calling to and answering each other. Their note is the usual low hoot, hoot, hoot, that all the *Pomatorhini* have, but yet it is recognizably distinct in each species, so that while from a distance you can say "that is *some Pomatorhinus*," as you draw nearer you can say positively which particular species it is; but to reproduce these shades of tone in words is utterly impossible.—W. D.]

It is possible that some of these may pertain to Lord Tweeddale's new species *P. nuchalis, (v. infra)*. Unfortunately I have not the specimens at hand now to compare.

403 *bis.*—Pomatorhinus olivaceus, *Blyth.* (13). Descr. S. F., V., 137.

Thoungya Sakan; Myawadee; Mooleyit; Meetan; Yea; Tenasserim Town; Bankasoon; Malewoon.

Confined to the less-elevated ranges and the neighbourhood of their bases in Central and Southern Tenasserim.

[This bird is not uncommon in thin tree jungle, bamboo jungles and even well-wooded gardens near forest. Like the last it is usually found in pairs, though on one or two occasions I have found several together. In its habits, voice, &c., it does not differ from *leucogaster*. It ascends the hills to at any rate 3,000 feet, but is most numerous about their bases.—W. D.]

Some time ago (S. F., V., 137) I pointed out that *Pomatorhinus olivaceus*, Blyth, was a distinct species. It will be observed that all our specimens from Northern Tenasserim are *leucogaster*, (unless indeed some should prove to be *nuchalis*) and from Southern and Central Tenasserim, *olivaceus*.

The two species may be distinguished at a glance; in *leucogaster*; the ferruginous patch behind the ear is continued down the sides of the breast and body; in *olivaceus* it is confined to a patch behind the ear-coverts.

This is the point I would insist upon. I do not think now, after examining very large series from different localities, that

the other points which I noted, the greater intensity of the rufous coloring of the nape, and the more olivaceous tint of the crown, can be insisted on as invariably constant. The more so that one race, of what I must consider *leucogaster* for the present, from the pine forests of the Salween, while exhibiting the ferruginous on the sides of the breast and body, has a bright ferruginous nuchal collar, as bright as in the brightest *olivaceus*; while some specimens of *olivaceus* that I have obtained do not exhibit this rufous nuchal collar at all conspicuously. *The* point of distinction is, that in one the ferruginous runs down the sides of the breast and body; in the other it does not.

403 *ter*.—Pomatorhinus nuchalis, *Tweed*. A. and M. N. H., December 1877, 535.

The following is Lord Tweeddale's original description of this new species or supposed species. If valid, it certainly occurs in Karennee and the Karen Hills, as this is expressly set forth by Lord Tweeddale; and, judging from the remarks I recorded in the last paragraph, it seems not improbable that some of the specimens included by me under *leucogaster* would be claimed for *nuchalis* by its describer. Having no specimens with me here in the wilds of Rajpootana, I can say nothing further about the species.

"*Pomatorhinus nuchalis*, S.P. nov.; *Pomatorhinus leucogaster*, Gould apud Walden, B. Burma, No. 351.

"Differs from *P. olivaceus*, Blyth, ex-Meetan and Mooleyit (Tenasserim) by the ferruginous of the sides of the neck extending down the flanks, and from *P. schisticeps*, Hodgs.=*P. leucogaster*, Gould., by its smaller dimensions, and the absence of pure white central streaks on the lateral ferruginous pectoral feathers.

"This is the race that inhabits Thayetmyo, the Yoma and Karen Hills, and Karennee. In examples from all these localities the nape is tinged with rufous; but in Karennee individuals the rufous forms a distinct broad demi-collar.

"This would appear to be the race identified by Mr. Hume (S. F., III, p. 121) as *P. schisticeps*, Hodgs., a species which cannot be separated from *P. leucogaster*, Gould., both described from the Himalayas, the stated dimensions of *P. leucogaster* scarcely differing from the actual dimensions of the type specimens of *P. schisticeps* in the British Museum."

I note that the birds I identified as *schisticeps* from Thayetmyo were *schisticeps*, pur et simple, the larger race, and absolutely identical with Sikhim examples.

I distinctly say, *loc. cit.*, that specimens received from further east in Northern Tenasserim are "smaller birds with shorter bills, a much less cenereous tinge upon the forehead and

crown, and a marked though irregular ferruginous demi-collar on the nape." These I identified as *leucogaster*, and *these* may be the same as "*nuchalis*," but, if so, I altogether doubt the necessity for the new name, until at least *Gould's* types, as well as Hodgson's, have been examined.

405.—Pomatorhinus erythrogenys, *Vig.* (2).

Pine forests, Salween ; near Thatone.

Apparently confined to the northern portions of the province.

[I only met with this species on one single occasion, and that was in some thick scrub largely intermingled with kine grass, near the pine forests north of Pahpoon ; there were three or four birds together.—W. D.]

Some of our people got another specimen near Thatone.

405 *bis.*—*Orthorhinus hypoleucus*, Blyth. DESCR. S. F., V., 31.

There is no doubt that Blyth here referred to the distinct species which I have separated as *O. tickelli*.

405 *quat.*—Orthorhinus tickelli, *Hume.* (8). DESCR. S. F., V., 32.

Paraduba ; Mooleyit ; Meetan.

Confined apparently to the slopes of Mooleyit and its spurs.

[This Babbler I found always in thick forest, usually in pairs, but occasionally in small parties. It keeps much more to the ground than any *Pomatorhinus*, hopping about in a very ungainly manner. When feeding and undisturbed, I have heard them utter a short chuckling note. This is especially the case when several are together and have got somewhat separated ; one perhaps finding himself alone, and not being able to see his comrades, utters this chuckling note, when he is immediately answered by another, and then another and another, until each has answered, and then all are silent again. When disturbed they utter a note of the typical character, hoot, hoot, hoot, but much louder and fuller than that of any of the true *Pomatorhini* that I know. Unless very closely pressed or pursued by dogs, they never seem to fly up into trees. On one occasion I came upon a pair attracted by their chuckling note. I shot one, but only wounded it. On my seizing it, it again began to utter its peculiar chuckle (which I never heard from

any of the *Pomatorhini*,) on which the second bird returned and began to dance round me on the ground, with its tail spread like a fan, and its wings lowered to the ground, almost touching my feet, and hooting away all the time, making a tremendous row. This continued for fully five minutes, when having disposed of the first, I got a small cartridge into my gun, slipped back and shot it also. It proved to be the male; but this was in February, and neither bird showed any signs of the approach of the breeding season. Their food seems to be exclusively insects of all kinds, ants and huge wood lice as long as your finger. Compared with those of the *Pomatorhini*, their bills are really, as Tickell pointed out, soft and rounded; especially towards the base they are very soft.—W. D.]

As far as I can make out, Major God.-Austen, in his recent remarks (Pr., A. S. B., June 1877,) on this sub-group, admits the distinctness of this species, but disputes that of *O. inglisi*. He may, however, I think, for the present assume that both are equally distinct from the true *hypoleucus* of Arakan, though all three are doubtless *Orthorhini*, and merely local representative species.

The following are the dimensions recorded in the flesh of three males and two females:—

Males.—Length, 11·35 to 12·0; expanse, 13·5 to 14·0; tail from vent, 4·3 to 4·35; wing, 4·28 to 4·5; tarsus, 1·6 to 1·62; bill from gape, 1·75 to 1·9; weight, 4 ozs.

Females.—Length, 10·25 to 11·1; expanse, 12·75 to 13·5; tail from vent, 3·9 to 4·0; wing, 3·9 to 4·28; tarsus, 1·6; bill from gape, 1·55 to 1·82; weight, 2·75 to 3·5 ozs.

The legs and feet and claws varied a good deal, pale bluish green, very pale brown, and pale whitish blue; the upper mandible pale brown; the lower mandible pale whitish blue; irides pale to dark brown and brownish red; naked patch behind eye flesh color, more or less strongly tinged blue.

407 *bis*.—Garrulax belangeri, *Less.* (54). Descr. S. F., III., 122.

(*Tonghoo*, Rams.) Pahpoon; Salween R.; Theinzeik; Thatone; Wimpong; Kaukaryit, Houngthraw R.; Khayin; Topee; Moulmein; Kohbaing; Yea-boo; Paraduba; Meetan; Amherst; Tavoy.

Common, except in quite the higher hills, throughout the northern and central portions of the province.

[This species always goes about in flocks of from ten to thirty or more, and forms one of the most characteristic features of bird-life in Burma, where it occurs. This is at any rate as far south as Shymootee in the Tavoy district; neither this nor any other true Babbler, so far as I am aware, occurs

either at Mergui, or southward of this in Tenasserim. It hunts about on the ground, in among the trees, and almost always in company with *G. moniliger* and *chinensis*, *Cissa speciosa*, sundry Drongos, Woodpeckers, &c. On the slightest alarm they all fly up into the trees and surrounding bushes, and commence calling vociferously, one taking the lead and the others following in rapid succession. This continues for several minutes, then there is a pause, and absolute silence ensues. Then they start again, then pause, and so on. Once having disturbed them, or aroused their suspicions as to one's character and intentions, it is difficult to get rid of them, as they follow one about through the forest, making a most hideous row all the time, and of course disturbing every living thing. You may shoot them one by one; they seem to care nothing for the gun; when it is fired there is a dead pause for a moment, and then the uproar is renewed with redoubled vigour. Dogs especially seem to attract their notice, and they follow these, vituperating them from all the surrounding trees even more energetically than they do the sportsman or collector.

They have another queer habit. Small parties of them—three, four or five—will get on to the path or other open space and begin to dance, spreading their tails, lowering their wings, and threading in and out amongst themselves, in the most complicated figures (if they are figures), while the whole of the rest of the mob watches the proceedings with intense interest from every branch of the surrounding trees, and applauds in the heartiest and jolliest fashion.

It is impossible to describe their note in words; it is precisely like that of *G. leucolophus*, a loud laughing chuckle, which the birds seem to take the greatest delight in emitting on the smallest possible, or without any discoverable, provocation.

When feeding, this and all the other *Garrulax* have another soft single note, which they utter continuously, and by which their presence can often be detected when completely hidden in the grass.

They feed much on small reptiles, but chiefly on insects, bugs, grubs, caterpillars, grasshoppers, beetles, pretty well any thing they can get hold of, though I have never found remains of either small mammals or young birds in their stomachs.—W. D.]

The following are dimensions, &c., of a large series; the sexes do not vary in size:—

Length, 11·25 to 12·0; expanse, 15·0 to 16·75; tail from vent, 4·5 to 5·25; wing, 4·8 to 5·25; tarsus, 1·75 to 1·82; bill from gape, 1·37 to 1·5; weight, 5·0 to 5·5 ozs.

Legs and feet dark plumbeous; bill black; gape yellow; irides deep wood brown; eyelids greenish.

408 *bis.*—Garrulax strepitans, *Tick.* (20).

2,000 feet above Paraduba; Mooleyit.

Confined to the higher slopes of Mooleyit.

[From about 3,500 feet elevation, to the highest point of Mooleyit to which the heavy forest extends, this species is not by any means uncommon, occurring in small flocks of 20 or more, and keeping entirely, so far as I have observed, to the forest, specially to the ravines where this is densest. Though very like *G. belangeri* both in voice and habits, it is very shy of man, and so far from following one about, the sight of anybody is quite sufficient to cause it to beat a very rapid retreat, which it does by threading its way to the top of the nearest tree, and thence flying to the top of the next, and thence to the next, and so on, till it has got some hundreds of yards away, when it again descends to the ground. All this while the whole flock keeps up an incessant clamour. With a dog, however, it is different. This animal seems to excite their curiosity, and they will follow a dog about from tree to tree, peering down and jeering at him in the most uproarious fashion.

The best plan to shoot them is, when one has discovered a flock, to keep perfectly quiet and send one's dog towards them, when they will be drawn as the dog returns within easy shot. Without a dog they are extremely difficult to get at. I have seen a dozen or more of these dancing together, on a huge branch, much as *belangeri* does on the ground. It was whilst a party was thus busy that one of my men killed *twelve* with a single shot!

The stomachs of all the many specimens I examined contained nothing but beetles and ants.

I should notice that on Mooleyit and its spurs there seems to be a zone, between 2,500 and 3,500, in which neither this nor *belangeri* occur, this latter not ascending, and the present species not descending, into it. In this zone, however, *chinensis* is common.—W. D.]

The following are the dimensions and colors of the soft parts, recorded in the flesh, of this species:—

Males.—Length, 11·62 to 12·1; expanse, 15·5 to 16·8; tail from vent, 5·1 to 5·5; wing, 5·15 to 5·6; tarsus, 1·75 to 1·9; bill from gape, 1·3 to 1·45; weight, 4·5 to 5 ozs.

Females.—Length, 11·25 to 12·0; expanse, 16 to 16·5; tail from vent, 4·8 to 5·5; wing, 5·25 to 5·45; tarsus, 1·6 to 1·8; bill from gape, 1·3 to 1·45; weight, 4·25 to 4·75 ozs.

The legs and feet are very dark brown, sometimes brown black; the claws paler; bill black; irides generally lake red, sometimes crimson.

Forehead, lores, feathers under the eye, feathers at the base of the lower mandible, chin and sides of the throat, and bases

of the ear-coverts, black; rest of forehead, crown, and occiput, (the feathers of the latter a good deal lengthened) a rich ochreous olive; terminal portions of the ear-coverts ferruginous; behind these commences a pure white band, which encircles the neck, posteriorly shading off into the pure grey of the upper back. This white band starting from behind the ears runs down, becoming greyish on the sides of the neck in front, and encircles, or nearly encircles, the dark throat and upper breast patch, which is black, the feathers slightly tipped with, or completely overlaid with, a sort of ferruginous chocolate, a rich though ill-defined color in many specimens which I really find it difficult to describe; sides of the neck and breast below this and middle of abdomen, to vent, dark ashy; sides of abdomen, flanks and lower tail-coverts, dull olive brown; middle of back, scapulars, rump and upper tail-coverts, more or less of the basal portions of the central tail feathers, and margins of all of them, and the whole visible portions of the closed wings, clear olive brown; rest of tail feathers blackish brown, obsoletely barred; inner webs of quills hair brown; wing-lining greyish brown; darker on the under primary greater coverts.

408 *ter.*—Garrulax chinensis, *Scop.* (18).

(*Tonghoo*, Rams.) Pahpoon; Younzaleen Creek; Wauohoung; Kaukaryit, Houngthraw R.; Assoon; Mooleyit; Meetan.

Generally, though rather sparingly, distributed alike in plains and hills throughout the northern and central portions of the province.

[The note of this species is quite different from that of any other species of *Garrulax* with which I am acquainted, and is not nearly so harsh or loud. For a *Garrulax* I should call *chinensis* a very silent bird, its ordinary note being a soft low sort of mew. It also has a chattering note, a very feeble imitation of that of *belangeri* or *strepitans*. Usually I have found it in company with some of the other species of *Garrulax*, but sometimes quite alone. It occurs in all sorts of localities, from the thin deciduous leaved jungle of the dryer plains to the dense evergreen forests near the summit of Mooleyit. It is always in small parties, and large numbers of it are never seen in or near the same place. It is not very shy, nor does it follow one about like the others, although, if mingled in a mob of these, it does not allow itself to be left quite behind. Its food and habits generally are similar to those of the species already noticed. Numbers of these birds are brought to Calcutta in cages from China, but in Burmah I never saw any *Garrulax* caged.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 11 to 11·75 ; expanse, 13·82 ; to 14·75 ; tail from vent, 4·75 to 5·1 ; wings, 4·37 to 4·82 ; tarsus, 1·62 to 1·75 ; bill from gape, 1·3 ; weight, 3·25 to 3·75 ozs.

Females.—Length, 11·25 to 11·75 ; expanse, 13·5 to 14·89 ; tail from vent, 4·62 to 5·25 ; wing, 4·62 to 4·8 ; tarsus, 1·7 ; bill from gape, 1·25 to 1·3 ; weight, 3·12 to 4·0 ozs.

The legs, feet and claws varied from reddish horny, or reddish brown, to dark reddish brown ; bill black ; irides red brown, deep brown, dull carmine, and deep carmine.

A broad frontal band, lores, a rather narrow band round the eye continued backwards over the ear-coverts, feathers at the base of the lower mandible, chin, throat, and a very broad band down the centre of the neck in front, right on to the breast, velvet black ; a row of pointed feathers just above the frontal band, white, or greyish white tipped white ; rest of crown, occiput and nape a blue slaty grey, shading a little at the base of the nape into the olive of the back ; back, scapulars, rump and upper tail-coverts uniform olive brown ; in some a pure olive ; in others more or less rufescent ; wings hair brown, the earlier primaries with the outer webs grey or greyish white ; the rest of the feathers, with their outer webs, and the tertiaries, with both webs, overlaid with the same olive as the back, *i.e.*, purer or more or less rufescent, as the case may be, like the back ; usually the winglet and some of the earlier primary greater coverts a little shaded with grey towards their margins ; tail olive brown, concolorous with the back, obscurely rayed, with the terminal portions, more or less blackish brown, and with more or less of this color showing through or superseding the olive on the lateral tail feathers throughout, especially on their inner webs, and in some specimens nearly the whole of the three outer pairs blackish brown ; all the tail feathers, except the central pair, and sometimes even these to a small extent, tipped paler, the tippings scarcely visible on the upper surface, but much more distinct on the lower ; the greater part of cheeks, ear-coverts, and sides of throat pure white, forming a large broad oval patch ; below this the sides of the neck and the entire breast grey, often very pure and clear, sometimes a little suffused with brown. This grey shades on the upper abdomen into the olive brown of the lower abdomen, flanks, tibial plumes, and lower tail-coverts ; there are often, in fact generally, a few pale ferruginous feathers about the vent ; the wing-lining is a mixture of olive brown and grey.

The black throat stripe often becomes, just when it joins the breast, a deep burnt sienna brown ; the lower surface of the tail, except the tipping, is black, often paling however a little towards the bases ; the grey of the cap is somewhat variable in shade ; in

some specimens it is a dark slaty blue; in others a comparatively light slaty grey.

411.—*Garrulax albogularis*, Gould.

Blyth (B. of B., p. 108) gives this species from Tavoy. We have either seen nor heard of it anywhere about Tavoy.

412.—Garrulax pectoralis, *Gould.* (1). S. F., III., 122.

(*Karennee*, Rams.) Meetan.

Davison never saw more than this single specimen, which he recognized the moment he saw it by its greater size, and shot out of a mixed flock of *belangeri* and *moniliger*. Both before and after this he was always on the look-out for it, but never saw a second specimen. This seems very strange.

413.—Garrulax moniliger, *Hodgs.* (19).

(*Karen Hills*, Rams.) Pahpoon; Salween R.; Thatone; Wimpong; Myawadee; Kaukaryit, Houngthraw R.; Pabyouk; Assoon; Amherst; Yea; Tavoy.

Very common throughout the northern and central portions of the province, but not as a rule ascending the hills at all.

[In all its habits, in its food and associations, this species is inseparable from *belangeri*, but its voice is less harsh, and it is not nearly so noisy a bird. I have never, however by the way, seen this species dancing as *belangeri* does, nor does it leave the plains. It seems to stop entirely, quite at the bases of the hills, while *belangeri* ascends these to at least 2,500 feet.—W. D.]

It is be remarked that this species varies towards the Chinese race (*picticollis*) as it goes southwards, in so far that in all Amherst specimens, for instance, the tips of the lateral tail-feathers are ochraceous instead of being white. I also note that this Amherst race is paler and more fulvous above, and has the nuchal rufous collar much more strongly marked as a rule.

415 *ter.*—Trochalopteron melanostigma, *Blyth.* (25).

(*Karennee*, Rams.) Pine forests, Sa'ween; Paraduba; Mooleyit; Meetan.

Confined to the hill forests of the northern and central portions of the province.

[This species, except perhaps in the nesting season, is always found in small parties of six or eight. They feed chiefly on the ground, keeping much in the brushwood, rarely flying into trees unless pressed by dogs; neither a very noisy nor very silent bird, uttering from time to time its fine whistling call, which greatly resembles that of the species (*T. erythrocephalum*) that we get about Simla. By no means a shy bird, and rather common on the hills from 3,000 feet and upwards (not seen in the

plains,) and especially so about Mooleyit. It keeps to the forests or its outskirts as a rule, but it sometimes at Mooleyit ventures into the detached clumps of briars and scrub that stud the grassy slopes near the summit. All the specimens I examined had fed exclusively on insects.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 10·4 to 10·62; expanse, 12·0 to 13·0; tail from vent, 4·4 to 4·5; wing, 4 to 4·2; tarsus, 1·5 to 1·6; bill from gape, 1·2; weight, 2·75 to 3·25 ozs.

Females.—Length, 9·85 to 10·7; expanse, 11·62; tail from vent, 4·0 to 4·5; wing, 3·8 to 4·5; tarsus, 1·45 to 1·65; bill, from gape, 1·2; weight, 2·75 ozs.

Legs, feet and claws very pale brown to reddish brown; bill black; irides brown, or hazel-nut brown.

The lores and point of the forehead black; the rest of the forehead, crown, occiput and a sort of tail to the occiput descending on to the nape, bright ferruginous chestnut to deep ferruginous, almost maroon, chestnut; cheeks, ear-coverts, sides of the occiput, and upper part of sides of the nape, delicate silvery grey, regularly striated longitudinally with dusky; feathers at the base of the lower mandible and chin black, the former sometimes slightly streaked silvery; the black of the chin and of the feathers on the base of the lower mandible shading into an intense ferruginous or ferruginous red on the throat, whence this color extends, somewhat diluted, over the rest of the front of the neck. Most generally only a trace of this extends on to the breast, but the birds are very variable in this respect, and in some specimens this ferruginous, though less ruddy and less intense in character, spreads over the whole of the upper breast, the middle part of the lower breast, and upper abdomen, and in one specimen before me, right down to the vent. Normally, however, the breast, abdomen, sides, flanks, vent, lower tail-coverts, tibial plumes are all a clear olive brown or olive; the sides a little shaded with grey, and the middle of the breast and its sides a little suffused with a paler, duller and less ferruginous tinge of the color of the lower neck. Of course, where the ruddy or ferruginous tinge is more extended, the amount of the olive is proportionately contracted. The sides of the neck below the silvery striated face patch, the back of the neck and upper back are olive, sometimes greener, sometimes yellower, and sometimes again browner or greyer; the rest of the back, scapulars, rump and upper tail-coverts are usually the same color, but darker in shade and less pure in tint. The primary greater coverts are velvet black, forming a conspicuous patch on the wing; the earlier secondary greater coverts are red, varying from bright ferruginous chestnut to an almost orange ferruginous; the rest of the coverts are olive; the quills are hair brown; their outer webs and the

greater part of the visible portion of both webs of the tertiaries bright golden olive, in some however with a decided greenish tinge, and the color usually brightest and most intense towards the bases of the primaries; the tips of the tertiaries and later secondaries more or less untouched with this color, giving the effect of rather irregular ill-defined black or blackish tippings. The tail is dark brown, margined everywhere, and both webs of the central, and the outer webs of the lateral, feathers suffused, with a somewhat duller shade of the wing color, varying, as this does, from bright golden olive to dull greenish olive yellow; the wing-lining varies; when the red descends far on the breast, it is chiefly ruddy olive brown, but in others, which show less red on the breast and abdomen, it is a pure olive or olive brown, some few of the longest feathers being like the lower surface of the quills, a dark glossy, somewhat blackish hair brown; the edges of the wing are white, yellowish or ruddy in patches varying a good deal in different specimens.

The general appearance of the birds does not differ very much; but, as I have endeavoured to show above, there is an extraordinary amount of variation in the details and tints of coloration in different specimens, perhaps more so than in any species of this group with which I am acquainted.

427 *ter.*—Actinodura ramsayi, *Wald.* DESCR. S. F., III., 404.

Obtained by Ramsay, "frequenting the jungle-covered mountain streams in the open country of Karennee, at 3,000 feet;" he gives the irides light hair brown, the bill horny brown, and the legs slaty brown.

429 *quat.*—Sibia melanoleuca, *Tick.* (23).

2,000 feet above Paraduba; Mooleyit.

Confined apparently to the higher slopes of Mooleyit.

[This pretty *Sibia* was common about the higher parts of Mooleyit, especially where the jungle was open. I found it very partial to the trees about the "*Sakans*," or camping grounds.

Its note resembles that of *Sibia capistrata*, and is a single long-drawn clear-sounding whistle, sounding like "whee-e-e-e-oo," the "whee" being very much prolonged, the "oo" short and abrupt. When I was at Mooleyit, the birds were breeding, and consequently were always found in pairs. Their food consists quite as much of small berries as it does of insects, which latter they capture amongst the smaller branches and the foliage of the tree tops in which they are always moving about. They never descend to the ground or even amongst brushwood.

I never saw them sitting sunning themselves on a bare branch, or catching insects on the wing. They have a habit of rapidly expanding and closing their tails as they move about, but without erecting it as a *Leucocerca* does. They are not at all shy birds, and there is not the slightest difficulty in approaching and shooting them.—W. D.]

The following are dimensions and colors of soft parts recorded in the flesh from a large series :—

Males.—Length, 8·7 to 8·9 ; expanse, 11·0 ; tail from vent, 4·1 ; wing, 3·55 ; tarsus, 1·12 to 1·15 ; bill from gape, 0·9 to 0·98 ; weight, 1·2 to 1·25 oz.

Females.—Length, 8·3 to 9·0 ; expanse, 10·2 to 10·7 ; tail from vent, 3·9 to 4·2 ; wing, 3·35 to 3·5 ; tarsus, 1·05 to 1·15 ; bill from gape, 0·8 to 0·9 ; weight, 1 to 1·37oz.

The legs and feet varied from a very dark reddish brown to a dark purplish brown or brownish black ; bill black ; irides lake.

The lores, forehead, crown, occiput, nape, cheeks, ear-coverts, and point of the chin, glossy black, with a faint greenish reflection, only the ear-coverts, in some specimens, with a slightly browner tinge ; the rest of the chin, throat, breast, abdomen, and entire lower parts, including wing-lining, axillaries, and lower tail-coverts, snowy white, a little pencilled with brownish grey in most specimens towards the sides of the breast ; the entire back, scapulars, and lesser and median wing-coverts a deep, somewhat chocolate brown ; rump and upper tail-coverts a dull, somewhat greyer brown ; quills and greater coverts hair brown ; the tertiaries and some of the later secondaries, towards their tips, with a more or less decided chocolate tinge ; all the feathers margined on the outer webs with black, which on the quills has distinct, though not conspicuous, greenish reflections ; tail brown ; the central tail feathers paler, and with a sort of pale chocolate tinge ; the central pair narrowly, and each succeeding pair (the tail is very much graduated) more and more broadly, tipped with pure white, and all the feathers fringed darker ; in some almost blackish on their outer webs just towards the bases.

430.—Sibia picaoides, *Hodgs.*

Obtained by Wardlaw Ramsay at Karennee at 5,000 feet. Colonel Tickell, *Ibis*, 1876, 354, mentions, in his manuscript illustrations of Indian Ornithology, that he killed this species at an elevation of 3,000 feet in Tenasserim, and that " it inhabits the whole Eastern Cis-Himalaya and along the Malayan spur."

Davison has been a good deal in these hills now, but has seen no traces of this species.

Sibia melanoleuca is common.

440.—Megalurus palustris, *Horsf.* (9).

Khyketo; Kedai Keglay; Pabyouk.

Not at all uncommon in thick grass in the plains portions of the northern and central sections of the province.

[This species is not uncommon on the Thatone plains, frequenting those portions that were covered with kine grass. At Pabyouk, on the Attaran, I found them in ground covered with low stunted thorny bushes. I particularly noticed the quasi-lark-like habit the males have of rising and singing, which is described, Nests and Eggs, p. 276. Beyond this I noticed nothing particular about them; they are regular reed birds almost always keeping to the large grass out of which it is extremely difficult to dislodge them, and through which they thread their way like others of their class. I could have got any number of them by hard fagging through the grass, but they were not wanted.—W. D.]

It has been suggested that the Javan bird may be distinct. Tenasserim specimens are perfectly identical with Indian ones.

The following are the dimensions of 5 males and 1 female recorded in the flesh:—

Males.—Length, 9·9 to 10·62; expanse, 12·0 to 13·0; tail from vent, 4·75 to 5·12; wing, 3·8 to 4·15; tarsus, 1·3 to 1·5; bill from gape, 0·95 to 1·0; weight, 1·75 to 2 oz.

Female.—Length, 8·8; expanse, 10·5, tail from vent, 4·37; wing, 3·62; tarsus, 1·2; bill from gape, 0·9.

Legs and feet dark horny pink or pale brown; upper mandible dark brown; lower mandible fleshy white; irides wood brown.

446 *bis.*—Hypsipetes concolor, *Blyth.* (8). (H. subniger, *Hume.*) Descr. S.F.,V., 109.—H. yunanensis, *Anders.*

(*Tonghoo, Karen Hills,* at 1,500 feet, Rams.) Pine forests, Salween; Thoungya Sakan; Meetan.

Confined to the more open hill forests of the northern and central portions of the province, but not ascending to the summits of the highest hills.

[This bird is most commonly seen at the "Sakans" or hill camping grounds, small open clearings surrounded by forest and with a few trees standing about them. Their habits are precisely those of *ganeesa* and *psaroides.* They go about in small flocks, from tree-top to tree-top, keeping up a continual chirping chatter, living chiefly on small berries, but also occasionally eating insects, and being extremely fond of the nectar of

flowers. If there is a large tree in flower, some are certainly to be met with about it, their foreheads all smeared with its pollen. They are perfectly fearless birds.—W. D.]

The following are the dimensions and colors of the soft parts recorded in the flesh of 5 males and 1 female:—

Males.—Length, 10·0 to 10·75; expanse, 14·75 to 15·5; tail from vent, 4·3 to 4·9; wing, 4·82 to 5·0; tarsus, 0·6 to 0·75; bill from gape, 1·2 to 1·3; weight, 1·5 to 2· oz.

Female.—Length, 9·6; expanse, 14·0; tail from vent, 4·3; wing, 4·6; tarsus, 0·68; bill from gape, 1·12, weight, 1·75 oz.

Legs, feet, and bill varied from bright to deep coral red; irides dull crimson lake.

I desire to withdraw my name of *subniger*; a full description of the birds thus characterized will be found *loc. cit. supra.*

No doubt the southern birds I thus designated are always somewhat, in some cases, much darker than the Northern Pahpoon birds, which agree *precisely* with Blyth's type; but after careful re-examination, I do not think that the difference is sufficient to justify the separation, and I suppress the name *subniger*; and unite all the Tenasserim Hill birds, alike southern and northern, under Blyth's name.

There are five nearly allied species of this genus, black, black-grey, grey and black, all with black crested heads and red bills and feet.

I. Black or chiefly so	A. Entirely black.	1	*H. perniger*, Swinh.	Hainan (China.)
	B. Black, with conspicuous grey margins to quills and greyish abdomen	2	*H. nigerrima*, Gould.	Formosa (China.)
II. Grey or chiefly so	C. Dark grey, interscapulary region, black or blackish	3	*H. concolor*, Blyth.	Khasia and Tenasserim Hills, Yunan, (China.)
	D. Iron grey, interscapulary region, concolorous with back— a. Darker above and below, crest shorter, feathers more triangular and squamate	4	*H. ganeesa*, Sykes.	Hills of Southern India and Ceylon.
	b. Lighter above and below, crest longer, feathers more linear and blending	5	H. *psaroides*, Vig.	Himalayas from Murree to Sudya in Assam.

I note that some specimens of the two last species, not fully mature, are practically inseparable.

447 *bis.*—Hypsipetes tickelli, *Blyth.* (19).

(*Karennee*, 2,500 to 4,000 feet, Rams.) Pine forests, Salween; Kyouk-nyat; Pahpoon; Paraduba; Mooleyit.

Confined to the hill forests of the northern and central portions of the province from 2,500 feet and upwards.

[This species is usually found on the outskirts of the forest along forest paths, and in fact wherever the forest is not too dense. Occasionally it is found in small parties, most commonly I think in pairs, and it is not nearly so noisy as the black and grey Bulbuls, *H. concolor*, &c. Its notes and habits are otherwise quite similar, and like these it feeds chiefly on small berries, with an occasional insect or nectarine debauch.—W. D.]

The following are dimensions, &c., of this species recorded in the flesh :—

Males.—Length, 9·0 to 9·5 ; expanse, 12·0 to 12·62 ; tail from vent, 3·82 to 4·2 ; wing, 3·75 to 4·12 ; tarsus, 0·65 to 0·7 ; bill from gape, 1·2 to 1·25 ; weight, 1·25 to 1·5 oz.

Females.—Length, 8·75 to 9·0 ; expanse, 12·0 to 12·25 ; tail from vent, 3·9 to 4·12 ; wing, 3·9 to 4·0 ; tarsus, 0·65 to 0·7 ; bill from gape, 1·15 to 1·18 ; weight, 1·25 oz.

The colors of the soft parts varied a good deal in different specimens ; legs and feet fleshy pink, dark fleshy pink, light purplish brown, pale pinkish brown, or pale reddish brown ; bill black, horny black, or dark horny brown ; irides wood brown, deep red brown, light red or crimson.

The entire forehead, crown, occiput and occipital crest are a warm slightly rufescent brown, each feather paler shafted ; the whole of the rest of the upper parts is a tolerably bright golden olive yellow, brightest on the tail and wings, duller and greyer on the interscapulary region and upper back ; the chin and throat are blue grey ; the feathers with conspicuous white shaft stripes ; the lores are mouse brown ; the ear-coverts pale rusty brown, generally pale-shafted ; the upper breast and sides of the breast and sides of the neck behind the ear-coverts are streaked white and greyish brown, more or less distinctly tinged very pale rusty ; the middle of the abdomen and vent are nearly pure white ; sides of the abdomen striated with grey or pale brown ; flanks and lower tail-coverts yellow, with, in some specimens, a faint ochraceous tinge ; axillaries white at their bases, but the greater portion of these and the wing-lining pale yellow, with a more or less appreciable ochraceous tinge ; inner margins of quills, except towards the tips of the longer primaries, pale, somewhat ochraceous or creamy yellow ; inner webs of the quills rather dark hair brown ; lower surface of tail olive yellow ; shafts bright yellow.

There are several nearly allied species belonging to this sub-group, four at any rate occurring within our limits, and

the following empirical table may assist in distinguishing these :—

I. Feathers of the head pale-shafted; wings and tail bright golden olive ...	A. Pale striæ not extending to crest; breast and sides of neck rusty ferruginous ...	*H. macclellandi*, Horsf.	Himalayas from Mussoorie eastward to Sudiya in Assam, Khasia, Tipperah and Arracan Hills, Southern China.
	B. Pale striæ extending to crest; breast and sides of neck only faintly tinged rusty ...	*H. tickelli*, Bly. ...	Tenasserim Hills at least as far south as Tavoy.
II. Feathers of head uniform; wings and tail brown, margined or suffused with olive green ...	C. Head unicolorous with back	*H. malaccensis*, Bly.	Tenasserim Hills, south of Mergui, Malay Peninsula, Sumatra, Borneo.
	D. Head differently colored from back—		
	a. with an ashy shade on crown	*H. virescens*, Tem.	Java.
	b. with dark brown crown ...	*H. nicobariensis*, Moore.	Nicobars.

There is another nearly allied species from the Phillipines, (*non vidi*) and, I dare say, others.

447 *ter*.—Hypsipetes malaccensis, *Blyth*. (5).

Tenasserim Town; Pakchan; Bankasoon.

Confined to the forests on or at the base of the hills south of Mergui.

[Precisely similar in habits and notes to the preceding; comparatively rare in Tenasserim, but very common further south, where I have procured many, quite down to the southernmost extremity of the province.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 8·95 to 9·15; expanse, 13·1 to 13·2; tail from vent, 3·55 to 3·75; wing, 4·3 to 4·5; tarsus, 0·65 to 0·7; bill from gape, 1·1 to 1·15; weight, 1·5 oz.

Females.—Length, 8·75; expanse, 12·5 to 12·75; tail from vent, 3·55 to 3·6; wing, 4·05 to 4·12; tarsus, 0·7; bill from gape, 1·15 to 1·25; weight, 1·25 to 1·4 oz.

Legs and feet pinkish brown to reddish brown; bill horny brown, or very dark horny brown; in one the upper mandible was black, the lower reddish horny; irides mahogany brown to litharge red.

Entire upper surface a dull olive green, rather greener in some, rather browner in others; wings and tail dull hair brown; all the feathers of the former margined more or less everywhere on their outer webs with dull olive green, and the latter with the feathers similarly margined towards their bases; lores grey brown or mouse brown; cheeks and ear-coverts pale brown, more or less distinctly pale shafted, and more or less tinged or overlaid, especially towards the tips of the ear-coverts with the color of the head; chin, throat, feathers at the base of the lower mandible, and breast

greyish white, the feathers more or less margined with grey or greyish brown, and generally a little mingled with green on the breast; middle of abdomen, vent and lower tail-coverts silky white, the middle of the abdomen a little streaked with pale yellow; sides of the body more or less, it varies much in different specimens, streaked or shaded with olive or greyish olive; axillaries and wing-lining whitish; at bases tinted with very pale perhaps slightly ochraceous yellow; inner margins of quills greyish white.

448.—*Hemixus flavala*, Hodgs.

Blyth gives this from Tenasserim, but he doubtless referred to either the northern or southern Tenasserim allied races *H. hildebrandi* and *H. davisoni*.

448 *bis*.—Hemixus hildebrandi, [*Hume* (1). Descr. S. F., II., 508.

(*Karen Hills*, at 2,000 feet, Rams.) Pine forests, Salween.

Confined to the hill forests of the northern portions of the province.

448 *ter*.—Hemixus davisoni, *Hume*. (1). Descr. V., 111.

Thouagya Sakan.

Confined to the hill forests of the southern portions of the province.

449.—Alcurus striatus, *Blyth*. (5).

(*Karen Hills*, 5,000 feet, Rams.) Mooleyit.

Confined apparently in Tenasserim proper to the highest portions of Mooleyit, but re-appearing at similar elevations in the extreme north in the continuation of this same range.

[I occasionally met with this bird on the higher slopes of Mooleyit, usually in small parties, sometimes in pairs, or singly. They kept to the tops of the higher trees, flying from tree to tree, and chattering much after the manner of *Hypsipetes*. The only one whose stomach I examined had eaten a number of small berries, and nothing else, though probably like the rest of the Bulbuls they do eat insects as well as fruit.—W. D.]

The following are dimensions, &c., recorded in the flesh of 1 male and 3 females:—

Male.—Length, 8·6; expanse, 12·25; tail from vent, 3·7; wing, 4·1; tarsus; 0·8; bill from gape, 1·0; weight, 1·75 oz.

Females.—Length, 8·4 to 8·9; expanse, 12·0 to 12·5; tail from vent, 3·6 to 3·7; wing, 3·8 to 4·0; tarsus, 0·7 to 0·8; bill from gape, 0·95 to 1·0; weight, 1·6 to 1·8 oz.

Legs and feet very dark brown or deep plumbeous; bill black; irides deep red brown.

449 *bis*.—Trachycomus ochrocephalus, *Gm.* (14). Descr. S. F., I., 455.

Mergui; Bopyin; Pakchan.

Confined to the southernmost district of the province.

[This species appears to avoid thickly-wooded country. At Malewoon and Bankasoon, where the country is very thickly wooded, I did not, as a rule, meet with it, but at Nalansine especially, and along the banks of the Pakchan where these, though devoid of heavy forest, were more or less thickly dotted with bushes, it was far from uncommon.

It usually keeps in small parties of from five to eight or so. It is very garrulous, and keeps up a continuous chatter, but it also has a song which, though only consisting of a few notes, is particularly rich and powerful. On Mergui Island I have observed and shot it about the scrub jungles and gardens.

This species also feeds chiefly on berries, but also occasionally on insects. On more than one occasion I have seen this hopping about on the ground, which I have never seen [illegible] of the forest Bulbuls do. It is not uncommon anywhere [illegible]ghout the western half, at any rate, of the Malay Peninsula, and was common at Acheen.—W. D.]

The following are dimensions, &c., recorded in the flesh from a large series:—

Length, 10·82 to 11·12; expanse, 14·62 to 15·5; tail from vent, 4·62 to 5·0; wing, 4·55 to 4·8; tarsus, 0·95 to 1·2; bill from gape, 1·1 to 1·25; weight, 3·0 to 3·25 ozs.

Legs and feet dark horny brown or black; bill black; irides pale or litharge red.

451.—*Criniger flavcolus*, Gould.

Blyth gives this species from Tenasserim, but he, doubtless, referred to the nearly-allied *C. griseiceps*.

451 *bis*.—Criniger griseiceps, *Hume*. (20). Descr. S. F., I., 478.

(*Tonghoo Hills, Karennee*, Rams.) Pahpoon; Kyouk-nyat; Thenganee Sakan; Thoungsheyen Sakan; Assoon; Meetan.

Confined to the northern and central portions of the province, and not ascending the hills to any great elevation.

[This Bulbul is almost always found in small flocks, keeping, as a rule, to the forest. It is very noisy; they keep chattering and chasing one another about from tree to tree, backwards and

forwards, in the most uproarious fashion. They never seem to rest, except when now and then one stops and begins to try and sing, gets through a feeble three note twee, twee, twee, and then, as if disgusted with his own imbecile performance, starts off chattering harder than before. This species never descends to the ground. It feeds chiefly on small berries of various sorts, varying, like the rest, its diet occasionally with insects and nectar, but they are not nearly so greedy after this latter as are the *Hypsipetes*.—W. D.]

451 *ter*.—Criniger ochraceus, *Moore*. (40). ? C. gutturalis, *Müll*.

Mergui ; Tenasserim Town ; Pakchan ; Palaw-ton-ton ; Bankasoon ; Malewoon.

Confined to the evergreen forests of the southernmost district of the province, but extremely common there.

[This is eminently a forest Bulbul, never that I am aware of coming into gardens or clearings. In its habits and voice it resembles *griseiceps*, and is quite as noisy as that bird, if not more so, and like it goes about in small parties, though I have occasionally seen *it* in pairs or singly. This bird also never, I believe, descends to the ground.—W. D.]

This species varies a great deal in size according to sex, and in the same sex even. In the males the wings vary from 3·75 to 4·25, and in the females from 3·6 to 4·05, so that between the smallest females and the largest males there is a very great difference in size. There is a considerable difference also in coloration of specimens, large and small ; in some the lower surface is very much more ochraceous, and the upper surface more olivaceous, while in others the lower surface is much paler, and except the lower tail-coverts scarcely ochraceous at all. I cannot say whether this is really identical with *gutturalis* of Müller.

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 8·25 to 9·25 ; expanse, 11·62 to 13·5 ; tail from vent, 3·5 to 4·25 ; wing, 3·75 to 4·25 ; tarsus, 0·7 to 0·75 ; bill from gape, 1·0 to 1·1 ; weight, 1·4 to 1·75 oz.

Females.—Length, 8·75 to 9·5 ; expanse, 11·75 to 13·25 ; tail from vent, 3·75 to 4·0 ; wing, 3·6 to 4·05 ; tarsus, 0·75 ; bill from gape, 1·0 ; weight, 1·5 oz.

The legs and feet are light pinkish brown ; upper mandible dark horny brown ; lower mandible plumbeous ; irides wood brown.

Lores, feathers round and below the eye, very pale greyish brown or greyish white ; ear-coverts pale brown, striated paler ; chin and throat pure white ; breast, sides and flanks a rather pale

fulvous brown, often with a distinct though slight olive tinge, obscurely striated yellower; middle of abdomen paler, sometimes almost albescent, but this is not constant, and here the feeble yellow striations generally appear purer; vent and tibial plumes clear pale creamy buff; lower tail-coverts pale, faintly rufescent buff, in some specimens with an ochraceous tinge; tail slightly rufous brown; upper tail-coverts decidedly rufescent olive; rest of upper parts dull, slightly rufescent, or perhaps it might be called ochraceous olive, more rufescent or ochraceous on the cap and wings, but in neither quite so much so as on the upper tail-coverts; shoulder of the wing, wing-lining and axillaries white, slightly tinged with pure yellow; inner margins of quills creamy white; inner webs generally of quills hair brown, not dark, and paling somewhat towards the tips.

Some birds are altogether greener and more olivaceous, others decidedly more ochraceous, especially on the lower parts.

451 *quat.*—Criniger phæocephalus, *Hartl.* (11).

Palaw-ton-ton; Bankasoon; Malewoon.

Confined to the forests in the neighbourhood of the Pakchan.

[I have almost always found this bird in pairs or singly, very seldom more than two together, in thick forest, and thin tree jungle, but never in clearings or gardens. Its note differs much from that of the other Bulbuls, but is yet quite characteristic of the group. It is a very noisy bird. Its habits and food are similar to those of the preceding species. It never descends to the ground.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 8·15 to 8·45; expanse, 11·5 to 12·0; tail from vent, 3·25 to 3·62; wing, 3·62 to 3·76; tarsus, 0·75 to 0·85; bill from gape, 0·95 to 1·05; weight, 1·0 to 1·3 oz.

Females.—Length, 7·5 to 8·7; expanse, 10·75 to 11·0; tail from vent, 2·75 to 3·0; wing, 3·35 to 3·37; tarsus, 0·76 to 0·8; bill from gape, 0·7 to 0·95; weight, 1·0 to 1·05 oz.

The legs, feet and claws varied from fleshy white, sometimes with a pinkish tinge, to fleshy yellow; the upper mandible from dark plumbeous to dark horny brown; lower mandible and edges of upper mandible pale plumbeous; irides snuff brown, burnt sienna brown, or reddish brown.

The lores are a slightly greyish white; the cheeks, ear-coverts and sides of the head pale clear grey; chin and throat snow-white, a little shaded with grey at the base and sides of the throat; breast, abdomen, vent and lower tail-coverts bright pure yellow, shaded with olive green on the sides of the breast, and with traces of the same on sides and

flanks; entire cap dark slaty grey, the darker browner centres of the feathers showing through on the crown and occiput, and producing there, in fine specimens, a squamated appearance; back, scapulars and rump a rather dull yellowish olive green, sometimes brightening to yellow on the extreme tips of the longest rump feathers; upper tail-coverts and tail dull brownish chestnut, with an ochraceous tinge on the former and on the margins of the feathers of the latter towards their bases; both webs of tertiaries and outer webs of all the feathers of the wing (the inner webs are hair brown), a rufescent brown, akin to the color of the tail, but brightening with a yellower tinge on the margins of the secondaries and to a less extent on those of the primaries.

451 *quint.*—Criniger tristis, *Blyth.* (9).

Pakchan; Bankasoon.

Confined to open land and scrub jungle in the neighbourhood of the Pakchan.

[This species seems to avoid the forests, and affects small clumps of trees or bushes, or patches of scrub jungle in open or cultivated country. It is only seen singly or in pairs, and is a very scarce bird, even where it does occur, in the extreme south of Tenasserim. It is remarkable that I have not yet met with this species anywhere further south in the Peninsula. Its note is more that of an *Otocompsa*, a whistled "kick pettigrew," and not a bit of the chirping chatter of *C. griseiceps* and the other forest *Criniger*s. The situations, too, in which you find it are rather those to which *Otocompsa* would resort. Its food is the same as that of all the preceding species.—W. D.]

The following are dimensions, &c., of this species recorded in the flesh:—

Males.—Length, 8·75 to 9·2; expanse, 12·25 to 12·5; tail from vent, 3·62 to 3·82; wing, 3·82 to 3·9; tarsus, 0·75; bill from gape, 0·85; weight, 1·5 oz.

Females.—Length, 8·2 to 8·5; expanse, 11·75; tail from vent, 3·62 to 3·75; wing, 3·75; tarsus, 0·62 to 0·75; bill from gape, 0·9 to 0·95; weight, 1·5 oz.

The legs and feet vary from dark grey brown or very dark plumbeous brown, to black; the bill black; irides in the male crimson, in the female varying from wood brown to litharge red.

I may premise that this species varies a great deal in tint, some are a great deal more olivaceous, and some a great deal more rufescent.

The entire lower parts are white, more or less suffused with grey upon the breast, and faintly streaked or tinged on the

sides, abdomen, vent, and lower tail-coverts with pale creamy, becoming, in some specimens, almost pale yellow; wing-lining and axillaries pale creamy, becoming yellower towards the edge of the wing; the lores, cheeks, and ear-coverts are usually a pale grey brown, as are the sides of the neck behind the ear-coverts, though these are generally, slightly more olivaceous; the whole feathers of the cap are dark hair brown, but all broadly margined in adults with a paler grey brown or olivaceous grey, giving a squamated appearance to these parts, which however is wanting in young birds, and only very distinct in fine specimens; the whole back, scapulars and rump are a dull ochraceous olive, but specially on the back and rump this color is confined to the tips of the feathers, and here the bases of the feathers being very dark, almost blackish brown, the least displacement of the feathers, even in the live bird, produces the appearance of dusky mottlings. In some birds besides this the olive tipping is itself brighter towards the margins, producing a faintly mottled appearance, even where the blackish bases of the feathers do *not* show through. The upper tail-coverts are similar to the back, but more decidedly rufescent or ferruginous; the tail feathers are a dull ferruginous brown or dingy brownish chestnut; usually the three exterior pairs on either side with a larger or smaller white spot, almost confined to the inner web, and preceded especially on the outermost feather by an ill-defined dark brown patch, gradually shading into the color of the rest of the feather; the wings have both webs of the tertiaries, and the outer webs of the rest of the feathers, overlaid with much the same color as the back, though perhaps slightly more rufescent on the margins of the quills.

451 *sept.*—Tricholestes criniger, *Hay.* (6).

Choungthanoung; Palaw-ton-ton; Bankasoon; Malewoon.

Confined to the southernmost portions of the province.

[This little Bulbul goes about in small parties of five or six, keeping to the brushwood, and following each other about from bush to bush, uttering all the while a soft twittering note. In its habits it approaches much nearer the Timaline birds than the Bulbuls, like them hunting systematically the foliage and branches of the brushwood and smaller trees. At Johore (the southernmost extremity of the Peninsula) where I also noticed and shot this bird, I found that its habits were the same as already described, but one specimen I there shot was quite alone, and was perched on a dead twig, where it kept expanding and closing its tail spasmodically, and bobbing about exactly like a Flycatcher. Their food consists almost exclusively of insects,

though they do occasionally eat a few small berries. They are very tame birds, and their plumage apparently never in good condition, so that it is impossible ever to make up a really good specimen of them.—W. D.]

The following are dimensions, &c., of a large series of *males*, and of one *female*, the only one obtained :—

Males.—Length, 6·5 to 6·75 ; expanse, 9·25 to 9·5 ; tail from vent, 2·75 to 3·0 ; wing, 3·0 to 3·05 ; tarsus, 0·6 to 0·62 ; bill from gape, 0·75 to 0·82 ; weight, 0·5 to 0·6 oz.

Female.—Length, 6·35 ; expanse, 9·12 ; tail from vent, 2·76 ; wing, 2·76 ; tarsus, 0·6 ; bill from gape, 0·7.

The legs and feet are pale bluish, or pinkish brown, or salmon fleshy ; claws pale plumbeous blue ; lower mandible and edge of upper mandible pale plumbeous ; ridge of culmen and tip of upper mandible black ; rest of upper mandible dark plumbeous, sometimes a horny brown ; irides vary from a pale umber or snuffy brown to dark brown.

This species has a number of fine black hair-like feathers, fully an inch and half in length, springing from the base of the neck ; they are very fine, and are not always observable at first, but can generally be picked out with a pin in the worst specimens, and to give this bird its due, its plumage is so excessively soft and fluffy that good specimens are rare.

The lores are very pale yellow above, becoming greyish white immediately in front of the anterior angle of the eye ; the feathers immediately round the eye are white or nearly so ; the ear-coverts are very pale dull yellow, a little pencilled, and the longest of them feebly tipped with dull greenish ; the feathers at the base of the lower mandible and under the ear-coverts are mingled greyish white and pale yellow, sometimes more decidedly mixed with grey ; the chin and middle of the throat are nearly white, the greyish bases of the feathers showing through faintly, with here and there little flecks of extremely pale yellow ; the breast is somewhat similar, but the yellow striation is here somewhat more marked, and there is a certain amount of pencilling and shading with grey, olive grey, or olive green ; the sides of the abdomen and flanks are olive green, a little mingled with grey and shaded with yellow ; the middle of the abdomen, vent and lower tail-coverts are a nearly uniform pale yellow, pale primrose, I should rather call it, on the lower tail-coverts ; the wing-lining and axillaries pale clear yellow ; the inner margins of the quills pale fulvous ; the entire cap a dull brown, more or less sparsely overlaid with olive green ; back, scapulars, and rump very dull somewhat yellowish olive green, becoming yellower at the tips of the longer rump feathers ; upper tail-coverts more rufescent, but still with a yellowish tinge ; tail rather pale rufescent brown, margined towards the bases of

the feathers with much the same color as the upper tail-coverts, and with the outermost three pairs of feathers on either side with a yellowish white spot at the tips almost confined to the inner webs; inner webs of quills dark hair brown; outer webs and the greater part of both webs of tertiaries yellowish olive, faintly rufescent perhaps on the tertiaries, paler and yellower at the extreme margins of the quills, but more the color of the upper back on the coverts.

452 *bis.*—Ixus flavescens, *Blyth.* (10).

(Tonghoo Hills, Karennee, at 2,500 to 4,000 feet, Rams.) Pine forests, Salween; Kollidoo; Pahpoon; Younzaleen Creek; Half way between Mooleyit and Paraduba.

Confined to the hilly portions of the northern and central sections of the province, not ascending above 4,500 feet elevation.

[This species avoids the denser portions of the forest, keeping to their outskirts, or to scrub jungle. They are almost always found singly or in pairs, occasionally in small parties, feeding principally on small berries. They are not noisy birds, though the note, a chirruping whistle, may very frequently be heard. I have also heard them make a feeble attempt at a song when perched on some dry exposed branch or spray. I have never seen them descend to the ground, or even into any very low brushwood.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 8·4 to 8·75; expanse, 10·75 to 11·4; tail from vent, 4·05 to 4·5; wing, 3·45 to 3·5; tarsus, 0·82 to 0·85; bill from gape, 0·8 to 0·85; weight, 1·05 to 1·25 oz.

Females.—Length, 8·25; expanse, 10·5; tail from vent, 3·6 to 4·12; wing, 3·37 to 3·4; tarsus, 0·8; bill from gape, 0·75; weight, 1·2 oz.

The legs, feet and claws vary from very dark reddish or purplish brown to black; the bill black; irides brown to deep red brown.

A dusky brown spot in front of the eye; the rest of the lores pale ochraceous or fulvous white; an obscure white line above and below the eye nearly meeting behind, but not in front; chin, throat, cheeks, ear-coverts, dull pale somewhat greyish brown, in some greyer and darker, and in some more fulvous: in some specimens the chin and throat is markedly more fulvous, in others greyer and more albescent; vent and lower tail-coverts bright yellow; breast, abdomen, and sides dull yellow, and dull olive green or olive brown, streakily intermingled; flanks more distinctly olivaceous and unstriated; the striæ are narrow and close in some specimens, broad in others, in some obscure, in others strongly marked; the edge of the wing is generally bright yellow; the wing-lining is pale, generally

faintly ochraceous, yellow; the whole cap is a moderately dark brown; all the feathers margined with pale grey brown, or olive green or sometimes both, the grey always predominating towards the forehead, and the olive, if present towards the occiput.

The back, scapulars, rump and upper tail-coverts are a dull rather pale brown, suffused and overlaid with dull yellowish olive green, much greener in some specimens, yellower in others, and the upper tail-coverts are sometimes fringed decidedly yellower; the tail is a dull color, much like the back, but with all the feathers margined on their outer webs, except near the tips, brighter and yellower, and the exterior feather on either side generally with a very distinct though narrow pale margin round the tip; the wings are hair brown; the tertiaries overlaid more or less entirely, and the coverts on their outer webs with much the same tint as the back, and the primaries above the emarginations and secondaries margined on *their* outer webs with a brighter and yellower tint, much the same as that on the margins of the basal portions of the tail feathers.

452 *ter.*—Ixus finlaysoni, *Strickl.* (57).

(*Tonghoo Hills, Karen Hills*, Rams.) Tastone; Winpong; Tepee; Mau; Pabyouk; Amherst; Yea; Tavoy; Shymotee; Pabyin; Mergui; Town; Bopyin; Pakehan; Bankasoon; Maiewoon.

Common in the plains country throughout the province. In the extreme north appears to affect the lower hills.

[Throughout the plains portion of Tenasserim to the extreme south this is the most generally diffused, and perhaps the commonest, Bulbul. It does not affect forests, but is found on the outskirts of it, in scrub jungle, in cleared land, and in gardens, giving perhaps the preference to the latter. They do not go in flocks, but there are generally so many about that it is difficult to say whether they are in pairs or single. Apparently each acts independently. The note is a rather pleasant, feeble whistling chirrup, continually uttered whether the bird is sitting or flying, which latter by the way it more commonly is, for it is a very lively bird, always on the move. It feeds much on berries, but also a good deal on insects, and I have continually seen it on the ground. It is most especially common in all the gardens of Moulmein; a dozen may be seen at times in each you enter.—W. D.]

The following are dimensions, &c., of this species recorded in the flesh :—

Males.—Length, 7·2 to 7·75; expanse, 10·0 to 10·25; tail from vent, 3·0 to 3·5; wing, 3·1 to 3·2; tarsus, 0·62 to 0·75; bill from gape, 0·76 to 0·8; weight, 0·87 to 1·25 oz.

Females.—Length, 7·0 to 7·62; expanse, 9·25 to 10·25; tail from vent, 2·82 to 3·5; wing, 2·82 to 3·25; tarsus, 0·7 to 0·8; bill from gape, 0·75 to 0·85; weight, 1·1 to 1·25; oz.

Legs and feet and claws dark to very dark plumbeous; bill black or horny black; iris brown to very dark grey brown.

Lores and a line round the eye, except immediately below it, black; forehead, chin, cheeks, ear-coverts, throat, grey brown, all the feathers conspicuously centred with bright yellow; crown and occiput grey brown; sides of the neck, breast and sides of abdomen pale grey brown; the feathers of the breast with greyish white shafts; middle of upper abdomen, fulvous white; vent, lower tail-coverts, tibial plumes, fairly clear yellow, but in some specimens with an extremely faint ochraceous tinge; flanks olive brown, with a faint rusty tinge; edge of the wing yellow; wing-lining paler yellow; inner margins of the quills somewhat paler yellow, or in some yellowish white; back and scapulars dull greyish yellowish olive; rump and upper tail-coverts more rufescent, or perhaps I should say ochraceous; tail olive yellow, brighter on the margins of the feathers, except quite at the tips; all the lateral tail feathers very narrowly margined at their tips with fulvous white.

Wing rather dark hair brown, suffused on portions of it, visible when closed, with the same color as the back; brighter and yellower, (much the same color as the margins of the tail feathers towards their bases) on the margins of the quills.

452 *quint.*—Ixus blanfordi, *Jerd.* DESCR. S. F. III. 125.

Said by Ramsay to be extremely common in the Karen Hills, but not as yet observed in Tenasserim proper, and not, I believe, occurring there.

452 *sext.*—**Otocompsa analis**, *Horsf.* (33). DESCR. S. F., I., 457

Mergui; Pakchan; Bankasoon; Malewoon.

Confined to the southernmost district of the province.

[This Bulbul is very abundant on the island of Mergui, in the secondary scrub, and in gardens, and wherever it occurs it keeps to such situations and entirely avoids the forest. Its favorite haunt is open land with just a few bushes scattered about here and there. I have repeatedly seen it on the ground hopping about. It feeds largely on insects, such as grass-hoppers, &c., but also on berries and fruit, and I have seen it clinging to mangoes and pecking away at the fruit. Its note is extremely like that of *Otocompsa emeria*, "Kick, kick pettigrew," repeated several times.

In life this bird has a particularly knowing look, and is one of the prettiest birds of the open lands. It is usually found singly or in pairs, though often half a dozen or more may be seen seated about the bushes near each other, looking as if they all belonged to one flock or party, but I do not think they act in concert or ever go in flocks; they are not shy.—W. D.]

I re-described this well-known species as *Otocompsa personata* some years ago from Acheen, not then knowing the bird and not thinking of closely scrutinizing the described species of the genus *Ixos*, to which, though usually so classed, it does not, in my opinion, in the least belong.

Alike structurally, in its habits, and in the localities it affects, it is an *Otocompsa*, and its note is barely to be distinguished from that of *O. fuscicaudata* and *emeria*, as any one (for it is a common cage bird) can easily satisfy themselves.

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 7·75 to 8·1; expanse, 11·0 to 11·45; tail from vent, 3·1 to 3·25; wing, 3·37 to 3·62; tarsus, 0·79 to 0·82; weight, 1·2 to 1·5oz.

Females.—Length, 7·45 to 7·82; expanse, 10·5 to 10·9; tail from vent, 3·0 to 3·45; wing, 3·25 to 3·27; bill from gape, 0·8 to 0·85; weight, 1·0 to 1·25oz.

Legs, feet, claws and bill, black; irides wood brown.

452 *sept.*—Ixus plumosus, *Blyth.* (14).

Pabyin; Mergui; Patoe Island; Bopyin; Malewoon.

Confined to the southernmost district of the province.

[Not a common bird within our limits, and keeping chiefly to the forests, though occasionally occurring in more open ground; usually seen in pairs or singly. It is not a very noisy bird; its note is not that of the *Otocompsas*, but a sort of chirping chattering more like that of the *Criniger*s. It does not descend to the ground, and feeds chiefly on berries.—W. D.]

Count Salvadori (Uccelli di Borneo, 199) wrongly unites this species with the next *brunneus*, Blyth, and remarks: "The female is distinguished from the male precisely by those characters by which Blyth distinguished *brunneus* from *plumosus*, and specially by wanting the greenish tint on the margins of the quills and tail feathers; besides this she is somewhat smaller, and has the bill light horn colored."

The Marquis of Tweeddale with less excuse (for I had already, S. F., III., 323 *n.*, explained the difference between the two species) reiterates the same error by uniting the two species. Nothing but ignorance of the birds in life can explain this groundless union of two perfectly distinct species. Setting aside

numerous other specimens, immature, or not sexed by dissection, or from which, as will happen, the tickets have been torn off, I have now before me seventeen males and eight females of *plumosus*, and twelve males and eight females of *brunneus*, all shot by Davison in the southern parts of Tenasserim, and various parts of the Malay Peninsula, all sexed by dissection, and all clearly adult birds. In neither species is there any difference in the plumage of the sexes of adults.

It is impossible ever to confound the adults of the two species. In *plumosus* the ear-coverts are always conspicuously striated with greyish or brownish white; in *brunneus* they are almost absolutely unicolorous. *Plumosus* has the wings and tail strongly margined with yellowish green; there is a mere trace of this in *brunneus*. *Plumosus* has the chin and centre of the throat nearly white, with a faint greyish brown tinge; in *brunneus* the throat is very pale fulvous brown. In *plumosus* the under tail-coverts have a light bright ochraceous yellow tinge; in *brunneus* a dull dingy ochraceous tinge. The whole mantle and the rump is strongly tinged with olive green in *plumosus*; it is hardly tinged at all with this in *brunneus;* the feathers of the head and crown in *plumosus* are edged with a paler and greyer shade, giving a distinctly squamose appearance to these parts. In *brunneus* the crown is uniform, and besides all this, *plumosus* averages a larger bird, with decidedly larger and more massive bill and feet.

The young birds, no doubt, are not so easy to discriminate, because the youngest specimens of *plumosus* are browner on the throat, have the lower tail-coverts duller colored. The striations of the ear-coverts are very feebly marked, and the upper surface is of the dull slightly buffy brown of the young *brunneus*; but the youngest specimen that we have obtained has still conspicuous yellowish green margins to the feathers of the wings and tail, which suffices to separate the species. This bird was shot at Johore on the 13th of August, and is clearly but recently out of the nest, yet the green margins to the feathers of the wings and tail are conspicuously brighter than in any specimen, old or young, of *brunneus*.

I may add that Davison, who has now lived for years with both species extremely common about him, shooting them continually at all seasons, and preserving numbers, considers that there can be no *possible* doubt as to the distinctness of the two species.

The following are the dimensions of *plumosus* recorded in the flesh :—

Length, 7·62 to 8; expanse, 10·82 to 11·35; tail, 3 to 3·35; wing, 3 to 3·5; tarsus, 0·6 to 0·8; bill from gape, 0·82 to 0·95; bill from forehead, 0·7 to 0·8; weight, 1 to 1·25 oz.

Legs and feet are reddish brown, darker in some, paler in others; bill almost black; irides varying from burnt sienna brown to dark cinnabar red.

The cap is grey brown; each feather margined rather paler, and here and there a little tinged with olive green.

The entire back, scapulars and rump hair brown; the feathers so broadly fringed with olive green that little else is visible; wings hair brown; the quills broadly margined on the outer webs with a yellower shade of the color of the back; the coverts margined and more or less overlaid with the same color; the tail feathers brown, more or less overlaid on the outer webs with the color of the back, and more or less strongly margined on the same with the yellowish olive green of the wings; lores dusky brown; cheeks and ear-coverts grey brown; the feathers with conspicuous paler shaft stripes; chin and throat albescent, shaded with pale grey brown; breast and abdomen grey brown, a little pencilled and streaked with pale yellow, the yellow having a faint ochraceous tinge; sides and flanks darker and browner; lower tail-coverts decidedly pale ochraceous; wing-lining and axillaries very pale, somewhat ochraceous yellow; edge of the wing often yellower or greener; internal margins of quills on lower surface white, tinged creamy or pale buffy.

To give a better idea of the average difference in size between this species and *brunneus*, and between the two sexes of each species, I give the exact dimensions of wings, and of bills from forehead to point, of a number of specimens of each sex :—

PLUMOSUS.				BRUNNEUS.			
Males.		*Females.*		*Males.*		*Females.*	
Wing.	Bill.	Wing.	Bill.	Wing.	Bill.	Wing.	Bill.
3·4	0·77	3·4	0·7	3·4	0·7	2·8	0·63
3·27	0·8	3·2	0·71	3·25	0·69	3·13	0·68
3·3	0·8	3·0	0·75	3·36	0·73	3·2	0·69
3·36	0·75	3·1	0·73	3·32	0·65	3·13	0·68
3·35	0·73	3·45	0·71	2·9	0·63	3·2	0·7
3·38	0·75	3·1	0·7	3·3	0·71	3·1	0·7
3·5	0·8	3·25	0·7	3·4	0·73	3·15	0·7
3·3	0·75	3·3	0·7	3·3	0·68	3·15	0·65
3·35	0·73			3·3	0·65		
3·23	0·72			3·3	0·7		
3·55	0·72			3·2	0·69		
3·1	0·72			3·28	0·69		
3·25	0·8						
3·35	0·72						
3·45	0·72						
3·5	0·7						
3·35							

Therefore, although dimensions alone will not necessarily suffice to separate specimens of the two species, or to separate the males from the females in either species, yet, as a body, specimens of *plumosus* average larger than *brunneus*, and the males, in both species, average larger than their respective females.

452 *oct.*—Ixus brunneus, *Blyth.* (14).

Pabyin; Shymootee; Mergui; Tenasserim Town; Hankachin; Bahonee; Pakchan; Bankasoon.

Sparingly distributed in well-wooded tracts, throughout the province south of Tavoy.

[Precisely resembles the preceding species in habits and note.—W. D.]

The following are the dimensions recorded in the flesh from numerous specimens:—

Length, 6·8 to 7·5; expanse, 9·5 to 10·5; tail, 2·78 to 3·27; wing, 2·8 to 3·4; tarsus, 0·65 to 0·75; bill from gape, 0·75 to 0·82; bill from forehead, 0·63 to 0·73; weight, 1 oz.

The legs and feet are fleshy or reddish brown; in some lighter, in some darker; the upper mandible dark horny brown; the lower mandible somewhat paler; the irides vary, orange red, pale red, whitey pink.

The entire upper surface a nearly uniform brown, with an olivaceous shade; the rump slightly brighter coloured; the wings and tail feathers hair brown, the latter margined, chiefly towards their bases, with very dull greenish olivaceous; the lores, cheeks, ear-coverts, sides of the neck and breast much the same colour as the upper parts, but rather paler and browner; the chin and throat brownish white; breast greyish brown; feathers a little streaked with yellowish fulvescent; abdomen paler and generally a good deal intermingled with creamy yellow; sides and flanks a darker somewhat olivaceous brown; lower tail-coverts pale grey brown, broadly fringed with very pale buffy yellow; wing-lining very pale dingy buffy yellow.

452 *nov.*—Ixos pusillus, *Salvad.* (6). ? *Microtarsus olivaceus*, Moore.

Pakchan; Bankasoon.

Entirely confined to the neighbourhood of the Pakchan, and even there very rare.

[Precisely similar to the two preceding, in habits and voice, indeed only to be distinguished from both these, until shot, by the bright orange red ophthalmic ring, which is extremely conspicuous.—W. D.]

Count Salvadori described this species (Uccelli di Borneo, 200, 1874,) in the following terms:—

Smaller, above fuscous olivaceous; head darker; beneath paler, throat scarcely whitish; the middle of the abdomen and under wing-coverts whitish, a little tinged with yellow; under tail-coverts somewhat greenish; irides red; bill and feet dusky.

"Total length, 6·92; wing, 2·95; tail, 2·51; bill, 0·45; tarsus 0·67."

The Marquis of Tweeddale suggests, *Ibis*, 1877, p. 307, that this is probably *Microtarsus olivaceus*, Moore. (Cat, Mus. E. I. C., 249, 1854) described in the following terms:—

"Length, 6·5 inches, of wing 3 inches, and tail 2·5 inches; bill to gape, 0·87 of an inch, and tarsi the same. Color of the upper parts olive brown, faintly shaded with dull green; wings and tail more uniform brown, slightly margined on the outer vanes with brightish green; lores and ear-coverts olive brown; beneath uniform dusky ash color, with a tinge of yellow on some of the feathers, purer on the throat, belly, and under tail-coverts; darker on the breast and flanks, with a light purplish shade; bill and feet horn color.

"This species has very much the aspect of *Iole olivacea*, Blyth. Indeed from the close resemblance between them, it might be confounded with that species, but the form of the bill in the two birds will at once distinguish them."

Whether Lord Tweeddale's surmise is correct or not can be decided by a comparison of the type specimen.

The birds that I identify with *pusillus* of Salvadori agree fairly well with his description, but very indifferently with Moore's description.

The following are the dimensions of specimens recorded in the flesh of the bird that I identify as *pusillus*:—

Males.—Length, 6·5 to 6·62; expanse, 9·5 to 9·75; tail from vent, 2·8 to 3; wing, 2·9 to 3·0; tarsus, 0·6 to 0·65; bill from gape, 0·75; at front, from frontal bone to tip, 0·55; from margin of feathers, 0·45.

The females are a trifle smaller.

Legs, feet and claws pale reddish horny; irides crimson; bill black; gape and base of lower mandible, shelf above nostrils and ophthalmic ring vivid orange yellow.

This vivid orange ophthalmic ring serves, in the fresh bird at any rate, to distinguish this species instantly from *plumosus*, *brunneus*, and other more or less similarly colored species.

The cap is a moderately dark hair brown, the feathers slightly washed at the tips with olive; the entire mantle is an olive brown; the upper tail-coverts rather brighter colored; the wings hair brown; all the feathers broadly margined on the outer webs with a brighter shade of the color of the back; the tail is dull, faintly ferruginous, brown; the feathers margined towards their bases with the color of the upper tail-coverts, but slightly tinged with ferruginous; the lores dusky brown; the cheeks and ear-coverts pure earth brown; a well-defined whitish or albescent grey patch occupies the chin and throat; the breast, sides of the abdomen and flanks a pale greyish olive brown, finely pencilled with a pale yellow, intermediate between cream color and pale primrose;

the centre of the abdomen, vent and lower tail-coverts, chiefly of this pale yellow, though a little streaked with the color of the breast; wing-lining and axillaries entirely of this pale yellow; margins of inner webs of quills on their lower surface a paler and less decided shade of this same color.

Even in the dry skin the nasal shelf is a pale yellow, and so are the eyelids.

Specimens of this species seem to vary very little in color. It is not at all improbable that the bird I have described is neither *pusillus* nor *olivaceus*; the rufescent shade of the tail would perhaps hardly have escaped both Moore and Salvadori. Indeed with Moore's description it agrees very badly, and but for the reference to *Iole olivacea* I should not hesitate to say that our bird could *not* be Moore's *olivaceus*. As it is, both upper and under surfaces of our bird *do* bear a certain resemblance to *Iole olivacea*, of which we have numerous specimens which have been compared with the type, but then in *Iole olivacea* the head has a more rufescent tinge than in our bird; the tail, however, agrees well in its dull ferruginous tinge.

If our bird is distinct it may stand as *I. erythropthalmos*.

I have separately described *Iole viridescens*, B[illegible], and it may be convenient here to give exact measurements [illegible] description of *Iole olivacea*, though this does not, so far [illegible] yet know, occur in Tenasserim, where, as also in Arr[illegible] it is represented by *I. viridescens*.

There are no two birds more puzzling to se[illegible] on paper than these two species of *Iole*. With specimens of both before him no one could confound the two; their geographical range also is different; but it is next to impossible so to describe them that any one with a single specimen before him, the origin of which is uncertain, shall be able to decide certainly when seeing the species for the first time to which it belongs.

Olivacea is a larger bird, has a longer and more powerful bill, is darker and browner above, has less ochraceous on the under tail-coverts, &c., but very large *viridescens* are scarcely less than small *olivacea*, and I have been unable to fix upon one single characterstic point of either species whereby either may be certainly diagnosed without reference to the other. No doubt the shades of plumage are different, yet how to describe these in words, so as to convey an accurate idea of the exact tint of each, is, I fear, beyond me.

The following are dimensions, &c., recorded in the flesh from numerous specimens of *olivacea* shot in the neighbourhood of Johore and Malacca:—

Iole olivacea, *Bly.*

Males.—Length, 7·62 to 7·82; expanse, 10·5 to 11·25; tail from vent, 3·05 to 3·5; wing, 3·25 to 3·62; tarsus, 0·7 to 7·6;

bill from gape, 0·95 to 1·05; bill from forehead to tip, 0·8 to 0·88; weight, 0·8 to 1 oz.

Our specimens were all killed in August and September, and the colors of the soft parts were very variable. It is possible that these vary in summer and winter, and that our birds were obtained just when the change was going on. Legs and feet pale plumbeous to pale pinkish brown; claws pale reddish brown; upper mandible very dark brown; lower mandible, in birds with pale plumbeous legs and feet, salmon fleshy shaded near tip with pale plumbeous; in birds with legs and feet pinkish brown, pale whitish brown; irides, pinky grey to slaty pink.

Bill, as in the other species, rather elongated, sharply carinated; culmen nearly straight, rather suddenly curved downwards near the tips; feathers of forehead and head pointed.

Cap dark olive brown, in many specimens with a very subdued, almost obsolete, dull ferruginous tinge, very faint, but still recognizable when placed alongside a pure olive brown; entire mantle dark olive brown, decidedly more olive and less brown than on the head; upper tail-coverts and tail brown, with a distinct, though dull, ferruginous tinge; the former everywhere, the latter chiefly towards their bases, margined with rusty olivaceous; the wings hair brown, not unfrequently with a tinge of the color of the tail-feathers; the primaries and their coverts margined, the rest of the feathers of the wing overlaid, with a slightly browner, perhaps I should say more rufescent, olive than the back; lores a pale olive or greenish grey; a stripe of the same color, scarcely visible in the dried skin, running for about 0·25 inch backwards from the top of the eye; cheeks and ear-coverts a shade greener and duskier; chin and throat greyish white, with a yellowish tinge; sides of breast and flanks a sort of greyish olive brown or grey; middle of breast similar but mingled with pale yellow; middle of abdomen and vent almost entirely this color; lower tail-coverts very pale yellow, but a different shade from that of the middle of the abdomen; the latter is intermediate between pale primrose and cream color; in the lower tail-coverts there is a faint ochraceous shade, and the feathers show more or less of pale grey brown centres. The wing-lining and axillaries are very pale yellow, or white, tinged with yellow, almost approaching to primrose; the margins of the quills on the under surface are greyish white.

452 *dec.*—Iole viridescens, *Blyth.* (40).

(*Tonghoo*, Lloyd; *Karen Hills*, Rams.) Kollidoo; Kyouk-nyat; Palpoon; Thatone; Thoungsheyen Sakan; Assoon; Meetan; Amherst; Yea; Mergui; Tenasserim Town; Pakchan; Baukasoon; Malewoon.

Common throughout the better-wooded portions of the entire province, but not ascending the higher hills.

[This is a forest bird, but occurring also in thin tree jungle, and even well-wooded gardens. It is met with singly or in pairs, foraging about the trees and living chiefly on berries, and never, I believe, descending to the ground. They are rather lively birds, moving about a great deal, and having a pleasant soft whistling note, something like that of *Ixos finlaysoni*, but distinguishable at once.—W. D.]

This species is very variable in size, the females, as usual, being somewhat smaller than the males.

The following are the dimensions recorded in the flesh from numerous specimens:—

Length, 6·8 to 7·25; expanse, 9·75 to 10·25; tail from vent, 2·82 to 3·25; wing, 3 to 3·25; tarsus, 0·62 to 0·68; bill from gape, 0·8 to 0·9; bill from forehead to point, 0·7 to 0·8; weight, 0·75 to 0·9 oz.

Legs and feet pale pinkish brown or reddish fleshy, but feet slightly darker than tarsi; upper mandible pale reddish horny to dark horny brown; lower mandible pale fleshy brown to pale bluish pink or dirty plumbeous blue; eyelids dark blackish grey; irides excessively variable, probably according to age, dark slaty, clear grey, salmon pink, pale golden brown.

Cap olive brown with, in most specimens, a very recognizable rufescent tinge; mantle olive brown, much paler and more yellowish-greenish, as a rule, than in *olivacea;* tail feathers dull brownish ferruginous, considerably paler, as a rule, than in *olivacea;* margins of tail feathers, especially towards their bases, and visible portions of upper tail-coverts, brighter and more rusty olivaceous than the back; lores, cheeks, ear-coverts, sides of the head, nearly uniform greyish olive green, or greenish olive grey; sides of the breast greener, and generally more the color of the upper back; flanks similar, but often with a sandy-brownish tinge; chin and throat greyish white, more or less, it varies greatly in different specimens, streaked, pencilled, or tinged with pale yellow; breast and abdomen similar, but the former more shaded with a faint greyish olive, and more yellow intermingled with the abdomen; lower tail-coverts a decided pale ochraceous yellow, the ochraceous tinge being, however, much more marked in some specimens than in others, but always being better marked than in *olivacea;* and whereas the lower tail-coverts in this latter, in all the numerous specimens that I have examined, exhibit more or less of pale brown centres, none of those of the present species that I have seen (and I have over 30 now before me) show more than the barest trace of this. The wings are hair brown; the primaries broadly margined, and all the visible portions of the rest of the feathers overlaid with olivaceous, much the same color as the back, but rather brighter towards the bases of the primaries; wing-lining and axillaries white, strongly tinged with primrose yellow.

I have I find prepared a second description of this bird. It is one of which it is *extremely* difficult to convey by words a really correct idea. Neither description probably is what it should be, but I will give both, and leave my readers to take their choice.

This species is very similar to, but somewhat smaller and everywhere yellower and paler in color than, *Iole olivacea*, described above.

The entire cap a pale rufescent brown, with an olivaceous tinge; all the feathers sharply pointed; the whole of the back of the neck, scapulars, and rump a dull pale greenish, or greenish yellowish, olive brown; the wings pale hair brown, both webs of the tertiaries and the outer webs of the rest of the quills with a very faint brownish rufescent shade, and all the feathers, quills, and coverts margined and more or less suffused with the same color as the back; upper tail-coverts decidedly more rufescent than the back; tail pale rufescent brown, the feathers margined on the outer webs, especially towards their bases, with the color of the upper tail-coverts; a streak from the nostrils to the upper part of the eye, and sometimes the whole lores dull pale greenish yellow; often the lower part of the lores are slightly duskier; the chin and cheeks are much the same color that p- lore stripe or sometimes the whole lores; the throat mantly paler, greyer, and sometimes more albescent; the ear-Mr. .rts and the sides of the neck much like the back, but usual-a little greener; sometimes the former a little tinged with the color of the head; breast pale greyish yellow, a little streaked with a purer yellow; sides of the abdomen similar but rather yellower and less grey; central line of the abdomen and vent nearly unmixed pale yellow, a shade between creamy and primrose yellow; lower tail-coverts pale, faintly ochraceous yellow; sides of the breast, body, and flanks pale greyish olive green; wing-lining and axillaries very pale pure yellow; inner margins of the inner webs of the quills white, faintly creamy. Some specimens have the rufous tint on the head more strongly marked and the back browner, others are everywhere greener.

456.—Rubigula flaviventris, *Tick.* (35).

(*Toughoo, Karennee*, Rams.) Kyouk-nyat; Dargwin; Pahpoon; Salween R.; Theinzeik; Thatone; Thoungya Sakan; Myawadee; Moulmein; Assoon; Amherst; Lemyne; Pabyin; Pakchan.

Common throughout the province but not ascending the higher hills.

[Occurring throughout the province except on the highest hills, and comparatively abundant everywhere; it frequents forests (where not very dense), scrub jungle and gardens.

This species, like *Brachypodius*, is more of a fruit, and less of an insect-eating bird than any of the other Bulbuls.

It is always found in pairs or singly; never, I think, in parties; and, though a good number may be met with simultaneously, frequenting the same berry-bearing tree or bush, these are not acting in concert, but each individual or pair independently. The note is very like that of the *Otocompsas*, and the general bearing of the birds is very like that of an *Otocompsa;* the bright yellow eye of this bird set in the black of the face is very conspicuous even from a long distance; the bird *always* caries its crest well erected, and has a very sprightly appearance. When at rest the head is rather drawn in Trogon-like, but the crest is never depressed. It is almost impossible to make a really good specimen of this bird, as there are hardly any feathers on the back of the neck. It is not an uncommon bird, even in the gardens about Moulmein itself.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 7·5 to 8·0; expanse, 10·25 to 10·75; tail from vent, 3·12 to 3·62; wing, 3·12 to 3·55; tarsus, 0·62 to 0·65; bill from gape, 0·76 to 0·8; weight, 1·0 to 1·3 oz.

Females.—Length, 7·2 to 8·0; expanse, 10·25 to 11·10; tail from vent, 3·12 to 3·5; wing, 3·12 to 3·37; tarsus, 0·55 to 0·62; bill from gape, 0·7.

Legs and feet dark plumbeous or greenish black; iride, tail yellow; bill black. 5 to

457 *bis*.—Brachypodius melanocephalus, *Gm.* (Sb., Descr. S. F., IV., 334.

(*Karennee*, Rams.) Kyouk-nyat; Dargwin; Pahpoon; Younzaleen Creek; Thatone; Moulmein; Meetan; Amherst; Pabyin; Mergui; Patoe Island; Choungthapee; Pakchan; Bankasoon; Malewoon.

Found abundantly throughout the province, except on the higher slopes of the highest hills.

[Wherever this bird occurs it is very common, large numbers being usually seen in one place, though rather scattered about it. In July it was excessively abundant in the gardens in and about Moulmein. Its notes, for it has two, are very distinct, and unlike those of other Bulbuls. The ordinary one is a lively, sharp, but pleasant single chirp. This they continually utter, as they hop from branch to branch, picking berries and as they fly from tree to tree, and even when seated at rest; the other note is a melancholy double whistle, not unlike that of a *Sibia*. This they utter only when quietly seated, especially in the morning and evening. They are, I should say, very quarrelsome birds, and I have repeatedly seen them attack one another and come tumbling to the ground, as one often sees a couple of pugnacious Sparrows do. I have never found *anything* but berries in those I have examined.

Of course they do not voluntarily descend to the ground, where they would be helpless with their little legs, but keep flying from tree to tree like others of the group. Strange to say I noticed great numbers of these sitting on the telegraph wires along the Prome road—a thing I have not observed in any other Bulbul.—W. D.]

457 *quat.*—Brachypodius cinereiventris, *Blyth.*

Lord Tweeddale records a specimen of this species from Tonghoo collected by Lieut. Wardlaw Ramsay, and remarks:

"I have great doubts whether this is a species distinct from *B. melanocephalus.* It seems to be rather a variety, the yellow of the nape and under surface being changed to grey. A Malaccan example in my collection is in a stage of transition from yellow to grey. Where not grey, these examples do not differ from *B. melanocephalus.* Mr. Blyth describes the tail feathers as being "less deeply tinged with yellow, &c.," but the rectrices in these two examples are identical with those of Malaccan and Burmese specimens of *B. melanocephalus.*"

Having large series and comparing sex for sex, it is certain this sp[illegible]either are the rectrices less broadly tipped, nor is the [illegible]ecurs[illegible]e darker and less yellow (another point insisted on by peculi[illegible]Blyth) in *cinereiventris.*

This latter has a broad collar on the back and the sides of the neck, the entire breast and upper abdomen clear ash grey, and the middle abdomen a rather paler grey, streaked yellow, and the rest as in *melanocephalus.*

Sometimes the grey extends a little lower, but in all the specimens I have examined the lowest portions of the abdomen and vent were yellow.

I have only met with this race in Tipperah, whence the late Mr. Valentine Irwin also sent me numerous specimens, informing me that it was common there.

I have I find 95 specimens of *melanocephalus* from Dacca, Tipperah, and all parts of Burmah and the Malayan Peninsula; not one of these exhibits the faintest trace of grey.

But it is a curious fact that you can manufacture *cinereiventris,* or the Sumatra *chalcocephalus,* or any intermediate form to any extent by the use of a little carbolic acid. Where the colour is pure yellow, as at the tips of the tail, the feathers come out *white,* as in these parts in *chalcocephalus,* but wherever the peculiar yellow olivaceous green prevails, there the feathers remain of the exact ash grey that we find in *cinereiventris* and *chalcocephalus.*

The curious yellow green of *melanocephalus* is in fact a combination of ash grey and pure yellow, and whether species or

local races, all that has happen[illegible] *cinereiventris* and *chalcocephalus* seems to be that, for [illegible] reason, the skin has in places (*cinereiventris*) or wholly (*chalcocephalus*) ceased to secrete the yellow pigment.

407 *quint.*—**Ixidia cyaniventris**, *Blyth.* (1).

Mal[illegible]

A very rare straggler to the extreme south of the province.

[Though such an extremely rare bird in Tenasserim it is not very uncommon in the Malayan Peninsula, where I have shot several, but my opportunities of observing them have not been great. I usually found them singly or in pairs, about the outskirts of the forest, along forest paths, and in old clearings. They live, so far as I have observed, entirely upon small berries of various sorts. They are rather shy, and on being alarmed beat a hasty retreat to the forest or other dense cover. Their note is like that of *Brachypodius*, a sharp lively chirrup.—W. D.]

We only obtained a single specimen of this species in Tenasserim, and this at the extreme south of the province.

The following are dimensions and colors of the soft parts recorded in the flesh from a series obtained in the Ma[illegible]rown Peninsula :—

Males.—Length, 6·25 to 6·5; expanse, 9·45 to 9·75; [illegible]*igropi*-t and from vent, 2·55 to 2·7; wing, 2·95 to 3·12; tarsus, 0·5. 0·65; bill from gape, 0·75; weight, 0·65 to 0·75 oz. [illegible]ls,

Females.—Length, 6·25 to 6·45; expanse, 9·25 to 9·5; tail from vent, 2·25 to 2·5; wing, 2·82 to 2·85; tarsus, 0·6; bill from gape, 0·65; weight, 0·75 oz. to a little over this.

Legs and feet very dark plumbeous; claws horny brown, sometimes almost black; bill black; irides dark brown, dark plumbeous slate, and grey brown.

The lores black; the forehead, crown, occiput, nape, entire face, and sides of the neck, chin, throat, breast, and abdomen deep slaty grey; wings, back, scapulars, rump and upper tail-coverts golden olive, yellowest and purest on the wings; inner webs of primaries and secondaries, as also the outer webs of the first two primaries, and of the next four below the emarginations, deep blackish brown; edge of wing bright yellow; axillaries, wing-lining, and inner margins of inner webs of quills, pure white; feathers about the vent nearly pure white; central line of lower abdomen a little albescent; lower tail-coverts intensely bright yellow; tail feathers deep hair brown, suffused on their outer webs, except just towards the tips, with the color of the back.

Some specimens have the grey almost uniform; in some it is decidedly darker on the cap and paler below.

In the females, as a rule, the grey is altogether somewhat paler, and the yellow slightly duller.

460.—Otocompsa emeria, *Lin.* (27).

(*Tonghoo, Karen Hills, Karennee,* Rams.) Pine Forests, Salween; Kollidoo; Thatone; Pahpoon; Theinzeik; Kaukaryit, Houngthraw R.; Meetan; Amherst; Yea; Tavoy; Mergui; Tenasserim Town; Bankasoon.

Common in open country throughout the province.

[A very common species, but avoiding dense cover, and frequenting by preference gardens and cultivated land. It is a very familiar bird, and may be seen in almost every garden perched upon some bush, keeping up a lively "kick pittigrew," and occasionally making an abortive attempt at a song. It feeds upon berries and insects, and I have constantly seen it upon the ground. It usually keeps in pairs, though I have often seen several together. It is rarer about Mergui and southwards perhaps than it is to the north, though I met with it in the Malay Peninsula as far south as Penang, but not at Malacca or anywhere further south.—W. D.]

461.—Molpastes pygæus, *Hodgs.*

To judge from the B. of B., p. 135, Ramsay got at Tonghoo Verycies, or rather, I presume, that same variety of it that ascend at Thayetmyo, and of which I have fully described the [Tarities, S. F., III., 127.
thro

462 *bis.*—Molpastes nigropileus, *Blyth.* (19). Descr. S. F., III., 126 *n.*

(*Tonghoo, Karen Hills,* Rams.) Pahpoon; Theinzeik; Thatone; Kanee; Kaukaryit, Houngthraw R.; Megaloon; Moulmein; Ngabeemah; Meetan; Amherst.

Common throughout the more open and better cultivated portions of the province north of Amherst.

[Not an uncommon bird, frequenting gardens, clearings, &c., but avoiding the forest as a rule. It is a rather shy bird, and is found less often in close proximity to houses. Thus in Moulmein, though common in large park-like grounds, like those surrounding the house of the Commissioner, and several others, it appeared to be quite wanting in the small gardens in the heart of the town where *emeria* was a common bird. In its habits and voice it resembles *O. emeria,* like it often descending to the ground.—W. D.]

The following are the dimensions recorded in the flesh of 2 males and 3 females:—

Males.—Length, 8·5 to 8·6; expanse, 12·0 to 12·25; tail from vent, 3·7; wing, 3·6 to 3·7; tarsus, 0·88 to 0·9; bill from gape, 0·8 to 0·89; weight, 1·62 oz.

Females.—Length, 7·6 to 8·0; expanse, 10·5 to 11·25; tail from vent, 3·4 to 3·55; tarsus, 0·8 to 0·85; bill from gape, 0·85 to 9·0; weight, 1·0 to 1·25 oz.

Bill, legs, feet and claws black; irides deep brown.

462 *ter.*—Molpastes atricapillus, *Vieill.* (20).

(*Karennee*, from 1,000 to 2,000 feet, Rams.) Pine forests, Salween; Kollidoo; Kyouk-nyat; Pahpoon; Younzaleen Creek; Myawadee; Paraduba; Meeta Myo; Tavoy; Shymotee.

Common throughout the more hilly and richly wooded portions of the province north of the 13° N. L.

[Undistinguishable, so far as voice and habits are concerned, from the last species.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 8·3 to 8·62; expanse, 11·75 to 11·82; tail from vent, 3·5 to 3·75; wing, 3·6 to 3·75; tarsus, 0·82 to 0·9; bill from gape, 0·82 to 0·9; weight, 1·25 oz.

Females.—Length, 7·8 to 8·12; expanse, 11·0 to 11·5; tail from vent, 3·45 to 3·7; wing, 3·5; tarsus, 0·8 to 0·85; bill from gape, 0·8 to 0·9; weight, 1·25 to 1·3 oz.

Legs, feet, claws and bill black; irides brown to dark brown.

Generally it may be said that this species is like *M. nigrileus*, Blyth, but with the entire throat, ear-coverts, breast, and the abdomen uniform very pale greyish whitey brown.

It constitutes the last of the Indian series of true Bulbuls applying this term in its properly restricted sense; through this series, *M. pygæus*, *M. intermedius*, *M. hæmorrhous*, *M. nigropileus* *M. atricapillus* a regular gradation may be traced.

The lores, feathers at the base of the lower mandible, and the chin, with the entire cap glossy black, a little duller on the chin; middle of the throat usually nearly pure white; ear-coverts silvery white, with occasionally a faint fawny tinge; rest of the sides of the neck, throat, breast, sides of abdomen extremely pale whitey brown; middle of abdomen and vent feathers nearly pure white; lower tail-coverts crimson; nape and entire mantle pale brown, the feathers margined pale whitey brown, giving a more or less striated appearance to these parts; rump uniform pale brown; upper tail-coverts white, brownish towards the tips of the longest; wings pale brown, the feathers more or less margined on their outer webs and tips paler; tail deep brown, almost blackish; the feathers more or less suffused with pale brown towards their bases; central tail feathers tipped paler, all the lateral ones tipped with white, the extent of which is very variable in different specimens, generally broadest on the outermost feather, and when broadest not exceeding 0·5 in width.

Wing-lining and axillaries white, or slightly brownish white.

I may add that very often the sides of the upper part of the throat just below the base of the lower mandible are blackish as well as the chin. A few specimens are intermediate between this species and *nigropileus*, and have the ear-coverts decidedly brown, and a certain amount of brown markings on the breast.

463.—*Phyllornis jerdoni*, Blyth.

In the *Ibis* for 1876, p. 351, Col. Tickell is said to have figured a male of this species, ex-Moulmein.

Col. Tickell's descriptions are said to agree best with *chlorocephalus*, while the plate agrees best with *jerdoni*. I myself have no doubt that there is some mistake; most certainly *P. jerdoni* does not occur in Tenasserim, which is altogether outside its range.

463 *bis*.—Phyllornis chlorocephalus, *Wald.* (69). Descr. S. F., III., 129.

(*Tonghoo, Karennee*, at 1,600 feet, Rams.) Kollidoo; Dargwin; Pahpoon; Wimpong; Thoungya Sakan; Myawadee; Topee; Paraduba; Meetan; Amherst; Yea; Zadee; Meeta Myo; Tavoy; Mergui; Tennasserim Town; Pakchan; Bankasoon; Malewoon.

[illegible] common everywhere throughout the province, but not [illegible]ing the higher slopes of the highest hills.

[illegible]is is the common green Bulbul of Tenasserim, occurring [illegible]ughout the province, except in the higher hills. It is usually [illegible]und in the forest, but also occurs in well-wooded gardens, and even on single isolated trees, if they happen to be in fruit or [illegible]wer. In the morning and evening numbers congregate on [illegible] such, in company with *Temenuchus*, *Otocompsa*, *Molpastes*, &c.; they feed largely on berries and the nectar of flowers (which is, I think, their favourite food) and also on small insects. Bombax trees in flower are very favourite feeding haunts. They have a lively whistling note, which they constantly utter while feeding; they are quarrelsome, and continually chase one another, and any other bird that comes near them when feeding. During the day they retire to the forest, and are then generally found singly or in pairs sitting about inside the trees in the shade and quite silent; their flight is undulating but rapid. I have noticed that they never peck away at large fruits like mangoes, but only eat those small berries that they can swallow whole.—W. D.]

This species does not anywhere in Tenasserim show any indication of grading into *icterocephalus*: on the contrary specimens from the neighbourhood of Pahpoon are, if any thing, closer to *icterocephalus* than those from Malewoon. We have about 70 specimens of this species, and about 30 of *icterocephalus*, collected from Malacca (we got none at Penang) to Johore, and after

carefully comparing these I certainly agree with Lord Tweeddale that this species is a good one. I don't think so much of the difference in the size of bill, though no doubt that of *icterocephalus* is usually considerably smaller, but a large series shows that this character is not quite constant, and that some Straits specimens with large bills are not distinguishable so far as the bills go from Tenasserim specimens with small bills; but in *chlorocephalus* the upper plumage is invariably of a lighter and brighter green; the most perfect adults have always more or less of the crown green, and they have the golden tinge of the nape very much feebler, and the yellow frontal band a somewhat paler and less pure green, and again they have the blue moustachial streak paler and brighter-colored. I am talking here of adult males; the females are many of them only to be separated by the darker hue of the upper surface of *icterocephalus*, and the larger bill of *chlorocephalus*, which latter character, as already mentioned, is not always sufficient.

463 *ter*.—Phyllornis javensis, *Horsf.* (15).

Thoungya Sakan; Thoungsheyen Sakan; Yea; Mergui; Bankasoon.

Sparingly distributed throughout the central and southern portions of the province.

[The habits and voice of this species are the same as those of the preceding, but perhaps they are more of a forest bird. They are only found in gardens where these are well wooded. To the north of Mergui the species is rare, only occasionally being met with, but to the south it is much more common.—W. D.]

Count Salvadori doubts whether Horsfield's name should be applied, as he gives no description, and quotes *cochinchinensis*, Gm., and *malabaricus*, Gm., as synonymous species which are of a somewhat different type of coloration: there is, however, no doubt what Horsfield's *javensis* really was, the type having been compared.

Salvadori adopts for this species the name *sonneratii*, of Jard. and Selby, rejecting the *Turdus viridis* of Horsfield, which is the young female of this species, apparently because this is not the *Turdus viridis* of Gm. The Marquis of Tweeddale rightly, according to the British Code, declines to reject, and adopts Horsfield's name of *viridis* for this species. Looking to the facts that both names were given by the same author, that the existence of the type removes all possibility of doubt as to the species intended, and that the name of *javensis* is generally known and well established, I see no necessity for superseding it by the name of *viridis*.

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 8·12 to 8·75; expanse, 12·0 to 13; tail from vent, 2·82 to 3·25; wing, 3·75 to 4·15; tarsus, 0·7 to 0·8; bill from gape, 1·05 to 1·12; weight, 1·5 to 2·0 oz.

Females.—Length, 7·85 to 8·25; expanse, 11·75 to 12·25; tail from vent, 2·75 to 3·0; wing, 3·75 to 3·96; tarsus, 0·75 to 0·8; bill from gape, 1·05 to 1·1; weight, 1·23 to 1·75 oz.

Legs, feet and claws pale to dark plumbeous; bill black; base of lower mandible sometimes brown; irides vary—brown, dark wood brown, lake, or crimson; eyelids blackish grey.

In the male the lores, from nostril to eye, eyelid feathers, cheeks involving just the basal portion of the ear-coverts, chin, throat and central portion of fore-neck velvet black; a short narrow violet blue mandibular stripe on either side over the covered portion of the rami of the lower mandible; at the posterior upper portion of the eye some small yellow feathers are generally intermingled with the black on the eyelid; the whole of the rest of the bird's plumage is bright green, somewhat yellower and paler, more of a sap green, below, and more of a grass green, (deepest on the wings and tail) above; inner webs of quills and sometimes part of the inner webs of the tail-feathers hair brown; all the tail feathers obscurely tipped paler, which tippings below have usually a greenish tinge.

The female is very similar, but wants the black of the male; the eyelid feathers, chin and throat, and generally a portion of the centre of the fore-neck pale yellow; the mandibular stripe ill marked and verditer blue.

The males in this species have along the anterior portion of the ulna a small verditer torquoise blue patch, very much less conspicuous than in most of the species of this genus, and in fact not observable in specimens until the feathers are carefully raised, but I cannot discover the same patch in any of the six beautiful females now before me, and I think it must be wanting in this sex.

463 *quat.*—Phyllornis cyanopogon, *Tem.* (4).

Bankasoon.

A straggler to the extreme south of the province.

[I have often shot this further south in the Malay Peninsula, where it is not uncommon; within our limits it is rare. The habits, voice and food of all these species are precisely similar.—W. D.]

The following are dimensions, &c., recorded in the flesh of males :—

Males.—Length, 6·75 to 7·0; expanse, 9·82 to 10·62; tail from vent, 2·5 to 2·62; wing, 3·2 to 3·4; tarsus, 0·7; bill from gape, 0·8 to 0·85; weight, 0·62 to 0·8oz.

Legs and feet dark plumbeous; bill black; irides dark brown.

The male of this species has the lores from the nostril to the eye, the cheeks, chin, throat, and a broad band down the middle

of the fore-neck, (proportionately much broader than in *javensis*) velvet black. The usual violet blue mandibular stripe. The black band on the fore-neck surrounded, more or less distinctly, by a yellowish halo, in some barely perceptible, in others very conspicuous. The whole of the rest of the plumage green; decidedly yellower on the breast in the neighbourhood of the throat patch, and paler and more of a sap green on the abdomen and lower tail-coverts, and again more of a grass green on the upper surface, deepest on the wings and tail. There is no torquoise blue patch on the shoulder of the wing in either sex. The inner webs of the quills are as usual deep hair brown. The forehead, in many specimens, has a dingy yellow tinge, altogether wanting in others; but both this and the halo above referred to seem to me more marked in Tenasserim specimens than in Malayan ones, of which we have collected a considerable series.

The female wants the black of the male, and the more or less distinct yellowish halo which surrounds this. The mandibular stripe is paler, and in some a more verditer blue, and there is usually less of the yellowish tinge than in the male.

465.—Phyllornis aurifrons, *Tem.* (33).

(*Tonghoo, Karennee*, Rama.) Kollidoo; Pahpoon; Khyketo; Thatone; Thoungya, Sakan; Kaukaryit, Houngthraw R.; Larthorgee; Moulmein; Pabyouk; Yea-boo; Karope; Amherst.

Common throughout the province as far south as Amherst.

The Tenasserim race of this species, which may be identical with the true *aurifrons*, Tem., from Sumatra, is decidedly smaller and less brilliant in its coloring, taking a large series of each bird, than the Himalayan *P. hodgsoni*, Gray *apud* Gould.

In the finest *males* of the Tenasserim birds, the wing does not appear to exceed 3·75; in Himalayan specimens it runs up to 4·1.

The longest bill that I have met with in any Tenasserim specimen measured straight from frontal bone to tip was 0·95, and in Himalayan birds 1·15.

Measured in the flesh fine males of the Himalayan bird are 8 to 8·2 long; the finest Tenasserim specimen that we measured was only 7·5 in length; moreover in the Tenasserim birds the golden orange of the forehead is always less in extent, and the golden yellow tinge that follows it never extends on to the whole crown and part of the occiput, as it does in the finest Himalayan specimens. Again, the yellow zone encircling the base of the black throat patch is less bright and less broad than in the Himalayan bird.

Notwithstanding these differences conspicuous enough in the finest adult males of the two races, many of the less fully-plumaged birds are scarcely separable; and, unless *aurifrons* from

Sumatra differs more conspicuously, I should not think that the Himalayan bird could be maintained as distinct.

Birds from Hill Tipperah appear to be intermediate between Tenasserim and Himalayan specimens.

In this species the legs and feet are greenish plumbeous; the bill black; the irides deep brown or hazel brown.

It is perhaps in favor of the Sumatran bird being distinct that our bird does not go further south than Amherst, and that south of this in Tenasserim and far down the Malay Peninsula, no bird of this kind occurs. I *believe* that a somewhat similar bird *does* occur in the extreme south of the Peninsula, but we have hitherto failed to procure specimens.

466.—Phyllornis hardwickii, *Jard.* and *Selb.* (5).

(*Tonghoo Hills, Karen Hills*, from 3,500 to 4,000 feet, Rams.) Mooleyit; Paraduba; Meetan.

Apparently confined in Tenasserim proper to Mooleyit and its spurs, but re-appearing further north in the continuation of this outer range.

468.—Iora typhia, *Lin.* (41).

(*Tonghoo, Karennee*, Rams.) Kollidoo; Phapoon; Thatone; Moulmein; Kohbaing; Yea-boo; Meetan; Amherst; Yea; Taroy; Pabyin; Mergui; Tenasserim Town; Bopyin.

Common throughout the province, but not ascending the hills.

[This is a bird that never enters forests; gardens and low scrub are its home.—W. D.]

I have already fully dealt with this species, S. F., V., 428.

468 *ter.*—*Ægithina scapularis*, Horsf.

This has been repeatedly recorded from Tenasserim, but is not a real addition to the number on our list. By some the name has, following Blyth, been applied to *viridissima*; by others slightly green specimens of *typhia* have been thus designated. I have dealt fully with the whole group, S. F., V., 428, and need say nothing further about it here.

468 *quat.*—Iora viridissima, *Tem.* Descr. (1.) S. F., V., 427.

Mergui.

A very rare straggler to the more southern portions of the province.

[I only, on one occasion, obtained this bird within our limits, and that was at Mergui on the 20th of June. It was hopping quickly about the thick foliage of a small tree keeping up a sharp

twittering note very similar to that of *Anthreptes malaccensis*, for which species I took it, judging from the note, as I could not see the bird distinctly owing to the intervening foliage. I have often seen the bird in the Malayan Peninsula, and there I found it, chiefly about low brushwood, and comporting itself in much the same way as *Iora typhia*; its note too was much the same; the food consists of insects.—W. D.]

468 *quint.*—Iora lafresnayi, *Hartl.* (30). DESCR. S. F., V., 423.

Mergui; Bankasoon.

Not very uncommon in the southernmost district of the province. See further my remarks on this species, *loc. cit. sup.*

[I found this species in Mergui frequenting gardens. It was usually seen singly or in pairs, working about the tops of the trees, and especially of the jack trees, (*Artocarpus integrifolia*), and occasionally uttering its fine whistling call, which is like that of *typhia*, but richer and more powerful. At Bankasoon, it occurred only in the forests or their outskirts. Its food, so far as my observations go, consists entirely of insects.—W. D.]

469.—Irena puella, *Lath.* (90).

(*Tonghoo, Karennee Hills*, Rams.) 20 miles north of Pahpoon; Thoungya Sakan; Myawadee; Moulmein; Meetan; Karopo; Amherst; Lemyne; Yea; Mergui; Patoe Is.; Tenasserim Town; Bahonee; Pakchan; Bankasoon.

Common throughout the evergreen forests of the province.

[This is a bird entirely of the evergreen forests, and is never, so far as I have observed, found in deciduous jungles. For instance, up the Salween as far as Kaukaryit, to which the evergreen forests extend, the bird occurs, though not in large numbers; after that, where light deciduous forests commence, it is never met with, and about Pahpoon, where the forests are deciduous, I never saw one, but again about 20 miles north of that place the bird re-appears with the evergreen forests.

It is comparatively rare to the north, but excessively abundant in the south of the province; at Bankasoon it simply swarms. It is almost always found in flocks, but occasionally in pairs or even singly. It is a very bright and lively bird, always on the move, hopping from branch to branch, or flying from tree to tree, uttering its fine note, which resembles exactly the words "be quick, be quick." They live on fruit I believe exclusively, and are especially fond of figs, and where a fig tree is in fruit, great numbers congregate there in company with Hornbills, Green Pigeons, Fruit Pigeons, and numbers of other fruit-eating birds. In the middle of the day they habitually come down to the banks of streams and the smaller rivers to drink and bathe.—W. D.]

471.—Oriolus indicus, *Jerd.* (61).

Thatone; Moulmein; Meetan; Amherst; Yea; Tavoy; Mergui; Tenasserim Town; Bopyin; Pakchan; Bankasoon; Malewoon.

Common throughout the central and southern portions of the province, but apparently migrates when the rains set in early in May.

[This Oriole is not uncommon where it does occur, frequenting gardens, secondary, and thin tree jungle, but apparently avoiding the denser portions of the forest. It is less numerous perhaps in the south about Bankasoon and Malewoon than further north. From Mergui southwards it is most abundant during the cold weather, but becomes rare in February and March, and by the end of April all had disappeared from Mergui. They eat fruit exclusively I believe, and are always to be found about fruit-bearing trees. Their clear 5-note whistled call common to all the seven species I know, is known to every one.—W. D.]

Mr. Sharpe has proposed for this bird, Cat. III., 197, the name *diffusus*, on the ground that *chinensis*, the other name commonly applied to this species, is undoubtedly referable to the Oriole of the Phillipines (*acrorhynchus*, Vigors.) and that Brisson's name *indicus* is totally inadmissible, as his description refers to a golden Oriole with blue in its coloration. But this argument is in my opinion defective. Jerdon says in his illustrations of Indian Ornithology that he had originally called the bird *sinensis*, but had come to the conclusion that the name *acrorhynchus* referred to the true *chinensis*, and he adds, "I have therefore given our Peninsular species the appellation of *indicus*, partly because I consider that the *O. indicus* of Brisson and others may possibly refer to this, though faultily described."

This name, therefore, is one of Jerdon's own.

Brisson's specific names, according to the Code, go for nothing. No one else's name of *indicus*, given subsequent to 1766, and prior to Jerdon's, stands for any known Oriole, and therefore clearly according to the British Association Code, Jerdon's name *indicus* must be retained for the species.

471 *ter.*—Oriolus tenuirostris, *Blyth.* (3). Descr. S. F., III., 132.

(*Tonghoo*, Lloyd; *Karennee*, Rams.) Kollidoo; Mooleyit; Malewoon.

So extremely rare that we cannot guess at its distribution. All the three specimens above referred to, (and these are all that Davison has seen during more than four years,) were shot in dense forest in dark ravines. Davison knows nothing of its habits.

The following are the dimensions of 2 adult males recorded in the flesh :—

Length, 9·82 to 10·25 ; expanse, 17·25 ; tail from vent, 3·62 to 3·8 ; wing, 5·62 to 6·0 ; tarsus, 0·95 to 1·0 ; bill from gape, 1·55 to 1·6 ; weight, 3·25 oz.

Legs and feet plumbeous ; bill fleshy pink ; irides crimson.

472.—Oriolus melanocephalus, *Lin.* (79).

(*Tonghoo, Karennee*, Rams.) Dargwin ; Paphoon ; Theinzeik ; Thatone ; Wimpong ; Kaukaryit, Houngthraw R. ; Larthorgee ; Moulmein ; Yeaboo ; Amherst ; Lemyne ; Yea ; Meeta Myo ; Tavoy ; Shymotee ; Mergui.

Extends throughout the province as far south as Mergui, but is rare south of Tavoy.

[About Mergui the Black-headed Oriole was rather rare, being only occasionally seen about gardens ; south of Mergui I have never seen it ; about Tavoy and northward it was common about gardens, secondary scrub, and thin tree jungle. In all its habits and voice it resembles the other species.—W. D.]

473 *bis*.—Oriolus xanthonotus, *Horsf.* (7).

Hankachin ; Pakchan ; Bankasoon.

Confined to the southernmost extremity of the province.

[This is a very rare species in Tenasserim, merely straggling into the extreme south at Bankasoon and other localities on the banks of the Pakchan, in the forests near which we obtained seven specimens. It is quite a common bird in the Malay Peninsula, occurring quite to the south at Johore. It is a forest bird, being found, so far as I have observed, only in the forest or on its outskirts. Its note is very similar to that of *O. indicus*. I always observed them in pairs or singly. They are not at all shy birds. I found that like the rest of its congeners it fed exclusively on fruit.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 7·7 to 8·0 ; expanse, 13·0 to 14·0 ; tail from vent, 2·62 to 2·8 ; wing, 4·25 to 4·5 ; tarsus, 0·75 to 0·85 ; bill from gape, 1·05 to 1·15 ; weight, 1·5 oz.

Females.—Length, 7·25 to 7·82 ; expanse, 12·5 to 13·0 ; tail from vent, 2·75 to 2·85 ; wing, 4·12 to 4·26 ; tarsus, 0·7 to 0·8 ; bill from gape, 1·0 to 1·05 ; weight, 1·0 to 1·25 oz.

The legs and feet are plumbeous blue or very dark plumbeous ; the bill very dark fleshy, or pale fleshy brown ; the irides crimson.

The adult males have the entire head, neck all round and upper breast, black ; rest of the breast, abdomen, sides and flanks white, each feather with a broad black central streak ; the sides of the breast and the posterior feathers of the

flanks a little shaded with bright yellow; lower tail-coverts bright yellow, some of the shortest of them with dark shaft stripes; edge of the wing yellow; axillaries greyish white; wing-lining underneath the edge of the wing, black, margined with yellow; some of the lowest of the black feathers on the upper breast generally fringed whitish at their edges; entire back, rump, and upper tail-coverts pale bright, rather lemon yellow; wings black; secondaries and tertiaries narrowly margined and tipped yellow; the 3rd to the 7th or 8th primaries margined with white or yellowish white, and their greater coverts are tipped or margined with this color; all but the first two or three primaries are narrowly margined at the tips with very pale yellow; tail black, all but the central tail feathers with a greater or smaller extent of the terminal portions of the inner webs bright yellow, the extent being greatest on the exterior tail feathers.

The females differ widely from the males; the breast, abdomen and lower tail-coverts are similar in both sexes, but the female has the upper portion of the breast like the lower protion; the entire chin, throat, and cheeks below eye and ear-coverts, white, feebly striated with grey; the lores grey brown; the ear-coverts and entire cap and nape an olivaceous yellow, somewhat paler and duller on the ear-coverts and obscurely striated with dusky on the cap; the eyelid feathers bright yellow; back and sides of the neck at its base and upper tail-coverts, a rather brighter and purer yellow; the back, scapulars, and rump dull olivaceous yellow, less olivaceous than the cap; wings hair brown; primaries and their coverts mostly margined with greyish white; the rest of the feathers with the outer webs, and tertiaries with both webs, suffused with a dull olive yellow shade; the secondary greater and median coverts, and generally the secondaries and tertiaries themselves, very narrowly margined at the tips with brighter and purer yellow; tail deep brown almost blackish; the central feathers entirely, and the lateral feathers on the outer webs towards their bases, overlaid with the same color as the tertiaries, and all the lateral tail feathers with similar spots on the inner webs to those of the male, and with the rest of the inner webs generally margined with pale yellow.

Young males are like the females, but are darker and greener above, and have the cap and throat more distinctly striated with dusky. Older males, which have otherwise assumed the adult plumage, still have the yellow of the upper parts much infuscated, and have the feathers of the throat, front of the breast and upper breast more or less margined with greyish white, producing a somewhat striated appearance.

474.—Oriolus trailli, *Vig.* (1).

(*Karen Hills, Karennee*, Rams.) Kyouk-nyat.

Apparently a rare straggler to the northernmost portions of the province.

475.—Copsychus saularis, *Lin.* (26.)

(*Tonghoo, Karennee*, Rams.) Pahpoon; Theinzeik; Thatone; Wimpong; Moulmein; Pabyouk; Ngabeemah; Amherst; Tavoy; Thayetchoung; Bopyin; Bankasoon.

Common throughout the province in open country.

[The Dhyal is a very common bird throughout Tenasserim except in the hills, which it does not appear to ascend. It is most numerous about towns and villages, frequenting gardens, clearings, and even houses. It is perhaps the most familiar and confiding, as well as one of the prettiest birds we have, and I have seen a male perch himself on the edge of the parapet of a verandah and sing quite lustily within three or four yards of where I was standing. They usually go in pairs and spend most of their day on the ground, hopping about under the trees, turning over the leaves, and hunting for insects, on which they appear to live exclusively. The male has a very fine song, and during the breeding season is not at all chary of exhibiting his vocal powers.—W. D.]

A great number of the specimens, in fact the great majority of the specimens entered as *saularis*, are not true *saularis*. *Saularis* of India, and *musicus* of the Malayan Peninsula and Sumatra, are said to differ first in the Indian form, having four pairs of white tail feathers, the Malayan only three; second, in the very much darker color of the breast and upper surface of the females of the Malayan form; third, in the black centering of the under wing-coverts of the Malayan form.

The first I hold to be quite worthless as a diagnosis; out of an enormous series of Indian specimens fully half have more or less black, and a great number have very little white on the 4th feather. On the other hand, amongst a very large series collected between Malacca and Johore, a great number have some white on the 4th feather, and two or three have the 4th feather entirely white.

The other two characters appear to me to hold good. Now in Tenasserim *Copsychus saularis* from about north of Moulmein is nearly typical, but even at Moulmein and Amherst most of the females are a good deal darker than Indian ones, and in many specimens of both sexes striations begin to appear on the under wing-coverts, and as you proceed southwards these become universal and develop in breadth, and

the females grow darker, so that at the extreme south you get birds which are, on the whole, much nearer *musicus* than *saularis*.

475 *bis*.—Copsychus musicus, *Raffl.* (5).

Tenasserim Town ; Pakchan.

Confined to the southernmost portions of the province.

As already explained these specimens are much nearer to *musicus* than *saularis*, but still they are to a certain extent intermediate. Neither the breasts nor the upper surfaces of the females are *quite* as dark as in Malaccan ones, nor are the black centerings of the under wing-coverts *as* broad or *as* strongly marked as in the great majority of the Malayan ones.

476.—Cercotrichas macrura, *Gm.* (59).

(*Tonghoo. Karennee* at 1,500 feet, Rams.) Kyouk-nyat ; Dargwin ; Pahpoon ; Thatone ; Wimpong ; Thoungya Sakan ; Topee ; Moulmein ; Pabyouk ; Assoon ; Meetan ; Karope ; Amherst ; Lemyne ; Yea ; Tavoy : Mergui ; Tenasserim Town ; Pakchan ; Palaw-ton-ton ; Bankasoon.

Common throughout the wooded portions of the province, but not ascending the higher hills.

[The Burmese Nightingale, as this bird is always there called, is the finest songster in Tenasserim, and in the breeding season, where these occur, may be heard morning and evening, but especially in the evening at and after dusk, pouring forth their melodies on every side. The bird is usually found in pairs, and particularly affects bamboo jungle, though it is found in clearings, thin tree and scrub jungle, and also not uncommonly in dense forest. It is far from uncommon in the bamboo and scrub jungle, behind the town of Moulmein, and about the town of Pahpoon. Late of an evening, when it is almost too dark to see, these birds have a habit, at any rate the male has, of flying across an open space, such as a road for instance, and making a peculiar clicking noise, with his wings I suppose it is. The nearest approach to the sound I know can be produced by jerking a bit of narrow tape, a foot or so long, quickly, holding it at both ends. They feed exclusively on insects, and may continually be seen hopping about on the ground, hunting for these amongst the dry bamboo leaves.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 11·0 to 11·75 ; expanse, 11·5 to 12·0 ; tail from vent, 6·5 to 7·12 ; wing, 3·65 to 3·9 ; tarsus, 1·0 to 1·12 ; bill from gape, 0·9 to 0·95 ; weight, 0·9 to 1·12 oz.

Females.—Length, 8·12 to 8·5 ; expanse, 10·5 to 10·82 ; tail from vent, 4·0 to 4·35 ; wing, 3·25 to 3·4 ; tarsus, 1·0 ; bill from gape, 0·85 ; weight, 1 oz.

Legs and feet fleshy white ; claws pale horny ; bill black ; irides dark brown.

477.—Myiomela leucura, *Hodgs.* (4).

(*Karennee*, Rams) 2,000 feet above Paraduba; Mooleyit.

Confined apparently to the higher slopes of Mooleyit and the extreme northern portions of the province, where the same range occurs within our limits.

[I only observed this bird in the dense forests about Mooleyit from 3,500 feet and upwards, and even there it was decidedly rare. I generally met with it singly and on the ground, and when disturbed it would fly up and perch on some dead log or dry branch, where it would sit, expanding and closing its tail rapidly. After a short time, if not further disturbed, it would fly down on to the ground again, hopping about and turning over the dead leaves, in quest of insects, which alone apparently constitute its food. It was not at all shy, and was very silent. I never, so far as I know, heard it utter any note.—W. D.]

The following are the dimensions and colors of soft parts of 3 males :—

Length, 7·0 to 7·5; expanse, 11·6 to 11·75; tail from vent, 2·9 to 3·1; wing, 3·7 to 3·8; tarsus, 1·1; bill from gape, 0·85 to 0·9; weight, 0·85 to 1·12 oz.

Bill, legs, feet and claws black; irides deep brown.

481.—Pratincola caprata, *Lin.* (9).

(*Tonghòo, Karennee*, at 3,500 feet, Rams.) Pahpoon; Beeling; Pabyouk; Ngabeemah; Yea-boo.

Confined to the open country of the northern and central portions of the province, and rare even there.

483.—Pratincola indica, *Blyth.* (19.)

(*Tonghoo*, Rams.) Pine forests, Salween; Pahpoon; Kedai Keglay; Theinzeik; Thatone; Pabyouk; Moulmein; Amherst; Mergui; Tenasserim Town; Pakchan; Banksoon; Malewoon.

Sparingly distributed in open country, especially in grass lands and standing rice throughout the province.

Lord Tweeddale remarks, B. of B., p. 102: "It has been shown most conclusively by Mr. Dresser, B. of Europe, Dec. 1873, that the Asiatic Stonechat cannot be specifically separated from the European. Mr. Blyth's title must, therefore, give way to that of *P. rubicola*, Lin."

So far from this being the case, Mr. Dresser's article only proves that, at the time he wrote it, he did not know where to look for the difference between the two birds *rubicola* and *indica*.

The two are really invariably distinguishable at a glance; the upper tail-coverts and lower part of the rump in *indica* are

never *striated*. I have tested this fact in about two hundred specimens. *M. rubicola*, on the other hand, the feathers of these parts are, it seems to me, equally invariably more or less dark centered, generally very conspicuously so, always as far as I can judge recognizably so, and Blyth's name must of course stand.

All the Tenasserim specimens belong to the smaller race. I do not find amongst them a single one of the larger birds called *robusta* by Tristram, so common in Assam and North-Eastern Bengal. I have already fully discussed this supposed species, S. F., V., 242, *et seq.*, and need therefore say no more about it here.

484.—Pratincola leucura, *Blyth.*

Davison found this species common in jheels in the neighbourhood of Pahpoon, but somehow omitted to preserve specimens. Major Lloyd procured it at Tonghoo. A rare visitant to the northern portions of the province.

486.—Pratincola ferrea, *Hodgs.* (6).

(Tonghoo, Tonghoo Hills, Karennee, from 2,500 to 4,000 feet, Rams.) Pahchoung; Pine forests, Salween; Kyouk-nyat.

Confined to quite the northern portions of the province and not common there.

In fact all *Pratincolas* are comparatively rare in Tenasserim.

507 *bis.*—Larvivora cyane, *Pall.* (31).

Kollidoo; Dargwin; Pahpoon; Endingnone; Yea; Hankachin; Pakchan; Bankasoon; Malewoon.

Sparingly distributed throughout the better-wooded portions of the province, but not ascending the hills.

[This bird occurs in the better-wooded portions of the province, but does not ascend the higher hills. Usually it is found singly, occasionally in pairs, keeping entirely to the ground, where it hops about hunting among the dead leaves for insects, on which alone it lives. It is by no means a shy bird, and when disturbed it hops away after the manner of a *Pitta*, stopping every few yards, with a low chuck, chuck, chuck, repeated very quickly, jerking its tail up and down at the same time. Occasionally, when disturbed, it will fly up on to a low branch, but it drops almost immediately to the ground and hops away. The only note I ever heard it utter was the chuck, chuck, chuck, above alluded to.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 5·4 to 5·75; expanse, 8·5 to 9·25; tail from vent, 1·82 to 2·1; wing, 2·8 to 3·0; tarsus, 1·0 to 1·1; bill from gape, 0·6 to 0·85; weight, 0·4 to 0·6oz.

Females.—Length, 5·5 to 5·75; expanse, 8·75 to 8·82; tail from vent, 1·5 to 2·0; wing, 2·75 to 2·82; tarsus, 1·0 to 1·05; bill from gape, 0·7 to 0·72; weight, 0·5 oz.

Legs, feet and claws fleshy white; upper mandible, in the male dark, in the female pale, horny brown; lower mandible fleshy white, or pale brown; gape fleshy white: one male had the upper mandible horny black; irides deep brown.

The adult male has the chin, throat, breast, abdomen, vent, and lower tail-coverts, pure white; the lores, feathers at the base of the lower mandible, and a line down the sides of the throat bounding the white, black; forehead, crown, occiput, greater portion of the ear-coverts (though the black stripe spreads to a certain extent sometimes over part of these), back and sides of the neck, back, scapulars, wing-coverts, rump and upper tail-coverts, uniform dull pale cyaneous; a trace of a pale blue stripe from the nostrils over the eyes, and passing over the ear-coverts; quills and tail feathers hair brown, more or less overlaid with this same dull cyaneous. In certain lights the bird looks more of a dull indigo blue; in others more of a dull leaden blue. Sides of the breast, body, axillaries, wing-lining and flanks dusky cyaneous.

The female also has the lower parts white, but the sides of the throat and the entire breast are faintly tinged with fulvous, and the feathers are narrowly margined at their tips with pale brownish olive, producing, more especially on the breast, a squamated appearance; the whole of the top and back of the head, sides and back of the neck, back, scapulars, wing-coverts, rump and upper tail-coverts a nearly uniform greenish olive brown; the tips of the longest upper tail-coverts only, sometimes margined with a slightly ferruginous shade; quills hair brown; both webs of the tertiaries, and more or less of the outer webs of the secondaries and of the primary greater coverts, a more rufescent olive brown, generally paler again, and even inclining to greyish on the margins of the outer webs of the tertiaries; tail olive brown, purer and more of a hair brown on the inner webs, and sometimes with a greyish shade along the margins of the lateral tail feathers towards their bases.

The young male is very similar to the female, but has the upper tail-coverts dull slaty blue, and I may here note that the "BRACHYPTERYX *vel* CALLENE, sp. ?" of the late Captain Beavan procured by him at Zwagaben, and described, *Ibis*, 1870, p. 321, is unmistakably a young male of this present species. His

description, which I quote below, is accurate, and well describes one stage of this bird's plumage. He says :—

"The following are the dimensions of my specimen :—

"Length, 5·5 ; wing, 2·95 ; tail, 1·75 ; tarsus, 1 ; bill from front, 4·95 ; spread foot, 1·25 ; extent, 8·5 inches. The general colour above is olive-brown, with a slight tinge of rufous on the upper wing-coverts ; the fourth quill of the wing is the longest, with the third nearly equal to it ; the tail is slaty blue and nearly square, the inner webs with more of a brownish tinge ; the upper tail-coverts are slaty blue ; the throat and breast white, with pencillings of brown, which increase towards the flanks and under the wings ; the abdomen and under tail-coverts pure white ; the bill brown ; legs fleshy ; a brownish-white eye-lid."

512.—Calliope kamschatkensis, *Gm.* (3).

(*Karennee*, Rams.) Pahpoon ; Wimpong.

A cold weather straggler to the more open tracts of the northern portions of the province.

[I have met with this bird but seldom, and then always in thick grass; the three specimens I obtained in Tenasserim I flushed from thick grass clumps. The birds appear to lie very close, and will not rise till one almost treads upon them. The only one that I examined had eaten a few insects.—W. D.]

I may note that elsewhere this bird by no means keeps to thick grass, though I have seen it in this. It is particularly abundant towards the end of the cold season in the neighbourhood of Calcutta, especially near the salt lakes, and there you see it hopping about on the open canal banks and on the heaps of *Unio* shells and stones, like a *Saxicola*, quite fearlessly, and without any care apparently for cover of any kind.

514.—Cyanecula suecica, *Lin.* (2).

Khyketo ; Tavoy.

A rare cold weather visitant to the more open tracts of the northern and central portions of the province.

[I observed this bird on several occasions about clumps of grass, and in along the edges of cultivated fields. It runs a good deal, and when flushed flies a short distance only, when it drops to the ground, and runs along very quickly. It is not a shy bird, and may be accounted rare in Tenasserim. I never remember to have heard it utter any note.—W. D.]

515 *bis.*—Acrocephalus orientalis, *Tem.* and *Schl.* (5). Descr. S. F., III., 337.

Tavoy; Malewoon.

An occasional visitant to the low country in the central and southern portions of the province.

[This appears to be a very rare species in Tenasserim. I only met with it once at Tavoy, and once at Malewoon, on both occasions in gardens. In its habits it does not appear to differ in any way from the more common *Arundinax ædon*, working its way about among dense clumps of bushes.—W. D.]

517.—Acrocephalus agricolus, *Jerdon.* (1).

Kedai-Keglay.

Apparently a mere straggler in Tenasserim.

[I met with this bird only on one occasion, when I flushed and shot a specimen from a small clump of grass on the edge of a large jheel at Kedai-Keglay.—W. D.]

517 *ter.*—Acrocephalus bistrigiceps, *Swinh.* (1).

Tavoy.

[I met with this species only once, when I saw and shot a specimen in a Nipa swamp, on the banks of the Tavoy river. It was moving about among the Nipa or (Dhunny Palm) stems, stopping every now and then to sing, which it did most charmingly.—W. D.]

We only obtained a single specimen of this Warbler at Tavoy. The following are its dimensions, &c., recorded in the flesh :—

Male.—Length, 5·25 ; expanse, 6·75 ; tail from vent, 2·0 ; wing, 2·12 ; tarsus, 0·8 ; weight, 0·25 oz.

Legs and feet pale reddish brown ; upper mandible dark horny ; lower mandible reddish yellow ; irides dark brown.

Our only specimen of this species being still in Mr. Sharpe's hands in England, I am compelled to content myself with transcribing Mr. Swinhoe's original, and all too curt, description.

"It may easily be distinguished by a line of black over a yellowish streak above each eye. Length, 5·25 ; wing, 2·3 ; tail, 2·1, graduated; bill, 0·5 ; to gape, 0·6. Upper parts olive brown, tinged with sienna, redder on the rump and edgings of the tail; wings hair brown, margined with the prevailing colour ; throat, belly, and under wing-coverts whitish ; the rest of the lower parts deeply washed with sienna buff."

518.—Arundinax æedon, *Pall.* (14).

(*Tonghoo, Rams*) Kelli-boo; Pahpoon; Wimpong; Myawadee; Moulmein; Bopyin; Choungchaoung; Pakchan; Malewoon.

Generally distributed throughout the more open portions of the province.

[I have found this Reed Warbler not uncommon throughout the province, (except in the higher hills) in suitable localities. It is found chiefly in gardens, along the edges of fields where there is cover, on the outskirts of forests, and not unfrequently in grass.

It is almost always met with singly, working in and out among the dense cover it frequents, uttering at times a single "chick." It is exceedingly difficult to flush, and its flight is very weak and unsteady. I have not unfrequently heard it sing a very nice little song. It feeds entirely on insects.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 6·82 to 8·0; expanse, 9·5 to 9·9; tail from vent, 3·0 to 3·75; wing, 3·0 to 3·12; tarsus, 1·05 to 1·1; bill from gape, 0·8 to 0·9; weight, 0·8 oz.

Females.—Length, 7·5 to 8·0; expanse, 9·4 to 9·75; tail from vent, 3·3 to 3·62; wing, 2·95 to 3·12; tarsus, 1·0 to 1·1; bill from gape, 0·76 to 0·9.

520 *bis.*—Locustella lanceolata, *Tem.* (9).

Yea-boo; Pakchan; Bankasoon; Malewoon.

A rather rare cold weather visitant to the more open tracts of the central and southern portions of the province.

[A cold weather visitant to Tenasserim, and not uncommon about paddy fields, and in grass land, on the edge of cultivation. It runs about on the ground a good deal, and makes its way among the tangled grass stems in a marvellous manner. When flushed it flies only a few yards, dropping again into cover. It feeds entirely on insects, and migrates about April.—W. D.]

The following are dimensions recorded in the flesh:—

Males.—Length, 4·75 to 5·25; expanse, 6·25 to 6·82; tail from vent, 1·8 to 2·0; wing, 2 to 2·3; tarsus, 0·65 to 0·8; bill from gape, 0·55 to 0·65; weight, 0·3 to 0·37 oz.

Females.—Length, 5·25 to 5·35; expanse, 6·75; tail from vent, 2·0; wing, 2·15 to 2·2; tarsus, 0·7 to 0·75; bill from gape, 0·55 to 0·6; weight, 0·25 to 0·3 oz.

Legs, feet and claws fleshy white to pale fleshy brown.

Upper mandible pale horny brown; lower mandible fleshy to fleshy white; irides light to dark brown.

This species will be found accurately described under the name of *subsignata*, S. F., I., 409.

But I may note that the species is very variable, according, I fancy, to the recency or otherwise of the moult. In some specimens the whole under surface is a dull sordid or slightly brownish white, without the faintest yellow or cream tinge; in others the chin, throat, breast, and upper abdomen is a pale, pure almost primrose yellow, and in these birds the ear-coverts have a decided rufescent tinge. Again the amount of spotting on the breast varies greatly.

I suspect that these birds moult in the spring as well as in the autumn, for Davison caught one on board ship in the Gulf of Martaban on the 29th April, which is obviously just freshly moulted, and in which the brightness of the yellow on the lower surface, and of the olive and black on the upper parts, quite surpasses anything I have seen in this species.

Mr. Dresser, as I think erroneously, unites *L. hendersoni*, Cass., with this species. The birds that we in India identify as *hendersoni* are conspicuously different from *lanceolata*. In the first place adult *hendersoni never* exhibits any spottings on the throat and upper breast; adult *lanceolata* always does. In the second place the bill in *hendersoni* is decidedly slenderer and more compressed towards the point, if specimens of the same sex are *carefully* compared. In the third place the black centerings of the feathers of the upper surface extend in adult *lanceolata* to the upper tail-coverts, which they do not in adult *hendersoni*. I have ten specimens of the latter and twelve of the former before me, many of them killed in the same month.

In India, too, the distribution is different. I have never known *hendersoni* to occur east of Allahabad, nor have I known *lanceolata* to occur west of the meridian of Calcutta. *Lanceolata* is not very uncommon in Tenasserim; I am pretty confident that *hendersoni* does not occur there at all.

A great deal of confusion still exists as to these *Locustellas*. I have just received a letter in regard to them from Mr. Seebohm, from which, though it is a private one, I venture to reproduce extracts, the subject being a most difficult and at the same time generally interesting one.

Mr. Seebohm says:—

"Since I wrote to you, Salvin has sent me down the *Acrocephali* out of the Strickland collections at Cambridge to name, and I find two skins of *Locustella rubescens* with Blyth's labels attached. These birds are exactly intermediate in colour between young in first plumage of *Locustella certhiola*, which I shot this autumn at Yen-e-saisk and adult birds of that species, so that I have no hesitation in pronouncing them to be birds in first winter plumage of *L. certhiola*.

"You may also be interested in hearing that *Lucustella doriæ*, (*Calamodyta doriæ* of Salvadori), and probably also *Locustella minor* of David and Oustelet, and possibly *Lusciniopsis japonica* of Cassin, are all synonyms of *L. certhiola*."

We may certainly agree that *L. doriæ*, Salvadori (wrongly recently identified with *L. lanceolata*), is synonymous with *L. rubescens*, Blyth, at least if Mr. Sharpe has correctly figured *doriæ*, *Ibis*, 1876, pl. II, for that plate corresponds well with a specimen of *rubescens*, that I have from Jerdon, labelled by Blyth himself.

This bird is certainly not rare during the cold season in Lower Bengal, and yet I know scarcely any species, included in our list, of which it is more difficult to procure specimens.

This species bears a strong superficial resemblance on its upper surface to *C. schænobænus* of Europe, but is distinguished at once by (amongst other things) its much longer and more *Acrocephaline* bill, its larger and *less Acrocephaline* first primary, and (in all the very few specimens I have examined) by the pure white of the central portions of the lower breast and upper abdomen. I should expect this species to occur in Tenasserim, but I have not as yet seen any specimens thence.

Mr. Seebohm continues:—

"When I was in St. Petersburg, I examined Middendorf's types of *Locustella ochotensis*, and found that they were young birds of *L. subcerthiola* of Swinhoe, the adult birds having been mistaken by Middendorf for *L. certhiola*, Pallas. The name *L. ochotensis* will, therefore, stand upon the young bird, and *L. subcerthiola*, Swinhoe, and *L. certhiola*, Midd. nec Pall., are synonyms. To these synonyms we must, in my opinion, add *Arundinax blackenstoni*, Swinhoe, which appears to me to be immature *ochotensis*, exactly like Middendorf's types.

"A still more interesting identification, which I venture to suggest, is that *Acrocephalus fasciolatus*, Gray, the *Calamoherpe subflavescens*, of Elliot, is the immature bird of *Acrocephalus insularis* of Wallace, the *Calamodyta fumigata* of Swinhoe."

To this latter identification I should *primâ facie* demur, though Mr. Seebohm *may* be right. I have two specimens of *fasciolatus* from Batchian, two of *insularis* from Chefoo, and one of *fumigata* from Amoy. *Insularis* and *fumigata* are obviously identical, as was long since first pointed out by Mr. Swinhoe himself, but not so, it seems to me, *fasciolatus*.

I do not lay much stress on the difference in coloring, though this is very marked; the grey and brown of the lower surface of *insularis*, the olive and yellow of that of *fasciolatus*, &c.; these might be due, not perhaps so much to age as to season, my *insularis* having all three been procured in May and June, my *fasciolatus* in January; but there are marked structural differ-

ences ; the bill in *fasciolatus* is deeper ; the first (short) primary is longer and broader ; the second (first long) primary is much more nearly equal to the third, and markedly longer than the fourth. In *insularis*, the first (short) primary is narrower, stiffer, more typically *Acrocephaline*, and the second (first long) primary is considerably shorter than the third, and exactly equal to the fourth. These distinctions hold good in all my five specimens, but whether they do so universally, I cannot say.

Mr. Seebohm adds :—

"At present I am trying to find out if *Locustella macropus*, Swinhoe, which is said to be the same as *Locustella hendersoni*, of Cassin, is the same as, o· in what respects it differs from, our European bird, *L. nævia*."

The bird sent me as *macropus*, Swinhoe, is the same as the birds we in India identify as *hendersoni*, Cassin. But I do not know whether our bird is the true *hendersoni*, and I have found not a few of Swinhoe's birds wrongly labelled, as for instance two specimens of *Phylloscopus magnirostris*, labelled *P. sylviculatrix*, Swinhoe, whereas the real *sylviculatrix* was *borealis*. I have, therefore, no certainty as to the identity of *macropus* and *hendersoni*, but it seems probable. As to the differences between our (supposed) *hendersoni* and *nævia*, they are not great and not easily definable, and with ten of the former and six of the latter before me, I am doubtful whether to consider them distinct or merely races of the same species.

In the first place *nævia* is a somewhat larger bird, as may be seen from the following measurements :—

L. NÆVIA, *Bodd.*				L. HENDERSONI, *Cass.?*			
1.	Hamptead.	Wing	... 2·55 ?	1.	Delhi	Wing	... 2·35 ?
2.	Shooter's Hill	„	... 2·5 ♀	2.	„	„	... 2·33 ♂
3.	„ „	„	... 2·6 ♂	3.	Etawah	„	... 2·22 ♂
4.	Yorkshire	„	... 2·5 ?	4.	„	„	... 2·26 ♀
5.	Sussex	„	... 2·48 ?	5.	Delhi	„	... 2·3 ♂
6.	„	„	... 2·45 ?	6.	Etawah	„	... 2·2 ♀
				7.	Delhi	„	... 2·25 ♂
				8.	„	„	... 2·17 ♀
				9.	Etawah	„	... 2·2 ♀
				10.	„	„	... 2·4 ♂

The last *hendersoni* is the only one that makes any near approach to the dimensions of the smallest *nævia*, but I have too few of either to be able to assert that this apparent difference in size is a sufficient and constant diagnosis.

Like *nævia*, the adults have the throat and breast entirely spotless, while the young exhibit a few dark brown spots at the base of the throat and on the upper breast. I can establish no constant differences in the proportions of the primaries ; as a rule in both, the second primary about equals the fourth, but in both at times it is longer, and at times shorter. So too in the

case of the first primary there is in both a considerable amount of variation in both length and breadth.

But undoubtedly comparing adults and young killed in the same months in England and India, there is an appreciable difference of colour. The (supposed) *hendersoni* are more strongly marked on the upper surface, especially on the rump; the paler edges of all the feathers of the upper surface are paler and yellower, and as a rule the lower surface is brighter and cleaner than that of *nævia*. For my part, unless some certain and *constant* difference, such as I have been unable to detect, be discovered, I should be disposed to treat our Indian bird as a somewhat smaller, rather brighter coloured race, not specifically separable from *nævia*. I may add that the minutest scrutiny of bills, legs, feet and tails has not enabled *me* to detect any *constant* difference between the two forms where these are concerned, but sharper eyes may succeed where I have failed.

522 *ter*.—Urosphena squamiceps, *Swinh.* (1).

Bankasoon.

Confined to the neighbourhood of the Pakchan. Probably only a cold weather visitant.

[In 1876 I found this bird not uncommon in the forests at the extreme south of the province, and we shot some five or six specimens, but they were all, but one, too much injured by the shot to be preserved.

I found them always on the ground, hopping about, and turning over the dead leaves, and working in and out and about the fallen trunks and branches. Sometimes, when disturbed, they would fly up on to some low branch, but they had hardly settled before they dropped again to the ground. They were not at all shy, and could be approached within a couple of feet: in fact from their excessive tameness, their diminutiveness, and their dark color approximating closely with the color of the dead leaves, and their persistent refusal to fly or settle where one could see them from a sufficient distance to shoot from, I found it extremely difficult to shoot a bird without blowing it to bits.

When disturbed, they utter a feeble chick, chick, which is the only note I have heard. The one examined had eaten minute insects.—W. D.]

Only a single specimen, a female, was preserved of this bird. The following are its dimensions, &c., recorded in the flesh:—

Female.—Length, 4·3; expanse, 6·5; tail from vent, 1·1; wing, 2·05; tarsus, 0·7; bill from gape, 0·62; weight almost 0·3 oz.

Legs, feet, and claws fleshy white; two-thirds of lower mandible fleshy white; rest of lower mandible and upper mandible horny brown; irides dark brown.

From the nostrils over the lores and ear-coverts, and right to the nape, runs a narrow buff band; the lores and a broad streak behind the eye under this band, blackish brown; cheeks and ear-coverts pale reddish buff or slightly brown; the forehead and the entire space between the two eye-streaks are a rich warm olive brown, slightly rufescent; all the feathers excessively narrowly margined with a darker shade, so that when closely looked into the head has a slightly squamated appearance.

The back, scapulars, rump and upper tail-coverts much the same color as the head, but not so warm or rich a tint, though sometimes the tips of the longest upper tail-coverts are a little more rufescent; wings and tail pale hair brown, the outer webs of the feathers, and both webs of the tertiaries more or less suffused with the color of the back, and margined exteriorly more rufescent; chin, throat, breast and abdomen white; sides of breast, sides and flanks tinged brownish fulvous; wing-lining and axillaries and lower tail-coverts pale fulvous.

This species has been recently well figured in the *Ibis*, Pl. IV., 1877, but the tail is there shown more pointed than it really is, and the bird is drawn amongst reeds over water, whereas it is, according to our experience, a bird of the densest forest, keeping habitually on the ground, only getting into bushes when startled, and never going near water.

527 *quat.*—Horeites pallidipes, *Blanf.* (1).

(*Karen Hills*, [H. sericea, *Wald.**] Rams.) Pahpoon.

Confined to the northernmost portions of the province.

[I only once saw this species, when I shot it on the ground, and neither heard its notes nor observed anything of its habits.—W. D.]

Mr. Blanford's original description, although he called the bird a *Phylloscopus*, appears to me to be extremely good, and I shall therefore quote it. He gives the dimensions:—"Wing, 2·05; tail, 1·7; tarsus, 0·76; bill at front, 0·4; from gape, 0·55."

A female from Tenasserim measures in the skin—

Length, 4·1; tail, 1·7; wing, 1·9; bill from frontal bone, 0·53.

The lower tail-coverts are usually pale yellowish white, and the inner webs of the wings and tail pale hair, and not earthy, brown. I should call the 4th, 5th, and 6th quills equal and longest: at any rate this is the ordinary shape of the wing.

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* S. F., V., 57.

Mr. Blanford's description is as follows :—

"Brownish olivaceous above; supercilium white, extending far back; a dark line from the lores through the eye to the upper part of the ear-coverts, the lower portions of which are light brown; central rectrices very little darker than the back; outer rectrices and wing feathers earthy brown, margined with olive, which is rufescent on the edges of the quills. There is also a rufescent tinge on the rump. Lower parts silky white; sides of the breast dusky olivaceous, and the middle of the breast not quite so fine a white as the throat and abdomen, but this may be an individual peculiarity; lower wing-coverts, axillaries, and forepart of wing white; bill dark above, pale below; feet very light coloured. The 5th quill is the longest—it exceeds the first by 0·87 inch, the second by 0·4, the third by 0·15."

The bird seems to be not uncommon in Sikhim, whence I have received several specimens, of course from my friend Mr. Mandelli.

530.—Orthotomus sutorius, *G. R. Forster.* (12).

(*Tonghoo, Karennee,* Rams.) Pahpoon; Megaloon; Letet; Amherst; Yea; Mergui.

Generally distributed throughout the province, where the country is cultivated, and specially where there are gardens.

530 *bis.*—Orthotomus atrigularis, *Tem.* (9.) ♀, Descr. S. F., II., 507; III., 325.

Kyouk-nyat; Pahpoon; Tavoy; Thayetchoung; Mergui; Bankasoon; Malewoon.

Sparsely distributed throughout the province, but does not ascend the higher hills.

[The habits of this species are much the same as those of its well-known Indian ally. The chief delight of the male seems to be to work its way to the top of some bush or low tree, and thence, its tail cocked well over its head, to emit continuously its monotonous tink, tink, tink, note. It feeds entirely on insects, which however it neither catches on the wing nor hunts for on the ground, to which it never descends.

I have usually found it in gardens or secondary scrub, but I have also seen it in the depths of forest, where I never saw *sutorius.*—W. D.]

I see that Mr. Sharpe, in his recent monograph of the genus *Orthotomus*, *Ibis*, 1877, 16, remarks that Lord Walden correctly identified my *O. nitidus* with *flavoviridis*, Moore. I was however myself the first to make this identification, S. F., III., 325. At page 507, Vol. II., I accurately described what proved to

be the females and young males of this species under the former name. I have only to add that in the adult males, at any rate in breeding plumage, probably at all seasons, the greater portion of the foreneck, upper breast and sides of the breast are streaked with slaty dusky. In other respects I have nothing to add to my former description.

530 *ter*.—Orthotomus ruficeps, *Less.* (4).

Malewoon.

A rare straggler just inside our southern boundary.

The following are dimensions, &c., of this species recorded in the flesh :—

Males.—Length, 5·12 to 5·2; expanse, 6·5; tail from vent, 1·5 to 1·75; wing, 1·82 to 2·0; tarsus, 0·8 to 0·85; bill from gape, 0·75 to 0·8; weight, 0·35 oz.

Females.—Length, 5·0; expanse, 6·2; tail from vent, 1·4; wing, 1·82; tarsus, 0·8; bill from gape, 0·8; weight, 0·3 oz.

The colors of the soft parts in the males were not recorded. Both females had the lower mandible fleshy pink; upper mandible horny brown. One female had the legs and feet fleshy pink; the other had the feet, claws and back of tarsi fleshy, front of tarsi pale brown; in one the irides were salmon, in the other deep brown.

The entire lower parts, including the cheeks and ear-coverts, silky white, with a delicate fulvous tinge on abdomen and lower tail-coverts, and sometimes on the sides of the throat and ear-coverts; tibial plumes pale ferruginous; entire cap bright ferruginous; tail pale chestnut, with a large oval black spot towards the tip, running up to a point on the shaft; upper tail-coverts slightly rufescent brown; back, rump, scapulars slightly olivaceous ashy; wings pale, somewhat earthy brown; feathers margined with much the same color as the back; wing-lining white, a little brownish towards the edge of the wing; inner margins of quills, except towards the bases, white. The sexes appear to be precisely alike, except that the males in my specimens seem to want the black spot on the tail which is present in the females.

For remarks on this genus, see Mr. F. Moore's paper, P. Z. S., 1854, 81, and Mr. R. Bowdler Sharpe's paper, *Ibis*, 1877, 108.

531.—Orthotomus coronatus, *Jerd* and *Bly.* (4).

Mooleyit.

Confined apparently to the higher slopes of Mooleyit, though Ramsay obtained it in the Tsaukoo Hills, which, however, I believe are now held to be outside our boundary.

[This species was not uncommon at Mooleyit; always in pairs it kept to the forest or its edges. They are birds that are not easily overlooked, as on the approach of any one they utter a low buzzing note of alarm, sounding like kiz-kiz-kiz, which they keep up as long as they suspect danger, working their way to the very top of a bush where they show themselves fearlessly to have a good look at the intruder. They hunt about the leaves and branches for insects, on which they live, but do not descend to the ground.—W. D.]

The following are dimensions, &c., of two males recorded in the flesh :—

Length, 4·6 to 4·8; expanse, 5·7 to 5·8; tail from vent, 1·65 to 1·7; wing, 1·75 to 1·8; tarsus, 0·75; bill from gape, 0·65 to 0·7; weight, 0·25 oz.

Legs and feet yellowish fleshy; upper mandible, tip and edges of lower mandible along commissure, black; rest of bill yellowish fleshy; irides brown.

532.—Prinia flaviventris, *Deless.* (8).

Bankasoon; Malewoon.

Confined apparently to the extreme south of the province.

[I only found this species in the grassy wastes about Malewoon and Bankasoon, where it was not uncommon. Generally there were three or four together, chiefly amongst the grass, but also about the bushes and bamboo clumps that studded these wastes. They are excessively noisy little birds, and are very fond of working their way to the top of some bush or grass stem, and sitting there for a considerable time, keeping up all the while an incessant chink, chink, chink. They feed on insects, especially on the small moths that are so common about long grass.—W. D.]

Lord Tweeddale, B. of B., p. 118, remarks upon the variation observable in this species as regards the color of the lores and ear-coverts, and the absence or presence of a supercilium.

It is seldom that the whole of the lores are white; there is generally a dusky grey line through them to the anterior angle of the eye, but a conspicuous greyish white line from the nostrils over the anterior half of the eye is not uncommon. It occurs equally in specimens from Assam, the Bhootan Dooars, Calcutta (where the birds are extremely common about the salt lakes) and various parts of Tenasserim. Our specimens show that it depends neither upon sex nor season. It is an individual peculiarity similar to what is observable in *Prinia stewarti* and *Prinia socialis*, which I have already noticed, S. F., IV., 497. Probably, about one in ten birds show this white line very conspicuously. I have only seen one specimen that had

the whole of the lores and the greater part of the ear-coverts greyish white; that one is from the Bhootan Dooars, but I think that one in every five birds show some trace of a pale line from the nostrils through the upper part of the lores. One specimen before me has the white line strongly on one side of the head, while on the other it is only indicated by two or three greyish white dots.

536 *ter.*—**Prinia rufula**, *God.-Aust.* (3). DESCR. S. F., III, 397.

Kollidoo; Salween R.

Confined to the more open parts of the northern portions of the province.

[I met with a small flock of this species in some low bushes on the banks of the Salween at Kollidoo. They did not differ in their habits from other Prinias that I could see.—W. D.]

The specimens that in an earlier list I entered under *P. gracilis*, Frankl., remarking at the same time that they would probably require to be separated from this species, I now refer, after comparison with specimens from the Khasia Hills, to the present species, which is intermediate between *gracilis* and *hodgsoni*, but has a smaller and slenderer bill than either. The upper surface of the bird most resembles *gracilis*, but it is rather darker; the lower surface more resembles *hodgsoni*, but the grey band on the chest is generally broader, and always less intense in color and less well defined.

In all Tenasserim specimens, moreover, the chin and throat and abdomen have a pale fulvous tinge. This is not observable in my Khasia Hill specimens, which have these parts white as in *hodgsoni*, but Major Godwin-Austen, it will be seen, describes the abdomen as somewhat ochraceous, so that probably the color of the lower parts varies somewhat according to season.

The following are dimensions, &c., of two males:—

Length, 4·62 to 4·75; expanse, 5·75 to 5·82; tail from vent, 1·82 to 2·2; wing, 1·75 to 1·8; tarsus, 0·72 to 0·75; bill from gape, 0·2 oz.

Legs and feet dull orange yellow; claws dark horn color; bill black; irides reddish yellow.

The tibial feathers are pale, very rusty brown, rather darker than the same parts in *gracilis*, much as in *hodgsoni*.

538.—*Prinia hodgsoni*, Blyth.

Said by Lord Tweeddale, B. of B., p. 119, to have been obtained by Wardlaw Ramsay in Karennee. It is very curious that the true *hodgsoni* should occur in Karennee, while north of it in Assam, and south of it in Pahpoon, &c., we get only

P. rufula, which is, as above mentioned, a form intermediate between true *hodgsoni* and true *gracilis*. Is Lord T.'s identification correct?

538 *bis.*—**Prinia beavani**, *Wald.* (13). DESCR. S. F., III., 139.

(*Karen Hills*, at 2,000 feet, Rams.) Pine forests, Salween; Pahpoon; Younzaleen Creek, Salween R.; Topee; Meeta Myo; Tavoy; Mergui; Malewoon.

Generally distributed throughout the open grass lands of the province, but not ascending the higher hills.

[This Grass Warbler occurs wherever there is any considerable extent of long grass outside the hills. I have always found it in small parties. In its habits, voice, &c., it is very similar to *P. flaviventris*.—W. D.]

The following are the dimensions and colors of soft parts of ten males recorded in the flesh:—

Length, 4·3 to 5; expanse, 5·25 to 5·8; tail from vent, 1·5 to 2·25; wing, 1·55 to 1·76; tarsus, 0·75 to 0·95; bill from gape, 0·55 to 0·62; weight, 0·25 to 0·26 oz.

Legs and feet pale or dark pinkish fleshy; claws light brown; in winter, the upper mandible and lower mandible from tip to angle of gonys dark horny brown, rest of bill bluish fleshy; in summer, the bill is black; the irides are orange brown, light wood brown, or reddish yellow.

539.—**Cisticola cursitans**, *Frankl.* (11). S. F., V., 90, *et seq.*

Kedai-Keglay; Thatone; Tavoy.

Confined to the grass and cultivated lands of the central portion of the province.

[I have only occasionally met with this species in the Thatone plains and at Tavoy in grassy land or rice fields. It was by no means numerous, and always seen singly or in pairs. When disturbed for the first time it flew only a few yards and dropped into the grass again; but when flushed a second time it generally flew straight away, for several hundred yards or more, flying high up in the air, and uttering a sharp chip, chip, chip, as it flew away. I have frequently seen it rise out of the grass, mounting perpendicularly in the air for several yards, producing, as it rose, a peculiar clicking noise with its wing, and then drop suddenly into the grass, repeating the manœuvre again and again after the lapse of short intervals.—W. D.]

543 *quat.*—**Drymoica, blanfordi**, *Wald.* DESCR. S. F. V., 57.

Obtained at Tonghoo by Ramsay.

This species seems to me very close to *Drymoica fusca*, of Hodgson, from the Sikhim Terai and Bhootan Dooars, &c. If really distinct, I have never seen it.

544 *quat.*—**Drymoica extensicauda,** *Swinh.* (5). DESCR. S. F., III., 340.

Kedai-Keglay; Thatone; Tavoy.

Confined to the open and grass lands of the central portions of the province.

[I met with this bird on the Thatone plains, and there only occasionally among the kine grass. I can add nothing to Mr. Oates' excellent note on this species, S. F., III., 340.—W. D.]

547 *ter.*—**Suya superciliaris,** *Anderson* (1).

Mooleyit.

Confined apparently to the higher slopes of Mooleyit.

[I met with this bird only on one occasion, near the top of Mooleyit. I observed it working about in a dense isolated clump of brushwood. It was quite alone, and though I hunted day after day about the place where I obtained it, and in every other likely looking place I never saw another. The one I shot had eaten a few small flies.—W. D.]

We only obtained a single specimen, a male, of this species, quite near the top of Mooleyit. The following are its dimensions, &c., recorded in the flesh :—

Length, 6·6; expanse, 6·5; tail from vent, 3·8; wing, 2·01; tarsus, 0·85; bill from gape, 0·62; weight, 0·4 oz.

Legs, feet and claws and lower mandible, fleshy pink; upper mandible black; irides brownish yellow.

The lores and feathers just at the base of the lower mandible, and immediately under the anterior margin of the eye, dusky black; a broad patch immediately behind the eye, involving part of the ear-coverts, dusky; cheeks immediately below this dusky, pencilled with white; feathers of the median portion of the lower eyelid white; a long white supercilium from the nostril over the eyes to near the nape; forehead, crown and occiput, inside these stripes, the nape and upper portion of the sides of the neck olivaceous brown, the dusky bases of the feathers showing through more or less, and giving a dusky shade to these parts, which are just perceptibly separated, as by a line, from the purer and yellower olivaceous brown of the back; scapulars rump, and lesser wing-coverts, upper tail-coverts and tips of the longest rump feathers yellower; quills and their greater coverts pale hair brown, suffused on their outer webs with a slightly more fulvous shade of the color of the back; tail pale

earthy brown, with coarse conspicuous dark brown shafts, and more or less margined with the color of the rump; chin, throat and middle of abdomen nearly pure white; breast white, tinged with fulvous and specklily striated with black; sides, flanks, sides of abdomen and lower tail-coverts clear pale rather ochraceous buff; tibial plumes slightly browner and more rufescent; lower surface of shafts of tail feathers white; wing-lining nearest the body pure white, near the carpal joint pale buffy; inner margins of quills pale salmon buff.

549 *quat.*—Suya erythropleura, *Wald.* DESCR. S. F., V., 58.

Obtained at Tonghoo by Ramsay. *Non vidi.*

552 *bis.*—Neornis assimlis, *Hodgs.*

I am by no means certain as to what this species is. The birds given me by Dr. Jerdon as *Drymoica brevicauda*, Blyth, and *Neornis assimilis*, Hodgs., are nothing but immature *Horites fortipes*, which also have yellow on the under wing-coverts. However Mr. Blyth examined Hodgson's specimens at home, and I will quote his description and Major Godwin-Austen's, the more so that the latter appears to have compared his specimens with Blyth's *brevicaudata*. Very probably Dr. Jerdon's identification of the birds he gave me was erroneous.

Mr. Blyth says, *Ibis*, 1867, 22:—

N. assimlis (*Drymœca brevicaudata, nobis*) is rufescent olive brown above, much paler beneath, more or less whitish on the throat and belly, and tinged with fulvous on the flanks; fore-part of the wing underneath pure yellowish white; wing, 2 inches; tail, 2·25 inches; its outermost feathers half an inch shorter; tarsi, 0·75 inches. A specimen from Afghanistan is of a paler general hue, not quite so much inclined to ruddy, and more to greenish, whilst *N. montana* of Java is darker, and wants the rufous tinge above, but has it on the breast and flanks. *N. flavolivacea* is dull greenish olive above, and dull yellowish below."

His original description of *brevicaudata*, J. A. S. B., XVI., 459, 1847, was as follows:—

"*D. brevicaudata, nobis*, N. S.—Length 5 inches and a quarter, of wing, two and an eighth, and tail but two inches; its outermost feathers half an inch shorter; bill to gape, five-eighths, and tarsi, three quarters of an inch; color, plain uniform greenish olive brown above, inclining to tawny towards the tail, paler and albescent below, passing to olive on the flanks; the anterior third of the under-surface of the wing nearly pure white, bill dusky, and legs pale; from Darjeeling."

Major Godwin-Austen thus describes the species, J. A. S. B., XLIII., 1874, 167.

"Above brownish olivaceous; tail umber brown, and rather more rusty brown on wing; pale line through lores over eye; below dusky whity brown, paler on the chin; a pale ring round eye and a slight tinge of yellow on inside of shoulder of wing. Length, 4·75; wing, 2·1; tail, 2·3; tarsus, 0·8; bill at front, 0·38."

Lord Tweeddale remarks of a specimen obtained by Ramsay in Karennee:—

"In all respects identical with Shillong, Naga Hills, Assam, and Darjeeling examples, excepting that the entire under-surface is more decidedly tinged with pale sordid yellow. *N. assimilis* can be readily distinguished from *N. flavolivacea*, by its shorter wing and tail, weaker and much shorter bill, and by having the under shoulder-coverts pure sulphur-yellow."

These descriptions do not absolutely agree, especially as regards the amount of yellow on the under-surface of the wing, and there are two or three forms very close to each other, differing only in small particulars, to all of which these descriptions apply pretty equally well, except so far as the amount of yellow on the under-surface of the wing is concerned, and I cannot pretend at present to offer any opinion of my own as to whether we have one, two or three species, and if more than one, whether "*brevicaudata*" is really identical with *assimilis*. We obtained no bird of this sub-group in Tenasserim.

555.—Phylloscopus fuscatus, *Blyth*. (8).

Kyouk-nyat; Dargwin; Pahpoon.

A cold weather visitant to the northernmost portions of the province.

Davison has as yet paid no attention to the *Phylloscopi*, and my present ideas as to their distribution may prove quite erroneous.

556.—Phylloscopus magnirostris, *Blyth*. (3).

Thatone; Wimpong.

A rare cold weather visitant to the central portions of the province.

556 *bis*.—Phylloscopus borealis, *Blasius*. (5).

Shymotee; Bankasoon; Malewoon.

A cold weather visitant to the southern half of the province.

I think I cannot do better than commence by quoting Mr. Seebohm's excellent description of this species:—

"*Bill large*; under mandible pale."

"Upper parts greenish brown, dashed* all over, especially on the rump, with yellowish green; wings and tail greenish brown, with the outside edges of each feather broadly margined with yellowish green, superciliary streak extending to the nape."

"*Head the same color as the back.*"

"Under parts nearly white, slightly dashed with yellow and grey on the breast and flanks; axillaries, wing-lining, and thighs pale yellow. After the autumn moult the whole of the under parts are pale yellow, dashed with grey on the breast and flanks."

"Third and fourth primaries longest; fifth considerably shorter; sixth very considerably shorter still; *second intermediate in length between the fifth and sixth.*"

"The *bastard primary very small.*† The exposed part measures ·3 to ·35 in adults, and ·4 to ·45 in birds of the year."

"*First wing bar distinct.* Sometimes traces of second wing bar in birds of the year."

"Length of wing.—Male, 2·70 to 2·55; female, 2·55 to 2·40."

"Length of tail.—Male, 2·00 to 1·90; female, 1·90 to 1·80."

"Legs and claws brown."

"The very small bastard primary of this species serves to distinguish adults from every other species of the genus, except *P. sibilatrix*, with which bird it cannot possibly be confounded."

I would only add to this that in some specimens, for instance one killed on the 11th December, there is absolutely no trace of even the first wing bar, and that the color of the upper parts is quite as often a very dull greyish olive green as a yellowish green.

556 *ter*.—Phylloscopus schwarzi, *Radde*. (6). DESCR. S. F., II., 505; V., 134.

Pahpoon; Wimpong; Kaukaryit, Houngthraw R.; Larthorgee.

Generally but sparsely distributed throughout the northern half of the province, not however ascending the higher hills.

[This species feeds almost entirely on the ground; it is seen sometimes solitary, sometimes in pairs, and sometimes three or four together. It keeps as a rule to the undergrowth of the forests. When disturbed it flies into some small shrub, and makes its way to the opposite side, and if all seems quiet, drops again to the ground and begins pecking and hopping about among the dead leaves: it continually utters a soft low note, that might be syllablized chit, chit, chit, oft repeated. On one occasion I shot a specimen in some thick grass.—W. D.]

* For "dashed" read "suffused" or "overlaid," passim.—ED., S. F.

† I should say "narrow."—ED., S. F.

The following are the dimensions and colors of the soft parts of two males and three females recorded in the flesh :—

Males.—Length, 5·5 to 5·6; expanse, 7·9 to 8 1; tail from vent, 2·25 to 2·3; wing, 2·6 to 2·62; tarsus, 0·86 to 0·9; bill from gape, 0·58 to 0·6; weight, 0·4 to 4·5 oz.

Females.—Length, 5·2 to 5·62; expanse, 7·1 to 7·9; tail from vent, 1·9 to 2·45; wing, 2·3 to 2·5; tarsus, 0·8 to 0 9; bill from gape, 0 6 to 0·65; weight, 0·3 to 0·4 oz.

The legs, feet and claws are yellowish fleshy; the upper mandible pale brown; lower mandible yellowish fleshy; irides deep brown.

556 *quat.*—Phylloscopus tenellipes, *Swinh.* (4).

Kyouk-nyat; Moulmein; Amherst; Bankasoon.

Sparingly distributed throughout the province during the cold season.

Here again in view to the advantage of preserving one uniform plan in the description of the *Phylloscopi*, I will commence by quoting Mr. Seebohm's description of this species :—

"*Bill large;* under mandible pale.

"Upper parts greyish brown, dashed all over, especially on the rump, with yellowish green; wings and tail greyish brown, with the outside edge of each feather broadly margined with yellowish green; pale greenish white superciliary streak, very sharply defined, and extending to the nape.

"*Head same colour as the back.*

"Under-parts nearly white, slightly dashed with yellow and grey on the breast and flanks; axillaries, wing-lining, and thighs pale yellow.

"Third and fourth primaries longest; fifth a shade shorter; sixth, seventh, and eighth each considerably shorter than the preceding; *second primary intermediate in length between the seventh and eighth.*

"Bastard primary rather large, the exposed part measuring ·5 in small females to ·58 to ·65 in males.

"First wing bar distinct; *upper bar generally equally so.*

"Length of wing.—Male, 2·50 to 2·35; female, 2·35 to 2·2.

"Length of tail.—Male, 2·05 to 1·8; female, 1·8.

"Legs and claws lead colour."

I should say that the greater part of the back, upper tail-coverts, and outer margins of tail feathers were a somewhat rufescent yellowish olive, rather than yellowish olive green. It is the peculiar tint of these parts which distinguishes the bird at a glance from all other species. Mr. Seebohm remarks that he has never heard of but two specimens of this species. I am fortunate in now possessing one of these types obtained by

Mr. Swinhoe at Amoy in April 1861. This specimen has the wing 2·35 and the wing bars very little developed: one of our females has the wing 2·6, and in this also the wing bars are very imperfectly developed. Another female has the wing only 2·33, but the wing bars pretty well developed. In this specimen the head is rather darker than the back; another specimen, not sexed, has the wing 2·6, and both wing bars very strongly marked; in this specimen the fourth quill is the longest, the third and fifth equal and a shade shorter, the second intermediate between the sixth and seventh, and this is the arrangement of the quills in the female first referred to, which may possibly have been missexed, and this again is the arrangement of the quills in the second female. In Mr. Swinhoe's bird the third and fourth are longest, and the fifth is a shade shorter, but even in this the second is intermediate between the sixth and seventh and not between seventh and eighth.

This also was the case with Mr. Swinhoe's other specimens which Mr. Brooks examined, (see Brooks' very excellent remarks on this species, S. F., IV., 276) so that I think Mr. Seebohm is in error in giving the second primary as intermediate between the seventh and eighth. I unfortunately let all my other specimens go without looking to this point.

558. **Phylloscopus lugubris**, *Blyth.* (3).

Pa-apoon; Salween R.; Wimpong.

Apparently confined to the northern half of the province.

558 *bis.*—Phylloscopus plumbeitarsus, *Swinh.*

Mr. Seebohm, in his monograph of the *Phylloscopi*, *Ibis*, 1877, p. 77, mentions a specimen of this species obtained by Captain Beavan at Moulmein in September 1865.

We have not yet procured it in Tenasserim, and as it has not yet been described in STRAY FEATHERS, I cannot do better than transcribe Mr. Seebohm's admirable description, merely noting that in all his descriptions Mr. Seebohm uses the word "dashed," whereas in my descriptions I use the word "suffused."

"*Bill large*; under-mandible pale.

"Upper parts greyish brown, dashed all over, especially on the rump, with yellowish green; wings and tail greyish brown, with the outside edge of each feather broadly margined with yellowish green; pale greenish white superciliary streak, very sharply defined, and extending to the nape.

"*Head, same color as the back.*

"Under parts nearly white, slightly dashed with yellow and grey on the breast and flanks; axillaries, wing lining, and thighs pale yellow.

"Third and fourth primaries longest; fifth a shade shorter; sixth, seventh, and eighth, each considerably shorter than the preceding; *second primary intermediate in length between the seventh and eighth.*

"Bastard primary rather large, the exposed part measuring ·5 in small females to ·58 to ·65 in males.

"First wing bar distinct; *upper bar generally equally so.*

"Length of wing.—Male, 2·50 to 2·35; female, 2·35 to 2·2.

"Length of tail.—Male, 2·05 to 1·8; female, 1·8.

"Legs and claws lead-colour."

558 *ter.*—Phylloscopus seebohmi, *Hume.* (1). Descr. S. F., V., 335.

Tavoy.

Mr. Seebohm is of opinion that this supposed species is founded on an exceedingly abraded specimen of *P. viridanus;* such was not my opinion after comparing it with a very large series of this latter. As however the type specimen is still with Mr. Seebohm, I cannot at present recompare it. When the type is returned I shall have more to say about it.

560.—Phylloscopus viridanus, *Blyth.* (4.)

Thatone; Salween R., Moulmein.

561.—*Phylloscopus affinis,* Tick.

Although I have had this species recorded for years from Tenasserim, I cannot now discover on whose authority, and I have never, that I can remember, myself seen a specimen from that province; hence I consider its occurrence doubtful.

563 *bis.*—Reguloides coronata, *Tem.* and *Schl.* (6).

Mergui; Haukachin; Palaw-ton-ton; Bankasoon.

Confined to the southernmost district of the province, and there not rare.

All the specimens formerly entered in my rough lists as *Reguloides occipitalis* proved, when I carefully examined them, to belong to the present species.

Coronata bears a strong superficial resemblance to *occipitalis,* but it is larger, has a smaller first primary, is generally brighter and greener, with a brighter yellow edge to the wing, and with pale yellow, sometimes tolerably bright primrose yellow under tail-coverts, a peculiarity by which, as long ago pointed out by Mr. Brooks, S. F., IV., 275, the species may be at once recognized. The under tail-coverts in *occipitalis* are white.

I recently identified a specimen from Amherst, collected by Dr. Armstrong, as belonging to this species; it was an excessively bad one; and on re-comparison with a large series, I consider my first identification to be wrong.

All our specimens, therefore, were obtained at Mergui or parts of Tenasserim south of Mergui, but we have also obtained it in the neighbourhood of Malacca.

The following are dimensions and colors of the soft parts of males measured in the flesh:—

Length, 5 to 5·5; expanse, 7·12 to 7·75; tail from vent, 2·1 to 2·2; wing, 2·5 to 2·85; tarsus, 0·65 to 0·7; bill from gape, 0·6 to 0·62; weight, 0·2 to 0·26 oz.

The legs were dull bluish green; the feet dingy horny; the lower mandible and inside of mouth chrome yellow; upper mandible pale horny brown.

Forehead, crown, and occiput moderately dark brown, or with a slight olive green tinge, and with a conspicuous, though irregular, pale yellowish green mesial stripe on posterior portion of crown and occiput; the head decidedly darker than the back; a narrow pale yellow streak from the nostrils over the eyes and ear-coverts most conspicuous over the eye and ears; a dark spot occupies the greater portion of the lores, and there is a similar and rather larger spot immediately behind the eye; the sides of the head below this latter and cheeks are a greyish olive green; the rump and upper tail-coverts a rather bright olive green; the back and scapulars pale hair brown, so washed and overlaid with this color that little of the brown is visible; the wings are a dark hair brown; all the feathers margined with a brighter olive green, so that in the closed wing little else is visible; all the greater secondary coverts tipped with yellowish white, so as to form a conspicuous wing bar. In this particular specimen there are no traces of a second wing bar; in others there are. Chin, throat, breast, abdomen, white and silky, more or less shaded with grey, except in the middle of the abdomen, and generally a little streaked with very pale primrose about the throat and breast; edge of the wing rather bright yellow; wing-lining and axillaries more or less tinged with pale yellow; tibial plumes a sort of pale fulvous brown; sides grey, a little tinged with yellow, especially towards the flanks; entire under tail-coverts pure pale yellow; tail pale hair brown, overlaid more or less with the olive green of the back, and margined on the outer webs of the feathers, more especially towards their bases, with the same brighter olive green of the wings.

The first primary is very narrow, its exposed portion about 0·5. The third and fourth primaries about equal and longest; the fifth a little shorter; the second a little shorter than the

sixth. The first few primaries are often excessively narrowly margined with white ; the second throughout its whole length ; the third, fourth and fifth from beyond the feeble emargination which they exhibit.

564.—Reguloides trochiloides, *Sund.* (1.)

(*Karen Hills*, from 3,000 to 4,000 feet, Rams ; *Tonghoo*, Lloyd.) Salween R.

564 *bis.*—Reguloides flavo-olivaceus, *Hume.* S. F., V., 504, 330.

Under the name of *viridipennis*, Lord Tweeddale, (B. of B., p. 106.) refers to the smaller brighter race of *Trochiloides*, which Mr. Brooks and I formerly identified as *viridipennis*, and tells us that Ramsay obtained it in the Karen hills from 2,000 to 4,000 feet; what the true *viridipennis* is I have fully shown, S. F., V., 330. The race here referred to (for I doubt its being specifically separable) I have named as above (V., 504) in deference to Mr. Brooks' opinions; for my part I should unite it with *trochiloides*.

565.—Reguloides superciliosus, *Gm.* (11).

(*Tonghoo, Karen Hills*, from 700 to 2,500 feet, Rams.) Kollidoo ; Younzaleen Creek, Salween R ; Myawadee ; Kunkaryit, Houngthraw R ; Moulmein ; Mooleyit ; Mergui.

Generally distributed in the cold season throughout the province alike in hills and plains, but avoiding dense forest.

566.—Reguloides proregulus, *Pall.* (1).

Pine forests, Salween.

567.—Reguloides viridipennis, (3). *Blyth.* DESCR. S. F., V., 330.

Mooleyit.

I have already written fully about this species, *loc. cit.*

568.—Reguloides erochroa, *Hodgs.* (1).

(*Karennee*, at 3,000 feet, Rams.) Mooleyit.

569 *bis.*—Cryptolopha tephrocephala, *Anders.* (6). DESCR. S. F., III., 140.

(*Karennee Hills*, at 3,500 feet, Rams.) Kollidoo; Pahpoon ; Thoungya Sakan ; Moulmein ; Meetan.

Sparingly distributed, probably in the cold season only, throughout the northern and central portions of the province,

but not apparently ascending the hills about 2,500 feet elevation.

[I have always found these at the edges of forest paths or the outskirts of the forest and always singly. I noted nothing special about them; they were usually hunting about amongst the leaves like *Phylloscopi* and *Abrornis*. I do not remember hearing their note; in fact I have never hitherto taken any interest in this group.—W. D.]

The following are dimensions, &c., of one male and one female:—

Male.—Length, 4·75; expanse, 7·82; tail from vent, 1·82; wing, 2·12; tarsus, 0·65; bill from gape, 0·6.

Female.—Length, 4·75; expanse, 7·25; tail from vent, 2·0; wing, 2·25; tarsus, 0·7; bill from gape, 0·55; weight about 0·3 oz.

The legs and feet are yellowish fleshy; lower mandible and tip of upper mandible yellowish fleshy; irides dark hazel brown.

574.—Abrornis superciliaris, *Tick.* (4).

(*Tonghoo Hill, Karennee,* Rams.) Pine forests, Salween; Younzaleen Creek; Pahwin.

Sparingly distributed throughout the province in well-wooded localities.

The following are dimensions, &c., of two males and a female recorded in the flesh:—

Males.—Length, 4·3 to 4·55; expanse, 6·4 to 6·5; tail from vent, 1·75 to 1·82; wing, 2·0; tarsus, 0·75 to 0·8; bill from gape, 0·55; weight, 0·3 oz.

Female.—Length, 4·25; expanse, 5·82; tail from vent, 1·5; wing, 1·76; tarsus, 0·62; bill from gape, 0·55; weight about 0·5 oz.

Legs and feet are a greenish brown or yellow; bill black, bluish at base of upper mandible; irides dark brown.

576 *bis.*—Abrornis chrysea, *Wald.* Descr. S. F., V., 555.

Obtained by Ramsay in the Karen Hills.

Lord Tweeddale himself considers it very doubtful whether this is not identical with the previously described *Reguloides fulviventer*, Godwin-Austen, S. F., III., 398, which latter was founded on a carbolized example in which the green may have been changed to grey, and the yellow to white by the entire disappearance of the yellow pigment, exactly as explained above when treating of *Brachypodius cinereiventris*.

584 *ter.*—Henicurus leschenaulti, *Vieill.* (4). DESCR. S. F., V., 249.

Kollidoo ; Pahpoon ; Meeta Myo.

Confined to the rivulets of the denser evergreen forests, below 2,500 feet elevation, in the northern and central portions of the province.

[In general habits all the *Henicuri* are alike, inhabiting rocky streams, whose banks are well-wooded, running about amongst and over the rocks, and in the very shallow places, picking up insects which they seem always to capture by a short quick run, sometimes flying up a foot or two to try and seize some passing fly, and uttering a very very sharp single note, (not unlike the sound produced by turning sharply and jerkily the stopper, in the neck of a glass bottle). When disturbed they always rise and fly off uttering this note, which they continue some time after they have reseated themselves. Usually they fly up or down stream, but when hard pressed, they fly off a little way into the forest, and seat themselves on a branch a short distance from the ground, keeping up all the while their sharp call, but soon returning to the stream when all is quiet. The present species frequents, by preference, the tiny forest rivulets, and I have even found them in dark rocky ravines where there was hardly any water beyond a few small shallow pools amongst the rocks here and there. It keeps to the densest and darkest parts of the forest. Besides the localities at which I have obtained it, I saw a specimen in the forests near Meetan.—W. D.]

584 *quat.*—Henicurus frontalis, *Blyth.* (6). DESCR. S. F., V., 248.

Bankasoon.

Confined to the extreme south of the province.

[Like. *H. leschenaulti*, this species prefers the smaller rocky streams ; in its habits and voice it also resembles it. It occurs only in the extreme south.—W. D.]

585.—*Henicurus immaculatus*, Hodgs.

Blyth (B. of B., p. 97) gives this species from Tenasserim. It has not of late years been met with in this province, and I think its occurrence there doubtful, although no doubt it is found in the northern parts of Pegu, as for instance near Thayet Myo, and again in Arracan.

586.—Henicurus schistaceus, *Hodgs.* (20).

(*Karen Hills.* Rams.) Kyouk-nyat ; Pahpoon ; Thoungya Sakan ; Thoungsheyen Sakan ; Paraduba ; Mooleyit ; Meetan ; Meeta Myo ; Pakchan.

Confined to the larger hill forest streams throughout the province.

[I have found that this Forktail, unlike the other Tenasserim species, frequents large rocky streams, which are comparatively open, in preference to the small rivulets away in the depths of the forest. In its general deportment, habits and food it resembles the other species. It occurs on all the higher portions of the large streams, where these are among the low hills, and about the head waters of almost all our rivers.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 10·0 to 10·75; expanse, 12·0 to 12·25 ; tail from vent, 5·25 to 5·75 ; wing, 3·8 to 3·82 ; tarsus, 1·1 ; bill from gape, 0·95 to 1·0.

Females.—Length, 9·0 to 9·12 ; expanse, 11·25 to 11·5 ; tail from vent, 4·7 to 5·0 ; wing, 3·5 to 3·75 ; tarsus, 1·0 to 1·05 ; bill from gape, 0·9 to 0·95 ; weight, 0·7 to nearly 1·0 oz.

Legs, feet and claws pale fleshy white, tinged blue ; bill black ; irides dark brown.

588 *bis.*—Henicurus ruficapillus, *Tem.* (3).

Choungthanoung ; Pakchan ; Malewoon.

A straggler to the forest streamlets of the extreme southern portions of the province.

[Like *H. leschenaulti* and *H. frontalis* this species prefers small rocky rivulets in the depth of the forests. Its habits and voice are the same as the preceding species. It is the rarest species of *Henicurus* in Tenasserim.—W. D.]

The following are dimensions, &c., recorded in the flesh of one male and one female of this species :—

Male.—Length, 8·0 ; expanse, 12·0 ; tail from vent, 3·45 ; wing, 3·7 ; tarsus, 1·15 ; bill from gape, 1·07 ; weight, 1·25 oz.

Female.—Length, 7·6 ; expanse, 11·35 ; tail from vent, 3·0 ; wing, 3·5 ; tarsus, 1·15 ; bill from gape, 1·0 ; weight, 1·25 oz.

Legs, feet, and claws pale pinky or fleshy white ; bill black ; irides dark brown.

In his monograph of the genus *Henicuri*, *Ibis*, 1872, 257, Mr. Elwes says : "In some specimens which, according to Temminck, are males, the chin and throat are white, and the lower part of the back black, instead of red."

Now I cannot find that Temminck anywhere says that in the males the chin and throat are white : certainly he does not say this in the text of the Pl. Col., but he does say and correctly

that whereas in the male the red is confined to the cap, nape, or just the upper back, in the female it extends over almost the whole of that portion of the back which in the males is black.

The males have a frontal band extending just to the upper angle of the eye, white; a narrow band from the posterior angle of the eye over the eye, and over this white band, black; the lores, an excessively narrow band at the base of the upper mandible just under the white frontal band, the cheeks, greater portion of the ear-coverts, chin and entire throat, velvet black; the foreneck, breast, abdomen, vent, flanks, lower tail-coverts, axillaries, and all the wing-lining, except the feathers at and below the carpal joint, pure white; all the feathers of the breast narrowly margined with black, producing a series of crescentic marks there; rest of forehead, crown, occiput, sides of ditto, back and sides of neck and extreme upper back deep ferruginous red; the rest of back and the wings black, brownish on the primaries; the secondaries white tipped, and the secondary greater coverts also white tipped, and the short tertiaries also white. Rump, upper tail-coverts and tail white, the four central feathers with the terminal portions from half to two-thirds of their length black, narrowly white tipped.

In the females the red extends over the whole upper back, in undiminished purity of color, and thence over the scapulars, and nearly the whole of that portion of the back, which is black in the male, leaving only a black band from 0·1 to 0·2 wide, dividing the red from the white of the rump, but on all these parts the red is duller, browner, and less pure.

590.—Motacilla luzoniensis,* *Scop.* (13).

(*Tonghoo*, Rams.) Dargwin; Pahpoon; Khyketo: Beeling; Kedai-Keglay; Thatone; Moulmein.

Confined to the open and cultivated country in the northern half of the province. A cold weather visitant only.

591 *bis.*—Motacilla dukhunensis, *Sykes.* (6).

(*Tonghoo, Karennee*, Rams.) Pahpoon, Salween R.; Kedai-Keglay; Thatone; Moulmein.

Like the preceding.

592.—Calobates melanope, *Pall.* (4).

Pahpoon; Amherst; Pabyin; Tenasserim Town; Bankasoon.

Sparingly distributed during the cold season throughout the more open portions of the province. A familiar bird that comes

* What name the species, usually identified as *luzoniensis*, should bear has yet to be determined. It is most probable that this name cannot stand for this species, as Sonnerat described a grey-backed bird, and Scopoli quoting from him changed the word grey into black. However immature birds have the backs grey, and until the Wagtails of Luzon have been exhaustively worked, there can be no certainty, and it seems best to adhere to the accepted name.

about houses, and is found in all kinds of places except in heavy forest.

593 *ter*.—Budytes cinereocapilla, *Savi*. (17).

(*Tonghoo, Karennee*, at 3,000 feet, Rams) Khyketo; Kedai-Keglay; Thatone; Wimpong; Pabyouk; Kohbaing; Yea; Tavoy.

A cold weather visitant to the central and northern portions of the province, and there common. A field Wagtail *par excellence*, and if correctly identified, its occurrence at 3,000 feet in Karennee is noteworthy.

The following are dimensions, &c., of two males recorded in the flesh:—

Length, 6·8 to 7·0; expanse, 10; tail from vent, 2·82; wing, 3·12 to 3·72; tarsus, 1·0; bill from gape, 0·75; weight, 0·75 oz.

Legs, feet, and claws dark blackish horny; upper mandible and tip of lower mandible blackish horny; rest of lower mandible pale whitish yellow.

It is not necessary to give a full description of this species, though to prevent, if possible, the mistakes that collectors constantly make in regard to these species, it may be useful to reproduce here my friend Mr. Brooks' diagnosis of the males of three common Indian Yellow Field Budytes.

"*B. flava*	... Grey head, broad white supercilium, grey and white cheeks."	Generally distributed over the Old World, and northern half of the New.
"*B. cinereocapilla*	... Dark grey head, supercilium absent or else very narrow and white; often only a half supercilium behind the eye; cheeks a dark slate colour or almost black. This dark cheek is the well marked peculiarity of the species."	Eastern Europe, India, and China.
"*B. melanocephala*	.. Pure black head, with very rarely indeed a supercilium, and then very narrow, like a thin white thread. I have twice seen examples with this thread-like supercilium. The black head is a good distinction."	Eastern Europe, India, and China.

593 *quat.*—Budytes flava, *Lin.* (7).

Amherst; Mergui; Tenasserim Town; Bankasoon.

A cold weather visitant, apparently to the southern half of the province only.

594.—Budytes calcaratus, *Hodgs.* (1).

Pahpoon.

Davison only saw and obtained one single specimen, and that quite in the north of the province.

595.—Limonidromus indicus, *Gm.* (15).

Pahpoon; Thonngsheyeu Sakan; Kaukaryit, Houngthraw R.; Yeaboo; Amherst; Tenasserim Town; Bankasoon; Malewoon.

Generally distributed throughout the less elevated portions of the province, but I suspect only as a seasonal visitant.

[This species occurs throughout the province, but does not ascend the higher hills; it is generally met with in forest covered ground, in small parties, in pairs, or even singly, walking about under the trees and bushes and hunting about for insects. Its habits are very similar to those of the Pipits, *P. maculatus*, &c.: when disturbed they fly up into the surrounding trees, uttering a sharp Pipit-like note, and there they sit, walk along the branches, or fly from one to the other, shaking their tails all the while. They soon redescend to the ground when everything is quiet. This bird combines in its habits something both of the Pipits and Wagtails. Like the former, they are found in shady places, walking about in a demur way, uttering now and then a sharp single note, but like the latter they usually seize their prey with short sharp dashes, and when disturbed do not generally rise at once, but run on in front of one, taking short runs, stopping every few feet, and shaking their tails violently the while, but again, when they *do* rise, they Pipit-like fly up into the trees.—W. D.]

We have no Tenasserim specimens shot later than April. About the 1st May Davison saw one in the Gulf of Martaban, which came on board his ship. It does not seem to be at all certain that the great mass of this species in Southern India, and indeed in all parts of India in which they occur, (though I know that Blyth says they remain throughout the year about Calcutta) do not migrate somewhere about May, returning like *C. melanope* early in September; some few *do* certainly remain, but the mass, I believe, migrate. The point needs investigation.

The following are dimensions, &c., of three males and two females:—

Males.—Length, 6·7 to 6·75; expanse, 9·5 to 10·0; tail from vent, 2·8 to 3·0; wing, 2·95 to 3·15; tarsus, 0·8 to 0·9; bill from gape, 0·70; weight, 0·55 to 0·6 oz.

Females.—Length, 6·5 to 6·75; expanse, 9·4 to 9·75; tail from vent, 2·7 to 2·8; wing, 3·05; tarsus, 0·8; bill from gape, 0·75; weight, 0·62 oz.

Legs, feet, and claws pinkish flesh color; upper mandible dark brown; lower mandible fleshy pink; irides deep brown.

596.—Pipastes maculatus, *Hodgs.* (17).

(*Karen Hills*, from 2,600 to 5,000 feet, Rams.) Pine forests, Salween; Pahpoon; Beeling; Kaukaryit, Houngthraw R.; Thatone; Moulmein; Yea-boo; Mooleyit; Amherst; Meeta Myo; Pabyin.

Generally distributed throughout the province alike in hills and plains during the cold season.

[In Tenasserim this Pipit is always found in smaller or larger parties, frequenting shady places, and picking about slowly on the ground. When disturbed they fly up into the neighbouring trees, descending again as soon as the cause of disturbance has passed. They move about the ground very demurely and slowly.—W. D.]

599.—Corydalla richardi, *Vieill.* (40).

(*Tonghoo, Karennee*, Rams). Pahpoon; Kedai-Keglay; Thatone; Wimpong; Ko-go, Houngthraw R.; Moulmein; Amherst; Tavoy; Zadawoon; Mergui; Tenasserim Town; Pakchan; Palaw-tou-ton; Bankasoon.

Very common during the cold season, in all cultivated and open lands throughout the province.

[This species specially affects rice fields or turfy land. I did not find it on the grassy slopes near the top of Mooleyit, and it probably does not ascend the higher hills. Towards the end of March they are seen in moderately large flocks, and are then very shy, but during the winter months it is seen singly, when it is not shy. I have often seen them fly up off the ground and seize a passing insect.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 7·6 to 8·12; expanse, 11·75 to 12·75; tail from vent, 3·0 to 3·37; wing, 3·75 to 3·82; tarsus, 1·15 to 1·25; bill from gape, 0·8 to 0·82; weight, 1·0 to 1·1 oz.

Females.—Length, 7·12 to 7·62; expanse, 11·0 to 11·62; tail from vent, 3·0 to 3·1; wing, 2·85 to 3·55; tarsus, 1·2, bill from gape, 0·6 to 0·8.

600.—Corydalla rufula, *Vieill.* (37).

(*Tonghoo*, Rams.) Kaukaryit, Houngthraw R.; Pabyouk; Thatone; Amherst; Tavoy; Mergui; Tenasserim Town; Pakchan; Bankasoon; Mulewoon.

A permanent resident in the more open and cultivated tracts throughout the province, not however ascending the higher hills.

[Quite a common bird about turfy land and rice fields and also in gardens. There is not a bit of open land anywhere about Moulmein, Tavoy, or Mergui, where numbers may not be seen. It is a very familiar and tame bird, running about the gardens, and along the paths and roads, and even coming to within a foot or two of one's door. Though numbers may be seen within a very small circumference, yet they all seem to act quite independently of each other; their flight is undulating, and they utter, as they rise and during flight, a short sharp note. I have seen them often rise into the air, hover for a few moments, sing a sort of song, and then descend. I did not notice this bird at Pahpoon nor up at Mooleyit.—W. D.]

600 *bis.*—Corydalla malayensis, *Eyton.* (7.)

Bankasoon.

A straggler into the extreme southernmost portions of the province.

[I observed this only about the rice fields near Bankasoon, and even there it is not common. In its habits, &c., it differs in no way from *C. rufula*.—W. D.]

This species is very close to *rufula*, but differs in the darker upper surface, (and, generally, comparing birds of the same month, richer coloring) in having the spotting on the breast more strongly marked, in the stouter bill and also in the feet. *I believe* that in *malayensis* the first primary is equal to, or longer than, the second, while in *rufula* it is a shade shorter.

The following are dimensions, &c., recorded of this species; several females, but unfortunately only one male, measured :—

Male.—Length, 6·75; expanse, 10·5; tail, 2·5; wing, 3·5; tarsus, 1·05; bill from gape, 0·85.

Females.—Length, 6·45 to 6·75; expanse, 9·75 to 10·25; tail from vent, 2·12 to 2·4; wing, 3·1 to 3·15; tarsus, 1·05 to 1·1; bill from gape, 0·8.

601.—Corydalla striolata, *Blyth.* (3). Descr. S. F., I., 358.

Mergui; Bankasoon.

A rare visitant to the southernmost district of the province.

[I found this very rare, and only observed in at Mergui and Bankasoon. Like the others it frequents turfy and rice land.—W. D.]

It is very curious that while Davison and others have met with *richardi* in so many localities, and have preserved so many specimens, only three specimens have been obtained of the present species, one at Mergui and two at Bankasoon.

For the main differences between these two nearly-affined but distinct species, see Mr. Brooks' paper, S. F., I., 358.

The following are the dimensions recorded in the flesh of a large male :—

Length, 7·5; expanse, 12·0; tail from vent, 3·25; wing, 3·76; tarsus, 1·05; spread of foot, 1·7; hind claw, 0·5; bill from gape, 0·8; weight, 1 oz.

605 *bis*.—Anthus cervinus, *Pall.* (24). Descr. S. F., II., 239.

Khyketo; Theinzeik; Thatone; Kaukaryit, Houngthraw R.; Amherst; Yea; Tavoy; Tenasserim Town; Pakchan.

Generally distributed during the cold season throughout the more open and better cultivated tracts of the central and southern portions of the province, but not ascending the hills to any considerable elevation.

[I have only found this species in flocks. As a rule they keep to the rice fields, or other planted fields where there is cover. When disturbed they rise quickly one after the other with a very sharp clear note, which they continue to utter as they fly. They generally fly a couple of hundred yards or so and drop again, one after the other, and commence to creep about among the stalks, one occasionally showing itself for an instant on the top of a dyke or clod of earth, but diving rapidly again into cover. Occasionally I have seen them on the banks of rivers along the waters' edge. I have always found them very shy, and after they have been fired at a few times, they fly right away out of sight. —W. D.]

The following are dimensions recorded in the flesh:—

Males.—Length, 6·35 to 6·75; expanse, 10·5 to 11·0; tail from vent, 2·35 to 2·62; wing, 3·25 to 3·5; tarsus, 0·8 to 0·9; bill from gape, 0·62 to 0·7; weight, 0·75 to 0·8 oz.

Females.—Length, 6·25; expanse, 10·0; tail from vent, 2·3 to 2·5; wing, 3·15 to 3·3; tarsus, 0·76 to 0·8; bill from gape, 0·65; weight, 0·75 oz.

607.—Cochoa purpurea, *Hodgs.* (1).

Mooleyit.

Apparently confined to the higher slopes of Mooleyit, and rare there.

The following are the dimensions and colors of soft parts recorded in the flesh of a fine adult male :—

Length, 11·0; expanse, 17·25; tail from vent, 4·5; wing, 5·75; tarsus, 1·1; bill from gape, 1·3; weight, 3·5 oz.

Legs and feet dark plumbeous, shaded with black; claws dark horny brown; bill black; gape dark plumbeous; irides red brown; eyelids dark plumbeous.

610 *bis*.—Pteruthius æralatus, *Tick.* (13).

(*Karennee*, at 4,000 to 5,000 feet, Rams.) Mooleyit.

Apparently confined to the higher slopes of Mooleyit (where not uncommon) and the higher portions of the same range further north in Karennee.

[I have only obtained this species in the forests of Mooleyit, where I found it usually in pairs, occasionally singly, frequenting the tops of the highest trees, hunting about the smaller branches and foliage for insects. It has a rather pleasant single note which might be syllablized toweech, which it utters at short intervals, especially if there are two or more together. It is not shy, and I believe not uncommon, but from always keeping among the thick foliage of the tree tops (and I have never seen them elsewhere) they are seldom seen, and consequently seldom shot. If a pair happen to be together, and one is shot, the other, after a very short interval, commences calling, flying, from branch to branch and tree to tree, looking for its male.—W. D.]

The following are dimensions and colors of soft parts recorded in the flesh from a series of both sexes :—

Males.—Length, 6·5 to 6·9; expanse, 10·1 to 10·3; tail from vent, 2·2 to 2·4; wing, 3·05 to 3·21; tarsus, 1·05 to 1·1; bill from gape, 0·82 to 0·9; weight, 1·25 to 1·4 oz.

Females.—Length, 6·6 to 6·9; expanse, 10·0 to 10·25; tail from vent, 2·12 to 2·3; wing, 3·05 to 3·2; tarsus, 1·0 to 1·05; bill from gape, 0·85 to 0·91; weight, 1·4 to 1·62 oz.

Legs and feet fleshy white; claws pale brown to black.

Lower mandible and basal edges of upper mandible along commissure pale blue; rest of bill black; irides varied considerably, slaty grey, pale greenish blue, and deep brown.

The male has a white stripe immediately over the eye, continued backwards to the nape; the whole of the rest of the lores, forehead, top, back and sides of the head and face glossy black, with a slight greenish reflection; the black of the head extending more or less on to the nape; the entire under-surface albescent grey, except the under-tail coverts and vent feathers, which are pure white, and with more or less of a vinous tinge on the flanks; wing-lining and axillaries, and inner margins of quills, pure white; tail and wings glossy black; all but the first two or three primaries tipped with pure white.

The three tertiaries chestnut on the inner webs and at the tips; dull golden yellow on the outer webs, and with narrow black tips; entire back, scapulars, rump and upper tail-coverts, light slaty grey; in some specimens the lesser wing-coverts are more or less suffused with this color. In most specimens the longest upper tail-coverts are narrowly tipped with black; sometimes, in less mature birds I take it, obscure traces of similar tippings are just distinguishable on all the feathers of the rump and back; one very fine male has extremely narrow yellow tips to the tail feathers and a yellowish green tinge on the webs of the central ones, but this too I take to be indicative of immaturity.

In the female the stripe over and behind the eye is less marked and greyish white; the lores are very pale grey; the forehead and crown are pure clear grey, shaded on the occiput with olivaceous; the entire back, scapulars, and lesser wing-coverts, pale greenish grey, faintly fulvous on the rump, and generally purer grey on the longest upper tail-coverts. The females vary a good deal in the shade of the upper surface, which is greyer in some, greener in others; the wings are black; the later primaries and most of the secondaries narrowly tipped white; all but the first three primaries margined with golden olive, the 3rd to the 7th, however *below* the emarginations being margined white; primary greater coverts, blackish brown; both webs of tertiaries and a portion of the outer webs of secondaries and their greater coverts greenish golden olive; the tertiaries usually with a more or less distinct chestnut spot at their tips.

Tail feathers black tipped, the central ones very narrowly; (in some obsoletely) the lateral ones more and more broadly, with dull yellow; almost the whole of both webs of the central tail feathers, except just inside the yellow tippings, and the greater portion of the outer webs of the lateral tail feathers, and sometimes of both webs of the pair next the central feathers, suffused with the same greenish golden olive as the wings.

The lower parts are greyish white on chin, throat and foreneck, and very pale fulvescent white on breast, abdomen, vent, and lower tail-coverts, generally more or less shaded browner, or even slightly olivaceous on the sides and flanks. The color of the lower surface varies a good deal in different specimens; in some it is browner and more fulvescent than I have described, and the brownish fulvescent shade extends over the foreneck right up to the throat.

611.—*Allotrius melanotis*, Hodgs.

Blyth gives this species from Tonghoo, B. of B., p. 109, but I am inclined to suspect that he did not discriminate the nearly allied *A. intermedius*, and that this latter was the species of which he saw a specimen from Tonghoo.

611 *bis.*—Allotrius intermedius, *Hume.* (1). DESCR. S. F., V., 112.

Mooleyit.

Only obtained on the higher slopes of Mooleyit.

612.—Cutia nipalensis, *Hodgs.*

Obtained by Wardlaw Ramsay in Karennee at 6,000 feet; not observed by Davison anywhere further south, though it is such a conspicuous bird that, unless extremely rare, it could scarcely have escaped him.

613 *bis.*—Leioptila saturata, *Wald.* Ibis, 1875, p. 352 *n.* (5). L. davisoni, *Hume.* DESCR. S. F., V., 110.

(*Karennee*, Rams.) Mooleyit.

Confined in Tenasserim proper to the higher slopes of Mooleyit, but re-appearing in Karennee, in the continuation of the same range.

[I only found this bird at Mooleyit, quite near the top, usually in pairs, sometimes singly. I found it generally about the large trees surrounding the "*Sakans*" or camping grounds, strange to say climbing about the trunk and branches much after the manner of a Nut-hatch. I have also seen it hunting about the leaves and smaller branches of the tree tops. Those I killed had eaten only insects. I never remember to have heard it utter any note. It was very rare even where it did occur, and I only saw some six or seven.—W. D.]

When I named and described this species I was not aware that Lord Walden had already named it.

In the *August* 1875 number of the J. A. S. B., (which, if I remember rightly, was published many months latter,) Lord W. entered the bird as *annectans*, without a hint that he had bestowed on it a separate specific appellation. But it appears that in a *foot note* to a paper of Ramsay's which appeared in the *Ibis* for *July* 1875, his lordship had proposed the name *saturata* for it, very briefly indicating its characters. Naturally finding the bird unnamed in his latest published enunciation I did not suspect that he had already previously named it elsewhere.

615.—Leiothrix argentaurus, *Hodgs.* (11.)

(*Thoungyeen Hills, Karennee Hills*, from 1,500 to 4,000 feet, Rams.) 2,000 feet above Paraduba; Mooleyit.

Confined to Mooleyit and its higher spurs.

[This was not an uncommon species about Mooleyit and its slopes. Usually it was seen in small parties, hunting about the

brushwood and tops of the smaller trees for insects, occasionally in pairs, but never I think singly. I do not think they ever descend to the ground ; they are very lively birds, moving and hunting about much after the manner of Tits ; usually they are silent, but I *have* occasionally heard them make a feeble attempt at a song. Their food consists entirely of insects.—W. D.]

The following are dimensions, &c., of three males recorded in the flesh :—

Length, 6·65 to 7·0 ; expanse, 9·1 to 9·25 ; tail from vent, 2·75 to 2·82 ; wing, 2·85 to 2·9 ; tarsus, 0·95 to 1·0 ; bill from gape, 0·75 to 0·8 ; weight, 1·0 to 1·12 oz.

Legs, feet, claws, and bill are pale yellow or orange yellow ; irides crimson.

616.—*Siva strigula*, Hodgs.

Said to have been obtained in the Tonghoo Hills by Wardlaw Ramsay, but it seems to me probable that the bird which he got, really belonged to the nearly-allied *S. castaneicauda*.

616 *bis.*—Siva castaneicauda, *Hume*. (4). Descr. S. F., V., 100.

Mooleyit.

Confined in Tenasserim proper to the higher slopes of Mooleyit, but probably re-appearing in the Tonghoo Hills.

[I found this only on Mooleyit and rare even there. It was usually met with singly on the outskirts of the forest among the trees, dotted about the grass land, hunting about like a true Tit amongst the leaves and branches. Its food consists of insects. I did not hear the note that I am aware.—W. D.]

617.—*Siva cyanouroptera*, Hodgs.

Blyth gives this from the Tenasserim mountains, and Lord Tweeddale notes, B. of B., p. 110, that Wardlaw Ramsay obtained it in Karennee. It seems to me probable that the bird referred to in both cases was the very nearly-allied *S. sordida*.

617 *bis.*—Siva sordida, *Hume*. (4). Descr. S. F., V., 104.

Mooleyit.

Confined apparently to the higher slopes of Mooleyit, but perhaps re-appearing in Karennee.

619.—Minla castaneiceps, *Hodgs.* (10).

(*Karennee*, at 5,200 feet, Rams.) 2,000 feet above Paraduba ; Mooleyit.

Confined in Tenasserim proper to Mooleyit and its higher slopes, but re-appearing in the continuation of the same range in Karennee.

[This little bird was common on the slopes of Mooleyit from 3,500 feet and upwards, usually going about in flocks of twenty or more, and hunting in a systematic manner amongst the brushwood and trees ; generally commencing low down, and gradually working upwards clinging to the stems and trunks, and peering into every crack and cranny, keeping up the whole time a low twittering. They all worked in concert, and the moment one started, the rest followed in rapid succession. In their habits they much resemble the Tits. All those I examined had eaten only insects.—W. D.]

The following are dimensions, &c., of four males recorded in the flesh :—

Length, 4·4 to 4·7 ; expanse, 6·6 to 7·1 ; tail from vent, 1·5 to 1·7 ; wing, 2·1 to 2·3 ; tarsus, 0·7 to 0·8 ; bill from gape, 0·55 ; weight, 0·3 to 0·37 oz.

Legs, feet, and claws, pale greenish brown ; bill dark brown ; base of lower mandible plumbeous ; irides deep brown.

622 *bis.*—Proparus dubius, *Hume.* (23). Descr. Pr. A. S. B., 1874., 107; S. F., II., 447.

Pine forests, Salween ; Mooleyit.

Confined to the higher hill forests of the northern and central portions of the province.

[I obtained my first specimen of this bird out of a small party I found in a fern brake, to the north of Pahpoon. In the forests near the top of Mooleyit I found the bird common, generally in small parties, occasionally in pairs or singly, but these latter were probably breeding birds. They feed much on the ground, and among the low brushwood, and entirely on insects. They are not by any means shy, and when alarmed utter a note that sounds like chir chit, chit, chit—chir chit, chit, chit, repeated continuously.—W. D.]

The type specimen of this was procured in the pine forests of the Salween. Since then Davison found it extremely common near the top of Mooleyit at elevations of from 5 to 6 thousand feet.

The following is a *résumé* of the measurements of a large series :—

Males.—Length, 5·3 to 5·9 ; expanse, 7· to 7·3 ; tail, 2·3 to 2·5 ; wing, 2·19 to 2·35 ; tarsus, 0·8 to 0·9 ; bill from gape, 0·6 to 0·65 ; weight, 0·55 to 0·62 oz.

Females.—Length, 5·4 to 5·5; expanse, 6·7 to 6·95; tail, 2·1 to 2·35; wing, 2·05 to 2·2; tarsus, 0·85 to 0·9; bill from gape, 0·6 to 0·65; weight, 0·5 to 0·65 oz.

The legs, feet, and claws are always fleshy, sometimes fleshy white, sometimes dark fleshy; the bill is dull black or dark brown, generally pale at the base of the lower mandible; the irides varied extremely, sometimes pale yellowish red, sometimes pale yellowish or sienna brown: in one specimen dull slaty pink.

All our specimens, twenty-three in number, were obtained in January and February. It is possible that at other seasons (this is their breeding season) the colors of the soft parts may be different, the plumage also possibly may differ slightly. Unless this is the case, I am of opinion that *Minla mandelli*, Godwin-Austen, described, S. F., IV., 490, may, though extremely closely allied, prove distinct.

I have a specimen from the Shillong Peak killed on the 24th July, which is certainly Major Godwin-Austen's bird, and I notice certain slight differences between it and my bird, which if constant might entitle it to specific separation. The most important of these is that whereas in all our specimens of *dubius*, the feathers immediately behind the ear-coverts are like the ear-coverts, a rather dusky olive, only in some specimens faintly striated in their centre with pale fulvous, in the Shillong bird the whole of the feathers behind the ear-coverts, which are darker than in *dubius*, are somewhat elongated and pointed in shape, and have the inner webs pale buff, and the outer blackish dusky. Nothing like this is to be seen in any one of our specimens, and it is *primâ facie* to be presumed that this is characteristic of *mandelli*, as it is dwelt on in the original description. Then in my Shillong bird the tail is more distinctly rayed than in any specimen of *dubius*; the chin and throat are pure white in *dubius*, but they are strongly suffused with pale rufous or rufous fawn in *mandelli*.

There are perhaps slight differences in the shades of coloring elsewhere, but I cannot lay stress upon these, as my Shillong bird was killed in July, and summer and winter plumage always differs to a certain extent in this class of birds.

In size there appears to be no appreciable difference; the only clear tangible point of difference is in the character and coloring of the patch of feathers immediately behind the ear.

Since this was written, the following remarks by Major Godwin-Austen have appeared, (*Ibis*, 1878, 116).

"*Proparus dubius*, Hume.—I have compared with ten examples, and find very close to *Minla mandellii*, God-Aust.; but it is white beneath, and wants the streaked white and black feathers behind the ear-coverts, is smaller, more rufous, and

less striate on the head. In my opinion it is a good representative race, in the far south, of the Assam form. It is a true *Minla* in every respect. In the same way *Minla castaneiceps*, from Tenasserim, is paler below than the specimens from the Assam hills. Both these local races exhibit a variation equal in kind and degree, which is very interesting."

I do not agree that these birds are *Minla*, but I have no doubt now that we may consider the two distinct. I observe, however, that it is *mandelli*, described January 1876, and not *dubius*, described May 1874, that is the "representative race."

625.—Ixulus striatus, *Blyth*. Descr. S. F., V., 107.

The unique specimen of this species, a well marked and fully characterized one, was obtained by Col. Tickell on the 2nd March 1859 near Tretoungplee, a place at an elevation of about 3,000 feet, about 10 miles W. N. W. from the Peak of Mooleyit. Davison shot about this same locality at about the same season, but failed to observe it, though at Mooleyit itself, at an elevation of 6,000 feet and upwards, he obtained a nearly allied, but very distinct, species, *I. humilis*.

625 *bis*.—Ixulus humilis, *Hume*. (3). Descr. S. F., V., 106.

Mooleyit.

Confined to the highest portions of Mooleyit.

[I met with this species only once; it was hunting about the foliage near the top of a good sized tree. I heard it utter no note. It had eaten only insects.—W. D.]

630.—Herpornis xantholeuca, *Hodgs*. (6).

Younzaleen Creek; Thonganee Sakan; Mooleyit; Choulai Creek; Bankasoon.

Sparingly distributed throughout the evergreen forests of the province.

[I found this species rare, though generally distributed over the province. Usually it is seen in small parties of three or four, occasionally singly; it hunts about the foliage of trees and bushes, and much resembles the Tits in its general habits. Its food consists of insects; it is entirely a forest bird.—W. D.]

The following are dimensions and colors of soft parts, recorded in the flesh, of a male and three females:—

Male.—Length, 5·25; expanse, 8·5; tail from vent, 1·82; wing, 2·62; tarsus, 0·62; bill from gape, 0·64 oz.

Females.—Length, 4·5 to 5·1 expanse, 8·0 to 8·5; tail from vent, 1·6 to 1·8; wing, 2·6; tarsus, 0·62 to 0·7; bill from gape, 0·65; weight, 0·5 oz.

Legs, feet, claws and lower mandible fleshy white; upper mandible pale brown; irides red brown.

631.—Zosterops palpebrosus, *Tem.*

—Blyth, B. of B., p. 110, gives this from Tenasserim, and Wardlaw Ramsay is said *loc. cit.* to have obtained it in the Karen Hills. It has never yet been met with it in those parts of Tenasserim which Davison or others collecting for me have visited.

631 *quat.*—Zosterops siamensis, *Blyth.* (12).

Thatone; Mooleyit; Amherst.

Sparingly and very locally distributed throughout the central portions of the province alike in hills and plains.

[I found a few of these birds about the mangrove swamps to the south of Thatone, and again many near the top of Mooleyit. In all its habits and in its voice it exactly resembles *Z. palpebrosus*, so common in India, like it going about in small parties hunting for insects among the foliage. I found it avoided the dense forest, and kept along the outskirts, and especially among the stunted clumps of trees dotted about the grassy lands near the top of Mooleyit.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 4·25 to 4·5; expanse, 6·5 to 6·7; tail from vent, 1·4 to 1·6; wing, 2·05 to 2·15; tarsus, 0·5 to 0·6; bill from gape, 0·5 to 0·55; weight, 0·25 to 0·3 oz.

Females.—Length, 4·3 to 4·5; expanse, 6·8: tail from vent, 1·4 to 1·5; wing, 2·15 to 2·2; tarsus, 0·6; bill from gape, 0·5 to 0·55; weight, 0·3 oz.

Legs, feet, and claws pale plumbeous, sometimes greenish plumbeous; upper mandible and lower mandible from tip to angle of gonys black; rest of lower mandible pale plumbeous; irides pale brown to pale yellowish or ochre brown.

This species is so close to *Zosterops palpebrosus* that it perhaps scarcely needs a detailed description.

The upper surface is generally a shade yellower, and the whole of the breast, abdomen, &c., which are greyish white in *palpebrosus*, are in this species clear yellow, like the throat, shaded however in females and younger birds with olive green on the sides of the body, breast and flanks.

In perfect plumage the whole upper surface is a moderately bright yellow, with a slight olivaceous tinge on crown and back; younger birds are more decidedly green; the entire lower surface bright yellow, a little shaded with olivaceous on the sides and flanks. Generally the ear-coverts and sides of the head and neck are colored like the nape; sometimes, however, the sides of

the neck at any rate are bright yellow like the chin and throat. There is the usual white ring of eyelid feathers, a larger or smaller black spot in the lores immediately in front of the eye, and a black line running under the lower eyelid. Sometimes this is very conspicuous, sometimes quite the reverse. The wings and tail are hair brown, the latter with the feathers margined on the outer webs, specially towards the bases with olive yellow; the former with the coverts and tertiaries so overlaid with this color that the brown is scarcely visible, and all the primaries (except the first) and the secondaries narrowly margined with the same color. The axillaries are very pale yellow, the wing-lining white, here and there slightly tinged with yellow; the inner margins of the quills white or slightly creamy white; the edge of the wing brown, a little mingled with yellow.

631 *quint.*—Zosterops austeni, *Wald.* DESCR. S. F., V., 76.

Obtained by Wardlaw Ramsay in Karennee at an elevation of 2,500 feet.

631.—Ægithaliscus erythrocephalus, *Vigors.*

Obtained by Wardlaw Ramsay in Karennee at 3,000 feet.

645.—Parus cæsius,* *Tick.* (1). B. B., p. 112.

Thatone.

A very rare straggler to the central portions of the province.

[I shot a single specimen of this Tit in the mangrove swamps to the south of Thatone. It was quite alone, and I have seen no others anywhere else in Tenasserim.—W. D.]

645 *bis*.—Parus commixtus, *Swinh.* (4).

(*Karennee*, at 3,000 feet, Rams.) Pine forests, Salween; Younzaleen Creek.

Confined to the more open forests of the higher northern portions of the province.

[I met with this species occasionally in the pine forests to the north of Pahpoon; usually I found it in pairs, occasionally singly: one specimen I shot was in the middle of a large clearing working about the roots of an old stump. In its voice and habits this species does not differ from the common grey Tit, *P. cæsius*. It feeds apparently entirely on insects.—W. D.]

* It is not known where or when Tickell gave this name. Jerdon's quotation of it, B. of I., II. 278, is our only authority for it so far; but most certainly Jerdon took it from some other authority, probably from Blyth, and I think it best to retain it for the present.

the neck at any rate are bright yellow like the chin and throat. There is the usual white ring of eyelid feathers, a larger or smaller black spot in the lores immediately in front of the eye, and a black line running under the lower eyelid. Sometimes this is very conspicuous, sometimes quite the reverse. The wings and tail are hair brown, the latter with the feathers margined on the outer webs, specially towards the bases with olive yellow; the former with the coverts and tertiaries so overlaid with this color that the brown is scarcely visible, and all the primaries (except the first) and the secondaries narrowly margined with the same color. The axillaries are very pale yellow, the wing-lining white, here and there slightly tinged with yellow; the inner margins of the quills white or slightly creamy white; the edge of the wing brown, a little mingled with yellow.

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Identical with Chinese specimens, sent me by Mr. Swinhoe, with which I have compared them.

The following are dimensions, &c., of three males recorded in the flesh. We obtained no females :—

Length, 5·5 to 5·75; expanse, 8·25 to 8·3; tail from vent, 2·5 to 2·62; wing, 2·62; tarsus, 0·65 to 0·7; bill from gape, 0·4 to 0·5; weight, 0·4 to 0·5 oz.

Legs and feet dark plumbeous; bill black; irides dark brown.

No separate detailed description of this species seems necessary. It is precisely like *Parus cæsius*, except that on the nape and upper back immediately behind the black there is a strong greenish yellow tinge, much [illegible] though yellower than that, in the much smaller [illegible] very similar *P. minor*, of which likewise I have [illegible]s from Mr. Swinhoe.

649.—Machlolophus spilonotus, *Blyth.* (7).

(*Karennee*, at 3,500 feet, Rams.) Mooleyit.

Confined in Tenasserim proper to the higher slopes of Mooleyit, but re-appearing in the continuation of the same range in Karennee.

[I found this Tit not uncommon about Mooleyit from 3,500 feet and upwards, keeping about the tops of the larger trees, especially those around the open camping grounds. It was always in pairs; its note and habits are quite the same as those of *M. xanthogenys* or *M. jerdoni*.—W. D.]

We only procured this species in the immediate neighbourhood of the peak of Mooleyit, but not at a lower elevation than 3,000 feet. Tenasserim examples appear to be quite identical with others from Sikhim and Nepal.

The sexes do not appear to differ in size: a number of both sexes measured in the flesh :—

Length, 5·1 to 5·3; expanse, 9·6; tail, 2·2 to 2·4; wing, 3·01 to 3·1; tarsus, 0·65 to 0·75; bill from gape, 0·5 to 0·53; weight, 0·6 to 0·63 oz.

The legs and feet were deep plumbeous blue; the claws similar; gape white; bill black; irides deep brown.

Parus subviridis, Tickell, is undoubtedly the young of this species. The following was Blyth's original description, J. A. S. B., XXIV., 267, 1855.

"Affined to P. XANTHOGENYS and P. SPILONOTUS, but the whole of the under-parts dull yellowish-green, without a trace of black, passing to ashy on the vent and lower tail-coverts; back much the same, but darker, with the feathers centred yellower, imparting a mottled appearance; crown and nape

black; a few of the posterior long crest-feathers tipped with yellow; feathers at base of bill, the lores, cheeks and sides of neck, supercilia, and mesial nape-streak, bright yellow; wings and tail dull black; the great alars and caudals margined with ashy, and two or three of the primaries with whitish; a conspicuous white patch also at the base of the primaries; and the tertiaries are tipped on the outer web with an elongate whitish spot; this hue also extending up the inner web of the smallest tertiary: the smallest wing-coverts are tipped with ashy, and the first great range of wing-coverts with white upon both webs; the second range upon the outer web only, forming two cross-bands on the wing; the anterior half of the wing is white underneath, but the axillaries are light yellow; the outermost tail feather has its exterior web dull white, and a spot of the same tipping on the inner web, this spot being successively smaller on the penultimate and ante-penultimate tail-feathers; bill black and legs plumbeous. Length about 4¾ in.; of wing, 2¾ in.; and tail, 2 in.; longest crest-feathers, ⅝ in."

We have a young female, which measured as follows in the flesh, which answers exactly and precisely to the above description:—

Length, 5·1; expanse, 8·9; tail, 2·15; wing, 2·85; tarsus, 0·68; bill from gape, 0·5; weight, 0·6 oz.

This like the type was shot on the slopes of Mooleyit at an elevation of between three and four thousand feet, and at the same time a number of adults of this species were procured.

Although Colonel (then Captain) Tickell seems to have seen only one specimen, it was not at all uncommon at the end of January and during February in the Mooleyit forests.

650.—Melanochlora sultanea, *Hodgs.* (14).

(*Karennée*, Rams.) Kyouk-nyat; Pahpoon; Myawadee; Meeta Myo; Pakchan; Baukasoon.

Sparingly distributed throughout the forests of the province, but not ascending the higher hills.

[I found this beautiful Tit sparingly distributed throughout the province, except on the higher hills.

It keeps entirely to the forest, especially along the forest paths and where it is not very dense. It is almost always in pairs, though on one or two occasions I have seen parties of four or six together. Its note is very Tit-like, though much harsher and louder. Except when excited the crest is usually kept lowered, not erected like a Tit's, but when excited, it is at once raised and kept so for some considerable time. Its habits are quite those of a Tit, clinging in every conceivable position to the smaller branches, peering into every crack and under every leaf,

clinging even to the trunks of trees, and hunting in a most systematic way for the insects which alone constitute its food.—W. D.]

The Malayan race runs decidedly smaller than the Sikim one, but I do not think the two are specifically separable.

Northern Tenasserim specimens are closer to the Sikim Southern ones to the Malaccan form.

Taking at random a number of male and females from Sikim, I find that the wings measure—

Males.—4·2; 4·3; 4·3; 4·3; 4·15; 4·2; 4·35; 4·35.

Females.—4·05; 4·1.

Taking again a number of males and females shot by Davison at Malacca, Johore and Nealys, I find the wings—

Males.—4·2; 4·21; 4·16; 4·05; 4·0; 4·05.

Females.—3·75.

The wings of Tenasserim specimens:—

Kyouk-nyat.—*Male*, 4·3; *Female*, 4·05.

Pahpoon.—*Males*, 4·0; 4·5; 4·27; *Female*, 3·91.

Myawadee (near Mooleyit).—*Males*, 4·19; 4·25; *Females*, 3·95.

Meeta Myo.—*Males*, 4·05.

Bankasoon, extreme south.—*Males*, 3·91; 4·11; 4·0; 3·95; *Female*, 3·8.

This is only one of innumerable instances in which two supposed species, the one from the Himalayas, the larger form, the other from Malacca, the smaller form, identical in every thing but size, grade into each other in Tenasserim. The graduation of size is not, however, uniform and gradual throughout. As a rule, it seems that the species runs down only slightly diminished in size to somewhere near the latitude of Tavoy, below which there is a very sudden decrease, and then by the time you get to Malewoon, Bankasoon, and the Pakchan, the birds are only a trifle larger than those from Malacca and Johore. We have yet to work these changes out thoroughly for all the species referred to.

The following are the dimensions of both sexes of birds for Pahpoon and Kyouk-nyat:—

Males.—Length, 7·82 to 8·0; expanse, 13·0; tail from vent, 3·82 to 4·0; wing, 4·0 to 4·35; tarsus, 0·9 to 0·95; bill from gape, 0·6 to 0·75; weight, 1·25 to 1·4 oz.

Females.—Length, 7·75 to 8·0; expanse, 12·25 to 12·5; tail from vent, 3·5 to 3·8; wing, 3·9 to 4·05; tarsus, 0·85 to ·9; bill from gape, 0·65 to ·7; weight, 1·25 oz.

The bill is black; the irides deep brown; the legs and feet blue, varying through lavender blue, dull smalt, plumbeous, dark plumbeous; the claws black, bluish horny, dark horny plumbeous.

660.—Corvus macrorhynchus, *Wagler*. (10).

Pahpoon; Moulmein; Meeta Myo; Shymotee; Pakchan.

Generally distributed throughout the province alike in hills and plains; much commoner about large towns, and much rarer towards the south.

[This bird is comparatively rare south of Mergui; there are only a few to be seen about Malewoon, for instance. It is somewhat more common in the open country about Nalansine and Kraw. A pair or two are to be seen at almost every village among the hills, and even when I was encamped near the top of Mooleyit, a pair made their appearance on the second day, and remained with us the whole time. About all the large towns they are quite as common as *C. insolens*. I have seen them on some of the islands of the Mergui Archipelago. Though very tame and fearless about large towns, in out-of-the-way villages, I have invariably found them very shy.—W. D.]

I have already dealt fully with this species., S. F., V., 461.

663 *bis*.—Corvus insolens, *Hume*. (21). Descr. S. F., II., 480.

Kanee; Moulmein; Tavoy; Mergui.

Confined to the open plains country in the neighbourhood of human habitations throughout the province north of Mergui.

[This Crow is very common in the plains portion of Tenasserim about all the villages and towns, but it does not ascend the hills, as the preceding species does, nor does it go south of Mergui. At least I have never seen a single specimen south of Mergui, within our limits.

At Singapore I noticed a few very draggled-looking birds of the *splendens* type, with very grey necks, and on making enquiries, was told that they had been imported from Calcutta. —W. D.]

668 *ter*.—Platylophus ardesiacus, *Cab*. (17).

Palaw-ton-ton; Bankasoon; Malewoon.

Confined to the evergreen forests in the neighbourhood of the Pakchan.

[This species occurs only in the evergreen forests of the extreme south. It is a very restless bird, flying about from tree to tree, and branch to branch incessantly, sometimes close to the ground sometimes high up. Even when seated, it appears to be unable to keep its body quiet, but keeps bobbing and bowing.

It always keeps its crest fully erected, and as Dr. Stoliczka remarked it looks like a gigantic *Lophophanes*. Its note is very peculiar, and once heard not easily forgotten; it is a sharp clicking metallic rattle. A small metal rattle made to revolve rapidly would produce a very similar sound.

The food I believe consists entirely of insects, such as beetles, &c. It is almost always seen in pairs, but on two occasions I think I saw three or four together.—W. D.]

Tenasserim specimens do not differ from those of the Malayan Peninsula. I have a splendid series preserved by Davison and his assistants in both provinces, but native-prepared specimens from Malacca, from some cause, are almost without exception much greyer than our specimens shot in the same localities. The birds prepared at Malacca by the natives are dried without paper covers in the sun, which may account for the difference in color. Certainly, whereas Mr. Sharpe, describing from Malaccan specimens, defines the general color of the bird as dark slaty grey, there is not one particle of grey anywhere about the bird when freshly killed, or in good specimens that have been carefully preserved from the light in close paper covers from the first.

The sexes do not differ materially. The females are slightly smaller; and have the lower surface slightly paler, but no adult full plumaged bird that I have seen is at all slaty grey. Younger birds are, of course, grey beneath.

Since the above was written, the following remarks from the pen of my friend, Mr. D. G. Elliot, have appeared in the *Ibis*:—"In the lately published third volume of his 'Catalogue of Birds' (p. 317, *et seq.*), Mr. Sharpe has acknowledged three species of the genus *Platylophus*, as follows:—*P. galericulatus* (Cuv.), from Java, with a jet-black plumage; *P. ardesiacus*, (Cab.), from the Malayan Peninsula, with a slaty black plumage (back inclining to olive-brown, beneath slaty grey); and *P. coronatus* (Raffles), from Sumatra and Borneo, with a rufous-brown plumage. Cuvier (who evidently named the bird from Levaillant's figure), and Vieillot (who gave a short description of it in the same year, under Cuvier's name), apparently had never seen the species, and their type specimens, if existing, are not known. Having had occasion lately to investigate a portion of the *Corvidæ*, my attention was drawn to the specimens in the Paris Museum, which served as the types of Lesson's *Vanga galericulata*, which he refers to Cuvier's *Garrulus galericulatus*, and the result of my examination is as follows:—There are two examples, representing male and female, both brought from Java by M. Diard in 1821. The male is in the black dress characteristic of *P. galericulatus* (Cuv.), but is not in fully adult plumage, as I perceive by comparison with

another male, also from Java, brought to the museum in 1861, by M. Steenstra. Lesson's bird has the greater coverts, primaries and secondaries greyish brown on the outer webs, while this part in the adult is dark purplish brown. The back is also inclined to a greyish hue. In other respects it resembles M. Steenstra's adult specimen, though not quite so black in any part of its plumage.

"The female of Lesson's example (so marked by its collector) has the wings and body rufous, and the tail slaty black, and is in the style called *Lanius coronatus* by Raffles. Two young males in the museum from Malacca are intermediate between these type specimens, having rufous wings, a greyish back, and slate-grey beneath, and many of the feathers tipped with white. This is the style termed *P. ardesiacus* by Cabanis; but the examples are so evidently only young male of *P. galericulatus*, that there could be no hesitation in deciding the point, even if the indication of their sex had not been given by the collector. In fact, these five specimens present a complete graduation of plumage from that of the female to the adult male. It seems, therefore, very clear to my mind that there is only one species of *Platylophus*, *viz.*, *P. galericulatus* (Cuv.), of which the so-called *P. coronatus* is the female, and *P. ardesiacus* and *P. malaccensis*, of Cabanis are, males in immature plumage. It will be noticed that, among the specimens in Mr. Sharpe's possession, there are no authenticated females of either *P. galericulatus* or *P. ardesiacus*, nor any males of *P. coronatus*, which, if there is only one species, would naturally be the case."

Now Mr. Elliot *may* be right in his main contention that there is only one species (though this even I doubt, as, out of some 50 Malayan specimens, there is not one *nearly* so black as Javan birds are described); but he is certainly wrong in supposing that *coronatus* represents the adult females. Of the Malayan and Tenasserim birds the adult females differ barely perceptibly from the males, and then only as above mentioned.

Coronatus very possibly represents the young of *both* sexes, as these do not differ; and if all previous descriptions of the Javan bird are *not* incorrect, and that bird when fully adult *really* is *jet* black, which our Malayan and Tenasserim birds *never* are (see below a full and exact description of both young and old), then probably our birds will eventually have to take Raffles' name. For the present, however, I prefer to retain Cabanis' name, I having no Sumatran specimens to compare.

The following are dimensions, &c., recorded in the flesh from a number of specimens:—

Males.—Length, 11 to 11·8; expanse, 17· to 17·5; tail from vent, 5·0 to 5·62; wing, 5·4 to 5·76; tarsus, 1·3 to 1·35; bill from gape, 1·35 to 1·4; weight, 4 oz.

Females.—Length, 10·5 to 11·35; expanse, 15·5 to 16·5; tail from vent, 4·5 to 5; wing, 5·18 to 5·5; tarsus, 1·2 to 1·25; bill from gape, 1·26 to 1·37; weight, 3·25 to 3·75 oz.

In both sexes the [redacted] claws, and bill are black; the eyelids dark b[redacted] the irides are reddish brown, varying from a [redacted] brown to a litharge red.

The occiput is adorned with an immensely long flat crest; the two longest and broadest feathers of which vary from 3 to 3·5 inches in length, the next longest feathers being from 1·25 to 1·5 shorter.

In life this crest is carried perpendicularly upright from the head, giving the bird a most remarkable appearance.

The entire head, neck all round and crest, black, washed a little on the forehead, crown, and throat by a deep brown slightly olivaceous shade. A conspicuous spot of white feathers just above the posterior angle of the eye; a similar but much smaller and less conspicuous one in a corresponding position below the angle of the eye. A broad white color on the sides of the neck, not quite meeting on the nape, and much the broadest on the sides of the neck immediately behind the ear-coverts.

The entire mantle and rump deep brown, almost black in some lights, with a faint olivaceous shade. The earlier quills hair brown, growing successively darker till the inner webs of the later secondaries and tertiaries are almost blackish brown; all the quills margined and the outer webs of the secondaries and tertiaries overlaid with the olivaceous shade already described.

Tail feathers black; breast, abdomen, vent and lower tail-coverts deep sooty brown, almost black, but still a duller and browner color than the throat, and sides of the head.

The wing-lining and axillaries similar, blacker towards the edge of the wing, where a few of the feathers are narrowly margined with white.

The youngest bird that we have obtained, which, despite its long crest, is clearly a nestling, has the head and crest a dull black, the shorter crest feathers *broadly* tinged towards their ends, and the two longest feathers *narrowly* tipped with ferruginous brown. The mantle and back are all overlaid with a dark rusty brown tinge; the wings are similarly, but even more strongly tinged, and there is a warm rusty buff spot at the tips of the greater coverts, and a trace of the same at the tips of the secondaries. The throat is greyish black, very narrowly and obsoletely barred with white; the rest of the lower surface is dark slaty grey, irregularly but closely barred with white, in many places with a buffy tinge; several of the feathers of the breast just at the base of the throat have a buffy ferruginous tinge; the white collar feathers are perfectly pure in color, but the exterior ones are delicately fringed at the tips with black,

and this I note is equally the case in some of the most perfect adults.

There is no grey about the forehead to speak of, nor are the lores whitish, in this or any other of the numerous young birds which we have. The white tips are rather smaller and less conspicuous than in the adults.

The bird continues to be dark slaty grey beneath long after the fulvous tippings have disappeared from the wings, and after the bird has in every other respect obtained its full plumage, but generally, in fact in all our numerous specimens, some tiny white specks still remain mingled with the dark grey of the under surface, the last traces of immaturity, but I would again repeat that not one of the enormous series of adults preserved by ourselves has the under surface so colored that it can with any regard to accuracy be designated slaty grey.

669 *bis*.—Garrulus leucotis, *Hume*. (13). DESCR. Pr. A. S. B., 1874, 106; S. F., II., 443.

(*Karennee, Tonghoo.* Very generally distributed both in the hills and plains of the Tonghoo Province, Rams.) Kyouk-nyat; Myawadee; Larthorgee; E-poo; Paraduba.

Almost confined to the northernmost portions of the province, but occurring also about the bases of Mooleyit and its spurs.

[I found this Jay not uncommon in the dry *Dillenia* forests lying between Myawadee and the foot of the Mooleyit Hills. I also saw one small flock in the hills above Kyouk-nyat, elevation 2,500 feet. Usually I found it in small parties, occasionally in pairs or singly, going about the tops of the trees, one occasionally perching itself upon the very top of some tree in the self-sufficient way in which only a Jay can. The habits are quite those of the other Jays, and they have the same harsh note. The stomachs of several that I opened contained only green grasshoppers. They of course, like other Jays, frequently descend to the ground.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 12·5 to 13·12; expanse, 20·75 to 21·5; tail from vent, 5·1 to 5·3; wing, 6·8 to 7·0; tarsus, 1·6 to 1·7; bill from gape, 1·5; weight, 5·5 to 6·0 oz.

Females.—Length, 12·1 to 12·5; expanse, 20·5 to 21·0; tail from vent, 4·6 to 5·3; wing, 6·55 to 6·9; tarsus, 1·55 to 1·75; bill from gape, 1·4 to 1·5; weight, 5·25 to 6 oz.

Legs and feet whitish horny or flesh colour; bill blackish horny or dull black, whitish at tip; irides lighter or darker wood brown.

689 *sext.*—**Sturnia sturnina**, *Pall.* (S). DESCR. S. F., II., 249.

Moulmein; Amherst; Tavoy; Mergui.

A rather rare cold weather visitant to the southern half of the province.

[A rare bird in Tenasserim, most abundant in the dry forests between Moulmein and Amherst. It goes about in small flocks, and entirely resembles *nemoricola* in its voice and habits, but is much more shy.—W. D.]

The following are dimensions, &c., recorded in the flesh of one male and two females:—

Male.—Length, 7·62; expanse, 13·12; tail from vent, 2·0; wing, 4·36; tarsus, 1·50; bill from gape, 1·0.

Females.—Length, 7·35 to 7·75; expanse, 12·6 to 1·32; tail from vent, 2·1; wing, 4·1 to 4·12; tarsus, 1·0 to 1·1; bill from gape, 0·8 to 0·9; weight, 1·75 to 2 ozs.

Legs and feet dull earthy green; the bill varies from black to brown and is greenish blue, or whitish at base of the lower mandible.

The young of this species is fully described, S. F., II., 251. Considerably older examples are described by Mr. Blyth, whose description is given on the page preceding that just referred to, but he does not appear to have had perfect adults before him.

In the perfect adult the plumage of the two sexes is quite alike. An obscure white line runs from the culmen over the nostrils and lores to near the upper margin of the eye; below this the lores are pale brown; the chin and just the upper part of the throat are pale rather rufescent fawn; the forehead, crown, sides of the occiput and nape and upper portion of sides of the neck, a delicate pale grey; a large metallic purple spot on the occiput; the upper back grey, like the crown, but streaked with metallic purple; the whole of the rest of the back and the rump and all the lesser wing-coverts, and the interior scapulars, and the longest upper tail-coverts metallic purple; visible portions of the quills, except the margins of the 1st four primaries and the greater coverts, metallic green; all the quills margined at the tips with velvet black; the 1st four primaries margined on the outer webs to near the tips with pale brownish fawn color. A large patch of buffy fawn color at the base of all the earlier secondaries; the winglet black, edged exteriorly with fawn color; the edge of the wing just below this white and pale brown; the secondary median coverts, and sometimes the first secondary greater coverts white, tinged with salmon buff posteriorly which is the color of the longer outer scapulars, and of a conspicuous longitudinal spot at the tips of the

tertiaries, which elsewhere are the same metallic green as the secondaries; upper tail-coverts, except the longest already described, and feathers at the sides at the base of the tail a warm salmon buff, and lower tail-coverts white, with a strong tinge of the same color; entire outer web of the outer tail feather of this same color; rest of throat, breast, lower portion of sides and neck, abdomen and sides of the body, white, with a very faint grey shade; wing-lining and axillaries pure white; on the under surface of the wing the outer portions of the inner webs of the quills with a pale salmon colored tinge.

691.—Saraglossa spiloptera, *Vig.*

Obtained by Wardlaw Ramsay on the thickly-wooded slopes of the Karen Hills; not seen as yet elsewhere in Tenasserim by Davison, though *said* to have occurred at Mooleyit.

691 *bis.*—Calornis chalybæus, *Horsf.* (61).

Yea; Meeta Myo; Tavoy; Mergui; Pakchan; Bankasoon; Malewoon.

Confined to the southern half of the province, and not quite reaching the northern limits of that; avoids dense forests and does not ascend the hills.

[I have never noticed this species to the northward of Yea, and until Mergui is reached it is not a common bird. About Malewoon and Bankasoon it is very abundant, keeping in flocks about the edges of the forest, and in clearings, where a good many trees are left standing. They are very noisy birds, and have a sharp metallic single note. At Malewoon, several cocoa-nut palms growing on the banks of the creek in the heart of the town formed a nightly roosting place for an immense number of these birds, and just about dusk flocks would keep arriving, till many hundreds had assembled, and the chattering and screaming and fighting that went on till all were comfortably settled for the night was something awful. At Tavoy and Mergui the "*Htees*" or gilt ornaments on the top of the Pagodas were nightly resorted to by numbers, and in these "*Htees*" the birds also breed.

These birds feed largely on small berries, but eat insects as well; they never, that I am aware, descend to the ground.—W. D.]

The Tenasserim specimens are all identical with Sumatran and Malaccan specimens, and both Mr. Sharpe (*Ibis*, 1876., p. 46.) and Count Salvadori (U. di B., 271.) show sufficient to establish the identity of Javan, Bornean, Sumatran, and Malaccan specimens, and I therefore adopt Horsfield's name.

I have now an enormous series of these birds from many localities, and I find that it is impossible to separate the

Continental Indian form *affinis* of Hay. Birds of this species vary a good deal in tint, according I think to season, but it may be according to age, some being considerably brighter than the others, and if a bright Malaccan specimen is placed beside a dull Tipperah one, the difference is considerable; but I have several specimens from Tipperah not only as bright as the brightest Malaccan specimens, but also as bright as specimens from Acheen in Sumatra. This perfect similarity of color was admitted by Blyth when he originally described *affinis* (J. A. S. B., XV., 36., 1846). He said: "Plumage of the two species absolutely similar at all ages and glossed as brightly in fine specimens of either. The only difference he accepted between the species was that of size. He said: "This differs from the Malayan *C. cantor* in its larger size; wing, 4 inches to 4·25 instead of $3\frac{1}{2}$ to $3\frac{5}{8}$".

Now, as a matter of fact, these latter dimensions for the Malayan race are totally wrong. Davison preserved thirty specimens which he shot in Singapore Island, in the neighbourhood of Malacca, and at Pulo Seban, about 22 miles from Malacca, and the following were the dimensions recorded in the flesh of these birds:—

Males.—Length, 7·75 to 8·5; expanse, 12 to 13; tail, 2·9 to 3·1; wing, 3·8 to 4·25, (the majority exceeding 4·0); bill from gape, 1·05 to 1·1; weight, 1·75 to 2·25 ozs.

Females.—Length, 7·62 to 8·25; expanse, 12·25 to 12·5; tail, 2·5 to 3·0; wing, 3·82 to 4; tarsus, 0·75 to 0·85; bill from gape, 1·0 to 1·05; weight, 1·75 to 2·25 ozs.

We have unfortunately no specimens measured in the flesh of the Continental Indian bird, but the following are the dimensions of the wings of ten specimens taken at random:—

Cachar, ad. 4·3, 4·15; Juv. 3·9, 3·85.
Tipperah, ad. 4·1, 4·3; 4·1, 4·2; 4·2.
Dacca, ad. 4·3.

It will be seen that there is no difference in the dimensions of the Singapore, Malaccan, and Continental Indian birds, though doubtless native-prepared Malaccan skins, of which we also have several, are screwed up so as to look very much smaller, but when really large series are examined, there is no difference between the birds from the south and north.

In Tenasserim we did not meet with the species anywhere north of Yea, and I do not know of its occurrence in Pegu, but it occurs in Arracan, Chittagong, Tipperah, Cachar, and Dacca. The birds occurring in this last set of localities are, therefore, apparently isolated by a wide break from their fellows in Southern Tenasserim and the Malayan Peninsula, and it would therefore, *primâ facie*, have appeared likely that they should have differed in some way, but after a careful study of certainly the

largest series ever got together I am perfectly certain of their absolute identity. In Tenasserim alone we preserved no less than sixty-one specimens, and I subjoin the measurements of a number of these which were recorded in the flesh:—

Males.—Length, 8·5 to 8·62; expanse, 12·75 to 13·5; tail, 2·8 to 3·2; wing, 4 to 4·25; tarsus, 0·8 to 0·9; bill from gape, 1· to 1·1; weight, 2· to 2·25 ozs.

Females.—Length, 7·82 to 8·3; expanse, 11·82 to 12·62; tail, 2·5 to 3·; wing, 3·62 to 4·; tarsus, 0·75 to 0·82; bill from gape, 1·0 to 1·1; weight, 1·75 to 2 ozs.

In all adults the legs, feet, and bill are black; the irides crimson scarlet. In younger birds the legs and feet are brownish or bluish black; the irides yellowish white; at a later stage the irides are pale yellow with a reddish brown tinge, then they become orange vermilion, and finally scarlet crimson.

Calornis tytleri, on the other hand, is perfectly distinct in color; we have enormous series of this also. Laid amongst Sumatran, Malayan, Burmese, and Eastern Bengal birds, it looks almost black; any good specimen of it can be separated at a glance from any and every one of the over one hundred specimens now before me from these various localities.

Except in the matter of the difference of the shade of plumage in the adult and its somewhat larger size,* *tytleri* adult and young is so close to the present species that my description of it, S. F., I., 481, will, I think, suffice to enable my Indian readers to identify the present species. All that they have to remember is, that the present species has a much brighter and lighter metallic green gloss, and is smaller than the Andaman and Nicobar species.

693.—Eulabes javanensis, *Osbeck.* (51).

(*Tonghoo*, Rams.) Kollidoo; Kyouk-nyat; Pahpoon; Endingnone; Pabyouk; Assoon; Amherst; Lemyne; Zadee; Meeta Myo; Pakchan; Bankasoon; Malewoon.

Common throughout the province, but not ascending the higher hills.

[In Tenasserim this is a very common bird, frequenting in greatest numbers the better-wooded portions, but found wherever there are trees, almost always in small flocks but not unfrequently in pairs. They feed exclusively on fruits, especially the softer ones, and are very partial to figs. They have a wonderful variety of notes, some of them rather pleasant ones, but the majority harsh and grating. When feeding, or when seated at rest during the day in some leafy tree, they keep calling to and answering each

* The dimensions of *tytleri* are as follows:—Length, 8·25 to 9; expanse, 13·5 to 14·5; wing, 4·2 to 4·75.

other in a low hoarse croak. They never, I think, descend to the ground.—W. D.]

The Marquis of Tweeddale (*Ibis*, 1877, 319) says that specimens of the hill Myna from south-east Sumatra are identical with others from east Java. On the other hand, specimens from the north-west of Sumatra are identical with others from Singapore and Malacca.

But I have reasons for suspecting that possibly a break in the Fauna occurs across Sumatra just as it does across Tenasserim, between Tavoy and Mergui; and that, while many species remain unchanged throughout the whole length of the Island, of others two distinct forms occur, the one to the west, the other to the east, the westward one in such cases being identical with that of the Malay Peninsula, and the eastern with those of Java and Borneo.

For the present, therefore, I am not in a position to assert that the Malayan race is identical with the Javan; still, I think, this probable, and as, if two distinguishable races do exist in Sumatra, it would be impossible to decide to which of these Lesson's name *sumatranus* applies. I am obliged to adopt provisionally the name *javanensis* for our Tenasserim birds.

I have already discussed at some length the variation in the Hill Mynas of India, Burma and the Malay Peninsula, S. F., II., 254, and having since then collected vigorously specimens of this species from all localities, I see no reason to alter the conclusions at which I then arrived, *viz.*, that while birds from Sumbulpoor to Sikim, and Sikim to Singapore and N. W. Sumatra, differ in no other respect, there is a gradual decrease in size as you proceed northwards from the Straits to the Himalayas, and again as you proceed southwards from the Himalayas to the Tributary Mahals and Sumbulpore.

In Tenasserim we preserved fifty-one specimens, from Kollidoo at the extreme north to the Pakchan Estuary at the extreme south, and while big and small birds occur everywhere, still in this series the gradual increase in size towards the south is apparent.

As a body the birds are decidedly somewhat smaller and have smaller bills than birds obtained in N. W. Sumatra, Singapore, Johore, and various other places in the neighbourhood of Malacca. But individual specimens occur in Tenasserim as also in the Sikim Terai and Kumaon Bhabur, which are scarcely, if at all, smaller than the largest Malaccan birds, while on the other hand a good many of our Malayan specimens are not a bit larger than several of our fine specimens from Tenasserim. Still unquestionably taking the specimens as a whole the Tenasserim birds run somewhat smaller than those from the Malayan Peninsula, as will appear by a comparison of a summary of

the measurements in the flesh which we recorded of some of each sex of each :—

	Length.	Expanse.	Tail.	Wing.	Tarsus.	Bill from gape
Tenasserim *Males*	11·4-12·37	20-22	3-4	6·25-7·05	1·25-1·37	1·62
Malaccan *Males*	13-13·12	22·75-23	3·6-4	7·15-7·26	1·5	1·55-1·75
Tenasserim *Females*	11·25-12	19·6-21	3-3·5	6·35-6·75	1·4-1·55	1·5-1·65
Malaccan *Females*	12·25	22	3-4	6·82	1·55	1·65.

No doubt if we had measured a greater number of specimens, the variation of individuals from each locality would have been greater.

As regards the Andaman and Nicobar race, although I would not separate it, yet undoubtedly it presents two small *almost* perfectly constant characters. The first being the length of the bill, as compared with northern Indian specimens of the present species, and its slenderness, as compared with Southern Malayan specimens; and, secondly, the narrowness of the feathered line which, running down from near the posterior angle of the eye, divides the upper portion of the bare cheek patch from the lappet.

693 *quat.*—Ampeliceps coronatus, *Blyth.* (15.) Descr. S. F., IV., 335.

(*Tonghoo*, Lloyd) Moulmein ; Meetan ; Amherst ; Yea ; Meeta Myo ; Tavoy.

Confined in Tenasserim proper to the thin tree jungle tracts between the lat. of Moulmein and Tavoy, but re-appearing in Tonghoo.

[The Gold-crested Grackle is not a common bird, and, as far as I have observed, occurs only in dry comparatively open jungle, usually in small parties, occasionally in pairs. The varied notes of this bird are very similar to those of *E. javanensis*, but it has also a harsh metallic one like that of *Grypsirina varians*. In its general habits too it much resembles the Hill Myna. I have not observed it south of Tavoy, nor do I think it ever enters heavy forest, being found chiefly in dry sparsely-wooded land. It eats berries, and also insects.—W. D.]

Blyth gives this from Cochin China. I have a specimen shot by Mr. Inglis in the north-east of Cachar.

694.—Ploceus baya, *Blyth.* (28).

(*Tonghoo*, Rams.) Pahpoon ; Amherst ; Tavoy ; Long Island ; Mergui.

Common in suitable localities throughout the province.

[This Weaver Bird is very common where it occurs, being found in long grass, in clearings, and rice fields, in secondary jungle, and even in gardens. It is always in flocks or larger or smaller parties. South of Mergui I did not observe it, nor are there really suitable localities for it there, but it re-appears

with such localities further south in the Malay Peninsula. It does not appear to ascend the hills. Its habits and notes are quite similar to those of the well-known southern Indian species.—W. D.]

I have entered all our specimens as *Ploceus baya*, because I am almost certain that the name *philippinus** really applies to the Indian and not to our bird.

I must explain that exclusive of *Ploceus striatus*, Blyth, which I understand is generally accepted as identical with *P. manyar*, Horsf., (though Horsfield's original † description omits entirely the conspicuous striation on the breast which invariably distinguishes the non-breeding plumage of *striatus*, and Horsfield, if he described the bird at all, was describing the non-breeding plumage), and again excluding *Ploceus bengalensis*, in regard to which no doubt can exist, and which is sufficiently fixed by P. E., 393, fig. 2, and old descriptions; and again excluding the Golden Burmese Weaver Bird commonly called *hypoxanthus* ‡, Daud, (a name which cannot possibly apply, the species thus named being totally differently colored and very closely allied to the South African *Crithagra sulphurata*,) and to which the description of Lesson's *javanensis*, § the name most recently assigned to this species applies extremely ill, (seeing that when the bird becomes golden yellow, its bill is black and not yellowish) I say, excluding these three species, which, whatever their right names, are clearly defined and well-known, there are three species of *Ploceus* that occur within our limits; first the smaller race, which I believe to be the true *philippinus* which occurs over the greater part of the Continent of India; second, the larger race which occurs in Nepal Sikim, Eastern Bengal, throughout Burma, and the Malay Peninsula, and which is apparently *baya* of Blyth; and

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* Loxia philippina, *Lin.* S. N. I. 305, 1766, ex. Briss.—philippinensis. Briss. Orn. III., 232. pl. XII. f. 1 male 1760.—Gross bec des Philippines. D'Aub. P. E., 135 f. 2—maculata. P. L. S Müll. Suppl. 150. 1766. ex. P. E.

† "Fringilla manyar, *Horsf.* Trans. L. S. XIII. 160. 1821. Above dusky "feathers bordered with ferruginous, beneath white tinged with yellow; the throat "and breast, *saturatiore*. superciliary line, yellowish."

‡ Loxia hypoxantha, *Daud.* Man. d'Orn. II., 429, 1800,—Sparrman. Mus: Carls fasc. III. 71.

"Scarcely larger than the Serin, properly so called, beak, conic, oval, and pale; iris "of a reddish color. Plumage yellowish; forehead and eyebrows yellow; all the "coverts and the quills black, bordered with yellow; feet pale.

"This species inhabits Sumatra and frequents the rice fields. It is very close to "the following species" (which is *Crithagra sulphurata*, Lin. of South Africa.)

§ "Loxia javanensis, *Lesson.* Traite d'Orn, I., 446, 1831. "26. Gros bec jaune; *Loxia javanensis*. Golden yellow, mantle *brown*; wings grey and brown; face and throat reddish black; *bill* and tarsi yellowish. From Java, Leschenault."

N.B.—Though I have called this species a *Ploceus*, I quite agree with Mr. Oates that it is a perfectly distinct form, deserving generic separation. The eggs alone suffice to show that it is not a true *Ploceus*. My own belief is that *javanensis* is distinct, and that the Burmese bird requires a name. In our museum it stand as *chrysens*.

third *P. megarhynchus*, nobis, (described, *Ibis* 1869, 356 S. F., III., 406.)

First as to *megarhynchus*; many years ago I shot the types, both females, near Kaladoongee, below Nynee Tal.

These specimens are still in our museum in splendid order. Nothing in the way of *Ploceus*, that we have been able to obtain anywhere else in India, comes up to them in size, and they differ from the larger-billed Nepal, Sikim, Eastern Bengal and Burmese species, not only in size but in the darker and more rufescent tone of the entire plumage. In the almost entire absence of striations on the crown, the much broader and sparser striations of the back, in the entire absence of any rufous or rufescent supercilium, and in the cheeks, and ear-coverts unicolorous with the rest of the sides of the head and nape.

As regards the larger-billed, larger species of Nepal, Sikim, &c., I am disposed to consider this the true *Ploceus baya*, because, as Mr. Blanford has shown, all the specimens in the Indian Museum, catalogued by Blyth as *baya*, belong to this species; and because, though he did not give any description when he assigned the name *baya*, he mentioned that *baya* was the only species sent from Nepal, and the smaller species does not, as far as I have been able to ascertain, occur either in Sikim or Nepal.

This larger-billed species differs from the smaller race of Continental India, which, for the present, I am disposed to consider the true *philippinus*, not only in size, but also in the much more rufescent character of its lower plumage, especially of the breast, and it further differs, I am now nearly certain, though this, despite my very large series from innumerable localities from Singapore to Sikim, I am unable to *assert positively*, in the males not assuming in the breeding plumage, the yellow breast, characteristic of the common species of Continental India.

The case stands thus: in this latter species, the head and breast simultaneously grow yellow; in no case have I ever met with a specimen of the Continental species with the entire head yellow, that had not also a great deal of yellow on the breast; but I have dozens of the larger Eastern species with the entire heads yellow, a few of them shot in May and June, with strongly rufescent breasts, but not a trace of yellow. This would seem to be conclusive, but I have also two specimens, which show the one, a single yellow feather, and the other probably half a dozen, so that it is possible that some of the males do acquire a more or less yellow breast, though a great many obviously do not. This is a point that remains to be worked out, but it is clear that if this species never

attains the complete yellow breast which the Continental Indian one invariably acquires, then this latter, and not the larger species, Malay's *baya*, must be the true *philippinus*.

And I may note that Mr. Mandelli, who has had perhaps hundreds of these and allied species passing through his hands, and who has sent me a number of skins, with full bright yellow crowns, has never, he tells me to the best of his belief, obtained one with a yellow throat like that assumed by the smaller Continental Indian bird, though like myself he has had one or two with a few yellow feathers on the breast.

695.—Ploceus manyar, *Horsf.* (3).

Kykheto; Beeling; Thatone.

Confined apparently to the tract between the Salween and the Sittang, and rare there.

[I met with this species occasionally on the Thatone plain, always in pairs and among the thick grass. The few that I did see were very shy.—W. D.]

is.—Ploceus ? javanensis, *Less.* DESCR. S. F., ., 154.

species was obtained at Tonghoo by Ramsay, but has been observed anywhere else in Tenasserim.

Munia rubronigra, **Hodgs.* (13).

ghoo, Rams.) Yea-boo; Mergui.

ummer visitant to parts, perhaps the whole of the e.

[This species appears to be a seasonal visitant to Tenasserim. I first met with the species and obtained a specimen out of a small flock at Yea-boo, on the Attaran River, on the 10th of March 1874. In November and December there was not a single one to be seen anywhere about Mergui, but in April and May they swarmed, occurring in parties, consisting of a couple of old birds and three or four young ones (others at the time having nests with eggs), and in August last I saw large flocks about the gardens and hill sides at Moulmein, where they certainly do not occur in the winter months. In their habits and voice they resemble the other Munias, going about in larger or smaller flocks, and feeding on the ground chiefly on grass seeds.—W. D.]

* I follow Blyth and Moore in identifying *atricapilla* Vieill. Ois. Chant. 84, pl. 53, 1805, with the Chinese bird. Salvadori, however, U. di B. 265, says that he has no doubt that Vieillot's name applies to *rubronigra*, and if he is correct, which from an examination of the plate I doubt, it will of course have precedence.

699.—*Munia punctulata*, Lin.

The birds entered as from Tenasserim by Mr. Blyth under this name (or rather under the name *punctularia* by mistake for *punctulata*, Lin., which is the name really given by Linnæus,) are doubtless the same as the next species. There is no reason to believe that true *punctulata* occurs in Tenasserim.

If Lord Tweeddale is correct, Lieut. Ramsay also obtained *M. subundulata* at Tonghoo, it may, however, have been *M. superstriata*, nobis, which his Lordship, erroneously as I think, states (B. of B., p. 93,) to be identical with *subundulata*.

699 *ter*.—**Munia superstriata**, *Hume*. (4.) Descr. S. F., II., 481 *n*.

Thatone; Moulmein; Tavoy.

As yet only observed in the central portions of the province.

I have carefully compared the type of *superstriata*, nobis, with four fine specimens of *subundulata*, God.-Aust., from Shillong and its neighbourhood.

Superstriata is at once distinguished by its smaller size—[illegible] about 2·1 to 2·2 against 2·4 in *subundulata*,—by having t[illegible] forehead, crown, occiput, nape, back, and scapulars, co[illegible] ously pale shafted, of which I can scarcely find a trace o[illegible] cap or scapulars of *subundulata*, and by the paler co[illegible] greater narrowness of the margins of the breast, upp[illegible] men, and flank feathers.

We have as yet procured only three adult specimen[illegible] therefore this may be abnormal, but certainly these spec[illegible] have a very different appearance to all the Assam ones of [illegible] *dulata*, and are quite as distinct from it as it is from *pun*[illegible]

701 *bis*.—**Munia leucogastra**, *Blyth*. (36).

Choungthanoung; Bankasoon; Malewoon.

Confined to the extreme southernmost portions of th[illegible] province.

[I first met with this species at Choungthanoung in the bamboo jungle, and on the outskirts of the forests, and subsequently found it common about the village of Bankasoon, and in several other places along the Pakchan. It is much more of a forest-loving species than the other Munias, and I have not unfrequently met with it in dense forest many miles from any clearing or other open place, and I found it breeding quite in the depths of the forest. In its general habits it much resembles the common White-rumped Munia of Tenasserim, *M. acuticauda*, Hodgs., and has a similar but somewhat softer note. It is somewhat more shy, however, than this species.—W. D.]

[illegible] in the flesh :—
[illegible] 6·13 to 6·2 ; tail
[illegible], 0·5 ; bill from gape,
[illegible], 4·37 to 4·5 ; expanse, 6·25 to 6·37 ; tail from vent, 1·62 to 2·05 ; wing, 1·75 to 2·0 ; tarsus, 0·5 to 0·57 ; bill from gape, 0·4 to 0·5 ; weight, 0·25 to 0·3 oz.

Legs and feet dusky plumbeous or dull smalt blue ; lower mandible dull smalt, or pale blue ; upper mandible brownish black, or black ; irides dark brown.

The lores, cheeks, chin, throat and foreneck intense brown, almost black ; top and back of the head deep brown with a very faint olivaceous tinge, the feathers of the occiput scarcely perceptibly paler shafted ; the back, rump, scapulars, lesser and median wing-coverts, tertiaries, and greater coverts deep brown, with a somewhat olivaceous chocolate tinge ; all but the greater coverts with conspicuous pale shafts ; primaries and secondaries blackish brown ; tail black ; the central tail feathers margined on both webs, and in some specimens almost the whole of these feathers overlaid, and the lateral feathers margined externally towards their bases, with pale sordid yellow ; breast, sides, flanks, tibial plumes, deep chocolate brown, becoming black on the breast where it impinges on the white abdomen ; lower tail-coverts black ; wing-lining and axillaries white or faintly yellowish white, except along the edge of the wing, where it is blackish brown, speckled and spotted with white.

Some specimens are darker both above and below ; in some the whole central portion of the breast right down to the white of the abdomen is black, and some have the white of the abdomen reduced to a large spot on the centre of this latter.

702.—Munia acuticauda, *Hodgs.* (58).

(*Toughoo Hills*, Rams.) Pahpoon ; Meetan ; Amherst ; Yea ; Shymotee ; Mergui ; Tenasserim Town ; Pakchan ; Bankasoon ; Malewoon.

Generally distributed throughout all the more open and better cultivated portions of the province, but not ascending the higher hills.

[The common Munia of Tenasserim, occurring about rice fields, gardens, secondary jungle, and about open spaces generally. When the rice is ripe immense flocks may be seen about the fields.—W. D.]

703 *bis.*—*Padda oryzivora*, Lin.

Mr. Blyth says the well-known Java Sparrow of British dealers in birds, which is extensively diffused over the Malay countries, was procured in Mergui province by Major Berdmore.

The following are dimensions, &c., [illegible] the flesh :—

Males.—Length, 4·25 to 4·62; [illegible] 6·13 to 6·2; tail from vent, 1·5 to 1·62; [illegible] tarsus, 0·5; bill from gape, 0·45; weight, 0·3 oz.

Females.—Length, 4·37 to [illegible] 6·25 to 6·37; tail from [illegible] 0; tarsus, 0·5 to 0·57 [illegible] from gape [illegible] to 0·3 oz.

[illegible] feet dusk; [illegible] of dull smalt blue; lower mandible dull smalt, or pale blue; upper mandible brownish black, or black; irides dark brown.

The lores, cheeks, chin, throat and foreneck intense brown, almost black; top and back of the head deep brown with a very faint olivaceous tinge, the feathers of the occiput scarcely perceptibly paler shafted; the back, rump, scapulars, lesser and median wing-coverts, tertiaries, and greater coverts deep brown, with a somewhat olivaceous chocolate tinge; all but the greater coverts with conspicuous pale shafts; primaries and secondaries blackish brown; tail black; the central tail feathers margined on both webs, and in some specimens almost the whole of these feathers overlaid, and the lateral feathers margined externally towards their bases, with pale sordid yellow; breast, sides, flanks, tibial plumes, deep chocolate brown, becoming black on the breast where it impinges on the white abdomen; lower tail-coverts black; wing-lining and axillaries white or faintly yellowish white, except along the edge of the wing, where it is blackish brown, speckled and spotted with white.

Some specimens are darker both above and below; in some the whole central portion of the breast right down to the white of the abdomen is black, and some have the white of the abdomen reduced to a large spot on the centre of this latter.

702.—Munia acuticauda, *Hodgs.* (58).

(*Tonghoo Hills*, Rams.) Pahpoon; Meetan; Amherst; Yea; Shymotee; Mergui; Tenasserim Town; Pakchan; Bankasoon; Malewoon.

Generally distributed throughout all the more open and better cultivated portions of the province, but not ascending the higher hills.

[The common Munia of Tenasserim, occurring about rice fields, gardens, secondary jungle, and about open spaces generally. When the rice is ripe immense flocks may be seen about the fields.—W. D.]

703 *bis.*—*Padda oryzivora*, Lin.

Mr. Blyth says the well-known Java Sparrow of British dealers in birds, which is extensively diffused over the Malay countries, was procured in Mergui province by Major Berdmore.

We do not believe that this species occurs in a truly wild state in Tenasserim; we have never obtained or seen a specimen of it, nor has any one else that we know of, of late years. It is almost absolutely certain that Major Berdmore's specimen must have been an escaped cage bird.

Even in the Malay Peninsula we do not know of its occurrence anywhere outside the island of Singapore. There it swarms, but probably there too it has been introduced, as it has been at St. Helena, the Seychelles, Zanzibar, Madagascar, and Madras.

It does not occur in the adjacent mainland Johore, nor anywhere, so far as we know, in the neighbourhood of Malacca.

Not only have we not met with it ourselves, but in examining on several occasions the collections of all the dealers, amounting to many many thousand skins, we never saw a specimen, whereas it is just one of those bright colored birds of which the dealers would preserve any number they could get hold of.

Again, further north about Renong, &c., we never observed it. On the whole, except as an escaped caged specimen, I doubt if it ever occurs in the western half of the Malayan Peninsula (of the eastern I know nothing as yet) except on the island of Singapore, and there I believe it to have been introduced. Of course I may be wrong, and therefore I append a description, so that if it does occur it may be at once recognized.

The following are dimensions and colors of soft parts recorded in the flesh of a series obtained by us on Singapore Island:—

Males.—Length, 5·75 to 6·15; expanse, 8·75 to 9·0; tail from vent, 2·0 to 2·12; wing, 2·75 tarsus, 0·7 to 0·75; bill from gape, 0·6; weight, 1 oz.

Females.—Length, 5·5 to 6·12; expanse, 8·65 to 9·[illegible], tail from vent, 1·82 to 2·25; wing, 2·75 to 2·82; tarsus, 0·7; bill from gape, 0·55.

The legs and feet are a pale fleshy pink; the bill dark fleshy or rose pink, darkest at the base and shading towards tip to a delicate rosy white; the orbital skin and eyelids are sometimes a dark reddish, sometimes a rosy pink; the irides dull lake.

Lores, entire cap, chin, upper throat, as far as the jaw joint, and a narrow line descending from near this joint under the cheek and ear-coverts and joining the occiput, upper tail-coverts and tail, black; cheeks and ear-coverts snowy white; entire back and visible portion of closed wings, lower part of throat, front, and sides of neck, breast, and just the upper part of abdomen, delicate pearl grey; rest of abdomen and flanks pale dull vinous; tibial plumes and lower tail-coverts white; outer webs of first few primaries and their greater coverts browner. There is no difference in the plumage of the sexes.

703 *quat.*—Erythrura prasina, *Sparrm.* (28).

Bopyin ; Pakchan ; Bankasoon ; Malewoon.

Only a visitant during the rice harvest to the neighbourhood of the Pakchan.

[I first met with this lovely species at the village of Bopyin, where I found it associating with flocks of *Munia acuticauda* and feeding in the rice-fields ; they were very shy, and on being fired at, immediately retreated to the dense bamboo jungle surrounding the fields. Their note is very similar to that of the *Munias*, and is uttered both when seated and flying ; they have also a soft twittering note, which they continually utter when roosting. At Malewoon and along the banks of the Pakchan I again observed it. The bird is only a seasonal visitant coming in towards the end of November, and departing before the end of January, as soon as the rice crops have been all harvested. The Siamese capture the birds by placing limed twigs about the rice, but the birds do not thrive in confinement.—W. D.]

The following are dimensions and colors of the soft parts recorded from a large series of specimens :—

Males.—Length, 5·85 to 6·25 ; expanse, 7·35 to 7·75 ; tail from vent, 2·45 to 2·75 ; wing, 2·3 to 2·45 ; tarsus, 0·55 to 0·65 ; bill from gape, 0·55 to 0·62 ; weight, 0·5 to 0·7 oz.

Females.—Length, 5 to 5·82 ; expanse, 7·75 to 8·0 ; tail from vent, 1·5 to 1·82 ; wing, 2·35 to 2·4 ; tarsus, 0·5 to 0·6 ; bill from gape, 0·55 to 0·6 ; weight, 0·45 to 0·55 oz.

In both sexes the legs, feet, and claws are fleshy pink, the bill black, and the irides dark brown.

The adult male has a black velvet line from the anterior angle of the eye to the nostril, and in some specimens a narrow black line bounding the chin, which is entirely wanting in others ; the rest of the chin, throat, cheeks, ear-coverts, line over the eye and forehead (for a varying breadth), a rather pale blue ; crown, occiput, nape, sides of the neck behind the ear-coverts, back, scapulars, tertiaries, and coverts, except the greater primary ones, grass green ; rump and upper tail-coverts and margins of central tail feathers crimson ; rest of elongated central tail feathers brownish red ; lateral tail feathers brown, tipped paler ; a large patch of rosy crimson in the middle of the abdomen ; rest of abdomen, sides, flanks, lower tail-coverts, buffy fawn ; the breast between the blue throat and crimson abdominal patch bluish green, next the throat, and buffy fawn shaded with green, next the crimson patch ; primaries and their greater coverts and secondaries hair brown, narrowly margined on the outer webs with green.

The young males differ from the adults in having the crimson of the rump, upper tail-coverts, and margins of tail feathers replaced by golden yellow ; the remaining portions of the

central tail feathers are brown, overlaid with golden ; the crimson of the abdomen is replaced by a more gamboge yellow ; the breast almost entirely wants the bluish green tinge.

The female wants the blue forehead and face of the male, and has these parts green, as a rule, with a bluish shade on the cheeks, but in some specimens the whole of the cheeks and part of the ear-coverts are a decided but dull grey blue ; the central tail-feathers are not so much elongated as in the male, and the margins of these and the upper tail-coverts are a deeper and duller red than in the male, and the rump is green. The lower parts are pale fulvous fawn, more or less shaded with greenish grey on the chin, throat, breast, sides and flanks.

Note that in the Pl. Col., pl. 96, Temminck calls the young male the female, and figures the female as a "variety, male."

704 *bis.*—Estreida flavidiventris, *Wall.* P. Z. S., 1863, 495.—E. burmanica, *Hume.* (3.) Descr. S. F., IV., 484.

? (*Karennee*, Rams.) Thatone.

Confined to the tract of country between the Salween and Sittang river, but perhaps reappearing in Karennee.

[I have only met with the Burmese Waxbill in the Thatone plain, and but very rarely. I found them frequenting the dense grass in pairs or small parties.—W. D.]

The *amandava* included by Blyth in the Birds of Burma, p. 93, on the authority of Masson, is doubtless the present species, which, though rare in the only part of Tennaserim where we have obtained it, is common in the adjacent parts of Pegu.

It is to Lieut. Wardlaw Ramsay that I am indebted for the identification of the Burmese Wax Bill with Wallace's species. He says that specimens from Flores and Timor are absolutely identical, while others from Saigon only differ in being a little smaller.

706.—*Passer indicus*, Jard. *and* Selb.

Mr. Blyth observes of this species, B. of B., p. 93.

"Not uncommon at Akyab, but rare to the southward in the jungle-clad provinces." To the best of our belief this species occurs nowhere in Tenasserim from Pahpoon to the Pakchan Estuary, except perhaps, as an accidental straggler ; it may, of course, occur at Tonghoo and Karennee, which we have not yet explored, but it was not mentioned as having been procured by Ramsay.

708 *bis.*—Passer flaveolus, *Blyth.* Descr. S. F., III. 156.

Obtained in Karennee by Ramsay.

708 *ter.*—*Passer assimilis*, Wald. Descr. S. F., III., [illegible].

[illegible] suggested, *loc. cit.*, that this supposed species, the type of which came from Tonghoo, was really a stage of the preceding. As Lord Tweeddale still allows this species to stand as distinct B. of B., p. 94, it is to be presumed that he still considers it a good one; and such being the case it is to be regretted that he did not at the same time furnish a better and fuller description of it than that under which it was originally characterized, and which I reproduced *loc. cit.* Until this is done, most ornithologists, I think, who know *flaveolus* and the changes of its plumage in both sexes from nestling to adult, will agree with me in considering the species a doubtful one.

710.—Passer montanus, *Lin.* (11).

Pahpoon; Lemyne; Yea; Tavoy; Mergui; Pakchan.

The House-Sparrow of Tenasserim.

[Common about all the large towns and villages, and not differing in its habits from the common Sparrow, *P. indicus*. Its note is perhaps softer, and it is decidedly a less noisy bird; it is rare to the south, and does not ascend the hills. The Burmans hang cocoanut shells, with a hole cut in the side round their houses for these birds to breed in, as they like to have them about the houses. It is a familiar little bird, but is more shy than its Indian ally.—W. D.]

719.—Emberiza fucata, *Pall.* (6).

(*Tonghoo*, Rams.) Khyketo; Momenzeik; Kedai-Keglay; Thatone.

A rare cold weather visitant to the plains of the open central and northern portions of the province.

[I found this bird singly about the grass on the Thatone plains, and again saw and shot it in the brushwood at the foot of the Momenzeik rocks, about nine miles from Moulmein.—W. D.]

720.—Emberiza pusilla, *Pall.* (1).

(*Karennee*, at 5,500 feet, Rams.) Mooleyit.

Only met with in Tenasserim proper at the summit of Mooleyit, but re-appearing at similar heights in Karennee.

[About the steep precipitous rocks, immediately below the cone of Mooleyit, I saw a few flocks of this bunting. They were excessively wild, and it was with difficulty that I managed to secure a single specimen. They settled about the rocks and on

the grass, and when disturbed separated and generally settled on the tops of stunted trees growing about.—W. D.]

722 *bis*.—Euspiza rutila, *Pall.* (25). DESCR. S. F., III., 158.

(*Tonghoo, Karennee,* Rams.) Pahpoon; Kyouk-nyat, Salween R.; Thatone; Wimpong.

A cold weather visitant to the more open portions of the northern half of the province.

[This species usually occurs in small flocks. I found it most abundant at Wimpong in a tract of bamboo jungle. I found a few at Pahpoon, and to the north of that place. It is not nearly so abundant as the next, which it resembles in its habits and voice.—W. D.]

This species was described, S. F., III, 158, but the bird then described as a female was, as I stated at the time that I suspected, a young male. We have since obtained a large series of this species, male and female, old and young, and the following is a description of the old female killed in January :—

Chin and throat pale fulvous white, a greyish olive brown streak down each side of the throat from the base of the lower mandible; lores, ear-coverts and a stripe over the eye to the nape, earthy grey with an olive tinge; a darker stripe from the gape under the eye and ear-coverts; another dark streak from the posterior angle of the eye over the ear-coverts; a broad chestnut brown streak from the nostrils on either side of the crown to the nape; crown, nape and mantle olive green, with a grey shade; all the feathers with central deep brown stripes; rump bright chestnut, each feather fringed with pale greyish olive; upper tail-coverts brown, similarly, but more broadly, fringed with a ruddy tinge; primary coverts, quills, and tail, hair brown, feathers margined paler; the rest of the wing-coverts broadly fringed with yellowish olive; middle of upper breast fulvous, dark shafted; middle of lower breast and abdomen clear pale yellow; lower tail-coverts white, tinged with pale primrose and dark shafted; sides of breast and flanks dusky olive green, streaked with yellow; thighs very pale yellow, obscurely barred with dusky externally; wing-lining and axillaries nearly pure white; edge of the wing tinged with pale yellow.

Note that the white streak on the outer tail feather of the male noticed in my first description is not a constant character. It occurs in the specimen described, but is entirely wanting in some ten other males that I have now examined. Other young males resemble that first described, but have the ear-coverts dusky olive, and a more or less well marked irregular crescentic band at the base of the throat.

723.—Euspiza aureola, *Pall.* (55).

(*Tonghoo*, Lloyd; *Karennee*, Rams.) Pahpoon; Kedai-Keglay; Thatone; Wimpong; Kanee; Moulmein; Pabyouk; Tavoy; Zadawoon; Pakchan.

Generally distributed throughout the more open plains portion of the province from October to May.

[This species occurs in large flocks as a cold weather visitant throughout the province, and is especially abundant in the more open portions of the country, about rice fields, and grassy land. It is rather shy and easily alarmed; when alarmed they do not all rise together, but fly away one after the other, uttering a sharp tweet-tweet as they fly. They live entirely on seeds of various sorts, and may be found in hundreds, in tracts where bamboo has seeded. They remain in Tenasserim till quite the end of April, by which time they have nearly assumed the full summer plumage.—W. D.]

The following are dimensions, &c., of a large series recorded in the flesh:—

Males.—Length, 6·1 to 6·5; expanse, 9·5 to 9·82; tail from vent, 2·45 to 2·62; wing, 2·85 to 3·1; tarsus, 0·6 to 0·8; bill from gape, 0·5 to 0·6; weight, 0·5 to 0·8 oz.

Females.—Length, 5·62 to 6·25; expanse, 8·5 to 9·37; tail from vent, 2·25 to 2·35; wing, 2·62 to 2·82; tarsus, 0·7 to 0·8; bill from gape, 0·5 to 0·55; weight, 0·55 to 0·8 oz.

Legs and feet pale pinkish or horny brown; upper mandible dark horny brown, lower mandible fleshy pink or very pale brown; irides wood brown.

724.—Melophus melanicterus, *Lath.* (1).

(*Karennee*, Rams.) Beeling.

Only observed in Tenasserim proper in the plains country betweeen the Salween and Sittang.

[On the 11th of February I met with a large flock of the Black-crested Bunting in a rice field near Beeling. I fired and secured one specimen, when the whole flock rose and flew right away, and I never met with them again.—W. D.]

Note that it is very unusual in India to meet with *flocks* of this species.

738.—Carpodacus erythrinus, *Pall.*

Obtained at Tonghoo by Wardlaw Ramsay.

767.—Alauda gulgula, *Frankl.* (20).

Sittang R.; Khyketo; Beeling; Kedai-Keglay; Theinzeik; Thatone.

Confined apparently to the tract between the Sittang and Salween, and the immediate neighbourhood of Moulmein.

[This Lark is common on the plains between the Salween and Sittang rivers, and in the low lands in the neighbourhood of Moulmein. It is very abundant in the former locality, and I have seen six or seven birds at the same time high up in the air singing.—W. D.]

I take this opportunity of noting that the Burmese *Mirafra microptera*, Hume, S. F., I. 483, is *not*, in my opinion, identical as the Marquis of Tweeddale asserts (B. of B., p. 95) with the Madras *M. affinis*. The distinctions originally pointed out hold good in the main (though, of course, as in other species there are slight variations in dimensions) in a large series now before me.

771.—Treron nipalensis,* *Hodgs.* (39). Descr. S. F., III., 160.

Pahpoon; Younzaleen Creek; Myawadee; Moulmein; Kohbaing; Paraduba; Meetan; Karopo; Yea; Omagwen; Usheetherrpone; Bopyin; Tenasserim Town; Pakchan; Bankasoon; Malewoon.

Common throughout the province wherever there are trees, but not ascending the higher hills.

[This Green Pigeon is common in Tenasserim, occurring in moderately large flocks, and feeding on small fruits, especially figs. They feed in the morning and evening, retiring to some shady tree, where they remain during the day. When feeding they are very noisy, uttering a hoarse note, sounding like "goo-goo," and are continually fighting with each other; their ordinary note is a fine mellow whistle or rather series of whistles. Their flight is very rapid. In the morning, after they have been feeding, and before they retire for the day, they may occasionally be seen perched on the topmost branch of some dead tree all huddled together. They frequent dense forest, thin tree jungle, and even gardens. I never saw any of the green or fruit pigeons come down to the water to drink.—W. D.]

773 *bis.*—Crocopus viridifrons, *Blyth.* (13). Descr. S. F., III., 161.

(*Tonghoo*, Rams.) Pahpoon, Sittang R.; Wauchoung; Thatone; Myawadee.

Sparsely distributed throughout the more thinly-wooded plains portions of the northern and central sections of the province.

[I have found this species rare in Tenasserim, occurring in small flocks. It has all the habits of the other green pigeons,

* Doubts have been raised as to the distinctness of *T. nasica*, Schleg. Ned. Tidschrift. 1863. 67—see Salvad. V. U. de B. 283; Walden, Tr. Z. S. VIII, 82a. and J.A.S.B. 1875, Extra No. 145. According to Wallace, however, (*Ibis* 1865. 376) who has collected both largely, this is quite distinct, and has the bill and feet differently colored.

and like them it is very quarrelsome and noisy when feeding. I have only met with it about Pahpoon, between the Salween [illegible] Rivers, and near Myawadee. The note is similar [illegible] distinguishable from, that of *T. nipalensis*; it is [illegible] rolling.—W. D.]

The following are dimensions, &c., recorded in the flesh of [illegible] and three females :—

Males.—Length, 13·0 to 13·5; expanse, 22·75 to 23·12; tail [illegible] 4·8; wing, 7·25 to 7·6; tarsus, 1·05 to 1·1; bill from gape, 1·0 to 1·05; weight, 7 to 10 ozs.

Females.—Length, 12·5 to 13·0; expanse, 21·0 to 22·25; tail from vent, 4·12 to 4·5; wing, 7·05 to 7·2; tarsus, 0·9 to 1·1; bill from gape, 0·95 to 1·0; weight, 7 to 8 ozs.

Legs and feet bright chrome yellow; claws plumbeous; bill light bluish or greenish, tinged strongly on cere, gape, and base of lower mandible with green; irides with an inner ring of bright blue and an outer ring of buffy pink :—one female had the irides deep crimson lake, with an inner ring of bright blue.

773.—Osmotreron bicincta, *Jerd.* (42).

(*Longhoo*, Rams.) Pahpoon; Sittang R.; Myawadee; Thatone; Moulmein; Pabzouk; Yea-boo; Assoon; Waghrau Creek; Karope; Amherst; Tavoy; Mergui; Tenasserim Town; Pakchan; Malewoon.

Common throughout Tenasserim, except in the higher hills.

[Resembling in all particulars *T. nipalensis* and the other green pigeons, but having a lower and more jerky note than *C. viridifrons*, and a less soft one than *vernans* and *fulvicollis*.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 11·12 to 12·12; expanse, 19·0 to 20·0; tail from vent, 3·75 to 4·5; wing, 6·12 to 6·75; tarsus, 0·85 to 1·0; bill from gape, 0·9 to 1·0; weight, 6·25 to 7·0 ozs.

Females.—Length, 10·82 to 11·5; expanse, 18·0 to 18·8; tail from vent, 3·62 to 3·82; wing, 5·82 to 6·12; tarsus, 0·85 to 0·9; bill from gape, 0·85 to 0·95; weight, 5 to 6 ozs.

Legs and feet carnation pink; bill pale greenish, or bluish white; irides with an inner ring of bright blue, and an outer ring of buffy pink.

774 *bis.*—Osmotreron vernans, *Lin.* (18). ♂ Descr. S. F., I., 461.

Mergui; Pakchan; Bankasoon; Malewoon.

Confined to the southernmost district of the province.

[This species is not uncommon about Mergui and the vicinity of the Pakchan river. Its note, though similar to that of

T. nipalensis, is quite distinguishable and very much softer, but in its habits it quite resembles that species, except that it is almost always found in forest, and rarely in thin jungle or gardens. —W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 11·0 to 11·25; expanse, 17·5 to 18·12; tail from vent, 3·82 to 4·25; wing, 5·75 to 6·05; tarsus, 0·82; bill from gape, 0·82 to 0·85; weight, 6 ozs.

Females.—Length 10·75 to 11·12; expanse, 17·5 to 18·12; tail from vent, 3·5 to 4·0; wing, 5·5 to 5·85; tarsus, 0·8 to 0·85; bill from gape, 0·82 to 0·95; weight, 6 ozs.

The legs and feet are a darker or lighter carnation pink, sometimes with a purple shade; the bill dull white, or pale plumbeous; the cere a dirty yellow; the irides consist of three rings; the outermost a buff, buffy pink, or pink, the next Prussian blue; the innermost, next the pupil, bright ultramarine blue.

The male has already been fully described, S. F., I., 461. The female differs from the male in having the entire head, neck all round, and breast, green; a somewhat hoary or ashy green on the occiput, nape, and back, and a dull yellowish green on forehead, throat, breast; she further differs from the male in the color of the lower tail-coverts; these in the male are a rich uniform cinnamon chestnut; in the female they are creamy or yellowish white, more or less suffused as a rule, generally on the inner web, but sometimes on both, with a pale dull cinnamon, which again is often freckled or powdered in patches with dark grey or greenish grey. I have given below a table by which all the females of the Indian *Osmotrerons* may be discriminated, and need not here describe that of the present species more in detail.

776.—Osmotreron phayrei, *Blyth.* (22).

(*Tonghoo*, Rams.) Pahpoon; Younzaleen Creek; Myawadee; Thatone; Pabyouk; Assoon; Meetan; Letet; Tavoy; Meeta Myo.

Confined to the northern and central portions of the provinces, but not ascending the higher hills.

[This species does not appear to occur about Mergui or to the south of that place; from Tavoy northwards it is fairly common, and differs in no way in its habits that I could see from *T. nipalensis* or *O. bicincta*.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 11·0 to 11·62; expanse, 18·75 to 19·5; tail from vent, 3·82 to 4·0; wing, 6·0 to 6·25; tarsus, 0·82 to 0·9; bill from gape, 0·95 to 1·0; weight, 6 ozs.

Females.—Length, 11·0 to 11·12; expanse, 18·46 to 19·0; tail from vent, 3·37 to 3·82; wing, 6·0 to 6·1; tarsus, 0·82; bill from gape, 0·82.

Legs and feet lake or purplish pink; claws and orbital skin greyish blue; bill pale bluish white, darker at base; irides [illegible] with an inner wing of bright blue, and an outer [illegible] or buffy pink, sometimes they are a rosy pink, [illegible] yellow.

776 *bis*. Osmotreron fulvicollis, *Wagl.* (15).

[illegible] woon.

Visits the extreme south of the province during the middle of the cold season.

[This species only makes its appearance in Tenasserim for a couple of months, in December and January. It occurs in small flocks about the borders of the forest. Its note is very similar to that of *O. vernans*. It is apparently rare and very local, as I only met with it in two places near Bankasoon, though I was always on the look-out for it.

It appeared to have come solely to eat the berries, much resembling red currants, of a thick bushy shrub about ten feet in height, which, near the Pakchan, grows about the clearings. —W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 10·5 to 10·85; expanse, 18·0 to 18·5; tail from vent, 3·5 to 4·12; wing, 5·82 to 6·15; tarsus, 0·8 to 0·85; bill from gape, 0·8 to 0·9; weight, 5·5 to 6 ozs.

Females.—Length, 9·9 to 10·75; expanse, 17·12 to 18·0; tail from vent, 3·25 to 3·62; wing, 5·65 to 5·85; tarsus, 0·75 to 0·8; bill from gape, 0·75 to 0·8; weight 5·75 to 6 ozs.

Legs and feet in the male purplish pink, in the female lake pink; claws dead white in both sexes; upper mandible to just beyond nostril, and lower mandible to angle of gonys, in the male deep red, in the female dull red; rest of bill in both sexes dead white, tinged strongly with greenish blue; irides in the male buffy pink, in the female with an outer ring of pink, and an inner one of ultramarine blue; in both sexes the orbital skin is plumbeous green, the edge of eyelids orange.

At page 162 of Vol III of Stray Feathers I gave a key, by which the males of all the species of *Osmotreron*, which I *then* knew to occur within our limits, might be readily distinguished. The present species, which was only subsequently added by Mr. Davison to our list, was not included, but the male of the species can never be confounded with any other species as yet known to occur within our limits, it being at once distinguished by having the entire head and neck all round ruddy vinaceous and the breast a dull ochraceous orange.

The females of all these several species run much closer than the males; in fact different as are the males, female *fulvicollis*

can only be separated in the skins from female *malabaricus* by one single point—the color of the tibial plumes—and, I think, it may be convenient to give a rough diagnostical key to the females of the seven species of *Osmotreron* which, at present, are known to occur within our limits.

Key to the females of British Indian species of "Osmotreron."

- Head green; central tail feathers slaty grey; upper tail-coverts with a brownish rufescent tinge.
  - Ashy collar on nape; abdomen yellower. — 1. *O. bicincta.*
  - No ashy collar on nape; abdomen greener. — 2. *O. vernans.*
- Head green with small ashy patch on posterior portion of crown; central tail feathers green. — 3. *O pompadoura.*
- Head grey; central tail feathers green.
  - Head greyish white; wing over 6·5. — 4. *O. chloroptera.*
  - Head clear pale bluish grey; wing 6·0 to 6·25. — 5. *O. phayrei.*
  - Head slaty grey; wing under 6·0.
    - *a.* Tibial plumes white or faintly tinged yellow. — 6. *O. malabarica.*
    - *b.* Tibial plumes bright yellow. — 7. *O. fulvicollis.*

The male has the whole head and upper part of the neck all round ruddy vinaceous; most vinaceous on the crown, occiput and nape, and shading to a purplish vinaceous on the back and sides of the lower part of the neck; the entire breast dingy pale ochraceous yellow, or ochraceous orange, the bases of the feathers, which are a sort of pale vinaceous salmon, showing through more or less; the middle of the abdomen greenish ashy; the feathers broadly fringed with yellowish green; the sides of the abdomen and sides of the body slaty grey; inside of the wings deep slaty grey; flanks and feathers about the vent, white, tinged and margined with yellow, and mingled with deep slaty green; tibial plumes intense bright yellow; lower tail-coverts pale, sometimes moderately deep cinnamon or brownish cinnamon; the feathers more or less tipped and margined with rufous white and often centred, especially towards the bases, with dark green; the lower surface of the tail feathers black, moderately broadly tipped with clear French grey, which color also occupies a considerable portion of the outer webs of the outermost feather; upper back, upper portion of scapulars, lesser and all but the tips and margins of the median coverts dull vinaceous maroon; tertiaries and their greater coverts, longer scapulars, lower back, rump, and upper tail-coverts, central tail feathers, and more or less of the outer webs of the next two or three pairs, dull green, more olivaceous on the tail, more dingy and tinged with slaty on the lower back; primaries, secondaries, and their greater coverts, slaty dusky, black on the outer webs of the primaries

and their greater coverts. The first few primaries just edged at their extreme margins with white; all the secondaries, and their greater coverts, and the median coverts conspicuously margined on their outer webs with bright yellow; the median coverts showing a more or less narrow band of green or dusky green, between the yellow margins and the maroon.

The female extremely like the female of *malabarica*, but has bright yellow tibial plumes; the forehead, crown, and occiput, and the greater part of the rest of the bird, except the quills and their margins, and inner webs of lateral tail feathers which are all as in the male, dull green, somewhat ashy above, yellower on the chin, middle of throat, foreneck and breast. She further differs from the male in having the lower tail-coverts pale creamy or yellow, sometimes faintly rufescent towards the centres of the feathers. The feathers generally more or less centred, except quite at the tips, with dusky or greyish green.

778.—Sphenocercus sphenurus, *Vigors.* (5).

(Tonghoo hills, Rams.) Pine forests, Salween; Kollidoo; Kyouk-nyat; Mooleyit.

Confined to the hill forests of the northern and central portions of the province.

[I only met with this species in the hills to the north of Pahpoon and on the higher slopes of Mooleyit, always in the forest or on its borders, in pairs or small parties, keeping to the higher trees, and rather shy. Even where it did occur it was rare. Its note approximates somewhat to that of the *Osmotrerons*, but is much softer, and might be termed a soft cooing whistle. Its food consists, of course, entirely of small fruits which are swallowed whole.—W. D.]

The following are the dimensions of three males and a female recorded in the flesh:—

Males.—Length, 13·0 to 13·5; expanse, 19·8 to 21·25; tail from vent, 5·4 to 5·6; wing, 6·5 to 7·0; tarsus, 0·9; bill from gape, 0·9 to 1·1, weight, 7·0 to 8·0 ozs.

Females.—Length, 13·5; expanse, 20·8; tail from vent, 5·62; wing, 7·0; tarsus, 0·85; bill from gape, 0·9; weight, 7 ozs.

Legs, feet, and claws, crimson pink; bill dull smalt blue; horny portion pale skim milk blue; orbital skin pale smalt; irides with an inner ring of pale, bright blue, and an outer ring of buffy pink.

779.—Sphenocercus apicaudus, *Hodgs.* (4).

(Tonghoo Hills, Rams.) Pine forests, Salween; Kollidoo; Mooleyit.

Confined to the hill forests of the central and northern portions of the province, and rare there.

[This species occurred in the same localities as the last, but was even more rare. It has a peculiarly pleasant and musical call, a whistling coo, but quite different from that of any of the other green pigeons. It is entirely a forest bird, never that I am aware coming into the open.—W. D.]

The following are dimensions and colors of the soft parts of two males and two females recorded in the flesh :—

Males.—Length, 16·0 to 16·82 to end of central tail feathers; expanse, 19·75 to 20·4; tail from vent, 8·3 to 9·0 to end of central feathers; wing, 6·5 to 6·62; tarsus, 0·92 to 0·95; bill from gape, 0·95 to 1·0; weight, 7·0 to 8·0 ozs.

Females.—Length, 14·25 to 14·9 to end of central tail feathers; expanse, 19·3 to 20·2; tail from vent, 6·5 to 7·12 to end of central feathers; wing, 6·45 to 6·6; tarsus, 0·85 to 0·9; bill from gape, 0·9 to 1·1; weight, 7·0 ozs.

Legs bright crimson pink; bill pale blue; horny portion whitish; facial skin pale blue; irides, inner ring bright ultramarine blue, outer ring buffy pink.

780.—Carpophaga ænea, *Lin.* (20).

(*Tonghoo*, Lloyd.) Pahpoon; Cheon Khon; Thatone; Meetan; Amherst; Lemyne; Yea; Tavoy; Mergui; Bankasoon.

Generally distributed throughout the better-wooded portions of the province, but does not ascend the higher hills.

[The common Imperial Pigeon occurs in Tenasserim, alike in heavy forest, thin tree jungles and low scrub, but I have never met with it in even the best wooded gardens. It goes about sometimes singly or in pairs, sometimes in immense flocks. It never descends to the ground, and lives entirely on fruits and berries, often as large as walnuts, which it invariably swallows whole. It feeds chiefly in the mornings and evenings, resting during the heat of the day in some shady place, but never, I believe, coming down to the water to drink. Their flight is rapid and powerful, and they start off from the trees, with a loud fluttering put-put-put of their wings. They are not quarrelsome like many of the green pigeons, on the contrary always gentle and sociable together. Their note, a deep resounding boom, astonishingly powerful for the size of the bird, is only uttered at considerable intervals and when the bird is at rest. They seem to be abundant to a degree on the islands of the Mergui Archipelago, where I continually saw huge flocks of them flying high over head from island to island.—W. D.]

781.—*Carpophaga insignis*, Hodgs.

Blyth recorded this species from Tenasserim, J.A.S.B., XXVIII., 1859, 416, (in the B. of B., p. 144, misprinted *Arakan.*); but as

already noticed, S. F., V., 113 *n*, in doing so he pointed out differences, which prove the birds referred to, to have belonged [illegible] *griseicapilla*. There is no reason to suppose that true *insignis* occurs in Tenasserim. It seems, however, extremely likely that a large Pigeon of this type, which occurs in vast multitudes in August at Mergui, of which we have hitherto [illegible] specimens, is *C. badia*, Raff., of which we procured [illegible] further south in the Malay Peninsula.

[illegible] may notice that Blyth remarks *loc. cit.*:

"In the Leyden Museum I remarked that *C. insignis*, Hodgs., appeared to be the same as *C. badia*, Raffles, the former being rather brighter in coloring, while *C. lacernulata*, Tem., of Sumatra and Java, is rather smaller with a distinct grey cap."

"On this Lord Tweeddale remarks: "*C. lacernulata* is, as yet, only with certainty recorded as an inhabitant of Java."

Now the bird from the Malay Peninsula that I call *badia*, and that I suspect to be a seasonal visitant to the southernmost portions of Tenasserim, cannot for an instant be confounded with *insignis*, and agrees, to a great extent, with what Blyth says of *lacernulata*, which species, indeed, I had always supposed to be identical with *badia*. This is Raffles' description.

"A larger species than the preceding, to which it seems to have considerable affinity. It is sixteen inches in length, of a chestnut-red on the back and wing-coverts. The under parts of a bluish vinous tint, which extends round the neck, and becomes a bluish-grey on the head and cheeks. The wing-feathers are of a deep brown approaching black; those of the tail, which are long and nearly equal, are almost black, with a cinereous tinge at the tips. The lower tail-coverts are white; bill and feet red; legs feathered nearly to the toes. There is no naked space round the eye, but the circle of the eyelids is bright red. The iris is white."

Now this is not a bit like *insignis*. Note the bluish grey on the head and cheeks, *i.e.*, the grey cap, and the "chestnut red on the back and wing-coverts," nothing of which is ever seen in *insignis*.

But both are conspicuous in my birds, which answer absolutely to Raffles' description, except that the lower tail-coverts are in all my specimens not white, but extremely pale buff.

My birds measure in the skin:—

Length, 15 to 15·75; wing, 8·0 to 8·5; tail, 6·5 to 7·0; bill, straight from frontal bone to tip, 1·25 to 1·37; tarsus, 1·2 to 1·3; bare in front for a shade less than 0·5 only.

There is a distinct grey cap about the same colour as in *griseicapilla*, but extending further down the occiput and behind the eye than is usual in that species; the entire

interscapulary region, lesser scapulars and wing-coverts, and more or less (in different specimens) of the tips and margins of the secondary median and greater coverts, are a deep chestnut, inclining to maroon. There *is* no naked space round the eyes. The legs *are* red.

There *can*, I think, be no doubt that this is the true *badia* of Raffles, and that Blyth was under some misapprehension when he said that this was the same as *insignis*, a much larger (wing, 9·5 to over 10·0) and very differently colored bird. How, if at all, *lacernulata* differs, never having seen a Javan specimen, I cannot say.

781 *ter*.—Carpophaga griseicapilla, *Wald.* (5). DESCR. S. F., III., 402.

(*Karen Hills*, Rams.) 2,000 feet above Paraduba ; Mooleyit.

Confined apparently to Mooleyit and its higher spurs in Tenasserim proper, but reappears in the higher parts of the Karen Hills.

[This fine Pigeon was not uncommon about Mooleyit, and its slopes, in small parties or pairs, or even singly. It has like its congeners a deep booming single note that can be heard to a very long distance. Those I examined had been feeding on a large hard yellow fruit, the size of a walnut, which they had swallowed whole. Their habits are much the same as those of *ænea*, but they never come into scrub jungle as these latter do.—W. D.]

The following are dimensions, &c., of two males and two females, recorded in the flesh:—

Males.—Length, 18·12, 18·75 ; expanse, 29·25, 29·5, tail from vent, 7·5, 7·9 ; wing, 9·7, 10·0 ; tarsus, 1·2 ; bill from gape, 1·6 ; weight, 1·25, 1·5 lbs.

Females.—Length, 17·0, 17·5 ; expanse, 29·25, 29·5 ; tail from vent, 7·1, 7·5 ; wings, 9·6, 9·8 ; tarsus, 1·05, 1·12 ; bill from gape, 1·4, 1·55 ; weight, 1·0, 1·5 lbs.

Legs and feet deep lake pink ; bill deep lake pink, except horny portion, which is pale whitey brown ; irides pearly grey.

781 *quint*.—Carpophaga bicolor, *Scop.* DESCR. S. F., II., 265.

Blyth gives this from the Mergui Archipelago, where, although we have not yet met with it, it is very likely to occur at certain seasons.

782.—Alsocomus puniceus, *Tick.* (4).

(*Tonghoo*, Rams.) Pahpoon ; Thatone ; Amherst ; Usheetherrpone.

Sparingly distributed throughout the northern and central portions of the province.

[I have found this Pigeon very rare in Tenasserim, meeting with one now and then, and always singly. Captain Bingham tells [illegible] are not rare in the Sinzaway Reserve Forest [illegible] Yomalaleen. I have never heard the note that [illegible] really know nothing about its habits as yet.—W. D.]

The following are the dimensions of two males and a female :—

Males.—Length, [illegible] 4·12, 15·6 ; expanse, 25·0, 26·25 ; tail from vent, [illegible] ; wing, 8·2, 8·5 ; tarsus, 0·9, 1·1 ; bill from gape, 1·1, 1·2; weight, 8 ozs.

Female.—Length, 14·75 ; expanse, 25·25 ; tail from vent, 5·5 ; wing, 8·4 ; tarsus, 1·0 ; bill from gape, 1·2 ; weight, 1 oz.

Legs and feet are pale purplish, or lake pink ; horny portion of bill bluish white ; rest of bill and gape lake pink ; irides deep orange, or pale yellow ; eyelids bright red ; orbital skin purplish pink.

788.—*Columba intermedia*, Strickl.

Blyth, speaking of Burma, as a whole, says B. of B., p. 145 ; "Common as throughout India." So far as we know it occurs nowhere in Tenasserim, and Ramsay does not appear to have procured it, either in Tonghoo, the Karen Hills, or Karennee, the only portions of the mainland of Tenasserim which Davison has not yet visited.

791.—Macropygia tusalia, *Hodgs.* (2).

(*Karennee*, Rams.) Kollidoo ; Mooleyit.

Confined apparently to the higher parts of Mooleyit, and the range to which this belongs, which runs northwards through Karennee and spurs of which approach Kollidoo.

[A very rare bird in Tenasserim. Usually I have found it in the forest, but the specimen I shot near Kollidoo I got on the edge of an old abandoned clearing.—W. D.]

The following are the dimensions and colors of soft parts of two females recorded in the flesh :—

Length, 15·0, 15·9 ; expanse, 21·25 ; tail from vent, 7·0, 8·12 ; wing, 17·0, 17·25 ; tarsus, 0·95 ; bill from gape, 0·85, 1·1 ; weight, 7·0 ozs.

Legs and feet are pinkish brown or brownish red ; bill dirty purplish or horny brown ; irides outer ring pink, inner ring blue.

Ramsay says :—

"I found a nest containing two white eggs at 4,000 feet in the Karen Hills on the 18th March. The eggs measured roughly 1·4 by 1·0 inch.

"Iris white, surrounded by pale lilac; orbital skin grey, with an inner rim of purple round the eye; bill blackish; legs purplish pink."

791?—*Macropygia ruficeps*, Tem.

Said by Blyth to occur at Mergui, but its occurrence in Tenasserim is extremely doubtful, and Blyth may have intended *M. assimilis*, or he may have had specimens of *ruficeps* sent him from Mergui, but which were not really originally procured in that neighbourhood.

791 *ter*.—Macropygia assimilis, *Hume*. (5). DESCR. S. F., III., 441.

(*Karen Hills*, at 3,000 feet, Rams.) Kollidoo; Mooleyit.

Apparently confined to the higher hill forests of the province. I suspect now that this must be the species obtained by Stoliczka, in the Wellesley Province, (J. A. S. B., XXXIX., pt. II., 331, 1870). We, however, have not, as yet, observed it there.

[This bird is not very rare, but is still most difficult to obtain: it is extremely shy and keeps to the densest parts of the forests; on Mooleyit, in the mornings and evenings, I used to hear numbers calling. The note is very peculiar, and sounds like Oo-who-who-oo, repeated quickly several times. The birds keep in small parties of four or six. They live on small fruits, and the stomachs of some I examined contained what looked to me like buds or tender undeveloped leaves.—W. D.]

The following are dimensions, &c., of four males:—

Length, 13·0 to 13·5; expanse, 17·5 to 18·5; tail from vent, 6·7 to 7·1; wing, 5·7 to 6·25; tarsus, 0·75 to 0·8; bill from gape, 0·85 to 0·95; weight, 3·5 to 4 ozs.

Legs and feet dark brownish red; bill pinkish red or pale purplish brown; the irides varied, sometimes they are quite grey, at other times grey with an inner ring of blue, at others pearly white; orbital skin pale blue.

793.—Turtur meena, *Sykes*. (10).

(*Tonghoo, Karennee*, at 4,000 feet, Rams.) Clearings in the Pine forests of the Salween; Kollidoo; Kyouk-nyat; Pahpoon.

Confined to the more open tracts, hills and plains, of the northernmost portions of the province.

[This species was not uncommon about the rice fields, and open country about Pahpoon, and occurred, though more sparingly,

to the north of that place. I never found it in forest, thick [illegible] always in the open, and often in company with [illegible].—W. D.]

[illegible], in pt. 55, 56 of the Birds of Europe, has united (amongst other species) our *Turtur meena* of Sykes, and *Turtur pulchrata*, Hodgson = *T. rupicola*, Pallas, of Jerdon.

In this view I am totally unable to concur.

In the first place, Mr. Dresser is in error in his premises. He says:—

"In India there are two forms of the present species.

"One of these forms, the *Turtur rupicola* of many Indian authors, is the dark form *with grey under tail-coverts*, and the extreme of the other form which, judging from Sykes' description, is the *Turtur meena* of that author, has the under parts paler than in Japanese and Chinese birds, and the under tail-coverts and terminal portions of the tail nearly pure white."

Now the facts are, I believe, precisely the reverse. Jerdon, in describing his *rupicola*, B. of I., II., 476, says: "*Lower tail-coverts white;*" while of *meena* he says: "*Lower tail-coverts light grey.*" Certainly all Indian authors who adopt that name have followed Jerdon in assigning Pallas' name *rupicola* to the species with the *white, and not*, as *Mr. Dresser* asserts, with the grey under tail-coverts.

As to what Sykes intended by *meena* one cannot speak with equal certainty. Unquestionably the bird with the grey under tail-coverts is the common resident one in the localities Sykes worked, but the other occurs there also as a seasonal migrant; and, as far as I can judge, (P. Z. S., 1832, 149) he described the latter as the male, and the former, which Jerdon accepted as *meena*, as the female. Of course on this basis Sykes' name would not stand, but it will stand on Jerdon's full description which restricts the name to the form with the grey under tail-coverts.

In the second place, these two forms are as distinct as any two nearly allied species possibly can be. Their dimensions and coloration are different. They never grade into each other. Their notes, though similar, are at once distinguishable. Their area of distribution and the faunas to which they belong are utterly distinct, and their migrations entirely different.

The one which Jerdon called *rupicola*, with the under tail-coverts white (but which I, not considering the northern Asiatic form identical, call *pulchrata*, for the present, though I cannot find any published description of the species by Hodgson) is an Indian species, summering in the Himalayas, west of Sikhim, and migrating due south (except where thrown eastwards by the desert) in the winter.

The other, which I follow Jerdon in calling *meena*, Sykes, with the grey under-tail coverts, is an Indo-Burmese bird, inhabiting the whole of Burma, Eastern Bengal, Assam, the Bhootan Doars and the Sikhim Terai, and lower hills, as scores of other Indo-Burmese species do, and extending, which is almost peculiar to themselves, from Lower Bengal through the hill tracts of the Tributary Mehals, on the one hand along the northern portions of the Eastern Ghats, and on the other, through the hilly portions of the Central Provinces and Northern Bombay right to the Western Ghats, and down these to perhaps the 15° N. L.

This is virtually a sedentary and non-migratory species, though found higher and lower at different seasons. But in its extension westward, the usual change in plumage, observable in species passing from damp to dry climates, occurs, and the more western examples are less richly colored than the eastern, and have the lower tail-coverts paler. But though paler, they are at all times distinct from the white or nearly white ones of the northern migratory species.

What has misled many, and perhaps amongst them Mr. Dresser, is that at certain seasons you may, in some localities, shoot both species out of the same tree, and this will be at once understood when it is borne in mind that the one species *meena*, the sedentary one occupies a broad belt stretching athwart the entire continent of India from east to west, while the other *rupicola* or *pulchrata* migrates due south and north. Thus at certain seasons at Mahabaleshwar both species, I believe, occur, though *meena* is unquestionably the common resident one, and here or elsewhere within his limits Sykes may have obtained a specimen of the northern race.

If, considering that Sykes' name included both species, ornithologists insist on rejecting it notwithstanding Jerdon's resuscitation of it, then probably (I have not the work at hand) Tickell's name "agricola" will be applicable; but be the names what they may, no possible doubt can exist in the minds of any who have studied the question on the spot, amongst the live birds, that the two species are thoroughly distinct.

I may add that, despite the desert, a few specimens of the northern race find their way to Aboo, and that neither species, I believe, have been found in the Nilgheris, Palnis, or other portions of the Peninsula much south of the 15° N. L.

795 *bis*.—Turtur tigrina, *Tem.* (34). DESCR. S. F, I., 461.

Kyouk-nyat; Pahpoon; Moulmein; Yea-boo; Letet; Amherst; Tavoy; Shymotee; Usheetherrpone; Mergui; Tenasserim Town; Bankasoon; Malewoon.

Common throughout the more open and less elevated portions of the province.

This is the common Dove of Tenasserim, being met with everywhere (except in forest and on the higher hills) in gardens, fields, [illegible] land, in fact wherever the country is open; sometimes singly, sometimes in pairs, sometimes in small flocks, sometimes in hundreds.

Feeds on grain of various kinds, which it generally gets on the ground, though I have seen them feeding on the bamboos when these were in seed. Its note and habits are the same as those of its Indian ally, *T. suratensis*.—W. D.]

797 *bis*.—Turtur humilis, *Tem.* (13). DESCR. S. F., III., 279; IV., 292. T. humilior, *Hume*.

(*Karennee*, Rams.) Kanee; Thatone; Pabyouk; Amherst; Tavoy; Tenasserim Town; Pakchan.

Generally distributed throughout the open cultivated portions of the southern half of the province, and re-appearing in the extreme north in Karennee.

I have always found this species in larger or smaller flocks, very wild and difficult to approach, keeping to thin tree or bamboo jungle, but always in the vicinity of cultivated land, feeding on the ground, and when disturbed rising together and all settling on the same tree, sometimes a leafless one, sometimes one with plenty of foliage. After they have once been fired at, it is almost impossible to approach them again.—W. D.]

797 *ter*.—Geopelia striata, *Lin.* (10).

Pakchan.

A permanent resident in the cultivated lands in the immediate neighbourhood of the higher parts of the Pakchan.

[The general habits of this little Dove are the same as that of *tigrina*, except that it never occurs in flocks, being always found singly or in pairs. It keeps about cultivation, and feeds on the ground, walking about here and there picking up seeds. It is not at all shy, but very rare in Tenasserim, even where it does occur. Its note is quite unlike that of any of the other Doves that I am acquainted with, and sounds like kok-a-kurr-kurr softly repeated several times. It is very common about cultivation in the Wellesley province.—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 8·35 to 9·25; expanse, 11·75 to 12·62; tail from vent, 3·62 to 4·55; wing, 3·75 to 4·1; tarsus, 0·75 to 0·8; bill from gape, 0·7 to 0·75; weight, 2·0 to 2·25 oz.

Females.—Length, 8·62 to 9·5; expanse, 12·25 to 12·62; tail from vent, 4·0 to 4·45; wing, 3·75 to 4·5; tarsus, 0·7 to 0·76; bill from gape, 0·65 to 0·75; wing, 1·75 to 2·25 oz.

Front of tarsus and toes pinkish purple, with the scutation divided by pink lines; back of tarsus and soles fleshy pink; claws dirty greenish blue; base of bill pale clear blue; rest of bill bluish white, darkening towards tip; irides generally white, occasionally grey brown or pale slaty blue; orbital skin pale clear blue, tinged with green.

The whole forehead, anterior portion of crown, cheeks, greater portion of ear-coverts, chin and throat, a pure very pale French grey; a dark line through the lores; the upper portion of the ear-coverts streaked blackish; posterior portion of crown pale fawn brown; middle of lower part of foreneck, of breast and upper abdomen, pale vinaceous; entire sides and back of the neck, sides of breast, abdomen, body, and flanks white, very regularly and narrowly barred with blackish brown; the middle of the back of the neck suffused with pale, somewhat earthy brown; all the coverts, (but the greater primary ones) the secondaries, tertiaries, interscapulary region, scapulars, rump, and upper tail-coverts, a pale greyish earthy brown, most albescent on the median and central coverts of the wing; every feather, except the secondaries, and in some specimens the longest upper tail-coverts, narrowly tipped with black; the tippings least conspicuous, as a rule, on the upper tail-coverts; primaries and their greater coverts a darker somewhat greyish hair brown, the former whitish at the edges; tail dark brown; both webs of the central, and more or less of the outer webs of the next pair, suffused with a grey drabby brown, and the four outermost pairs broadly tipped with pure white; lower abdomen, vent, and lower tail-coverts white; all but the longest of the latter with a creamy tinge; tibial plumes creamy or pinkish white, with very narrow indistinct wavy transverse bars; wing-lining grey; the central portion barred with pale chestnut and brown; a large patch on the inner webs of the quills pale chestnut.

A nestling has the entire crown, occiput, nape, and upper parts closely barred pale rufescent and brown; and the entire breast and upper abdomen similarly barred, but with the vinous tinge already apparent on the middle of the breast; almost the entire wing-lining is pale chestnut.

798.—Chalcophaps indica, *Lin.* (17).

(*Tonghoo, foot of Karen Hills,* Rams.) Dargwin; Thatone; Moulmein; Meetan; Amherst; Lemyne; Meeta Myo; Mergui; Bankasoon; Malewoon.

Generally distributed throughout the better-wooded portions of the province, but not ascending above about 4,000 feet.

[This Dove is not uncommon in the well-wooded portions of Tenasserim, being found singly or in pairs in thick forest or very shady [illegible] paths leading through dense forest are a very favourite resort. They are not in general shy, and will walk on in front of one for some considerable distance if not closely pressed. They rise with a sharp flutter of the wings, and their flight is very rapid indeed: when disturbed they generally fly some considerable distance before alighting, sometimes on the ground, more generally on a tree at no great elevation from the ground. Their note is a low and mournful one, and can be heard from a long distance. It sounds like the word "oo" very much prolonged, and slowly uttered with a booming sound. The food consists of berries and seeds.—W. D.]

798 *bis.*—Calænas nicobarica, *Lin.* Descr. S. F., II., 271.

Blyth says, B. of B., p. 149, that this bird is common in the Mergui Archipelago, but that he doubts the statement (Calc. R. N. H., I., 605) that it is "common on the Tenasserim coast."

I believe I may say, with some confidence, that it does not occur at all on the Tenasserim coast, except in cages. As to the Archipelago it may possibly occur there as a seasonal visitant, but even this requires verification.

803 *bis.*—**Pavo muticus**, *Lin.* (6).

Pahpoon; Kadintee; Myatoon; Wimpong.

Sparingly and very locally distributed throughout the more open and better cultivated portions of the province.

[This is a very local bird, confining itself apparently to certain spots and never moving far therefrom. In the morning and evening it feeds in the fields, retiring during the day to cover, and roosting at night on some large tree. Its note very much resembles that of the common Peacock, being a harsh mew, mew, mew, something like the call of a huge tom cat in distress, repeated several times. In their habits I could not see that they differed from the Indian species. Though I got none, they certainly occur on the Pakchan, as Mr. Osborne shot one near Bahonee; they also occur in the neighbourhood of Mergui, and again in that of Tavoy, where Mr. Davidson, the superintendent of Police, obtained three specimens.—W. D.]

The following are the dimensions and colors of soft parts of four by-no-means very fine males:—

Length, 40·0 to 43·07 to end of tail-feathers excluding train; expanse, 50·5 to 60·0; tail, 15·5 to 17·5; wing, 16·75

to 19·75; tarsus, 7·0 to 8·5; bill from gape, 1·95 to 2·5; weight, 8·5 to 11·0lbs. The train formed by the elongated tail-coverts projects in the males from 2 to 4 feet beyond the true tail.

Legs and feet dark horny brown; bill dark horny brown; lower mandible pale near base; irides dark brown.

The facial skin is of two colors, smalt blue and chrome yellow.

The blue runs from a point in front of and below the nostrils, where it is palest, to the gape, and from thence in a curved line past, and 0·15 in front of the orifice of the ear to within 0·35 of the top of the head, from thence curving round over the eye, and about 0·2 above it, down to the point below the nostrils already referred to; the blue is brightest just behind the eye.

The chrome yellow extends as a broad irregular band over the posterior portion of the face, immediately behind the blue. It is widest on the cheeks, where it may be 0·8 wide, and narrowest at the aural orifice which it encloses, where it may be 0·45 wide. It begins at the gape and goes up as high as the blue. A broad patch of small scaly metallic green feathers runs across the blue from near the gape up to and just touching the lower margin of the eye. A line of similar feathers runs immediately over the eye, curving up a little posteriorly. A tiny patch of somewhat similar feathers above the aural orifice, and it is about this part that the chrome yellow is brightest; at the line of junction of the blue and yellow, the colors become slightly intermingled, the blue being perceptibly tinged with yellow, and the yellow with blue, producing a dirty greenish shade.

The Burmese Pea Fowl is distinguished by its long occipital crest of straight stiff narrow feathers, with the greater portion of the webs, except just at the base, metallic blue, shaded with green; the longest of these crest feathers is sometimes nearly five inches in length. The entire forehead, crown, and anterior part of the occiput is covered with closely set scaly feathers, black at their bases, of which little is seen, and tipped with brilliant metallic blue, shaded with green. The feathers of the neck all round and breast are brown at the bases, which are completely hidden by the overlapping of the feathers, and at the tip, have a broad band of bronze, greenish in some lights, vinous in others. Outside, this band is excessively narrowly margined with black, and inside this black line is an equally narrow golden green one; inside the bronze band the feathers are deep blue at the shaft, shading off to bright green; on the front of the neck nothing but the bronze band is seen. On back of the

lower neck just the points of the blue are visible, and on the breast the whole of the blue and green is more or less exhibited. Just where the head joins the neck at the sides and in front the feathers are deep violet blue, greener, however, in some lights, tipped with green and some of them with bronze. The rest of the bird is so far like the common Indian species that it seems needless to describe it.

803 *bis.*—Argus giganteus, *Tem.* (20).

Bankasoon.

Confined to the densest forests in the neighbourhood of the Pakchan.

[This magnificent Pheasant is comparatively common in the evergreen forests about Malewoon and Bankasoon, and in the forests about the higher portions of the Pakchan, and there I enjoyed many opportunities of observing their habits, living, as I did for months, surrounded by them, shooting, trapping, and seeing them almost daily.

They live quite solitarily, both males and females; every male has his own drawing room, of which he is excessively proud, and which he keeps scrupulously clean. They haunt exclusively the depths of the evergreen forests, and each male chooses some open level spot—sometimes down in a dark gloomy ravine, entirely surrounded and shut in by dense cane brakes, and rank vegetation—sometimes on the top of a hill when the jungle is comparatively open—from which he clears all the dead leaves and weeds, for a space of six or eight yards square until nothing but the bare clean earth remains, and thereafter he keeps this place scrupulously clean, removing carefully every dead leaf or twig that may happen to fall on it from the trees above.

These cleared spaces are undoubtedly used as dancing grounds, but personally I have never seen a bird dancing in them, but have always found the proprietor either seated quietly in or moving backward and forwards slowly about them calling at short intervals. Except in the morning and evening when they roam about to feed and drink, the males are always to be found at home, and they roost at night on some tree quite close by.

They are the most difficult birds I know of to approach; a male is heard calling, and you gradually follow up the sound, taking care not to make the slightest noise, till at last the bird calls within a few yards of you, and is only hidden by the denseness of the intervening foliage; you creep forward hardly daring to breathe, and suddenly emerge on the open space, but the space is empty, the bird has either caught sight of or heard or smelt

you and has run off quietly. They will never rise even when pursued by a dog if they can possibly avoid it, but run very swiftly away, always choosing the densest and most impenetrable part of the forest to retreat through. When once the cleared space is discovered, it is merely a work of a little patience to secure the bird by trapping it. The easiest way is to run a low fence of cut scrub round the spot, leaving four openings just sufficiently wide to enable the bird to pass through, and in these openings to place nooses fastened to the end of a pliant sapling, which is bent and kept down by a catch. This is the usual way and the one I adopted to secure most of my specimens, as I found it as difficult to shoot as it was easy to trap them. The natives, however, have other ways of securing them, all dependant on taking advantage of the bird's idiosyncracy about keeping its place clean.

One of these plans, which, though I have never actually seen it in operation, is, I am informed, really practised, is as follows:—A bit of bamboo, about 18 or 20 inches long and a quarter of an inch wide, is shaved down till it is the thickness of writing paper, the edges being as sharp as a razor. This narrow pliant piece ends in a stout sort of handle at one end, 6 or 8 inches long, which is driven firmly into the ground in the middle of the cleared space.

The bird, in trying to remove it, scratches and pecks at it, trying to dig it up, but finding all its efforts vain, it twists the narrow pliant portion several times round its neck, and taking hold of the bamboo near the ground with its bill, it gives a sudden spring backwards to try to pull it up; the consequence is that its head is nearly severed from its body by the razor-like edges of the bamboo.

Another method is to erect two small posts, about 4 feet high and 3 feet apart, in the clearing, across the top of which a bar is firmly fastened; over this bar a string is run, by one end of which a heavy block of wood is suspended just under the bar, while the other end is fastened to a peg lightly driven into the ground immediately beneath the block. The bird commencing, as usual, to clear away these obstructions, soon manages to pull up the peg and thus release the heavy block of wood, which falls and crushes it.

The males are not at all quarrelsome, and apparently never interfere with each other, though they will answer each other's calls. The call of the male sounds like "how-how," repeated ten or a dozen times, and is uttered at short intervals when the bird is in its clearing, one commencing and others in the neighbourhood answering. The report of a gun will set every male within hearing calling, and on the least alarm or excite-

ment, such as a troop of monkeys passing overhead, they call. The call of the female is quite distinct, sounding like how-owoo, how-owoo, the last syllable much prolonged, repeated ten or a dozen times, but getting more and more rapid until it ends in a series of owoo's run together. Both the call of male and female can be heard to an immense distance, that of the former especially, which can be heard at the distance of a mile or more. Both sexes have also a note of alarm, a short sharp hoarse bark.

The female, like the male, lives quite solitarily, but she has no cleared space, and wanders about the forest apparently without any fixed residence. The birds never live in pairs, the female only visiting the male in his parlour for a short time.

I was unable to find the nest, but, from what I could learn, the female builds a rude nest on the ground in some dense cane brake, laying seven or eight eggs white or creamy, minutely speckled with brown like a Turkey's, and hatching and rearing her brood without any assistance or interference from the male. They are said to have no regular breeding season, the females laying at all times except during the depth of the rains. I secured two nestlings about a week old on the 28th of February, which will be figured in the Game Birds of India.

The food consists chiefly of fallen fruit which they swallow whole, especially one about the size and color of a prune, which is very abundant in the forests of the south, but they also eat ants, slugs, and insects of various kinds. These birds all come down to the water to drink about 10 or 11 A. M., after they have fed and before they, or at any rate the males, return to their parlours. They were very common about Malewoon and Bankasoon, and Mr. Osborne, the superintendent of the mines, preserved 32 males during a comparatively short period.

I could not learn that they occurred anywhere so far north as Mergui or Tenasserim town, in which neighbourhoods and further inland I made particular enquiries.—W. D.]

The following are the dimensions and colors of the soft parts recorded in the flesh :—

Males.—Length 70·0 to 73·0; expanse, to end of longest primaries, 49·5 to 52·0; tail from vent, 49·5 to 52; wing to end of primaries, 18·0 to 19·0; to end of longest tertiaries, 33·0 to 34·5; tarsus, 4·5 to 4·8; bill from gape, 1·32 to 2·0; weight, 4·5 to 5·5lbs.

Females.—Length, 27·25 to 30·25; expanse, 35·0 to 40·0; tail from vent, 12·5 to 13·0; wing, 11·5 to 13·0; tarsus, 3·62 to 3·75; bill from gape, 1·0 to 1·75; weight, 3·25 to 3·75lbs.

The male has the legs and feet bright red, sometimes even a vermilion red; the female has them a paler and duller red,

sometimes a litharge red; the bill and claws are white, slightly tinged blue; the cere, in the male, the same color as the bill, in the female pale brown; irides wood to dark brown; the facial skin dull pale indigo, to dark plumbeous blue.

A nestling male measured :—

Length, 6·25; expanse, 11·0; tail from vent, 0·7; wing, 3·3; tarsus, 1·75; bill from gape, 0·75; weight, 2·5oz.

The bill was pale horny; irides pale brown; eyelids grey brown.

One would require a tolerable-sized pamphlet to describe in detail these magnificent birds, but fortunately they are not birds which can easily be mistaken for any other.

The males have the uppermost central feathers of the tail very broad, some four inches in breadth and projecting a good yard beyond the other tail feathers. On the forehead and central portions of the crown and occiput the male bears a short dense velvet black crest; the back of the neck is covered with narrow feathers, barred greyish white and dusky with silvery shafts; the rest of the head and neck is nearly bare, though sparsely speckled with whitish hairs.

The sides and back of the base of neck, the upper back, and all the coverts, but the primary greater ones, are an intense blackish brown, almost black, marbled with narrow variously-shaped zig-zag bright buff bars, which combine to produce the effect of a buff net-work over the whole of these parts; the rest of the back, rump, and all but the longest upper tail-coverts bright buff, paler on the upper tail-coverts, with conspicuous oval deep brown spots, more or less regularly disposed on both webs; the winglet is a beautiful slaty grey, with a pinkish tinge on the inner webs, with black spots surrounded by a deep ferruginous halo, numerous on the outer, sparse on the inner webs; a ferruginous yellow tinge runs down the inner web close to the shaft; the primary greater coverts are similar, but the spots are larger on both webs, much more numerous on the inner webs, the ground of which latter moreover is white and the halo of its spots more orange; the primaries have a dove-colored ground, whiter on the outer webs; the shafts blue; a narrow yellow line runs down just inside the shafts; on the outside of the shafts, except just towards the tips, are a series of small white and dusky spots; from the inner side of the shaft project a number of short dusky lines corresponding with the dusky spots on the other side, crossing the narrow yellow line already referred to. The space occupied by these narrow cross lines where not yellow is drab; outside this band lies a much broader rufous belt, closely covered all over with tiny white star-like specks; the rest of the feather is regularly

spotted with intense brown, each spot with a more or less conspicuous ferruginous or orange halo, the spots being much [illegible] conspicuous on the outer web, and sparse towards the tips [illegible] the inner half of the inner web. The outer webs of the scapularies have first a line of large occelli along the shafts, a double black and buffy white line enclosing an oval or roundish space, tinged with olive yellow in the centre, below this [illegible] of white, shading into grey, and below this a dull vinous tinge, which tinge is repeated on the upper part of the space. The interspaces between the occelli are, like the rest of the whole of the ground of the outer web, dark brown, varied with irregular zig-zagy buffy bands. From the outer edge of each occellum runs, slanting down to the outer edge of the feather, a narrow pinkish creamy band ; as these bands approach the edge of the feather they throw out cusp-like points from either side, which, on the outer part of the web, develop and meet the corresponding cusp from the next band, thus dividing the ground on this part of the feather into rows of closely-set oval spots ; the tips of the secondaries and the visible portion of the tertiaries (for these also have modified occelli higher up) are also blackish brown, closely set with white spots of varying sizes, always much smallest just at the tip, in between which, except just at the tips, run narrow lines, more or less obsolete, of pale reddish brown, which form an irregular net-work, all the larger white spots being as it were in the middle of a mesh ; the longer upper tail-coverts are white with closely-set rows of more or less figure-of-three-shaped spots, the outer line of the spot black, the central portion pale refescent ; the lateral tail feathers are deep brown, with a slaty tinge closely starred with white ; the interspaces tinged with rufous towards the tips ; the longer tail feathers have the inner webs grey, the outer webs dusky along the shafts, and a sort of dull brownish maroon on the outer two-thirds of the web, everywhere, except on the dusky portion, where they are sparse or wanting, thickly set with white spots surrounded by a blackish band, broadest and most conspicuous on the outer webs ; entire breast and abdomen black, broadly banded with deep ferruginous in wavy bands, following approximately the curve of the feather, and with in many cases in many feathers near the tips, narrower orange buff bands replacing the deep ferruginous ; vent feathers dusky brown, obsoletely and very finely barred with ferruginous ; lower tail-coverts black, with very fine speckly irregular white lines ; tibial plumes much like the breast ; some of the flank feathers more regularly transversely barred ; a small patch at the base of the neck in front often deep ferruginous, almost unbarred.

The female wants the crest and the elongated tail feathers of the male, and has the whole top and back of the head, including the somewhat elongated bristly feathers of the lower part of the occiput and nape, and the back of the neck, speckled and narrowly barred greyish, or sometimes fulvous white and blackish dusky; the chin and throat and sides of the head and front of the neck, as in the male, bare or nearly so, with sparse white hair-like feathers; the base of the neck all round deep ferruginous, altogether unmarked, or a little freckled and marked with zig-zag black lines; breast and upper abdomen ferruginous, more or less orange, and becoming yellower on the abdomen, everywhere extremely closely vermicilated with zig-zagy black lines; lower abdomen, tibial plumes, and flanks, a dusky greyish brown very finely, and on the lower abdomen and vent obsoletely, vermicilated with pale reddish brown; lower tail-coverts dark brown, finely speckled and vermicilated with pale rusty; winglet and primaries deep chestnut, irregularly variegated with black lines and spots; upper back like the breast, but the black markings rather more preponderant; secondaries, tertiaries, and wing-coverts black, comparatively coarsely banded or variegated with bright buff bands; pretty uniform in breadth, but varying altogether in length and shape, sometimes reduced to mere spots, sometimes assuming most complicated hieroglyphic forms; the whole of the middle and lower back, rump, and upper tail-coverts banded black and irregular freckly speckly spotted bars, varying in different specimens from deep ferruginous buff to almost buffy white; the markings at the upper edge of each of these bands being coarse and sparse, and growing fine and speckly towards the lower edge; tail and longest upper tail-coverts irregularly, but closely, marked with ferruginous buff or dull ferruginous.

803 *quat.*—**Polyplectron thibetanum**, *Gm.*, (2). *Male*, Descr. S. F., V., 40.

Mooleyit.

Confined to the forests in or near the easternmost hills of the northern and central portions of the province.

[I have only seen this Peacock Pheasant in a wild state some three or four times, and then always singly, keeping to the densest portions of the forest. It is apparently very shy, and almost impossible to flush, except with the aid of dogs; it has a very harsh call, sounding like a short double bark. Those I shot had eaten some hard black seeds, and some ants and other insects. It keeps only to the forests of the hills, never, I believe, wandering into the open. It certainly occurs,

sides with pure white central streaks; the lowest portion of which streaks in some few feathers, in some specimens, are tinged with orange or pale ferruginous.

The female has a coronal crest, but of nearly normal feathers, and this, with the whole of the top and back of the head and back and sides of the neck, is a deep chestnut; the sides and back of the neck in some specimens a little streaked with white; the chin and throat are white; the ear-coverts, brown with more or less of a chestnut tinge, darker colored at their tips; the foreneck is the same deep chestnut, always much streaked with white, and in some specimens with black also; the breast feathers are black, more or less broadly tipped with the color of the back of the neck, and more or less broadly margined laterally with white; the abdomen, except just above the vent, and the sides and flanks, are black or blackish brown, broadly margined everywhere with white, and some of the feathers of the sides and flanks, and in some specimens of the sides of the abdomen, a little suffused towards the tips, inside the white margins with chestnut; the lower part of the abdomen above the vent plain grey brown, broadly fringed at the tips with greyish white, which is the only color seen where the feathers are not disturbed; lower tail-coverts black, more or less broadly tipped, and more or less suffused elsewhere, with deep ferruginous chestnut.

The tail and the longest row of upper tail-coverts deep ferruginous chestnut, finely freckled and mottled with black; the black often more or less wanting, sometimes entirely so on the lateral tail feathers; primaries deep brown; their outer webs pale chestnut, obsoletely freckled with brown; the middle of the back, rump, all but the longest upper tail-coverts, wing-coverts, scapulars, tertiaries, and the visible portion of the outer webs of the secondaries, a rather more orange and less chestnut ferruginous, everywhere excessively minutely vermicilated with black zig-zaggy hair lines.

I have already, S. F., V., 119, dwelt on the differences between this species and *ignitus*, and have there described a young male of this species, just moulting for the first time from the plumage of the female into that of the male, and I have also pointed out that this species should probably stand under Raffles' name *rufus*, and that it cannot possibly stand as *ignitus*, Lath., under which name Mr. Elliot figures it.

In reply to these remarks of mine my friend Mr. Elliot says, Ibis, 1878, 124:—

"Mr. Hume's next criticism (p. 138) is, that as I state the male of the bird I call *Euplocamus ignitus*, when immature, has the "flanks streaked with chestnut, and the central tail feathers

brown," he wants to be informed (after describing a well-known stage of plumage observed in the young male *E. ignitus**) where the bird with "pale chestnut flanks, varied with purplish black," mentioned by Sclater, is to come from, or what stage of *E. vieilloti* it represents. I regret very much to be obliged to say that I do not know. So far as I am concerned and the opinion I gave, the case stands as follows:—

"What I meant by saying that the immature male of the bird I call *E. ignitus* had the flanks "streaked with chestnut," was, that in place of the pure white central line on the black flank feathers seen in the adult, the immature bird had this part chestnut (and I believe I was perfectly correct in so stating, although in some adults a chestnut tinge on this part sometimes remains)—and also that the central rectrices were rufous, instead of snowwhite, which they afterwards become. As to this bird mentioned by Mr. Sclater with its *entirely* chestnut flanks, varied with black, I know nothing. Mr. Sclater says he has seen specimens; consequently they do exist; but although I believed I had examined all the specimens of the *Phasianidæ* then existing in the museums of Leyden, London, Paris, &c., and also the living birds in the Gardens at Amsterdam, Antwerp, Rotterdam, London, and in the Jardin d'Acclimatation and Jardin des Plantes at Paris, I have no recollection of seeing such a bird. Certainly, if I had, and it was a good species, there was no reason why I should not have given a plate of it in my work. After all may not this bird, described by Latham, be an immature *E. nobilis*? for he gives its habitat as Java, with a question, and it might very possibly have come from Borneo. I shall take the earliest opportunity of examining one of these chestnut-flanked birds, and state my opinion of it in this journal."

I need only remark that this virtually concedes all I contended, viz., that Mr. Elliot was in error in figuring our present species, (*rufus*, Raffles; *vieilloti*, Gray) under Latham's name of *ignitus*; this latter *may* be *nobilis*, as now suggested by Mr. Elliot, but it is *not* our bird.

812.—Gallus ferrugineus, *Gm.* (7).

(*Tenghoo, Kareance*, Rams.) Pahpoon; Amherst; Bankasoon; Malewoon.

Generally distributed throughout the province, but not ascending the higher hills.

[This species was extremely abundant in the bamboo forests about Pahpoon, and to the north of that place, and I have found it not uncommon over the rest of the province, except in the higher hills. It frequents all kinds of localities, dense

* *Lege, vieilloti*: A. O. H.

forest, thin tree, bamboo and scrub jungle. It comes out in the morning and evening into the fields and clearings, retiring during the day to cover. They are always found in larger or smaller flocks consisting of males and females; when disturbed they usually rise at once and disperse in different directions; when the female is sitting or has young ones, she keeps apart from the flocks, and generally keeps to cover, seldom coming into the open until the chicks are well grown and pretty strong on the wing.

On one occasion, near Pahpoon, I counted thirty males and females seated side by side on one enormous bent bamboo. Mr. Hildebrande was with me, or I should not have ventured to record the fact. I counted them carefully through my binoculars. They were at the other side of the Younzaleen, I guessed about 70 yards off; I loaded a large duck gun with big shot, fired at the lot and——apparently did not touch one.—W. D.]

Ramsay found a nest with 11 eggs in Karennee on the 14th March.

819 *bis*.—Francolinus chinensis, *Osb.* Descr. S. F., III., 171.

Lieutenant Ramsay says:—

"This bird, though unknown in the plains of the Tonghoo district, is very abundant in the Karen-nee hills. In the hills it frequents the sides of rocky hills and other inaccessible places. Its whereabouts may always be known by its extraordinary call, which it is continually uttering, and which may be rendered on paper by the syllables *kuk, kuk, kuich, kà-kâ*."

824 *ter*.—Arboricola brunneopectus, *Tick.* (5). Descr. S. F., III., 174.

(*Tonghoo and Karen Hills*, Rams.) Kyouk-nyat; Mooleyit.

Sparsely distributed through the hill forests of the northern and central portions of the province.

[I have only met with this species on two occasions, and then in pairs in very dense jungle, at the bottom of dark ravines. I did not hear their note, and can say nothing of their habits, except that they did not seem to be shy, as I had got within a few yards of them before I saw them move, and then they ran up the path but did not rise.—W. D.]

The following are dimensions, &c., of a male and two females recorded in the flesh:—

Male.—Length, 11·6; expanse, 19·5; tail from vent, 2·6; wing, 6·0; tarsus, 1·76; bill from gape, 1·1; weight, 12 ozs.

Females.—Length, 10·5 to 10·7; expanse, 17·0 to 18·4; tail from vent, 2·5; wing, 5·4 to 5·6; tarsus, 1·5 to 1·6; bill from gape, 1·05 to 1·1; weight, 9 to 10 ozs.

Legs and feet in one male and one female were pale bright red, in another female a dirty salmon pink; bill black; irides deep brown; naked skin, skin of throat and orbital skin, bright red.

824 *quat.*—**Arboricola chloropus**, *Tick.* (11). DESCR. S. F., III., 176.

Kyouk-nyat; Pahpoon; Thenganee Sakan; Meetan.

Confined to the forests and thin tree jungles of the plains, and *low* hills of the central and northern portions of the province.

[This species is most abundant in thin tree jungle, but is also found in thick forest. It is usually met with in pairs, but sometimes in small parties, gliding about on the ground amongst the dense brushwood, and scratching among the dead leaves, hunting for insects and seeds. Its note is a low soft double whistle, which is chiefly heard in the morning and evening. Without dogs they are very hard to procure, as they will not rise, but run only a short distance, and then squat close under some cover: before a dog they arise at once, flying some distance and then dropping to the ground, not perching as the next species does. Like all the other *Arboricolas* these come down about midday or a little earlier to some forest streamlet to drink.—W. D.]

The following are dimensions, &c., of six males and a female recorded in the flesh:—

Males.—Length, 11·4 to 12·0; expanse, 19·6 to 21·25; tail from vent, 2·9 to 3·5; wing, 6·05 to 6·6; tarsus, 1·7 to 1·75; bill from gape, 0·82 to 0·95; weight, 9 to 12 ozs.

Female.—Length, 11·1; expanse, 18·25; tail, 2·75; wing, 6·0; tarsus, 1·02; bill from gape, 0·8; weight, 9 ozs.

Legs and feet pale green; claws paler; bill greenish horny; region of nostrils and base of lower mandible reddish horny; cere dark greenish plumbeous; orbital skin dark brownish pink; irides deep brown.

825.—Arboricola rufogularis, *Hodgs.* (40). S. F., V., 114.

Paraduba; Mooleyit.

Apparently confined to the higher slopes of Mooleyit.

[This species is very abundant about the higher slopes of Mooleyit, keeping to the forest in small coveys of ten or twelve.

When flushed by a dog or otherwise, they almost always fly up and perch on the surrounding trees where they squat, and commence calling softly to each other. I have shot three or four when that perched before the others have attempted to move, and I have had them perch within a few feet of me, and keep staring at me, whistling softly all the time. Their ordinary call is a series of double whistles commencing very soft and slow, but gradually becoming more and more rapid and rising higher and higher, till, at last, the bird has to stop. As soon as one stops, another immediately takes up the call. The call is very easily imitated, and, after a covey has been dispersed, it is not difficult to attract them by imitating the call. I have done so more than once with complete success. The birds chiefly call in the early morning and evening remaining quiet as a rule during the day.

They feed on insects, small land shells, fallen berries, and various seeds, and are very fond of scratching about among the dead leaves.—W. D.]

I have already pointed out, S. F., V., 114, how the Mooleyit race differs from the Himalayan *rufogularis*, and need not therefore here recur further to the subject.

The following are dimensions, &c., recorded in the flesh from a large series :—

Males.—Length, 10·75 to 11·25 ; expanse, 18·4 to 19·5 ; tail from vent, 2·25 to 2·75 ; wing, 5·65 to 6·0 ; tarsus, 1·6 to 1·8 ; bill from gape, 0·95 to 1·1 ; weight, 10·0 to 12·0 ozs.

Females.—Length, 10·0 to 10·5 ; expanse, 16·6 to 18·5 ; tail from vent, 2·0 to 2·3 ; wing, 5·3 to 5·6 ; tarsus, 1·52 to 1·75 ; bill from gape, 0·9 to 1·0 ; weight, 8·0 to 9·0 ozs.

Legs and feet pale pinky red ; bill horny black ; irides deep brown ; orbital skin bright red.

1825 *quat.*—*Arboricola charltoni*, Eyton.

Although this has been said to occur in Tenasserim, I very much doubt the fact. If it occurred anywhere, it would be at the extreme south of that province, and this is just the portion that we have most exhaustively worked. However it *may* occur, and I, therefore, give a detailed description taken from a fine skin obtained in the Malay Peninsula.

The basal portion of the bill and a bare ring round the eye appear to have been red ; the lores and forehead are covered with striped feathers, yellowish white in the centres, olive brown at the sides, the olive brown becoming almost black towards the tips of some of the feathers. A long conspicuous superciliary stripe continued downwards on either side of the back of the neck white or yellowish white, the feathers more or less broadly

margined on one or both webs with dark brown, becoming black towards the terminal portion of the stripes; the whole of the top and back of the head and nape enclosed between these stripes pale olive brown; ear-coverts bright pale rufous buff; from behind the ear-coverts a more or less broken black band descends on either side of the neck and meets in front at the base of the throat; the whole of the chin, cheeks and throat, included within this band, white; each feather tipped with blackish brown or black; the black band is succeeded by a deep chestnut crescentic shaped pectoral band, about an inch and a half deep in front, commencing from near the end of the elongated superciliary stripe; the lower breast below the chestnut pectoral band is pale buff, the feathers closely set with broad blackish bands which occupy the greater portion of the feather, and which towards the sides are more or less freckled over with rufous buff; upper abdomen and sides ferruginous buff, paler towards the centre, brighter on the sides where the feathers exhibit broad black bars mostly on one web only; middle of lower abdomen, thighs, vent, and central shorter lower tail-coverts white; lateral and longer tail-coverts buffy with black bars.

The entire back, rump, scapulars, upper tail-coverts, pale dull buff, profusely freckled and mottled all over with fine zig-zag lines, which vary from deep olive brown to almost black; the freckling is so dense that but little of the ground color remains visible; the tertiaries and the greater portion of the coverts are mottled very similarly to the back, as are also the exterior webs of most of the secondaries, but these latter have a somewhat more ferruginous tinge, and the coverts exhibit larger patches of a pale yellowish buff and again of unmottled dark brown; the primaries, the inner webs of the secondaries and the earlier greater coverts of the former, uniform, rather pale hair brown; the tail is hair brown, mottled and freckled with dull ferruginous and blackish brown.

Axillaries and wing-lining, except in the neighbourhood of the carpal joint, pure white; in the neighbourhood of the carpal joint, brown, spotted or imperfectly barred with ferruginous red.

The legs and feet appear to have been light colored, yellowish or fleshy; the central toe nail is very much dilated on the inner side.

Length about 10 inches; wing, 6·5; tarsus, 1·7; mid toe and claw, 1·55; bill to forehead through feathers, 1·0 nearly.

I am rather inclined to consider this bird generically separable from the true *Arboricolas*, and intermediate in some respects between these and the *Bambusicolas*, in which case it would stand as *Peloperdix*.

829.—Coturnix communis, *Bonn.*

Obtained in Karennee by Ramsay; not observed as yet elsewhere in Tenasserim.

830.—Excalfactoria sinensis, *Lin.* (3).

Burmese: Makwet.

Sparingly distributed throughout the province, I believe, in suitable localities.

[I have only seen and shot this pretty little Quail, about the rice fields in the extreme south of the province. I always found it singly or in pairs, more often I think singly; when flushed it rises with a loud whirr, flies some distance, drops, and immediately hides itself, and nothing but a dog will induce it to rise again. It is rare even where it does occur. I have never, that I can remember, heard its note.—W. D.]

The following are dimensions, &c., recorded in the flesh of two males and a female:—

Males.—Length, 6·0; expanse, 9·35, 9·8; tail, 1·0; wing, 2·82, 2·9; tarsus, 0·8; bill from gape, 0·5, 0·55; weight, 1·5, 1·75 oz.

Female.—Length, 6·0; expanse, 10·0; wing, 3·0; tarsus, 0·82; bill from gape, 0·5; weight, 2·5 ozs.

Legs and feet bright orange or chrome yellow; claws pale horny brown; bill in the male blackish, edges of mandibles along commissure, plumbeous; in the female plumbeous; irides in the male crimson, in the female brown.

831 *bis.*—*Phœnicoperdix chloropus*, Blyth.

I cannot now discover where Blyth named and described this species. I am much inclined to think that this species, given by Mr. Gray, Hand List, Sp. 9,725, from Moulmein is an oversight of that gentleman's, and that he intended or was thinking of *Tropicoperdix* of Blyth, under which generic name he described, *Arboricola chloropus*, J. A. S. B., 1859, 415; especially as this latter does occur actually in Moulmein, Captain Bingham having recently shot a pair near the Circuit house; but then Mr. Gray has separately given *Tropicoperdix*, sp. 9,704; and again Hartlaub, who was not likely to make the same mistake in his "Bericht ub.d.Leistungen in d. Naturgeschichte der Vogel" for the year 1859, p. 99, also gives *Phœnicoperdix chloropus*, Blyth, and Hartlaub does not generally make mistakes of this nature. But then he omits *Tropicoperdix*, which looks as if he *had* made a mistake, and as if Gray had simply copied Hartlaub.

Blyth, moreover, entirely ignores this supposed species in his list of the Birds of Burma, another argument in favor of

Hartlaub and Gray being in error; but then Gray's Catalogue represents the specimen as in existence in the Museum, and he places it amongst the *Coturnicinæ*, quite away from the *Perdicinæ*, immediately after *Excalfactoria*, and this does look as if the species was distinct.

I wrote to Mr. Sharpe and begged him to try and find out and let me know what this bird was, and where it was described, on which he replied, giving me a reference to *Tropicoperdix*. I replied that I knew all about *Tropicoperdix*, but wanted to know about *Phænicoperdix*, and asked him to examine the specimen in the museum, but for some mysterious reason, though hearing from him repeatedly on other subjects, he declines to come to the point about this species, so that to me the bird still remains more or less of a myth.

831 *ter*.—Rollulus roulroul, *Scop.* (16).

Palaw-ton-ton; Bankasoon; Malewoon.

Confined to the dense forests of the neighbourhood of the Pakchan.

[This species is always found in small parties of six or eight or more, males and females, keeping to the dense forest, and never venturing into the open, living on berries, seeds, tender shoot and leaves, and insects of various sorts. It does not scratch about nearly so much as the *Arboricolas*, and is much quicker and more lively in its movements, much like a Quail, running hither and thither. They rise well before a dog, but it is hard to flush them without. Their note is a soft, mellow, pleasant whistle, which is chiefly heard in the morning, but which they also utter when calling to each other after they have been separated. Like that of *A. rufogularis*, their note is very easily imitated, and they will answer the call readily.—W. D.]

The following are dimensions, &c., recorded in the flesh :—

Males.—Length, 10·75 to 11·0; expanse, 17·25 to 17·5; tail from vent, 2·5 to 2·75; wing, 5·4 to 5·62; tarsus, 1·6 to 1·65; bill from gape, 0·85 to 0·9; weight, 8·0 to 10·0 ozs.

Females.—Length, 9·5 to 10·62; expanse, 16·25 to 17·12; tail from vent, 2·5 to 2·62; wing, 5·0 to 5·62; tarsus, 1·65 to 1·7; bill from gape, 0·62 to 0·8; weight, 8 ozs.

The male has the legs and feet and basal portion of bill scarlet red; claws horny; rest of bill black; irides slaty grey; facial skin and edges of eye-lids scarlet.

The female has the legs and feet bright red; bill black; irides deep brown; facial skin and eye-lids bright red.

The male has four or five conspicuous black hairs standing up at the front of the forehead, and behind that a crest 1·5

inches long on crown and occiput compressed laterally, wedge shaped; the upper edge of the wedge in a line from the point of the bill to the point of the tail; the forehead and a narrow band above the eye, the lores, cheeks, ear-coverts, chin, throat and neck all round, velvet black; a broad greyish white band across the crown between the eyes; the whole of the rest of the crown and occiput, including the whole of the crest, except the anterior basal portions, which form the grey white band already referred to, rich glossy maroon; breast, foreneck, abdomen, sides and flanks, black or blackish, or deep brown, fringed at the tips and glossed with deep metallic blue, sometimes slightly greenish in some lights; vent, tibial plumes, and lower tail-coverts blackish brown or black; wing-lining brown, but larger lower coverts, and under surface of quills, pale glossy grey brown; the back, rump and upper tail-coverts glossy green, but becoming deep blue in many lights; wings a warm somewhat rufescent brown; outer webs of the primaries, except the first, very pale chestnut or rufous buff, spotted with brown, and many of the coverts more or less tipped, or freckled at the tips, with this same color; the coverts next the body and the longer scapulars deep brown, glossed with deep blue, in some lights with a certain subdued reddish or purplish tinge; the rump and upper tail-coverts are greenest and most constantly green; the tail is black, more or less fringed and shaded on the margins with glossy blue.

The female has no crest, but has the same tuft of long black frontal hairs that the male has.

The whole head and upper neck all round deep slaty grey; the entire body above and below grass green, duller below and becoming very much mingled with dusky slaty on the middle of the abdomen, vent, flanks, and tibial plumes, which latter are almost entirely of this color, with, however, a reddish tinge at the back just above the joint; all the coverts, and the outer and longer scapulars are chestnut, almost maroon next to the back, paler on the greater coverts, which are a little freckled with brown towards the tips; outer webs of the secondaries rather deeper colored again, and very closely freckled with dusky brown; outer webs of the primaries paler, more of a rufous buff, more thinly speckled with dusky brown; inner webs of the quills hair brown; tail feathers dusky, fringed and suffused dull greenish, or greenish blue towards the margins and tips.

831 *quat.*—Caloperdix oculea, *Tem.* (2).

Bankasoon.

Confined to the forests of the southernmost portions of the province and rare there.

[This is a very rare bird in Tenasserim. I have never actually shot or seen it at large in the forests; the only specimens I got I trapped. I found that one specimen I examined had eaten insects and seeds.—W. D.]

The following are the dimensions and colors of the soft parts of a female :—

Length, 10·75; expanse, 17·5; tail from vent, 2·25; wing, 5·5; tarsus, 1·62; bill from gape, 0·9; weight 8 ozs.

Legs and feet pale dirty green; bill black; irides deep brown. The sexes are alike.

The chin, throat, lower part of sides of the neck and foreneck rufescent white, slightly tipped and tinged with orange ferruginous; the cheeks and ear-coverts, and a stripe above the eye and above the ear-coverts pale orange ferruginous, much paler than the crown, but more ferruginous than the chin and throat; a black streak from the posterior angle of the eye over the ear-coverts involving the tips of the upper ones; forehead, crown, occiput and nape intensely deep, almost maroon ferruginous; basal portion of sides of neck, breast, abdomen, and flanks bright orange ferruginous; the feathers of the flanks tipped whitish, and with larger or smaller subterminal central circular or oval black spots; the base of the neck behind, interscapulary region, sides of the breast, and sides of the body under the wings, velvet black with narrow silvery white transverse bars; the rest of the back, rump, and upper tail-coverts velvet black, with bright orange subterminal, more or less spear-head-shaped spots; primaries and their greater coverts plain grey brown; secondaries similar, but margined on their outer webs with a more or less rufescent olive; the rest of the coverts, scapulars and tertiaries pale olivaceous; some of the outermost feathers fringed rufescent, and all the coverts nearest the body, scapulars, and tertiaries with terminal or subterminal round, oval or cordiform, velvet black spots; tail deep brown; the central feathers a little pencilled with orange or rufescent zig-zag lines; wing-lining greyish olivaceous towards the margins of the wing, pure white in the middle of the wing, and the longer lower coverts, and the lower surface of the quills pale glossy earth brown; lower tail-coverts velvet black, broadly tipped with pale rufescent.

833.—Turnix plumbipes, *Hodgs.* (5).

Tonghoo, Karennee, Rams.) Pabyouk; Bankasoon.

Sparingly distributed throughout the more open portions of the province, but not, I think, ascending the higher hills.

[I have found this Quail rare in Tenasserim, meeting with it occasionally in scrub jungle, or about clearings, in pairs or

singly. It rises with a sharp whirr, but seldom flies far, dropping again after a flight of a few yards. I have seen it running about the roads, in the early morning, picking up seeds. I have never, I think, heard its note. It was not very uncommon [illegible] at the grassy hills at Malewoon, but I found it very difficult to flush. I saw, but failed to procure, this species about Parhoo[illegible]–W. D.]

There appear to be two distinguishable species of the *pugnax* type of Bustard Quail, occurring within the limits of the British Indian Empire.

The one inhabiting the Malay Peninsula, Burma, Eastern Bengal, Assam and the Himalayas, as far west at any rate as Nepal, and the other inhabiting the rest of India Proper.

The former is clearly *plumbipes* of Hodgson, the latter *taigoor* of Sykes. Their exact limits are as yet, to a certain extent, undefined. I have received both species from Cachar and both from the dry upper portions of Burma near Thayetmyo.

The two species do not appear to differ materially in size, though individuals of each vary very materially in their dimensions. The markings, too, cannot be relied on to separate the species, because no two specimens of either species are precisely alike, and almost every variation of markings in the one species will be found susceptible of matching in some specimen of the other. Yet in nine cases out of ten a child could separate the specimens of the two species, and having so separated them it would be found that all one lot belong to one geographical area, and all the other to another.

I have a large series of both species, though nothing like what I require; all the *taigoor* are from various localities in the North-West Provinces and Oudh, the Central Provinces and Berar, the Bombay and Madras Presidencies, and Ceylon. From none of these vast provinces have I a single specimen of *plumbipes*, but I have one specimen from Cachar, and two specimens from Thayetmyo, which I am compelled to class as *taigoor*. On the other hand, I have *plumbipes* from various localities in the Malay Peninsula, British Burma, Lower and Eastern Bengal, Assam, Sikim, and no specimen of *taigoor* from any of these localities, except the three above referred to.

I distinguish these two species at present solely on the one subnoted point; very probably when a larger series is got together, and the birds are more carefully studied, other constant points of distinction will appear. At present all I can say is, that in *plumbipes* the prevailing tint of the interscapulary region and back is brown; in *taigoor* the prevailing tint of these parts is rufous, and this difference extends more or less to the head and the whole of the upper plumage.

An exact and detailed description of the plumage of the present species is impossible, (as indeed it equally would be of *taigoor*,) because in every specimen more or less variation is observable.

Of *plumbipes* I may say that the females are considerably larger than the males, and that the females have the chin, throat, and sometimes the foreneck velvet black, whilst the males have the the chin and more or less of the throat white; that in both sexes, those parts of the throat and foreneck which are not white or black, the sides of the neck, the entire breast, and often the whole of the upper part of the abdomen and the sides of the body vary from buffy white to ferruginous buff, closely and broadly barred with black; occasionally even on the breast, in the female, there is no barring; the rest of the lower parts that are not barred are the same color as the barred portions, but always very much paler and less rufescent on the tibial plumes, and always more ferruginous on the flanks and lower tail-coverts; the lores, forehead, cheeks, and sides of the head are always black or dark brown, more or less speckled with white, in some specimens the white, in some the darker color, predominating; the crown and occiput is usually a grey brown, sometimes with a faint rufous tinge here and there; the feathers tipped darker, and with traces of a pale central stripe on crown and occiput; the whole of the nape, inter-scapulary region, scapulars, back, rump and upper tail-coverts are grey brown, (remember I am describing *plumbipes*,) in some specimens almost uniform; in most specimens the majority of the feathers more or less tipped with black (the amount of this varies extraordinarily in different specimens) and the black more or less pencilled with extremely fine zig-zagy pale rufous or rufescent white tranverse lines, or sometimes fringes; very commonly many of the feathers, especially the scapulars, are margined on the outer webs for a greater or lesser length with creamy white, these margins being reduced to spots in some specimens, and being absolutely wanting in others; the primaries and their greater coverts are mostly pale grey brown, the earlier primaries margined buffy; the median coverts, the secondary greater coverts, and tertiaries are chiefly pale buff with conspicuous black transverse spots or imperfect bars; the first feather of the winglet usually has the outer web buff.

834 *bis*.—Turnix maculosus, *Tem.* (6.)

(*Tonghoo*, *Karennee*, Rams.) Kolidoo; Khyketo; Amherst; Pakchan; Bankasoon.

Sparingly distributed in the neighbourhood of cultivation, like in hills and plains throughout the province.

[I have always found this species about gardens, or in the immediate vicinity of cultivation, but it is very rare, being only occasionally met with, and always singly or in pairs. It is hard to flush, and like the last only flies a short distance before alighting, but it runs a considerable distance before halting and then lies very close. It feeds like the others in the mornings and evenings, lying hid during the heat of the day. On cloudy or rainy days, it moves about all day, as does also the preceding species. I do not know the call of either of these species.—W. D.]

The following are the dimensions and colors of the soft parts of a male and a female :—

Male.—Length, 6·5; expanse, 12·0; tail from vent, 1·5; wing, 3·62; tarsus, 1·0; bill from gape, 0·75; weight, 2·25 oz.

Female.—Length, 7·0; expanse, 13·5; tail from vent, 1·5; wing, 4·12; tarsus, 1·05; bill from gape, ·75; weight, 2·75 oz.

The male had the legs, feet, and claws chrome yellow; upper mandible dark horny brown; lower mandible pale brown; irides, in three birds, white.

The female had the legs, feet, and claws chrome yellow; lower mandible, gape, and base of upper mandible chrome yellow; rest of bill reddish brown.

Other specimens differ somewhat in dimensions, the wings of males vary from 3·4 to nearly 3·7; and the wings of females from 3·8 to 4·12.

This species is a Burmese and Malayan representative of the Indian *joudera*, from which it differs in its larger size and in the absence of the very marked unbroken rufous collar on the back and sides of the neck, which the female *joudera* always assumes when perfectly adult. In *joudera* the wings vary from 3 in the smallest male to 3·5 in the largest female.

As regards plumage, there is no very material difference between the two species; at any rate, none that could be definitely explained in a mere verbal description.

In *maculosus*, the chin, throat, and middle of the abdomen are white; the entire breast rufous buff, most rufescent in the middle of the breast, which is unmarked; the sides of the breast, with a more or less circular black spot near the tip of each feather; upper part of abdomen, sides of abdomen, sides of the body much the same pale rufous buff as the sides of the breast; in some specimens these parts are spotless, in others they exhibit a greater or smaller number of spots, similar to those on the sides of the breast, but often more oval; flanks and lower tail-coverts a rather brighter rufescent buff; feathers of the vent mingled buffy white and dull white; tibial plumes usually brownish; lores buffy white, often speckled with brown; cheeks

and sides of the head pale buffy or buffy white, speckled and spotted with brown; ear-coverts small and inconspicuous, brown or rufescent brown, pale shafted; indications of a broad pale supercilium; forehead pale buff, barred or speckled with black; crown and occiput rufous, the feathers tipped black with a narrow pale central streak; back, scapulars, rump, lesser wing-coverts, brown, patched with ferruginous rufous, and pencilled with black, and many of the feathers tipped with buffy white, the tips preceded by a black band; primaries, secondaries, and primary greater coverts pale plain grey brown, and the greater coverts and the quills often more or less margined with pale rufescent; median coverts and secondary greater coverts pale greyish rufescent, broadly tipped with buff and with a large black spot near the tip; tertiaries pale brown, tinged with rufous, especially on the outer webs, pencilled in zig-zag with black, in some perhaps more correctly freckled, and with a buff band, preceded by an irregular black one near the tip on the outer webs.

Joudera I have from various localities in the lower Himalayas as far east as Kumaon, in the N.-W.-P. and Oudh, Western Bengal, the Central Provinces and Berar and the Bombay Presidency, and it doubtless occurs in Madras and in the Punjab, though I have none thence.

Maculosus again I have from the Malay Peninsula, various parts of British Burma and Hill Tipperah, and I dare say it occurs in Assam.

842.—Glareola orientalis, *Leach.* (11).

(*Tonghoo*, Rams.) Thatone; Momenzeik; Kobaing; Tavoy.

Confined *apparently* to the cultivated and open lands of the central portions of the province and the tracts west of the Sittang.

[This Swallow Plover is not uncommon about fields and other open or cultivated land, always in larger or smaller flocks. It is, as a rule, shy and difficult to approach, and rises with a soft, plover-like note, to-wheet, to-wheet; they run rapidly, and when approached run some little distance before rising. They feed on insects of various sorts, and I have repeatedly seen them high up in the air hawking white ants and other insects. Their flight then is very rapid and graceful and very swallow-like. I have not observed them within our limits south of Tavoy, but it is not uncommon in the Malay Peninsula.—W. D.]

843.—Glareola lactea, *Tem.* (42).

(*Tonghoo*, Rams.) Theinzeik; Thatone.

Only observed in the tract between the Salween and Sittang rivers, and again west of the latter river.

[I only met with this species about the small creeks on the Thatone plains, where they were in immense flocks, consisting of many hundreds. They kept to the banks of the creeks, and when disturbed rose ahead, wheeled round, and flew back and always re-settled on the banks of the creek.—W. D.]

844.—Squatarola helvetica, *Lin.* (1).

(*Tonghoo*, Rams.) Amherst.

Never once seen by Davison, but obtained by Dr. Armstrong at Amherst; can only be considered a rare straggler to the coasts of the province.

Ramsay possibly obtained it during migration.

845.—Charadius fulvus, *Gm.* (20). S. F., I., 228; II., 287.

(*Tonghoo*, Rams.) Sittang R.; Kedai-Keglay; Moulmein; Amherst; Yea; Pabyin; Mergui; Pakchan; Bankasoon.

A cold weather visitant, to the more open and cultivated plains portions of the entire province.

[This species is common, occurring in large flocks about fields and other open places; rice fields after they have been reaped are perhaps its favorite haunts. It is only a winter visitant, leaving in May. I have always found them very shy, rising before one was hardly within gun-shot, with their well-known tweet-tweet.—W. D.]

846.—Ægialitis geoffroyi, *Wagl.* (7).

Thatone Creek; Amherst.

Never met with by Davison, but obtained by our people near Thatone, and at Amherst by Dr. Armstrong. A somewhat rare winter visitant to the coasts of the province.

847.—Ægialitis mongolus, *Pall.* (35).

Thatone Creek; Sittang R.; Wauchoung; Amherst; Crab Island; Mergui; Pakchan.

A common cold weather visitant to the coast and the banks of its estuaries throughout the province.

I take this opportunity of noting that I doubt whether *Ægialitis placida*, of G. R. Gray, really occurs in Burma.

Quoting my remarks on this species, when I described it under the name of *tenuirostris*, Mr. Blyth says: "A specimen of this bird was believed by Dr. Jerdon to have been procured by him in Burma, but he was not sure whether he obtained it on the coast or inland."

Dr. Jerdon gave me this specimen along with some two hundred others, some from Burma, some from Sikim, and some few, such as the type of *Ixos xantholæmus*, from other localities; not one in ten of these specimens bore any tickets, and this particular specimen was one of the unticketed ones. Jerdon himself attached no sort of value to this specimen which he gave me as *geoffroyi*, and which, indeed, he maintained was *geoffroyi* when I expressed doubts of the facts. I don't think he had any real knowledge of the locality whence the bird came, merely a floating idea that he had probably got it in Burma. Most of his skins were from the neighbourhood of Darjeeling, and I have myself no doubt that this one also came from the same locality, whence numerous other specimens have since been obtained. I think that for the present this species should be excluded from the birds of Burma.

848.—Ægialitis cantianus, *Lâth.* (8).

(*Tonghoo*, Rams.) Theinzeik ; Thatone ; Amherst ; Mergui.

Sparingly distributed during the cold season about the coasts, creeks, and rivers of the province, but not observed, except by Ramsay, far inland or in the extreme south.

849.—Ægialitis curonicus, *Gm.* (16).

Thatone ; Yea-boo ; Yea ; Tavoy : Pabyin ; Pakchan.

A cold weather visitant, occurring alike inland and on the coasts and creeks.

850.—Ægialitis minutus, *Pall.* apud *Jerd.* (2).

Assoon.

A single pair met with inland.

854.—Chettusia cinerea, *Blyth.* (17).

(*Tonghoo*, Rams.) Sittang R. ; Thatone ; Yea.

Confined to the marsh lands of the central portions of the province and the tracts west of the Sittang.

[This species frequents marshy grassy land. It was not uncommon in the Thatone plains, where the ground was moist. It was almost always in small flocks which were rather shy, rising with a cry of "did all eat" when approached, and flying some considerable distance before re-settling. They feed entirely on insects of various sorts. It is very local apparently ; I did not observe it anywhere south of Yea.—W. D.]

The following are dimensions, &c., recorded in the flesh of two males and a female :—

Males.—Length, 13·82, 14·75 ; expanse, 31·5 ; tail from vent, 4·5, 4·8 ; wing, 9·15 ; tarsus, 3·0 ; bill from gape, 1·5, 1·55.

Female.—Length, 13·9; expanse, 30·75; tail from vent, 4·6; wing, 9·8; tarsus, 3·18; bill from gape, 1·5.

Legs and feet yellow; claws black; apical third of bill black, rest orange yellow; [illegible] tles greenish yellow.

855.—I[illegible]atronuchalis,* *Blyth.* (46). Descr.

[illegible]s.) Kedai-Keglay; Thatone; Kogo, Houng-[illegible]; Karope; Amherst; Yea; Tavoy; Shymotee; Pabyin; Zadawoon; Mergui; Tenasserim Town; Bopyin; Pakchan; Bankasoon; Malewoon.

Common throughout the plains portions of the province.

[A common bird, wherever the country is open, and along the banks of all the rivers, generally in pairs, often in small parties. In its habits and voice it does not differ from its Indian ally, *L. goensis.*—W. D.]

The following are dimensions, &c., recorded in the flesh:—

Males.—Length, 12·5 to 13·5; expanse, 27·5 to 28·5; tail from vent, 4·25 to 4·75; wing, 8·35; to 8·75; tarsus, 3·3 to 3·5; bill from gape, 1·2 to 1·37; weight, 6·5 ozs.

Females.—Length, 12·5 to 13·0; expanse, 26·5 to 27·5; tail from vent, 3·8 to 4·25; weight, 8·25 to 8·8; tarsus, 3·05 to 3·50; bill from gape, 1·3 to 1·37.

Legs and feet dirty yellow; two-thirds of bill and gape vermilion red; rest of bill black; lappets and eyelids vermilion red; irides dark brown.

857.—Hoplopterus ventralis, *Cab.* (9),

(*Tonghoo, Karennee,* Rams.) Pahpoon; Younzaleen Creek; Thatone; Myawadee; Megaloon; E-poo; Pakchan.

Generally distributed throughout the province, but confined (as in India) to the sandy banks of rivers.

[This bird occurs along the higher portions of the rivers where there are sandy banks. It is never found on the mud flats, nor I think within the influence of the tide, at any rate, where the water is salt. It is almost always in pairs, sometimes

* Blyth in his Catalogue gives the species as *Sarcogramma atronuchalis,* and refers to J. A. S. B., XXXI., 345n., and nowhere else. But when we turn to that passage, published in November 1862, we find that Blyth there named the species *atrogularis.* When or where he changed this name (which was pre-occupied by Wagler for *goensis,* Gm., *Indica,* Bodd.) I have not chanced to discover, but he must have done so shortly afterwards as in Jerdon's B. of In. II., pt. 2, page 648, published in January 1864, the species is referred to as *atronuchalis.* I should be much obliged if any of my readers could enlighten me as to the work, quoting page, in which Blyth notified the change.

I do not understand why Blyth adopts Reichenbach's generic name, seeing that Strickland's has, according to Gray, 12 years precedence, and had for its type the extremely closely allied *goensis,* and moreover does not appear, as far as I can make out from Agassiz and others, to have been previously used.

singly. I have occasionally seen six or seven together. It is not a very shy bird, and generally contents itself with running on in front stopping, bobbing and bowing every few feet. When it does fly, it rises with a note not unlike that of *L. atronuchalis*, but yet very distinct, sounding like the words "dit-dit to-weet" "dit-dit-to-weet."—W. D.]

858.—Esacus recurvirostris, *Cuv.* (5).

Thatone; near Amherst.

Confined to the banks of the rivers of the central portions of the province, and rare there.

[This is a rare bird in Tenasserim, and I have only occasionally met with it about the rivers, usually in pairs or small parties; it is, in these parts, very shy, and most difficult to approach. Its note is a soft whistle. I have seen this species on the Houngthraw and Attaran Rivers.—W. D.]

858 *bis.*—Esacus magnirostris, *Geoffr.*, S. F. II., 291.

Davison observed an *Esacus* on the islands of the Mergui Archipelago, which must necessarily have belonged to this species, as *recurvirostris* never goes out to sea. I have already noticed the difference in the habits and habitats of these two species, S. F., V., 121, and protested against Count Salvadori's generic separation of the two.

859.—Oedicnemus scolopax, *S. G. Gm.* (1).

Theinzeik.

Confined to the plains country of the central portions of the province, and rare there.

[I have found this bird very rare indeed in Tenasserim, and always solitary or in pairs in scrub jungle. I shot one at Theinzeik on the Thatone plain, and saw it again close to Moulmein on the banks of the Attaran, and again at Ngabeemah on the same river.—W. D.]

863.—Grus antigone, *Lin.* (2).

(*Tonghoo*, Rams.) Thatone; Yea-boo.

Comparatively common on the plains between the Sittang and Salween Rivers; occurring, also, but very rarely, in other parts of the plains country of the central portions of the province.

867.—Scolopax rusticola, *Lin.*

A specimen of the common Woodcock was shot a few years ago by Colonel D. Brown just behind his own house at Moul-

mein. Davison examined the skin, and as he knows the bird as well as any bird in India, having shot it year by year from his boyhood upwards, the fact is absolutely certain. Again close under the coast of Mooleyit this last year one rose in front of Davison, which he is much ashamed to say he most disgracefully missed. Again Mr. J. C. Davis, Assistant Commissioner at Thatone, informs Davison that many years ago he shot a bird there which he did not then know, but which he skinned and sent to Mr. Blyth, who wrote in reply that it was a common Woodcock. [illegible] B. Davidson, Superintendent of Police, has kindly given me the head and feet of a Woodcock shot by him at Kyekagan, 22 miles from Rangoon, in February 1865; he also shot one, he informs me, near Mamogan, about 10 miles from Tavoy.

868.—Gallinago nemoricola, *Hodgs.*

Davison flushed a specimen of this species in a bit of thick jungle on the banks of a little stream near Malewoon. He has shot numbers of this species on the Nilghiris, and is, he says, perfectly certain of the identification.

870.—Gallinago sthenura, *Kuhl.* (9). S. F., II., 294; V., 212.

Wimpong; Om-a-gwen; Pakchan; Bankasoon; Malewoon.

Occurring, and pretty common, throughout the province in suitable localities. The mass leave during the hot season and rains, but some few apparently remain the whole year.

871.—Gallinago scolopacina, *Bp.* (2).

(*Tungkoo*, Rams.) Pabyouk; Assoon.

A very rare visitant to the central portions of the province and to the tracts west of the Sittang.

872.—Gallinago gallinula, *Lin.*

Captain Dodd, the Master Attendant at Moulmein, has, on several occasions, shot Jack Snipe in the neighbourhood of Moulmein. We have not ourselves yet seen specimens, but there is no doubt about this matter. Captain Bingham also shot one last season.

873.—Rhynchæa bengalensis, *Lin.* (1). S. F., V., 223.

Moulmein.

We owe to Captain Bingham our only specimen of this species. Davison as yet has never met with it, but Ramsay obtained it at Yeytho near Rangoon.

875.—Limosa ægocephala, *Lin.* (1).

Moulmein.

A single specimen, perhaps an accidental straggler, obtained near Moulmein; observed nowhere else. Ramsay also says "I only once saw this Godwit in Burmah."

876.—Terekia cinerea, *Güld.* (10).

Thatone; Amherst; Tavoy.

Found along the coasts and creeks of the central portions of the province, but rare even there.

877.—Numenius lineatus, *Cuv.* (8).

Sittang R.; Amherst; Tavoy; Shymotee; Mergui.

Pretty common everywhere along and in the immediate neighbourhood of the coast.

[This species is not uncommon about the estuaries of the larger rivers, especially close to the sea. The greater number leave by the end of April, but I have seen numbers in the Tavoy Estuary about Crab and Long Island in June, July, and quite up to the end of August, and about Mergui and Malewoon to the end of July. At Pabyin, near Mergui, I found that, when the tide rose, numbers of these birds, and a few Whimbrel, came inland to a large swamp to feed, returning to the sea coast when the tide ebbed. I have always found them shy and difficult to approach. Their clear whistle is well known. I have seen them in the Pakchan.—W. D.]

878.—Numenius phæopus, *Lin.* (9).

Sittang R.; Thatone; Amherst; Long Island; Crab Island; Mergui; Kolan Island.

Occurs, but rather sparingly, along and near the coast throughout the province.

[I have noticed this bird about the Tavoy River as late as the end of July. It is quite as shy as the Curlew. I have seen *this* also in the Pakchan.—W. D.]

880.—Machetes pugnax, *Lin.* (1).

Sittang R.

Observed and shot on one single occasion only.

882.—Tringa subarquata, *Güld.* (3).

Moulmein; Amherst; Mergui.

Occurs along the coast everywhere, but is rare, comparatively speaking.

884.—Tringa minuta, *Leisl.* (4).

Amherst : Mergui.

Rare [illegible] and near the coast.

884 *bis*.—[illegible] collis, *Pall.* (6). DESCR. S. F., I., 242 ; 401.

(*Tonghoo*, Rams.) [illegible] Yea, near Tavoy.

Only observed by Davison in the two latter localities, on both occasions inland.

By this species I mean *subminuta*, Midd., and not *albescens*, Tem. Lord Tweeddale's remarks, B. of B., p. 156, as to the synonymy of these species are, I think, erroneous.

885.—Tringa temminckii, *Leisler.* (21).

(*Tonghoo*, Rams.) Kedai-Keglay ; Theinzeik ; Thatone ; Yea-boo ; Yea ; Tavoy.

Pretty common during the cold season, about inland creeks and pools, in the central portion of the province, and again in the tracts west of the Sittang.

886.—Limicola platyrhyncha, *Tem.* (2).

Amherst.

Never seen by Davison, but obtained by Dr. Armstrong at Amherst.

It is quite possible that some, or all, of our Burmese specimens may pertain to Mr. Dresser's newly-described *L. siberica*, S. F., V., 344, but I can discover no difference in size or color between our Tenasserim specimens and others from Kurrachee, Madras, Calcutta, the Andamans, and the neighbourhood of Rangoon.

I subjoin a few dimensions of specimens from various localities ; for the sexing of the first five I can personally vouch, as for the sexing of some of the others I am inclined to think that some mistake has not improbably occurred.

Locality.	Sex.	Wing.	Tarsi.	Bill at front from margin of feathers.
Kurrachee.	*Female*	4·15	0·94	1·35
„	„	4·35	0·95	1·33
„	*Male*	3·9	0·85	1·13
„	„	4·18	0·85	1·1.
„	*Female*	4·1	0·92	1·27.
Calcutta.	*Male*	4·3	0·93	1·33
Madras	?	4·1	0·85	1·37

Locality.	Sex.	Wing.	Tarsi.	Bill at front from margin of feathers.
Andamans	*Male*	4·32	0·88	1·15
,,	?	4·07	0·86	1·12
Eastern Grove, Rangoon	?	4·2	0·87	1·12
,, ,,	*Male*	4·2	0·9	1·13
,, ,,	,,	4·18	0·9	1·25
,, ,,	*Female*	3·9	0·85	1·15
Amherst.	,,	4·1	0·85	1·2
,,	*Male*	4·15	0·9	1·2

One of the Rangoon birds has the shorter tertiaries narrowly margined towards the tip with dull rufous; none of the others show the faintest sign of summer plumage. It is, therefore, the dimensions being as they are, impossible, even according to the describer of the species, to discriminate any *siberica* that may be amongst the lot.

Whether birds of precisely the same dimensions and precisely alike in winter plumage should be separated as distinct species because they happen to differ in summer plumage is another question; for my part I doubt the expediency of this; the next step will be to make twenty species out of the ruff.

887.—Eurynorhynchus pygmæus, *Lin.* (1).

Amherst.

Very rare. Two specimens obtained at Amherst by Dr. Armstrong.

The following are dimensions, &c., of one of these, a male, recorded in the flesh:—

Length, 6·12; expanse, 12·15; tail from vent, 1·82; wing, 4·02; tarsus, 0·89; bill from gape, 0·91; narrowest part of bill, 0·16; broadest, 0·46; mid toe and claw, 0·85. Under surface of upper mandible thickly papillated; tongue, gape and inside of mouth purplish black, lighter towards base; irides dark brown.

891.—Rhyacophilus glareola, *Lin.* (50).

(*Tonghoo, Karennee,* Rama.) Kaukaryit; Thatone; Yea-boo; Taroy; Pakchan.

Pretty common throughout the province, in suitable localities during the cold season.

892.—Totanus ochrophus, *Lin.* (4).

Thatone; Amherst.

Never seen by Davison. One specimen sent me from Amherst by Dr. Armstrong, and three shot by Mr. Davis at Thatone.

893.—Tringoides hypoleucus, *Lin.* (22).

(*Tonghoo*, Rams,) Kyouk-nyat ; Dargwin ; Sittang R ; Thatone ; Amherst ; [illegible]a ; Crab Island ; Mergui.

Common everywhere, inland and on the coast, throughout the province during the cold season.

894.—Totanus glottis, *Lin.* (17).

Sittang R ; Wauchoung ; Thatone ; Pabyouk ; Yea-boo ; Assoon ; Amherst ; Tenasserim Town.

Common everywhere in suitable localities inland and on the coast during the cold season.

894 *bis.*—Totanus haughtoni, *Armstrong.* (2). Descr. S. F., IV., 344.

Amherst.

Four more specimens of this species were obtained by Dr. Armstrong at Amherst, of which he kindly sent me a pair.

The following are dimensions, &c., of these specimens recorded in the flesh ; both noted as males by Dr. Armstrong, but there seems reason to suspect some mistake :—

Length, 11·75, 12·6 ; expanse, 20·5, 23·0 ; tail from vent, 2·09, 2·8 ; wing, 6·7, 7·05 ; tarsus, 1·72, 1·82 ; bill from gape, 2·23, 2·45 ; bill at front, 2·1, 2·3 ; mid toe and claw, 1·6, 1·51 ; hind toe and claw, 0·4, 0·45.

Legs and feet greenish ochreous, or ochreous yellow, dusky over phalangeal joint ; claws black ; basal half of bill greenish plumbeous, somewhat yellow near gape ; terminal half dusky or [illegible]sky black ; irides dark brown ; palate armed with a double [illegible]w of recurved horny papillæ.

895.—Totanus stagnatilis, *Bechst.* (1).

Yea-boo.

Rare ; only once met with near the hot springs of the Attaran river.

896.—Totanus fuscus, *Lin.* (4). Sum. Plu. Descr. S. F., IV., 510.

Sittang R.

Only observed near the mouths of the Sittang, and rare there.

897.—Totanus calidris, *Gm.* (27).

(*Karennee*, Rams.) Salween R.; Sittang R.; Kedai-Keglay; Thatone; Amherst; Long Island; Bopyin; Malewoon.

Common throughout the province during the cold season alike on the coast and in and on every little pool.

898.—Himantopus candidus, *Bonnat.* (6).

(*Karen Hills*, Rams.) Thatone.

Seen in Tenasserim Proper only about the creeks in the tract between the Salween and Sittang, and rare there.

900.—Parra indica, *Lath.* (42).

(*Tonghoo*, Rams.) Beeling; Theinzeik; Thatone; Khyin; Ngabeemah; Yea-boo; Assoon; Amherst.

Common in suitable localities throughout the northern half of the province, and a little south of this.

[Very common about weed-covered tanks. I have not noticed it to the south of Amherst. In the cold season there are as many white as black-breasted birds to be seen.—W. D.]

According to this the birds must be short lived, as they put on the black plumage when about a year old.

If the birds of one year and under are equal in numbers to those over one year, then either the mortality is very great, or the race very short lived. In India, however, I have not seen so large a proportion of white-breasted birds.

901.—Hydrophasianus chirugus, *Scop.* (3).

(*Tonghoo*, Rams.) Thatone.

Blyth gives this from Tenasserim generally, but I think its occurrence in Tenasserim proper accidental. Wardlaw Ramsay obtained it in Tonghoo, but that is of course in a separate zoological sub-division. Three specimens were, however, obtained at Thatone during the rains by Mr. Davis, but I know of no other instance of its having been met with in Tenasserim proper.

902.— Porphyrio poliocephalus, *Lath.* (4).

(*Tonghoo*, Rams.) Yea-boo; Assoon.

Occasionally met with in suitable localities in the central portions of the province, and in the country west of the Sittang.

[I have found this bird very rare, except on a large tank near Assoon, where it was very abundant, but difficult to

approach, keeping well out in the middle where the water was covered with rank grass and weeds; I saw a few at Yeaboo on the Attaran, and a few at Kedai Keglay.—W. D.]

The following are dimensions, &c., of a male and two females:—

Male.—Length, 17·0; expanse, 32·0; tail from vent, 3·8; wing, 10·05; tarsus 3·8; bill from gape, 1·7; weight, 1·25 lbs.

Females.—Length, 16·5, 16·6; expanse, 31·25, 31·5; tail from vent, 4·0, 4·75; wings, 9·9, 10·0; tarsus, 3·55, 3·7; bill from gape, 1·4, 1·5; weight, 1·2, 1·25 lbs.

Legs and feet pale red, brown at joints; bill and casque deep red, but tinged brown in places; irides deep red.

903.—Fulica atra, *Lin.* (2).

Kedai-Keglay.

The only place where Davison noticed this Coot was at Kedai-Keglay between the Salween and the Sittang, where it was comparatively abundant.

903 *bis*.—Podica personata, *G. R. Gr.* (3). Descr. S. F., III., 186.

Amherst; Mergui; Bankasoon.

Very sparingly distributed throughout the province. (Davison also procured it near Malacca, and it has been obtained near Suddya at the extreme N. E. of Assam.)

[I found this a very rare bird. I have seen it some six or eight times. I have seen and shot them on the sea coast, and in mountain streams far in the depths of the forests. It is very shy, and when alarmed runs quickly into cover. It walks freely, and runs quickly, but holds its body in a peculiar way, not upright like a Penguin, nor horizontally like a Water Hen, but at an angle of about 45 degrees to the ground. It swims very deep, like *Plotus*, with only the head and neck visible above the surface of the water; when it rises, it strikes the water for several yards with its feet, but flies comparatively strong when once fairly on the wing, not, however, rising high. Those that I examined had eaten a number of small dark shells, and various insects, and the stomach of one contained a quantity of a green substance that looked very much like mashed-up leaves. The flesh is *delicious*, dark colored but very juicy and highly flavored. If it could be tamed it would form an invaluable addition to European poultry yards.—W. D.]

The following are the dimensions, &c., of a male and female recorded in the flesh :—

Male.—Length, 21·6 ; expanse, 31·5 ; tail from vent, 6·0 ; wing, 10·05 ; tarsus, 2·12 ; bill from gape, 2·45 ; weight 1·5lbs.

Female.—Length, 20·5 ; tail from vent, 5·12 ; wing, 9·25 ; tarsus, 1·75 ; bill from gape, 2·25 ; weight, nearly 1·5lbs.

The legs and feet are pale green, the edges of the webs in the male bright yellow ; in the female these parts are only faintly tinged with yellow ; claws and soles dark horny green ; in the male the bill is bright chrome yellow, in the female dull yellow, in both cases shaded about the middle with brown. The irides in the male dark brown, in the female ochrous yellow ; eyelids pea green.

904.—Gallicrex cinereus, *Gm.* (13).

(*Tonghoo*, Rams.) Thatone ; Attaran R. ; Tavoy ; Shymotee.

As yet only observed in the central and northern portions of the province, and breeds in the Tonghoo district, (Ramsay says), at any rate, though perhaps only a seasonal visitant further south.

[Not uncommon where it does occur, but very local. I found them most common about the rice fields at Tavoy in the mornings and evenings ; during the day they retired to the scrub jungle.—W. D.]

The following are the dimensions of a male and female recorded in the flesh :—

Male.—Length, 16·75 ; expanse, 28·5 ; tail from vent, 4·0 ; wing, 8·35 ; tarsus, 3·12 ; bill from gape, 1·82 ; weight, 0·75 lbs.

Female.—Length, 14·3 ; expanse, 23·8 ; tail from vent, 2·8 ; wing, 7·0 ; tarsus, 2·8.

905.—Gallinula chloropus, *Lin.* (7).

Pahpoon ; Thatone ; Yea-boo ; Amherst ; Tavoy ; Shymotee.

Confined to the northern and central portions of the province.

[I shot a specimen of the Common Water Hen at Shymotee, in a dried-up rice field some distance from water. It is not a common bird in Tenasserim.—W. D.]

907.—Gallinula phœnicura, *Pennant.* (12).

(*Tonghoo*, Rams.) Paphoon ; Wimpong ; Kanee ; Pabyouk ; Amherst ; Tavoy ; Bankasoon.

Pretty common throughout the province in suitable localities, *i.e.*, about streams, rice fields, &c.

910.—Porzana bailloni, *Vieill.* (3).

[The only place where I saw this little Rail was at Tavoy, where it frequented some small canals, overgrown with rank grass, and wild pineapple. They were very difficult to obtain, as it was almost impossible to flush them from the cover in which they lodged.—W. D.]

911.—*Rallina fusca*, Lin.

Blyth says, speaking of Burma, generally, and including therefore Tenasserim, that this species is common, but we have neither met with it nor heard of its occurrence anywhere in Tenasserim.

912 *bis.*—Rallina fasciata, *Raffl.* (2.) S. F., III., 188.

Amherst.

Confined apparently to the southern half of the central portion of the province.

[Very rare in Tenasserim, confining itself to the brushwood and scrub jungle in the vicinity of cultivation. I only saw this at Amherst, and Tavoy. It may occur between Tavoy and Mergui, which I have not worked, but from Mergui southwards within our limits, I do not think it occurs, which is at first sight strange, as further south again in the Malay Peninsula it is common enough. It may be that the rice lands in the southernmost portions of the province do not suit it. About Amherst and Tavoy the rice fields are surrounded by a good deal of low scrub and brushwood; about Bankasoon, on the other hand, the rice fields are mere hollows, with the dry forest comparatively free of undergrowth coming right down to their margins, where consequently there is no cover such as the bird likes, and finds abundantly in both localities where I have seen it.—W. D.]

The following are dimensions and colors of soft parts of two males and a female:—

Males.—Length, 9·75, 9·82; expanse, 16·5, 16·82; tail from vent, 2·12, 2·25; wing, 5·03, 5·3; tarsus, 1·76, 1·9; bill from gape, 1·05, 1·2; weight, 3·75, 4·75 ozs.

Female.—Length, 8·62; expanse, 16·5; tail from vent, 2·5; wing, 5·12; tarsus, 1·65; bill from gape, 0·95; weight, 2·75 ozs.

Bill, legs, feet, and bare portion of tibia coral red; bill black, dark horny blue, or plumbeous blue; irides dull red, cinnabar red, or red brown; orbital skin and gape bright vermilion.

In this species, unlike the nearly affined *zeylonica*, in which they differ, the sexes appear to be alike in plumage.

Chin, throat, and upper part of foreneck and lores rather pale rufescent; forehead and the whole of the top and back of the head, nape, and base of the neck all round, and breast, bright, somewhat ferruginous chestnut; abdomen, vent, lower tail-coverts, wing lining, sides of the body and flanks white, broadly barred with black; only the lower tail-coverts are often overlaid with a brownish chestnut tinge; back, scapulars, rump, upper tail-coverts, and tail feathers deep ferruginous, with an olivaceous tinge; wings brown, barred with white, but all the feathers nearest the body more or less suffused with the color of the back, and some of the outer shorter scapulars with imperfect black and ferruginous white bands on their outer webs.

913.—Hypotænidia striata, *Lin.* (2).

(*Tonghoo*, Rams.) Attaran R.; Tavoy.

Sparingly distributed in the more level and open tracts of the central and northern portions of the province, confining itself as elsewhere to cover in the vicinity of cultivation.

Ramsay remarks "Jerdon's description of the soft parts does not tally with mine." He says: "Bill yellowish green; irides red; legs dull green," but all the blue-breasted Rails that I have examined in Burmah have had the bill bright plum colour; the irides red brown; and the legs dirty buff." The colours of the soft parts, however, in both this species and the nearly affined *H. obscuriora* of the Andamans are excessively variable according to age and season. I have by me here in the jungle unfortunately notes of the colours of the soft parts of only two specimens, *viz.*:—

Female.—Kotagherry (Nilgheris), 15-3-75. Legs and feet olive green; bill brown.

Male.—Syriam (near Rangoon) 16-2-76. Legs and feet plumbeous green; upper mandible dusky brown, except gape where it is orange; lower mandible orange, shading into brown for its terminal third; irides light yellowish brown." It will be seen how these differ both from Ramsay's and Jerdon's descriptions. It is quite a case of the Chamelion.

915.—Leptoptilus argala, * *Lath.* (1).

(*Tonghoo*, Rams.) Thatone.

* I can discover no valid grounds for rejecting Latham's name; he most clearly describes the Indian birds, and though he does not seem to have been aware that the African species was distinct, his name clearly founded on Indian specimens and drawings, cannot thereby be in any way vitiated.

Confined in Tenasserim proper to the central portions of the province. A seasonal visitant during the autumn and cold season.

[Very common in the cold weather in the plains between the Salween and Sittang rivers, and about the different limestone rocks which crop up there and near Moulmein, and up the Attaran and Gyne rivers, on which they breed. They occur in large flocks, feeding along the banks of the creeks, and in the marshes. I have seen fifty or more together. In the evening numbers may be seen perched on the topmost points of the rock, and others sailing about high up overhead. I have never seen this species towards the south.—W. D.]

916.—Leptoptilus javanicus, *Horsf.* (2).

Amherst ; Bankasoon.

Very sparingly distributed throughout the central and southern portions of the province, the majority probably seasonal visitants from October to April.

[This species is not so common as the next, but is more generally distributed. I have seen it most abundantly about Thatone, and about the different masses of limestone rocks that crop up in the neighbourhood of Moulmein, Thatone, &c., where they breed.—W. D.]

917.—Xenorhynchus asiaticus, *Lath.*

Blyth, B. of. B., p. 158, gives this from Tenasserim, but it is very rare there. Davison has only once seen it, and that quite to the north near Pahpoon.

920.—Melanopelargus episcopus, *Bodd.* (2).

(*Tonghoo*, Rams.) Thatone ; Bankasoon.

Sparingly distributed in suitable localities throughout the central and southern portions of the province.

[About marshes and cultivation this species is not uncommon ; occurring in pairs or small parties, and occasionally singly. They often go far into the forest, when there happen to be any marshes or jheels there, and I have flushed one from a small mountain stream about a mile and a half from the edge of the forest. I have found it, as a rule, very shy. I have seen it at Amherst, Tavoy, and on the Pakchan.—W. D.]

922.—Ardea sumatrana, *Raffl.* (2).

Mergui ; Patoe Is. ; Bankasoon.

Confined to the southernmost district of the province.

[This Heron is not uncommon about the sea coast and mouths of the large creeks and rivers, about Mergui and southwards. It is almost always found singly, keeping about the mud flats, and edges of the mangroves, where it feeds during the ebb tide. At high water it perches on the mangroves. I have never observed it far away from the coast, nor do I think it ever goes inland. It feeds on small fish, crabs, &c. I have never heard its note. It is rather a shy bird.—W. D.]

I may here draw attention to the fact that *insignis* of Hodgson from the Sikim Terai, Bootan Doars, &c., is perfectly distinct from the present species *sumatrana* of Raffles, which is also *typhon* of Temminck. *Sumatrana* is essentially a sea coast bird, and has the entire breast, abdomen, vent, and lower tail-coverts, wing-lining, axillaries, and lower back, a *rather dark slaty ash; insignis* of Hodgson is an inland bird, and has these parts *white*, except a narrow greyish band down the centre of the back. Again *insignis* has the bill markedly narrower and more compressed, and it has the feathers almost touching the eye above and behind, whereas there is a broad bare space above and behind the eye in *sumatranus* alike in old and young. Again *insignis* is a larger bird, and has the wing from 21 to nearly 23 inches, whereas in the present species the wings seem to run from 17 to 19·5 as a maximum. In *insignis* the basal portion of t outer web of the outer tail feather is pure white; this is not t case in *sumatranus*. Further I may notice that the elongat linear feathers, at the base of the neck in *insignis*, are mu more nearly pure white than in *sumatranus* where they are pa French grey; and, further, no specimen of *insignis* that I ha seen has the same development of the whitish linear lanceola scapular feathers that five specimens of *sumatranus* have, nor the crest, I believe, ever quite so long. Lastly, the front feathers in *insignis* terminate in a broad curve, in *sumatranus* i a blunt point. After carefully comparing a series no one could continue to confound the species as has always hitherto been done. The Indian bird must, of course, stand henceforth as *insignis* or perhaps *fucsa* of Blyth.

Of the present species, *sumatranus*, a fine adult, measured :—

Length, 50; expanse, 70·0; tail from vent, 6·0; wing, 18·5; tarsus, 7·0; mid toe and claw, 5·0; bill at front, from margin of feathers, 6·5.

The entire upper surface is deep slaty, the scapulars, and feathers of the interscapulary region, linear lanceolate, elongated, with the terminal portions greyish white. The feathers of the base of the back of the neck similar but much smaller, and nothing like so elongated as those of the sides and front of the base of the neck; a sort of dull purplish brownish shade,

over the crown, occiput, back, and sides of the neck; an occipital crest of numerous linear greyish white feathers, the longest of which are sometimes fully nine inches in length. The whole space in front of the eye and a broad band above and behind the eye, and again below the eye to the commissure, bare; ear-coverts and sides of the occiput light ashy brown, sometimes faintly rufescent; chin, upper part of throat, feathers on either side of the base of the lower mandible white; the rest of the throat and foreneck mingled ashy brown and slaty, with here and there, a somewhat ruddy brown tinge; feathers of the base and sides, and front of the neck, elongated, some of them fully seven inches in length, linear lanceolate and the visible terminal portions pearl grey; rest of entire lower surface ash grey. The wing-lining, axillaries, and under surface of the wing, a very pure blue slate color.

A young male measured:—

Length, 49·5; expanse, 67·0; tail from vent, 6·0; wing, 17·25; tarsus, 6·5; bare portion of tibia, 3·82; bill from gape, 8·0; from margin of feathers, 6·1; weight, 5lbs.

The front of the tarsus was dark horny brown; the bare portion of tibia and back of tarsus and soles pale dirty green; Tiles bright yellow; facial skin pale dirty green; upper mandible horny black; lower mandible whitish horny, yellowish towards tip.

In this bird the elongated scapular and neck hackles are wanting; the whole of the coverts, scapulars, and feathers of the interscapulary region are margined, and more or less tipped with somewhat brownish rufous; the crest feathers are much shorter, and ashy like the crown; more of the throat is white; the whole neck all round mingled ashy brown, and pale rufescent, all the feathers towards the base of the neck paler shafted; the lower parts are brownish ashy, the feathers more or less margined and tipped with rufescent, and with pale or whitish central stripes, narrower on the upper breast and broader on the abdomen, and narrowest on the tibiæ, which are altogether darker and contrast with the paler coloring of the abdomen. The lower tail-coverts by the way have no rufous about them, they are pale grey, centred whitish and tinged at the margins with sordid fulvous.

I am not sure whether the Indian species should stand as *insignis*, Hodgson, or *fusca* of Blyth. The former name is generally quoted from p. 86 of Gray's Zoological Miscellany, which was published in 1844. Blyth's name was published in the same year, whether before or after I cannot say, in the An. and M. of N. H., p. 176. But Hodgson in the Zool. Misc. gave no description, but I have an idea that before this he did publish some description in the As. Res. or the Calcutta Journal

of Nat. Hist: and if so, his name would stand, but I have not these works to refer to now, and cannot therefore be certain.

Jerdon only described a young bird of this species *(insignis)*, and I may mention that in the adult the elongated neck hackles, all round the base of the neck before and behind, have the terminal portions pure white, or at any rate centred pure white; that the entire breast, abdomen, vent, lower tail-coverts, wing-lining, and axillaries, and the whole lower back (except a narrow band down the centre) are pure white, and that in the adults there is a strong greenish shade all over the interscapulary region, coverts, and tertials, which latter are only feebly, grey centred and tipped.

923.—Ardea cinerea, *Lin.* (7).

Thatone; Pakchan.

[I saw a few specimens of this Heron about the Pakchan near Nalansine. I did not observe it elsewhere in the province. The few observed were very shy.—W. D.]

Mr. Davis, however, found it not uncommon during the rainy season at Thatone.

924.—Ardea purpurea, *Lin.* (9).

Thatone; Khyketo; Tavoy.

Very sparingly distributed throughout the plains portions of the province.

925.—Herodias torra, *Buch. Hamilton.* (10).

Kedia Keglay; Thatone; Amherst; Yea; Crab Island.

Generally distributed throughout the plains portion of the province.

I enter all our specimens as *torra* of Buchanan Hamilton, because we are pretty sure that this was the name applied to the large white Heron which is most common throughout India. Whether or no this is the true *egretta* of Gmelin, or whether if not any other name should have priority over Buchan Hamilton's, I am unable at present to determine. Bonaparte synopsis of this group of species is absolutely useless, as has placed birds with yellow, and with black bills, differences merely due to season, into different sub-divisions, giving us thus each species at least twice over.

Schlegel (Mus. Pays. Bas. Ardeæ, 16) gives us only two species of the larger white Heron; the first, *alba*, of Linnæus, from the south-east of Europe, the neighbouring parts of Asia and Northern Africa; the second, *egretta* of Gmelin and Wagner, (but not of Nordman, Bechstein, or Temminck,) from the warmer parts of America, from Africa, Asia, the Indian Archipelago and New Holland.

Of the first (*alba*) he says: "Easily distinguished from the two other species* of the sub-division by its great size. Legs yellow, passing often to black on the toes, or on the toes and on a part, or the whole of the tarsus, or even on the legs throughout, except quite on the upper part; bill yellow; passing often according to individuals from the point backwards, more or less to black, and this color sometimes extending over the whole beak, except its base. Feathers of the breast normal."

And he gives dimensions of this species, which I shall quote further on.

Of his *egretta* he says:—

"Like *alba*, but constantly smaller; no difference in size or in the proportions of the parts, or even in the length of the train between specimens from the New and Old World. Legs black, inclining more or less to brown, sometimes to a light reddish brown, or even on the tibia to a yellowish brown; bill yellow, but this color passes probably with age to black, or dark brown, a color which commences by showing itself at the point of the beak, whence it spreads by degrees over the whole of this organ."

And he gives dimensions of this species also, which I shall also reproduce further on.

Now, of course, the coloring of the bill on which Schlegel lays some little stress, merely depends upon the season. Bills of adult birds killed in the breeding season are black, in the winter are yellow. As a rule, all birds killed in June have the bills black, and have a full train, but I have one specimen, however, killed at that season, in which the bill is still yellow, and only one or two of the feathers of the train developed; this I take to be a bird of the previous year that would not breed. Birds killed in April still have the bills yellow. Again, birds killed towards the end of August begin to show the change of color; there is a yellowish white patch on the culmen and in front of the nostrils, and a yellowish tinge along the rami of the lower mandible, and the black of the rest of the bill has everywhere faded to a more or less dark brown except at the extreme tip.

Beyond difference in dimensions therefore there is nothing in Schlegel's diagnosis left to guide us, except differences in the coloration of the feet which, as will have been seen above, are rather vaguely stated by the learned professor.

I cannot remember even having seen a specimen of the larger white Heron in India which had the tarsi and feet other than black, but the color of the tibia is like that of the bill dependent on the season; when the bills are black, *i. e.*, in the breeding season, the tibia are reddish or fleshy brown, sometimes with a tinge of orange, and perhaps this color at times

* The second species to which he refers is *intermedia* of Von Hasselt *apud* Wagler, *Isis*, 1829, 650.

may run down the sides of the tarsi as some of my specimens seem to show, but I cannot remember to have observed this, and it is not recorded in the case of any of the specimens of which I have recorded the color of the soft parts.

But knowing, as I do, that the color of the tibia varies according to the breeding season, and apprehending that the colors given by Schlegel have been mostly taken from dry skins, I do not attach much importance to his remarks on this point as availing to separate the larger and the smaller forms.

It remains therefore a question of dimensions solely, and in India we do appear to have two different sizes of the larger white Heron, a difference in no way connected with sex.

The larger of these two races is, I apprehend, rare in India, and may be confined to Northern and Western India. I have not hitherto paid the attention that I should to this group, and my museum contains only a single specimen of it obtained at Delhi on the 28th April by Captain Bingham who measured it, and recorded the colors of the soft parts from the fresh bird.

But though I have only a single specimen, I know that I have continually, during the last five and twenty years, come across small parties and individuals of this larger race, and I have little doubt myself that this is identical with the true *alba*. I contrast below the dimensions given by Schlegel for males and females of this species with the dimensions of our bird a male.

Authority or Locality.	Sex.	Length.	Expanse.	Bill from Gape.	Bill at front from margin of feathers.	Tarsus.	Naked portion of tibia.	Wing.	Tail.	Mid toe and claw.	Mid toe without claw.
Schlegel ...	*females-males*	...	...	...	4·95-5·5	6·9-8·5	4·4-5·2	16·1-18	6·6·6	...	3·3-4·05
Delhi ...	*male*	43·75	61·	6·5	5·0	7·91	5·2	17·2	7·45	4·7	4·0

These dimensions, it will be seen, agree very fairly, especially when it is noted that Schlegel apparently only took his dimensions from four specimens, and these dimensions very far exceed those of any specimens of the *present* species *torra* obtained by us, in any part of India, Burmah, or the Andamans.

I propose to subjoin the measurements of a number of Indian specimens, contrasting them with both Wagler and Schlegel's dimensions of *egretta*, together with the dimensions of specimens obtained in Tenasserim, which will show, 1st, that these latter are not separable from our Indian *torra*; 2nd, that, as far as dimensions go, *torra* must be tolerably near to, if not identical with, *egretta*; and, 3rd, that our larger Indian race, even if not true *alba*, is quite distinct from the smaller race, that for the present I call *torra*, and equally so from *egretta* if that is distinct from this latter.

	Authority or Locality.	Sex.	Length.	Expanse.	Bill from gape.	Bill at front from margin of feathers.	Tarsus.	Naked portion of tibia.	Wing.	Tail.	Mid toe with claw.	Mid toe without claw.
egretta ...	Schlegel	*Females-Males*	.....	.....	.....	3·85-5·12	5·29 6·3	3·48-4·67	13·15-15·8	4·56-6·4	8	2·12-3·84
	Wagler	.....	40·6	.....	6·3	5·2	6·03	4·04	16·17	7·12	4·12	.....
	Delhi	*Male*	38·5	56	5·8	4·3	6·36	4·12	14·6	6·25	4·2	.....
	Ditto	,,	36·	55	5·5	4·1	7·0	4·8	14·5	6·2	4·5	.....
	Ditto	*Female*	36·5	56	5·65	4·6	6·5	3·35	14·3	6·7	4·41	.....
	Ditto	,,	33·3	50	5·1	3·75	5·26	3·3	13·35	6·3	3·8	.....
	Ditto	*Male*	37·3	49	5·9	4·6	6·6	4·55	14·2	6·2	4·4	.....
	Goergaon	*Female*	.....	.....	.....	4·55	6·3	3·8	14·7	6·6	4·5	.....
	Ditto	*Male*	.....	.....	.....	4·41	6·45	4·4	14·8	6·5	4·25	.....
	Ditto	?	.....	.....	.....	4·5	6·02	4·46	15·2	6·6	4·46	.....
torra ...	Etawah	?	.....	.....	.....	4·35	6·85	4·6	14·65	5·8	4·28	.....
	Seoni, C. P. ...	*Male*	.....	.....	.....	4·1	6·11	3·9	13·81	5·8	4·1	.....
	Raipoor, C. P. ...	*Female*	.....	.....	.....	3·72	5·7	3·61	13·2	5·6	3·71	.....
	Port Blair, Andamans ...	?	.....	.....	.....	4·0	5·9	3·8	13·45	5·5	4·05	.....
	Thatone Plains ...	?	.....	.....	.....	4·15	5·81	3·8	13·3	5·4	3·95	.....
	Ditto do ...	*Male*	35·	49·5	5·3	4·05	5·25	3·45	14·0	5·65	4·0	.....
	Ditto do ...	,,	37·5	54·5	5·75	4·45	6·15	3·9	15·0	6·2	4·18	.....
	Amherst	,,	.....	.....	.. ...	4·05	5·0	3·5	13·05	5·5	3·9	.....
	3 days south of Ye ...	,,	.....	.....	.....	4·4	6·3	4·3	14·85	6·0	4·4	.....
	Tavoy	,,	.....	.....	.....	4·4	6·05	4·02	14·15	5·6	4·2	.....
P	Otago, New Zealand ...	*Female*	.....,	.. ...	.....	4·5	5·5	3·19	15·2	6·8	3·96	.....
	Port Lincoln, Australia...	,,	.....	.....	.....	4·3	5·3	3·62	13·0	5·0	3·8	.. ...

Our Indian and Burmese birds, therefore, do not differ, but though apparently pretty close to *egretta*, none of them are quite as long or have such large bills, or such long wings as Wagler gives, or as Schlegel gives as his maximum, and all our specimens are adults, and some are particularly fine birds; on the other hand, the tarsi in our birds seem to run rather larger, so that for the present I think it best, on the whole, to retain our bird under the name of *torra*.

I have added the dimensions of a New Zealand and Australian bird, which correspond fairly with those of some of ours. Certain differences, however, in the proportions of the primaries and secondaries, and in the

emargination of the first primary are noticeable, and an examination of a large series might prove the Australian and New Zealand races to be distinct from our Indian and Burmese one.

Although we have not yet obtained the species in Burmah, I take this opportunity of also putting on record the dimensions of several specimens of the medium sized White Heron which we identify as *intermedia* of *v.* Has., *apud* Wagler. The more so that I have reasons for suspecting that besides this species, of which I shall subjoin dimensions, there exists another rather differently proportioned species to which I desire to call the attention of observers in India.

The following are dimensions of the species that I believe to be *intermedia* :—

Locality.	Sex.	Bill at front.	Tarsus.	Bare portion of tibia.	Wing.	Tail.	Mid toe and claw.
Goorgaon ...	*Male*	2·81	4·45	2·4	12·65	5·9	3·9
Etwah ...	?	3·05	4·6	3·1	12·3	5·2	3·88
" ...	?	2·98	4·66	3·05	12·6	5·5	3·91
Seoni C. P. ...	*Fem.*	2·78	4·1	2·35	11·6	5·4	3·78
Raipoor C. P. ...	?	2·68	4·2	2·5	11·15	5·0	3·55
Tributary Mahals ...	?	3·09	4·6	2·9	12·91	5·2	4·05
Cachar ...	?	3·0	4·5	3·0	11·8	5·2	3·78
Andamans ...	*Male*	3·18	4·5	2·8	11·7	5·1	3·86
" ...	"	2·81	4·35	2·38	11·3	4·5	3·62
" ...	"	2·92	4·46	2·4	12·0	5·05	3·65
" ...	"	2·9	4·42	2·4	11·15	5·2	3·68

927.—Herodias garzetta, *Lin.* (6.)

Thatone ; Pahpoon ; Amherst ; Tavoy.

Pretty common throughout the plains portion of the province.

I enter the Tenasserim specimens of the lesser White Heron as *garzetta*, because they are identical with specimens from various parts of India, which we always call *garzetta*, but whether they are really identical or not with the European bird I am not in a position to decide.*

Here, again, I shall contrast the dimensions given by Schlegel for what he considers the European and Asiatic races of this species, with dimensions of birds from various parts of India, Burmah, the Andamans and Malay Peninsula :—

* Our birds should perhaps stands as H. nigripes, *Temm.* Man. d'Orn., 2nd Edit., III., 377, 1840, with immaculata, *Gould*, B. Austr. VI. pl. 58, ? nec. *Bp.*, and melanopus, *Gould*, nec *Wagler* as synonymes. But the synonymy of these White Herons can only be worked out in the Museums of Europe.

Authority.	Locality.	Sex.	Length.	Expanse.	Bill from gape.	Bill at front from margin of feathers.	Tarsus.	Naked part of tibia.	Wing.	Tail.	Mid toe.	Mid toe without claw.
Schlegel ...	Europe	.....	.....	.....	.....	3·3-3·7	3·85-4·39	2·2-2·48	11·5-12·06	3·4-3·65	.....	2·38-2·47
	Asiatic	.....	.....	.....	.....	3·0-3·58	3·58-4·1	1·93-2·27	9·87-11·25	3·1-3·58	.....	2·27
Mus. Nos.	Kumber, Sindh ...	*Male*	.....	.....	.....	3·35	3·86	2·2	11·25	4·15	3·0	.....
	Sambhur	,,	25·9	36·5	.....	3·5	3·9	2·4	11·0	4·4	3·11	.....
	Delhi	*Female*	26·0	41·0	4·5	3·6	4·2	2·55	11·1	4·2	2·9	.....
	Ditto	*Male*	24·67	35·96	4·32	3·5	4·0	2·4	10·9	4·1	2·9	.....
	Ditto	?	.....	.....	.....	3·6	4·3	2·1	11·2	4·3	3·15	.....
	Goorgaon	*Female*	.....	.....	.....	3·15	3·9	?	10·1	3·9	2·79	.....
	Ditto	,,	.....	.....	.....	3·3	4·6	2·7	10·86	4·1	3·0	.....
	Ditto	*Male*	.....	.....	.....	3·4	3·9	2·35	11·4	4·6	2·8	.....
	Ditto	,,	.....	.....	.....	3·45	3·95	2·2	11·25	4·5	2·85	.....
	Etawah	?	.....	.....	.....	3·6	4·11	2·41	10·42	4·15	2·9	.....
	Ditto	?	.....	.....	.....	3·5	4·38	2·75	10·9	4·4	3·0	.....
	Seoni, C. P.... ...	*Female*	.....	.....	.....	3·2	3·9	1·9	10·38	4·4	2·95	.....
	Ditto	*Male*	.....	.....	.....	3·45	4·2	2·3	11·2	4·45	3·0	.....
	Dilkoushah, Cachar ...	?	.....	.....	.....	3·38	3·91	2·41	10·4	4·3	2·78	.....
	Pegu	*Female*	.....	.....	.....	3·1	3·7	1·8	9·85	4·2	2·75	.....
	Port Blair, S. Andaman	*Male*	25·25	39·25	——	3·3	3·95	2·15	10·7	4·3	2·85	.....
	Ditto	?	24·25	39·5	.....	3·3	3·8	2·0	10·8	4·21	2·78	.....
	Ditto	*Male*	23·0	36·5	.....	3·15	4·0	2·12	10·18	4·1	2·8	.....
	Ditto	?	.....	.....	.....	3·3	3·88	2·25	11·0	4·6	2·82	.....
	Pahpoon, Tenasserim ...	*Male*	.....	.....	—...	3·4	3·98	2·42	10·5	4·0	2·95	.....
	Amherst	*Female*	.....	.....	.....	3·2	3·81	2·25	9·8	3·7	2·78	.....
	Tavoy	*Male*	.....	.....	.....	3·4	3·98	2·42	10·5	4·0	2·95	.....
	Malacca	?	.....	.....	——	3·3	3·9	?	10·5	4·65	2·8	.....

927 *bis.*—Herodias eulophotes, *Swinh.* (1.)

Amherst.

From Amherst we have a single specimen of a small White Heron, which although of the *garzetta* type cannot be matched by any specimen of *garzetta* that I possess.

In the first place it is smaller with a most conspicuously smaller tarsus. It measured as follows:—

Female.—Bill at front, 2·97, (against 3·1 in the smallest *garzetta* and that a young bird); wing, 9·45 (against 9·8 minimum for *garzetta*); tarsus, 3·07 (against 3·7 minimum for *garzetta*; and mid toe with claw, 2·72 (against 2·75 minimum for *garzetta*.)

The bird appears to be quite adult, and it cannot, I think, possibly be assigned to *garzetta*.

It is unfortunately in winter plumage having been shot on the 14th of January, but even then a portion of the lower mandible was yellow, which is never the case with *garzetta*.

Blyth records the fact that Captain Berdmore obtained *eulophotes* at Mergui somewhat further south, and taking this into consideration, and also that the dimensions of our bird agree fairly well with those given by Swinhoe, and lastly that at Tavoy half way between Amherst and Mergui, we obtained another Chinese species, *Ardeola prasinocelis*. I have ventured to identify our bird, although in winter plumage, as *eulophotes*.

This species was first described as follows by Mr. Swinhoe, *Ibis*, 1860, p. 64:—

"This differs from *H. garzetta* strikingly in having a yellow bill, full crested occiput, and shorter legs. It is a rare and solitary species. Length, 27 inches; wing, 9·25; bill from tip to gape, 3·75; tarsus, 3·00; naked part of the tibia about 1·75; middle toe, 2·25; its claw, ·25; legs greenish black, feet olive-brown, patched in places with yellow; bill orange yellow, becoming flesh coloured and purplish on the lores and round the eye; irides pearl white. A number of loose feathers spring from the occiput, forming a full ornamental crest, the highest ones being longest and measuring 4½ inches each, the length diminishing gradually in the lower ones. Long loose feathers also spring from the lower neck, as also from the back, whereas in *H. garzetta* they become decomposed into hair-like silky webs curling upwards at their ends."

It is clear that Mr. Swinhoe described a bird in breeding plumage, and therefore his yellow bill is not fatal to the identification, as this bird may have the bill blackish brown in the cold season, and yellow in the breeding season. A second bird, belonging, as I apprehend, to this same species, killed at the Andamans in October, has a good deal of the base of the upper mandible and two-thirds of the lower mandible yellow, and the rest of the bill brown, becoming very dark just near the tips. The dimensions of this bird, however, which was a male are somewhat larger :—

Male.—Bill at front, 3·2; wing, 9·9; tarsus, 3·36; mid toe and claw, 2·48.

Since this was in type, I find that Blyth made the following remarks on this species, *Ibis*, 1865, 37 :—

"It is possible that the true *melanopus*, Wagler, *Ibis*, 1829, p. 660, and *immaculata*, Bonap. Compt. Rend. XL., April 1855, are not identical with Swinhoe's bird, or with the species figured by Gould as *immaculata*, B. of Austr., VI., pl. 58," but it seems pretty clear from the dimensions given by him, that Blyth's bird from Mergui and ours are identical. Blyth says :—

"*H. immaculata*, Gould, is *H. eulophotes*, Swinhoe, and *H. melanopus* (Wagler) apud nos (Journ. As. Soc., vol. XXII., p. 437.) It occurs in the Southern Tenasserim province of Mergui, being rather smaller than *H. garzetta*, with much shorter toes, the dorsal train short and straight, or showing but the slightest tendency to recurve, and not passing beyond the tail-tip. Occipital crest consisting of a longitudinal series of numerous lengthened slender plumes, similar to the two or three composing the crest of *H. garzetta*, but not so long, the longest measuring about 3½-inches. Pendent breast-plumes as in *H. garzetta*. Beak from forehead, 3½-inch; tarsi, 3½-inch; middle toe and claw, 2½-inch; hind toe and claw, 1-inch; closed wing, 10-inch. The foregoing description is from a Mergui specimen, and Australian examples quite agree. In the '*Ibis*' (1861, p. 245) Captain Irby notices this species in Oude, remarking that the breast-plumes in the breeding-plumage are few in number, but thick in texture, and [*similar plumes are*] scattered down the neck [*nape*], not springing from one place as in *H. garzetta*.' It is necessary to interpolate the passage as above."

A great deal still remains to be done with the Indian White Herons. In hopes of facilitating their elucidation I subjoin the following :—

Tentative Key to the White Herons of India and Burmah.

SPECIES.	Non-breeding plumage	Breeding Plumage.				Dimensions.					
	Bill.	Bill.	Crest.	Dorsal Train.	Pectoral plumes.	Bill at front from margin of feathers.	Wing.	Tarsus.	Nude portion of tibia.	Mid toe & claw.	
H. alba, Lin. ...	Yellow.	Black	None ...	Long; of decomposed feathers, extending about 5 inches beyond tail.	None ...	5·0*	17·2	7·91	5·2	4·7	
H. torra, B. Ham.	Ditto...	Ditto...	Ditto ...	Ditto, extending about 4 inches.	Ditto ...	3·72—4·6	13·2-15·2	5·25-7·0	3·3-4·8	3·71-4·5	
H. intermedia, V. Hasselt.	Ditto...	Ditto...	Ditto ...	Ditto, extending about 7 to 8 inches.	Of long decomposed feathers.	2·68—3·09	11·15-12·65	4·1-4·6	2·38-3·1	3·62-4·05	
H. garzetta, Lin.	Black	Ditto...	Of two narrow feathers 5 to 6 inches long.	Ditto, curling up at point; scarcely extending beyond tail.	Of long narrow ordinary feathers.	3·1—3·6	9·8-11·4	3·7-4·6	1·8-2·75	2·75-3·15	Note that both these species have much slenderer bills than the three preceding ones.
H. eulophotes, Swinh.	Black†	Yellow‡	Full, of numerous narrow feathers, the longest 4·5 inch.	Of narrow ordinary feathers.	Ditto ...	According to, Mr. Swinhoe 3·75 to gape.	9·25	3·0	1·75	2·5	
						Our birds, 3·5 to 4·1 to gape, 2·97 to 3·2 at front.	9·45-9·9	3·07-3·36	1·75-1·88	2·48-2·72	

* The dimensions in his case are taken from a single specimen; a series would doubtless show considerable variation.

† This is on the supposition that our birds are *eulophotes*; in both the upper mandible is chiefly blackish brown, only yellow towards the base, while the greater portion of the lower mandible in one bird and a small portion in the other was yellowish.

‡ This and the entries in the next three columns are given on Mr. Swinhoe's authority on the supposition that our birds are really *eulophotes*.

928 *bis.*—Demiegretta sacra, *Gm.* (1) Descr. S. F., II., 304.

Mergui.

Occasionally met with along the entire coast of the province.

929.– Buphus coromandus, *Bodd.* (7.)

Pahpoon; Thatone; Attaran R.; Amherst; Tavoy; Pakchan.

Common throughout the province especially about herds of cattle.

930.—Ardeola grayi, *Sykes.* (5.)

(*Karen-nee*, Rams.) Pahpoon; Amherst; Long Island; Pabyin; Mergui; Pakchan.

Common throughout the entire province, of course in the low country only.

930 *bis.*—Ardeola prasinocelis, *Swinh.* (7.)

Yea-boo; Tavoy; Choungthanoung.

Only observed as yet in the lower, central and southern portions of the province.

The following are the dimensions and description of a fine male shot in full breeding plumage on the 10th April at Tavoy.

Length, 21; expanse, 32·5; tail, 3·8; wing, 8·8; tarsus, 2·31; bill from gape, 3·45; bill at front, 2·6; weight, 11. ozs.

The irides were bright yellow; one-third of the bill from tip black, then yellow, gradually shading to pale blue at the base of upper mandible; facial skin, gape and base of lower mandible greenish yellow; feet pale orange; legs and nude portions of tibia similar, but with a pinkish tinge; claws pale brownish green.

Chin, upper part of throat, and patch at the sides of the base of the lower mandible, and a stripe running down the upper half of the front of the neck white; head, sides, and back of the neck and crest, deep chestnut, with a vinous tinge; crest long, of moderately broad, pointed feathers, the lowest, the longest, about 4 inches long; feathers of the upper breast and sides of the breast disintegrated as in the feathers of the back, changing from deep vinous chestnut at their bases to deep vinous purple with a hoary shade.

Feathers of the interscapulary region and upper back disintegrated, black, with a hoary shade.

The rest of the bird white, with a slight buffy tinge on the scapulars.

Nothing can be more distinct than this species in breeding plumage, alike from *grayii* and from *speciosa*, as the following key will sufficiently show :—

Species.	*Crest.*	*Head, back and sides of neck.*	*Upper breast.*	*Back.*
grayi.	white	Olive grey, and pale buff, mingled in varying proportions in different specimens.	Like sides of neck.	Deep vinous purple.
speciosa.	White.	Pale ferruginous buff.	Ferruginous chestnut.	Purplish black with a hoary shade.
prasinocelis	Rich vinous chestnut.	Rich vinous chestnut.	Deep vinous purple with a hoary shade.	Black with a hoary shade.

But different as the birds are in breeding plumage, they seem to resemble each other very closely in the non-breeding dress, and their dimensions are very similar, as will be seen from the following measurements all taken from specimens in full breeding plumage :—

Species.	Locality.	Bill at front.	Tarsus.	Bare part of tibia.	Wing.	Mid toe and claw.
A. grayi.	Goorgaon, *Female* ?	2·5	2·26	0·9	8·65	2·51
" "	Etawah ?	2·51	2·49	0·78	8·8	2·49
" "	Etawah ?	2·5	2·36	0·91	8·4	2·41
A. prasinocelis.	Tavoy, *Male.*	2·6	2·51	0·7	8·8	2·49
" "	Tavoy, *Male.*	2·62	2·45	1·0	9·3	2·61
A. speciosa	Celebes ?	2·5	2·35	0·8	7·7	2·49

The non-breeding plumage of *speciosa* I have not by me to examine now; it is possible that it may be distinguishable from the other two species by its shorter wing, and longer secondaries exceeding the longest primaries, but of this I am not sure. As regards *prasinocelis*, this in non-breeding plumage can only be distinguished, I believe, by its larger bill, but some specimens carry even in the non-breeding season a crest of long narrow feathers not chestnut, but pale buffy fawn color with a black line on the outer edge of each web. This is the case with a specimen, a male, shot on the 25th December at Choungthanoung, half way between Mergui and the Pakchan river: other males in non-breeding plumage do not exhibit this crest.

A specimen shot on the 29th April, also a male, is entirely in non-breeding plumage, *i.e.*, exactly like *A. grayi* in the same stage, except that the bill is larger, save only that on the cheek and sides of the neck it shows a few rich chestnut feathers. Two other males, shot about the same time, are in full breeding plumage, while another again shows no trace of this whatsoever,

so that the birds clearly do not all assume the breeding plumage quite at the same time. Perhaps the males in non-breeding plumage without the crest may be young birds, and the crest in the non-breeding plumage may be the normal plumage of the adult males.

931.—Butorides javanica, *Horsf.* (21).

(*Tonghoo.* Rams.) Youngzaleen Creek; Salween R.; Wimpong; Pabyouk; Amherst; Tavoy; Choungthanoung; Bankasoon.

Extremely common in every stream throughout the province.

932.—Ardetta flavicollis, *Lath.* (6).

(*Tonghoo*, Rams.) Attaran R; Amherst; Bankasoon.

Very rare; only observed in the southern half of the province, and the tracts west of the Sittang.

[This species frequents shady streams during the day, coming out into the open marshes at dusk. It is rare and shy. I have only seen it at Amherst and Bankasoon, but Captain Bingham obtained it on the Attaran.—W. D.]

The following are dimensions, &c., of three males and a female recorded in the flesh:—

Males—Length, 23·0, 24·5; expanse, 30·0, 31·2; tail from vent, 2·5, 2·9; wing, 8·12, 8·5; tarsus, 2·5, 2·75; bill from gape, 4·0, 4·25; weight, 8·0, 9·0 ozs.

Female.—Length, 24·75; expanse, 30·0; tail from vent, 2·75; wing, 8·25; tarsus, 2·75; bill from gape, 4·25; weight 8 ozs.

In the male the basal two-thirds of the lower mandible and edges of the upper mandible, along commissure, and a patch in front of the eyes, light sienna brown; rest of bill almost black; legs and feet blackish blue grey; claws black. In the female the lower mandible and edges of upper mandible, along commissure, and space in front of the eye pale horny; rest of bill very dark horny brown; legs and feet brown, tinged red at back of tarsi: in one male and one female the irides were crimson, another male had them pale brown.

933.—Ardetta cinnamomea, *Gm.* (10).

(*Tonghoo.* Rams.) Amherst; Om-a-gwen; Tavoy; Laynah; Bankasoon.

Only observed in the southern half of the province, where common, but obtained by Ramsay in the tracts west of the Sittang.

[This species frequents thick grass and reeds and brushwood growing on the banks of streams, keeping very quiet during the day, but coming out to feed along the banks in the morning

and evening. It is very shy, and on the least alarm betakes itself to dense cover, from which it is very difficult to dislodge it.—W. D.]

934.—Ardetta sinensis, *Gm.* (11).

(*Tonghoo*, Rams.) Meetan ; Amherst ; Tavoy ; Bankasoon.

Only observed in the southern half of the province where rather common, and again in the north-west of the Sittang.

[This species is not very numerous. I have found that by preference they frequent standing rice: when this is all cut they betake themselves to marshy ground or the banks of streams, but only where there is plenty of good high cover about.—W. D.]

936 *bis*.—Gorsachius melanolophus, *Raffl.* DESCR. S. F, II., 312.

Davison on one occasion saw this in a mountain stream, two days' march north of Malewoon. He is perfectly certain of the bird, having himself procured two specimens in the Nicobars.

I fully described the adult and young of this species from specimens obtained in the Nicobars, S. F., II., 312, *et seq.*, and other specimens, subsequently obtained in the same islands and in the Malay Peninsula, differ in no material respect, and it is therefore unnecessary for me here to give any further description of this species.

937.—Nycticorax griseus, *Lin.* (3).

Gyne R. ; Yeaboo.

Generally distributed throughout the province, but, of course, much more often heard flying overhead in the gloaming, quacking hoarsely, than seen during the day.

938.—Tantalus leucocephalus, *Gm.* (3).

(*Tonghoo*, Rams.) Thatone ; Tavoy.

Davison never saw it except at Tavoy, but Mr. Hough shot a specimen in the Pakchan. Mr. Davis procured it at Thatone, and Ramsay observed it at Tonghoo.

941.—Ibis melanocephala, *Lath.* (1).

Wauchoung.

Not uncommon in the plains of the central portion of the province.

942.—Graptocephalus davisoni, *Hume.* (5.) DESCR. S. F., III., 300. Ibis harmondi, *Oust.* Bull. Soc. Phil. Paris, 1877, 28.

Nalansine; Pakchan.

An occasional visitant to the southernmost portions of the province from Siam.

[In May and June 1875, this bird was not uncommon about the open ground at Nalansine, and its neighbourhood. I visited the same locality in the same months in this year (1877), but not a single bird was to be seen anywhere about. Mr. Hough, however, obtained specimens about the same place in January, so it is probably only an occasional visitant to our territory from Siam. I found the birds excessively shy, and almost unapproachable. In the mornings and evenings they fed about the paddy flats or open marshy ground, but when disturbed and during the day betook themselves to some of the numerous huge dead trees standing about the clearings, where, seated on the topmost branches, they amused themselves making a most hideous row, emitting a most weird and unearthly scream. This they uttered at short intervals, not only when thus seated, but at times when they were flying. When much disturbed, they commenced sailing in circles, gradually rising higher and higher until they gained an immense height; they would then remain up by the hour together. They were always in pairs.—W. D.]

Full measurements of two adult males were given, S. F., III., 300; the following are the dimensions of three females:—

Length, 29·5 to 30·0; expanse, 48·0 to 54·0; tail from vent, 6·75 to 8·0; wing, 14·75 to 14·87; tarsus, 3·25 to 3·45; bill from gape, 6·0; weight, 3lbs.

Legs and feet pale coral or dull pinky red; bill slaty blue; irides yellowish brown; ring round neck white, tinged with pale blue.

A young specimen shot by Mr. A. L. Hough, on the 6th of May near Nalansine on the Pakchan, had the plumage similar to that of the adult, but duller, and had a tuft of dark brown feathers on the occiput. It measured:—

Length, 26·5; expanse, 51·0; tail from vent, 6·75; wing, 14·0; tarsus, 3·12; bill from gape, 4·05; weight, 2·75 lbs.

Irides pale grey brown; bill slaty blue, tinged plumbeous at base; head dull black with no warts; ring round neck dirty white; legs and feet dirty white; scutæ dull black.

In his recent extremely valuable review of the *Ibidinæ*, (P. Z. S., 1877, 477) Mr. Elliot has made this species the type of a new genus which (though much inclined to knock all his 19 genera into one) I have adopted, *viz.*;—

Graptocephalus ;

With the following characters :—

"Head and neck bare, covered by a variously coloured skin. Skull square-shaped on top; occipital region high and wide, sloping to the forehead, which is prominent and descends rapidly to the maxilla. Secondaries are equal in length to the primaries, and both reach nearly to the tips of the rectrices. Second and third primaries equal and longest. Tarsus half an inch longer than the middle toe; outer toe slightly longer than inner. Tarsi covered with small hexagonal scales. Under tail-coverts extending over two-thirds the length of the tail."

Mr. Elliot tells us that specimens are in the museum of Paris brought at different times by MM. Bocourt and Harmond from Siam and Cambojia.

Mr. Elliot was led to believe, from an examination of the skins, that the band at the back of the head was rose colored, but Davison has carefully recorded the colour in the case of five adults, and in all these the band was, as described originally by me, white, tinged with blue.

950.—Sarkidiornis melanonotus, *Penn.*

Blyth gives this as common throughout Burma, and Wardlaw Ramsay got it at Tonghoo where it breeds, but we have not met with it anywhere yet in Tennasserim proper.

951.—Nettapus coromandelianus, *Gm.* (28).

(*Tonghoo*, Rams.) Thatone; Kaukaryit. Houngthraw R.; Amherst; Yea; Tavoy.

Confined in Tenasserim proper to the central portions of the province, but observed in the north in the tracts west of the Sittang.

952.—Dendrocygna javanica, *Horsf.* (11).

(*Tonghoo*, Rams.) Thatone; Amherst; Yea; Tavoy.

Common throughout the province.

[I observed this at Palpoon and many other places where I did not shoot at, and it was common in the Pakchan.—W. D.]

I retain our Indian lesser whistling Teal under Horsfield's own name. The name applied to it by Mr. Blyth, in his Commentary on Jerdon's Birds of India (*Ibis*, 1867, 175), namely, *arcuata*, of Cuv. apud Horsf., cannot possibly stand for our Indian bird. It was not published until after Horsfield had published his own name *javanica*, which apparently applies fairly well to our Indian birds, and when it *was* published it was

published in connection with a plate and description utterly irreconcilable with the Indian bird.

This plate exhibits the whole of the sides of the breast lunulated in a manner never seen in the Indian species. We have a large series of this bird, old and young, male and female, from all parts of India, Burma, the Andamans, and Nicobars, but in no single specimen is there the faintest trace of the lunules, described and figured by Horsfield as pertaining to *arcuata*, on the breast; secondly, the entire upper tail-coverts are shown as buffy yellow as in *major*, and nowhere in his description of *arcuata* is any reference made to the "vivid chestnut" (as he calls it, or maroon as I should call it) upper tail-coverts.

There are probably more than one species of *Dendrocygna* in Java. Horsfield says: "The common *Meliwis* is represented in our plate in a somewhat more diversified dress; it is called *Meliwis kembang;* and a smaller variety has the name of *Meliwis batu*," and both plate and description show, I think, clearly that the species which Horsfield described under the name of *arcuata*, then published for the first time, was not the species which occurs in India.

On the other hand, his own original description of his *Anas javanica* fits our bird very fairly, and was probably taken from an example of the smaller species, to which he referred later, when describing *arcuata*.

Javanica is thus described:—

"*Alis supra medium caudaque juxta uropygium castaneis, dorso cum partibus inferioribus alarum nigro fuscescentibus, collo sordido fulvo canescente, gula pallidiore, abdomine castaneovinaceo. Longitudo* 17 *poll.*

Nothing, it will be observed, is here said of the lunules on the breast and neck, while the upper tail-coverts are correctly described as deep chestnut. The dimensions too are correct.

The following are dimensions recorded in the flesh of numerous specimens of our Indian bird:—

Length, 16·25 to 17·25; expanse, 28·5 to 30; wing, 7·45 to 7·7; tail from vent, 2·25 to 2·75; tarsus, 1·65 to 1·7; bill from gape, 1·95.

But of his *arcuata*, Cuv., he gives the length as 18 to 19 inches, a length never reached even in the flesh, to judge from all our measurements, by the Indian species. Further, Horsfield says of *arcuata:* "On the breast, neck, and upper parts of the back, semi-lunar marks of the same (dark blackish) brown color are transversely disposed," and he figures these marks; and again he says nothing of deep chestnut upper tail-coverts, and he figures the whole upper tail-coverts buffy yellow.

Very possibly a species answering to Horsfield's description and plate of *arcuata* will be found to occur in Java;* but, if so, this certainly is not our Indian bird: on the other hand, if no second species exists in Java, and Horsfield's *javanica* is identical with his *arcuata*, Cuv., and also with our Indian *awsuree*, then the name *arcuata* must drop; firstly, because the description under which it was first published is utterly wrong; and, secondly, because the name *javanica* has priority, which even its originator could not set aside.

This *arcuata* is not *major*, because the latter has a rufescent nut brown head, and no chestnut on the wings. It is just possible that Horsfield's *javanica may* have been a young bird of the same species as his *arcuata*, Cuv., and different from our Indian *species*. In this case the latter will take Sykes' name of *awsuree*, but *arcuata* can, under no circumstances, be applied to it, as no matter what the bird to which Cuvier applied the name, *in Mus.*, the first publication of *that name* fixes thenceforth its application.

953.—Dendrocygna fulva, *Gm.* D. major, *Jerd.*

I believe I must include this species, as Ramsay's remark, (*Ibis*, 1877, 472) that it is *rare* on the Tonghoo side of the Pegu Yonia, leads me to infer that he *has* obtained or ob-

* Since this was in type, I have noticed the following remarks of Blyth, *Ibis*, 1868, p. 38, which completely set the question at rest, though Blyth himself seems to have overlooked their bearing, when in the *Ibis* for 1867, he applied Cuvier's name to our Indian bird. Perhaps he failed to realise that Cuvier's own name was unpublished, and that its application was fixed by the species in connection with which it was first published. Blyth says:—

"*Dendrocygna vagans*, Eyton (Fraser's 'Zoologia Typica'); D. gouldi, Bonap; *Anas javanica*, var., Horsfield (Linn. Trans. vol. XIII., p. 200); *A. arcuata* apud Horsfield, figured in 'Zool. Res. in Java,' and Gould, B. Austr. Hab. Java, Philippines, and North Australia. In the India Museum are two species of this genus collected in Java by Dr. Horsfield, and which were discriminated by him as two varieties of his *A. javanica*, subsequently identified by him with *A. arcuata*, Cuv. The other variety is *D. arcuata* (vera), v. *Mareca awsuree*, Sykes; being currently designated "Widgeon" by Anglo-Indians. The latter is exceedingly common throughout India, Burma, and the Malay countries; whereas *D. vagans* is unknown in India, and probably belongs chiefly to Northern Australia."

This (although some misprint, or *lap. cal.*, has rather confused the passage,) completely sets the question at rest. There *are* two species in Java—a larger and a smaller; the latter our common Indian bird. Horsfield *described* the *latter* (Tr. L. S.) under his own name *javanica*, which must therefore stand, and then he later figured the *former* (Zool. Res. Java) under Cuvier's unpublished name *arcuata*. Cuvier had really, I gather, applied this name to the smaller species, but not having published it, Horsfield's publication of it attached it thenceforth to the larger and differently colored species, which he figured, and which is, Blyth says, *vagans*, of Eyton.

The synonymy of the two species will therefore be somewhat as follows:—

D. ARCUATA, *Cuv.*, Horsf. Zool. Res. Jav., pl. 65, 1824.
D. javanica, var. B. *Horsf.* Tr. L. S. XIII, 200, 1821.
D. vagans, *Eyt.* Fraser's Zool. Typ., 1848, pl. 68.
D. Gouldi, *Bp.* Compt. Rend. XLIII, 649, September 1856.
D. badia, *Mull. and Schl.* Verh. Ethn. 159? *sine descr.*

D. JAVANICA, *Horsf.* Tr. L. S., XIII, 199, 1821.
D. awsuree, *Sykes*, P. Z. S., 1832, 108.
D. arcuata, *Cuv.* apud *Horsf.* apud *auct.* nec *Horsf.*

served it in the Tonghoo district. We have not as yet met with it anywhere in Tenasserim proper.

954.—Casarca rutila, *Pall.*

This was seen by Davison at an immense swamp at Kedai-Keglay, between Tsalone and the Sittang, and also on Kolan Island in the Mergui Archipelago, but these were the only occasions on which he saw them during four years' constant work in all parts of the province.

955.—*Casarca leucoptera*, Blyth.

Blyth says, B. of B., p. 165, that this species inhabits the valleys of the great rivers from the Megna at least to the Tenasserim.

Davison has examined the valleys of the Sittang, the Salween, the Attaran, the Gyne, the Houngthraw, the Tavoy, and the Tenasserim, but he has never yet either seen or heard of this species. If it does occur in Tenasserim, it can only be as an extremely rare straggler.

959.—*Anas pœcilorhyncha*, Gm.

Blyth says, B. of B., p. 165, that this occurs in Tenasserim, but we have never met with it, nor have we been able to hear of its occurrence, which I consequently hold to be doubtful.

962.—Dafila acuta, *Lin.*

Davison examined a freshly-killed specimen (unfortunately half plucked) of this species in Moulmein, which had been shot on the lakes about 19 miles out on the Amherst road. This was in November.

964.—Querquedula crecca, *Lin.* (1).

Kedai-Keglay.

Rare, only observed in the plains between the Sittang and the Salween.

965.—Querquedula circia, *Lin.* (6).

(*Tonghoo*, Rams.) Kedai-Keglay.

Only observed in the tracts between the Salween and the Sittang and west of that river, and in the neighbourhood of Moulmein, where Captain Dodd informs us that he has often shot it.

975.—Podiceps minor, *Gm.* (11).

Thatone.

A specimen of this species was obtained by Ramsay at Tonghoo; Davison never met with in Tenasserim. Mr. Davis, however, obtained several, some in nestling, some in breeding, some in non-breeding plumage, during the rainy season at Thatone.

976.—Oceanites oceanica, *Banks.* Descr. S. F., V., 291.

Large numbers of this species were seen by Davison one year towards the end of July off the Moscows, a group of islands close off the Tenasserim coast, a little to the north of Tavoy. He did not know the species at the time; he could not catch any, and the weather was so extremely rough that it was impossible to lower a boat had he shot any, but he watched them very closely, they keeping quite close to the vessel, and he entertains no doubt that they were identical with the specimens sent me by Captain Butler.

977 *bis.*—Stercorarius pomarinus, *Tem.*

Colonel Tickell obtained, it is said, a specimen of this species near Moulmein. I dare say Blyth's identification was correct, but I personally do not vouch for it.

Having no Indian-killed specimens to describe, I think I cannot do better than quote Mr. Dresser's recent description of the old and young birds of this species, so that, if it should again, by any chance, occur within our limits, it may be readily identified.

"*Adult Male.* (Fœroes, 1868).—Crown, nape, and sides of the head from behind the eye to the base of the bill and below the sides of the lower mandible deep blackish brown; chin white; rest of the neck all round white, tinged with light golden yellow; the feathers rather elongated and acuminate; entire upper parts (except the hind neck), wings and tail, deep brown, the foreparts of back slightly marked with white; primaries with white shafts, and white on the basal portion of the feathers; central rectrices elongated, but not pointed; under parts white; the breast crossed by a band of dark brown markings, and the flanks marked and barred with dark brown; lower abdomen, crissum, and under tail-coverts dark brown, slightly marked with white; under wing-coverts and axillaries dark brown; bill dark horny, bluish at the base; iris brown; legs blackish. Total length about 20 inches; culmen, 1·8;

wing, 13·8; tail, 8·75; tarsus 2·0; central rectrices extending 2·7 inches beyond the lateral ones."

"*Young* (Flamborough Head).—Head, neck, flanks, and back dark brown, barred and mottled with dirty white; crown and sides of the head less marked with white; abdomen white; crissum and under tail-coverts white, slightly barred with dark brown: wings and tail as in the adult, but the central rectrices extend only a little beyond the lateral ones."

"*Obs.*—An old bird from Labrador, shot in the summer season, has the yellow on the neck brighter than in the bird above described; the back is darker, and has no white markings on the forepart; the band on the breast has almost disappeared; and the crissum and under tail-coverts are deep uniform brown. Another nearly adult young male, obtained in Leadenhall Market in the flesh, has the upper parts with scarcely any white markings, but the hind neck is dark brown, the forepart of the neck is white, slightly mottled with blackish brown; and the breast and flanks are profusely marked with that colour; the rest of the underparts being, as in the adult, above described; the sides of the neck are washed with yellow, and the central rectrices are quite as much elongated as in any specimen I have seen. A young bird from Torbay has the underparts much whiter than in the young bird above described, the breast and flanks being only slightly marked with dark brown."

980.—Larus brunneicephalus, *Jerd.* (11).

Salween R.; Khyketo; Kedai-Keglay; Amherst; Bopyin.

Common along the coast and up the creeks, inland, during the cold season, not only in the province, but southwards at least as far as Touka.

983.—Gelochelidon anglica, *Mont.* (14).

Salween R.; Sittang R.; Wauchoung; Khyketo; Thatone; Amherst; Mergui.

Common along the coast and inland up all the open creeks at least as far south as Mergui.

984.—Hydrochelidon hybrida, *Pall.* (28).

Sittang R.; Wauchoung; Thatone.

Only observed on inland creeks between the Salween and the Sittang.

984?—*Gelochelidon innotata*, Beavan.

This, as I pointed out, S. F., IV., 224, is nothing but the young of *Hydrochelidon indica*.

985.—Sterna seena, *Sykes.* (44).

(*Tonghoo*, Rams.) Younzaleen Creek; Salween R.; Sittang R.; Khyketo; Kedai-Keglay; Theinzeik; Thatone; Wimpong; Moulmein.

Only observed in rivers and creeks at Moulmein and northwards.

985 *bis.*—Sterna dougalli, *Mont.* (4). Descr. S. F., II., 317; IV., 240 *n.*

Off the mouth of the Laynah Creek.

Only once observed.

The following are dimensions, &c., of four males recorded in the flesh :—

Length, 13·0 to 15·12; expanse, 25·25 to 26·0; tail from vent, 5·12 to 7·35; wing, 8·5 to 8·82; tarsus, 0·75 to 0·8; bill from gape, 2·0 to 2·1; weight, 3·5 to 4·0 ozs.

Legs and feet bright vermilion red; claws black; irides deep brown; bill black; gape and base of lower mandible varied from reddish fleshy to vermilion red.

987.—Sterna melanogastra, *Tem.* (48).

(*Tonghoo*, Rams.) Salween R.; Sittang R; Kedai-Keglay; Thatone; Wimpong.

Common in all the inland creeks and larger rivers in the northern half of the provinces.

Lord Tweeddale says, B. of B., p. 163, that "Horsefield's name *javanica* has priority;" but as Mr. Gould pointed out years and years ago, Horsfield's name in the Tr. L. S. could not have been applied to this species, and later Mr. Saunders, on examining the type, found that *javanica* (Horsfield) really= *hybrida.*

987 ?—*Sterna jerdoni*, Beavan.

This appears to be nothing but the young of *melanogastra*, Tem.

988.—Sterna minuta, *Lin.*

Lord Tweeddale says that Ramsay procured a specimen of this species at Tonghoo; very probably the specimen referred to belongs not to the European, but one of the other Asiatic forms of this species already discussed, S. F., V., 324.

We have not yet met with any form of this species in Tenasserim.

989.—Sterna bergii, *Licht.* (3). S. F., I., 283; IV., 470; V., 300.

Mergui; Bopyin.

Rare; only observed along the coast from Mergui southwards.

990.—Sterna media, *Horsf.* S. F., V., 301.

Blyth gives this species from Tenasserim, where, of course, it must occur, though we have not yet procured it there.

991.—Sterna sumatrana, *Raff.* (1).

Off the mouth of the Laynah Creek.

A single specimen shot out of a flock of *S. dougalli.* Davison believes he has often seen this species off the Moscows and amongst the islands of the Archipelago.

992.—*Sterna anæthetus*, Scop. Descr. S. F., IV., 475.

Davison *thinks* he has seen this in the Mergui Archipelago.

993.—Anous stolidus, *Lin.* Descr. S. F., IV., 478.

Numbers of this species have been seen by Davison when passing backwards and forwards through the Mergui Archipelago in steamers, but never under circumstances enabling him to procure specimens.

995.—Rhynchops albicollis, *Swains.* (5).

(*Tonghoo*, Rams.) Salween R.; Sittang R.

Only observed in these two rivers; nowhere else. Davison has been up and down the Tavoy river about 50 times, alike in the cold season and rains, and never saw one there. Mason, however, says that it is frequently seen in the Tavoy river.

996.—Phæton indicus, *Hume.* Descr. S. F., I., 286; IV., 81; V., 302.

Davison met with this species almost opposite the southernmost point of Tenasserim, and again off Cape Negrais, so that, though not actually procured within our limits, there is no doubt but that the species must be included in the Tenasserim list.

998.—Sula australis, *Steph.* Descr. S. F., IV., 483; V., 318.

Very numerous between Penang and Singapore, where Davison procured a specimen, but seen by him continually the whole

way up the coast of the Malay Peninsula, and well up in amongst the islands of the Mergui Archipelago.

1003.—Pelecanus javanicus, *Horsf* apud *Jerd.* (16).

Thatone; Moulmein.

One specimen of the form which Jerdon identified as *javanicus*, Horsf., was obtained near Moulmein, fifteen at Thatone.

I shall deal separately with our Indian and Burmese Pelicans hereafter. I am at present very doubtful as to the names the different species should bear.

Pelicans are extremely rare in Tenasserim, except during the rains, when they come in, in thousands, to the central plains portion at any rate, north of Moulmein, to breed.

This present species for instance only makes its appearance on the flooded Thatone plains when the rains have thoroughly set in by the end of August, and leaves again early in November. They are much less numerous than the next species. I had a special Pelican party out last year at Thatone, and they obtained only 15 of these against 50 of the next species.

Of these fifteen specimens, there are six males and seven females in more or less full breeding plumage, and two males in the young brown plumage.

The followin gare the dimensions :—

Sex.		Bill at front from margin of feathers to end of nail.	Wing.	Tarsus.
1 ♂ ad.	...	14·65	26·62	5·5
2 ♂ ad.	...	14·5	26 12	4·9
3 ♂ ad.	...	15·0	26·75	5·4
4 ♂ ad.	...	15·4	25·5	5·5
5? ♂ ad.	...	13·1	25·5	5·12
6 ♂ ad.	...	15·1	28·0	5·5
7 ♂ zu.	...	15·3	25·0	5·4
8 ♂ zu.	...	15·1	25·0	4·9
9 ♀ ad.	...	11·25	23 9	4·25
10 ♀ ad.	...	12 0	23·75	4·7
11 ♀ ad.	...	12 2	24·5	4·9
12? ♀ ad.	...	13·9	25·25	5·25
13 ♀ ad.	...	11·25	23·3	4·75
14 ♀ ad.	..	12 0	23·0	4·7
15 ♀ ad.	...	11·25	23·8	4·5

No. 10 is in full breeding plumage; in this specimen the whole of the plumage (except the primaries, and the edges of the secondaries and some of the tertiaries) is white, with a delicate roseate tinge.

A patch of long narrow lanceolate feathers on the upper breast is of a pale yellowish or buffy brown.

The legs and feet appear to have been yellow or orange.

In all the birds in breeding plumage the legs in the dried skins are a dull dirty yellow, and Juman, the native taxidermist, says that in life they were pinkish yellow. In the young birds with the greater portion of the plumage grey; the legs in the dried skins are nearly black, and were said by Juman to be blue in life.

1004.—Pelicanus philippensis, *Gm.* (53).

Thatone; Khyketo.

I adhere for the present to this name; my own impression is that this bird is still without a name, but of all existing ones this *philippensis* is the only one that can apply.

Gmelin is the first authority who gave Latin names to this group. Linnæus named *onocrotalus*, but that was all, and of Brisson's specific names we are debarred by the Code from taking cognizance.

Gmelin's names stand in the following order :—

roseus, (ex Manilla.)
manilliensis (ex Manilla.)
philippensis (ex Philippines.)
rufescens (ex Africa.)

Now we may reject the latter name at once. The Abyssinian Pelicans are not the same species; the character of the plumage of head and neck is different, so is the coloring of the soft parts; the upper mandible is less compressed towards the base, and *wants the double row of impressed spots, present in the case of every one of more than* 100 *Indian and Burmese birds, old and young, in winter and in summer plumage, and most conspicuous in the oldest birds in fullest breeding plumage.*

Then we *must* reject *roseus*; "*anseris magnitudine*" will not apply, "not any how you fix it." Nor are the bill and *feet* black, in any adults, fresh or dry. It is in my opinion not open to any one in fixing a name of *Gmelin's* or any one else, to ignore the author's own definition and turn to his references and say "though he says so and so, he meant the other thing, for see what the authorities he quotes say!"

This will not do—so far as his own definition goes, we must abide by it—we may consult his references to throw light on details which he has not recorded, but so far as his record goes, it *must* agree with the bird to which we desire to attach the name, or failing this if it is distinctly at variance on a material point, we cannot apply the name.

As to *manilliensis* this is clearly the young of the preceding; the same small size, "*roseo quam proxime affinis*," and therefore this also cannot apply.

As to *philippensis*, length 4¼ feet, &c., the name *prima facie* applies *fairly* well, and may stand for the present, but I am inclined to believe that when I deal with this group I shall be able to show that a strong presumption exists that this name really applied to the young of the species which Jerdon identified as *javanensis*, Horsfield. What this latter really is I hope that my friend Mr. Elliot will ascertain for me.

If, to return, this be so, then as far as I can make out, Hodgson's name *gangeticus* would be the only one available; and I can find no published description of his, or any thing to indicate certainly to which species this name was intended to apply.

1005.—Phalacrocorax carbo, *Lin.* (3).

(*Tonghoo*, Rams.) Khyketo; Thatone.

Only obtained in the creeks of the plains between the Salween and Sittang, and in the tract west of the Sittang, but observed in the Tavoy River also.

1006.—Phalacrocorax fuscicollis, *Steph.* (2).

Khyketo; Thatone.

Only seen in the creeks between the Salween and Sittang.

1007.—Phalacrocorax pygmæus, *Pall.* (7.)

(*Tonghoo*, Rams.) Salween R.; Khyketo; Thatone; Yea-boo; Amherst.

Common throughout the province, in fresh waters from north to south.

1008.—Plotus melanogaster, *Penn.* (3).

(*Tonghoo*, Rams.) Wimpong; Yea-boo; Assoon.

Common throughout the province alike inland and on the coast.

APPENDIX I.

Addenda et Corrigenda.

p. 5, line 9, from bottom, *for*, then, *read*, them.
p. 8, line 12, from top, *for*, D. coronatus, *read*, D. comata.

p. 19. 48 *bis.*—*Butastur indicus*, Gm.

Add Tavoy to the localities enumerated, as we obtained two more specimens thence in March. One of these, a very fine female, measured :—

Length, 17·25 ; expanse, 41·0 ; tail, 8·25 ; wing, 13·0 ; tarsus, 2·2 ; bill from gape, 1·35 ; weight, 14 ozs.

The cere, gape, and lower mandible to angle of gonys, legs, and feet chrome yellow ; rest of bill and claws black ; eyelids greenish yellow ; iris bright yellow.

p. 21 ; 53.—*Circus melanoleucus*, Forst.

Add Tavoy to the localities given in the text.

p. 25 ; last line but one, *for*, Southernmos, *read*, Southern most.

p. 33 ; 72.—*Ketupa ceylonensis*, Gm.

We obtained a specimen of this species at Tavoy in March.

p. 33 ; 73 *bis*—*Ketupa javanensis*, Less.

We also obtained two specimens of this species near Tavoy, in March.

p. 35 ; 75 *quint*—*Scops lempiji*, Horsf.

A beautiful specimen of this species (wrongly printed *lempijius* in the text) has been sent me from Moulmein by Captain Bingham, with the following particulars :—

Length, 8·8 ; expanse, 23·2 ; wing, 6·4 ; tail, 3·2 ; tarsus, 1·2 ; bill from gape, 0·94.

The bill was light greenish horny ; gape whitish ; irides dark brown ; feet lead color ; claws horny.

p. 44 ; 87.—*Cotyle riparia*, Lin.

A few of this species have subsequently been observed close to the town of Moulmein at the latter end of May.

p. 48 ; 102.—*Cypselus infumatus*, Scl.

Captain Bingham informs us that he found this species breeding on the frouds of some palm trees, (*Borassus flabelliformis*)

growing within the enclosure of the Pagoda at Moulmein. The nests when he found them contained young.

p. 52; 104 *ter.*—*Dendrochelidon longipennis*, Rafin.

Later this species was observed at the base of Nwalabo Hills in the Tavoy district.

p. 56; line 6, from top, *for*, acutely, *read*, accurately.

p. 58; 110.—*Caprimulgus macrourus*, Horsf.

Add Tavoy, where we obtained a pair in March. The wings of both 7·7, and the plumage of the comparatively light-colored type approximating that of *albonotatus*.

p. 63; 115 *bis.*—*Harpactes duvaucellii*, Tem.

This has subsequently been observed at the base of Nwalabo.

p. 66; line 5, from top, *for*, hodgsoni, *read*, erythrocephalus.

The two names certainly, I believe, refer to the same species, and *erythrocephalus* dates from P. Z. S., 1834, p. 25; while *hodgsoni*, as far as I can find out, only dates from the Mon. Trog., pl. 34, 1838.

p. 66; 116 *ter.*—*Harpactes oreskios*, Tem.

We obtained a large series of this species in the jungles at the foot of Nwalabo, a high hill, say 6,000 feet in height, east by south of Tavoy.

p. 67; 117.—*Merops viridis*, Lin.

The Tenasserim specimens belong, almost without exception, to the extremely rufous-headed race, of which the less typical Sikim forms were called *ferrugiceps* by Hodgson.

p. 67; 118.—*Merops philippinus*, Lin.

Captain Bingham tells us that towards the end of the rains this species is not uncommon about Moulmein.

p. 68; 119.—*Merops leschenaulti*, Vieill.

This species was also very common along the forest streams at the foot of Nwalabo.

p. 69; 122 *bis.*—*Nyctiornis amicta*, Tem.

Add, jungles at foot of Nwalabo, where we obtained specimens at the beginning of April.

Captain Bingham also obtained this species this year on the banks of the Attaran.

p. 74 ; 130.—*Halcyon pileata*, Bodd.

Add, jungles at foot of Nwalabo.

p. 79 ; 132 *ter.*—*Carcineutes pulchellus*, Horsf.

We found this species common in April in forest country a little north of Tavoy.

p. 80 ; 133.—*Ceyx tridactyla*, Pall.

We obtained a large series of this species in April in the forests at the foot of Nwalabo, and the forest-clad country between this and Tavoy.

p. 81 ; 135 *bis.*—*Alcedo nigricans*, Blyth.

This was comparatively common in the forest streams about the foot of Nwalabo, but so excessively shy, as this species always is, that we only procured a single specimen, a female.

p. 84 ; 135 *quat.*—*Alcedo beavani*, Wald.

Two specimens obtained at Tavoy, with the deep ferruginous lower surface of *beavani* combine a deep blue upper surface, very different indeed from that of typical Andamanese specimens, scarcely, if at all, separable from *meningting*.

p. 86 ; 137 *bis.*—*Calyptomena viridis*, Raffl.

First line, *for*, 237 bis, *read*, 137 bis.

We found this species very common in April about the foot of Nwalabo and in the forest in its neighbourhood.

p. 88 ; 138.—*Psarisomus dalhousiæ*, Jam.

We obtained a specimen of this in the forests of Nwalabo at an elevation of about 3,000 feet. Here it was rare ; it may be common higher up, but our party were unable to force their way up higher. The bird was breeding here, as Darling found a nest just completed but not yet containing eggs.

p. 89 ; 139 *bis.*—*Serilophus lunatus*, Gould.

This species was common in the forests around the base of Nwalabo, in April. It also occurred, though rarely, in the immediate neighbourhood of Tavoy.

p. 89 ; 139 *ter.*—*Eurylæmus javanicus*, Horsf.

This also was common in the jungles around the base of Nwalabo.

p. 100, line 21, from top, *for*, or more is, *read*, is more or.

p. 106 ; 145 *ter.*—*Berenicornis comatus*, Raffl.

This species has now been observed by us as far north as the base of Nwalabo.

p. 109 ; 145 *quat.*—*Anorrhinus galeritus*, Tem.

This species also occurs, at any rate, as far north as Nwalabo. In the forests around the base of this hill a small party were observed on several occasions, but owing to their extreme shyness no specimen was procured.

p. 120 ; 153.—*Loriculus vernalis*, Sparrm.

Add Tavoy, where they were very common in April.

p. 120 ; 153 *ter.*—*Psittinus incertus*, Shaw.

Add, neighbourhood of Tavoy and country between it and Nwalabo, where we obtained a large series in April. Note, that the amount of dusky on the back of the males varies very conspicuously ; in some old males it occupies the entire interscapulary region, and overlays the greater portion of the scapulars. In others, which are doubtless younger birds, though apparently quite adult, the dusky patch forms only a broad collar, not more than 0·75 of an inch in width, on the upper back.

p. 123 ; 157 *quat.*—*Picus atratus*, Blyth.

A point of distinction between this species and *macei* that I omitted to notice is that in this species a much greater breadth of the *upper* back is unbarred than in *macei*.

p. 125 ; 163 *bis.*—*Yungipicus canicapillus*, Bly.

We found this species extremely common in April in the neighbourhood of Tavoy.

To the synonyms given *loc cit*, add *auritus*, Eyt., An. N. H., XVI, 229, 1845 ; also, *I think*, *aurantiiventris*, Salvad, Atti R. Ac. Sc. Tor., III, 524, 1868, and U. de B. 51, t. IV, *f.* 2, 1874. Bornean specimens that I have examined show that the yellow of the under parts is not constant, but varies from *nearly* as bright as Salvadori figures it, to a *less* amount than is often seen in *canicapillus*, alike from Eastern Bengal, Assam, Pegu, Tenasserim, and the Malay Peninsula.

p. 127 ; 165 *bis.*—*Hemicercus canente*, Less.

This was extremely common about Tavoy in April. We obtained one specimen, a young male, which might possibly answer to Lord Tweeddale's description of a few buff markings on the feathers of the forehead and crown. The buff feathers

have changed, except in a few patches to black, but wherever they have so changed, the white speckles characteristic of the adult male show out clearly.

p. 131 ; 165 *ter.*—*Meiglyptes tristis*, Horsf.

Add, jungles about the base of Nwalabo, where it seemed not very uncommon early in April. This is by far the most northern locality in which we have obtained this species in Tenasserim.

p. 132 ; 165 *quat.*—*Meiglyptes jugularis*, Blyth.

Add, jungles at foot of Nwalabo, and the country between this and Tavoy where it was extremely common.

p. 137 ; 172.—*Gecinus occipitalis*, Vig.

Add Tavoy, where we obtained a specimen in April.

p. 138 ; line 23, from top, *for*, calolophus, *read*, callolophus.

p. 140 ; 175 *quat.*—*Callolophus malaccensis*, Lath.

Add Tavoy, in the forests near which we obtained two specimens in April. This is by far the most northern locality at which we have procured it.

p. 145 ; 178.—*Micropternus phaioceps*, Blyth.

We procured a large additional series of this species around the base of Nwalabo, and in the country between this and Tavoy. All of them are, on the whole, more properly referable to this species, though two or three of them make a decided approach to *brachyurus*.

p. 146 ; 184.—*Tiga javanensis*, Ljungh.

Add, jungles at the base of Nwalabo, and country between this and Tavoy, where, as elsewhere throughout the province, this species was extremely common.

p. 148 ; line 8, from top, *for*, Bart., *read*, Burt.

p. 151 ; 195 *ter.*—*Megalæma incognita*, Hume.

Captain Bingham obtained a specimen of this well-marked species a few miles south of Myawadee. This is the most northern locality at which it has been obtained. We procured four more specimens in April in thin tree jungle in the neighbourhood of Tavoy, a more southerly locality than any in which it has yet been observed.

In adult males the bright crimson lores and frontal band, the yellow eye-ring, and the long and extremely strongly

marked black superciliary and gape stripes, serve to distinguish this species at a glance.

The following are dimensions and colours of the soft parts recorded in the case of the specimens above referred to :—

Males.—Length, 8·6 to 9 ; expanse, 13·5 to 13·8 ; wing, 3·9 ; tail, 2·4 to 2·5 ; tarsus, 1·1 to 1·0 ; bill from gape, 1·4 to 1·46 ; weight, 2·75 ozs.

Upper mandible, eyelids, and tip of lower mandible, dusky horny ; remainder of bill, paler; legs and feet grass green ; irides nut brown.

Females.—Length, 8·8 ; expanse, 13·25 ; wing, 3·9 ; tail, 2·4 ; tarsus, 1·0 ; bill from gape, 1·4 ; weight, 2·75 ozs.

Lower mandible and base of upper mandible pale horny blue; rest of bill black ; legs and feet dirty bluish green.

p. 152 ; 196 *quat.*—*Megalæma mystacophanos,* Tem.

Add, jungles at base of Nwalabo, where we obtained two specimens.

p. 155 ; 198 *quat.*—*Megalæma cyanotis,* Blyth.

Add, jungles at base of Nwalabo and between this and Tavoy, where common.

p. 157 ; 205 *bis.*—*Hierococcyx nanus,* Hume.

We were surprised at finding this species not uncommon in April in the forests at the base of Nwalabo, and between that place and Tavoy.

The double stripe, one from the anterior and the other from the posterior angle of the eye, across the cheeks and ear-coverts, are very conspicuous in good specimens.

The following are dimensions, &c., recorded in the flesh of a female shot at the foot of Nwalabo :—

Length, 11·9 ; expanse, 16·5 ; tail, 5·1 ; wing, 5·6 ; tarsus 0·9 ; bill from gape, 1·1 ; weight, 2 ozs.

The irides were brown ; the lower mandible, gape and base of upper mandible greenish yellow ; upper mandible and extreme tip of lower mandible dull black ; eyelids, legs, feet, and claws orange yellow.

p. 159 ; 210.—*Surniculus lugubris,* Horsf.

Add, forest at base of Nwalabo and between this and Tavoy.

p. 161 ; 211.—*Lamprococcyx maculatus,* Gm.

I believe now that my remarks, page 161, para. 3, as to a specimen which I formerly named *basalis* are erroneous, and

that this bird obtained at Moulmein in October 1874, does really belong to the *basalis* type.

I cannot pretend to decide whether there are three or more species of this type, or whether *malayanus*, Raffles, from Sumatra and Malacca, *basalis*, Horsf., from Java, and *lucidus*, apud Gould, in part, of Australia, are distinct or not.

To judge from my small series of specimens they run extremely close, and the adults in all are distinguished by having a more or less bronzy brown head and nape, and more or less dull coppery green upper parts, while *maculatus* has the head and entire upper parts intense deep emerald green (not a bit the light green represented in Mr. Gould's late figure, B. of A., pt. XXX, pl. 3) and *xanthorhynchus* has all these parts deep puce.

Now one species of the *basalis* type does certainly occur in Tenasserim, and this is the same as the bird that occurs in the Malay Peninsula, of which we shot one specimen in Johore, and I propose therefore to include it in our list as

211 *ter*.—Lamprococcyx malayanus, Raff. (2).

Moulmein; near Tavoy.

Our specimens answer very fairly to Raffles' original description, which ran as follows:—

"It is about seven inches in length; brown above, with a greenish gloss, particularly on the scapulars. The whole under parts are transversely barred with white and brown undulations. The wings are long, extending to about the middle of the tail; the coverts edged with ferruginous. The tail consists of ten feathers, of which the upper are greenish brown, and the lower barred with brown, black, and white. The bill is somewhat compressed at the base, and the nostrils are prominent. There is a row of white dots above the eyes.

"Native of the Malay Peninsula."

This is certainly our bird; of course *basalis*, of Horsfield, may be identical, but it is to be observed that in their catalogue Moore and Horsfield (Vol II., Nos. 1031 and 1033) keep the two species distinct. On the other hand no great weight can be attached to this, seeing that to *malayanus*, they refer fig. 1 of Pl. Col. 102, which unmistakably represents, notwithstanding what Temminck says of the bird inhabiting New Zealand, some stage of *xanthorhynchus*.

Horsfield and Moore identify *basalis* with the second figure in the above plate, but this appears to me to represent the young of the Australian species? *plagosus*, Latham, which is said to be characterised by having the whole under surface entirely

unbarred, a stage which I have as yet failed to meet with in either *maculatus*, *xanthorhynchus* or *malayanus*.

Horsfield, however, himself described a bird with a barred under surface, and therefore this identification of his or Moore's may be as erroneous as that already referred to.

Cabanis and most authorities of later date unite *malayanus* and *basalis*, despite their separation by Horsfield, but seeing that the matter is still involved in much doubt, and that Raffles' description certainly refers to our bird, while *basalis* may apparently refer either to *lucidus* of Gmelin, or *plagosus*, Latham, if this be distinct, or lastly to some other distinct species, I think it best for the present to retain Raffles' name.

Our specimens of *malayanus*, alike from Tenasserim, Johore, and the Andamans (from which I find that I have one specimen mixed up with and misnamed *xanthorhynchus*) are all more or less immature, and in this stage their identification is not always easy. No doubt *maculatus* is considerably larger on the average than either of the other two species, but the dimensions are very variable, and there is no very apparent difference between those of *xanthorhynchus* and *malayanus*.

I find, however, that in the young of *maculatus* the head is first dull red, more or less barred with white or dusky; that from this stage the head loses all barrings and becomes a pure light red (as correctly figured in the second figure of Mr. Gould's B. of A., pt. XXX, pl. 3). In amongst this clear red the emerald green feathers begin to appear; there is no intermediate stage.

In *xanthorhynchus*, the head in the first stage appears to be a darker and duller red, closely barred with black. There appears to be no unbarred red-headed stage in this species, as the puce color appears direct amongst the barred feathers.

In *malayanus*,* there is a similar stage with the head dull red, barred with black, and on this appears direct the bronze brown feathers.

The specimen which I originally identified as *basalis* has got only three or four such feathers on the crown, but it *has* got them, and nothing analogous ever appears at any stage of either *maculatus* or *xanthorhynchus* so far as I can judge.

The second Tenasserim specimen, the Johore and Andaman specimens, all have the entire top and back of the head bronze brown, identical with the heads of two adults sent to me as *lucidus* from Australia.

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* I should not be at all surprised if the young bird described by me, S. F., III, 81, and doubtfully identified with *xanthorhynchus*, really belonged to this species. Mr. Oates, still I believe, has the specimen.

And here I must note that I am utterly unable to make out the two species that in his Hand-Book of the Birds of Australia, Vol. I., pp. 623, 626, Mr. Gould makes out of his original *lucidus*, B. of Aust., fol. Vol. IV, pl. 89, viz. *plagosus*, Latham, and *basalis*, Horsf. One of my two Australian specimens with a rather broader bill, which should, according to him, be *plagosus*, has the tail most like what he describes as that of *basalis*; while the one, which has the somewhat narrower bill, and which should, according to him, be *basalis*, has the tail decidedly more of the type which he refers to as characteristic of *plagosus*.

The fact is that, at any rate, in the case of *maculatus* and *xanthorhynchus*, the width of the bill varies very much in different individuals, and the markings on the tail feathers in all, but perfect adults, to such an extent that these appear to me perfectly valueless for any purposes of diagnosis, and I confess that at present I feel extremely doubtful as to the distinctness of the two species, *plagosus* and *basalis*, apud Gould.

I may here note that in his text to the plate already referred to (B. of A. pt. XXX, pl. 3), referring to his *L. schomburgki*, P. Z. S., 1864, p. 73, Mr. Gould alludes in the diagnosis to the lower surface being barred with green right up to the chin, whereas he says that in *hodgsoni* (*maculatus*) the chin and throat are green like the back. Now it is quite true that in *some* specimens of *maculatus* patches of green begin to appear on the chin and throat as soon as they do on the red head; but this is by no means the invariable rule, as I have now before me Himalayan specimens in which the entire upper parts have become emerald green, whilst the entire lower parts from chin downwards are still simply barred.

To return now to our present species *malayanus*, I note that in the young the barrings of the chin and throat appear to be always finer and narrower than in either of the two other species, *maculatus* and *xanthorhynchus*, but I cannot feel certain that this is invariably the case.

The following are the dimensions of the wings of the specimens of each species now before me :—

	Species.	Locality.	Sex.	Wing.
1.	*maculatus*. ...	Mooleyit, B. Burma ...	♂ adult ...	4·3
2.	„ ...	Nr. Meetan, B. Burma ...	♂ adult ...	4·4
3.	„ ...	Thoungsha Gyne R., B. B.	♂ adult ...	4·3
4.	„ ...	Nr. Meetan, B. Burma ...	♂ juv. ...	4·2
5.	„ ...	Mooleyit, B. Burma ...	♀ juv. ...	4·36
6.	„ ...	Nr. Meetan, B. Burma ...	♀ juv. ...	4·2
8.	„ ...	Sikim ...	? adult ...	4·16
9.	„ ...	Nr. Darjeeling ...	? adult ...	4·4
10.	„ ...	Darjeeling ...	? adult ...	4·2
11.	„ ...	Darjeeling, 4,000 ft. ...	? adult ...	4·2
12.	„ ...	Sikim ...	? adult ...	4·4

	Species.	Locality.	Sex.	Wing.
13.	*maculatus* ...	Nr. Darjeeling ...	♀ adult ...	4·2
14.	„ ...	Darjeeling ...	♀ adult ...	4·2
15.	„ ...	Nr. Darjeeling ...	♀ adult ...	4·5
16.	„ ...	Nr. Darjeeling ...	♀ adult ...	4·15
17.	„ ...	Sikim ...	♀ adult ...	4·18
18.	„ ...	Jeolee, Nr. Naini Tal ...	♀ adult ...	4·3
19.	„ ...	Sikim ...	♀ nearly ad....	4·22
20.	„ ...	Darjeeling ...	♀ nearly ad....	4·4
21.	„ ...	Nr. Darjeeling ...	♀ nearly ad....	4·4
22.	„ (*wing imperfect*)	Darjeeling ...	♀ nearly ad....	4·15
23.	„ ...	Naini Tal ...	♂ juv. ...	4·21
24.	„ ...	Naini Tal ...	♀ juv. ...	4·2
25.	„ ...	Native Sikim ...	♀ juv. ...	4·4
26.	„ ...	Darjeeling ...	♀ juv. ...	4·3
27.	„ ...	Darjeeling ...	♀ juv. ...	4·2
28.	„ ..	Sikim ...	♀ juv. ...	4·3
29.	„ ...	Kaladoongee ...	♀ juv. ...	4·2
1.	*xanthorhynchus*	Kanee Houngthraw R., B. B.	♂ nearly ad....	3·82
2.	„ ...	Bankasoon, B. Burma ...	♂ adult ...	3·99
3.	„ ...	Near Tavoy ...	♂ nearly ad....	3·98
4.	„ ...	S. Andaman ...	♂ adult ...	3·8
5.	„ ...	S. Andaman ...	♂ juv. ...	3·8
6.	„ ...	Amherst ...	♂ adult ...	4·12
1.	*malayanus* ..	Near Tavoy, B. B. ...	♀ juv. ...	3·95
2.	„ ...	Moulmein, B. B. ...	♀ juv. ...	4·1
3.	„ ...	Pulo Seban, 22 m. fm. Malacca	♀ juv. ...	3·75
4.	„ ...	N. Bay, S. Andaman ...	♀ juv. ...	3·65
1.	*lucidus* ..	N. S. Wales ...	♀ ...	4·01
2.	„ ...	N. S. Wales ...	♀ ...	4·31

p. 161 ; 211 *bis.*—*Chalcococcyx xanthorhynchus*, Horsf.

Add Tavoy, where we obtained a specimen in March.

The following particulars of a nearly adult male recorded in the flesh of this species may be useful :—

Length, 6·7 ; expanse, 11·3 ; tail, 3·1 ; wing, 3·98 ; tarsus, 0·6 ; bill from gape, 0·8 ; weight, 0·62 oz.

Bill bright yellow, tinged orange ; iris light red ; ophthalmic ring bright vermilion ; legs and feet dark dirty green ; claws brownish black.

p. 165 ; 216 *ter.*—*Phœnicophaus erythrognathus*, Hartl.

Add Tavoy, where we found the species common in April, and procured one specimen, apparently quite an adult, in brilliant plumage, with the *whole* of the *four* central tail feathers glittering metallic *green*.

p. 167 ; 216 *quint.*—*Zanclostomus javanicus*, Horsf.

We obtained one specimen, a female, of this (in Tenasserim) rare species, near Tavoy in April.

The dimensions of this female were as follows :—

Length, 17·0 ; expanse, 15·9 ; tail, 9·9 ; wing, 5·2 ; tarsus, 1·45.

Note, that by a printer's error in misplacing a stop, complete nonsense is made of part of the description of this bird. At page 168, the 20th line from the bottom a semicolon is put after "crown," where there should only be a comma, while at the end of the same line there is a comma after the word "eye," where there should be a semicolon.

p. 173; 223.—*Arachnothera magna*, Hodgs.

As I have repeatedly before remarked it will take many year's further exploration to come to any just conclusion as to the distribution of birds in Tenasserim.

This year in April, for the first time in five years, Davison saw and shot a single specimen of this species, and this not only far south of Pahpoon, but actually at Tavoy itself.

p. 174; 224.—*Arachnothera longirostra*, Lath.

Add, scrub jungle in neighbourhood of Nwalabo, and between that mountain and Tavoy, where we found this species common in April.

p. 176; 224 *bis.*—*Arachnothera modesta*, Eyton.

Add Tavoy, near which we procured three specimens in April.

p. 183; line 3, from top, *for*, Gould., *read*, Jard.

p. 192; 234 *ter.*—(*Arachnechthra*) *Cinnyris flammaxillaris*, Blyth.

Add, jungles at the foot of Nwalabo, Tavoy, and intervening country, where it was not uncommon in March.

p. 194; 236 *bis.*—*Dicæum trigonostigma*, Scop.

Add, country at the base of Nwalabo, and the whole tract intervening between this and Tavoy, where we found it extremely abundant in March and April.

p. 197, line 5, from top, *for*, black, *read*, back.

p. 201; 253.—*Dendrophila frontalis*, Horsf.

Add Tavoy and country at base of Nwalabo.

p. 205; 263.—*Tephrodornis pelvica*, Hodgs.

Add, neighbourhood of Tavoy, where we found this species extremely common towards the end of April.

Referring to my previous remarks as to the small differences that exist between *pelvica* and *gularis*, I may add that many specimens of this latter are absolutely identical with others of

sylvicola, Jerd., from Southern India, except in so far as they are smaller and have the wings from 0·25 to 0·5 shorter. At the same time, while *some* specimens of both are, except as regards size, absolutely identical, a good many *gularis* are a paler grey on the crown and back than any *sylvicola*, and a good many *sylvicola* are a darker and more olive grey than any *gularis*.

p. 207 ; 267.—*Hemipus picatus*, Sykes.

Add Moulmein.

p. 208 ; line 4, from bottom, *for*, birds, *read*, bird.

p. 210 ; 268 *quat.*—*Volvocivora neglecta*, Hume.

From the neighbourhood of Tavoy we have a series of *Volvocivoras* which cannot be referred to either *melaschista*, *neglecta*, *intermedia*, or *culminata*, or even *avensis*. They are paler than *intermedia* and *à fortiori* than *melaschista*. They are darker than *avensis* and considerably larger ; very much larger too than *neglecta* and quite differently colored to *culminata*. They answer precisely, with one exception, to Hartlaub's description of *vidua*, (See S. F., V., 206). That exception being that, generally the *two* outer pairs, and sometimes *three*, have comparatively narrow white tippings, and they are *apparently* too large for *vidua*, of which the wing is given at 4·12.

In these Tavoy birds the wings vary from 4·65 to 5·0, and one old female has the wing 4·85.

Possibly the wing in Hartlaub's type was imperfect, otherwise the paler rump, the paler under surface, the under wing-coverts concolorous with the *back*, the faint barring on the rump, the very small amount of white on the tail, all point to *vidua*, and for the present I propose to enter these as

268 *quint.*—Volvocivora vidua, *Hartl.* (5). Descr. S. F., V., 206.

Tavoy.

p. 211 ; 271 *ter.*—*Pericrocotus elegans*, McClell.

Add Tavoy.

p. 211 ; 273 *quat.*—*Pericrocotus flammifer*, Hume.

In the dense jungles at foot of Nwalabo we obtained two young males of this species, just changing from the female to the male plumage. This was on the 2nd and 3rd of April.

Wings, 3·57 and 3·6.

p. 213 ; 279.—*Dicrurus annectans*, Hodgs.

Two specimens of this species were obtained at the foot of Nwalabo. This is the most northern locality in Tenasserim, at which we have yet observed this species. Nwalabo appears to be remarkable in that many northern species not hitherto observed as early as far south run down to it; while on the other hand several southern species, not hitherto observed elsewhere as far north, run up to it.

p. 218; 282 *bis.*—*Chaptia malayensis*, Blyth.

Add, jungles at foot of Nwalabo.

p. 218; last line but one, *for*, malabaroides, Hodgs., *read*, grandis, Gould.

p. 221, fourth line, from bottom, *D. malabaroides*, (Hodgson, 1837,) should stand as *D. grandis*, (Gould, 26th January 1836.)

p. 222; line 22, from top, *for*, hottentota, *read*, hottentotta.

p. 223 ; 289.—*Muscipeta affinis*, Hay.

Add, forests at foot of Nwalabo.

p. 223 ; 289 *ter.*—*Philentoma pyrrhopterum*, Tem.

A pair of this species were obtained in April in the forests at the foot of Nwalabo, being by far the most northern locality at which we have yet observed this species.

p. 224 ; 289 *quat.*—*Philentoma velatum*, Tem.

Add Tavoy, in the neighbourhood of which this species appeared to be common in March and April.

A young male, which we obtained on the 19th April, and which appeared to have recently left the nest, is very remarkable for its coloration.

The entire head and neck all round, chin, throat, breast, and in fact entire lower parts, are a dull chestnut, with only here and there, on the lower parts, patches of new dull cyaneous feathers appearing.

The whole of the median and the secondary and tertiary greater coverts are tipped, the former very broadly, the latter more narrowly, with chestnut, and there are patches of this same color on the rump and upper back and scapulars.

p. 225 ; 290.—*Hypothymis azurea*, Bodd.

Very common in the jungles about the foot of Nwalabo.

p. 226; 296.—*Hemichelidon sibiricus*, Gm.

Add, foot of Nwalabo.

p. 227; 297.—*Alseonax latirostris*, Raffl.

Add Tavoy.

p. 227; 299.—*Alseonax ferrugineus*, Hodgs.

We procured two fine specimens of this in the jungles at the foot of Nwalabo.

p. 227; 304.—*Cyornis rubeculoides*, Vig.

Add Moulmein.

p. 232; 317 *bis.*—*Anthipes submoniliger*, Hume.

We obtained a specimen of this species at the foot of Nwalabo.

p. 233; 322.—*Siphia erythaca*, Blyth and Jerd.

First line, *for* Sipha, *read* Siphia.

Lord Tweeddale remarks, B. of B., 103 "*E. sordida*, God Aust." (S. F., III., 392) "is the female of some species *Xanthopygia*, perhaps of *X. narcissina*, but from which t type slightly differs."

I have a bird from Assam which answers precisely to Godwin-Austen's description and dimensions, except that the tarsus is 0·6 instead of 0·5.

There cannot be, I believe, the smallest doubt that my bird is *E. sordida*, God.-Aust.; but it is at the same time, I think, equally certainly the female of *S. erythaca*, Bly. and Jerd.

p. 237; 4th line from top, *for*, bil, *read*, bill.

p. 238; 344 *quat.*—*Pitta cærulea*, Raffl.

One of our people declares that he saw a specimen of this species in the jungles at the foot of Nwalabo. As he had seen and handled all our Bankasoon specimens, and skinned two of them, he is probably correct.

Davison is also perfectly certain that he saw a specimen of the Crimson-headed Pitta (*coccinea*, Eyton) in the same neighbourhood.

It flew up off the ground and perched on a branch about 10 yards from him; he took a moment or so to make sure what the bird was, and then as he raised the gun to fire it dropped into the jungle, there so dense that he was unable again to find it.

As Davison has shot this species in the Straits, and is a practised observer, I propose to enter this species as

p. 243 ; 345 *quat.*—**Pitta coccinea**, *Eyton.*

Foot of Nwalabo.

It is necessary to add a description of this species. We have not recorded the dimensions of any *adults* in the flesh.

A young bird, shot at Johore, measured :—

Length, 7·0 ; expanse, 11·5 ; tail, 1·62 ; wing, 3·55 ; tarsus, 1·45 ; bill from gape, 1·1 ; weight, 2 ozs.

Adults appear to be somewhat larger ; wings running to 3·7 and tarsi to nearly 1·6.

In the young bird the legs, feet, and claws are pale lavender ; the bill black ; the gape and a spot on the bases and at the tips of both mandibles, orange vermilion. No traces of this orange vermilion appears on the bill of adults.

In the adults the whole forehead as far back, or nearly as far back as a line drawn through the anterior angle of the eye, black, as is also a very broad stripe over the eye, and the whole of the sides of head. The whole of the rest of the top and back of the head intense crimson, bordered on either side on the occiput and nape by a narrow line of lavender blue. The rest of the upper surface a dull blue with a purple tinge, most conspicuous on the interscapulary region where the terminal portions of the feathers are glistening, but both here and on the rump the dusky bases of the feathers show through a good deal. The quills and primary greater coverts are dull black, but all the visible portions of the secondaries and tertiaries are overlaid with the color of the back. The greater and median secondary coverts are broadly tipped sometimes on *both* webs, generally chiefly on the *outer* webs, with pale glistening lavender blue.

The chin and throat are dusky, sometimes browner, sometimes blacker, often more or less intermixed with dull red or purple. The breast similar, but with more or less of a deep purple shade, and with more or less of dull crimson tippings, and many of the feathers glistening towards their points. Rest of the lower parts dull crimson, paling towards the vent, and generally much mottled with dusky owing to the bases of the feathers showing through.

The Bornean *granatina*, of which I have a fine specimen from Sarawak, seems to differ in its generally richer coloring, especially on the breast, abdomen, &c. In the paler and more silvery blue of the occipital stripes and wing-covert tippings, and in the fact that the crimson of the crown does not extend beyond a line drawn through the middle of the eyes.

In the particular specimen that I have before me, the bill is somewhat shorter and stouter than in any of my specimens of *coccinea*, but I do not know whether this difference holds good in other specimens.

In the young *coccinea* the whole lower parts are dusky, the feathers fringed very sparingly on the breast and upper abdomen, and rather more copiously about the lower abdomen, vent, and lower tail-coverts with dull orange crimson.

The bright tippings to the wing-coverts and the occipital stripe are wanting. The crimson of the head is confined to a patch on the occiput.

The entire crown and the greater part of the forehead is dusky brown, with a slight red tinge on the margins of the feathers.

The interscapulary region is dull black, and only the scapulars, rump and tail, and the terminal portions of the secondaries and tertiaries, are washed with blue.

p. 243 ; 346.—*Pitta cucullata*, Hartl.

Add Tavoy, where a specimen was procured on the 13th April. At this time no rain had fallen, and not a single specimen of *moluccensis* was observed during a month's exploration of the country between Tavoy and Nwalabo. A month later there would have been hundreds of birds of this species.

p. 246 ; 350 *bis.*—*Zoothera marginata*, Blyth.

Captain Bingham sent me a specimen killed in September near Myawadee, but on the other side of the Thoungyen in the Yahine Territory.

p. 250 ; 351 *bis.*—*Cyanocincla solitaria*, Müll.

Out of three males shot at Tavoy two were of this form. One, which has nearly the whole abdomen chestnut, has an immense pure white patch occupying the nape, and greater portion of the interscapulary region ; about half the feathers of the forehead, one or two on the sides of the breast, and one or two of the upper tail-coverts are also pure white.

p. 250 ; 355.—*Geocichla citrina*, Lath.

Add Tavoy, where common in April.

p. 251 ; 369 *bis.*—*Turdus obscurus*, Gm.

Add, jungles at the foot of Nwalabo, where a specimen was obtained in April.

p. 255 ; 369 *quat.*—*Turdulus sibericus*, Gm.

This species was very common around the foot of Nwalabo in April. They went about in flocks, as many as sixty being seen together, and they particularly frequented in the mornings and evenings large trees of a species of fig, then in fruit; a large series were procured. The majority were young males, showing more or less of the female plumage on the lower surface, and of the adults, none of the males approaching in blackness or in paucity of white on the lower surface, the specimen already described.

The following are dimensions of some specimens recorded in the flesh :—

	Length.	*Expanse.*	*Tail.*	*Wing.*	*Tarsus.*	*Bill from Gape.*	*Weight.*
♂ Ad.	9·3	14·0	3·2	4·8	1·1	1·1	2·25 oz.
,, ,,	9·2	14·0	3·5	4·9	1·2	1·1	2· oz.
,, ,,	9·4	14·7	3·5	5·0	1·18	1·18	2· oz.
,, Juv.	9·1	14·3	3·3	4·8	1·2	1·2	2·25 oz.
,, ,,	9·1	14·23	3·2	4·7	,,	1·1	1·96 oz.
♀ Adult.	9·3	,,	3·3	4·6	1·2	1·22	2·2 oz.

The adult males had the bills black ; irides deep brown; the front of legs, feet and claws, greenish yellow; back of legs dirty yellow.

The young males had the gape yellow; the front of tarsus, &c., yellowish brown; the back pale yellow; other parts as in adults.

The females had the irides dark brown ; the upper mandible very dark brown; the lower mandible and gape to angle of gonys, dirty yellow; legs, feet and claws orange yellow.

p. 259; 387.—*Trichastoma abbotti*, Blyth.

Add, very common about the base of Nwalabo.

p. 259; 387 *bis.*—*Trichastoma minus*, Hume.

Add, foot of Nwalabo.

p. 260; 388.—*Alcippe nipalensis*, Hodgs.

Add, forests at base of Nwalabo, where this appeared to be common.

p. 260; 388 *bis.*—*Alcippe phayrei*, Blyth.

Add, forests at foot of Nwalabo and between this and Tavoy.

p. 264 ; 391.—*Stachyrhis nigriceps*, Hodgs.

Add, base of Nwalabo.

p. 265; 394 *bis.*—*Stachyrhis assimilis*, Wald.

A single specimen of this species was procured at the foot of Nwalabo.

p. 266; 395.—*Mixornis rubricapillus*, Tick.

Add, forests at base of Nwalabo, and country between that and Tavoy, where very common.

p. 277; 399 *ter.*—*Pellorneum tickelli*, Blyth.

Since my remarks on this species were penned I have obtained a specimen of *Turdinus garoensis*, God.-Aust., from Monflong in the Khasia Hills.

I find that that species is, as I believed, quite distinct from the bird I call *Pellorneum tickelli*.

In the first place *tickelli* is altogether a much deeper colored and more rufescent bird above, and it has the fifth quill the longest, while *garoensis* has the sixth the longest. The feet, and especially the hind toe and claw, are distinctly smaller in *garoensis*. A certain superficial resemblance undoubtedly exists between the birds, but they can be separated at a glance.

Again, as I suspected *garoensis* is much nearer my *T. minus*, but it is distinct from this; in *T. minus*, the pale shafting of the feathers is scarcely traceable on the crown, while it is pretty conspicuous there in *garoensis*. The whole upper plumage of *garoensis*, as well as the sides and flanks, are much more olivaceous and much less rufescent. The bills too are different, that of *T. minus* being much broader at the base, more of the *Trichastoma* and less of the *Pellorneum* type, whilst in *garoensis* the bill is of the *Pellorneum* type.

The legs and feet in *T. minus* are white, or almost white, whereas in *garoensis* they are pale brownish horny. The wings too are differently shaped, the fifth, sixth, and seventh quills being equal or very nearly so in *T. minus*, while the fifth is conspicuously shorter than the sixth in *T. garoensis*.

p. 278; 399 *sext.*—*Pellorneum subochraceum*, Swinh.

Add, base of Nwalabo, and country between this and Tavoy, where it was extremely common in March and April.

p. 281; 401 *quint.*—*Pomatorhinus albigularis*, Blyth.

We obtained a specimen of this species at the foot of Nwalabo not very far from Tavoy.

At page 279, *supra*, I referred to Blyth's statement that *P. phayrei* occurred at Tavoy.

The source of Blyth's mistake is now apparent. He saw a specimen of the present species from Tavoy, and did not at the moment discriminate it from *phayrei*. Indeed it is very close to *phayrei*, and differs chiefly in its more rufescent upper surface, its much paler under surface, and pure white throat.

p. 283; 403 *bis.*—*Pomatorhinus olivaceus*, Blyth.

Add, Tavoy, base of Nwalabo, and intervening country.

p. 291; 413.—*Garrulax moniliger*, Hodgs.

Additional specimens from Tavoy, with all the lateral tail feathers tipped with pale reddish ochre instead of with white as in typical *moniliger*, induces me again to call attention to the approach made by these southern birds to the Chinese *picticollis*. In fact these are *picticollis*, except in so far as the gorget is blackish brown, as in *moniliger*, and not grey, as in *picticollis*.

p. 301; 451 *ter.*—*Criniger ochraceus*, Moore.

We found this species very common about the base of Nwalabo and the forest country intervening between this and Tavoy. This is much the most northern locality at which we have observed it.

I have recently obtained from Borneo a specimen of what is apparently the true *gutturalis* of Müller; *ochraceus* is extremely close to this, so close that I am doubtful whether the two should be separated; *gutturalis* is a larger bird; wing in a female, 4·3. The bill is conspicuously larger; the crown is a little deeper, and more rufescent in color; the occipital feathers are less elongated; the lores, cheeks and ear-coverts are perceptibly greyer; the chin and throat are a less pure white, having a decided shade of grey. Otherwise (and these differences are very slight) the birds are identical.

p. 315; 452 *dec.*—*Iole viridescens*, Blyth.

Very common in forests at the foot of Nwalabo and the country intervening between this and Tavoy.

Nestlings of this species obtained in April differ from the adults in the purer olivaceous hue of the upper surface, and in having the whole visible portion of the quills and primary greater coverts and tail feathers, pale bay.

p. 317; 456.—*Rubigula flaviventris*, Tick.

Add, base of Nwalabo.

p. 321; 460.—*Otocompsa emeria*, Lin.

Add, foot of Nwalabo.

p. 322 ; 462 *ter.*—*Molpastes atricapillus*, Vieill.

Add, base of Nwalabo.

p. 323 ; 463 *bis.*—*Phyllornis chlorocephalus*, Wald.

Add, base of Nwalabo and forest country between this and Tavoy.

p. 324 ; 463 *ter.*—*Phyllornis javensis*, Horsf.

This species was very common in April in the forests at the base, and in the neighbourhood of Nwalabo.

p. 327, line 15 from bottom, *for*, Ægithina scapularis, *read*, Iora scapularis.

p. 328 ; 468 *quint.*—*Iora lafresnayi*, Hartl.

Captain Bingham sent us a specimen of this species obtained on the Zamme Choung at Khayeng, 16° North Latitude, on 10th of February.

This bird precisely resembles our specimens shot in April, May, June, July and November at Mergui and Bankasoon. This specimen, a very fine male, measured in the flesh :—Length, 6·3 ; expanse, 9·1 ; wing, 2·9 ; tarsus, 2·45 ; bill from gape, 1·0.

Bill horny on culmen, rest leaden blue ; legs and feet plumbeous ; irides dark brown.

The tail in this specimen, too, a very brightly-plumaged bird, and clearly adult, is olive green.

I cannot avoid recurring to my former suggestion that *innotata*, Blyth, *may* prove to be a distinct species.

p. 328 ; 469.—*Irena puella*, Lath.

Add Tavoy, base of Nwalabo, and intervening country, where this species is very common.

p. 333 ; 476.—*Cercotrichas macrura*, Gm.

Add, forests at base of Nwalabo and country between this and Tavoy, throughout which this species was very common in March and April.

p. 335 ; 507 *bis.*—*Larvivora cyane*, Pall.

Add, base of Nwalabo, where one specimen was obtained on 10th April.

p. 345 ; 530.—*Orthotomus sutorius*, Forst.

Add Moulmein, where common.

p. 352 ; 555.—*Phyllŏscopus fuscatus,* Blyth.

Add Tavoy, being much the most southern locality at which we have observed the species.

p. 354 ; 556 *quat.*—*Phylloscopus tenellipes,* Swinh.

Add, Tavoy, where we procured two specimens in March.

Excise the description of *tenellipes* on page 354, as professedly quoted from Mr. Seebohm.

By one of those inexplicable mistakes which printers do make, the description of *plumbeitarsus* has been here printed a second time. The following is Mr. Seebohm's real description of *tenellipes.*

"*Bill large*; under mandible pale.

"Upper parts greyish brown, dashed all over, especially on the rump, with buffish brown ; wings and tail greyish brown, with the outside edge of each feather broadly margined with buffish brown. Superciliary streak buffish white.

"*Head rather darker than the back.*

"Underparts white, dashed all over with buff, especially on the breast and flanks ; axillaries and wing-lining pale yellow.

"Third, fourth, and fifth primaries longest ; sixth, seventh, and eighth each considerably shorter than the preceding ; second primary about equal to the seventh.

"Bastard primary small, the exposed part measuring ·5 to ·53.

"First wing-bar distinct, the upper bar less so.

"Length of wing—Male, 2·38 ; female, 2·3.

"Length of tail—Male, 1·86 ; female, 1·83.

"*Legs and claws pale flesh colour.*"

p. 355 ; 558.—*Phylloscopus lugubris,* Blyth.

Add, Moulmein, where we obtained a single specimen at the end of February.

p. 359 ; 574.—*Abrornis superciliaris,* Tick.

Captain Bingham sent us a specimen which he obtained on the Zamee River somewhere about 16° N. L. The specimen was a female shot off the nest containing three eggs. He recorded the following measurements :—

Length, 3·9 ; expanse, 5·7 ; wing, 1·8 ; tail, 1·5 ; tarsus, 0·67 ; bill from gape, 0·6.

Bill horny plumbeous ; irides dark brown ; legs and feet pale fleshy.

p. 361 ; 586.—*Henicurus schistaceus,* Hodgs.

Add, base of Nwalabo.

p. 361 ; 588 *bis.*—*Henicurus ruficapillus*, Tem.

Add, streams at base of Nwalabo, being by far the most northern locality at which we have as yet observed this species.

p. 362 ; 591*bis.*—*Motacilla dukhunensis*, Sykes.

From the list of localities excise Pahpoon. The specimen there obtained, as also one specimen obtained at Kedai-Keglay belonging, I find on re-examination, to a different species which must now be entered in our list as

591 *quat.*—**Motacilla ocularis**, *Swinh.* (2).

Pahpoon ; Kedai-Keglay.

My attention was first drawn to this species by Mr. Oates, who sent me a specimen correctly identified from Pegu. On re-examining my series I found that I had already a specimen from Pegu, and two specimens from Tenasserim. All the rest of my Tenasserim, Assamese and Indian specimens, nearly 150 in number, are true *dukhunensis*.

This species belongs to the *alba* and *dukhunensis* group, which retains the grey back throughout the year, and not to the group containing *lugubris*, Tem. 1820. (=*yarrellii*, Gould), *lugens* Illiger, apud Schlegel (=*japonica*, Swinh.) *luzoniensis*, Scop. apud Auct, *vidua*, Sund., &c., which get the black back in the summer.

Mr. Swinhoe originally described this species, *Ibis*, 1850, 55, as follows :—

"Distinguishable from *M. luzoniensis* by a permanently grey back, larger size, and a black line running through the eye past the ear-coverts. Length, 7·8 ; wing, 3·7 ; tail, 3·8. On the other hand the bill and head are smaller.

Blyth originally erroneously identified this species with *dukhunensis*, and it is with this species that Indian readers will compare it.

Its plumage is almost identical, but it is a rather larger bird. Wing, 3·6, 3·7, 3·75, and the rest in proportion, and it has a distinct black line running through the lores to the anterior angle of the eye, and backwards from the posterior angle of the eye right over the ear-coverts. No such line will be found in any specimen of *dukhunensis*, and this line, Mr. Swinhoe tells us, it retains at *all* seasons. Our specimens were all obtained from November to February, and I cannot therefore speak to this point from my own knowledge.

p. 363 ; 593 *ter.*—*Budytes cinereocapilla*, Savi.

p. 364 ; 593 *quat.*—*Budytes flava*, Lin.

We obtained both these species in February at Moulmein.

p. 364; 595.—*Limonidromus indicus*, Gm.

Add Tavoy.

p. 365; 596.—*Pipastes maculatus*, Hodgs.

Add Tavoy.

p. 370, line 6, from bottom, *for*, argentaurus, *read*, argentauris.

p. 372; 622 *bis*.—*Proparus dubius*, Hume.

Since my remarks (*supra*, *p.* 373) were penned, numerous other specimens of *P. mandelli* from Shillong confirm the view I, and subsequently Major Godwin-Austen, took of the distinctness of this species and *dubius*.

The differences that I formerly pointed out when discussing this subject between the Khasia and Tenasserim hill species appear to hold constantly good.

p. 374; 630.—*Herpornis xantholeuca*, Hodgs.

Add, evergreen forests in the neighbourhood of Tavoy.

p. 375; 631.—*Zosterops palpebrosus*, Tem.

We have recently obtained near Tavoy a specimen of a *Zosterops*, which I believe should be referred to *palpebrosus*, as an accidental variety, but which may indicate a new species. It is the same size as *palpebrosus*, but is greener and more olive above, and beneath, instead of having only the lower tail-coverts yellow has the whole of the feathers about the vent and a broad band right up the middle of the abdomen well on to the lower breast, of this same bright yellow. Out of 56 specimens from various parts of India, 53 show no sort of approach to this, but in three specimens there are one or two little dabs of pale yellow on the breast or abdomen, thus affording an indication, though in a much minor degree, of the variation which is so conspicuous in our Tavoy specimen. Should other similar specimens be hereafter obtained, the bird will of course require to be specifically separated, and might then stand as *auriventer*.

p. 378; 650.—*Melanochlora sultanea*, Hodgs.

Add, forests near Tavoy.

p. 385; 673.—*Cissa chinensis*, Bodd.

Add Tavoy, the most southerly locality in which we have yet observed the species.

p. 386; line 10, from bottom, for, *variaus*, read, *varians*.

p. 387 ; 678 *quint.*—*Platysmurus leucopterus,* Tem.

Add Tavoy, in the evergreen forests near which we obtained three specimens in April.

p. 387 ; line 6, from bottom, *for,* Sturnopaster, *read,* Sturnopastor.

p. 393 ; 689 *sex.*—*Sturnia sturnina,* Pall.

Note that in April this year we found this species *extremely* abundant near Tavoy.

p. 394 ; line 15, from top, *for,* 691 bis, *read,* 690 bis.

p. 396 ; 693.—*Eulabes javanensis,* Osb.

Add, base of Nwalabo, and forests between this and Tavoy.

p. 403 ; 702.—*Munia acuticauda,* Hodgs.

Add Tavoy, where it was excessively abundant in March, at which time Davison found more than a score of nests, all but one, however, containing young birds.

p. 406 ; 706.—*Passer indicus,* Jard. and Selb.

This species is as common at Rangoon as *montanus,* and now and again a single bird may straggle over to Moulmein (where Davison recently shot a single specimen) on the rigging of one of the many vessels constantly passing between these two ports, which are only a 12 hours run apart, and almost the whole of the journey in river water.

p. 407 ; 710.—*Passer montanus,* Lin.

Add Moulmein, where, as in other large towns and villages, it is common.

p. 410 ; 771.—*Treron nipalensis,* Hodgs.

Common at the foot of Nwalabo and in the country between this and Tavoy.

p. 412 ; 776.—*Osmotreron phayrei,* Blyth.

Add, base of Nwalabo. This species was extremely numerous, going about in flocks of hundreds in the country between Nwalabo and Tavoy.

p. 427 ; In speaking of *Pavo muticus,* I omitted to point out one very conspicuous point of difference between this—and *P. cristatus, viz.,* that whereas in this latter all the lesser wing-coverts, the tertiaries and all their coverts and the scapulars,

are conspicuously barred and variegated with rufescent or buffy white; in *muticus* these parts are uniform and unbarred.

p. 432; 803 *quat.*—*Polyplectron thibetanum*, Gm.

We obtained a splendid male of this species in the jungles at the foot of Nwalabo, where they were not very uncommon. Davison says: "I know how to find these birds now; if you fire a gun, every male that is anywhere near at once begins to call. Their call is a long drawn *qua-qua-qua*, often repeated.

p. 434, line 14, from top, *after*, bicalcaratum, *insert*, *Lin.*

p. 438; Since our remarks on *E. crawfurdi* were written we have examined a specimen from Bhamo (whence Elliot's type was obtained by Colonel Sladen, who really re-discovered this species) and found it precisely similar to our Dargwin specimen, and there is no reason therefore now to consider ours at all an intermediate form.

p. 442; 812.—*Gallus ferrugineus*, Gm.

Add Tavoy.

p. 450; 833.—*Turnix plumbipes*, Hodgs.

We obtained a quite young bird of this species near Tavoy.

p. 456; 849.—*Ægialitis curonicus*, Gm.

Add Moulmein, where not uncommon in February.

p. 457; line 5, from top, *for*, 855, *read*, 855 *bis*.

p. 462; 891.—*Rhyacophilus glareola*, Lin.

Add Moulmein, where it was very common in February and March.

p. 463; 893.—*Tringoides hypoleucos*, Lin.

Add Tavoy, where very common in March.

p. 464; line 15, from bottom, *for*, chirugus, *read*, chirurgus.

p. 480; 4th line from bottom, *for*, in his case, *read*, in this case.

p. 494; line 22, from top, *for*, The followin gare, *read*, The following are.

p. 496; 1007.—*Phalacrocorax pygmæus*, Pall.

Add Tavoy.

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APPENDIX II.

Index of Localities where our Specimens were obtained.

Amherst	...	At the mouth of the Salween, 28 miles due S. of Moulmein.
Assoon	...	A small village on the banks of the Houngthraw R., about 45 miles in a direct line E. by S. of Moulmein.
Attaran River	...	Joins the Salween at Moulmein, rises S. and runs N. W. All our specimens thus labelled, were obtained between the old town of Attaran, distant about 34 miles S. E. of Moulmein and this latter.
Bahonee	...	A little mining village, amongst a number of low hills, near the head-waters of the Pakchan estuary.
Bankasoon	...	A small Malay village at the foot of the Tenasserim hills on a creek of the same name which joins the Pakchan, about 30 miles from its mouth.
Beeling	...	A large town situated on a river of the same name, lying between the Sittang and the Salween. About 70 miles N. by W. of Moulmein.
Bopyin	...	About 26 miles up a creek of the same name, which joins the sea between Mergui and the Pakchan, but rather nearer the former.
Cheon-Khon	...	Near the Sinzaway reserve.
Choulai Creek	...	A creek on the coast, some 20 miles S. of Mergui.
Choungthanoung	...	A mining village about 26 miles up a creek of the same name which joins the sea midway between Mergui and the mouth of the Pakchan.
Choungthapee	...	A tiny hamlet, some 20 miles S. E. of Bopyin.
Crab Island	...	In the estuary of the Tavoy river.
Dargwin	...	A police stockade, elevation about 2,500 feet; in the range of hills on the right bank of the Salween, about 18 miles N. of Pahpoon.
East Karennee	...	On the right bank of the Salween, just N. of the Pahchoung creek, which bounds the Pahpoon district on the north. This, in somewhere about 19° N. L. say 140 miles due N. of Moulmein, is the most northerly locality yet visited by Davison. Tonghoo and the Karen hills and Karennee, chiefly worked by Ramsay, lie between 19° and 20° N. L.
Endingnone	...	A halting place, en route to Mooleyit about 9 miles E. by N. of Myawadee.
Epoo	...	A Karen village, about 16 miles N. of Mooleyit in low pine clad hills—elevation about 1,500 feet.
Gyne River	...	Runs into the Houngthraw about 13 miles in a direct line E. and by N. of Moulmein; its previous course has been nearly due S. Our specimens thus labelled were obtained some few miles only above its junction with the Houngthraw.
Hankachin	...	A small village, elevation say 600 feet, 10 miles N. of Bahonee.
Kadintee	...	In low hills, 30 miles N. W. of Pahpoon.
Kanee	...	On the Houngthraw R., about 18 miles nearly due E. of Moulmein.
Kaukaryit	...	At the junction of the Younzaleen creek and Salween R., about 35 miles due N. of Moulmein.

Karopee	...	About 20 miles on the Amherst road S. by E. of Moulmein.
Kedai-Keglay	...	A village on the Thatone plains, about 66 miles N. by W. of Moulmein.
Khyin	...	A village on the Houngthraw R., about 28 miles in a direct line due E. from Moulmein
Khyketo	...	A small town between the Sittang and Beeling Rivers, nearly 100 miles N. by W. of Moulmein.
Kobaing	...	A large village on the Kobaing creek of the Attaran R. 21 miles S. E. of Moulmein.
Kogo	...	On the Houngthraw R, some 20 miles E. of Moulmein.
Kohtoung	...	The Burmese name for Victoria Pt., the southernmost point of the mainland of Tenasserim.
Kolan Isd.	...	One of the islands of the Mergui archipelago, about 25 miles S. of Mergui.
Kollidoo	...	A frontier station, elevation about 3,500 feet, in the hills about 28 miles N. by W. of Pahpoon.
Kyouk-nyat	...	A frontier station, elevation say about 600 feet on the right bank of the Salween, about 22 miles N. E. of Pahpoon.
Lathorgee	...	A small Karen village, about 18 miles S. S. E. of Myawadee overlooking the Thoungyen R.
Laynah	...	A town situated on a creek of the same name, about 15 miles from the sea, and 75 miles S. by E. of Mergui.
Lemyne	...	A small village, 66 miles S. by E. of Moulmein.
Letet	...	A little village, 19 miles on the Amherst road, nearly due S. of Moulmein.
Long Isd.	...	A large island in the estuary of the Tavoy R.
Makana	...	A small camping ground, about 10 miles W. of Myawadee.
Malawoon	...	About 33 miles up the Pakchan estuary on a small creek, running in on the N. or British Bank.
Meetamyo	...	A large Karen village, about 22 miles E. by N. of Tavoy. Elevation about 3,500 feet.
Meetan	...	A large village on the Houngthraw R., some 70 miles S. E. of Moulmein.
Megaloon	...	A village on the Houngthraw, 24 miles E. of Moulmein.
Mergui	...	About 300 miles S. of Moulmein, and 182 N. of Victoria Pt.
Mooleyit	...	A mountain, elevation about 6,300 feet, about 70 miles E. S. E. of Moulmein.
Mounmenzeik	...	A mass of isolated limestone rocks, about 9 miles N. E. of Moulmein.
Myatoon	...	In low hills, about 30 miles N. W. of Pahpoon.
Myawadee	...	A large frontier town, situated about 65 miles N. by E. of Moulmein.
[illegible]alansine	...	The native name given to a collection of hamlets on the right bank of the Pakchan, some 25 miles further up this than Malewoon.
Ngabremah	...	A town on the Attaran, 18 miles S. E. of Moulmein.
Nwa-la-to	...	A mountain said to be 7, probably 6 thousand feet in height, 16 miles E. by S. of Tavoy in a direct line; one of the peaks of the 2nd interior range.
Omagwen	...	At the southernmost point of the Henzah basin, 40 miles N. of Tavoy.
Pabyin	...	A small fishing village, a few miles N. of Mergui.
Pabyouk	...	A village near a group of isolated limestone rocks on the right bank of the Attaran R. about 22 miles in a direct line S. E. of Moulmein.
Pahchoung	...	The creek dividing the Pahpoon district from E. Karennee, say about 140 miles due N. of Moulmein.

Pahpoon	...	The head-quarters of the district lying between the Salween and the Younzaleen, and about 96 miles N. of Moulmein.
Pakchan	...	A large river with a huge estuary bounding Tenasserim on the S.
Palaw-ton-ton	...	A Malay village on the coast, about 30 miles N. of Victoria Pt.
Paraduba	...	A Karen village at the foot of Mooleyit, say 8 or 10 miles in a direct line N. of the peak.
Patoe Isd.	...	An island forming, as it were, the S. W. pier of Mergui harbour.
Phaya, Upper Wineyo		In the Pahpoon district.
Quanlah	...	A few miles from Moulmein on the Amherst road.
Sadyin	...	A village at the mouth of the Bopyin creek.
Shymootee	...	A village on the mainland near the mouth of the Tavoy estuary.
Sinzaway	...	A Government forest reserve, a few miles S. of Pahpoon.
Sittang	...	A town on the well-known river of the same name, about 30 miles from its mouth, and about 87 miles N. E. of Moulmein.
Tavoy	...	The well-known town on the river of the same name, 167 miles in a direct line S. a little by E. of Moulmein.
Tenasserim Town	...	On the river of the same name, 35 miles S. E. of Mergui.
Thatone	...	The head-quarters of a district lying chiefly between the Beeling and the Salween, about 52 miles N. W. of Moulmein.
Thayetchoung	...	On the mainland, at the mouth of the Tavoy estuary, 5 or 6 miles lower down than Shymootee, just opposite Tavoy Pt.
Theinzeik	...	Between Thatone and Kedai-Keglay.
Thenganee Sakan	...	About 14 miles due W. of Myawadee, and 53 miles in a direct line E. by N. of Moulmein.
Thoungsha, on the Gyne River	...	A mass of isolated limestone rocks, near the junction of the Houngthraw and Gyne, about 16 miles N. E. of Moulmein.
Thoungsheyen Sakan		A halting place on the road from Myawadee to Moulmein, about 42 miles E. a little north of the latter in a direct line.
Topee	...	A small Karen village in low hills, some 24 miles N. of the Peak of Mooleyit.
Usheetherrpone	...	A fishing village on the sea coast a little to the north of Mergui.
Victoria Pt.	...	The most southern point of the mainland of Tenasserim, at the mouth of the Pakchan estuary.
Waghrau Creek	...	Three miles N. of Amherst.
Wauchoung	...	A creek flowing into the Sittang a few miles from its mouth, some 93 miles N. W. of Moulmein. The creek itself is in Pegu. Our specimens are from the Sittang, opposite its mouth.
Wimpong	...	A mass of limestone rocks, a few miles S. E. of Thatone.
Yea	...	On an estuary of the same name, 87 miles S. of Moulmein.
Yea-boo	...	A series of hot water springs, on the right bank of the Attaran R. about 22 miles S. E. of Moulmein.
Younzaleen Creek	...	A river flowing into the right bank of the Salween at Kaukaryit, and bounding the Pahpoon district on the W.
Zadawoon	...	A small fishing village on the coast, a little N. of Mergui.
Zadee	...	A village about 1 mile inland from the sea coast, and 32 miles N. by W. of Tavoy.

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