



F. King
from
(CONTRIBUTIONS) *Bohume*

(TO)

INDIAN ORNITHOLOGY.

BY

(A. O. HUME.)

No. I.

CASHMERE.

LADAK.

YARKAND.



Extracted from "Lahore to Yarkand—Henderson and Hume."

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P R E F A C E.

FOR the use and convenience of brother ornithologists in India, I have excerpted from Dr. Henderson's work, "Lahore to Yarkand," the ornithological portion which formed my contribution to the book, and have had it bound up separately in this form.

A. O. H.

SIMLA, *Sept.* 1, 1872.



CONTRIBUTIONS
TO
INDIAN ORNITHOLOGY.

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CHAPTER I.

RESUME OF THE ORNITHOLOGICAL RESULTS OF THE
EXPEDITION TO YARKAND IN 1870.

THE ornithological results of the Yarkand expedition, although not devoid of interest, have neither been so important nor conclusive as might perhaps have been expected. Almost from first to last the party were marching against time: the major portion of the route lay through the oft explored regions of Kashmir and Ladák, and although the expedition remained for some seven weeks within the limits of Yarkand, five of these were occupied in painfully struggling through country, which was for the most part either higher than the summit of Mount Blanc, or else a veritable sandy desert, enlivened by but few oases. Thirteen days, it is true, were spent at the city of Yarkand itself, but there the absence of the king, Atalik Ghazí, and other political complications, rendered any personal exploration of the neighbourhood for the purpose of procuring natural history specimens absolutely impracticable.

Three-fourths of the specimens were preserved by the carbolic acid process, ("carbolyzed" as we call it) and but for this, many of the most valuable birds would have been lost to us, as they were obtained in elevated regions, where intense cold and the fatigue of the daily march rendered the skinning of any considerable number of specimens, and at times of even a single bird, absolutely out of the question.

Altogether, one hundred and fifty-eight species were observed, but of these only fifty-nine pertain to the orni-

- *583 *Sylvia curruca*.
- *597 *Pipastes trivialis*.
- 679 *Fregilus graculus*.
- *681 *Sturnus vulgaris*.
- 710 *Passer montanus*.
- 792 bis *Turtur auritus*.
- **829 *Coturnix communis*.
- *851 *Vanellus cristatus*.
- *860 *Strepsilas interpres*.
- *880 *Philomachus pugnax*.
- *882 *Tringa subarquata*
- *885 „ *Temmincki*.
- *892 *Actitis ochropus*.
- *894 *Totanus glottis*.
- **910 *Porzana pygmaea*.
- *954 *Casarca rutila*.
- *986 *Sterna fluviatilis*.
- **988 *Sternula minuta*.

Of the above, those to which a single asterisk (*) is prefixed are winter visitants to the plains and coasts of Hindustan; while those preceded by a double asterisk (**) are permanent residents, and breed in some parts, at any rate, of the plains of India.

Nos. 7 and 679, though never extending to the plains, are permanent residents throughout the Himalayas. Nos. 125 and 710 are seasonal visitants, respectively to the Western and Eastern portions of the Himalayas; while 351 bis occurs as a rare straggler, far in the interior in the Central portion of the mountains.

Turtur auritus has never, I believe, been recorded from any portion of our hills. Every one of these thirty species except *Strepsilas interpres*, *Totanus glottis*, and *Tringa Temmincki*, is believed to breed in the hills or plains of Yarkand.

Nine species are perhaps best known as Indian, viz. :—

- 56 *Milvus govinda*.
- *261 *Lanius cristatus*.
- 470 *Oriolus kundoo* (Pl. XI.).

- 492 *Saxicola atrogularis*.
 554 *Phylloscopus tristis*.
 560 „ *viridanus* (Pl. XIX.).
 *590 *Motacilla luzoniensis*.
 591 „ *personata*.
 *920 *Melanopelargus episcopus*.

The first, third, and last are also permanent residents of the plains of India, and breed with us; those to which an asterisk (*) is prefixed range out of India to Burmah, and in the case of *M. luzoniensis*, at any rate, to China and the Philippines. *P. tristis* is said to be identical with the *P. brevirostris* of Strickland, and it may be so, but I have been unable to satisfy myself of the fact; the only specimens that I have examined, sent from Palestine as *P. brevirostris*, appeared to me to be separable from the Indian bird. As for *Melanopelargus episcopus*, it is found in Burmah, Java, Borneo, Celebes, &c.; and in Africa, from Nubia to Caffraria.

It is probable that all these species breed in Yarkand.

Ten species appear to be almost peculiar to the central or central and western sections of that vast belt of mountain ranges which, under various appellations—*e.g.*, the Kara Koram, the Hindoo Koosh, the Himalayas, the Kuen Lun, &c., stretches, though not without breaks, right across the continent of Asia, viz. :—

- 499 *Ruticilla erythrogastra*.
 654 *Accentor strophiatu*s.
 658 *Corvus tibetanu*s.
 661 „ *intermediu*s.
 668 *Pica bactriana*.
 737 *Carpodacus rubicilla*.
 751 *Linota brevirostris* (Pl. XXVI.).
 802 bis *Syrhaptu*s tibetanu*s*.
 816 *Tetraogallu*s himalayanu*s*.
 816 bis „ tibetanu*s*.

Not one of these species, so far as I know, occurs further east than Bhotan. *Pica bactriana* is replaced even in

Sikhim by the more eastern *P. bottanensis*, while all but *R. erythrogastra* and *C. rubicilla* (also recorded from the Altai and Caucasus) appear to give place west of Afghanistan to more or less nearly allied species.

Ruticilla erythrogastra, *Accentor strophiatu*s, and *Carpodacus rubicilla* all breed in Yärkand, as was proved by the nestlings there obtained; but the first, at any rate, breeds also in Ladák.

The rest breed probably both in Ladák and Yärkand, while one of them, *Corvus intermedius*, breeds all over the Himalayas, at heights of from 5000 to 10,000 feet, and possibly a good deal higher.

There is yet another bird :—

496 bis *Ruticilla erythroprocta*, Gould, .

(very common in Ladák likewise during the summer) which, if really distinct, should be included in the above list, but, as I shall show when dealing with it separately, there are strong grounds for believing that this form is nothing more than the full breeding plumage of *R. rufiventris*, and in that case the species should find a place in the previous list, with *Milvus govinda*, &c.

Two species, viz. :—

845 *Charadrius longipes*,

847 *Ægialitis mongolicus*,

occur almost throughout the whole continent of Asia, the latter of the two at any rate straying into Eastern Europe. Both species breed in Yärkand.

There remains a single species :—

646 bis *Parus cyanus*,

essentially a northern form, Asiatic and European, but straggling in winter into central and southern Russia and Germany. I am not aware that this species has hitherto even been obtained in summer, so far south as the Arpalak river, Yärkand, (lat. 37° N.), where it had obviously been breeding and where a scarcely fledged nestling was obtained.

Limited as our materials are, it seems to me that they point to the conclusion, that although visited by numbers

of northern and southern Asiatic forms, central Asia possesses a distinct resident avi-fauna, probably somewhat limited in extent, but doubtless altogether inadequately represented by the few forms as yet discovered.

With the birds of Siberia and the Amoor Land the writings of Pallas, Middendorf, Von Schrenk, and Radde, have made us fairly acquainted ; while those of India, from the sea to the borders of Chinese Tartary and Thibet, have been, I believe with the exception of some small Grass-Warblers, or rare stragglers, for the most part recorded. Many Siberian and Indian species are identical, birds that inhabit the one country during one part of the year, straying or regularly migrating at other seasons into the nearest portions of the other ; many of these also occur as might have been expected in Yärkand. Several of our species that do not find their way so far north as Siberia, resort to Yärkand for the summer, or possibly in some cases reside there permanently, while one at least of the more northern forms that never go so far south as the Himalayas finds even during the hot season a home in that country ; but over and above these we have traces of a distinct and local avi-fauna which neither in summer extends to Siberia, nor in winter to the mountains even of India.

It may be thought that the limited number of the peculiar Yärkand species as yet discovered scarcely warrants a belief in the existence of a distinct Central Asiatic avi-fauna, but if the very small area actually explored be borne in mind, as also the fact that few as were the species observed, more than one tenth of these are unknown to both the northern and southern sections of the continent, I think it will be admitted that the conclusion is not altogether unreasonable.

Europe presents us with no parallel case ; it would be impossible, probably, to point to any district in that continent inhabited by even six peculiar *bond-fide* species, which occur neither to the north or south ; but in Africa it appears to me that we find a somewhat similar region possessing likewise a peculiar avi-fauna — an elevated tableland, much of it a perfect desert, hemmed in by

mountains, and probably at a comparatively recent geological period the bed of a vast inland sea.

Unfortunately we know too little of the Yarkand fauna to hazard more than a conjecture as to its affinities. *Podoces* is a type *per se*, the only previously known species being an inhabitant of Central Asia. The Falcon is a link between African and Arctic types, a desert Gyr-falcon. Its Crested Steppe-lark is perhaps nearest to Arabian and African forms. Its Stone-chat is equally north African, south European, and south-western Asiatic. Its Wren Warbler, though possibly rightly assigned to a Himalayan genus, is very African in its type, and its Redlegged Partridge, though probably most resembling the south Arabian form (*C. arenarius*, nobis) is quite as nearly allied to our Norfolk bird as to the southern Himalayan form, with which, however, the intermediate Ladák race seems to connect it. On the whole, so far as the very scanty evidence before us justifies a conclusion, I should expect that further researches would prove the peculiar Yarkand avi-fauna to consist partly of forms most nearly related to north-east African and Arabian types, and partly of locally specialised groups unknown elsewhere.

In Yarkand we have found one at least of the breeding haunts of numbers of our Indian winter visitants, whose nests and eggs have hitherto been vainly sought for in the Himalayas, and of which, though some few individuals doubtless bred there, the great mass went, as we knew, farther north in summer.

What became of the vast multitudes of *Cyanecula suecica*, *Sylvia curruca*, *Pipastes trivialis*, *Philomachus pugnax*, *Tringa subarquata*, and *T. Temmincki*, *Actitis ochropus*, *Totanus glottis*, *Lanius cristatus*, *Phylloscopus tristis*, and *P. viridanus*, &c., &c., which during the cold season swarm over the whole face of the country, has always been a puzzle? We now find that Yarkand is one, at any rate, of their favourite summer retreats, and that a belt of absolute desert, more than 100 miles in width, having an elevation of over 15,000 feet, and intersected by numerous more or less snow-capped ridges, the lowest passes over which attain an

altitude of 18,000 feet above the sea level, opposes no invincible obstacle to the periodical migration of even the tiniest and most feeble-winged of our songsters.

It is startling to think of birds like the *Phylloscopi*, ill adapted as they seem for lengthened flights, and, when not migrating, rarely flying more than a few yards at a time, yearly travelling from Yärkand to Southern India and back again. How these butterfly-like mites brave in safety the vast stretches of almost Arctic deserts—absolutely devoid of vegetation, where the thermometer habitually varies 50° in twelve hours, and a breeze springing up sends the mercury down far below zero and freezes men, horses, and even yaks, it is alleged, in a few hours, is verily a mystery. Some may, perhaps, incline to believe that these little tree-warblers do not make this arduous migration, and that these vast mountain ranges, doubtless of geologically recent elevation, only assumed their present dimensions subsequent to the creation or specialization of these species; but although no specimen of these was actually caught in the act of migration, I do not think, considering the number of species that were thus observed, as also that *Reguloides proregulus* and other equally feeble birds do almost certainly make this same and even a longer journey, that this explanation can be accepted. I think, moreover, that in the *Podoces* and other species we have indications of the lapse of a quite sufficient period since the isolation of Central Asia to render probable a marked modification of all pre-existing forms which have since continued to reside there as permanent inhabitants; and if these *Phylloscopi* did *not* yearly cross and recross the Hills, I doubt much whether the species found on both sides would now be identical.

Of the Common Quail a few breed within our limits, and of the Common Starling many breed in Kashmir; but these are wholly inadequate to account for the incalculable myriads of these species which periodically visit us, and of these it is now probable that Yärkand furnishes us with a large quota. The Quail captured on the 24th September in an utterly exhausted state at the Käratäg Lake, at an

altitude of over 13,500 feet, was doubtless on his return journey to India, and had for a companion in his misfortune, if not in his journey, a Rail (*Porzana maruetta*) equally exhausted, who must also have been migrating, as the lake lies in a bare shingle desert, almost entirely destitute of vegetation.

These two poor travellers, it would seem, stopped to have a drink, and, as is not uncommon in such cases, "came to grief."

In the desert steppes that commence about a march above the Pangong Lake, and form a sort of neutral ground between Ladák and Yärkand, we meet, as might be expected, with scarcely any animal life.

Chance travellers, migrating like the Rail or the Quail already noticed—*Butalis grisola*, *Cyanecula suecica*, *Motacilla luzoniensis*, *Palumbana Eversmanni*, *Actitis hypoleucis*, and *Querquedula crecca*—were doubtless obtained in these inhospitable and frigid wastes, and the Thibetan Raven travelled with the camp throughout; but the only species that appeared to be even seasonal residents were the Laemmergeier, the Hoopoe, *Montifringilla hæmatopygia*, *Ægialitis mongolicus*, and *Casarca rutila*. As for the Hoopoe, he was met with everywhere, in the barest deserts and on the highest passes, busy pegging his long bill into the sand, wholly unconcerned at the desolate loneliness of the surrounding scene, and apparently perfectly unaffected by a temperature often falling during the night many degrees below zero (Fahrenheit). The entire absence of the larger Raptorial birds, and specially of true Vultures, is a marked feature in these steppes; the whole line of march was strewn with dead horses, yet not a Vulture was ever seen, nor indeed were any traces of Foxes or Wolves, such as are constantly met with in Ladák, observed at any time.

When a horse is unable to proceed the owners cut its throat, and, to enable its flesh to be used by future travellers whose provisions run short, cut long steaks out of the haunches, and lay them on stones or hang them on any dwarf bushes that may chance to be near, and there they hang and harden, the atmosphere being too dry to admit of

putrefaction, unmolested by bird or beast, until devoured by some famished band of traders, or until they crumble into dust. When a camp is moving the attendant Ravens of course may help themselves, but these wise birds are far too "canny" to take up their quarters in such uninhabitable regions, and only visit them in company with men who will afford them the luxury of a stolen meal. I have a shrewd suspicion that to the Raven, as to some of the higher members of the animal kingdom, stolen things are ever sweetest.

One of the points which the observations of Dr. Henderson has most impressed me with, is the great altitudes at which many species of birds seem perfectly at their ease. Our familiar friend the Cuckoo was seen swinging in the breeze on the pendant branches of a birch, trolling his "jocund lay" at a height of 11,000 feet, while the snow lay all around. The Hoopoe was quite at home at 18,000 feet, the so-called Kashmir Dipper, a resident at over 15,000 feet, busy seeking insects in a stream more than half of which was congealed into solid ice; Guldenstadt's Redstart was hopping unconcerned on the snow at 17,800 feet; *Montifringilla hæatopygia* seems to live permanently at heights of from 17,000 to 14,000 feet, below which Adams's Finch is common at 13,000 feet. The Long-billed Horned Lark ranges in all suitable localities from 12,000 to 15,000 feet, while both the Mongolian Dottrel and the Ruddy Shieldrake breed at 16,000 feet, and the brown-headed Gull (*X. brunneicephala*) at 15,000 feet. I do not know whether it has ever been observed how sharply the first high snowy range of the Himalayas defines the area of distribution of a large proportion of the species resident within those hills. Numbers of species occur south of the first snowy range, from Murree to Darjeeling, which, except where some large river breaking through the range enables them to creep a short distance up its valley, are never found north of that line. Numbers again abound throughout the midland Himalayas which are never found south of that range, although apparently localities precisely similar to those in which they reside are there to be met with.

These facts are often explained by the assumption that the birds cannot cross the range, but with the experience we now have of the manner in which the feeblest species traverse the most elevated regions, this explanation can scarcely be maintained. In reality I believe that this sharp definition of specific range is due to the equally sharp definition of climate which is effected by these great ridges. The birds *could* get over them easily enough, but the moisture-laden clouds from the Indian Ocean and the Bay of Bengal *cannot*. Hence south of the range we have a comparatively moist climate and more or less heavy periodical rains; while north of it we have an excessively dry climate, varied only by occasional showers, or violent but almost rainless thunderstorms. South of the range we have luxuriant vegetation; north of it a scanty, stunted flora. There are exceptions, but this is the rule; and to this result of a difference in the hydrometric state of the atmosphere, and to that difference itself, I attribute the rigid limitation by the first high snowy range in the area of distribution of so many species.

Of the great bulk of the species obtained in Ladák, Kashmir, and the low hills leading from the plains to Kashmir, with whose avi-fauna we are comparatively familiar, no detailed notice seems here necessary; each will be separately dealt with in the next chapter. It may not be out of place, however, to notice that a Buzzard was obtained on the road from Kashmir to the plains, answering completely to Hodgson's and Blyth's description of *Buteo aquilinus* (and exhibiting in a marked degree the supposed specific characteristics of this species, the reticulate scaled tarsus feathered for two-thirds of its length); which, however, after comparison with a vast series of *Buteo ferox*, I believe to belong to that species. The subject is further discussed in Chap. II.

In Kashmir several specimens of a Laughing Thrush were obtained, nearly allied to *T. variegatum*, of which I had already received others from the Agrore Valley, and which I have now, with much hesitation, separated as *T. simile* [Pl. VII.]

A species of Starling which I long since separated as

Sturnus nitens, was obtained in great numbers in Kashmir, and as all the specimens are precisely similar, and exactly agree with those previously collected by myself, I have, as Mr. Gladstone would say, "ventured" to figure [Pl. XXIV.], and publish it as distinct. It is of the *S. unicolor* type, but much smaller and far more brightly coloured. It is, so far as I yet know, confined to Kashmir, Afghanistan, and the Pesháwar Valley.

In Ladák. *Saxicola atrogularis* was obtained in full breeding plumage (figured by Gould as *Saxicola montana*), as well as in intermediate stages, leaving, to my mind, no doubt as to the necessity of suppressing this latter supposed species.

Accentor nipalensis was met with at the Pangong Lake. This is by no means, as seems to have been supposed, a purely eastern form; it is common in winter in the valley of the Sulej, at least as far down as Kotegurh. The Robin Accentor (*A. rubeculoides*), again, also assigned by Gould and Jerdon to Nepaul alone, was abundant in October throughout Ladák; but for further particulars of this, and all the other species observed by the Expedition, I must refer the reader to the next chapter.

Dr. Henderson, in his remarks on the physical aspect of the countries traversed by the Expedition, has divided the route into six sections, each characterized by distinct natural features; and in accordance with his division, I have prepared a table, which will be found below, showing in which of these several sections each species was observed, and indicating also from which of the other sections (although not there noticed by Dr. Henderson) I have received specimens of it.

I feel that in these brief remarks I have done but scant justice to the materials which my kind friend Dr. Henderson so laboriously amassed; but with half my museum packed up and at a distance, with very few works of reference at hand, with but a few weeks in which to do the work, and with my time already fully occupied with public duties, I have been unable to do better, and can only crave the indulgence of brother ornithologists for the crude and imperfect account which I have presented.

TABLE showing the Distribution of the Species observed by the Yarkand Expedition.

(e) signifies that the species was observed by the Expedition.

(o) signifies that, although not observed by the Expedition, specimens have been procured in the locality by other observers.

Species believed to be new, and of which full descriptions and figures are given in ch. ii. et seq., are printed in capitals.

Species which, though not new, have, it is believed, as yet not been satisfactorily figured, and of which figures are given, are printed in antique (thick) type.

Species which, although neither new nor unfigured, are not described by Dr. Jerdon, and of which full descriptions and measurements are given, are printed in Italics.

Species which, though possibly new, are only described and are not figured, because it is doubtful whether they are entitled to specific separation, are printed in black letter.

No. in Jerdon, or, where not no- ticed by Jerdon, in Hume's catalogue.	NAME.	Panjāb (between Jammu and Kashmir).	Kashmir (to the Zoji-lā Pass).	Ladak (to one march beyond the Pangong Lake).	Desert steppes (to the Karakash Valley).	Hill Yarkand (from the Karakash Valley to Sanju).	Plains of Yarkand.
7	<i>Gypaetus barbatus</i>	e	e	e	e	e	
8 bis	<i>FALCO HENDERSONI</i>	...	...	...	...	e	
13	<i>Hypotriorchis subbuteo</i>	o	o	o	...	...	e
17	<i>Tinnunculus alaudarius</i>	e	o	e	...	...	e
42	<i>Haliaetus leucoryphus</i>	o	...	...	...	...	e
46	<i>Buteo aquilinus</i>	e	...	...	...	...	
56	<i>Milvus govinda</i>	e	e	e	...	e	e
82	<i>Hirundo rustica</i>	o	e	...	...	e	e
91	<i>Cotyle rupestris</i>	o	o	e	...	e	
125	<i>Coracias garrula</i>	o	e	...	...	...	e
129	<i>Halcyon smyrnensis</i>	e	...	...	...	...	
134	<i>Alcedo bengalensis</i>	o	e	...	...	...	
136	<i>Ceryle rudis</i>	o	e	...	...	...	
154	<i>Picus himalayanus</i>	o	e	...	...	...	
199	<i>Cuculus canorus</i>	e	e	...	...	...	
243 bis	<i>Certhia familiaris</i>	...	e	...	...	...	
247	<i>Tichodroma muraria</i>	e	e	e	...	...	
249	<i>Sitta leucopsis</i>	...	e	...	...	...	
254	<i>Upupa epops</i>	e	e	e	e	e	e
257	<i>Lanius erythronotus</i>	e	e	...	...	...	
261	„ <i>cristatus</i>	...	...	...	...	...	e
262	„ <i>arenarius</i>	e	...	...	...	...	
273	<i>Pericrocotus brevirostris</i>	e	e	...	...	...	
288	<i>Tchitrea paradisi</i>	o	e	...	...	...	
298	<i>Hemichelidon fuliginosa</i>	o	e	...	...	...	
299 bis	<i>Butalis grisola</i>	...	...	...	e	...	
301	<i>Eumyias melanops</i>	o	e	...	...	...	
333	<i>Troglodytes nipalensis</i>	...	e	...	...	...	
341	<i>Hodgsonius phœnicuroides</i>	...	e	...	...	...	
343	<i>Myiophonus Temminckii</i>	e	e	...	...	...	
347	<i>Cinclus asiaticus</i>	o	e	...	...	...	
348	„ <i>cashmiriensis</i>	...	o ?	e	...	...	
349	„ <i>sordidus</i>	...	o ?	e	...	...	
351	<i>Monticola cyana</i>	o	o	e	...	...	

No. in Jerdon, or, where not no- ticed by Jerdon, in Linné's catalogue.	NAME.	Panjab (between Jammu and Kashmir).	Kashmir (to the Zoji-la Pass).	Ladakh (to one march beyond the Paugong Lake).	Desert steppes (to the Karakash Valley).	Hill Yarkand from the Karakash Valley to Saqui.	Plains of Yarkand.
351 bis	<i>Monticola saxatilis</i>		...	o	...	e	
356	<i>Geocichla unicolor</i>	o	e				
365	<i>Planesticus atrogularis</i>	o	e	e			
418 bis	<i>TROCHALOPTERON SIMILIS</i>		e				
425	" <i>lineatum</i>	...	e				
438	<i>Chattarrhæa caudata</i>	e	o				
444	<i>Hypsipetes psaroides</i>	e	e				
458	<i>Otocornis leucogenys</i>	o	e				
470	<i>Oriolus kundoo</i>		e	...	...	...	e
475	<i>Copsychus saularis</i>	e	o				
483	<i>Pratincola rubicola</i>	e	e	...	...	e	
486	" <i>farrea</i>	e	o				
492	<i>Saxicola atrogularis</i>	o	o	e	...	e	e
492 bis	" <i>HENDERSONI</i>	...	...	...	...	e	e
496 bis	<i>Ruticilla</i> { <i>rufiventris</i> , breed- <i>ing plumage</i> } <i>erythroprocta</i>	...	...	e	...	e	
499	" <i>erythrogaster</i>	...	o	e	...	e	
503	" <i>frontalis</i>	...	e				
*504	" <i>cæruleocephala</i>	e	e				
505	" <i>fuliginosa</i>	e	o				
506	<i>Chæmorornis leucocephala</i>	e	o				
514	<i>Cyanecula suecica</i>	o	o	...	e	e	
515	<i>Acrocephalus brunnescens</i>	o	e				
544	<i>Drymoipus longicaudatus</i>	e					
546 bis	<i>SUYA ALBOSUPERCILIARIS</i>	...	...	...	...	...	e
554	<i>Phylloscopus tristis</i>	o	o	e	...	e	
560	" <i>viridanus</i>	o	o	...	...	e	
566	<i>Reguloides proregulus</i>	o	e				
572	<i>Abornis xanthoschistos</i>	e	e				
583	<i>Sylvia curruca</i>	o	o	...	...	...	e
584	<i>Henicurus maculatus</i>	e	o				
590	<i>Motacilla luzoniensis</i>	...		e	e	e	
591	" <i>personata</i>	o	o	...	...	...	e
592	<i>Calobates sulphurea</i>	o	o	e			
594	<i>Budytes citreoloides</i>	o	e	e			
597	<i>Pipastes trivialis</i>	o	o	...	...	...	e
604	<i>Agrodroma Jerdoni</i>	e	o				
640	<i>Lophophanes rufonuchalis</i>	...	e				
644	<i>Parus monticolus</i>	o	e				
645	" <i>cinereus</i>	o	e				
646 bis	" <i>cyanus</i>	...	...	...	...	e	
652	<i>Accentor nipalensis</i>	...	...	e			
654	" <i>strophiatius</i>	...	...	...	...	e	
656	" <i>rubeculoides</i>	...	...	e			
658	<i>Corvus tibetanus</i>	...	...	e	e	e	e
661	" <i>intermedius</i>	o	e	e			e
665	<i>Colceus monedula</i>	o	e				
667	<i>Nucifraga multipunctata</i>	...	e				
668 bis	<i>Picu bactrianu</i>	...	...	e	...	e?	
669	<i>Garrulus bispecularis</i>	e	e				

* Female only figured.

No. in Jerdon, or, where not no- ticed by Jerdon, in Flum's catalogue.	NAME.	Punjab (between Jammu and Kashmir).	Kashmir (to the Zoji-la Pass).	Ladak (to one march beyond the Pangong Lake).	Desert steppes (to the Karakash Valley).	Hill Yarkand from the Karakash Valley to Sanju.	Plains of Yarkand.
672	<i>Urocissa flavirostris</i>	e	e				
679	<i>Fregilus graculus</i>	...	e	e		e	
679 bis	<i>PODOCES HENDERSONI</i>	...	...	...	...	...	e
679 tris	" <i>HUMILIS</i>	...	...	...	...	e	
680	<i>Pyrhocorax alpinus</i>	...	...	e			
681	<i>Sturnus vulgaris</i>	o	o	...	...	...	e
682 bis	" <i>NITENS</i>	o	e				
684	<i>Acridotheres tristis</i>	e	e				
706	<i>Passer indicus</i>	e	e	e			
708	<i>Passer cinnamomeus</i>	...	e				
710	" <i>montanus</i>	...	...	...	...	...	e
712	<i>Emberiza leucocephala</i>	...	e				
713	" <i>cia</i>	e	e	o			
725	<i>Hesperiphona icteroides</i>	...	e				
732	<i>Pyrhula aurantiaca</i>	...	e				
737	<i>Carpodacus rubicilla</i>	...	...	e	...	e	
738	" <i>erythrinus</i>	o	e	e			
741	<i>Propasser rhodochlamys</i>	...	o	e			
751	<i>Metoponia pusilla</i>	...	...	e			
751 bis	<i>Linota brevirostris</i>	...	...	...	..	e	
752 bis	<i>Montifringilla hæmatopygia</i>	...	...	e	e		
752 tris	" <i>Adamsi</i>	...	...	e			
753	<i>Fringilauda nemoricola</i>	...	e	e			
761	<i>Calandrella brachydactyla</i>	o	e	e	e		
761 tris	<i>Melanocorypha torquata</i>	e					
764	<i>Otocoris longirostris</i>	...	...	e	e		
766	<i>Alauda triborhyncha</i>	...	...	e			
767	" <i>gulgula</i>	o	e				
769 tris	<i>GALERIDA MAGNA</i>	...	...	...	...	...	e
778	<i>Sphenocercus sphenurus</i>	e					
787	<i>Palumbæna Evorsmanni</i>	o	o	e	e		
788 bis	<i>Columba neglecta</i>	...	o	e			
789	" <i>rupicola</i>	...	...	e	e		
790	" <i>leuconota</i>	...	...	e			
792	<i>Turtur vitticollis</i>	o	e				
792 bis	" <i>auritus</i>	...	...	...	...	...	e
802 bis	<i>Syrnhaptes tibetanus</i>	...	...	e	e	e	
816	<i>Tetraogallus himalayanus</i>	...	...	o	...	e	
816 bis	" <i>tibetanus</i>	...	...	e	...	e	
820 bis	<i>Caccabis pallescens</i>	...	...	e			
820 tris	<i>Caccabis pallious</i>	...	...	...	...	e	
829	<i>Coturnix communis</i>	o	o	...	e	...	e
845	<i>Charadrius fulvus</i>	o	o	...	...	...	e
847	<i>Ægialitis mongolicus</i>	...	...	...	e	e	
851	<i>Vanellus cristatus</i>	o	o	...	...	...	e
860	<i>Strepsilas interpres</i>	...	...	...	...	...	e
869	<i>Gallinago solitaria</i>	o	o	e			
880	<i>Philomachus pugnax</i>	o	o	...	...	...	e
882	<i>Tringa subarquata</i>	...	...	...	...	...	e
885	" <i>Temminckii</i>	o	o	...	...	...	e
892	<i>Actitis ochropus</i>	o	o	...	...	...	e
893	<i>Actitis hypoleucos</i>	o	e	...	e		

No. in Jerdon, or, where not no- ticed by Jerdon, in Hume's catalogue.	NAME.	Panjab (between Jammu and Kashmir).	Kashmir (to the Zoji-lá Pass).	Ladák (to one march beyond the Pangong Lake).	Desert steppes (to the Karakash Valley).	Hill Yarkand from the Karakash Valley to Samju).	Plains of Yarkand.
894	Totanus glottis	o	o	...	...	...	e
901	Hydrophasianus sinensis . . .	o	e				
903	Fulica atra	o	e	e			
905	Galinula chloropus	o	e				
909	Porzana maruetta	...	o	...	e		
910	„ pygmaea	o	o	...	...	e	
920	Melanopelargus episcopus . . .	o	...	...	...	...	e
923	Ardea cinerea	o	e				
935	Ardetta minuta	...	e				
937	Nycticorax griseus	o	e				
954	Casarca rutila	o	o	...	e	e	
961	Chaulelasmus streperus	o	e				
964	Querquedula crecca	o	o	e	e		
969	Aythya nyroca	o	e				
972	Mergus castor	...	...	e			
975	Podiceps minor	o	e				
978 bis	Larus argentatus	...	e				
980	Xema brunneicephala	...	...	e			
981	„ ridibunda	...	e				
984	Hydrochelidon indica	...	e				
986	Sterna fluviatilis	...	...	...	...	...	e
988	Sternula minuta	o	o	...	...	...	e

*Species not observed by the Expedition, but figured in
this work.*

- 158 *Picus scindianus*
 439 *Chattarhæa earlii*
 543 *Drymoipus inornatus*
 573 *Abrornis albosuperciliaris*
 297 *Alseonax latirostris*

CHAPTER II.

DETAILED LIST OF THE BIRDS OBSERVED BY THE YARKAND
EXPEDITION OF 1870.

THE numbers prefixed are those of Dr. Jerdon's work on the Birds of India, or, where the species is not included in this latter, of Hume's Catalogue. Each author is responsible for the observations to which his initials are appended.

7. *Gypaetus barbatus* (Linn.).

This bird was seen every day from Jamu to the plains of Yarkand and Sanju. It was the only large raptorial bird noticed beyond Lé, and on the Lingzi Thang plateau almost the only living creature except a species of Antelope, of which no specimens were obtained. It was usually observed at sunrise, perched on some precipitous cliff until the sun was well up and the air grew warm, when it commenced sailing along the faces of the cliffs, passing and repassing the same spot; generally, however, they were in pairs, keeping near to each other. There is usually a pair to be seen near every village in Ladák. From Lé to Sanju the whole route is strewn with dead horses in various stages of desiccation, the climate being too cold and dry to admit of putrefaction, but the Laemmergeier was never observed feeding on these, except on one occasion. This was at Drás on the 25th October, and here, after a male bird of the year (expanse 96 inches, length 42.25) had been shot on a carcase, the old birds returned to it several times, perching on large stones near at hand, even after they had been repeatedly fired at. As a rule they were not so bold; they seldom came near the camp, but commonly perched on some neighbouring rock, apparently waiting for any offal that might be left when the camp moved on. [G. H.]

8 (*bis*). **Falco Hendersoni**, Hume.—The Shanghar.

(Plate I.)

A single specimen, a male, of this species, which Mr. Hume considers to be the Shanghar of Eastern falconers, was shot on the 14th September, 1870, at Kitchik Ylák in undulating country just north of the Sanju Pass, and 40 miles from Sanju, where the plains of Yarkand may be said to commence. There are no trees or bushes about, but the climate here is comparatively moist, and there is abundance of short grass, on the upper borders of which thousands of the Thibetan Snow-pheasant (*Tetraogallus tibetanus*) were observed. Other Falcons, apparently of this species, were noticed in the immediate neighbourhood, but it was never seen elsewhere, and only one specimen was obtained. [G. H.]

The best description that can be given of the general appearance of the upper surface is that it resembled that of a female Kestrel. Below the bird is almost spotless, except on the flanks. The cheek stripe is very long and narrow. The bill short, with a slight festoon and a rather blunt tooth. The tarsus and toes short, the former feathered in front for three-fifths of its length, the claws comparatively short, and singularly blunt for a Falcon. But it must be borne in mind that where this specimen was found not a trace of a tree is to be seen, and the bird must at all times perch on rocks or amongst shingle. Moreover, it is probably a very old male, and these facts may account for the bluntness of the bill-tooth and of the claws. Neither of the first primaries are fully developed, and it is impossible, therefore, to ascertain what proportion they would bear to the second. In some respects, this species reminds us of the Gyr Falcon, in others of the Saker, but in many points it differs so far from any known species that some ornithologists will doubtless consider it deserving of generic separation.

Long ago Major Delmè Radcliffe wrote to me as follows : "Have you ever got an enormous Falcon of the Saker type 'Charkh,' an adult marked throughout like a young female Kestrel, except that the breast is pure white, save only a very few bell-shaped spots? I got one once; at

that time the Viceroy was at Delhi with a large following, and several native nobles came to the durbar. I showed this Falcon to many of them and to all their falconers, and only one, an old man from Khyrabad in Oudh, admitted having seen the like before."

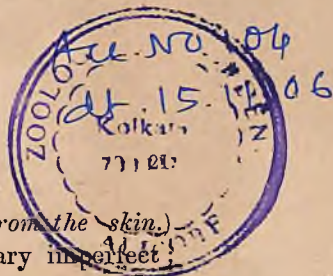
There is, we think, no question, that the bird referred to belonged to the present species, and that it is a rare visitant to Northern India.

Dr. Jerdon has united my new species to *Falco milvipes* of Hodgson. Whether this will turn out to be correct I cannot say, but we have at present in India Mr. Hodgson's drawings of the last-named bird, and it seems to me to be entirely distinct. Mr. J. H. Gurney thinks that *Falco Hendersoni* may be only a stage of *F. sacer*, and I am indebted to his kindness for the following note: "The specimen called *F. Hendersoni* is, I think, the same species as that represented in Mr. Hodgson's collection of drawings in the British Museum under the title of *F. milvipes*. I believe it to be a plumage which *F. sacer* attains at a certain period, probably when about five years old. Whether it always attains it I cannot, however, say. Dr. Bree, in vol. i. of his 'Birds of Europe' (p. 32), speaks of a similar specimen then living in the Zoological Gardens, which assumed most of these transverse markings while in the gardens. Dr. Bree gives the locality of this specimen as 'Turkey,' which is an error, as it really came from Tarsus. It lived at the gardens between two and three years, and is now in the Norwich Museum; the sex was not ascertained, but it seems to be a male. It only differs from *Falco Hendersoni* in being less rufous on the head and nape and more spotted on the breast, and the tail is not quite so distinctly barred. Similar specimens obtained in Nepal by Mr. Hodgson are in the British Museum. The Norwich Museum contains two specimens, which are evidently passing from the ordinary plumage of *F. sacer* into this striated dress. These are a male from the Volga and a male from Athens, judging by the measurements."

DIMENSIONS OF MALE.*—(The length was recorded from

* In this and all other cases in which the contrary is not expressly

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the fresh bird, the other measurements are from the skin.) Length, 20 inches; wing, 14; first primary imperfect; third 0.05 shorter than second; fourth 0.8 shorter than second; fifth 1.6 shorter than second. Tail from vent, 7.5; outer tail feathers, 0.7 shorter than central ones. Tarsus, 2.15; feathered for 1.3 inch; middle toe to root of claw, 1.7; its claw, straight from root to point, 0.63. Inner toe, 1.2; its claw, 0.72; outer toe, 1.29; its claw, 0.64; hind toe, 0.87; its claw, 0.8. Bill at front, straight from edge of cere to point, 0.84; from gape, 1.36; height at front at margin of cere, 0.5; breadth of cere on culmen, 0.2.

DESCRIPTION. The *cere* and *feet* appear to have been bright yellow, the claws black, the bill pale blue, darker towards the tip, and faintly tinged with yellowish at the junction with the cere at the gape, and at the base of the lower mandible.

Plumage. Lorcs white, with a narrow dark streak running along the lower margin of the orbits; forehead rufescent white, the feathers dark shafted, and the posterior ones blending with those of the crown and occiput, which are dark brown broadly margined with bright rufous. Immediately above the eye is an indistinct narrow whitish supercilium, the feathers of which are dark-shafted. Beyond the eye this supercilium is continued as a broad, ill-defined, bright rufous band round the nape, the feathers of which are narrowly dark shafted. The feathers of the posterior halves of the sides, and also of the back of the neck, bright rufous and dark brown, the centres of the feathers being brown and the margins rufous. Upper back, scapulars, coverts, tertiaries, and secondaries, brown, dark on the interscapular region and lesser coverts, paler and greyer elsewhere, and all broadly barred with bright rufous; lower back and rump ashy, with broad bars of pale rufous; upper tail-coverts similar but browner, and the pale rufous more or less replaced by fulvous white. Tail-feathers ashy brown, tipped whitish or rufous, and with ten or eleven

mentioned, all measurements are from the fresh bird, made by Dr. Henderson, myself, or some of my correspondents, and all descriptions are from Indian and Yarkand killed specimens, either procured by Dr. Henderson or contained in my museum.

broad regular transverse bars of dull rufous ; cheeks dull rufescent white ; ear-coverts mingled rufous and dark brown. A rather long, very narrow, dark brown cheek stripe, from the gape, running down either side of the throat: chin, throat, breast, abdomen, vent, and lower tail-coverts white, faintly tinged with rufous cream colour on the breast and abdomen, with dark brown points to a few of the feathers of the sides of the breast, and with a few brown drop-like spots on the abdomen and lower tail-coverts. Sides and flanks rufescent white, with broad dark brown transverse bars. Primaries, brown on the outer webs and at the tips ; the first quill narrowly margined on its outer web with bright rufous, and the rest with imperfect bars of the same colour on their basal halves. The inner webs above the tips are white, becoming rufescent towards the shafts, from which numerous imperfect tooth-like brown bars project over somewhat less than half the breadth of the web. The first quill is strongly notched on its inner web about $2\frac{1}{4}$ inches from the tip ; the second and third are similarly but much less perceptibly notched. The second quill is perceptibly emarginate on the outer web. [A. O. H.]

13. *Hypotriorchis subbuteo* (Linn.).

The Hobby was not at all uncommon about Yangi Bázár, eight miles from Yarkand ; it was always seen hunting over long grass or fields. Two quite young birds were obtained about ten miles from Yarkand, and had probably been hatched and reared in the immediate neighbourhood. [G. H.]

Curiously enough it was never noticed by the expedition in any other locality. I believe the fact to be that this species breeds beyond the Himalayas, and only visits these in the autumn and winter, descending occasionally during the latter season to the plains. [A. O. H.]

17. *Tinnunculus alaudarius* (Gray).

The Kestrel was very common in Yarkand, and specimens were obtained in June at Kargil, in Ladák. The Tartar name for the Kestrel is *Turumtoi*, very similar to the

Northern Indian name (*Turumtee*) for *Chiquera typus*, Bp. [G. H.]

Both Yarkand and Ladák birds are of the common European type—comparatively pale, full-sized birds, very different from the small, deep-tinted race, which is a permanent resident in the Neilgheries and the Himalayas south of the Snowy Range. Strange to say, this race rarely visits the plains; it seems to remain for the most part nearly all the year round in the localities in which it breeds, while the innumerable Kestrels of the European type that hover over our plains during the cold season seem to come from beyond the Snowy Range. In June or July you meet with comparatively few Kestrels in the hills south of the high snowy ranges, and what are met with are all breeding, and belong to the deep-tinted race. In October these very hills abound with Kestrels, the great majority being of the European type; and then again by the end of November these have almost entirely disappeared, having passed down to the plains. [A. O. H.]

42. *Haliaetus leucoryphus* (Pallas).—Pallas' Sea Eagle.

Several specimens of this species were noticed between Yarkand and Kargallik. It was always in the neighbourhood of water, and usually perched on the tops of earthy cliffs overlooking some stream. [G. H.]

No specimen of this species was preserved, but there is no doubt of its identity. It has already been observed in the Crimea and other parts of the Black Sea, and is said to be common in the neighbourhood of the Caspian Sea. [A. O. H.]

46. *Buteo aquilinus* (Hodgson).—The Upland Buzzard.

A specimen which must belong to this supposed species was shot on the 17th November at Dharmasál, near Saidábád, on the road from Kashmir to the Plains. It was a female. In plumage it precisely resembles one of the stages of *Buteo ferox*, and in its general dimensions (length, 25·5; tail, 10·5; expanse, 62·25) it agrees perfectly with that species; but while the tarsus is 3·4 in length, it is feathered in front for 2·2, and the bare portions of the tarsus and the foot are entirely covered with comparatively

small reticulate scutæ. There are absolutely no traces of transverse scutæ.

This, then, it would appear, is unquestionably a specimen of Hodgson's and Blyth's species, and exhibits the very characteristics on which they rely; but when we compare this specimen with a large series of *B. ferox* it seems very doubtful whether either of these supposed characteristic points are of specific value. We find that the distance to which the tarsus is feathered in *B. ferox* varies very greatly in different individuals, and although we possess at present no single example of this latter species in which the tarsus is feathered *quite* so far down as in this specimen, we find several in which the extent of feathering falls but *very* slightly short of that of the present bird.

As regards scutellation of the tarsus and foot, we find that it varies from broad perfect transverse scutæ covering the whole front of the tarsus, to perfectly reticulate scales, in which no trace of a single transverse scuta is observable, and every intermediate form is observable.

Mr. Gurney, who has examined this example, and in company with Mr. G. R. Gray has compared it with Hodgson's specimen of *Buteo leucocephalus* = *aquilinus* in the British Museum (referred to by Dr. Jerdon in the *Ibis*, 1871, p. 339), finds them identical, except that the plumage of the specimen in the British Museum is slightly more fuliginous than that of the present bird. [*A. O. H.*]

56. *Milvus govinda* (Sykes).

This species does not occur between Ladák and Shahidulla. Here one was seen, and further on it was occasionally met with. [*G. H.*]

82. *Hirundo rustica* (Linn)..

Was found in great abundance in Kashmir in June, where it was breeding, and in the plains of Yārkand it was common all the way from Sanju to the city. At Oi Togrāk, in August, they were collecting in flocks and perching in vast numbers on the mulberry-trees, probably preparatory to migrating, because on the return of

the Expedition to the same locality in September not one was to be seen.

The Yärkandis, who call the bird *Kaldergoch*, said that it disappeared entirely in the cold season. [G. H.]

91. *Cotyle rupestris* (Scop).

The Crag Martin was often seen; it was not uncommon near Sanju, was met with both going and returning on the banks of the Indus near Lé, and was numerous about Drás. [G. H.]

In all these localities, as well as on many of the higher hills south of the snowy range, it seems to a great extent to be a permanent resident, not at any rate migrating *en masse* from the country, but, as a rule, only retreating lower down the valleys in the cold weather; some few, however, during the latter season being met with in the higher hills of Central India and Rajpootana. On the Neilgherries there appears to be a permanently resident colony. [A. O. H.]

125. *Coracias garrula* (Linn.).

The European Roller, so common in Kashmir, especially in the valleys and along the courses of the rivers, appears to be a rare bird in Yärkand, where, however, it probably breeds, as a young bird was there obtained. The Turki name is *Ko Karga*. [G. H.]

129. *Halcyon smyrnensis* (Linn.).

The specimens of this species brought back by the Expedition were obtained at the foot of the hills on the road from Kashmir to the Plains of the Panjáb. This species nowhere, we believe, extends into the Himalayas, and it was never noticed in Kashmir by Dr. Henderson. [A. O. H.]

About Púñch, the only place at which I met with this Kingfisher, it was common; it was not always near water, and was generally perched on a solitary tree. When flying it has a very harsh cry, something like that of a Woodpecker. One I shot measured—length, 11·5; tail from vent, 3·62; expanse, 17; wings when closed reached to within 2·25 of end of tail. Irides brown. [G. H.]

134. *Alcedo bengalensis* (Gm.).

Our common Indian Kingfisher was excessively plentiful in Kashmir, where it goes by the names of *Tint Konu* and *Tuntu*, but was never observed after crossing the Zoji-lá Pass. [G. H.]

Of the numerous specimens procured in Kashmir two are young males. We do not think that the peculiar coloration of the under parts and shortness of the bills of the young in this species has been noticed. Dr. Jerdon says, "In young birds a bluish-green tinge is the prevailing tint; in adults, a pure blue." This is true to a certain extent, but this difference is not very marked, nor absolutely constant, as we have quite young birds almost as blue as any adult, and a breeding female caught on her eggs with as green a tinge as any young one.

The marked distinctions between young and adult are:—

First, the colour of the base of the throat and upper breast, which in the adult is bright ferruginous, in the young a dusky salmon, all the feathers broadly tipped with greyish green, which colour, owing to the overlapping of the feathers, is the only one visible.

Second, the size of the bill, which in the fully adult male will measure from 1·6 to 1·7 (from forehead to point); while in the young, even after they have left the nest and have begun to forage for themselves, it will measure less than one inch. I may add that in the young the lower breast, abdomen, flanks, lower tail-coverts, and feet are all much more dingily coloured than the same parts in the adult.

Since writing the above I have received the number of Mr. Sharpe's excellent monograph* of the Kingfishers con-

* There is one point in this monograph which surprises me. Mr. Sharpe, I think, figures a specimen of *Ceryle guttata*, killed by me, which I gave to Captain Marshall, pointing out the distinction between the sexes in this species, but Mr. Sharpe says that the two sexes are alike; whereas in adults the one has invariably the under-wing coverts white, the other has them pale cinnamon colour. I have killed and dissected numbers, and can therefore speak positively as regards this point. [A. O. H.]

taining a notice of this bird, in which the difference in the plumage of the young is pointed out. I see that he says very little of the nidification of this species, and I may therefore mention that it breeds both in Northern and Southern India from March to May, in holes in banks, often not above 18 inches in depth, laying, according to my experience, from four to six eggs. The latter are pure white, excessively glossy, and nearly spherical; they are decidedly smaller than those of *A. ispida*, and measure from 0.75 to 0.82 in length, and from 0.65 to 0.71 in breadth. They closely resemble in size and shape the eggs of *Merops viridis*, but they are more glossy even than these, and this is pretty apparent when large series of each are placed in juxtaposition. [*A. O. H.*]

136. **Ceryle rudis** (Linn.).

The Pied Kingfisher was met with not uncommonly along the Jhelum in Kashmir. [*G. H.*]

It does not extend into Ladák, nor has it ever been found in the hills at any considerable elevation. [*A. O. H.*]

154. **Picus himalayanus** (Jard. and Selb.).

This Woodpecker is very common in Kashmir, but, as might be expected, does not cross the Zoji-lá Pass. [*G. H.*]

The Kashmir specimens of this species almost invariably have the under surface much paler than in the typical *P. himalayanus* of the more eastern portions of its native hills. In one specimen, procured in the Sind Valley, the under parts resemble those of *P. major* of Europe, and are almost as white as those of *P. scindianus*. This latter is common in Bháwalpur, and throughout the salt range occurs right up to Torbela on the Indus, and certainly the Kashmir race looks at first sight something like a connecting link between *P. himalayanus* and *P. scindianus*. This latter bird has never, I believe, been figured; and ornithologists will, I hope, welcome a careful portrait (Pl. II.) of this pretty species. I give the following note of a fine female *P. himalayanus*. Length, 9; tail from vent, 3.5; expanse,

15.5; wings when closed reach to within 1.5 of end of tail. Legs and feet nearly black; bill bluish; irides brown. [A. O. H.]

199. *Cuculus canorus* (Linn.).

The common Cuckoo was met with on the upward journey in May and June, along the whole road from Jamu up to the Banihál Pass, and thence, *viâ* Srinagar and the Sind Valley, to the Zoji-lá Pass, where the last specimen was seen, chanting its "note of dread to husbands' ears" from a budding birch-tree, close to the snow, and at an elevation of some 11,000 feet. Beyond this it was neither seen nor heard, either in Ladák or Yärkand, and by the time the Expedition reached Kashmir on its return the Cuckoo had departed for the plains of India. [G. H.]

243 (*bis*). *Certhia familiaris** (Linn.).

The Expedition met with this species in Kashmir, but nowhere else; neither Ladák nor Yärkand, nor the intervening mountain deserts, are favourable to the existence of tree-haunting species. [G. H.]

Adams says that *C. himalayana* is common in Kashmir;

* *Certhia familiaris*, Linn.

DIMENSIONS.—*Male*. Length, 5.4; expanse, 8; wing, 2.6; bill, along curve, 0.6; tail, 2.5; tarsus, 0.6.

DESCRIPTION.—Bill blackish-brown, yellowish-white at base of lower mandible; legs and feet fleshy-brown; claws yellowish, horny.

Plumage.—Crown darkish brown, with broad central fulvous or brownish-white streaks; nape, back, and scapulars paler brown, the feathers still more broadly centred with dull yellowish-white; the rump pale ferruginous. The quills hair-brown, paler on the inner webs, most of them tipped whitish, and all but the exterior two or three quills with a broad band of pale dingy ferruginous, and most of the quills with a yellowish tinge on the outer webs towards the tip. The lesser coverts are mingled light and dark brown and fulvous white; the secondary coverts are brown, tipped with dull white on the outer web; the primary coverts deep brown, with a similar but smaller spot at the tip. The tail is a pale yellowish-brown, duller and less yellow on the inner webs. A conspicuous white eye streak runs from near the nostril over the eye and ear-covert. The whole of the lower parts are silky, but not very pure white, slightly greyish on the sides and towards the vent.

Female similar, but somewhat smaller, and slightly paler on the upper surface. [A. O. H.]

but according to my experience, derived from the examination of a great number of collections made there, I should say that it was rare, and that its place was almost entirely usurped by the European Creeper.

Of a specimen which I take to be a female, shot in the Sind Valley, the following note was made at the time: "Length, 5·12; tail from vent, 2·5; expanse, 7·5; wing, 2·4; wings when closed reach to within 12·25 of end of tail. Legs, feet, and bill fleshy, the latter dusky on upper mandible. Irides brown." [A. O. H.]

247. *Tichodroma muraria* (Linn.).

This species was almost daily noticed from near Bimbur, right through Kashmir and Ladák to beyond Lé, but it never occurred after leaving the Pángong Lake. On the return journey the bird had commenced finding its way down to those portions of the plains which lie near the foot of the hills, and on the day of my return I killed a specimen at Lahore.

I give the following dimensions of the male killed at Lahore. Length, 6·5; tail from vent, 2·12; expanse, 11·5; wings when closed reach to within 0·25 of end of tail. [G. H.]

During the cold weather solitary stragglers are occasionally killed even in the Central Provinces. [A. O. H.]

249. *Sitta leucopsis* (Gould).

The White-checked Nuthatch was only met with by the Expedition in the Upper Sind Valley, Kashmir. Here it was not uncommon, but it affected so persistently the tops of the loftiest trees that very few specimens were obtained. The measurements of a male are: Length, 5; tail from vent, 1·75; expanse, 8·5; wings when closed reach to within 0·38 of end of tail. Bill black, blue beneath. Irides brown. [G. H.]

This species is very common in *suitable* localities (viz., pine forests at an elevation of about 9000 feet) everywhere in the Himalayas south of the snowy range, from Nagkanda behind Simla, to the Pesháwar sanatorium Thundiani, in

Huzara. In Kashmir it is found at times at a much lower level, but Kashmir is *north* of the first snowy range. [A.O.H.]

254. **Upupa epops** (Linn.).

The Hoopoe was seen almost daily the whole way from Lahore to Yārkand city. In the barest deserts, where the Ravens that travelled with the camp were almost the only living things to be seen, the Hoopoe would occasionally be met with; and again on the highest *passés* it was noticed, apparently entirely at its ease. It was met with at Lak Zung, overlooking the Lingzi Thang, and in a former journey I saw it at the very top of the Tugulung Pass, (16,000 feet). [G. H.]

Specimens from Kashmir, Ladāk, and Yārkand are perfectly identical; all belong to the typical *U. epops*, as distinguished from *U. nigripennis* or *U. ceylonensis*, by the white subterminal crest band, paler upper surface, and somewhat larger size. [A. O. H.]

257. **Lanius erythronotus** (Vigors).

This common Indian Shrike abounded in Kashmir, but was not noticed after crossing the Zoji-lā Pass. [G. H.]

All the specimens obtained belonged to the typical form, but I have received specimens of Blyth's *L. caniceps* from Kashmir and many other parts of the Himalayas, as well as from Southern India. It is very questionable whether this race deserves specific separation; characteristic specimens of the two races appear very distinct, but every intermediate form seems to occur. [A. O. H.]

261. **Lanius cristatus** (Linn.).

This species, called in Turki *Urulia*, is very common in both the hills and plains of Yārkand, where it is tamed by the people and carried about in little cages and on the hand, just as Bulbuls (*Pycnonotus pygæus* and *P. pusillus*) are in India. [G. H.]

All the specimens obtained are in poor condition; four are young birds, and the fifth, an adult female, has lost its bill. I was at first inclined to identify these specimens as

the true *L. phænicurus* (Pallas), corresponding as they do with his brief description (except in having the rump and tail coverts dull instead of intense rufous), and differing as they do from the ordinary type of *L. cristatus* obtained in the cold weather in the plains of India, in the almost entire absence of the superciliary stripe, and in the somewhat greyer tint of the upper surface. After comparison, however, with a large series of *L. cristatus* I found that this species is very variable in these respects, and that no valid grounds existed for separating these specimens as distinct from *L. cristatus*. Structurally they are identical. I should not be at all surprised if Pallas' *L. phænicurus* was founded on a male *L. cristatus* in breeding plumage. We now know the latter goes as far north as Yârkand to breed, and probably extends its migrations much further.

This species was never met with by the Expedition out of Yârkand—it is one of those birds that migrate north-west and south-east, and not north and south. I have never met with it in the N.W. Provinces or the Panjâb west of the Ganges, except in the interior of the Himalayas or in the Terai or Dhoons at their feet, on its upward or downward journey. It may be that dry plains are unsuitable to it and moisture and luxuriant vegetation a necessity, in the cold weather at any rate. Certain it is that throughout the dry bare country of Upper India *L. cristatus* is unknown, and is replaced by the next species. [A. O. H.]

262. *Lanius arenarius* (Blyth). (Pl. III.)

The Desert Shrike was only observed by the Expedition on its return journey, in the plains of the Panjâb between Kashmir and Lahore. [G. H.]

Where this species breeds is as yet unknown; it is never met with in Kashmir, and probably resorts for its honeymoon to Afghanistan and Persia—there is really no accounting for tastes! Alike in colour and in the regions which it affects during the cold season is this desert bird. It is a very distinct species, and we take this opportunity of figuring it, as we believe, for the first time. [A. O. H.]

273. *Pericrocotus brevirostris* (Vigors).

This beautiful little bird, so common throughout the plains of Upper India during the cold season, was met with throughout Kashmir, from Jamu to the foot of the Zoji-lā Pass, in May and June. [G. H.]

This species breeds in Kashmir and in the valleys of Bias in Kulu, and the Suttlej above Kotegurh. [A. O. H.]

288. *Tchitrea paradisi* (Linn.).

The Paradise Flycatcher was very abundant in Kashmir in May and June wherever there were large shady trees. It was seen at Vernāg, and was very plentiful about Srinagar and the Sind Valley as far as Gond. It was never seen after leaving Kashmir. Two nests were found, both in the forks of trees—one on an apple-tree, the other on a mulberry tree—and high up on small branches. There was a single egg in one nest and in the other four. The nests were made of very fine hair-like strips of mulberry bark, with grass, moss, and cobwebs outside. [G. H.]

Most of the specimens obtained, both males and females, are in the chestnut plumage, or changing from the chestnut to the white; one male—with largely developed testes, obviously breeding—has the primaries and secondaries white and black, the tertiaries and the whole of the body and tail, except one of the central feathers, chestnut; one of the long tail-feathers is pure white just dabbed over with chestnut on its outer web towards the point. It is quite clear that the change of plumage is effected not by a moult, but by a gradual development of colour in the white feather. The object of the change is apparently to render the birds less conspicuous during the breeding season. [A. O. H.]

I have already fully described the nest and eggs of this species in the *Ibis* (cf. Birds Nesting in Bareilly in the Rains.) [A. O. H.]

298. *Hemichelidon fuliginosa* (Hodgson). (Pl. IV.)

Specimens of this curious Flycatcher were obtained at Srinagar. [G. H.]

Although very common throughout the lower Himalayas south of the first snowy range from Darjeling to Murree, this species does not appear to have been ever figured as yet. Nay, more, a doubt seems to exist as to which bird is *Hemichelidon fuliginosa* and which *Alseonax terricolor* (Hodgs.).* To the kindness and great liberality of Mr. Hodgson, I am indebted for the loan of his most valuable drawings and notes on this and several hundred other species, and I now hope before long to be able to set at rest all doubts as to the identity of numerous species first described by Mr. Hodgson, but which, like all the *Horeites* and *Horornis* groups, must be figured before we can be certain of them, and in regard to which I may safely say that no one living—except, perhaps, Messrs. Blyth, Gray, and Hodgson—have any certain knowledge as to which species ought to bear which specific name. I also give a figure of the southern species (Pl. V.),

*Hemichelidon fuliginosa.**Alseonax latirostris.*

supposed to be identical with *A. latirostris* (Raffles).
[*A. O. H.*]

299 (*bis*). ***Butalis grisola*** (Linn.).†

Of the spotted grey Flycatcher, or Cherry Chopper, a single specimen was obtained on the 22nd of September, in an

* Mr. Sharpe has compared the specimen sent home by me, and figured in the adjoining plate, with several of Hodgson's typical specimens in the British Museum, and pronounces them identical. He thinks my bird is not quite adult.

† *Butalis grisola* (Linn.).

DIMENSIONS (the females are slightly the smallest).—Length, 6 to 6·3; expanse, 10 to 10·5; wing, 3·25 to 3·45; tail from vent, 2·75 to 3; tarsus, 0·6.

DESCRIPTION.—Bill black, dark fleshy at base of lower mandible; legs and feet blackish-brown; iris deep brown; interior of mouth orange.

Plumage.—The lores and feathers immediately above the nostrils

absolute desert some 14,000 feet above the sea level, at the foot of the Suket Pass, Ladák, a few miles south of what may be considered the boundary of Yārkand. The thermometer stood at 23° Fahrenheit when the bird was shot. The sex of the specimen obtained was not recorded; the only notes made at the time were as follows: Length, 6.25; the tail from vent, 3; the expanse, 10.5. The legs and feet dark ashy, bill blackish, fleshy at base of lower mandible. Iris dark brown. [G. H.]

The plumage of this specimen is a shade paler than that of European and Indian specimens of the same species with which we compared it; in other respects the birds were absolutely identical. I may mention here that since procuring the specimen, which I sent for comparison to Mons. Jules Verreaux, a notice of which has appeared in the *Ibis*, I have received several other specimens from the Sambhur Lake and other parts of Western Rajpootana, proving that the European Flycatcher is a regular winter visitant to Western Continental India. [A. O. H.]

301. *Eumyias melanops* (Vigors).

Of this very common Flycatcher only a single specimen was observed, and that in Kashmir. [G. H.]

The bird is by no means so plentiful in this latter province as in other low Himalayan Valleys, and beyond the Zoji-lá the route lay through country little suited to Flycatchers. [A. O. H.]

dingy fulvous white; head, nape, cheeks, ear-coverts, back, and scapulars, pale earthy or greyish-brown; the feathers of the head with darker brown central streaks not extending to the tips, and those of the forehead tinged with the fulvous colour of the lores. The rump in some uniform with the back, in others slightly darker. Wings and tail brown, paler and greyer on the tertials and laterals, all the feathers margined with brownish white, the greater secondary coverts and tertials most broadly so, the tail-feathers, except the exterior lateral ones, very inconspicuously so. Lower parts white, tinged with fawn colour towards the vent, and with narrow inconspicuous grey-brown streaks on the breast. Axillaries and wing lining very pale rufous fawn, sides and flanks tinged faintly with the same colour and dull fulvous. [A* O. H.]

333. *Troglodytes nipalensis* (Hodgson).

The Himalayan Wren appears to be rare in the valleys of Kashmir. Only a single specimen was seen (and obtained), and this in the Sind Valley in October. It was never met with—as, indeed, might have been expected—beyond the Zoji-lá. The length of a male shot in the Sind Valley, as noted at the time, was 3·75, its expanse 6, the distance by which the close wings fell short of the end of the tail 0·62. Legs, feet, and bill, dark brown. [G. H.]

341. *Hodgsonius phoenicuroides* (Hodgson). (Pl. VI.)

A single specimen of this remarkable, and, as we believe, hitherto unfigured species, was obtained in Kashmir at the head of the Sind Valley. It frequents the banks of streams, and is entirely insectivorous. [G. H.]

In its affinities it is very Rutililline, and we question much the propriety of the position assigned to it by Dr. Jerdon. The latter author only knew of it from Sikhim, and it is not very uncommon in the neighbourhood of Darjeling; but I have obtained it from the valley of the Sutlej, near the Wangtu bridge, and, besides the present specimen, have seen others from Kashmir, collected by the Marquis of Huntly and Col. Maister, R.A. [A. O. H.]

343. *Myiophonus Temmincki* (Vigors).

The Yellow-billed Whistling Thrush, so common throughout the lower Himalayas south of the snowy range, was met with abundantly from the foot of the Hills leading into Kashmir right up to the foot of the Zoji-lá Pass. Wherever there is running water below 6000 and above 2000 feet, there this jocund songster is to be heard morning and evening, or seen perched upon some torrent-girdled stone or stream-overhanging rock. The following measurements of a female were recorded in the flesh. Length, 13·5; tail from vent, 5·5; expanse, 22; foot, greatest length, 2·5; wings, when closed, reach to within 2·75 of end of tail. [G. H.]

Except amongst the Bluteas and Lepchas, whose names no one can be expected to know properly, the Hill people usually call this bird *Kastoora*, but at a little distance it looks perfectly black, and the Kashmiris call it *Kao Kooliu*, which, for the benefit of etymologists, I venture to suggest, can only signify "The Crow of illustrious descent." [A. O. H.]

347. *Hydrobata asiatica* (Swainson).

The Indian Dipper was noticed to be very common on the return journey all the way from Kargil in Ladák to Púñch at the foot of the Hills, leading from the plains of the Panjáb into Kashmir by the Haji Pir Pass. Curiously enough, none were noticed on the upward route, but the bird in May and June is usually much higher up than in the autumn and winter. It is generally seen in pairs flying rapidly along the stream close to the water, every now and then halting on some stone, and plunging into clear pools behind rocks in the very centre of the rapids. It is often difficult to obtain specimens, as the birds always fall into the water and can rarely be retrieved. [G. H.]

This species breeds at very different times, according apparently to the elevation of the locality it happens to frequent. Captain Hutton found a nest in a hole in a rock over which a rapid stream fell curtain-like, hiding it from view, containing one egg, on the 12th of January, and on the 18th the nest contained three eggs. This was at Rajpooor, below Massuri, at the foot of the Himalayas, at perhaps 2000 feet elevation. Captain Cock took two nests on the 12th and 20th of March, near Dharmasál, at an elevation of about 4000 feet. I took a nest in an affluent of the Sutlej above Kotgurrh, early in May, at an elevation of about 5500 feet. The nests that I have seen were huge globular masses of interwoven moss, nearly a foot in diameter and fully 8 inches high, something like a gigantic wren's nest, with a neatly worked circular aperture on one side and an internal cavity, about 4.5 in diameter and 3 high, lined with dry leaves and fern and fine moss-roots. I have never known more than five eggs in a nest.

The eggs are oval, much pointed towards the small end, pure white, slightly glossy, and of moderately fine texture. They remind one more of the eggs of Woodpeckers than of the true Thrushes, but the shells are more substantial and less translucent than those of the former. They vary from 0.9 to 1.1 in length, and from 0.65 to 0.74 in breadth. [A. O. H.]

348. *Hydrobata cashmiriensis* (Gould).

Several specimens of the white-breasted Himalayan Dipper were procured and numbers seen, not in Kashmir, but in Eastern Ladák, in the stream which runs from Chāgra into the Pāngong Lake. It appears to be a permanent resident here, as it was noticed and shot in this locality both coming and going. A nestling obtained on the 14th of July could not long have left the nest, and old birds were seen on this stream on the 8th of October, at an elevation of 15,000 feet, when, except quite at the centre, it was a mass of solid ice. The following note is on the ticket of one specimen, an adult, sex unrecorded: Length, 7.5; tail from vent, 2.5; expanse, 12; foot—greatest length, 1.75; greatest width, 1.37. Legs and feet, dark brown; bill, black. [G. H.]

Cashmiriensis is not a peculiarly happy name; besides Ladák, it occurs in the hill regions of Sikkim, and Chinese Tartary immediately north of Darjeling, whence I have specimens obtained by Captain Elwes and L. Mandelli, Esq. [A. O. H.]

349. *Hydrobata sordida* (Gould).

A single specimen, quite adult, of this rare Ouzel was obtained at Kargil, in Ladák, on the 23rd of October. On the ticket of this specimen, of which the sex was not noted, is recorded, the length, 7.5; tail from vent, 2.25; expanse, 12. Unfortunately I did not at the time discriminate between this species and *H. asiatica*, and it is therefore impossible

to say whether other specimens were or were not seen elsewhere and mistaken for this latter bird. [G. H.]

This is, I believe, a very rare bird, as this is the only specimen I have ever seen. I am by no means clear about this species. Gould gives the bill as very small, whereas in this specimen it is very large, much more like the bill of *H. pallasi* as figured by Gould himself and in the "Fauna Japonica." The bird is clearly distinct from both the preceding species, but I confess it appears to me more like *H. pallasi* than Gould's figure of *H. sordida*. The type specimen of this latter should be re-examined. In our bird the bill is 0·7 at front; tarsus, 1·2; wing, 4. [A. O. H.]

351. **Petrocossyphus cyanus** (Linn.).

The Blue Rock Thrush was only met with in Ladák, and there only in the upward journey in June and July. Solitary individuals were seen throughout Ladák west of Lé, at Shergol and other places, near streams and hopping about amongst rocks; but in Dr. Cayley's garden at Lé they were in considerable numbers, feeding on caterpillars on the poplar-trees and hopping about on the grass. None were met with on the return journey; they had then doubtless migrated lower down. [G. H.]

Most probably they breed in Ladák. I have hitherto failed to find their eggs, both in the plains of India, which they desert as soon as the hot season sets in, and in the lower ranges of the Himalayas south of the first snowy ranges. It is curious that I obtained a specimen of this bird in May at Mount Abu. Can it breed there? [A. O. H.]

351 (*bis*). **Monticola saxatilis** (Linn.).

A young male of this species was obtained at Shahidulla, in Hill Yärkand, on the 21st September. It was a bird of the year. The following dimensions are on the ticket: Length, 7·5; expanse, 14; tail from vent, 2·75; wing, 4·5; foot, greatest length, 1·5; greatest width, 1·25; wings when closed reached to within 1·5 of end of tail. Bill at front, 0·7. [G. H.]

I have seen other specimeus from the Sutlej Valley, near Chini, an adult and a young bird in much the same plumage as Dr. Henderson's specimen. I subjoin* descriptions both of this young bird and of the adult. [A. O. H.]

* *Monticola saxatilis*.

DIMENSIONS (the males are slightly the largest).—Length, 7.5 to 8.1; expanse, 14 to 15.3; wing, 4.5 to 4.8; bill at front, 0.7 to 0.83; tail from vent, 2.75 to 3; tarsus, 1.2 to 1.3. The third quill is the longest, and exceeds the first, which is very small (whereas in *P. cyanus* it is of moderate size), by 2.9 to 3, the second by 0.1, and the fourth by 0.25.

DESCRIPTION.—*Male*. The whole head and neck all round dull, somewhat greyish-blue; upper part of the back bluish-black; scapulars and the rest of the back somewhat brownish-black, mottled towards the centre with white; rump pure white. Upper tail-coverts, those nearest the rump mingled dingy blue and rufous, those adjoining the tail-feathers bright rufous; central tail-feathers brown; lateral tail-feathers bright ferruginous. Wings dark, almost blackish brown, the coverts darkest, and many of them tipped with greyish or fulvous white. Breast, abdomen, lower tail-coverts, axillaries, and most of the wing-lining (which latter, however, is paler) bright ferruginous red.

Female. Upper parts dull brown, more or less tinged ashy, and about the head and rump more or less spotted with a darker brown. The back sometimes exhibits white spots similar to those in the male, and the rump has often a yellowish tinge. The upper tail-coverts are bright rufous, the tail is similar to that of the male, but duller coloured, and with the central feathers somewhat tinged with rufous. The throat and sides of the neck are yellowish-white or sometimes pure white, more or less spotted with earthy or ashy brown. The chest and abdomen are light rufous or reddish-white, with narrow wavy transverse brown and whitish bars. The wings are much as in the male, but the coverts are perhaps more extensively tipped with dull white.

The *young* vary a good deal, according to stage of plumage; one before me has the lores fulvous white and the feathers of the eyelids of the same colour; the whole of the head, nape, back, and scapulars a dull earthy or somewhat ashy brown, each feather more or less broadly tipped with fulvous or pale rufous white, and most of them with a darker brown spot or line just inside this tipping; the rump is pale brownish yellow, each feather with a narrow irregular transverse brown bar near the tip; upper tail-coverts ferruginous, with traces of brown spots near the tips. Tail as in the adult, but duller coloured. Wings as in the adult, but all the quills broadly tipped with brownish white and the primaries narrowly, and most of the coverts and the tertiaries broadly, margined with the same colour. Chin, throat, and sides of the neck pure white everywhere, except down the centre of the chin, and the throat speckled with ashy brown. Breast and abdomen more or less pale buffy, the feathers inconspicuously tipped white, and with a narrow transverse wavy dark-brown

356. *Geocichla unicolor* (Tickell).

The Dusky Ground-Thrush was very common in Kashmir, but was not observed beyond the Zoji-lá Pass. [G. H.]

365. *Planesticus atrogularis* (Temm.).

This species, not observed on the upward journey, was very plentiful on the return march in October from Chāgra, (altitude 15,000 feet) above the Pángong Lake, throughout Ladák and Kashmir, and by November it was widely spread over the plains of the Panjáb. I recorded the dimensions of several, the females being somewhat smaller than the males. Length, 9.75 to 10; tail from vent, 4; expanse, 14.75 to 16.75; wings when closed reached to within from 1.5 to 1.75 of end of tail; the legs and feet varied from dark ashy to brown; and the bill, which is yellow at the gape and base of lower mandible, from blackish ashy to brown. [G. H.]

This species, so far as we yet know, breeds further north than Kashmir or Ladák, but it does not appear to have been met with in Siberia by Middendorf, Schrenk, Radde, &c. One might have expected it to breed in Yārkand, but no specimen was there obtained. Is the full breeding

line towards the tip. Lower tail-coverts and axillaries, as well as wing lining, pale ferruginous buff.

Degland describes a young bird just taken from the nest thus: "Above, ashy brown; feathers of the head, nape, and back—ashy, rufous at the centre, brown towards the tips. Front of the neck and breast like the back, but with larger spots. Abdomen rufous, the feathers irregularly tipped with brown. Under tail-coverts uniform light rufous. Tail as in the female." Yarrell describes another young bird thus: "All the upper parts light and brown, each feather terminated with a spot of greyish white. Quill feathers tipped with buffy white; wing-coverts edged with grey and tipped with buffy white; tail-feathers red, the second in the middle black in the centre; under part of the body something like that of the female, but more barred with white, which is again intersected with brown lines."

Neither of these descriptions exactly agree either with the Yārkand bird above described or with other European specimens which I possess, and which tally precisely with this latter; but doubtless correctly represent other stages of the young bird's plumage, and I have therefore reproduced them. [A. O. H.]

plumage known? One specimen, a male, obtained in October at Bāramulla, Kashmir, is remarkable as having the whole head and neck (as well as the chin, throat, breast, and cheeks) black, some of the feathers changing to the olive brown that these parts always exhibit in winter. Is this an abnormal variety, or does this specimen indicate the full breeding plumage of the male? [A. O. H.]

418 (*bis*). **Trochalopteron simile** (Hume). (Pl. VII.)

This species was very common at Bāramulla, west of Srinagar, in November, where several specimens were procured, but it was nowhere else observed by the Expedition.

My notes state that this species has a peculiar call that may be represented by the syllables *wheet-ooi-ooi*. The length was 10; expanse, 12; tail from vent, 5; legs and feet fleshy; bill black. [G. H.]

I have had considerable doubts as to the propriety of separating this race as a distinct species; it exactly resembles *T. variegatum* of Vigors, except that the ear-coverts are cinereous like the nape, and not dark brown, that the outer webs of the primaries are pure French grey, without any golden, olive golden, pink, or olivaceous tinge, and that the tail-feathers are more broadly tipped with white, and their terminal halves above the white tippings (like the outer webs of the primaries) pure French grey, without the slightest tinge of orange, golden, or olivaceous.

Several specimens killed at different seasons, and precisely similar to the one obtained by Dr. Henderson, were sent to me from the Agrore Valley, by Captain Unwin; and with numerous examples before me of both sexes, old and young, all exhibiting the same characteristics, there appears no option but to separate the race specifically. To judge from the series before me, the particulars noticed are independent, first of sex, secondly of season, thirdly of age; but it will require a very large series to make quite certain of these facts.

I should add that what has specially induced me to hesitate so long in characterizing this form as a distinct species, is the great variability of the colouring of edgings

of the primaries and tail-feathers of *T. variegatum*. Typically these are yellow, varying from orange to golden, and even olive yellow; but I have seen them reddish orange, orange brown, and pink, and my friend Mr. Brookes actually named one with pink edgings *T. Humei*. Where such great variation in tint occurred, the entire absence of *any* tint seemed less worthy of reliance as a specific character. My only reason now for thinking that the present bird should perhaps be separated, is that whereas all the different colours are observable wherever the bird is found, the colourless specimens seem entirely confined to the far North-west.

Nothing seems to have been recorded as yet of the nidification of *T. variegatum*. They lay during the latter half of April, May, and June. The nest is a pretty compact rather shallow cup, composed exteriorly of coarse grass, in which a few dead leaves are intermingled; it has no lining, but the interior of the nest is composed of rather finer and softer grass than the exterior, and a good number of dry needle-like fir-leaves are used towards the interior. The nest is from 5 to 8 inches in diameter exteriorly, and the cavity from 3 to 3.5 in diameter and about 2 deep. The nest is usually placed in some low, densely foliated branch of a tree, at say from 3 to 8 feet from the ground; but I recently obtained one placed in a thick tuft of grass, growing at the roots of a young decidar, not above 6 inches from the ground. They lay four or five eggs. The first egg that I obtained of this species, sent me by Mr. G. C. Buck, C.S., and taken by himself, was a nearly perfect rather long oval, and precisely the same type of egg as those of *T. erythrocephalum* and *T. cachinnans*, but considerably smaller than the former. In fact, had Mr. Buck not taken the egg himself, I could scarcely have believed that it belonged to this species. The ground colour is pale, rather dingy greenish blue, and it is blotched, spotted, and speckled—almost exclusively at the larger end, and even there not very thickly—with reddish brown. The egg appeared to have but little gloss.

Other eggs subsequently obtained by myself were very similar, but slightly larger and rather more thickly and

boldly blotched, the majority of the markings being still at the large end.

The eggs vary from 1.07 to 1.15 in length, and from 0.76 to 0.82 in breadth. [A. O. H.]

425. **Trochalopteron lineatum** (Vigors). (Pl. VIII.)

The Streaked Laughing Thrush was very abundant from Gond all the way through Kashmir on the return journey in October. It was not observed on the upward journey (when, indeed, the brushwood and jungle must have been dense, and it was breeding), nor at any time in Ladák, &c. [G. H.]

This is, perhaps, the very commonest and most familiar of the Himalayan Babblers throughout their extent, at any rate from Darjeling to Murree, at heights from 3000 to 8000 feet south of the snowy range; but common as it is, we believe that it has not hitherto been figured.

This species lays from the end of April to the beginning of September, and, very possibly, occasionally even earlier and later. I took a nest on the 29th April near Masuri; Mr. Brooks obtained eggs in May and June at Almorah; Mr. G. Marshall at Masuri in July. I again took them in July and August near Simlah, and Captain Beavan found them as late as the 6th of September near the same station.

So far as my own experience goes, the nests are always placed in very thick bushes or in low thick branches of some tree, the deodar appearing to be a great favourite. Those I found averaged about four feet from the ground, but I took a single one in a deodar-tree fully eight feet up. The bird, as a rule, conceals its nest so well that, though a loose and, for the size of the architect, a large structure, it is difficult to find, even when one closely examines the bush in which it is. The nest is nearly circular, with a deep cup-like cavity in the centre, reminding one much of that of *Malacocercus canorus*, and is constructed of dry grass and the fine stems of herbaceous plants, often intermingled with the bark of some fibrous plant, with a considerable number of dead leaves interwoven in the fabric, especially towards the base. The cavity is neatly lined with fine grass roots, or occasionally very fine grass. The cavity varies from

three inches to 3·5 in diameter, and from 2·25 inches to 2·75 in depth; the walls immediately surrounding the nest are very compact, and the compact portion rarely exceeds from ·75 to 1 inch in thickness, beyond which the loose ends of the materials straggle more or less, so that the external diameter varies from 5·5 inches to nearly 10.

The normal number of eggs appears to me to be three, although Captain Beavan cites an instance of four being found. They are usually of a pale, slightly greenish blue, but vary somewhat in shade and intensity of colour. In shape they vary even more than in tint, since, although the common type is a rather long, slightly pyriform oval, some are nearly round, and one was almost as slender as a Swift's. The texture is only moderately fine, the surface fairly glossy. In size I have found them vary from 0·8 to 1·13 inch in length, and from 0·7 to 0·8 of an inch in breadth, but the average dimensions are 1 by ·75 inch.

Neither Dr. Jerdon's dimensions nor his description appear to me to represent our bird quite correctly, and I therefore subjoin* others taken by myself, which possess at least the merit (?) of pleasing *me* better! [A. O. H.]

* *Trochalopteron Lineatum.*

DIMENSIONS. (*Sexes do not differ in size; individuals do*).—Length, 8·1 to 9·1; expanse, 9 to 10; wing, 2·9 to 3·25. Fifth and sixth primaries longest or 6, and 5, up to 0·1 shorter—first 1·1 to 1·4 shorter. Tail from vent, 2·7 to 3·8. Central tail-feathers exceed exterior laterals by from 0·45 to 1·3. Tarsus, 0·9 to 1·12. Foot—greatest length, 1·6 to 1·7; greatest width, 1·1 to 1·3. Mid toe to root of claw, 0·65 to 0·8; its claw, straight from root to point, 0·2 to 0·3. Hind toe, 0·2 to 0·45; its claw, 0·3 to 0·4. Bill, straight from forehead to point, 1·42 to 0·6; from gape, 0·75 to 0·9. Closed wings fall short of end of tail by from 1·7 to 2·5.

DESCRIPTION.—Bill dusky brown, pale, and in some yellowish; in some fleshy on lower mandible. Legs and feet pale or fleshy brown, soles yellow, or whitish. Irides a paler or darker brown. *Plumage*.—The whole of the top of the head, back, and sides of the neck, and a small portion of the upper back, are greenish ashy, each feather so broadly centered with reddish orange brown as to leave in many feathers but a faint margin of ashy, the shafts glistening dark brown; the greater portion of the back rich orange brown, feathers faintly darker centered, and with conspicuous yellowish white shafts, reminding one somewhat of *Grammatophila striata*; rump and upper tail-coverts uniform dull olive brown; tail-feathers, orange brown (deep golden brown in some

438. *Chatarrhoea caudata* (Duneri). (Pl. IX.)

This species was very common on the low hills on the roads leading into Kashmir from the Plains of the Panjáb, as, indeed, it is in those plains and throughout India generally. [G. H.]

The specimens obtained near Púñch, one of which we figure, though perhaps slightly larger and darker than the majority of those found in the N.W. Provinces, do not at all come up to the dimensions assigned by Blyth to his *C. Huttoni* from Afghanistan.

This species is *said* to extend to the Philippines (Puch. Arch. du Mus. vii. p. 342). Neither this nor the nearly allied *C. Earlii* (Pl. X.) appear to have been as yet properly figured.

This latter species is common (of which fact Dr. Jerdon does not seem aware) throughout the Rohilkund Terai, and the north of Shahjehanpore, Bareilly, and Bijnaur, in the Dhoon, and the north of the Saháranpur district; nothing seems to have been recorded of its nidification. I have repeatedly taken its eggs, but prefer to any account of my own a brief note on the breeding of this species sent me long ago by Captain G. F. L. Marshall, R.E.: "In the Saháranpur district *C. Earlii* commences building about the middle of March, and the young are hatched towards the middle of April. The nest is usually placed in the middle of a tuft of Sarkerry grass, and sometimes in a bush or small tree, generally three or four feet from the ground; it

lights), obsoletely and narrowly barred with a faintly browner shade, the feathers tipped with a pale dingy grey, and with a narrow subterminal dark band, both tipping and band being most conspicuous on the exterior tail-feathers, and becoming gradually less marked towards the central feathers, where they are almost obsolete. The wings are brown, the coverts and outer-webs of the primaries strongly tinged with the same colour as the tail. The lores are dusky, each feather tipped with yellowish white, and there is an incomplete irregular circle of tiny whitish feathers round the eye. The ear-coverts are rufous. The chin, upper portion of throat and cheeks dull ashy, the feathers centered narrowly with rufous, and mostly with paler shafts. The lower portion of the throat, chest, and abdomen a rich rufous or rusty brown, each feather conspicuously paler centered and with a narrow ashy, or in some yellowish white, margin; vent and lower tail-coverts a nearly uniform olive brown. [A. O. H.]

is a deep cup-shaped structure, rather neatly made of grass without lining, and woven in with the stems if in a clump of grass, or firmly fixed in a fork if in a bush or low tree. The interior diameter is about three inches, and the depth nearly two. The eggs, four in number, are of a clear blue colour without spot of any kind. In shape they are oval, rather thinner at one end; the shell is smooth and thin. The eggs are of the same colour, but considerably larger than those of *Chatarrhæa caudata*. *Chatarrhæa Earlii* breeds commonly in the Sub-Siwalik districts of the Dooab; it seems fond of water, as most of the nests I have found were close to the canal bank. It is gregarious even in the breeding season; small flocks of seven or eight keeping together, fluttering in and out of the low bushes, but seldom alighting on the ground, and occasionally making a noisy chattering cry, especially when disturbed."

I may add that while the eggs of *Chatarrhæa caudata* (which greatly recall those of *Accentor modularis*) vary in length from 0.75 to 0.9, and in breadth from 0.6 to 0.7, those of *C. earlii* vary from 0.95 to 1.05 in length, and from 0.73 to 0.78 in breadth. [A. O. H.]

444. *Hypsipetes psaroides* (Vigors).

This species was common at Banihál on both sides of the pass leading from Jamu to Srínagar, but it was nowhere else observed. [G. H.]

The nest of *Hypsipetes psaroides* is very like that of some of the *Otocompsæ*. It is usually made of rather coarse-bladed grass, with exteriorly a number of dry leaves and more or less moss incorporated, and lined with very fine grass-stems and roots of moss. Its general shape is a moderately deep cup, the cavity measuring some two and a half inches in diameter by one and a half in depth. The sides, into which leaves and moss are freely interwoven, vary from an inch to a couple of inches in thickness; the bottom, loosely put together, is rarely more than from a quarter to half-an-inch in depth. It appears to be generally placed on the fork of a branch, at a moderate height from the ground.

The birds lay in April, May, and June, and the eggs are rather long ovals, typically a good deal pointed towards the smaller end, but at times nearly perfect ovals. They have little or no gloss; the ground colour varies from white, very faintly tinged with pink, to a delicate pink, and they are profusely speckled, spotted, blotched, or clouded, with various shades of red, brownish red, and purple. The markings vary much in character, extent, and intensity of colour. There seem to be two leading types, with, however, almost every possible intermediate variety of markings; the one is thickly speckled over its whole surface with minute dots of reddish purple, no dot much bigger than the point of a pin, and no portion of the ground colour exceeding 0.1 inch in diameter free from spots. In these eggs the specklings are most dense as a rule throughout a broad irregular zone surrounding the large end, and this zone is throughout thickly underlaid with irregular ill-defined streaky clouds of dull inky purple. In some eggs of this type the smaller end is comparatively free from specks. In the other type the surface of the egg is somewhat sparingly but boldly blotched and splashed, first with a deep umber, chocolate, or purplish brown, and secondly with spots and clouds of faint inky purple, recalling not a little the style of markings in the egg of *Rhynchops albigollis*. There are eggs partly speckly and partly blotched, some in which the markings are all rich red and where no secondary pale purple clouds are observable, and others again in which all the markings are dull purplish brown. Generally it may be said that the markings have a tendency to form a cap or zone at the large end.

A nest of three eggs recently obtained from Masuri were more richly coloured than any I have yet seen, and were decidedly glossy. The ground colour is a rich rosy pink, boldly but sparingly blotched and spotted with deep maroon, underlaid by clouds and spots of pale purple, which appear as if beneath the surface of the shell. In all the eggs the markings are far most numerous at the large end, where in one they form a huge confluent maroon-coloured patch, mottled lighter and darker. In length they vary from 0.9 to 1.15, and in breadth from 0.7 to 0.78. [*A. O. H.*]

458. *Otocompsa leucogenys* (Gray).

The White-cheeked Crested Bulbul was very common throughout Kashmir, both on our coming and returning. It was feeding on fruits and seeds. [G. H.]

These birds breed from April to July, and at all heights from 3000 to 7000 feet. The nest is a loose, slender fabric, externally composed of fine stems of some herbaceous plant and a few blades of grass, and internally lined with very fine hair-like grass. The nests may measure externally, at most, four inches in diameter, but the egg cavity, which is in proportion very large and deep, is fully two and a quarter inches across by one and three-quarters deep. As I before said, the nest is usually very slightly and loosely put together, so that it is difficult to remove it without injury; but sometimes they are more substantial, and occasionally the cup is much shallower and wider than I have above described.

The eggs are of the regular Bulbul type, as exemplified in those of *Pycnonotus pusillus*, and vary much in colour, size, and shape. Typically they are rather a long oval, somewhat pointed at one end, have a white, pinkish- or reddish-white ground with little or no gloss, and are thickly speckled, freckled, streaked, or blotched, as the case may be, with blood- brownish- or purplish-red; and here and there, chiefly towards the large end, exhibit, besides these primary markings, tiny underlying spots and clouds of pale inky purple. Some eggs have a pretty-well marked zone or irregular cap at the large end, but this is not very common. In size they average somewhat larger than those of *Otocompsa leucotis* and *O. emeria*, both of which they closely resemble; but they are smaller, and as a body less richly coloured than those of *Otocompsa fuscicaudata*. They vary in length from 0.84 to 0.95, and from 0.62 to 0.7 in breadth. [A. O. H.]

470. *Oriolus kundoo* (Sykes). (Pl. XI.)

The Indian Oriole was very common in Kashmir, both going and returning; it was there known as the *Pash-nool*. In June, when the Expedition passed northwards,

many of the birds were young. This species was again met with at Bora and Oi Togrāk, in the plains of Yārkand. Only one specimen, a nearly adult female, was obtained. The Yārkandis call it the *Zar guldar*, a name apparently borrowed from the Persians. [G. H.]

It is most remarkable that the Yārkand bird should be identical with the Indian, and not the European bird (*O. galbula*). There is, however, no mistake about the matter, for both Colonel Tytler and myself possess series of both species, and I have carefully compared the Yārkand bird with all of these. As to the distinctions between the two species, Dr. Jerdon says: "*O. kundoo* differs from the European *O. galbula* only in the black eye-streak extending to the ear-coverts, in the wing being shorter, and the bill proportionately longer." Professor Schlegel says that "*O. kundoo* is distinguished by the black of the lores extending round the eye and backwards behind the eye, by the yellow of the tail-feathers, and the exterior large coverts being greater in extent, and by the secondaries broadly tipped with yellow." Judging from my specimens I should say that *O. galbula* was a smaller bird with a somewhat shorter, but at the same time stouter bill, with a much more raised culmen, and a wing of say 6.25, against say 5.5 in *O. kundoo*. As remarked by both Schlegel and Jerdon, in *O. galbula* only the lores are black, while in *O. kundoo* besides these, a line over and behind the eye, in many cases extending partially over the ear-coverts, is also black. The yellow on the primary greater coverts and on the lateral tail-feathers is much more extended in *O. kundoo*; thus, in the male, of the feathers next the centre ones in *O. galbula* there may be 0.6 of the tip yellow, while in the same sex, of the same feather in *O. kundoo*, 1.5 of the outer and 1 of the inner web will be yellow. Again, on the external feather of *O. galbula* there may be 1.25 of the tip yellow, while in *O. kundoo* the whole feather is yellow except the merest trace of black at the extreme base.

The nidification of this bird has been repeatedly described, and I shall only add here that they lay from May to August, and that the eggs vary in length from 1.03 to 1.32, and from

0.75 to 0.87 in breadth, and that the average of fifty eggs measured was 1.11 by 0.1. [A. O. H.]

475. **Copsychus saularis** (Linn.).

This species was only observed in the low hills through which the road to Kashmir from the Panjáb first passes on leaving the plains. It never seems to ascend the hills to any great height. [G. H.]

Very discrepant accounts have been given of the nidification and eggs of this species, but I do not doubt that Captain Hutton was quite right, and that his "carneous cream-coloured" eggs verily belonged to this species. It is well known that eggs of Passerine birds, normally blue or bluish green, occasionally assume this pinky shade. I have several such of *Drymoipus inornatus*. Writing to me recently, Captain Hutton says:—

"*Copsychus saularis* arrives in the hills up to about 5500 feet in the beginning of April, returning to the Dehra Doon early in the autumn. In the Doon it breeds in May and June, constructing a shallow nest of fine woody flower-stalks intermixed with fine roots and the dry tendrils of climbing plants, with a little moss externally, and placed within a hole in some large tree, or in a bank or wall, where it lays five eggs of a pale bluish green, thickly spotted and blotched with purplish brown, and showing an imperfect ring of nearly confluent blotches at the larger end. There is, however, great variety both in the number and size of spots and in intensity of colouring; some being blotched as well as spotted, others being simply and uniformly freckled with rufous brown without any indication of a ring at the larger end, and in these the size is somewhat less. Having obtained five or six of these typical nests and shot the old birds for examination, there can be no doubt about the correctness of the foregoing remarks; yet at the same time I am still fully convinced that the nest and white eggs formerly noticed (*J. A. S. B.*) as having been taken from a hole in a bank was a mere accidental variety, for the nests are the same as to materials and situation, while the circumstance of the pinky-white eggs appears to me to be the

effect of some temporary derangement of the system, precisely as we sometimes detect a white specimen in the nest of the hill Mynah (*Eulabes intermedia*)."

Mr. Brooks, writing from Almorah, remarks correctly that "the nest is formed of the materials described by Dr. Jerdon, but in the hills moss is freely used."

This species breeds also throughout the plains of Upper India, but the majority resort during the nesting season to the Dhoons and Terai's that skirt the Himalayas, and to the lower ranges of these latter. In the plains the nest is commonly placed in holes of trees, and composed of roots, fibres, and feathers. I myself have generally found them in May in Agra, Bareilly, and Etāwa. Captain Marshall, R.E., writing from Sahāranpur, says: "I send the bird and a pair of its eggs. I have found only one nest, and this was on the 23rd of April, in a hole in the wall of a building. The nest was made of fine twigs very neatly shaped, and lined with fibre; there were five fresh eggs in it."

Mr. F. R. Blewitt, writing from Saugor, remarks: "On the 29th June I found the nest in the hollow of a large dried limb of a Goolue-tree (*Ficus glomerata*). It was made of coarse and fine grass and roots, placed to about the thickness of an inch at the base of the hollow; as to the lining there were a few horsehairs. The structure as a whole was circular, with a diameter of four and a half inches. The five eggs taken are of a pale green, with light brown spots and blotches; on some the brown spots coalesce towards the broad end."

The full complement of eggs is almost invariably five. They are typically oval, neither very broad nor narrow, but somewhat elongated; pyriform and almost globular varieties occur. They are moderately glossy. The ground colour varies as much as does the size and shape of the egg. In some it is greenish, in others greenish-white, while in others it is a beautiful pale sea-green, or again a delicate pale, only slightly greenish blue. Many of the eggs are perfect miniatures of eggs of *Merula similima*, and recall varieties of the English Blackbird, which, indeed, is almost the only English egg with which I am familiar to which their

colouring at all closely approximates. They are all streakily blotched and mottled with different shades of brownish-red, some comparatively thinly, generally somewhat densely, and occasionally so closely as to leave but little of the ground colour visible. In all cases the markings are most numerous at the large end, where they very commonly form a conspicuous irregular mottled cap. Occasionally, but rarely, small specks and spots take the place of streaky blotches, and the smaller end is almost entirely free from markings. Faint underlying spots of pale inky purple are traceable in a few specimens. In the extent and bold streaky character of their markings, these eggs seem to me to stand apart from those of most of the other genera of the *Lusciniinæ*; though they are most nearly related to those of the *Thamnobia*. It is noteworthy that some specimens of the eggs pretty closely resemble the peculiar variety of the Nightingale as figured by Mr. Hewitson. (Pl. xxxiii. fig. 2.) In size they vary from 0.78 to 0.95 in length, and from 0.6 to 0.75 in breadth, but the average of fifty eggs measured was 0.87 by 0.64. [A. O. H.]

483. ***Pratincola rubicola*** (Linn.).

This species was found throughout Kashmir and in Yārkaud, on the banks of the Karakāsh river, and wherever there was grass and low jungle, but not otherwise. [G. H.]

One specimen procured near Jhélam in November, and two specimens procured in September at Shahidulla, Yārkaud, are of the typical *P. rubicola* race, whilst the males procured in June in Kashmir are smaller and of the intensely black *P. indica* type.

I do not expect to convince others, but I have now satisfied *myself* that, contrary to the opinion I once held, *Pratincola indica* is not a good species. From every local division of India, hills and plains, from which I have received *P. indica* I have also obtained *P. rubicola*. Three out of fifteen European specimens must be referred to *P. indica*. Intermediate forms are everywhere common. All that can be said is that in certain localities the majority of the birds incline to the *P. indica* type,

while in certain others the *P. rubicola* type chiefly prevails ; this does not constitute a specific difference according to my ideas. [A. O. H.]

486. **Pratincola ferrea** (Hodgson). (Pl. XII.)

This very common, but hitherto apparently unfigured Himalayan species, was only observed by the Expedition at Bhimber, at the very foot of the hills leading into Kashmir from the plains. [G. H.]

Though so common everywhere from Darjeling to Murree, south of the first snowy ranges, it is very rare beyond them, only occurring, as far as I have observed, in valleys of rivers that pass, like the Sutlej and Jhélam, through vast gaps in these ranges. It should certainly have been met with in Kashmīr, as I have seen specimens obtained there in the valley of the Jhélam. The bill of this species is quite that of a typical *Muscicapa*, and though the legs and wings, and indeed habits, justify, perhaps, its location in the closest proximity with the true *Pratincole*, I must confess that I consider it deserving of generic separation from such birds as the Stone and Whin Chats. I will, however, leave it to some of our foreign brethren to propose one of those purely classical and easily pronounceable generic names which their souls love, such as *Jacamaralcyonides* or its equivalent *Galbalcyrhynchus*.



P. ferrea (magnified).

492. **Saxicola atrogularis** (Blyth).

The Black-throated Wheatear was common in Ladák, from Karbu to Lé, and, indeed, almost to the Pángong Lake, and again in the Lower Karakásh Valley and the plains of Yárkand. A nestling was obtained on the 5th of August at Bálakchi, on the Karakásh, showing that the bird breeds in this neighbourhood. [G. H.]

A male killed on the 26th of June on the Namyikka Pass (12,000ft.) in Ladák, exhibits the characteristic breeding plumage which, as I long ago pointed out, Gould has

erroneously elevated to the dignity of a distinct species, and figured as *Saxicola montana*.

492 (*bis*). **Saxicola Hendersoni** (Hume). (Pl. XIII.)

This species, which Mr. Hume believes to be new, was found at the Arpalak River near Sanju, and at Koshtak, twenty miles further north. They were found in fields, little patches of cultivation on the borders of the desert, and were associated with *S. atrogularis*. [*G. H.*]

Dr. Adams remarked in the "P. Z. S." for 1859, p. 180: "At the salt lake in Ladák, on one occasion, a bird evidently of this genus (*Saxicola*) was observed about the size of a Whinchat; upper parts a bluish black, breast black, belly and lower parts white; a specimen was not procured." It is just possible that the species thus referred to may be the present one; it is a *Saxicola* of the same type as *S. atrogularis* and *S. deserti*, but smaller and more slender than either, and has the whole of the back and wing coverts and wings a sort of bluish black, the feathers more or less margined and tipped with pale fawn colour, and the tail, which would be very conspicuous in flying, is entirely white, except the terminal portions of the two central, and a comparatively narrow (and on all but the exterior ones almost obsolete) black or blackish brown band on the laterals.

DIMENSIONS.	Male.	Male.	Male.	Female.	Female.
Length	6·5	6·	6·	5·75	5·75
Expanse	11·5	—	—	—	—
Tail	3·	2·2	2·3	2·	2·2
Wing	3·95	3·75	3·75	3·7	3·5
Bill at front	0·45	0·45	0·46	0·45	0·45
Tarsus	0·95	0·93	0·95	0·9	0·94
Wings when closed fall short of tail by	1·	—	—	—	—

DESCRIPTION.—The bill, legs, and feet are black.

PLUMAGE.—*Male*.—The lores, a narrow band on the forehead, checks, ear-coverts, chin, throat, upper portion of breast, and sides of neck, black; a colour that in winter plumage would doubtless be more or less concealed by pale tips to the feathers, which are already beginning to

show themselves in the specimens killed early in September. A narrow band from the forehead over the eye, and ear-coverts fawn white. Front, top, and back of the head, and back of the neck, grey brown. Possibly in full breeding plumage these parts may be white, because on lifting the feathers the medial portion of each feather is shown to be white, the tips only brown, the bases dusky. In the specimen which has assumed least of the winter dress the medial white portion is far broader and more conspicuous than in other specimens further advanced towards the winter plumage.

Wings, scapulars, and interscapulary region black, probably in full breeding plumage nearly pure black; but in the September specimens all the feathers of the back are so tipped with rufous brown that the black is greatly concealed, and all the coverts, tertiaries, and secondaries are broadly margined with rufous fawn. Rump and upper tail-coverts pure white, central tail-feathers black, except for the basal one fourth, where they are white; lateral tail-feathers white, the exterior on each side tipped for about 0.75 with black, the penultimate similarly tipped for about 0.4, and the rest with only a black spot at the tip, decreasing in size as the feathers approach the central ones, and disappearing entirely in some specimens. Lower breast and abdomen rufous fawn, paling towards the vent, which, with the lower tail coverts, is in some specimens nearly pure white. Wing lining, axillaries, and sides black, but a little white mottling along the edge of the wing at the carpal joint.

The *females* have the foreheads and a stripe over the eye rufous fawn colour, the lores slightly dusky, the ear-coverts more rufous. Chin, throat, and sides of the neck nearly unicolorous with the breast, which is as in the male, but the chin and throat are slightly greyer. The front, top, and back of the head and neck, and back, are slightly rufous grey brown, the bases of the feathers being rather pale bluish dusky. The wings and tail are as in the male, but with dark brown substituted for black. [*A. O. H.*]

496 (*bis*). ***Ruticilla erythroprocta*** (Gould).(? 496. *Ruticilla rufiventris*, Vieillot.)

Numbers of this supposed species were met with from Lé up to the Pángong Lake, and again in Yarkand at the foot of the hills. [G. H.]

Procured at widely different dates, the specimens tend to throw much doubt upon the value of this newly separated species, and after comparing them with a vast series of *R. rufiventris* and of the so-called *R. phænicuroides* of Moore, which are undoubtedly different forms of the same species, I experience great difficulty in believing that *R. erythroprocta* is anything but the full breeding plumage of *R. rufiventris*. So far as the gradation of plumage goes no links seem to be wanting, but it did appear at first that the bills of the *R. erythroprocta* type were somewhat larger than those of *R. rufiventris*. On further examination this difference in size appeared to be chiefly due to the frontal feathers in *R. rufiventris* being some fuller and longer, and covering up more of the bill; in the bills themselves, when entirely divested of feathers, it is not clear that there is any real difference in size and the length of the frontal plumes, and the extent to which they extend over the upper mandible doubtless depends upon the season. In one specimen the whole of the back, coverts, head, neck, throat, and breast are black; there is a narrow (slightly greyish) white band across the forehead about three-eighths of an inch above the base of the upper mandible, and behind this the feathers of the crown and nape have a faintly ashy tinge. In other specimens this white frontal band is greyer and extends further back, and the whole of the nape and upper back are more or less overlaid with ashy. In specimens later killed, again, the frontal band has spread over the whole crown, and has become pale grey throughout. In the next stage the bird is undistinguishable from the *R. phænicuroides* of Moore, which we obtain in the plains, and which is the August plumage of *R. rufiventris*.

I do not positively assert that *R. erythroprocta* is not a good species, but what I submit is that I have specimens

which correspond precisely with Mr. Gould's figure, and that between these specimens and the dull winter plumaged *R. rufiventris* I have procured partly in the plains and partly in the hills every intermediate stage of plumage, and I have besides this a stage which I believe to be immediately anterior to the *R. erythroprocta* dress, in which the whole head, back, and breast are black, and there is no trace of *any* frontal band. According to my view the frontal band first appears about May or June, as a narrow nearly pure white stripe; a grey tint spreads gradually from behind it; the band by degrees extends further and further back, losing its purity of colour as it does so, while the grey shade which extends behind it spreads further and further down the back, becoming purer and purer grey as time passes on, until the frontal band and the shade merge in one another, and the whole upper surface has become an uniform dull brownish grey.

I may remark that the extent to which the black extends on the breast varies excessively in individuals in even precisely the same stages of plumage, and is of no specific value whatever.

Numerous nestlings of this species were obtained; the bird itself was excessively common, and must have hatched in June. If this species be not identical with *R. rufiventris* the question arises, What becomes of *R. rufiventris*? and where does *R. rufiventris* breed? It absolutely deserts the plains of India and the lower hills by the end of April, and in all the innumerable collections made in the Himalayas, which I have examined, many of them far in the interior from Darjeling to Murree, I have never met with a single specimen of the *R. rufiventris* form killed within these limits between the end of May and the beginning of August. Specimens killed in August, both in the plains and in the hills, are of the *R. phanicroides* type, while those killed in April are generally of the pure black type.

The upper surface of the early July specimens is excessively close to that of *R. tithys*, but the wings of course want the white patch, and the grey portion of the head just above the lores, and the black frontal band are paler and

more markedly greyish white, presenting the appearance of a band like that of *R. phærucura*, but neither so pure a white as in that species, nor contrasting at all so strongly with the rest of the crown.

Of the young birds the general style of colouring is of course the same as that of the females, but the brown of the upper parts has a certain olive tint very different from the earthy line of the latter, and the lower parts have the feathers of the throat and breast darker and more or less indistinctly centered with a sort of golden buff, while the abdomen and vent are decidedly buff. [A. O. H.]

499. **Ruticilla erythrogastra** (Guld.). Guldenstadt's Redstart.

This handsome Redstart was met with all through Ladák both in going and returning, and was specially abundant on the return journey in October. It was found as high as 17,800 feet on the snow in the Chang-la Pass, and again on the other side of the plateau it was observed in Yarkand from about 15,000 feet to the foot of the hills, but not in the plains.

It frequents the neighbourhood of streams generally, where there is low jungle, hopping from twig to twig and on the ground, catching insects, but it does not appear, like its near relative *Chamorrornis leucocephala*, to feed immediately at the water's edge or to venture on the rocks and stones in the midst of torrents.

"*Kuchkalch*" is the Kirghiz name for this species. [G. H.]

On the 14th September, at Kitchik Yilák, a young bird of this species, probably about two months old, was obtained. The tail and wings differ in no respect from the adult, but the whole of the head, neck, throat, and breast are covered with very loose lax feathers, bluish grey at the base, and yellowish brown towards the tips, a sort of mottled appearance being produced by the bases of the feathers showing through; the lower abdomen, vent and lower tail coverts are pure buffy white. The specimen obtained on the 11th of July, on the top of the Chang-la

Pass, differs in having the whole of the crown and nape pure white, instead of bluish white, as in the autumnal specimens, and further, in having this white head-patch sharply defined against the black of the back, instead of, as in the autumn specimens, shading off gradually to the lower back. This was the first specimen preserved, and probably represents the full breeding plumage.

Only three females were obtained, and these, as well as others in my museum, absolutely want the wing patch. The whole upper surface, including the wings, is a pale dull earthy brown; the rump and tail are much as in the male, but somewhat paler; the chin and throat and upper breast are a sort of mixture of the dull pale earthy brown of the upper surface with pale rufous, and the abdomen, vent, and lower tail coverts are rufous fawn, brightest upon the lower tail-coverts and palest in the middle of the abdomen. The bird figured by Gould (B. of A., Pl. III.) as a female or young male must certainly have been the latter. [*A. O. H.*]

503. *Ruticilla frontalis* (Vigors).

This species was very plentiful in Kashmir, but only on the return journey in October. It was always observed hopping from branch to branch in brushwood and dense jungle, feeding on insects. The following are the dimensions of a male: Length, 6; tail from vent, 2.5; expanse, 9; foot, greatest length, 1.25; wings when closed reach to within 1 of end of tail. [*G. H.*]

504. *Ruticilla cœruleocephala* (Vigors). (Pl. XIV.)

This species was only met with in the Sind Valley and at Pūnch, on the way down from Kashmir. Dr. Henderson notes the dimensions of a male. Length, 6; tail from vent, 2.75; expanse, 10; wings when closed reach to within 1.12 of end of tail.

Mr. Blyth correctly points out that the female* is not,

* Dr. Jerdon's dimensions also differ widely from the results of my measurements.

Of a male — Length 5.8 to 6.0; wing 3.12; bill at front 0.36; fourth and fifth quills equal, sixth and third equal. In winter plumage, both the black and the blue of the male are so concealed by pale brown or rufous tippings, that even the male is not easily recognised from Dr. Jerdon's

as Dr. Jerdon supposes, very similar to, but in fact *very* different from, the male. The intensely deep ferrugineous upper tail coverts distinguish the female of this species from every other Indian bird for which it could possibly be mistaken. [A. O. H.]

505. **Ruticilla fuliginosa** (Vigors). (Pl. XV.)

Curiously enough, this species was never observed by the expedition anywhere, except at Púñch, below the Haji Pír Pass, on the way down from Kashmir. [G. H.]

Throughout the lower ranges of the Himalayas, south of the first snowy ridge, every stream from 1000 to 5000 feet elevation is haunted by numerous pairs of this sprightly and intrepid little bird. No account seems ever to have been given of the nidification of this species. I have never myself seen the nest, but the eggs have been sent me both by Captain Cock, from near Dharmisal, and by my own collectors, from the Valley of the Sutlej.

The birds breed in May and June, laying three, four, and even five eggs, in the immediate vicinity of running water. One nest, found in a hole in a rock, was composed of fine grass and moss roots, with a little moss—a very slight nest, little more than a lining to the hole. Another was described as far more substantial, planted in a niche of a rock, with some few dry leaves and much moss intermingled in the structure.

Canon Tristram remarks that the eggs of *Ruticilla* are *never* spotted, though the ground colour varies from pure white (in the single case of *R. tithys*) to the most delicate white with a faint bluish tinge (in *R. moussieri*), up to the very dark blue of *R. semirufa*.

If this generalization be correct the present species description. As for the female, she is dull dark olivaceous brown above, tinged with rusty on the rump, and with the upper tail coverts deep ferruginous. Throat, breast, and flanks dull earthy brown, somewhat paler than back. Abdomen, albescent. Lower tail- and under wing-coverts, nearly pure white. Tail, blackish brown. Wings, dark brown. Tertiaries, edged pale rusty. Some of the wing coverts with more or less of white or pale tippings. Chin, and a scarcely perceptible frontal line, albescent.

scarcely deserves to be classed as a true *Ruticilla*; indeed, in its habits it more closely approaches the Fork-tails, especially *Henicurus scouleri*, in whose company it is more commonly found than any of the Redstarts, and its eggs are not unlike, so far as coloration is concerned, many varieties of those of *Motacilla madraspatana*. As regards character and colour of markings, Mr. Hewitson's figure of the egg of *Calandrella brachydactyla*, and even as to shape (though those of the present species are considerably smaller), faithfully represents the most typical form of the Plumbeous Water-Robin's eggs. More or less broad ovals in shape, somewhat pointed or compressed toward the smaller end, the faintly greenish white ground is almost entirely obscured in most specimens by a dense mottling and freckling of somewhat pale and dingy yellowish or reddish brown. Except for the faint tinge of green in the small amount of ground colour that appears, some of these are very similar to those of several species of our Indian Larks; unless, indeed, a somewhat greater fineness of texture and glossiness of surface help to separate them. To say nothing of my own collectors, who, although natives, are very reliable men, Captain Cock is a *most* careful observer, and I entertain no doubt that these eggs, abnormal as they may appear for a Redstart, are yet truly the eggs of the present species. I may add that the colouring of these eggs somewhat recalls that of those of the Sub-alpine and Sardinian Warblers, as figured by Dr. Bree. In some eggs the markings are much redder, and these eggs of course approach nearer to those of the common Robin. They are, however, always browner, more dingy, and smaller than the eggs of this latter bird. The markings have a strong tendency to become confluent at the large end, where they are always most dense, and often exhibit a strongly marked, but mottled and irregular cap. The eggs vary from 0.7 to 0.8 in length, and from 0.56 to 0.64 in breadth. [A. O. H.]

506. **Chæmorornis leucocephala** (Vigors).

This is another species which was only procured in the neighbourhood of Púñch. The dimensions of a male are as follows:—Length, 6·75; tail from vent, 3·12; expanse, 11; foot, greatest length, 1·62; wings, when closed, reach to within 1·5 of the end of the tail. [G. H.]

514. **Cyanecula suecica** (Linn.).

This species, the true Swedish Blue Throat, "*pectore ferrugineo*," was only obtained at the Khush Maidan or Happy Plain (so called on the *lucus a non lucendo* principle, it being one of the most miserable deserts in creation) at an elevation of 16,000 feet; at Shahidulla, at about 11,000 feet; and at Sànju, about 6000 feet, where, by the way, one quite young bird was obtained, proving that this species also breeds in Yàrkand. [G. H.]

In each case the specimens were obtained in the immediate neighbourhood of running water. They differ in no way from specimens procured in various parts of the plains of India during the cold season. Of course to the plains it is merely a winter visitant, and heretofore its breeding domicile has been unknown, its nest never having been met with in the Himalayas, so far as they are open to European travellers.

It is extraordinary how rare in India is the race with the satin-white spot in the midst of the blue, the *C. leucocyanea* (Brehm.) I possess only two specimens, and out of several hundreds, have only seen four of this race. *C. Wolfi* (Brehm) with the wholly blue breast is much more common, but the vast majority of our Indian birds belong to the typical *C. suecica* form. [A. O. H.]

515. **Acrocephalus brunnescens** (Jerdon). (Pl. XVI.)

This species was very common in Kashmir, where it breeds. [G. H.]

To the major portion of the plains of India, it is, I believe, merely a winter visitant; at any rate I have never

obtained specimens during the hot season or rains, nor have any of my contributors ever found the nest in the plains. [A. O. H.]



Wing of *Aerocephalus brunescens*.

544. ***Drymoipus longicaudatus*** (Tickell).
(Pl. XVII., fig. 2.)

This species was common everywhere in the plains of the Panjáb and the low hills, through which the several roads lead thence into Kashmir. It was not observed elsewhere. [G. H.]

Neither this species, nor the nearly allied *D. inornatus*, Sykes (Pl. XVII., fig. 1), seem as yet to have been figured. The nest and eggs of both species are very similar. The nest of *D. inornatus* given in the annexed wood-cut is an exact copy of one photographed *in situ*.

Both species (in Upper India at any rate) lay in July and August, but nests still containing eggs may be met with as late as the first half of September. In the Neilgherries, *D. inornatus* lays as early as April. This bird constructs a very elegant nest always closely and compactly woven of very fine blades of grass, in no nests exceeding one-twentieth inch in width, and in many not above half of this. This grass is always used when fresh and green so as to be easily woven in and out. Both parents work at the nest, clinging at first to neighbouring stems of grass or twigs, and later to the nest itself, while they push the ends of the

grass backwards and forwards in and out. In fact, they work very much like the *Baya* (*P. baya*), and the nest, though much smaller, is in texture very like that of this latter species, the great difference being that the *Baya* chiefly uses *stems*, and the *Drymoipus* strips of *blades* of grass. The nest varies in shape and in size according



to its situation; a very favourite locality is in amongst clumps of the *sarpatta*, or the serpent grass, in which case, the bird builds a long and purse-like nest, attached above and all round to the surrounding grass-stems with a small entrance near the top; such nests are often eight or nine inches in length, and three or even more in external diameter, and with an internal cavity measuring an inch and

a half in diameter and having a depth of nearly four inches below the lower margin of the entrance-hole. At other times they are hung between bare twigs and are then nearly globular, with the entrance-hole near the top; they are then probably three and a half inches in external diameter in every direction. In other cases they are hung to or between two or more leaves to which the birds attach the nest, much as a Tailor bird or *Prinia* would do, using, however, fine grass instead of cobwebs or cotton wool for the thread. I have never found more than five eggs in any nest, and four is certainly the normal number.

The eggs are a moderately long and generally a pretty perfect oval, often pointed towards one end; sometimes globular, seldom if ever much elongated. The shell is fine and glossy and comparatively thick and strong. The ground colour is normally a beautiful pale greenish blue, most richly marked with various shades of deep chocolate and reddish brown; nothing can exceed the beauty or intricacy of the markings, which are a combination of bold blotches, clouds and spots, with delicate intricately interwoven lines, recalling, though more elaborate and I think finer, those of our early favourite the Yellow-ammer's eggs. The markings are invariably most strongly defined at the large end, where there is very commonly a conspicuous confluent cap, and the delicate lines are almost without exception confined to the broader half of the egg. Very commonly the smaller end of the egg is entirely spotless, and I have a beautiful specimen now before me in which the only markings consist of a ring of delicate lines round the large end. Some idea of the delicacy and intricacy of these lines may be formed when I mention that this zone is barely one-tenth of an inch broad, and yet in a good light between twenty and thirty interlaced lines making up this zone may be counted. The intricacy of the pattern is in some cases almost incredible, and what with the remarkable character of the patterns themselves, and the rich and varying shades of their colours, these little eggs are I think amongst the most beautiful known. Occasionally the ground colour of the eggs instead of being bright greenish blue is a pale rather

dull olive green ; and still more rarely it is a clear pinkish white. These latter eggs are so rare that I have only seen six in about as many hundreds.

In size the eggs vary from 0.53 to 0.7 in length and from 0.43 to 0.5, in breadth, but the average of 120 eggs measured was 0.61 by 0.45. [*A. O. H.*]

546 (*bis*). ***Suya albosuperciliaris*** (Hume). (Pl. XVIII.)

A single specimen of this remarkable bird was obtained on the 10th of September, on the Yarkand plains, at Koshtak, an oasis in the desert, where a few fields of peas, barley, and wheat fringe for a breadth of a few hundred yards a small stream that further on loses itself in the desert. For a distance of from twelve to twenty miles in either direction an absolute desert of shifting sand and gravel stretches away to the horizon. Numerous small birds frequented these isolated fields, where the Common Swallow too was particularly numerous, but of the species now under consideration only a single individual, a female, was procured. [*G. H.*]

Structurally this bird is more closely allied to the *Suyæ* than to any other of the Indian *Drymæcinæ*. There is, however, a slight difference in the shape of the wings. In *Suya criniger* and *S. fuliginosa* the fourth quill is the longest, the fifth and sixth are nearly equal to it, and the eighth equals the third. In *S. atrogularis*, the fifth is longest, the fourth and sixth sub-equal, and the eighth to the third ; in our present bird the fifth and sixth are longest, while the third is equal to the seventh ; moreover, it is a stouter and larger bird than any of the Indian species, and it will probably hereafter be considered deserving of generic separation.

DIMENSIONS.—Length, 7 ; expanse, 8 ; tail from vent, 4 ; wings when closed reach to within 2.5 inches of end of tail. Wing, 2.5 ; bill at front, 0.55 ; tarsus, 0.95 ; hind toe and claw, 0.55.

DESCRIPTION.—Legs and feet flesh coloured ; bill brown ; lower mandible fleshy except at the tip.

Plumage.—A long superciliary stripe from the nostrils

over the lores, eyes, and ear coverts, white. A dark brown moustachial stripe from the gape under the eyes and ear-coverts. Immediately above this stripe and directly under the eye is a short white streak. The top and back of the head, pale reddish brown with a faint vinaceous tint towards the forehead, each feather with a narrow dark brown central shaft stripe. Back, pale, slightly rufous, brown: each feather similarly dark centered; back of the neck, rump and coverts similarly coloured (the desert colour) but without any central dark streaks on the feathers. Quills, pale brown, the outward webs narrowly margined with dingy white or whitey-brown. A faint dusky streak through the lores to the eyes, cheeks and ear-coverts dirty rufescent white. Chin, throat, and lower parts, white, tinged on the breast, flanks, and tibial feathers with pale rufous buff; lower wing-coverts, pale rufous buff or buffy white; tail, dark brown, with numerous narrow close-set obsolete bars only seen in certain lights; the outer webs of the feathers paler brown and margined throughout their length with white. The shafts of the tail-feathers are brown above and white below, and the exterior laterals appear to have been tipped paler; all the feathers of the tail are very much abraded, and it is quite possible that in a more perfect specimen all the tail feathers would prove to have had paler or even white tips. [A. O. H.]

554. *Phylloscopus tristis* (Blyth).

Of this species, numerous specimens, and one of them a nestling, were obtained in Ladák in July. [G. H.]

In this latter country, at least, some of the birds that throng our Indian groves during the cold season doubtless breed; other specimens, one of them also immature, were procured early in August in the Karakash Valley, and here also this species probably nests. This bird therefore, like so many other apparently feeble-winged species, is found on both sides of the vast irregular Karakoram mountain series, a chain 140 miles in width, and the lowest points of which are 13,000 feet above the sea level. The passes are nearly 19,000 feet, and to this latter height the bird must

ascend if they do, as seems probable, cross from Lé to Yarkand. [A. O. H.]

560. **Phylloscopus viridanus** (Blyth). (Pl. XIX.)

This species was common in Hill Yarkand at the Arpalak river in August. [G. H.]

One specimen is quite immature, and it is probable that this country is, at least, one of this Tree-warbler's breeding haunts. It is, as already noticed, another of the apparently feeble winged species that seem to cross the Karakoram. [A. O. H.]

566. **Reguloides proregulus** (Pallas).

One specimen, a male in bright plumage, was obtained on the 30th of October in the Sind Valley, Kashmir. It was never noticed elsewhere, but in the case of Warblers like these, that have to be waited and looked for, no conclusions can safely be drawn from the impossibility of procuring specimens on a hurried march like that of the Yarkand Expedition. [G. H.]

572. **Abornis xanthoschistus** (Hodgson).

(Pl. XX., fig. 1.)

This species was very common in Kashmir, both in May and October. [G. H.]

Throughout the Himalayas south of the first snowy ranges, and in all wooded valleys in rear of these, from Darjeling to Murree, this species appears to be a permanent resident.

I have received its nests and eggs from several sources, and have recently taken them myself. They lay in the last week of March, April and May; constructing a large globular nest, of moss, more or less mingled exteriorly with dry grass, and lined thinly with goat's-hair, and then inside this thickly with the softest wool, or in one nest that I found with the inner downy fur of hares. The entrance to the nest is sometimes on one side, sometimes almost at the top, and is rather large for the size of the bird. The nest is almost without exception placed on a grassy bank, at the foot of some small bush, and usually contains four eggs. These latter are pure white, generally very glossy. In texture the shells are very

fine and compact. The eggs are moderately broad ovals, much pointed towards the small end, and vary from 0·6 to 0·65 in length, and from 0·48 to 0·52 in breadth.

I believe that I correctly identified this species, but am not absolutely certain. It is either this, or *Abrornis albosuperciliaris*, Blyth (Pl. XX., fig. 2), but the descriptions available are not sufficiently detailed to place the matter absolutely beyond doubt, and we figure both species. Mr. Brooks would transpose the names, but I hold that the upper surface of *A. xanthoschistus* is ash grey, while that of *A. albosuperciliaris* is leaden ash, a darker and bluer shade, and have assigned the names accordingly. Both species occur in the same localities, but the latter is much the rarest. The eggs of the two species are undistinguishable, and in the birds I cannot find any constant differences in size; *A. albosuperciliaris*, perhaps averages larger, but Dr. Henderson records the following dimensions of a male *A. xanthoschistus*—equal to those of any *A. albosuperciliaris* that I have yet seen. Length, 4·13, tail from vent 1·5, expanse, 6·5, wings when closed reach to within 0·75 of end of tail. He notes that the legs and feet are light brown, and the bill brown above and yellow beneath. [*A. O. H.*]

583. *Sylvia curruca* (Gm.).

This species was only met with in Yarkand, chiefly at or near the foot of the hills, where it is very abundant, especially in the Tamarisk (*Myricaria* sp.) jungles. [*G. H.*]

As is always the case in this group the males are considerably larger and have even proportionately larger bills than the females; the specimens obtained are nearest to the larger Indian race which has been separated as *S. affinis*, but they are not larger than the European specimens of the Lesser Whitethroat. The wings of the males measure 2·6 — 2·65, whilst the wings of some of the so-called *S. affinis*, measure sometimes as much as 2·8, and those of the lesser Indian race, identified by Dr. Jerdon with the Lesser White-throat of Europe, measure even in the males sometimes as little as 2·35. I am scarcely disposed to consider that *S. affinis* merits specific separation from *S.*

curruca. A larger and a smaller race unquestionably exist, but they occur in the same localities and every intermediate size is met with.

Amongst the specimens were nestling birds procured on the 15th August, right down in the plains of Yarkand, so that the bird probably breeds there in June and July. [A. O. H.]

584. *Henicurus maculatus* (Vigors).

This species was only once met with, and that was near Púncb on the road leading down from Kashmir to Lahore. It was alone, moving from place to place amongst the grass, catching flies, and was very tame. [G. H.]

Common as it is along the whole of the southern face of the Himalayas, it is seldom met with beyond the first snowy range, and only in river valleys passing through those ranges by wide gaps.

This species breeds in April and May, but rarely at a height of above 4000 feet; I have repeatedly found the nest, but I prefer to any description of my own, a note in regard to nidification of this species, with which my dear old friend Captain Hutton favoured me not long ago.

"The pied Fork-tail frequents the sides of streams and rivulets, flitting from rock to rock and stone to stone with a light and graceful movement which is half flight, half hop. Its habits have obtained for it among the European visitors to the hills, the name of the '*Dhobi-bird*,' or washerman, from its loving to frequent the places to which those worthies likewise resort to destroy our clothing. It selects a retired spot along the margin of some quiet streamlet, and there constructs its curious cup-shaped nest upon the ground among the plants and mosses which there abound. The nest is a deep cup composed exteriorly of fine roots neatly interwoven with horse-hair and green mosses and thickly lined with the gauze-like skeleton leaves of the willows that fringe the margins of the stream; many of these skeleton leaves are likewise interwoven among the external roots. It has a neat and beautiful appearance, in perfect keeping with the trim and dainty plumage of the bird itself."

The eggs are oval in shape, resembling those of the Wagtail, but differing from them in the comparative sparseness and clearness of the markings. The ground colour is generally a pale clear greenish white, and they are thinly spotted, speckled, and even streaked with yellowish or reddish brown. Where several of the spots occur close together a nimbus of the same colour, but paler, more or less unites them, and a few somewhat faint brownish purple spots and clouds, or an indistinct mottling of this colour, are here and there occasionally observable. The eggs vary much in size and shape—some are a good deal elongated and some conspicuously pyriform. They have very little, if any, gloss. In size they vary from 0.9 to 1.03 in length, and from 0.68 to 0.75 in breadth. I do not know why ornithologists in India so generally refused to admit Gould's species, *H. guttatus*, which is really very distinct. It is perhaps a trifle smaller, with the wing decidedly shorter and the tail-feathers narrower, but it is chiefly in plumage that it differs from *H. maculatus*. There is much less white on the forehead; the nape, instead of being, as in *H. maculatus*, white for the breadth of a full inch, the feathers narrowly fringed with black, has only a few of the feathers broadly white centered. The back, instead of being thickly sown with white more or less crescentic marks, is thinly sprinkled with small circular dots, the largest of which are scarcely one-twelfth of an inch in diameter. The black of the breast and lower abdomen comes further down than in *H. maculatus* and is *spotless*, whereas in the latter most of the black feathers of the lower breast are narrowly tipped with white. One before me, from Darjeling, measures—Length, 10; wing, 3.9; bill at front, 0.75; tarsus, 1.1. As a whole it is a somewhat more sombre-looking bird than the more commonly seen western species. [*A. O. H.*]

590. *Motacilla luzoniensis* (Scop).

Specimens in nearly full breeding plumage were obtained on the 13th of August, at the Chu-Chu Pass, twenty-five miles above the plains of Yarkand. It was common on

both sides of the pass along the Arpalak river. Other specimens, some immature, were obtained at Tikshé, near Lé, on the Indus, and also at Kargil, in Ladák. Similar Wagtails (but they may possibly all have belonged to the next species) were observed in many places where there was water, in the plains of Yārkand, and again in Hill Yārkand, at Mallik Sháh, and the Káratág Lake (15,000), on the return journey. [G. H.]

591. *Motacilla personata* (Gould).

I believe that this is the species described by Dr. Jerdon as *M. dukhunensis*, Sykes, and have assigned the number accordingly. [A. O. H.]

One specimen in full breeding plumage of *M. personata* was obtained at Oi Tográk, in the plains of Yārkand, and others, as well as nestling birds, in August, along the Arpalak river. Generally, wherever there was water throughout Yārkand, similar Wagtails were observed; but many of these probably belonged to the preceding species. [G. H.]

There seems little doubt that both birds breed in Yārkand, and that *M. luzoniensis*, at any rate, breeds also in Ladák. [A. O. H.]

592. *Calobates sulphurea* (Bechstein).

A single specimen of this graceful little Wagtail was obtained at Kargil, Ladák, on the 23rd of October. [G. H.]

I doubt now whether many of this species breed in the Himalayas. A few, I know, breed in Kashmir, but the great majority certainly go further north, probably to Southern Siberia, where Radde found them common, and where they arrive early in May. [A. O. H.]

594. *Budytes citreoloides* (Gould).

This species was found throughout Kashmir and Ladák, and was noticed as high as 11,000 feet, at a small lake surrounded by snow on the Zoji-lá Pass. Doubtless the bird breeds in both provinces. The specimens obtained in May, June, and July were all in full breeding plumage; the entire head, neck, and under parts brilliant sulphur yellow; the six central tail feathers and the whole of the

back, scapulars, and lesser coverts, velvet black. A fine male measured seven inches long; wing, 3''4; bill at front, 0''58; tarsus, 1''1; and hind toe and claw, 0.95. [G. H.]

The species described by Dr. Jerdon as *Budytes citreola* has now been clearly proved not to be the *B. citreola* of Pallas, the male of which, even in the breeding season, never becomes black on the back, but only has a black cowl behind the yellow head, the rest of the back remaining grey. This is a matter absolutely beyond dispute now, as is shown by Pallas' original description, and the remarks of Middendorf and others. It is quite true that Mons. Verreaux named specimens with the black back as *B. citreola*, and that black-backed specimens often do duty for this species both in English and continental museums; but Mr. Brookes has carefully investigated this question—has obtained specimens from Lake Baikal for comparison, and both he and I have very large series of the two species, both of which are common in the plains of India in the cold season. I have worked out the whole question with him, and there remains no possibility of doubt that the Black-backed Yellow-headed Wagtail is quite distinct from Pallas' *B. citreola*. Independent of the colouring of the back, our bird is considerably larger and has a much longer bill, and the only point that remains to be decided is what name it ought to bear. I considered that it was the *B. aureocapilla* of Vieillot, and in this Mr. Blyth concurred with me; but I was unable to refer to this author's description, and Lord Walden, who has done so, informs us that *B. aureocapilla* is really identical with *B. citreola*. Is the bird, then, *B. calcaratus*, of Hodgson? I do not think so. I subjoin,* for facility of reference, Hodgson's original

* Hodgson's original description in As. Res. vol. xix. p. 190.

"Genus: *Motacilla*, auctorum.

"Sub-genus: *Budytes*, Cuvier.

"Species, new: *calcarata nobis*, closely allied to *M. neglecta*. Obviously distinguishable from the typical Wagtails by the shortness of the tail, the superior height and strength of the tarsi, and the longer, straighter, and extremely acuminate nails, the hind one of which is longer than its toe, and, in our species as nearly *straight* as may be. Seven and three-quarters inches long, whereof the tail is but three and a half,

description, taken from the "Asiatic Researches," a work seldom now to be met with. I suspect some mistake in the dimensions given for the tarsus; but whether these be right or wrong, the description is scarcely applicable to any stage of the present species with which I am acquainted. If the bird is not, as I believe, *B. calcaratus*, it should probably stand as *B. citreoloides*, Gould, and this name I have for the present assigned to it.

One abnormal specimen, a female, which from its size and structure unquestionably, in my opinion, belongs to this same species, was killed near Sháhídulla, on the Karakash River, on the 5th August. The peculiarity of this specimen is that the bright yellow of the head and under parts has been everywhere replaced by slightly dingy white, while the black of the back, &c., is replaced by dingy iron grey. [*A. O. H.*]

597. *Pipastes arboreus* (Bechstein).

Of the Tree Pipit numerous specimens were obtained in the neighbourhood of Sánju and Oi Tográk in the plains of Yárkand. They were found in the fields among cultivation, and were precisely similar to the specimens obtained in the plains of India. [*G. H.*]

All these birds belong to the *P. arboreus* type. Great doubts have existed, which I long shared, as to the specific distinctness of *P. agilis* vel *maculatus* and *P. arboreus*; having recently had the opportunity of re-examining with Mr. Brookes an enormous series, consisting of more than 100 specimens of each form, we came to the conclusion that the two birds are at least easily *separable*.

extending only two inches beyond the tips of the wings. Expanse of wings eleven inches; weight, less than one ounce; bill, $\frac{1}{2}$ of an inch, and equal to head; tarsus, $1\frac{3}{10}$; central toe, $\frac{1}{2}$; hind toe, $\frac{6}{10}$; its claws, $\frac{7}{8}$. Above the flanks, grey slaty; below, bright yellow. A yellow line on each side of the head above the eye from bill to nape. Wings: six central feathers and upper coverts of tail, black; the great coverts of wings and the alar plumes very widely margined below and also tipped with white: the six lateral rectrices much blanching, increasingly to the extremes, which are nearly all white. Legs black, bill horn-grey, iris brown. Female considerably less; six and three-quarters inches long, similar to the male but more dully coloured, and the alar and caudal black plumes of the male, brown in her."

It appeared that in *P. maculatus* the whole upper surface was greener, the tail feathers were edged with greenish, the striations of the back were very narrow and but little conspicuous; the supercilium above the posterior angle of the eyes continued backwards over the ear-coverts was nearly pure white; the abdominal plumage was whiter. In *P. arboreus* the upper surface was brown, the tail feathers were not edged exteriorly with green, but with pale buff; the striations of the back were broad and conspicuous, the supercilium of less extent and buffy throughout, the abdominal region more buffy. Accepting these points of distinction, all the Yarkand birds, without exception, must be referred to *P. arboreus*. I have said that the two forms are easily separable, but it does not, therefore, necessarily follow that they belong to distinct species: it is still, it seems to me, quite possible that *P. maculatus* may be the young bird of *P. arboreus*, and although this involves the supposition that this bird, contrary to the analogy of all similar species, does not assume adult plumage until the second year, there are yet two points which favour the suspicion: the first is, that some summer-killed *P. maculatus* are scarcely distinguishable from *P. arboreus* killed at the same season; the second that I have birds sent from England as *P. arboreus*, and supposed to have been there killed, which, if obtained in India, we should certainly class as *P. maculatus*. Nothing is easier than to separate all specimens obtained during the cold season in the plains, as belonging to one or the other species or race. Some specimens killed early in summer in the hills seem more or less intermediate between the two. If they really are distinct, then I suspect that *P. maculatus* occurs in England as well as *P. arboreus*. It would be interesting if European Ornithologists would see whether they obtain Tree Pipits presenting the distinctive characters above pointed out as pertaining to what we call *P. maculatus* here. [A. O. H.]

604. *Agrodroma Jerdoni* (Finch). (Pl. xxi.)

Corydalla griseorufescens. Hume. Ibis, 1870, p. 286.

A specimen of this large Pipit, which is equally common in the plains during the cold season, and the hills during

part, at any rate, of the hot weather, was obtained on the return journey at the foot of the hills leading into Kashmir. [G. H.]

Dr. Finch has kindly informed me that the name by which I characterized this species in the "Ibis" must yield precedence to a name conferred by himself, since the latter was read on the 10th June, 1869, and the former, though assigned many months previous to that date, was not published until February, 1870.

This species is said by my collectors to breed high up in the Suttlej valley in April and May, and Mr. Brookes saw the old birds feeding their young in the neighbourhood of Almora in May and June. The eggs that I possess supposed to belong to this species were thus obtained. My kind friend Mr. R. Thompson sent two men, one an experienced shikaree, and the other a stuffer, into Upper Garhwál to procure birds and eggs for me, especially those of the large pheasants. The men returned with numerous skins, but without a single egg of the species they had been directed to search for. They brought with them, however, two nests of eggs which they had found on the ground, along with a skin of one of the parent birds belonging to each nest. The skin pertaining to the nest of larger eggs, which I am about to describe, was that of the present species, the other was that of *Anthus rosaceus*. The men had never been instructed to search for eggs of this kind; they had no earthly object in deceiving; the birds are both very common in the interior where they were, and the shikaree is not likely to have been himself deceived as to the bird really belonging to the eggs he brought. There is, therefore, a pretty fair presumption that these eggs are what they profess to be, but until seen and taken by a reliable European observer doubts must exist, since the eggs are very peculiar. They are moderately broad ovals, slightly compressed towards the small end, and in size, shape, and general colour, might almost, I think, pass for those of the Redwing. The ground colour is a rather pale olive green, or greenish stone colour, and they are *excessively* minutely freckled all over, but most densely towards the large end, with

pins'-point specks of what seems to be slightly reddish brown. The frecklings are so excessively fine and minute that unless closely looked into they are not observed, and the ground-colour and freckling viewed from a little distance blend into an apparently uniform greenish stone colour. The eggs have a little, but not much, gloss. They somewhat recall the eggs of *Garrulus lanceolatus*, but are greener, less pointed, and slightly larger. The great size of the eggs and their peculiar coloration prevents my placing that reliance on their authenticity to which the evidence above recorded would seem to entitle them. In length the eggs varied from 1.0 to 1.15, and in breadth from 0.85 to 0.86. The nest contained four eggs, was placed on the ground at the foot of a small bush, and was loosely put together with grass stems. It was found in Garhwál on the 15th April, at an elevation of about 11,000 feet. [A. O. H.]

640. *Lophophanes rufonuchalis* (Blyth).

One specimen was obtained on the 20th October at Sonamurgh, Kashmir. [G. H.]

There is no question about the identification, but I take this opportunity of noting that Dr. Jerdon's description is not fully applicable to many individuals of the species. In no specimen that I have examined has there been a "rufous tinge" on *either* the back or belly. There is habitually an olivaceous tinge on the back, but no rufous whatsoever. The specimen obtained, measured in the flesh: length, 3".75; expanse, 8".5; wing, 3".0; bill at front, 0".45; tarsus, 0".74. [A. O. H.]

644. *Parus monticolus*, Vigors.

Was common in Kashmir. [G. H.]

In the Himalayas, at any rate, this species lays in April and May, constructing its nest, a loose dense mass of soft downy fur or feathers, in holes in trees, or even occasionally in cavities in old walls. The number of their eggs varies, but I have recently had a nest sent me containing eight, and the full number is never, I believe, less than six. The eggs are moderately broad ovals, sometimes almost perfectly symmetrical, at times slightly pointed towards one end, and

almost entirely devoid of gloss. The ground is white, or occasionally a delicate pinkish white, in some richly and profusely spotted and blotched, in others more or less thickly speckled and spotted with darker or lighter shades, of blood-, brick-, slightly purplish-, or brownish-red, as the case may be. The markings are much denser towards the large end where, in some eggs, they form an imperfect and irregular cap. In size they vary from 0.68 to 0.74 in length, and from 0.5 to 0.50 in breadth. [*A. O. H.*]

645. ***Parus cinereus***, Vieillot.

This species was common in Kashmir, and several specimens were obtained there in the Sind Valley, both in June and October. [*G. H.*]

As usual the males obtained were considerably larger than the females. This species extends over the whole of India. Dr. Jerdon is wrong in saying that "it does not occur in Bengal nor to the eastward," as I have several specimens from Cornellah in Tipperah.

In the Himalayas it breeds in April, May, June, and July, in holes in banks, terrace walls of fields, and even outhouses of dwellings. Occasionally it builds *on* a branch of a tree, and my friend Mr. Buck found a nest thus situated on the 19th of June at Gowra. The nest is usually a shapeless mass of downy fur, cattle-hair, and wool, but when on a branch is strengthened exteriorly with moss. The only nest that I have myself seen in such a situation was a pretty large pad of soft moss, about four inches in diameter, with a slight depression on the upper surface, which was everywhere thinly coated with sheep's wool and the fine white silky hair of some animal. I have a large series of eggs from various localities in the Himalayas and Nielgherries. The eggs resemble in their different character those of many of our English Tits, and though I think typically slightly longer, they appear to me to be very close to those of *P. palustris*. In shape they are a broad oval, but somewhat elongated and pointed towards the small end. The ground colour is pinkish white, and round the large end there is a conspicuous, though irregular and imperfect,

zone of red blotches, spots, and streaks. Spots and specks of the same colour, or occasionally of a pale purple, are scantily sprinkled over the rest of the surface of the egg, being most numerous in the neighbourhood of the zone. The eggs have a faint gloss. Some do not exhibit the zone above referred to, but even in these the markings are much most numerous and dense towards the large end. They vary in size from 0.65 to 0.85 in length, and from 0.5 to 0.58 in breadth. As regards the habits and nidification of this species in the Nielgherries I cannot do better than reproduce some remarks by my fair correspondent, Miss Cockburn :—"This is an extremely lively and active bird, suspending itself in all kinds of attitudes, and flitting from spray to spray continually. Surely no poor helpless insect can screen itself from the sharp, piercing eye of this little devourer, who always looks even at the *backs* of leaves, as if he knew by experience that many an unfortunate caterpillar attempted to take refuge there. I have often watched them on the trellises of my window, prying into every corner, and many a *hairy* caterpillar, which I could not see, has been surprised by a peck on its head, and dragged from its hiding-place into the light of day, where it receives many knocks against some thick branch of the jasmine, after which the murderer holds it with his feet, and, commencing at the head, draws out and devours the entrails. He then drops the skin, and, having wiped his beak, proceeds in search of another. They also feed on spiders and any soft-bodied insects, and are clever in shelling peas and eating the contents. The merry notes of this bird enliven woods and gardens, particularly those which sound exceedingly like 'Cheery, cheery, cheery.' Their nests are found in deep holes in earth banks, and sometimes in stone walls. Once a pair took possession of a bamboo in one of our thatched out-houses—the safest place they could have chosen, as no hand could get into the small hole by which they entered. These Tits show great affection and care for their young. While hatching their eggs, if a hand or stick is put into the nest they rise with enlarged throats, and, hissing like a snake, peck at it till it is with-

drawn. On one occasion I told my horse-keeper to put his hand into a hole, into which I had seen one of these birds enter. He did so, but soon drew it out with a scream, saying a 'snake had bit him.' I told him to try again, but with no better success, however; he would not attempt it the third time, so the nest was left with the bold little proprietor, who no doubt rejoiced to find she had succeeded in frightening away the unwelcome intruder. The materials used by these birds for their nests consist of soft hair, downy feathers, and moss, all of which they collect in large quantities. They build in the months of February and March; but I once found a nest of young Indian Grey Tits so late as the 10th of November. They lay six eggs, white with light red spots. On one occasion I saw a nest in a bank by the side of the road; when the young were nearly fledged the road had to be widened, and workmen were employed in cutting down the bank. The poor parent birds appeared to be perfectly aware that their nest would soon be reached, and after trying in vain to persuade the young one (for there was but one) to come out, they pushed it down into the road, but could get it no further, though they did their utmost to take it out of the reach of danger. I placed it among the bushes above the road, when the parents seemed to be immediately conscious of its safety." [A. O. H.]

646 (*bis*). **Parus cyanus**,* Pallas.

This beautiful little species was common in August in the Tamarisk jungles on the banks of the Arpalak, within

* *Parus cyanus*.

Adult male (according to Degland), length 4.9 inches. *Plumage*.—Crown of the head, white tinged with azure; a great white patch on the nape; back, rump, and upper part of the wings, azure. Forehead, sides of the head, and the whole lower surface, pure white with a blue spot on the middle of the abdomen; a dark blue stripe stretching from the beak to the nape passes through the eyes, and further on widens and encircles the head. The greater coverts, dark blue margined with paler blue and tipped with white; the two central tail feathers, azure blue like the back, the lateral tail feathers margined and tipped with white.

Female.—Top of the head ashy white, the blue everywhere less pure;

fifteen miles of the plains of Yarkand. It had apparently been recently breeding, as all the specimens obtained were young birds, one of them being scarcely fully fledged. [G. H.]

It is just *possible* that I may not have correctly identified this species, and that the Yarkand birds may, although very closely allied to *P. cyanus*, prove a distinct species. I do not think so, but the only point which makes me doubtful is that Degland and Bree, the latter of whom by the way merely translates the former's description, the only works of reference I have at hand in which the bird is mentioned (for it does not appear to be figured by Temminck and Laugier, as Bree states), both describe the lateral feathers of the tail

the eye stripe narrower at the nape, and, according to Meyer, no blue spot on the abdomen.

Young birds from Yarkand.—DIMENSIONS, from the dry skin: length 3 inches, wing 2.75, fourth and fifth primaries equal and longest, first primary 1.3 shorter, second primary 0.35 shorter, third primary 0.05 shorter, sixth primary 0.025 shorter. Tail from vent 2.4, central tail feathers exceed external by 0.25. Bill from front, 0.29. Tarsus 0.75.

DESCRIPTION.—Bill, legs, and feet, apparently dusky, the latter inclined to plumbeous in one specimen; crown of the head, cheeks, ear-coverts, and the whole lower surface, white, with, in one specimen, a slaty grey bar on the crown. A broad dusky cyaneous bar on the nape, from which traces of a similarly coloured bar above the ear-coverts and running through the eye are visible. The whole back is of a dusky blue grey colour. Central tail-feathers dull blue, with a speck of white at the tips; lateral tail-feathers, except the exterior ones, white on the outer webs, greyish brown on the inner, and more or less tipped with white; the penultimate ones having the apical one-fourth white. Exterior laterals pure white, except just at the base of the inner web, where they are greyish; quills grey brown on the interior webs; the exterior web of the first primary white, of the second primary dull blue for the first quarter of its length, and white for the terminal three-fourths, of the third primary, dull blue for the basal two-fifths, and white for the terminal three-fifths; the fourth primary has the blue and white in proportions of about three-sevenths and four-sevenths; the fifth primary about half of each, the extent of the white diminishing on each succeeding primary; no white margins to the secondaries, but broad white tips. Tertiaries almost entirely white except the basal halves of the outer webs; wing-coverts dull ashy blue, all the greater ones broadly tipped with white, forming a conspicuous alar bar; lining of wing and the inner margins of the inner primaries and the secondaries towards their bases pure white.

as tipped and margined with white, whereas in the Yārkand birds the whole exterior lateral feather on each side is pure white, excepting just at the base on the inner web. In every other respect the birds correspond. [A. O. H.]

652. **Accentor nipalensis**, Hodgson.

One specimen of this comparatively rare bird was obtained ten miles below the Pángong lake on the 10th of October. It measured in the flesh :—length 6"·5 ; expanse 10"·0 ; wing 3"·6 ; bill at front 0"·48 ; and tarsus 1"·0. [G. H.]

654. **Accentor strophiatu**s, Hodgson.

A young specimen of this species, a male, was obtained at Sháhídu'lla, on the 20th of September. [G. H.]

The whole upper surface is a grey brown, much paler and duller coloured than in the adult. The feathers of the back have faint dusky central streaks. The whole of the long superciliary stripe is a dingy white, whereas in the adult the posterior half of this stripe is bright rufous. The breast is a pale rufous fawn, and the chin, throat, and abdomen, are streakless white. [A. O. H.]

656. **Accentor rubeculoides**, Hodgson.

This species (by no means common in collections), was seen in considerable numbers on the return journey, from one march beyond the Pángong Lake right through Ladák. It frequented marshy ground and the banks of streams, hopping about from rock to rock. When wounded these birds hide themselves at once in the crevices between the boulders and are thus often lost. Of a specimen measured in the flesh by me, the length was 6·5 ; the tail from vent 2·5 ; the expanse 10 ; wings 3·1 ; bill at front 0·5 ; tarsus 0·93 ; wings when closed reached to within 1·75 of end of tail. The bill was nearly black, and the legs and feet mahogany coloured. [G. H.]

658. **Corvus thibetanus**, Hodgson.

The Tibet Raven accompanied the camp throughout, from its first entry into Ladák right through Yārkand, almost to the city itself, and back again. It was extremely familiar

and bold, and it was impossible to leave anything eatable about which it did not attempt to steal. Even milk-pots it would deliberately upset to obtain a sup of the contents. At the greatest altitudes and through the most absolute deserts at least half-a-dozen accompanied the camp, some doubtless of the very same birds thus travelling the whole way from Lé to the vicinity of the city of Yarkand; when the camp divided about half the ravens went with each party. On first starting in the morning they always accompanied the party to a short distance, and then they returned to the old camping ground, apparently to make sure that nothing eatable had been left behind, and there they might be seen prowling about wisely for an hour or so, again joining the party in the afternoon at the new camp. [G. H.]

This species is a larger bird and has a very much stronger and more massive bill than the so-called *C. corax*, so common throughout the plains of the Panjáb, but it appears to me very questionable whether this latter bird does not require specific separation from the English one. I have unfortunately no English specimens with which to compare, but a Greenland specimen labelled *C. littoralis*, though sent from Europe as *C. corax*, is a much larger bird than either the Panjáb or the Tibet Raven, and has a very much more powerful bill and feet than either of the latter. In the Greenland specimen the bill measures 3''·4 at front, straight from forehead to point; while similarly measured, the bills of the Panjáb birds do not exceed 2''·8, and those of the Tibetan birds 3''·18. The height of the two mandibles closed is about 1''·0 in the Panjáb birds, 1''·2 in the Tibetan birds, and 1''·25 in the Greenland specimen. No male of the Panjáb bird out of numbers measured in the flesh exceeded 24''·75 inches in length, no female exceeded 23''·75, and no male weighed more than two pounds five ounces. If the Panjáb bird be considered worthy of specific separation it might appropriately bear the designation of *Corvus Laurencei*, in memory of a late viceroy, so long and intimately connected with the Panjáb.

I note that Dr. Jerdon's dimensions of the Indian Raven must have been taken from European authors and not

Panjáb birds. I have measured fully fifty specimens in the flesh, and none exceeded the dimensions above given. I am disposed to believe *Corvus Laurencei* a good species.

Schlegel, I observe, considers (Mus. P. B. 9 Liv. Coraces p. 12), both *Corvus littoralis* (Holböhl) and *Corvus tibetanus* (Hodgson), as well as an host of other supposed species, inseparable from the European Raven. He was obviously not aware that the Panjáb possesses a common permanently resident Raven, of which the bills are very much smaller than the European bird, even according to his measurements. He gives the bill at front of males killed in Central Europe, as 2.95* to 3.13,† whereas, in the Panjáb bird, these dimensions vary from 2.69 as a minimum to 2.82 as a maximum, of twelve fine specimens killed at different seasons in various localities. The wings of the same bird he gives as from 15.57 to 16.92, whereas in the Panjáb bird these dimensions vary from 16.6 to 17.25. So that the Panjáb Raven would appear to have a decidedly shorter bill and a somewhat longer wing.

In the Tibet bird again, the bills vary from 3.05 to 3.18, while the wings vary from 17.25 to 17.65, so that this race appears to have a slightly larger bill and a very decidedly longer wing. Of the Greenland bird, he gives the greatest length of bill as 3.35, but in my specimen it is 3.4.

In our Panjáb bird again as compared with the Tibet Raven, one may say as Schlegel does of his *Corvus japonensis*, that it is "d'une taille beaucoup moins forte" and that "les plumes de la gorge, quoique lanceolées, sont petites et beaucoup moins effilées." As no fixed law can be laid down at present as to what should constitute a species, Schlegel may be perfectly correct in denying specific separation to *C. tibetanus* and *C. littoralis*, but if *C. japonensis* is to stand I do not think that *C. Laurencei* ought to be suppressed. [A. O. H.]

* In this and all other cases in which I quote Schlegel's measurements, I have converted his French inches and lines into English inches and decimals.

† Macgillivray gives the bills of two males as 3 inches.

661. *Corvus intermedius*, Adams.

Several specimens were obtained in Kashmir, Ladák, and Yárkand. It was common everywhere except in deserts, and as noisy but not nearly so impudent in the neighbourhood of the City of Yárkand, as *C. splendens* is with us. [G. H.]

All the specimens are identical with each other, and with examples from Simla, Massuri, Nyne Thál and Darjeeling. I consider this black Himalayan Crow, now always known under Adams' name of *C. intermedius*, a somewhat doubtful species. From Singapore to Simla (and as it is now proved, to Yárkand), the same type of Crow prevails; but as you get further north, until you near the Himalayas, so does the bird slightly diminish in size, and the bill become slightly feebler and less bowed on the culmen. Dr. Jerdon knew nothing of this supposed species, *C. intermedius*, when he quoted Adams to the effect that it was no larger than *C. splendens*. I have measured a score or more in different parts of the Himalayas, and instead of its not being larger than *C. splendens*, I find that it varies in length from 18·0 to 21·0; in wing, from 11·5 to 12·6; in expanse, from 34·5 to 39; in tail, from 7 to 8·5; in tarsus, from 1·9 to 2·2; in bill (measured straight from forehead to point), from 2·0 to 2·4. All these dimensions (the biggest being males, the smallest females) are from specimens killed at heights of 7000 feet and upwards. Now these dimensions are precisely those of *Corvus culminatus* killed in Oudh and the N.W. Provinces; and many of these appear to me absolutely inseparable from the Hill birds, though some undoubtedly have the culmen slightly more raised. As one proceeds further south the birds become larger, and the culmen is more raised.

The wedge-like character of the tail in *C. intermedius* is insisted on, but in a carefully measured series of this latter killed at Simla at 7500 feet, and forty-six miles from the plains, I found that the longest exceeded the shortest tail-feathers by from 0·8 to 1·4, while in an equally carefully measured series procured at Mullanee in Oudh, some thirty

miles E.N.E. of Cawnpore, I find that the difference was from 0·7 to 1·2.

It is doubtless possible to select types of each form which differ sufficiently to warrant specific separation, did intermediate forms not occur, and the great bulk of the more southern birds *do* appear somewhat different from the Himalayan; but my present impression is that between the most typical *C. culminatus* and *C. intermedius*,* no single intermediate link will be found wanting, and after examining a vast number of specimens from various localities north and south, I am very doubtful of the propriety of retaining *C. intermedius*, as a distinct species. The only matters that make me hesitate to disallow *C. intermedius* altogether, are first, a certain perceptible (though not so to all ears) difference in the caw. Second, a peculiar habit *C. intermedius* has of assembling in parties chiefly in the afternoons, and wheeling and circling round and round high up in the air, in a manner which I have never observed in *C. culminatus*.

As for the eggs they are identical, ten of *C. culminatus* vary from 1·5 to 1·95 in length, and from 1·13 to 1·25 in breadth, while 17 of *C. intermedius*, vary from 1·56 to 1·91 in length, and from 1·12 to 1·22 in breadth. Crania and sterna are perfectly similar.

The young birds in both supposed species, have the bills of course much less robust than the old ones, and both when freshly moulted have the plumage more brilliant and glossy. The tertials of *C. intermedius* are by no means *always* mucronate, and this supposed peculiarity is equally observable in the tertials of some specimens of *C. culminatus*.

* Schlegel unites *C. intermedius* with *C. culminatus*, but doubtfully, this being one of the species of which he remarks that, owing to the scanty descriptions given of them, "on ne sait que faire," but I notice that he has no typical *C. culminatus* in the museum; the specimen from the Himalayas is of course the so-called *C. intermedius*. But what are his Ceylon birds, with wings 10·75 as a maximum? I have *C. culminatus* from all parts of India, and the very smallest, quite an exceptional bird, has the wing 11·3; surely Schlegel's birds must be what we are accustomed to call the melanoid race of *C. splendens*.

It is just *possible* that on the whole, a large series of *C. intermedius* may be somewhat greener, and one of *C. culminatus* somewhat more purple; but as I said before, I find great difficulty in separating the two supposed species, and see no better reason for naming the birds obtained by the Expedition *C. intermedius* in preference to *C. culminatus*, than that they were obtained in and north of the hills and not in the plains. Take the tickets off, and the most practised ornithologist will find in a series partly killed in Ladák, and partly in Jhānsi, several specimens, which he will not know to which locality to assign, and others which he will certainly assign to the wrong locality. [A. O. H.]

665. *Colæus monedula* (Linn.)

The Jackdaw was found very common almost everywhere in Kashmir, where it lives in the villages, and makes its nest under the eaves of the houses and in old buildings. [G. H.]

It visits the north west-districts of the Panjāb in large numbers in the cold weather, but it does not breed in the plains. It is not distinguishable in any way from specimens received from Europe. [A. O. H.]

667. *Nucifraga multipunctata*, Gould.

This species was common in the valley of Kashmir in October; it was met with at Sānamarg, below Bāltal, and as low as Goud. It was always seen in pairs, feeding on the seeds of the *Pinus longifolia*. It has a harsh grating, discordant cry, something like that of the Roller. It was not at all wild, but kept so high up in the lofty pine trees that it was not easy to procure specimens. [G. H.]

Dr. Jerdon gives this as *N. multimaculata*, but Gould's name appears to be really *multipunctata*. The general colour is said by Dr. Jerdon, quoting I think from Gould, to be chocolate brown, but in fine specimens when freshly killed, it is almost pure black. The sexes differ little in size. Dr. Henderson's measurements recorded in the flesh, are:—length 14.25 to 14.5, tail from vent 6.5, expanse 22.5 to 23, wing

8 to 8·5, wings when closed reach to within two inches of end of tail. Bill, legs and feet, black, irides brown. [*A. O. H.*]

663 (*bis*). ***Pica bactriana***,* Bonap.

The Afghan or White-rumped Himalayan Magpie was first met with at Drās, soon after crossing the Zoji-lā Pass, into Ladāk. All through this latter province, it was common about every village until the Pāngong lake was reached. A similar Magpie, believed to be the same, but of which unfortunately no specimens were procured, was observed at

* *Pica bactriana*. Bonap.

DIMENSIONS of males (obtained by the Expedition).—Length 19·75 to 21; tail from vent, 12 to 13·25; expanse 24·75 to 25·5; wing 8·3 to 8·75; foot, greatest length 2·5, greatest width 1·75; tarsus 1·9; bill at front, straight from forehead to point, 1·4; wings when closed fall short of end of tail by from 7·5 to 8·75.

DESCRIPTION.—Bill, legs, and feet black. Head, neck, back, breast, upper and lower tail coverts, winglets, and axillaries, velvety black slightly glossed with green on the back and blue on the breast. Shafts of the feathers of the throat, spiny and albescent, giving a finely streaked appearance to the throat. Lesser coverts, except at the carpal joint, scapulars, rump, abdomen, sides, vent, and the whole of the inner webs of the primaries (except the extreme tips, and a narrow margin on the inner edge towards the tips), pure white. I may mention that in the perfectly developed wing in this species the fifth quill is generally longest. In the male the fourth is 0·1 shorter, the third is 0·45, the second 1·6, and the first (which is attenuated and falciform) is 1·4 shorter than the fifth, the sixth is a trifle shorter than the fourth. In the first and second the white of the inner web extends quite to the tip; in the third, fourth, and fifth to within from 0·23 to 0·3 of the tip; in the sixth, seventh, and eighth to within from 0·35 to 0·45; and in the ninth and tenth to within 0·25. This white is only visible on the eighth and ninth quills when the wing is closed, and then only as a narrow line, and not even this in some specimens. The longest tail-feathers exceed the others by 7, 6, 5, 4, and 2·5 inches respectively, in a fine perfect tail. The inner webs of all the lateral tail feathers, except towards the tips, are glossless black. The outer webs of the laterals and both webs of the central feathers, except the terminal 1·5 to 2 inches, are brilliant metallic green, somewhat darker but scarcely less resplendent than the speculum of the male Mallard (*Anas boschas*). To this succeeds a cuneiform band (the apex pointing towards the rump), which beginning in golden green shades into bright purple and then into deep blue, beyond which the rest of the tip is a bluish green with, like the rest of the tail, the richest metallic lustre.

Some of the lesser coverts at the carpal joint are black, glossed with green. The median and greater primary coverts, and the outer webs and

Sánju, where the road emerges from the hills into the plains of Yarkand, both in going and returning—viz., on the 16th August, and the 12th September. No Magpie was seen elsewhere in Yarkand. Early in July, when the expedition passed through Ladák, the young birds were just able to fly and several were caught. In Ladák this species appears to bear the title of *Hashambri*. [G. H.]

Schlegel (Mus. Pays Bas, 9^{me} Liv. Coraces, p. 39) maintains, that this species, *Pica bactriana*, as also *Pica bottanensis*, Delessert, and other eastern species, are inseparable from the European Magpie (*Pica caudata*, Ray, *Pica varia*, Gessner). As to the distinctness of *Pica bactriana*, I am by no means certain; I require a larger series of European birds for comparison, but as to *P. bottanensis* (which, I believe, is the correct name), there can I think be no mistake, the pure black rump forming a constant distinguishing feature,—I doubt whether Schlegel really knows the birds which we identify as *P. bottanensis*. His supposed specimen was obtained by Major Hay, in Tibet, and unless I am mistaken, true *P. bottanensis* does not occur at all in the country traversed by Hay. Dr. Jerdon probably led Schlegel wrong, by saying "Adams states that this bird (*P. bottanensis*) inhabits the wildest parts of Ladakh," while as matter of fact only *P. bactriana* ever occurs in Ladák, *P. bottanensis* is never seen there, and Adams was perfectly correct in believing that the bird he got in Ladák, was identical with *P. bactriana*.

If Schlegel is not under a mistake as to the identity of *P. bottanensis*, how is it that he admits *P. mauritana*? Both species are equally distinct from the common European form.

Of the European bird, Schlegel gives the tail as measuring

tips of all but the first three primaries are a metallic bluish green. The outer webs of the first three primaries are dusky or black, more or less glossed with the same colour as their neighbours. The inner webs of the secondaries and tertiaries, except quite the hindmost of the latter, are black. The outer webs of secondaries and tertiaries, and the inner webs of the hindmost of the latter are metallic blue, more or less glossed with green, all the earlier secondaries with a conspicuous stripe of golden green just inside their margins for the basal two-thirds of their length. [A. O. II.]

from 7.08 to 7.85, the wing from 8.12 to 9.72, the bill at from 1.17 to 1.5, tarsus at from 1.75 to 1.96. Macgillivray gives the length of the male 18, extent 24, wing 7.75, tail 10, bill 1.4, tarsus 1.92.

Compare these dimensions with those of *P. bactriana* given below, and I think it will be conceded that this latter species has a much longer tail. Schlegel indeed gives the tail of his "*P. bottanensis*," which as I have already remarked is doubtless *P. bactriana*, as 11.65, but this, if really *P. bactriana* must either have been a female or have an imperfectly developed tail, as in one male that I possess, this measures 14, and I have seen no specimen with a really perfect tail, in which this fell short of twelve inches. [*A. O. H.*]

669 *Garrulus bispecularis*, Vigors.

A couple of specimens were obtained on the road to Kashmir on each side of the snowy pass; it was not noticed elsewhere. A male, measured:—expanse 19.5, legs and feet flesh colour, bill black, irides dark brown. [*G. H.*]

672. *Urocissa flavirostris*, Blyth.

This species is very abundant throughout the Kashmir valley, at the foot of the Hills; it was met with at Banihál, and again near Baramulla and Uri. I have recorded on the ticket of a fine male, the following measurements: length, 24; tail from vent, 19; expanse, 22; wings when closed reach to within 16 of end of tail. [*G. H.*]

I do not consider that Gould's species *U. cucullata* can stand, as specimens are to be obtained throughout the Himalayas, from Darjeeling to Murrec, presenting the characteristics of both supposed species, as well as all possible intermediate forms.

This bird breeds in April, May, and June, mostly however laying in May. The nest, which is rather coarse and large, made of sticks and lined with fine grass, or grass roots, is so far as my experience goes commonly placed in a fork near the top of some densely foliaged tree. Captain Cock remarks, *in epist.*, "*U. flavirostris* is common at Dharmasál, but the nest is rather difficult to find. I have

only taken six in three years. It is usually placed amongst the branches of the Hill Oak, where it has been polled and the thickly growing shoots afford a good cover, but sometimes it is on the top of a small slender sapling. The nest is a good-sized structure of sticks with a rather deep cup lined with dried roots, in fact it is very much like the nest of *Garrulus lanceolotus*, only larger and much deeper. They generally lay four eggs, which differ much in colour and markings." I think five is the full number, as no less than three nests were taken a few days ago at Kotegurh each containing this number. The eggs are of the ordinary Indian Magpie type, somewhat smaller than those of *U. occipitalis*, but larger than the average of eggs of either *Dendrocitta rufa*, or *D. himalayana*. Doubtless all kinds of varieties occur, as the eggs of this family are very variable, but I have only seen two types; in the one the ground is a pale dingy yellowish stone-colour profusely streaked, blotched and mottled with a somewhat pale brown, more or less olivaceous in some eggs, the markings even in this type being generally densest towards the large end where they form an irregular mottled cap. In the other type the ground is a very pale greenish drab colour; there is a dense confluent, raw-sienna coloured zone round the large end, and only a few spots and specks of the same colour scattered about the rest of the egg. All kinds of intermediate varieties occur. The texture of the shell is fine and compact, and the eggs are mostly more or less glossy. They vary in length from 1.27 to 1.45, and from 0.88 to 0.96, in breadth; but average about 1.32 by 0.9. [A. O. H.]

679. *Fregilus graculus*, Linn..

I am not prepared at present to separate the Himalayan and the European Chough. I have examined a vast number of the former, but only two of the latter, and I am therefore perhaps not in a position to speak authoritatively on the subject, but so far as my comparison has gone the birds seem identical; this species is one which varies very greatly in size and length of bill according to sex and age. [A. O. H.]

The Chough was very common all the way from the

Sind valley, through Ladák, to near the Pángong Lake; Red-billed Choughs, doubtless this same species, (no specimen was obtained), were common on the Karakāsh. On the upward journey through Ladák, they were usually seen feeding, morning and evening, in larger or smaller flocks in cultivated ground; in October, on the return journey they were feeding in enormous flocks on the berry of the *Hippophae rhamnoides*. This bird was known in Ladák, as the *Chunka*. A young bird of this species had the legs and feet blackish red, the bill nearly black above and dark orange on the lower mandible. [G. H.]

679 (*bis*). **Podoces Hendersoni**, Hume. (Pl. xxii.)

This species was found in the desert ground after leaving Sānju, *en route* to Koshtak, and also near Oi-Togrāk. They always kept in pairs, and moved about from one sand-hill to another, seemingly searching for insects in the sand. The stomachs, however, were filled with grain, picked out of the horse-dung, found in the road.

They habitually fluttered and flapped about in the sand, laving their feathers in it after the manner of fowls, or like some of our Babblers (*Malacocerci*), commonly called in India "Dust-birds." The Turki name "Kum-tuché" is said to mean "sand bird." There was hardly a trace of vegetation in the localities in which they occurred, and they were always seen on bare hillocks of drift sand. They were met with on several occasions, and always in similar localities. Mr. Shaw, who had seen them on his previous journey to Yarkand, said that they were good eating. [G. H.]

In its external form this bird unquestionably most nearly resembles the Choughs. Of its internal structure we have at present no materials for judging. Following Bonaparte, I have placed this genus with the Choughs, and not with the Jays or Magpies; but I cannot avoid the suspicion that these birds may constitute a very aberrant form of the great Timaline group.

DIMENSIONS of two males—one shot near Sānju, the other at Oi-Togrāk :

Length	...	...	11.5	...	...	11.5
Tail from vent	...	...	4.5	...	...	4.
Expanse	...	...	18.	...	...	17.75
Which primary longest	...	{ 3rd, 4th, 5th, sub-equal }			...	imperfect
		{ 1st by 1.75 }				
By how much other primaries		2nd	0.5	{	...	imperfect
fall short of longest	...	6th	0.05			
			.3			
Bill straight from forehead to						
point	...	...	1.56	...	...	1.45
Covered by frontal plumes for			0.35	...	...	0.23
Bill from gape	...	...	1.75	...	...	1.73
Tarsus	...	...	1.65	...	...	1.6
Mid-toe to root of claw			0.77	...	...	0.75
Its claw straight from						
root to point	...	...	0.42	...	...	0.45
Inner toe	...	...	0.63	...	...	0.62
Its claw	...	...	0.36	...	...	0.3
Outer toe	...	...	0.6	...	...	0.59
Its claw	...	...	0.3	...	...	0.35
Hind toe	...	...	0.45	...	...	0.35
Its claw	...	...	0.5	...	...	0.45

DESCRIPTION.—The bill, legs, and feet are black. The tail quills (except a white bar), the greater coverts, and the whole top of the head and nape, black, with a metallic purplish blue lustre ; most of the feathers of the head with a minute rufescent white speck at the tip. All the primaries with a very broad white bar extending from near the base to near the tip, and, except on the first primary, occupying the outer as well as the inner web. The shafts of the white portion of the feather are, in the first two or three primaries, partly brownish ; in the rest, white. The whole of the rest of the bird may perhaps be best described as a pale Jay colour, that is to say, a mixture of pale rufous and fulvous fawn ; with, especially on the back and rump, a vinaceous tinge, and becoming albescent on the chin, cheeks, and lower tail-coverts. The upper tail-coverts are very long, and reach to within an inch from the end of the tail, and are coloured in one specimen like the back and

in the other are paler. The wing lining is blackish brown, but the feathers about the carpal joint are creamy white.

That this bird belongs to Fischer's Genus *Podoces*, as defined in the "conspectus generum avium" (I have been unable to consult the Moscow "Mémoires"), there can be no possible doubt. The nostrils covered over with dense tufts, the gently curving bill, the strong feet, with the lateral toes nearly equal, the rounded wing maintaining the typical proportions of the primaries, and the long dense soft plumage, sufficiently testify to this fact. Even as regards the arrangements of colours, the present species so closely



Podoces Hendersoni.

adheres to the bird on which the genus was founded that I had at first identified the two; but from Bonaparte's description it appears that *P. Panderi* has a large black patch upon the breast, and no black patch on the top and back of the head, whereas exactly the reverse is the case in this species. Moreover the shafts of the quills are not black, as described in *P. Panderi*, and I have therefore named the species as above. Great differences appear to have prevailed as to the affinities of this genus: they have been classed with Magpies, Jays, and Crows; and Bona-

parte has placed them with the Choughs, which they certainly greatly resemble.

Considered, however, in connexion with the second new species of this genus, which has next to be described, and remembering their ground feeding, dust-loving habits, I



Podoces Hendersoni.

confess that, as already noticed, I should be inclined to suspect affinities with some of the more aberrant groups of the *Timalinæ*. [A. O. H.]

679 (*ter*). ***Podoces humilis***, Hume. (Pl. xxiii.)

This strange bird was only seen above Kitchik-Yílák, on the way to Yárkand; on the return journey it was not met with. It frequents short grassy downs, at a height of about 1100 feet. They were not in flocks, but were scattered all over the hill side. [G. H.]

Although differing in habits, appearance, and size so widely from the preceding, it seems impossible to separate it generically. The same curved, sub-cylindrical elongated bill; the same dense nareal tufts; the same robust feet, with the lateral toes nearly equal; and the same shaped wings, characterize both species. It may possibly not be new to science, but I can find no record of it in any work available to me for reference, and I have therefore designated it as above.

DIMENSIONS (*from the dry skin*) :—

			Male.		Female.		Male.
Length	...	...	7.5	...	7.	...	7.3
Tail	...	...	2.8	...	2.4	...	—
Wing	...	...	3.75	...	3.55	...	3.75
Which primaries are longest				3rd, 4th, and 5th		3rd, 4th, and 5th	
1st primary falls short of longest	...	...	1.55	...	1.3	...	1.35
2nd ditto	ditto	ditto	0.25	...	0.2	...	0.25
6th ditto	ditto	ditto	—	...	0.1	...	0.05
7th ditto	ditto	ditto	—	...	0.2	...	0.17
Bill at front	...	...	0.97	...	0.75	...	1.
Bill from gape	...	...	1.02	...	0.78	...	1.05
Tarsus	...	...	1.25	...	1.3	...	1.5
Mid-toe to root of claw	...	...	0.63	...	0.7	...	0.67
Its claw straight from point	...	...	0.39	...	0.35	...	0.39
Inner toe	...	...	0.4	...	—	...	—
Its claw straight from point	...	...	0.3	...	—	...	—
Outer toe	...	...	0.45	...	—	...	—
Its claw	...	...	0.30	...	—	...	—
Third toe	...	...	0.45	...	0.43	...	0.4
Its claw	...	...	0.45	...	0.42	...	0.45

DESCRIPTION.—The bill, legs, and feet are black. The forehead, lores, and an indistinct streak over the fore part of the eye, fulvous white. A dusky line through the lores



Podoces humilis.

to the eye. Front, top, and back of the head, back, scapulars, and rump, a dull earthy brown, very faintly rufescent on the head; a broad yellowish white patch upon the nape. The four central tail feathers, blackish brown, tipped and margined paler; lateral tail feathers white, tipped and margined on exterior webs with dingy fulvous. Wings brown, the quills

slightly darker brown, narrowly margined and tipped with paler brown. Chin, cheeks, and ear-coverts, and entire lower parts, dingy fulvous white. The ear-coverts slightly more tinged with fulvous or pale fulvous brown, and silky.

The female has more of a rufescent tinge on the back and scapulars than the male, and has the quills a darker hair-brown, the tertiaries and some of the secondaries more distinctly margined with a pale rufescent brown. In both sexes the bastard wing appears to be a dark hair-brown.



Podoces humilis.

It will be noticed that the female is smaller in most of her dimensions, and has the bill conspicuously shorter.
[A. O. H.]

680. *Pyrrhocorax alpinus*, Vieillot.

The Alpine Chough was seen occasionally in the same localities as the common one in the Sind valley and Ladák, but was much less plentiful. Near Shérgul, however, in November, it was seen in immense flocks, but so wild as to be unapproachable. Like the common Chough, the yellow-billed species was seen either feeding in cultivated lands or else on the berries of the *Hippophae rhamnoides*.
[G. H.]

681. *Sturnus vulgaris*, Linn.

This species, though not observed in Kashmir or Ladák, was very common in Yarkand. [G. H.]

The specimens exhibit for the most part the slightly longer bill which has induced some ornithologists to separate the Indian from the European race. But a comparison of a large series of both does not incline me to support this separation. Several of the birds obtained in Yarkand in the latter half of August were birds of the year, in the immature plumage, and others were in a transitional stage, having assumed more or less of the glossy purple white-tipped plumage. [A. O. H.]

682 (*bis*). *Sturnus nitens*, Hume. (Pl. xxiv.)

This species was abundant about Srīnagar, and the Kashmir valley generally, in May and June. [G. H.]

• It appears to be the species that has hitherto been identified with *S. unicolor* of Southern Europe, but it differs most markedly in its brighter tints and smaller size from the only European examples of this species with which I have had an opportunity of comparing it. It is this species which is not uncommon in the Peshāwer valley, and which breeds in May in the holes of trees in the compounds of the cantonments. It is equally common, I believe, in Kashmir and Afghanistan. Compared with the European bird, the bills are less compressed towards the tips, and looked at from above seem more spatulate towards the end. The birds are slighter and smaller, the wings ranging from 4·6 to 4·9 inches, against 5·2 in the only European specimens I have to compare it with, and the total length being from 7·25 to 8·0, against 9·0 inches in the Sardinian Starling. The colours are brighter (recalling the coloration of *Juida*) and the plumage more glossy, while the breast hackles are narrower and shorter.

Learning that Gould had figured a new eastern Starling under the name of *S. purpurascens*, I concluded that this must be my *S. nitens*, but having at last had an opportunity of consulting his twenty-second part of the "Birds of Asia,"

I see that both in plumage and dimensions they differ *toto caelo*—*S. nitens* is absolutely speckless, and is much smaller. I quote the following from Mr. Gould's work :—

Sturnus purpurascens.

DIMENSIONS.—“Length, 8·5 ; bill, 1·25 ; wing, 5·75 ; tail, 3 ; tarse, 1·12.”

DESCRIPTION.—“Bill yellow ; feet reddish brown.

Plumage.—“Face, head, throat, and neck deep bronze, passing into green on the upper part of the back and breast ; lower portion of back and upper tail coverts purplish blue ; abdomen dusky brown with a bronzy lustre ; wing-coverts deep coppery or bronzy red ; wings greyish brown, each feather bordered by a velvet-like line of black, showing very conspicuously on the tips of the secondaries : tail similar, but the velvet edging not so well defined ; under tail-coverts black, tipped with white, a few of the feathers on the upper part of the back and on the upper tail-coverts with a spot of white at the tip.”

Compare with the above :—

Sturnus nitens, nobis.

DIMENSIONS.—Length, 7·75 to 8 ; bill, 0·95 ; wing, 4·6 to 4·9 ; tail, 2·6 ; tarse, 1·1.

DESCRIPTION.—Bill yellow ; feet dull, or slightly brownish red.

Plumage.—Face, head, throat, a deep *blue* purple, the ear coverts alone having in some lights greenish reflections. Neck all round, upper back and breast a bright ruddy purple. Lower portion of back, and upper tail-coverts with a coppery and green gloss. Abdomen black, with a green metallic gloss. Wing-coverts dark green, with, in some lights a slight golden tinge. Wings, with the primaries and their greater coverts and the earlier secondaries towards their bases very narrowly, but very distinctly, edged with white. Quills greyish brown, outer webs of primaries inside the white edging black, with a narrow band of the same colour at the tip ; secondaries and tertiaries similar, but only about the outer half of the outer web black, and the greater portion of this, in fact all but the tips, overlaid

with metallic green, the black band at the tips more conspicuous than in the primaries. Under tail-coverts black, with a faint purple and green gloss. The whole bird absolutely spotless.

I think no one can well doubt that *S. nitens* and *S. purpurascens* are distinct. From *S. vulgaris*, as well as the Indian race of this latter, no one again can well question the distinctness of my new Starling. As to *S. unicolor*, the only specimen I possess, besides being much larger, having a more compressed bill, much longer breast hackles, larger feet and stronger claws, altogether lacks the brilliant contrasts of colours so conspicuous in *S. nitens*. My specimens might have been faded, but there is no indication of these contrasts in La Marmora's original description, or in Degland and Gerbe. I really think this is a good species. I have seen at least fifty specimens of it, all identical, but if there does not happen to be one in the Leiden Museum, we cannot of course expect Prof. Schlegel to admit its distinctness. [A. O. H.]

684. **Acridotheres tristis**, Linn.

This species was plentiful in Kashmir, and was observed ten miles beyond Srinagar, after which it was not again met with till the expedition returned to the same localities. [G. H.]

706. **Passer indicus**, Jard. and Selby.

This species was common in Kashmir and Ladák, but was never met with in Yarkand. [G. H.]

If the few English specimens that I possess fairly represent the European sparrow, I entertain no doubts of the distinctness of the Indian bird. The latter is altogether a cleaner, brighter coloured, and smaller bird. [A. O. H.]

708. **Passer cinnamomeus**, Gould. (Pl. xxv.)

This species was only twice met with, and this was in the Sind valley, Kashmir. [G. H.]

It is extremely common (at elevations of from 6000 to 9000 feet) in all parts of the Himalayas south of the first snowy ranges, but does not appear to penetrate to many places beyond these. Dr. Jerdon, I see, gives it as chiefly

a N. W. bird, but it is very common throughout Kumaon, and I have numerous specimens procured in the neighbourhood of Darjeeling. As Mr. Blyth correctly surmised, it is essentially a Tree Sparrow. He remarks that this species only differs from *P. rutilans* (Temm. Pl. Col. 588, fig. 2) of China, by the yellow tinge on the cheeks and lower parts. I note that in the "Table Méthodique" the name is altered to *P. russata*, under which name *both* sexes are well figured in the "Fauna Japonica" (t. 50). Here it may be remarked that what is there figured and described in the text as the young must, judging from the analogy of the present species, be the adult female.

This latter has not been correctly described by Dr. Jerdon. I have repeatedly taken the nest and killed both birds of the pair, so that there can be no mistake about what the female really is. The female is not by any means light brown above, but is a warm, at times faintly ruddy, at times somewhat olive brown, marked on the back with black streaks much like the male and conspicuously ruddy on the rump. She has a long well-marked yellowish white supercilium extending from the lores right over the eye and ear-coverts to the nape. The under surface is yellowish-white, brightest at the base of the throat and the abdomen, and slightly ashy on the breast and sides. I notice, what Dr. Jerdon omits, that the bill is nearly black in the male, horny, brown and fleshy, or yellowish at the base of the lower mandible in the female; and that in both sexes the legs are fleshy or reddish-brown, paler and dingier in the female, and the soles yellowish. The birds breed in May and June, making a loose nest, much like that of *P. flavicollis*, in holes of trees.

In shape the eggs are typically very perfect moderately elongated ovals, scarcely compressed or pointed at either end. They vary a good deal in appearance; many closely resemble common varieties of those of the House Sparrow, having the ground colour white, greyish or greenish white, more or less thickly speckled, spotted, streaked or blotched with various shades of brown, chiefly sepia brown. In this type of egg the markings are generally densest at the large

end, where they are often more or less confluent and even form a broad irregular mottled cap. Others again closely resemble the egg of *P. flavicollis*, and are so densely streaked and smeared all over with sepia brown as to leave little of the ground colour visible. A third type has the ground colour a faintly brownish grey, and exhibits a well-marked zone of dark sepia brown about the large end, and only a few specks, spots, and streaks of the same colour scattered over the rest of the surface of the egg. In size they vary much—viz., from 0.72 to 0.92 in length, and from 0.55 to 0.65 in breadth; but usually they measure about 0.75 by 0.56. Referring to what Mr. Blyth says of the distinctness of *Passer russatus* I should much like to see fresh specimens of this latter, because the yellow tints of the lower surface of this species are very fugitive, and I have specimens of it which have been for some time exposed to the light which correspond exactly with the figures in the "Fauna Japonica." [A. O. H.]

710. *Passer montanus*, Linn.

The Tree-Sparrow of Europe is the House Sparrow of the City of Yärkand, where it is almost as familiar and impudent as the English or Indian House Sparrow. It was seldom noticed in the fields or indeed anywhere except in and about the houses. In Turki it is called *Chum Chuk*. [G. H.]

This species is never met with, as far as my experience goes, in Kashmir or Ladák, Kulu, Spiti, Lahul, Garhwál or Kumaon, or generally anywhere in the Himalayas west of Nipál; but at Darjeeling this is the common House Sparrow during part of the year; and further east and south, in Assam, Tipperah, and Burmah it seems to be the only House Sparrow. [A. O. H.]

712. *Emberiza leucocephala*, Gm.

This species was met with in October in large flocks near Sónamarg in the Sind valley. They were flying backwards and forwards and seemed very restless, only settling on the ground for a few minutes at a time. They had probably been driven down from the pine forests above by

a fall of snow, which had occurred a few days previously. A good number of the next species were mixed up in the flocks. [G. H.]

We never get this species except in the winter, and then it is in a stage of plumage that I have never seen correctly described, and a description of which I therefore subjoin.* No one could well recognise our birds, either from Bree's figure of the summer plumage, or Dr. Jerdon's description; his "dark rufous moustachial line" and "triangular patch of white on the throat," belong to a stage of plumage that I have never met with. Dr. Henderson notes of a male—length, 6.25; tail from vent, 3; foot—greatest length,

* *Emberiza leucocephala.*

Winter plumage: Male.—Lores, orbits, sides of the head, chin, throat, cheeks, and upper portion of sides of the neck deep chestnut, the feathers more or less edged with white. Enclosed within this chestnut is a white patch, which beginning as a streak from the gape, expands and covers the whole ear-coverts, and is faintly bounded by a dusky line. From the forehead on either side of the crown, immediately above the chestnut of the lores and orbits, is a brownish grey band, containing two blackish brown streaks. The whole space of forehead, crown, and occiput enclosed between these two bands is white, the feathers tipped more or less with brownish grey. The nape is greyish brown. The back a pale yellowish brown—the feathers with dark brown centres and more or less tinged towards the tips with rufous. The rump and upper tail-coverts bright chestnut, the feathers narrowly tipped with greyish white. Tail-feathers dark brown, the central ones somewhat broadly, the laterals narrowly, edged with fulvous fawn. The exterior lateral feathers white for the terminal two-thirds, the penultimate for the terminal half, except a dark brown shaft stripe. The scapulars, tertials, and secondary greater coverts broadly tipped with rufous fawn, paling towards the edges. Secondary median coverts rather conspicuously tipped with rufescent white. Secondaries, primaries, and their greater coverts grey brown, very narrowly margined on their exterior webs with rufous fawn or rufescent white. Breast, abdomen, vent, lower tail-coverts, and wing lining, white, mottled across the middle of the breast and streaked on the flanks and irides with pale chestnut.

Female.—Top and back and sides of the head, including ear-coverts, a warm fulvous brown, the top and back of the head with central dark brown stripes. No trace of the white crown patch of the male until the feathers are lifted, when the central portions of the feathers of these parts are seen to be white. No chestnut anywhere about head, neck, or throat. No white on the ear-coverts. The whole of the rest of the upper parts similar to the male but somewhat warmer coloured. Throat yellowish white. Breast, sides, and flanks pale yellowish brown, the feathers with dark brown central stræ.

1.25; wings when closed reach to within 1.75 of end of tail; legs and feet flesh-coloured; bill horny; irides brown.

713. **Emberiza Cia**, Linn.

The Meadow Bunting, as this species is misnamed, was common all through Kashmir, from above Jamu to near the Zoji-lá Pass; beyond this it was not met with. It frequented low jungle and grassy hill sides. [G. H.]

I am not by any means certain that our Indian bird is identical with the European *E. Cia*, and I do not think good series of each have ever been compared. In Palestine, Canon Tristram tells us that *E. Cia* "is certainly not a Meadow Bunting, being found only on the tops of the hills and in the highest parts of Lebanon both in summer and winter," and much the same may be said of it in the Himalayas, west of the Ganges (I have seen no specimens east of this river), throughout which it resides the whole year round at heights of from 5000 to 9000 feet.

With us it lays in May and June; the nest is always on the ground, commonly wedged in under some large stone, or inserted between the blocks of the rough stone walls with which the hill sides are terraced, but occasionally placed at the base of some dense tuft of grass or shrubby bush.

The nest is generally a shallow, loose, but pretty perfect cup, from three to four inches in diameter, externally composed of grass stems and lined with finer stems of the same and a few horse or other animal's hairs or moss roots. A nest of this species obtained near Kotghur was a moderate sized pad of grass about five inches long by about four broad and perhaps two inches in thickness. Towards one end of this was a beautiful little saucer-like cavity perfectly circular about 2 inches in diameter and 0.75 in depth, lined with very fine grass stems, and this again at the bottom of the cavity with fine white hairs, but of what animal I am uncertain; they are much too fine for horse hair.

The eggs of this species are typically moderately elongated ovals, perfect and regular in this shape; they have little or no gloss, and the ground is a very pale greenish

white, or grey, or brownish stone colour. Their markings consist of the most delicate and intricate tracery of fine dark brown, in some places almost black, lines drawn over faint and pale inky-purplish streaks or marbling. Here and there a black or dark brown spot, like a fly caught in a spider's web, is seen amidst the tangle of lines that so specially characterize the eggs of this species and others of the Bunting family. These lines I may remark are commonly mostly confined to the large end of the egg, where they form in some a tangled cap and in others a broad irregular but conspicuous zone. I do not think that Dr. Bree's figure of the Meadow Bunting's egg conveys at all a good idea of the eggs of the Indian *E. cia*. The lines are much too few in number and too coarse and thick. Hewitson's figure of the Yellow Ammer's egg much more closely resembles our eggs, but even in this the lines are neither sufficiently numerous nor fine. Anything more elaborate or intricate than the labyrinth-like pattern of hair-lines exhibited by some of the eggs before me can scarcely be conceived. These very fine lines and the manner in which they are disposed about the larger half of the egg, remind one forcibly of the very similar lines met with in the little *Drymoipus inornatus*. In size the eggs most closely approach those of the Cirl Bunting, and out of a very large series, only one is as large as that figured by Dr. Bree. The eggs of our bird vary in length from 0.72 to 0.92, and in breadth from 0.6 to 0.68. It is just possible, as above noticed, that our common Himalayan Bunting may require to be separated specifically from the *E. cia* of Europe.

725. **Hesperiphona icteroides** (Vigors).

One specimen was obtained at Sónamarg, Kashmir, on the 19th of June. [G. H.]

This species breeds in May and June everywhere in the pine forests from 6000 to 9000 feet high, south of the first snowy ranges. It breeds also in Kashmir about the same time. Though continually heard, this species keeps habitually so high up on the pines, that it is not very often seen. [A. O. H.]

732. *Pyrrhula aurantiaca*, Gould.

This beautiful species was very common about the head of the Sind valley. It was met with on the road side in June and in October, and was quite tame and fearless. It associated in small flocks about six in number and flew from bush to bush, feeding on berries. It was met with in no other locality. The elevation at which it occurred was from about 7000 to 8000 feet. [G. H.]

737. *Carpodacus rubicilla*, Guldensadt.

One fine specimen, marked a female at the time, but obviously, I think, a male in full summer plumage, with a wing 4.75 in length, was obtained on the 9th October near the Pángong lake. Two young birds of the same species, clearly fledged but recently, were obtained on the 13th and 15th August at the Arpalak river. It is therefore probable that we have here one at least of the breeding places of this rare species.

My notes of the first-mentioned bird are: length, 8; tail from vent, 4; expanse, 13.75; foot, greatest length, 1.25; wings when closed reach to within 1.5 of end of tail. Legs and feet black; bill ashy. Of one of the young birds I note: length, 7.25; tail from vent, 3.25; expanse, 12; legs and feet brown; bill yellowish; irides brown. [G. H.]

The newly fledged young of this species has never, I believe, been described. It has the whole head, neck, breast, back and scapulars dull pale earthy brown, more or less yellowish in places, the feathers very lax and showing everywhere a great deal of the basal, three-fourths of the feathers of which are a pale blue grey. Abdomen similar but paler, lower tail-coverts brownish white, the shafts brown. The wings are pale hair-brown, most of the quills and coverts more or less broadly margined with dull pale yellowish earthy brown, only the earlier primaries excessively narrowly margined at and near their tips with brownish white. Tail pale hair-brown, exterior web of outer laterals fawny white, other feathers margined on their outer webs with pale yellowish brown. [A. O. H.]

738. *Carpodacus erythrinus* (Pallas).

The Scarlet Bullfinch was very common in June and July, in Kashmir, from the Sind Valley, and in Ladák to the first pass beyond Lé. The birds were in small flocks, and as all the specimens obtained were males in full breeding plumage, and no females were noticed, it is probable that these were sitting at the time, and that this species breeds in both provinces. It was not observed in the high desert regions, nor in Yarkand, and when the expedition returned none were seen in either Ladák or Kashmir. [G. H.]

The birds had by that time doubtless returned to the plains, where I have killed both old and young early in September. I do not think it has ever been noticed, that old females often have a dull orange patch on the chin, and a tinge of the same colour on the forehead. [A. O. H.]

741. *Propasser rhodochlamys* (Brandt).

A single specimen, a female, apparently of this species, was obtained in Ladák on the banks of the Indus near Lé, [G. H.]

It corresponds in plumage with other specimens that I possess, and with Gould's figure, but the dimensions are unusually large. Length, 7.5; wing, 4.1!

This species is only a winter visitant to the British Himalayas. At that season it is not very uncommon, and one or two specimens are to be found in every collection made during the cold weather, near Darjeeling, Almora, Massuri, Simla, and Murrec. [A. O. H.]

751. *Metoponia pusilla* (Pallas).

This species was met with in immense flocks, both in July and October, almost throughout Ladák, from Drás to Fota-lá Pass. It was observed feeding on the flowers and seeds of an *Artemisia*.

It probably breeds in May, and not impossibly in Ladák. When in flocks the sexes seem to keep apart, as out of some flocks a number of males only would be shot, while out of others nothing but females were obtained.

These birds are very restless, constantly on the move, flying from bush to bush along the hill-side, and making a low chirping noise. My notes of one fine male are:—length, 5·75, tail from vent, 2; wing, 3·1; expanse, 8·75. Bill, legs and feet, black. [G. H.]

Later in the autumn, the Golden-fronted Finch retreats further south, and enormous numbers swarm over the lower ranges nearer the plains, at heights of from 4000 to 7000 feet. I have known of thirty being killed at one shot, near Kotegurh, in the valley of the Sutlej. [A. O. H.]

751 (*bis*). *Linota brevirostris*,* Gould. (Pl. xxvi.)

Three specimens of this rare bird were obtained on the banks of the Arpalak river, in Hill Yarkand, only a short distance from where the plains commence. [G. H.]

* I reproduce Moore's original description and measurements. (P. Z. S., 1855, p. 217.)

"Allied to *L. montium*, but distinguished from that species by its lighter colour, and the male having the pink colour on the rump paler; the axillaries and the basal edge of the inner web of the primaries and secondaries pure white; the primaries and secondaries above are also broadly margined exteriorly with white. The female is also paler, and broadly edged, as in the male, with white.

Length, 5 inches; of the wing, 3·87; of tail, 2·62; centric feathers, 0·5 less; bill to frontal plumes 0·3; to gape, 0·5; tarsus, 6·6; centre toe and claw, 0·62."

This description agrees well enough with the Ladák, Sikkim, and Yarkand birds, but the dimensions seem in one respect scarcely reconcilable. None of the birds before me were measured in the flesh, but the wing in which the greatest difference exists, as compared with Moore's dimensions, cannot have much changed in drying, besides which Moore's measurements must, like ours, have been taken from the dry skin. All the five birds before me are much about the same size.

DIMENSIONS.—Length (allowing for the contraction of the skins and carbolized specimens), 4·8 to 5 inches; wing, 3·1 to 3·2; tail, 2·4 to 2·5; centre feathers, 0·3 less; bill to frontal plumes, 0·29 to 0·35; to gape, 0·4 to 0·45; tarsus, 0·58 to 0·61; hind toe and claw, 0·5 to 0·58. The first four primaries seem to be almost the same length, in some the second and in some the third are the longest, and in all the first is about 0·05 shorter than the longest.

DESCRIPTION.—The legs and feet are brown, the nails long and slender, the bill (apparently) fleshy, yellow brown at the tip.

Plumage.—The whole head, neck, back, wing coverts, chin, throat, and breast, pale earthy, dingy fulvous, or pale sandy brown, in different

This species is occasionally found in Ladák, and I have a specimen obtained somewhere in Northern Sikkim. It was originally described from "Erzeroum and Afghanistan." [A. O. H.]

752 (*bis*). *Montifringilla hæmatopygia** (Gould).

This species was first met with after crossing the Chang-lá Pass above Lé. From thence it was seen at almost every

specimens. The feathers of the crown, back, and breast, centered darker. Axillaries, wing lining, abdomen, vent, and lower tail-coverts white, tinged slightly fulvous on the abdomen; sides and flanks with a few faint yellowish brown streaks. Tail, (which is much forked, and has all the feathers, but specially the central ones, acutely pointed,) dark brown, greyer on the laterals; all but the central feathers, with the major portions of the outer webs white, and with the inner webs margined white, very broadly in the exterior laterals, and less and less broadly in each succeeding feather. Primaries and secondaries hair brown, the former margined with pure white, most broadly in the fifth to the eighth, the latter tipped with somewhat yellowish white. The inner webs of both more or less broadly margined towards their bases with white.

The rump is, in the *male*, pale vermilion pink; in the *female*, unicolourous with the back. The upper tail-coverts (which are rather long and very pointed,) are in both sexes a darker brown than the back, and are edged with white.

I do not doubt that this is *Linota brevirostis*, and that Moore's measurement of the wing is erroneous, but if he is correct our bird is distinct and might stand as *Linota montanella*.

* *Montifringilla hæmatopygia* (Gould).

DIMENSIONS.—Length, 6·9 to 7·25; wing, 4·5 to 4·75; second primary longest, first, 0·1; second, 0·03; fourth, 0·25; fifth, 0·68; sixth, 1·0 inch shorter. Tail from vent, 3·1 to 3·5. Exterior tail-feathers 0·35 longer than central ones. Tarsus, 0·8; mid-toe to root of claw, 0·65; its claw, straight from root to point, 0·25. Hind toe, similarly, 0·28; its claw, 0·38. Bill at front, 0·43 to 0·48. (The females are slightly smaller than the males.)

DESCRIPTION.—Bill, legs, and feet, black; irides brown.

Plumage.—The *male* has the forehead and lores deep, almost blackish brown, the crown, cheeks, and ear-coverts somewhat paler and the hind head paler still, the colour fading gradually. Upper back again paler and the feathers more or less margined with pale brown, the scapulars pale grey brown, the feathers with narrow ill-defined darker brown central streaks. Mid-back pale greyish brown; rump similar, but each feather tipped narrowly with crimson. Upper tail-coverts pale whitey brown, margined paler. Tail-feathers very dark brown, the exterior laterals with the whole, and the penultimate with nearly the whole of the outer webs, yellowish white. All the rest of the feathers margined with white very

encamping ground, until the expedition descended to the Karakāsh river. It was never met with below 14,000 feet, and often as high as 17,000; at these great heights it was almost the only resident bird met with. [G. H.]

This species is not confined to Ladāk. I have two specimens from Sikkim, one killed by Captain Elwes, at Kangra Lama, at an elevation of 15,000 feet. [A. O. H.]

752 (*ter*). *Montifringilla Adamsi*,* Gould.

This species was met with in June, about Karbu, Ladāk; but all the specimens then obtained had black bills.

narrowly except on the outer web towards their bases. Winglet, primaries and secondaries, and primary greater coverts dark brown, paler and greyer on the inner webs, and all margined exteriorly, the later primaries and the secondaries more broadly, and the rest very narrowly, with white or yellowish white. Lesser most of the median coverts, whitey brown. Chin brown, throat and breast whitey brown, becoming albescent on the abdomen, and nearly pure white on the lower tail coverts. Some few of the feathers of these parts slightly darker shafted. Wing lining and axillaries slightly greyish white. The *female* has the front of the head somewhat less dark, and has less of the crimson on the rump. She is also slightly smaller.

* *Montifringilla Adamsi* (Gould).

DIMENSIONS.—Length, 6·6 to 7·; expanse, 12 to 12·5; wing, 4·1 to 4·5; second primary longest; 1st, 0·08; third, 0·1; fourth, 0·45; fifth, 0·75; sixth, 1·05 shorter. Tail from vent, 2·6 to 2·85; exterior tail-feathers, 0·2 shorter than central ones. Expanse 12·3 to 12·8. Tarsus, 0·8. Foot, greatest length, 1·5; greatest width, 1·0; mid-toe to root of claw, 0·6; its claw, straight from root to point, 0·17 to 0·25. Hind toe, similarly, 0·26; its claw 0·25 to 0·4. In old birds the claws get worn down very short. Bill at front 0·48 to ·52.

DESCRIPTION.—Legs, feet, and claws, black; irides brown; bill, black in summer, orange yellow dusky on culmen and brown at tip in winter.

Plumage.—In summer: the whole of the top of the head, nape, back scapulars, and rump, pale brown, darker and greyer on the head, paler and duller on the back of the neck; central upper tail-coverts, blackish brown; lateral ones, white. Central tail-feathers blackish brown, scarcely perceptibly margined with fawn. Lateral tail-feathers, pure white, tipped for about 0·25 with blackish brown very narrowly margined with fawn. Lesser wing coverts and tertiaries nearly unicolorous with the portions of the back they adjoin. Greater coverts of primaries white except the tips and bases, which are greyish brown. Secondary greater coverts, broadly tipped white. Primaries and secondaries, very dark brown, the earlier of the former narrowly margined on the outer webs

Returning in October, it was observed in large flocks, at the same locality, and all the specimens then preserved had yellow bills. They occurred at a height of about 13,000 feet, at the Fota-lá Pass. [G. H.]

Gould is, I think, in error in considering the yellow bill a mark of immaturity. Looking through a large series, I find that all summer killed specimens have black, and all autumnal and winter specimens yellow bills. Some of those with yellow bills now before me are clearly old adult birds, with worn beaks. I consider the black bill to indicate the breeding garb. I know that this is the case both in *M. nivalis* and *M. arctoa*.

This is another species, widely spread throughout the higher regions of the Himalayas, beyond the first snowy range. I have a specimen from beyond Gilgit, another from Kumaon, beyond Budrinauth, and a third killed by Captain Elwes, at the Kangra Lama (wherever that may be) in Sikkim, at an elevation, according to the ticket, of 15,500 feet. Neither this nor the preceding species ever occur, so far as I have been able to ascertain, anywhere south of the first snowy range. Innumerable localities, apparently in every way suitable, and certainly high enough, are to be met with; but these and many other of the midland Himalayan birds are never to be seen there, simply, I believe, because exposed to the influence of the periodical rains—the climate is too moist. [A. O. H.]

with yellowish white and the latter ones with a white spot on the inner web near the tip. The first secondary with two-fifths of the inner web white; the last with half the inner and two-thirds of the outer webs, of the same colour, intervening quills intermediate between these extremes in the amount of white. Wing lining, axillaries, and under tail-coverts pure white, rest of the lower surface yellowish white, tinged greyish on the throat, owing to the dark bases of the feathers showing partially through.

In the autumnal plumaged fresh moulted birds, the lores and feathers impending on the nostrils are whiter, the whole upper plumage has a faintly rufescent fawny tinge, the tertiaries and central tail-feathers are broadly margined with rufescent fawn, the lateral upper tail-coverts, the lower ditto, and the exterior margins of the lateral tail-feathers and some of the larger wing-coverts are tinged with the same colour, while the under surface is more decidedly yellowish white.

753. *Fringillauda nemoricola*, Hodgson.

This species was only observed on the return journey in any great numbers, and then it was seen in large flocks, in the upper part of the Sind Valley, in the same localities as *Emberiza leucocephala*. Of a male I note—Length, 6; tail from vent, 2·5; expanse, 11·25; foot, greatest length, 1·25; wings when closed reach to within 1 of end of tail. Bill horny; irides brown. Legs and feet black. [G. H.]

A single specimen was obtained on the 22nd of June, at Drás, in Ladák, and some few birds probably breed there; but it is still uncertain whither the mass of those innumerable flocks that swarm on the lower ranges of the Himalayas, at heights of from 4000 to 7000 feet, during the winter, betake themselves during the summer. No one would believe what countless multitudes of these birds throng at times every hill-side in the neighbourhood of Kotegurh, in the valley of the Sutlej, during the cold weather. They come and go in the most capricious fashion; one day not a bird is to be seen; then for a week, or a month even, they are so thick that, as one of my collectors graphically described it, "Whatever you shoot at, you are sure to knock over at least one of these Lark Finches." Then again suddenly they all disappear. They are doubtless graminivorous by preference, but I have found lots of small insects and, of course, numerous tiny pebbles in their stomachs. [A. O. H.]

761. *Calandrella brachydactyla* (Temm.).

Several specimens of this species were obtained in Kashmir and Ladák, in both of which localities it may yet prove to breed, and numerous nestlings, apparently of this Lark, were procured near Bálakchi, and along the Karakāsh between the 31st July and 5th of August. A single adult male specimen, also procured in Bálakchi, in bleached and abraded plumage, while corresponding in every other respect with this species, has an unusually long, compressed, and pointed bill. It may be a mere deformity or accidental variety, but should other similar specimens be

obtained it would unquestionably deserve specific separation. Comparing it with a very large series of specimens, both European and Indian, it has the bill conspicuously longer, sharper, and more slender. So far as general appearance, legs, feet, and wings are concerned, it corresponds exactly with other specimens. If distinct, it might bear the specific name of *C. acutirostris (nobis)*, and the nestlings may probably, some of them, belong to this species. [A. O. H.]

761 (*ter*). **Melanocorypha torquata*** (Blyth). (Pl. xxvii.)

A single specimen of this species was obtained on the return journey at the foot of the hills leading from Kashmir to the plains of the Panjáb. [G. H.]

The Bokhara, or Bugheira Lark, as it is commonly called, swarms during the cold season all over the Trans-Sutlej districts of the Panjáb and N. Western Rajpootana; and a certain number, finding their way further down, are met with in regularly decreasing numbers as one proceeds southwards and eastwards in the Cis-Sutlej Panjáb, the Doab as far down as Futtchpoor and Southern Rohilkund.

Dry, sandy cultivated lands, sparingly covered with the stubble of the rain crops, the giant and bullrush Millets (*Holcus sorghum* and *Pencilaria spicata*) are what they affect.

They have a very loud and sweet note, and are, I can

* 761 (*ter*). *Melanocorypha torquata*.

DIMENSIONS.—(The males are larger than the females). Length, 7.06 to 8; expanse, 13.13 to 15.25; wing, 4.2 to 4.8. The second primary is the longest, the first is sub-equal to 0.2 shorter, the third is from 0.13 to 0.3 shorter, and the fourth from 0.5 to 0.7 shorter. Tail from vent, from 2.12 to 2.4. Tarsus, 1 to 1.1. Foot, greatest length, from 1.6 to 1.95; greatest width, from 1.07 to 1.45; mid-toe to root of claw, 0.62 to 0.7; its claw, straight to root of point, 0.2 to 0.32; hind toe, 0.38 to 0.46; its claw, 0.45 to 0.6, in single specimen, 0.8. Bill, straight from forehead to point, 0.6 to 0.7; from gape, 0.7 to 0.9; height at front, 0.2 to 0.25. The closed wings fall short of end of tail by from 0.38 to 0.87. Weight from 1.25 oz. to 2.13 oz.

DESCRIPTION.—Legs and feet fleshy or yellowish fleshy, more or less dusky at joints; claws dusky; irides brown, in some light brown. Bill, horny brown, or blackish horny on upper mandible, lower mandible greenish horny changing to yellow at base and gape.

well believe, grand songsters in the nuptial season, but they leave us with the first breath of the hot wind, and breed, it is believed, in Afghanistan, Bokhara, and Persia. It is probably this bird which was found by Canon Tristram on Mount Hermon and Lebanon. This species much resembles the Calandra Lark (*M. calandra*) of Europe, but it is somewhat smaller, and has the wing shorter. The bill in this species is considerably less, in fact is intermediate between that of *M. calandra* and *M. tartarica*. The dark collar or gorget is broader, I think, than in *M. calandra*, and is almost always divided in front by a broader or narrower line of white, whereas, though otherwise figured and described by Bree, all the four specimens of *M. calandra* that I have seen have the gorget virtually continuous. I have, however, one specimen of *M. torquata*, an old male, in which the gorget is continuous, one or two whitish feathers towards the centre being the only trace left of the usual division, so this probably varies in different individuals in both species. In the Calandra Lark the outer webs of the three first primaries are conspicuously margined in the male, less so in the female, with fulvous white. In the Indian *M. torquata* the edging is duller, less in extent, even on the first, and diminished to the merest line on the second and third. The external tail feather in *M. calandra* is white, except on the basal half of the inner web, which is greyish brown. The next feathers are more narrowly tipped and margined white, and the rest (except the central ones) are excessively narrowly tipped and margined towards the tips. In *M. torquata* the exterior feathers are dark brown, with only a very narrow margin of fulvous white on the outer web, and a patch of white at the tip, chiefly on the inner web. The next three or four feathers were similar, so that while there is four times as much white on the exterior feather of *M. calandra* as on that of *M. torquata*, there is less white on the antepenultimate of the former than on that of the latter. Then the secondaries of the Calandra Lark are pretty broadly tipped with white, of which there is no trace in the Bugheira Lark. On the other hand, in the latter the lores are whiter, the

dark streak through them plainer, and the supercilium much whiter, broader, and longer. The claws are on the whole I think, a little longer, but the length of these, especially of the hind one, varies so greatly in different individuals that it is difficult to be certain. I have an old male *M. torquata* with the hind claw .8 inch long, and another female with the same claw barely .45 in length. The legs of our Indian bird are paler, the bills rather darker.

764. *Otocoris longirostris*, Gould.

The Himalayan Horned Lark was met with from the first pass above Lé until the Expedition left the Karakāsh valley going to Yārkand, and in the same localities returning. It was usually found near water at from 12,000 to about 15,000 feet. Where you cease to find moss and running water it is no longer seen, and in the higher regions it is, so to say, replaced by *Montifringilla hæmatopygia*. Going up every pass, it was met with to a certain height, where it disappeared; going down the other side of the pass, it was again met with at the same elevation. Where it feeds was not noticed, but it was always seen coming in small flocks down to little pools of water to drink. It is a very conspicuous bird and varies considerably in size. It was almost the only bird met with on the Khush Maidan, a wretched desert, which a native when questioned as to its name, ironically, or on the *lucus a non lucendo* principle designated as above,—in other words the *happy* or *pleasant* plain! [G. H.]

Moore's original description of this species, which Jerdon copies verbatim is very unsatisfactory, and I therefore subjoin* a somewhat fuller one. I need not say that this

* *Otocoris longirostris*, Moore (ex Gould, MSS.).

DIMENSIONS.—*Male*.—Length, 8.5; expanse, 14.5; wing, 5.2. First three primaries sub-equal, first slightly longest, fourth 0.1, fifth 0.55, sixth 1.0 shorter than first. Tail from vent, 3.75. Bill at front, 0.55; from gape, 0.8. Tarsus, 0.92. Mid-toe to root of claw, 0.55; its claw, straight from root to point, 0.35; hind toe to root of claw, 0.31; its claw, 0.55.

Female.—Length, 7; wing, 4.5. Proportions of primaries similar to those of the male. Tail from vent, 2.75 to 3. Bill at front, 0.5; from

species never occurs either at Agra or anywhere else in the plains of India. It is essentially an Alpine bird. [*A. O. H.*]

766. *Alauda triborhyncha*, Hodson. (Pl. xxviii.)

This species was very common in Ladák, many of the examples obtained in October were young birds, with characteristic pale edgings to the feathers of the head and back. [*G. H.*]

This bird is very distinct from the European Skylark; it would seem not to have yet been figured, unless indeed

gape, 0.65. Tarsus, 0.8; mid-toe to root of claw, 0.46; its claw straight from root to point, 0.27; hind toe, 0.3; its claw, 0.37.

DESCRIPTION.—Bill, upper mandible and tip of lower, blackish brown. Rest of lower mandible bluish, tinged yellow towards the base.

Plumage.—Male fresh moulted, killed 9th October.—Lores, narrow band on the forehead, a broad cheek stripe running partly down the sides of the neck, the whole of the upper breast, a bar across the front of the crown, and the streak on each side of the crown (some of the feathers of which are linear, pointed, and fully 0.6 in length), and a small streak under the eye joining into the cheek stripe—velvet black, the bar on the front of the crown above being partly obscured owing to the tips of the feathers being vinaceous ashy. Forehead, between the two black bands, a broad streak over the eye extending nearly to the nape, chin, throat, and a broad border round the black cheek stripe, abdomen, vent, lower tail-coverts, axillaries, wing lining, nearly the whole of the outer web of the exterior laterals, and a portion of those of the penultimate ones, and nearly the whole of the outer web of the first primary pure white. Lower breast, sides, and flanks white, tinged with very pale slightly vinaceous, greyish brown. Centre of crown of head, nape, back and sides of the neck, back and scapulars, pale greyish brown, some of the feathers inconspicuously and narrowly darker centered, and the nape, and back, and sides of the neck distinctly tinged with vinaceous. Rump and upper tail-coverts pale fulvous fawn, the upper tail-coverts somewhat conspicuously brown shafted. Tail: central feathers hair brown, conspicuously and broadly margined with fulvous fawn, paling towards the edges. Lateral tail-feathers black, except as already described, faintly margined towards the tips with fulvous fawn. Quills greyish brown, third, fourth, and fifth primaries, blackish towards the tips; outer web of first primary white, other primaries narrowly margined white and tipped with fulvous fawn. Secondaries narrowly margined and tipped with white. Tertiaries somewhat darker brown at the base, but margined and tipped with fulvous fawn like the central tail-feathers. Primary greater coverts and lesser coverts more or less broadly tipped and margined with grey brown tinged with vinaceous.

Adult Female. Killed on the same date.—Similar to male but with the faint striations of the back of neck and back, &c., almost entirely obsolete—a brighter vinaceous tinge on crown, nape, back, and coverts,

it should turn out, as I half suspect, to be identical with *Alauda japonica*. (Faun. Jap. Aves. t. XLVII.) [A. O. H.]

767. *Alauda gulgula*, Franklin. (Pl. xxix.)

A single specimen of this species was obtained near Srinagar in Kashmir in May. [G. H.]

It probably breeds in that country as well as in the plains. I notice that the Himalayan race of this species, generally differs from that of the plains, by having the bill shorter and slenderer, by being slightly darker-coloured above, by a somewhat shorter hind claw, and by the purer and less buffy-white of the exterior lateral tail feathers. Some specimens are undistinguishable, but hill specimens can generally be picked out by these characteristics. Even

less black on the breast. More white on the two outer tail-feathers, and the central tail feathers nearly wholly rufous fawn.

Young Male. Killed same date.—Differs from the adult in having all the lateral tail feathers more or less conspicuously tipped with white. The breast white, surmounted by only a narrow line of black. The chin, throat, and eye-streak tinged with yellow. The cheek stripe and lateral crown stripes yellowish white, each feather with one or more narrow dusky black bars towards the tips. The vinaceous tinge on the wing coverts is even stronger than on those of either of the adults.

Young Female. Killed the same date.—Wants the vinaceous tinge of the plumage almost entirely; like the young male, has only a narrow black band across the upper breast. The frontal black band, as well as the black bands across the front of the crown and on either side of it, are wanting, and the cheek stripe and lores though partly black have all the feathers broadly tipped with yellowish white. The quills are paler coloured than in the adult, and the central tail-feathers may be described as very pale buffy fawn with a narrow brown shaft stripe.

A female killed in August is in such bleached and abraded plumage that it would scarcely be recognised as belonging to the same species. The lores and the cheek stripe and the pectoral band are dusky brown, a dingy white line runs from the nostrils over the eyes, and the whole crown and occiput is dusky, only just the extreme tips of the feathers retaining the original grey brown shade. The lower breast and abdomen are mingled dusky and fulvous white owing to the bases of the feathers showing through. The back of the neck and back is pale sandy, the feathers somewhat darker centered, while the upper tail-coverts and central feathers, are dull pale rufescent sandy. I have never obtained the bird in full breeding plumage, but I should imagine that it did not differ greatly from the freshly moulted October plumage. [A. O. H.]

the hill race is distinctly separable from *A. triborhyncha*, by its smaller size, shorter wing, proportionately longer bill, less ample crest, and paler colour. [*A. O. H.*]

769 (*ter*). **Galerita magna**, Hume. (Pl. xxx.)

This species, which I can nowhere find described, closely resembles *G. cristata*, but it exceeds it in size, and has in the adult a fuller and longer crest. Its general tint is more sandy rufescent, more of a desert colour, than any specimens of *G. cristata* met with in the plains of India. [*A. O. H.*]

This species was common in fields in the plains of Yār-kand. Some of the specimens obtained in August were quite young birds, and it is probable that it is a permanent resident and breeds there.

A male, not quite mature, measured: length, 8·0; expanse, 14·0; tail, 3·0; bill at front, 0·7; wing, 4·4; and the wings when closed reached to within 1 of end of tail. Another, an adult but moulting: has the wing, 4·45; and the bill at front, 0·75; a female, was: length, 7·15; expanse, 13. The legs and feet are flesh-coloured. The bill is fleshy, brownish on the culmen.

The Yār-kandis call it "*Toghai*." [*G. H.*]

778. **Sphenocercus sphenurus** (Vigors).

This species was common near the Chénab between Jamu and Banihál; it was not observed in the valley of Kashmir. [*G. H.*]

It is very common throughout the British Himalayas, south of the first snowy ranges, at heights of from 5000 to 7000 feet. It is one of those birds rarely found beyond the first line of snow. This species breeds from April to June, laying two or occasionally three pure white glossy eggs, which vary from 1·15 to 1·26 in length, and from 0·82 to 0·95 in breadth. The nests are composed of coarse and small dry twigs, loosely laid on some forked branch, and are most common at heights of from 4000 to 5000 feet. As my friend Mr. Thompson remarks *in epist.*, "the fruits of the *Myrica sapinda* or Kaphul which ripens about the

breeding season, form their chief article of consumption at this time." I again call attention here to the remarkable fact, long since noticed by Captain Hutton—viz., that to the Himalayas, at any rate west of the Ganges, the Kokila is only a spring and summer visitant. At Massuri for instance, they arrive early in the summer, rear their young and retire family by family as the autumn sets in. In the valley of the Sutlej near Kotegurh they are common in the summer, but not a straggler is to be seen there in winter. Where do they go to? Not further into the interior of the hills certainly, for they could find no food there; not to the low warm valleys at the foot of the hills. None are ever to be seen in winter, even in the Dhoon, where food is abundant and the *Crocopi* remain all the year round. They must migrate eastward, but I cannot hear of any considerable autumnal influx of this species into Assam, Tipperah, or elsewhere. The matter is really worth the investigation of Indian ornithologists; vast multitudes of a large and conspicuous species, tenanted during the summer a zone of hills varying from 20 to 100 miles in width, and stretching at any rate from the borders of Afghanistan to the banks of the Ganges at Hurdwar, absolutely desert us during the autumn and winter, and no one has as yet been able to explain satisfactorily where they go to. [A. O. H.]

787. *Palumbæna Eversmanni*, Bp. (Pl. xxxi.)

A single specimen, a male, and possibly a young bird, was shot on the 8th of October at Chágra above the Pángong lake, at an elevation of 16,000 feet. [G. H.]

This bird is precisely similar to numerous specimens killed by myself during the cold season in the Sirsa district of the Panjáb. It had (according to Dr. Henderson's note) the legs, feet, and tip of the bill, both pink and reddish pink. The colours of these parts are somewhat variable according, I think, to age.

This species visits the plains of Upper India (rarely wandering more than 150 miles from the foot of the hills) in large flocks during the cold weather. They take

up their residence in some clump of trees, near some pond or tank, and often in the close vicinity of villages, and there they roost at night, and in the early morning and at dusk they are to be seen, clustered thickly on the top-most boughs; during the day not a bird is to be seen, the whole colony disperses far and wide over the country in pairs or little parties of from three to seven. They come in November, and disappear towards the end of March, feeding always like the common pigeon on grain of all kinds.

They are not known to breed anywhere in our hills; probably they all go to Central Asia during the hot season, and the specimen obtained by the Expedition was doubtless on its way to the plains. [A. O. H.]

788 (*bis*). **Columba neglecta**, Sp. nov. ?

One specimen of a pigeon, a male, shot in Ladák, on June 26, 1870, is a typical example of the species (of which I have very numerous specimens) which (having no specimens of *C. livia* and *C. Schimperi* to compare with) I have called *C. neglecta*. This species may be at once distinguished from *C. intermedia* by its *much* darker general hue and by its white, or more or less greyish white lower back, contrasting strongly with the blackish-slaty rump and upper tail-coverts. This species replaces *C. intermedia*, in most places in the interior of the Himalayas. The other specimen, a female, shot at Drás, June the 23rd, belongs to what seems to be a hybrid race between *C. neglecta* and *C. intermedia*. The general colour of the upper back, scapulars, and coverts, is that of *C. intermedia*, but the lower back is a pale albescent grey or bluish-white, very different from that of the latter, and resembling in this respect *C. neglecta*, but not contrasting so strongly with the dark iron-grey rump and upper tail-coverts as does the white lower back of *C. neglecta*. This hybrid race (if such it be) is common in the outer ranges of the Himalayas, and I have shot it during the cold season in the plains, especially in districts near the foot of the hills. This race has been characterized by Captain Hutton *in epist.* as *Columba*

spelæa, but I scarcely think that it merits specific separation.

In this present species or race (*C. neglecta*) the wings of the female average about 8·5, and of the males 8·75, being an inch shorter than the recorded measurements of *C. livia*. Moreover, according to Macgillivray's description, the whole back of *C. livia* from near the shoulders to near the tail is pure white, whereas in this species the band of pure white across the lower back never exceeds 1·25, and in some specimens is scarcely above an inch in extent. The whole rump, upper tail-coverts and basal portion of the tail is a very deep slaty grey, contrasting very strongly with the white of the lower back. In the intermediate form the white is more or less tinged with grey, and the conspicuously white portion of the back does not exceed half an inch in breadth.

789. *Columba rupicola*,* Pallas.

„ *rupestris*, Bp.

One specimen of this species was procured at Lé on the 4th July, where enormous flocks of Pigeons were observed, but it was not at the time discriminated, and it is not certain whether these colonies consisted entirely of this species, or whether other species were intermingled in the flock. [G. H.]

The description given by Major Boys, and quoted by Dr. Jerdon (vol. iii. p. 470), is excessively accurate, except that he fails to notice the deep vinaceous purple tinge which extends over the greater portion of the breast. The bird is considerably larger than *C. intermedia*, and much paler in colour; the specimen obtained measured 14·0 in length, wing 8·5, tail 5·5, tarsus 1·2, mid toe to root of claw 1·06, its claw straight from root to point 0·4, bill at front 0·63, bill from gape 0·82. The white band on the tail feathers is about 1·15 broad on the centre tail feathers, and below this band the black slaty tint extends for about 1·2; on the outer tail-feathers the white band is nearly 1·4 wide, and

* In regard to this being the true *C. ænas* var. *rupicola daurica*, Pallas, vide No. 792. infra.

the black tipping only about 0·73 wide ; the tail is a good deal rounded, the exterior feathers being 0·43 shorter than the central ones ; the legs and feet bright red, a colour which they retain in all its brightness in the stuffed specimen ; claws dusky. This specimen is peculiarly interesting, because, as far as I am aware, it is the only Indian killed one that has been preserved. It may be noticed that the tips of all the primaries are brown, and that in the later ones this colour extends as a marginal band a considerable distance along the outer web.

This species never occurs near Massuri, nor in any other part of the Himalayas, to the best of my belief, below 12,000 feet. I have never before seen a specimen.
[A. O. H.]

790. *Columba leuconota*, Vigors.

A single specimen was obtained in June near Drás, where it was very abundant ; it was a female, and measured—length 13·0, expanse of wing 34·5, and length of do. 8·9.
[G. H.]

During the summer this species is doubtless, as Dr. Jerdon remarks, chiefly found at heights of from 10,000 to 14,000 feet far in the interior of the Himalayas, but during the winter it descends to the lower ranges, is common about Simla, Massuri, Murree, &c., and the valleys below them, at elevations of from 3500 to 7000 feet, and occasionally stragglers are killed quite at the foot of the Hills. This species is not confined to the North West. I have it from the Sutlej Valley, east of Chini, from Kumaon, beyond the Dhuji, on the borders of Nepál, and again from the Hills north of Darjeeling, but from exactly what locality I am ignorant.

792. *Turtur vitticollis*, Hodgson.

Turtur rupicola (Pallas, apud Jerdon).

This species was met with in considerable numbers in the Sind Valley, Kashmir, feeding on the mulberries. It is there called "*Kookail*." [G. H.]

I have unfortunately no copy of Pallas's "*Zoographia*"

by me to refer to, but from notes which I made when going through the work I feel almost confident that Bonaparte was wrong in identifying Pallas's var. ♂ *C. oenas*, var. *rupicola daurica*, with *T. gelastis*, Temm. (*Gelastes*, *apud Bp. et auct.*). I cannot make out how the mistake occurred, but, according to my notes, Pallas both figures and describes under the head of *C. rupicola* the species already noticed as *Columba rupestris*, Bonap., a Pigeon, and *not* a dove, though Bonaparte says the contrary. Having called attention to this point, I must leave European ornithologists (who possess the inestimable advantages of large libraries to consult) to settle this point. But whether *T. rupicola* and *T. gelastis* are or are not identical, I do not think that our Himalayan and Indian bird can be identified with either, at any rate if these are held distinct from the European *T. auritus*.

I subjoin comparative measurements of the Indian and European bird, as well as of *T. gelastis*, from both Japan and the Amur :—

	<i>Turtur vitticollis</i> , Hodgs. ex Ind.	<i>Turtur gelastis</i> , ex Faun. Jap.	<i>Turtur gelastis</i> , ex V. des. A. L. Schrenk.	<i>Turtur auritus</i> , ex Eur. et Yark.
Length	12 to 14	11.7	—	11 to 11.3
Wing	7 to 7.55	7.43	7.35 to 7.7	6.8 to 7.1
Tail	5 to 5.5	5.1	5.11 to 5.3	4.75 to 5.25
Bill at front	0.6 to 0.75	0.59	0.67	0.7 to .75
Tarsus	0.9 to 0.1	0.85	1 to 1.05	0.8 to 0.85
Mid-toe to root of claw	0.95 to 1.02	0.96	1.05 to 1.17	0.95
Its claw	0.3 to 0.4	0.28	0.25 to 0.27	0.25

The European bird, it will be seen, is, on the whole, the smallest, although it has the longest bill; but *T. gelastis* and *T. vitticollis* differ quite as much, so far as mere measurements go, as do the former and *T. auritus*. Moreover, unless of each race or species the same large series of both sexes were carefully measured in the flesh, in the same way that I have measured our Indian bird, one could, even supposing mere differences in size sufficient to constitute a distinct species, scarcely arrive at any definite conclusion. But in regard to plumage, certain differences between the three races seem constant, our Indian bird holding, so far

as plumage is concerned, the same intermediate position between the Japanese and European races that it does geographically. From *T. gelastis* it appears to differ, in having, like *T. auritus*, scarcely any white tipping to the central tail-feathers, and in having the tips of the lateral tail-feathers and the exterior webs of the external laterals pure white, instead of pale bluish grey, in having the lower tail-coverts nearly pure white, and the chin and throat much paler.

From *T. auritus* it differs in having, like *T. gelastis*, a richer vinaceous rufous tinge on the back, scapulars, and breast, by the tips of the feathers of the black neck spots being a beautiful blue grey instead of white, in having a coarser bill, and generally in its larger size. It also differs from *T. auritus* in the white tippings of the tail-feathers being narrower, and in having the middle and lower back, axillaries and wing-lining a more or less deep slaty blue, instead of greyish brown in the case of the two former, and light ash grey in that of the two latter.

The conclusions I come to, therefore, are (1) that *T. rupicola* of Pallas is a different bird altogether. (2) That our Indian bird differs nearly as much from *T. gelastis* as from *T. auritus*, and that if *T. gelastis* is maintained as distinct, so ought *T. vitticollis* to be, but that under certain views of what constitutes specific differences (views in which, however, I do not concur) it is quite admissible to unite them both with *T. auritus*.

So far from being only a winter visitant to the Hills, as Jerdon supposes, it is almost exclusively a summer resident only. A few birds remain in the lower valleys of the Hills, doubtless, but the great majority move downwards in the cold season to the plains of Upper and Central India. When I was stationed in the Etāwa district in the Doab, halfway between Agra and Cawnpore, this Dove used to pass down in November and up again in March. For two or three days on each occasion, every grove and every roadside avenue swarmed with them, but not a solitary bird was ever seen except on those two occasions in the year.

In Saugor in the central provinces they are common for some months in the cold weather.

Throughout the summer, this species abounds everywhere in the Himalayas, at any rate from the western borders of Nepal to Murree, at elevations of from 4000 to even 9000 feet, south of the first high snowy ranges. North of these I do not remember to have seen it, but Dr. Stoliczka talks of it as occurring in Western Thibet up to 12,000 feet.

As for the nearly allied *T. meena*, Sykes, which may be always distinguished by its darker or lighter slaty-grey or bluish under tail-coverts, it never I believe visits the Himalayas, at any rate west of Nepal.

Throughout Central and part of Southern India, in Raepore, Cuttack, Midnapore, Dacca, Assam, Cachar, Tipperah, Chittagong, and Martaban, it is abundant, and in some at least of these localities a permanent resident, but it does not, I believe, visit the Himalayas anywhere west of Nepal.

I am aware that Dr. Stoliczka says that this species is found in summer on the lower ranges as far as Kotegurh. Year after year I have shot over these lower ranges, and had Shikarees shooting there, while for three years I have had a regular establishment of collectors in the Sutlej Valley, with Kotegurh as their head-quarters, and while I have myself obtained and have had sent to me *T. vitticollis*,—birds, eggs, and nests by the score, I have never even seen a single individual of *T. meena* procured in the localities indicated by Dr. Stoliczka. If it really occurs there, it can only be as an excessively rare straggler, such as *Ectopistes migratorius* is in England. Hutton's bird is beyond doubt *T. vitticollis*. I owe to him both eggs and a specimen of the bird.

T. meena itself includes two races, the one the western form, from Mahableshwur, with the lower tail-coverts light grey; the other, the eastern form, from the east coast of the Bay of Bengal, with these parts deep slaty or dusky bluish. Specimens from the Puchmurries are intermediate, but nearest the Mahableshwur form, while those from Raepore and Comillah are nearest, the latter especially, to the Martaban type.

T. vitticollis lays throughout the summer; I have found eggs early in May and late in August, but the great majority lay in June. It makes a loose, but rather more substantial twig nest than many of its congeners, placed on some horizontal branch of a large tree, usually not far from the extremity. The eggs are pure white, and glossy, and vary from 1.1 to 1.22 in length, and from 0.9 to 0.98 in breadth.

792 (*bis*). **Turtur auritus*** (Ray).

A single specimen of the European Turtle Dove was obtained at Oi Togrāk in Yārkand on the 18th of August. Doves were comparatively rare in Yārkand, and this was the

* *Turtur auritus*.

DIMENSIONS.—Length, 11 to 11.3; expanse, 20 to 21.2; wing, 6.8 to 7.1; tail from vent, 4.75 to 5.25; bill at front, 0.7 to 0.75; from gape, 0.9; tarsus, 0.8 to 0.85; mid toe to root of claw, 6.95; its claw, 0.25; hind toe, 0.4—its claw, 0.23. The second quill is the longest; the first is subequal; the third, 0.2; the fourth, 0.65; the fifth, 1.1 shorter. The second and third quills slightly emarginate on the outer webs towards the tips. Tail rounded; lateral tail-feathers 0.5 to 0.6 shorter than central ones.

DESCRIPTION.—Bill varies from purple to greyish black, according, I think, to season; the tip of the upper mandible slightly yellowish. Orbital space, pale red; irides, orange yellow. Legs and feet, purple to purplish red. Claws, blackish horny.

Plumage.—Top and back of the head and back of the neck brownish ashy, in the female—greyish blue in the male. The back greyish brown often a good deal but faintly tinged towards the tips of the feathers with pale rusty. Lesser and median wing coverts, except just at the carpal joint, scapulars and tertiaries, greyish brown with a large pointed black blotch towards the tips, and broadly margined with light rufous or pale ferruginous; rump and upper tail coverts greyish brown, often more or less tinged, but faintly so towards the tips with dull ferruginous; central tail feathers are brownish grey for the basal halves, and dull somewhat greyish brown for the terminal halves narrowly tipped paler. The lateral tail feathers are blackish slaty, with the whole exterior web of the outer laterals pure white, and all the laterals broadly tipped with white, those nearest the central ones least broadly so. Feathers about the carpal joint and greater coverts of the secondaries pale bluish grey. Primaries, secondaries, and the greater coverts of the former, dull hair brown more or less tinged with grey and very narrowly margined with brownish or greyish white. The chin, throat and ear-coverts whitish, a large patch on each side of the neck black, each feather with a narrow terminal greyish white or white bar. Front of the neck, breast and sides, light

only species observed. The specimen above referred to was a female, and corresponds with European specimens with which Mr. Hume compared it. [G. H.]

802 (*bis*). *Syrrhaptes tibetanus*, Gould.*

No specimens were obtained by the Expedition on the way to Yarkand, but Dr. Cayley shot some in the upper

vinaceous purple, brightest on the upper portion of the breast. Abdomen and lower tail coverts white. Axillaries, wing lining and flanks greyish blue. Beside the difference remarked on the head, the colours of the female are generally paler and duller. [A. O. H.]

* *Syrrhaptes tibetanus*, Gould.

DIMENSIONS.—*Male*.—Length, 19; tail from vent, 8.5; expanse, 30; wing, 10; second primary the longest; first primary, 2.5; third primary, 0.35; fourth primary, 1 shorter. Wings when closed reach to within 4.5 of end of tail; the longest, namely the central tail-feathers exceed shortest by 4.5 to 5. The females are somewhat smaller and have the elongated central tail-feathers considerably less developed.

DESCRIPTION.—Bill and nails bluish horny; soles whitish.

Plumage.—Lores and forehead whitish faintly tinged with buff a dark shafted. Crown, occiput, and nape white, closely and somewhat irregularly but closely barred, with blackish brown chin, throat, cheeks, ear-coverts, sides and front of neck, and a narrow band across the back of the neck (not shown in Gould's figure, but very conspicuous in adult male) bright, buffy yellow in the breeding season; white tinged with the same colour in the winter. Lower part of the back of the neck, upper back and upper breast white slightly tinged vinaceous with close regular narrow transverse blackish brown bars. The whole mantle including the scapulars and tertaries vinaceous fawn colour brightening to rufous buff along its (the mantle's) exterior margin, with large conspicuous black blotches on the inner webs of the scapulars, and everywhere excessively finely vermiculated with blackish brown, which is scarcely perceptible without close examination except on the upper back and towards the tips of the elongated tertials. The lower back and rump are white, very beautifully vermiculated with dark somewhat greyish brown, upper tail coverts similar, but the ground colour tinged with rufous fawn. Central tail-feathers with the basal portions similar to the upper tail-coverts, but with a slightly more vinaceous tinge and with the elongated attenuated portions which in fine males are 5" in length, black with a slaty bloom on them. Primaries and their greater coverts black with a slaty bloom on them towards the tips, the hinder ones with a more or less extensive buffy white patch on the inner web at the tip. Secondaries black, but with more or less of the outer webs (less in the earlier—more in the later ones) similar in colour to the tertaries. Lateral tail-feathers bright rufous buff, tipped with pure white and with several widely separated moderately broad more

Karakāsh valley towards the end of July. It was also noticed at a lake some twenty miles S. W. of Mallik Shah flying towards the Karakāsh after dusk in flocks of from twelve to twenty.

On the return of the expedition it was very abundant at Chāgra, above the Pāugong Lake, flying up and down the stream in huge flocks of several hundred birds, and incessantly calling "Yak, yak." It was very tame, and numbers were shot, and, I regret to say, almost without exception eaten, instead of being preserved. This bird is called "Kaling" in Thibet and Ladāk. [G. H.]

816. *Tetraogallus himalayensis* (Gray).

The only specimen of this species obtained was a young bird received from the Kirghiz Tartars at Kitchik Yilak, near the Sānju pass, over which it is the special prerogative of these semi-savages to carry on their Yaks all merchandize to or from India and Yarkand, the pass not being of a nature to permit horses or camels to cross it fully laden. At the same time the Kirghiz gave the party a young bird of the next species; both species, therefore, occur on the north-western flanks of the Kuen Lun. [G. H.]

In the upper Sutlej Valley, Lahul, and Spiti, this species lays in June. The eggs, according to native collectors, are from six to ten in number. In shape they are long nearly perfect ovals, slightly larger, and con-

or less cuneiform transverse black bars. Lower breast grey, abdomen, sides, flank, vent, tibial and tarsal plumes, and shortest lower tail-coverts white, the leg feathers sometimes slightly tinged with fulvous and with traces of narrow transverse barrings on the tibia.

Female much resembles the male, but differs in the much greater extent of pencilling and barring. The whole mantle and the whole of the breast (not merely the upper breast as in the male) is distinctly and conspicuously lineated with narrow zigzaggy dark brown lines. The mantle of the male is doubtless when closely looked into excessively finely vermiculated with blackish grey or greyish brown, but in the female these markings are very conspicuous, and on the longer scapulars and tertials are broader apart and fully as distinctly marked as those on the upper breast of the male. The linear elongated portion of the central tail feathers in the female does not exceed above three inches in length. The bill too is decidedly smaller. [A. O. II]

siderably less pointed than those of the Monaul. The shell is moderately fine and glossy, showing everywhere minute pitted pores, similar to, but much less marked, than those of the Pea-fowls. The ground is a pale olive brown, which is more or less thinly speckled and spotted, and at times blotched with reddish or purplish brown. In size the eggs vary from 2.5 to 2.75 in length, and from 1.85 to 1.98 in breadth. [A. O. H.]

816 (*bis*). ***Tetraogallus tibetanus***, Gould.*

This bird was first met with in the Sánju pass in the beginning of August, at an elevation of nearly 17,000 feet.

* *Tetraogallus tibetanus*.

DIMENSIONS.—*Male*.—Length 20"; wing, 10.15; second primary longest; first primary, 0.1; third primary, 0.25 shorter; expanse, 31.5; wings, when closed, reach to within 3.5 of end of tail; tail from vent, 7; lateral tail feathers, 2.0 shorter than the pair next the centre, which are longest; tarsus, 1.85; mid-toe to root of claw, 1.75; its claws, straight from root to point, 0.45; hind toe, 0.45; the claw, 0.17; bill at front, from edge of cere straight to point, 1.05; from gape, 1.2; height at front, at margin of cere, 0.55; length of cere on culmen, 0.13.

Female.—Length, 18; wing, 9.4; tail from vent, 6.5; tarsus, 1.8; bill at front, from margin of cere straight to point, 1.05.

DESCRIPTION.—*Male*.—Bill orange red, dusky towards the nares; legs and feet coral red.

Female.—Bill orange at tips, blackish towards nares; legs and feet orange red.

Plumage.—Forehead and a broad line from the nostrils through the lores and eyes, and over the ear-coverts, buffy white; rest of the top of head, occiput, nape, checks, side of the head and neck, dull bluish grey, very freely and inconspicuously vermiculated with blackish brown, and with specks and spots of fulvous white. Chin, and a broad line down the centre of the throat, slightly fulvous white; a broad irregular band round the base of the neck in front, grey, the feathers vermiculated with dark brown, and spotted with slightly vinaceous fawn; then below this the upper breast, white; then over the middle of the breast a broad irregular band of greyish fawn-coloured feathers, all finely vermiculated with dark grey or blackish brown. I note here that Gould's figure is singularly deficient in failing to show the upper gular band, which is very conspicuous in both sexes—in the fresh bird at any rate.

Below the pectoral band the lower breast and abdomen are white, generally with a faint creamy or vinaceous tinge, each feather laterally margined with black. The vent feathers are fulvous white, the lower tail

Only a single covey was observed there—one was shot and a Falcon flying over frightened the rest, who immediately settled and squatted, so that two of them were caught alive. A month and a half later, on the return journey, they were in thousands at the same place, a continuous stream passing and repassing along the hillside throughout the forenoon just about the snow level. The Kirghiz had numbers of young ones, which their herd boys had caught. Later again, in October, the expedition found them very numerous in the Chang-lá pass, about the snow level. They had been feeding on grain, all picked out of the droppings of cattle and horses. The Kirghiz name for the bird is "Utar."
[G. H.]

coverts are mingled black and white, the white being chiefly confined to a broad stripe from the tip running upwards, and narrowing as it approaches the centre of the feather. Flanks and tibial plumes, which are much developed, very pale, vinaceous fawn or white tinged vinaceous, with a central linear or lanceolate linear stripe of blackish grey vermiculations. Base of the neck behind and back very pale gray with a faint pinkish tinge very finely vermiculated with blackish brown, most of the feathers of the upper back tinged towards their margins with a dingy fulvous shade and those of the lower back distinctly margined with pale buff. The rump and upper tail-coverts are very similar to the upper back, except that they are pervaded with a rich vinaceous tinge. Central tail feathers of a nearly uniform dull vinaceous pink, closely and strongly vermiculated with blackish brown. Lateral tail-feathers dull greyish black tipped with pale vinaceous rufous, and more or less variegated with the same colour on the outer webs towards the bases. The lesser wing-coverts resemble the upper back. The scapulars, tertiaries, and the coverts adjoining the scapulars, are also very similar to the upper back, but the ground colour is more buffy, the vermiculations more strongly marked, and the feathers are broadly margined with a somewhat rufous buff. The primaries are pure French grey, the earlier ones narrowly, the later more broadly tipped with white, and more or less finely powdered with the same colour on the margins of the outer webs. The secondaries are somewhat similar but much more broadly tipped with white and have the whole of the outer portions of the outer webs above the tips coarsely speckled and spotted with buffy white. The winglet is a slaty-grey, the feathers more or less finely powdered and some of them margined towards the tips with yellowish white. The female is very similar to the male, but has the head paler, has the whole of the ear-coverts white, the cheeks paler and the black stripes of the abdomen somewhat less conspicuous. [A. O. H.]

820 (*bis*). ***Caccabis pallescens*, sp. nov.**

One specimen, a male, killed at Karbu, Ladák, on June the 26th, differs sufficiently from the ordinary Indian type to require special notice.

The whole upper and under surfaces are *far* paler and grayer (the crown, back of the neck, rump, upper tail-coverts and breast most conspicuously so) than those of any of the innumerable specimens shot south of the snowy range that I have ever seen. Structurally the birds agree, except where the bill is concerned, for in the Ladák bird it is slightly more lengthened and compressed than in any of the Indian specimens before me. It measures straight from the forehead to point 0.96, and from anterior margin of nares to point 0.62. In the Indian birds these dimensions may be taken as 0.86, and 0.59. The bill is somewhat more compressed, and the culmen slightly more raised. The difference in colour is *very* marked, and if this difference and that of the bills is *constant*, I should propose the name of *C. pallescens*.

In *C. græca*, the bill is much shorter as it seems to me than in either of the Ladák or Indian birds, the bills of specimens before me measure, from the forehead 0.74, from anterior angle of nares, 0.51.

In colour the Ladák bird somewhat reminds me of the species from Aden, which I have called *C. arenarius*, but this, while much less rufous and generally paler than *C. chukor* and *C. græca*, is not so grey as the Ladák specimen. I am not aware that the Aden bird has ever been discriminated, and I may therefore mention that it is a considerably smaller bird than any of the others. Wing 5.75 against 6.75 in the Indian and Ladák birds. Tarsus 1.4 against 1.7 in the Indian birds (similarly measured); the tarsus too is more slender. Mid toe and claw 1.4 against 1.9 in the Indian. There is a fine specimen of this little Chikone in Colonel Tytler's museum, given him by Bābu Rajendra Mallik, who obtained a number from the captain of some Arab vessel, trading from Aden. This was the first specimen I ever saw, but I have since obtained a similar one direct from Aden.

820 (*ter*). ***Caccabis pallidus*, sp. nov.**

In Yārkand a species of Chikone swarms (wherever the rivers debouch into the plains) over a belt of country some ten or fifteen miles in width. The Yārkandis disdain the use of firearms for the chase of these birds. A party of men mounted on ponies and armed with whips pursue a covey and in a very short time succeed in capturing the whole flock. The Chikone will never rise more than twice, and after that as they run, they are easily overtaken and knocked over with whips. This sport is carried on over the most terribly rough ground in the rocky valleys, but the Yārkand ponies traverse at the top of their speed country, that most men would only crawl over with the utmost caution and deliberation. [G. H.]

The Yārkand specimens differ still more from the Indian than does the one procured in Ladāk. They are excessively pale, and are overlaid with a desert tint, similar to what is observable in *C. arenarius*, nobis, above referred to. The wing measures from 6.0 to 6.25, the bill at front 0.8, and from the exterior angle of the nares 0.51, it seems very questionable whether all these various nearly allied races deserve specific separation, but if this race is to be separated it may stand as *C. pallidus*. [A. O. H.]

829. ***Coturnix communis*** (Bonnaterre).

One specimen of the common Quail was caught on the 24th September, at the Karatāg lake (13,500 feet) and kept alive for several days. It was the only Quail actually observed during the journey, but though not flushed or bagged they were heard calling in all the fields in Yārkand.

845. ***Charadrius longipes***, Temminck.

This species was very abundant in August in the vicinity of Yārkand. The specimens are in nearly full breeding plumage (obtained August 22nd to 28th). They do not differ perceptibly either as to length of tarsus or size from specimens procured in the plains of India during the cold season.

This bird has a perfect string of names amongst the Yār-kandis, "*Belina*," "*Karrak*," "*Orgat*," "*Mastiak*," but unless one is well acquainted with a language it is by no means safe to rely on the names furnished by the natives on the spur of the moment.

Of a female the length was 9.5, the expanse 20, the tail from vent 2.5, the foot, greatest length 1, greatest width 1.75, the legs and feet plumbeous, bill dark plumbeous nearly black, irides dark brown. [G. H.]

Dr. Jerdon tells us that many breed in India *even* towards the south, but I am inclined to think there must be some mistake, and that if they breed in India at all it can *only* be in the south. For years these birds have been watched throughout northern India, by myself and several of my contributors, and we have always found that the birds disappeared entirely during the hot season. The same has been the case in Central India, even down at Raepore, where they are extraordinarily numerous in the spring; the birds become wild and shy by the 1st of May, and before the month closes have all disappeared. [A. O. H.]

847. *Ægialites mongolicus* (Pallas).

This species was first met with on the 19th of July, at the hot springs above Gokra, at an elevation of 16,000 feet. A few were seen on the Salt Plain, on the 29th of July, and after that the birds were found in pairs all along the Karakash river. They were not very numerous, but a certain number of pairs were met with each day. All the specimens obtained are in full breeding plumage and correspond well with Middendorf's plate, No. XIX, figures 2 and 3.

Not a single bird was met with on the return journey, in September and the early part of October. Gokra was reached on the 5th of that month, so that ere this the young birds must have been sufficiently advanced to leave along with their parents for our distant Indian coasts.

Of one specimen measured in the flesh it is noted that the length was 8 inches; the expanse 16; the tail from

vent 2; the closed wings reached to the end of the tail; the legs were plumbeous; the toes and bill black. [G. H.]

851. *Vanellus cristatus* (Meyer).

Three specimens of this species were obtained in the plains between Kargallik and the city of Yärkand. It seemed very abundant in all marshy places throughout the plains of Yärkand. The Turki name is said to be *Machany*. [G. H.]

Dr. Jerdon tells us that this species breeds in the Panjáb, but there again I think there must be some mistake. Throughout the Panjáb up to the *ultima thule* of the Pesháwar and Agrove Valleys this bird has been observed to disappear at the latest, early in May, and I very much doubt its breeding south of the snowy range. [A. O. H.]

860. *Strepsilas interpres* (Linn.).

A single pair was obtained; the male near the city of Yärkand on the 2nd of September, and the female at Posgám on the 6th of September. They were in an intermediate stage of plumage, between the summer and winter dress. These birds were probably on their return journey from their northern breeding haunts to the coast of India; it does not appear likely that they can reside for any length of time in a far inland country like Yärkand, devoid of lakes even, a mere plain of sand traversed by narrow vein-like streams, scantily fringed with vegetation.

The Turki name is given as *Yaniocha*. Of the male the measurements are as follows:—length, 9; expanse, 16; tail from vent, $2\frac{1}{4}$; wings when closed reach to within 0.5 of end of tail; legs, feet, dull red; bill black tinged with red at base; irides dark brown. [G. H.]

869. *Gallinago solitaria* (Hodgson).

A single specimen of this fine Snipe was obtained on the 8th of October, at the Chāgra Stream above the Pāngong Lake at an altitude of about 15,000 feet.

Of this specimen, a female, my notes are:—length, 12; tail from vent, 3.25; expanse, 20 feet; greatest length,

2.12; wings when closed reach to within 0.25 of end of tail; legs, feet, and bill, ashy with a greenish tinge. I may add, wing, 6.35; tarsus, 1.25; bill at front, 2.65. [G. H.]

Specimens from Japan and China though varying slightly in tint and proportions appear to be specifically identical.*

This species is fairly well figured in the Fauna Japonica, save only as regards the legs, which are there shown as pale yellow; this they never are in the fresh bird though in the dried skin they do acquire a yellowish tint. The feet, especially the soles, have a somewhat yellowish tinge although even in the feet (except only the soles) green is the prevailing tint, but the legs, in all the many specimens I have examined in the flesh, have always been a dull green, more or less overlaid with an albescent bloom. [A. O. H.]

880. *Philomachus pugnax* (Linn.).

Ruffs and Reeves were very common in the immediate neighbourhood of the city of Yarkand, where also they undoubtedly breed. Numerous specimens obtained between the end of August and the beginning of September ex-

* While concurring in this point with Prof. Schlegel, I take this opportunity of noticing what, so far as our Indian birds are concerned, is a very grave error of his in regard to a not distantly allied species, *Rhynchæa bengalensis*, Lin. (*R. variegata*, Vieillot, apud Schlegel). He remarks (Mus. P. B. *Scolopaces*, p. 16-17), "Teintes du plumage très différentes suivant l'âge mais non pas suivant le sexe." And again "Femelles un peu plus grandes que les mâles mais non pas différentes par les teintes." Now this *may* be true of the Painted Snipe, in all other parts of the world, but in continental India it certainly is not so. I have shot hundreds, and dissected dozens of these birds, and while the young of both sexes and the adult females are alike in the matter of the chestnut of the face and neck, I never obtained a single adult male with the chestnut, nor a single adult female without it, and be it remembered that I have shot these birds repeatedly when they were breeding, dotted about in pairs, and with eggs or young about, and it seems to me, therefore, that so far as the Indian bird is concerned, I cannot possibly be mistaken. Is it at all probable that this species in other parts of the world differs in so far that there the adult female acquires the livery of the male? I confess that I am sceptical on this head and believe the learned author above quoted to have been misled by erroneous records of sex on the tickets of his specimens. [A. O. H.]

hibited more or less of the rich colouring of the breeding season, but the males had quite lost their ruffs.

882. *Tringa subarquata* (Gmel.).

This species was common in the marshes in the immediate neighbourhood of Yärkand. Specimens obtained at the close of August were in a transitional stage between the breeding and winter plumage. I measured several in the flesh, which gave the following dimensions for males shot in Yärkand.—Length 8·5 to 8·75; expanse 15·25 to 16·5; tail, 2·25; feet, greatest length, 1·38; greatest breadth, 1·5; wings when closed exceed the tail by 0·25; bill black, legs and feet plumbeous black; irides dark brown. The Turki name of both this species and the Ruff is said to be *Kugnak*, which very probably will turn out to mean “long nose,” and to be generally applicable to all Snipes, Snippets, *et id genus omne*. [G. H.]

This species is in India at any rate continually confounded with *T. cinclus*, but the latter is with us, an inland bird, rarely found near the sea, whereas the present species, as far as I have been able to ascertain, never occurs in Hindustan except as quite a straggler at a distance of more than from one to two hundred miles from the coast. Dr. Jerdon tells us that this species is common in the north of India generally, whereas neither I myself, nor any of my numerous coadjutors, have ever obtained it in the N. W. Provinces, Oudh, the Central Provinces, Rajputāna or the Panjāb. On the other hand he tells us that *T. cinclus* is a rare visitant to India, whereas it swarms by myriads (I have killed a score at a single shot), during the cold season along the banks of all the large rivers of Upper India, especially where any bed of kunkar, or rock cropping up affords a cluster of stones to scamper about. As regards the difference between the two species, Schlegel says correctly that *T. subarquata* differs in its less rounded, almost square tail, in its longer tarsi, somewhat larger size, more compressed and slender bill, which is also usually longer, and always somewhat curved towards the base, and notably in its breeding plumage, which lacks the black of the breast, it having at

that season the head, neck, and whole lower parts of a more or less uniform brownish red, but he neglects the, to my mind, most characteristic and patent differences, which enable us at once to fix the species of any specimen without comparison, even in winter plumage: viz., that in *T. cinclus* the two central tail feathers have the whole inner webs (and sometimes portions of the outer webs also) blackish brown, and all but the outer upper tail-coverts are blackish, while in *T. subarquata* all the tail feathers are grey with a somewhat greenish gloss, and all the upper tail-coverts are white in winter, or white barred with red and dusky in summer.

In size the Yärkand birds corresponded with European examples, but slightly exceeded the dimensions of others procured in the neighbourhood of Calcutta. I have not enough European specimens to decide whether this difference is constant. [A. O. H.]

885. **Tringa Temmincki** (Leisler).

This little Stint appears to be very common in suitable localities in Yärkand, where it probably breeds. [G. H.]

Specimens, however, obtained there in August had obviously from the plumage bred *at least* two months prior to that period, so that possibly they breed a good deal further north, and only spend the early autumn in Yärkand *en route* for their cold weather residences in India. Independent of its whiter tail, this species may be at once distinguished from both* *T. minuta* and *T. damacensis* (which have them black) by its olive-yellow legs and feet.

892. **Actitis ochropus** (Linn.).

Common everywhere near water throughout Yärkand. [G. H.]

893. **Actitis hypoleucos** (Linn.)

The Common Sandpiper was often seen in May and June in Kashmir (where it breeds in considerable numbers),

* Both these closely-allied species occur in India. [A. O. H.]

but was not obtained either in Ladák or Yārkand. However, on the return journey a specimen was procured near the Suket Pass, at a height of 17,000 feet, which is there just below the level of perpetual snow; although the bird was overlooked in Yārkand, it seems probable that this individual was on its way back from that country (or possibly some more northern region) to the plains of India. [G. H.]

894. **Totanus glottis** (Linn.).

A single Greenshanks was obtained on the 1st of September close to the city of Yārkand itself. The dimensions in the flesh of the Yārkand bird were, length, 12·5; tail from vent 3·5; expanse 23·5; wings when closed reached to end of tail. The bill was black, and the legs and feet greenish.

A Yārkand Pathan called this species "Taturee," but this is the Indian name for Lapwings, and beyond all question belongs originally to this latter family, the cry of the commonest Indian species of which it closely represents. [G. H.]

I cannot find sufficient grounds for separating this single bird from the common Greenshanks, and yet I cannot feel quite satisfied that it is not distinct; it was a male, and is a smaller and altogether darker, and more mottled plumaged individual than I have hitherto seen of *T. glottis*, even in its summer dress. If other similar specimens occur, it might perhaps be necessary to separate them specifically. [A. O. H.]

901. **Hydrophasianus sinensis**.

This species was only met with in Kashmir. It was very abundant near Banihál. [G. H.]

Does any other bird lay eggs like those of this species? Veritable pegtops without the pegs!—cones slightly obtuse at the point, based upon flattened hemispheroids. In texture the shell is compact and hard, and especially when fresh has a fine gloss. The colour varies much—when quite fresh they are of a perfectly uniform rich, deep bronze colour, sometimes greener, sometimes more rufous; but as incubation proceeds, they very commonly, though not

always, grow paler and paler, until they become a pale, yellowish stone, or, in other cases, pale café-au-lait colour. They vary in length from 1.26 to 1.62, and in breadth from 1.05 to 1.16, but the average of fifty eggs measured was 1.47 by 1.13.

They lay from the middle of June to August; the nest is often a mass of weeds and rushes heaped together in the water in the midst of the thickest grass and rice, and so low that the eggs are half immersed in water. Occasionally the nests are amongst the grass of some little island, and then they are much slighter. At times even when constructed in the water, they are so small as hardly to be able to contain the eggs—little shallow, circular cups of rush and water weed on floating lotus leaves, or tufts of water grass. Dr. Jerdon tells us they lay from four to seven eggs; they *may* in Southern India, but I do not believe it, and in Northern India they *do not*! Out of hundreds of nests that I have seen, I only once found one containing even five eggs. Four is the almost invariable number laid point to point. The apical angle is too great to allow of six or seven being thus laid. You might as well try to get right angles into the centre of a circle.

The eggs of this species really seem to indicate that it is not so closely allied to the Rails and *Parrae* as is generally supposed. How very different are the eggs of its nearest apparent Indian ally, *Metopodius indicus*, which lays, water-hen-like, from eight to ten moderately broad oval eggs, a good deal pointed towards one end, but still manifestly intended to lay anyhow in the nest, and not point to point, like a Plover's, or a Redshank's.

The eggs closely resemble those of the Australian *Parra gallinacea*, Temm., and when fresh have the most superb lustre of any egg I know, insomuch so that it is difficult to convince people who see them for the first time, that they are not made of agate, or when they feel them for themselves, fancy imitations made in the lacker work in which the natives in some parts of India so greatly excel.

The ground colour of the egg varies much; in some it is a very pale stone brown, in others a rich café-au-lait, in

others a reddish olive brown, and in some a very deep rufous, or even olive brown. The markings are chiefly blackish brown, here and there paling to a deep reddish brown, and they consist almost exclusively of finer or coarser lines, intertwined and entangled, as it were, one within another in inextricable confusion. Here and there a few spots and even blotches are observable, but the general character of the markings is as above described.

Now, if *H. sinensis* and *H. indicus* are so very nearly allied as even Schlegel considers them, is it not extraordinary that their eggs should differ so absolutely in shape, texture, colour, markings, number, and manner of disposition in the nest, and that the former should have a distinct winter plumage, while the latter has none? The two skeletons require careful comparison. I should be inclined to suspect that these two species are derived from very different stocks, although a similarity of external conditions may have led to a similar superficial modification of external forms. Having said so much about *Metopodius indicus*, I may note that its eggs vary in length from 1.35 to 1.55, and in breadth from 0.97 to 1.08, the average of fifty being 1.48 by 1.03, and I add the following remarks by my friend Mr. F. R. Blewett:—

“Breeds from June to about the middle of September. The nest is made of weeds, roughly put together: of various sizes, and from one to near two feet in diameter, it is often made on the water surface, at other times, in any island near to the water's edge. In each situation a sheltered spot is chosen, offering concealment—among thick-growing lotus leaves is a favourite resort.

“This Jacana runs with wonderful facility over the floating weeds, lotus-leaves, &c. It is rather a shy bird, and when alarmed will conceal itself by lying close on the weeds or plants, with its head and neck well stretched out on a level with the body. When it can do so, for more effectual concealment, it will half-sink its body into the water. The bird is likewise an expert diver. The boatmen on the Tabbuhut Lake told me that the bird moults once in each year just before the rains, in April and May.” [A. O. H.]

903. *Fulica atra* (Linn.).

The Coot was not uncommon in the lakes of Kashmir, where it was breeding in May and June. After the Zoji-lá Pass was crossed it was only again seen in the Indus near Lé. [G. H.]

905. *Gallinula chloropus* (Linn.).

The Water-Hen was only met with in Kashmir, where it was very plentiful about all the lakes, in which it was breeding in June. [G. H.]

909. *Porzana maruetta* (Briss.).

A single specimen of this species was obtained at the Karatág Lake on the Karakoram, at an elevation of over 16,000 feet; this was on the 24th September, and the bird was probably on its way southwards. It could not possibly have been anything but a casual visitor, as the lake lay in perfectly bare shingle, and there was hardly a vestige of vegetation anywhere about. The bird was easily caught by the hand, and at the same time and place, as already mentioned, a common Quail was captured. This lake lies almost in the most direct route, as the crow flies, between Yarkand plains and Lé, and between the nearest points respectively of the Karakāsh and Shyok. [G. H.]

910. *Porzana pygmæa* (Naum.).

A single specimen was obtained near Shāhidulla, in the plains of India. [G. H.]

This species breeds with us in July and August in the plains of Upper India, and in June and July in Kashmir, and the valleys in the lower ranges containing suitable rice swamps or marshy pools. It is very common near Syree, below Simla. The full number of eggs is, I believe, eight, as we found the fragments of this number of shells round a nest that had hatched off, but six is the greatest number of eggs that I have ever obtained. The nest is made of rush and weed, completely concealed in water grass, wild rush, and the like, and is usually very little above the water's edge.

The egg of Baillon's Crake is very correctly figured by Mr. Hewitson in the third edition of his "Eggs of British Birds." It is oval, slightly pointed towards one end, the shell of a firm and compact texture, and with a slight gloss. The ground colour is a sort of pale olive stone colour, or very slightly greenish drab, thickly freckled and mottled with faint dusky clouds and streaks, which in all the eggs that I have seen were most densely set towards the large end. The dusky markings in some eggs are a sort of pale sepia, but in others have a distinctly purplish tinge. They appear, however, to be at all times dull, inconspicuous, and ill-defined. They vary in length from 1.1 to 1.22; and in breadth from 0.83 to 0.91.

This bird is about the same size as a Quail, and really looks just like one as it rises amongst the rushes, and takes little short flights over the water, dropping suddenly as if shot. [A. O. H.]

920. *Melanopelargus episcopus* (Bodd.).

The species was not seen after leaving the plains of India until the plains of Yarkand were reached, and here it was observed on several occasions, especially in the neighbourhood of the city of Yarkand itself, frequenting marshes in small flocks of five or six in number. No specimen was preserved, but I am certain that the birds were identical with the common Indian species, with which I am familiar. [G. H.]

Knowing what a careful and accurate observer Dr. Henderson is, I entertain no doubt that he is correct in this matter; but the fact of this species, hitherto only known from India and Malasia (including Java, Borneo, Celebes) on the one hand, and in Africa from Nubia to Caffraria on the other, turning up in a temperate and comparatively northern locality like Yarkand, is so remarkable that the non-preservation of any specimen is much to be regretted. One thing to be said is that there is absolutely no other known Asiatic species for which it could have been mistaken.

In Upper India this species breeds from the latter end of

June to the end of August, but in Central and Southern India, they sometimes lay as early as March. The nests are placed in large trees, peepul (*Ficus religiosa*), burgot (*Ficus indica*), tamarind, sheeshum (*Dalbergia sissoo*) being I think their favourites. The nests are rarely above from twenty to thirty feet from the ground, and vary from fourteen to twenty inches in diameter, and from 4" to 8" in depth. They are densely built of twigs and small branches, and have a considerable central depression, sometimes thinly lined with down and feathers, and sometimes almost filled with straw, leaves, and feathers, in amongst which the eggs are sunk as if packed for travelling. The full number of eggs is four: rarely, three more or less incubated eggs are met with. They vary much in shape, but there are three predominant types. The one a regular somewhat flattened ellipse with perfectly similar obtuse ends; another, a broad oval, pointed and pyriform towards one end, and the third, a long narrow oval, more or less pointed towards both ends.

The shells are dull and without gloss, when perfectly fresh of a faintly bluish white, but becoming stained and soiled as incubation proceeds, so that an egg nearly ready to hatch off is very commonly of a yellowish earthy brown colour throughout. They are quite devoid of any natural markings. Held up against the light the shell of freshly laid eggs is a pale delicate green, while in much incubated eggs it is a dingy yellowish green. The eggs, as might be expected, are usually considerably smaller than those of the common Stork, and average somewhat less than those of the Black Stork. In size they vary from 2.3 to 2.66 in length, and from 1.75 to 1.92 in breadth, but the average of fifty eggs measured was 2.5 by 1.83.

923. *Ardea cinerea*, Linn.

Very common about Srinagar in Kashmir, where there is a large heronry. [G. H.]

The eggs of this species are well known. In the plains of India the birds breed according to season and locality, any time from March to August. [A. O. H.]

935. *Ardetta minuta* (Linn.).

The Little Bittern was excessively common in the lakes and marshes of Kashmir, where it was breeding in June. [G. H.]

This species is found in many parts of the interior of the Himalayas, where much rice is grown. I have it from Nepāl, and have shot it at Syree, below Simla, in the upper valley of the Biās, in Kulu, and in many similar localities; but always in the neighbourhood of extensive rice cultivation. [A. O. H.]

937. *Nycticorax griseus* (Linn.).

Common in the lower valley of Kashmir. [G. H.]

The eggs are well known. In the plains of Upper India it only breeds, so far as my experience goes, in August. [A. O. H.]

954. *Casarca rutila* (Pallas).

The Brahminy Duck, or Ruddy Sheldrake, was first noticed at the hot springs above Gokra at an elevation of 16,000 feet; there they were seen on small lakes at the Salt plain, and all along the Karakāsh river. The young were at that time (July) scarcely able to fly; when approached, the mother made them all dive by swimming and flapping on to each of them, as soon as it showed itself above the water. The mother also pretended to be wounded, and lay on the water every now and then, with wings spread out as if unable to fly. All along the Karakāsh valley, and also on the high tableland, wherever there was water overhung by cliffs, there numbers of Brahminy Ducks with broods of young ones were seen, and holes in these cliffs plastered over with droppings were pointed out by the Kirghiz as the places in which they had bred. The local name is "ngooroo ngaugpa." To Hindoostan this species is only a winter visitant. [G. H.]

961. *Chaulelasmus streperus* (Linn.).

Two Gadwalls were killed on the 31st October, at Gānderbal, Kashmir, and many others were seen at the same

time. They were never previously noticed. This species doubtless goes far north to breed, and is a winter visitant to Kashmir, as well as to the plains of India. [G. H.]

964. *Querquedula crecca* (Linn.).

The Common Teal was never seen either on the way to or in Yarkand; the first specimen was met with on the return journey, near the hot springs at Gokra, at an elevation of between 15,000 and 16,000 feet. Later in October they were seen on the Indus, near Lé, and at Kargil, also in Ladák. Probably this species does not breed so far south as Yarkand, and the birds seen on the return journey were doubtless migrating to their winter quarters in Hindostan. [G. H.]

969. *Aythya nyroca* (Guldenstadt).

This species was observed in Kashmir (on the lakes in which it breeds) both on the upward and downward journey. [G. H.]

I believe that this species breeds in some localities in the plains of India, but I have never succeeded in finding the nest. The only eggs that I have seen were procured in the Wuller Lake, Kashmir, in June. There were six, varying from 1.9 to 2.08 inches in length, and from 1.45 to 1.53 in breadth. They had a faint gloss and were regular ovals of an uniform very pale slightly yellowish green, or greenish white. [A. O. H.]

972. *Mergus castor*, Linn.

A young half-fledged Merganser was caught in the Indus near Lé, in July, 1870. It was kept alive for some days. [G. H.]

The bird probably breeds in Ladák, both in the valley of the Indus and the Shyok, as it does in almost all our northern Indian rivers, high up in the Himalayas, and more or less near their sources. As the winter comes on, they drop down stream and are to be found, during the cold season, in small parties in almost every large stream that debouches from the Himalayas, just where it leaves the hills. [A. O. H.]

975. *Podiceps minor* (Linn.)

Several specimens of the Little Grebe, all in full breeding plumage, were obtained in Kashmir in June, 1870. [G. H.]

I am unable to discover any constant difference warranting specific separation between our Indian and the European Little Grebe.

With us this species breeds at very different seasons according to locality. In Kashmir they lay about the middle of May. Throughout the upper Panjāb and the Doāb, they chiefly lay in August and September. In Jhānsi July seems the favourite month, and in the Nielgherries, August. The nests are sometimes fixed to the branches of some water-overhanging tree, a couple of feet above the water, and are then made of twigs, grass, leaves, and weeds, but generally they are mere masses of weeds and rush, founded on some tuft of water-grass, and little if at all above the water level. It is almost impossible to catch the old bird on the nest, and almost as difficult to surprise her so far as to make her leave the eggs uncovered. Almost invariably they are concealed by a layer of fresh wet weed; I doubt whether the birds sit much during the day, as I have watched a pair that had a nest containing five (as it turned out) much incubated eggs, nearly a whole day, and found that they never left the comparatively open water in which they were feeding, for the dense rush in which we found the nest next morning; for more than five minutes at a time. The birds certainly did not see me, as I was completely hidden, and watching them through a pair of binoculars. I suspect that during the day the combined heat of the sun and the fermentation of the weeds is sufficient for incubation, and I have observed that some of the eggs (I presume those first laid), are always much more forward than others. Dr. Jerdon says they lay from five to eight eggs, but I have never seen or heard of any nest containing more than six eggs, and the number is almost invariably five.

The eggs are moderately elongated ovals, much pointed at both ends, though rather more so at one end than the other. The texture is fairly close, but still slightly chalky, and they rarely have more than the faintest gloss. When first laid they are white, faintly tinged with blue or green. In Europe the eggs are said to be *pure* white, but in India all the eggs I have seen had when quite freshly laid a faint bluish green tinge. Owing to the bird's habit of covering the eggs over with wet, muddy water weeds, the eggs become rapidly discoloured, turning green, dingy yellowish brown, and then dark earthy brown, like an old addled vulture's egg, or a hard set Coromandel Shell-eater's.

In length they vary from 1.28 to 1.45, and in breadth from 0.88 to 1.1; but the average of thirty-six eggs measured was 1.35 by 0.98. [A. O. H.]

978 (*bis*). *Larus argentatus*,* Gmel.

Two young specimens of this species were obtained early in November in the Wuller Lake, Kashmir. [G. H.]

From all that I have heard, I believe that it breeds in this locality. It is, doubtless, a very southern habitat, but I have been assured of the fact by sportsmen who professed to have eaten the eggs, which they said were the size of a goose's.

* *Larus argentatus*.

DIMENSIONS.—Length, 22 to 26. Wing, 17.5 to 18.5. Tail from vent, 7.5 to 8.5; expanse, 53 to 68. Tarsus, 2.4 to 2.7. (The females are smaller than the males.)

DESCRIPTION.—*Adult*. Bill yellow with a reddish band towards the tip of the lower mandible. Feet, fleshy pink. Claws, blackish horny. Iris, yellowish white.

Plumage.—Head, neck, and upper tail-coverts, chin, throat, breast, and in fact entire lower parts and tail, are white. The head, neck, and sides of the neck faintly streaked with brownish grey in winter, which streaks, however, disappear before they leave us in April. Back and wings pale bluish grey, the latter white near the carpal joint, and, with the exterior six primaries, more or less broadly tipped with greyish black, the first primary almost to its base, the second for about two-thirds of its length, the sixth for only, perhaps, an inch. Both primaries and secondaries are more or less broadly tipped with white. In some specimens the white tippings to the first quill are fully an inch and a half broad, and above

I do not think there is any doubt of the correctness of this identification; similar specimens have often been obtained in the plains of India during the cold season, and have usually been referred to *L. fuscus*, but I have young and adult of *L. argentatus* from both Europe and India (it is very common in winter in the Nagjufgurh Jeel, near Delhi, along with *Chroicocephalus ichthyactis*, *X. brunneicephala*, and *X. ridibunda*), and I myself have no doubt that immature specimens of this species are what in most cases have done duty in Indian collections for *L. fuscus*, no Indian inland killed specimen of which I have ever yet seen. Dr. Jerdon sent an adult, however, of this species to the Asiatic Society's Museum from the Coromandel coast. I note that with this exception, *L. fuscus*, so far as I know, has never been observed eastwards of the Red Sea, whereas *L. argentatus* has been found in Dauria (Radde), the Lower Amur (Schrenk), Japan and China.

980. *Xema brunneicephala* (Jerdon). (Pl. XXXII.)

The Brown-headed Gull was very abundant in July, at an elevation of about 15,000 feet, in a small stream running down from Chāgra into the Pāngong Lake.

The birds were in full breeding plumage, and probably had, or had had, nests in the immediate vicinity. When

these tipplings there is often a spot or band of white on one or both webs in the first and second quills.

Young.—The young vary much according to age; in some the bill is dusky yellow—in others brownish, yellowish at the tip, in others a dingy slate colour, pinkish at the gape and at the base of the lower mandible. The iris varies through every shade from brown to pale yellow. The feet are much as in the adult, but more livid. The whole head, neck, back scapulars, lesser wing coverts, breast, abdomen, and lower parts generally are greyish white, streaked, spotted, and barred with ashy brown, the throat only being spotless. The primaries are slaty black, narrowly tipped albescent, the secondaries are greyish brown paling towards their bases. The tail is black with a slaty bloom narrowly tipped with white, the feathers more or less variegated with white towards their bases.

Other birds more approach the adult, but have their backs a somewhat darker bluish grey; the tail broadly tipped with dark brown and exhibiting faint traces of other narrow brown bars. Some of the coverts are like the back, but most of the lesser ones are still greyish brown.

the expedition returned in October, the majority had disappeared. On both occasions the birds were busy feeding on fish, with which, unlike the saline lake into which it runs, the stream abounds. [G. H.]

This species is only a winter visitant to Hindostan, where it is as common in all large inland pieces of water, at any rate in Upper India, as it is along the coast. At the Sambhur Lake, the water of which is often nearly saturated brine, and where it is difficult to guess what they find to eat, Brown-headed Gulls are seen throughout the cold season in vast numbers; they find the water of the lake, however, too salt to bathe in, or even drink, and all day long a constant succession of them may be seen, visiting one or two tiny fresh-water ponds near the lake for these purposes. The Chāgra stream is the first breeding place of this species to which we have obtained any clue. I cannot find that this species has been observed anywhere west of Sind. In Birma it is common. I have it from China, and it may possibly be Middendorf's *L. ridibundus* var. *major* (Vögel p. 244) from Kamschatka. It seems to be the Asiatic representative of the American *L. cirrhocephalus*, Viellot. [A. O. H.]

981. *Xema ridibunda* (Linn.).

Thousands of this species were fishing in the Wuller Lake, Kashmir, in November, 1870. [G. H.]

The lake was not visited by the expedition on its upward journey, and it is therefore not known whether this species and *L. argentatus* really breed there, but from other information that I have received, I am inclined to believe that they do. [A. O. H.]

984. *Hydrochelidon indica* (Stephens).

The Whiskered Tern (*H. leucopareia* Natt., of most European writers) was very common in Kashmir in June. The birds were breeding, and many nests were taken, in a marsh close to Srinagar, about a mile from the Visitors Reach, and on the opposite side of the river. The nests were made of

green rushes, placed in amongst rushes, reed, and floating weeds, and were very scanty. [*G. H.*]

This species also breeds during the rainy season in the plains of Oudh and the North West Provinces.

I may remark that Dr. Jerdon is mistaken in his statement that Mr. Brookes found this species breeding in large churrs on the Ganges. Mr. Brookes disclaims having ever said anything of the kind; the only species of true Terns that do thus breed are *Seena aurantia*, *Sterna melanogastra* (Temm.), and *Sternula minuta*. Far in the north west, in the rivers of the Panjáb, a few pairs of *Gelochelidon anglica* remain to breed, and on the 28th of April, 1870, I took an egg of this species on a sandbank of the Chenáb, two miles below Wazirábád, and killed the parent bird as she rose from the egg. *H. indica* is essentially a marsh Tern, which, with us, *G. anglica* is not. The former lays in July and August. As a rule their nests are placed towards the centre of some large jheel, where the water is deepest and no rice or rush grows, but where the surface is paved with the broad leaves of the water-lily and the lotus. On these they construct a slight platform of rush and weed, wound round and round in a circular form. Four seems to be the full number. The eggs are moderately broad ovals, a good deal pointed towards one end; the texture is very fine and close, but they have little or no gloss. The ground colour varies; in some it is a rich or pale blue green, in some a pale olive stone colour, in some an olive brown, but most commonly I think a pale clear olive green. The markings, which are generally pretty numerous, consist of streaks, spots, and blotches of more or less intense blackish umber, or reddish brown, and have a number of very pale, greyish, or purplish brown clouds, streaks or spots underlying the primary markings. Some of the eggs have a very Snipe-like character, with large oblique blotches; some have only very small specks or spots, while others remind one much of many types of Plover's eggs. With us they always make their own nests, generally, as already mentioned, on the surface of floating leaves, but sometimes on tufts of water grass; but in Northern Africa I see that Canon

Tristram found a whole colony of them breeding in the deserted nests of the Eared Grebes.

In size the eggs vary from 1.47 to 1.6 in length and from 1.1 to 1.15 in breadth. [A. O. H.]

986. *Sterna fluviatilis*, Naum.

The Common Tern was very abundant in August in Yarkand, where it doubtless breeds, as a young bird barely able to fly was caught (on the 22nd August) about ten miles from the city. Other specimens were obtained in July at Lukung, near the Pángong Lake, in which neighbourhood also it probably breeds, as it is also said to do (though I doubt it) in Kashmir. [G. H.]

This is a rare species even in Upper India, and I have met with comparatively very few even in the Indus. [A. O. H.]

988. *Sternula minuta* (Linn.).

The Lesser Tern is common in Yarkand, where it is called "*Balakchi*." A young bird, apparently just fledged, was caught in the neighbourhood of the city of Yarkand, on the 26th of August, so that the bird must breed there, as indeed it does on the sandbanks of every large river in the plains of Upper India. [G. H.]

The Yarkand specimens agree perfectly with our Indian ones, which, however, appear to me to differ slightly from the only English specimen I have compared them with.

In India this species breeds from the middle of March to the beginning of May, according to locality, those on the south beginning earlier and those in the north later; but whether they are early or late, they always lay later than the other species, *Seena aurantia*, *Sterna melanogaster*, *Rhynchops albicollis*, and *Glareola lactea*, all of which commonly breed on identically the same sandbanks. It is needless to say that the eggs, four in number, are laid in a slight depression in the bare sand on some entirely water-surrounded bank in a considerably sized river. Normally the eggs of this species are long ovals, distinctly pointed at

one end. There is a regular gradation in size and shape in the eggs of *T. aurantia*, *S. melanogaster*, and our Indian *S. minuta*. The first are much the largest and roundest, the next are smaller and more oval, the last are the smallest and most elongated of all.

Whether our Indian Lesser Tern be really identical with that of Europe or not (and on this point I am compelled to suspend my opinion) it is certain that not one single egg of the large series that I possess, equals in size the specimen of the European bird egg figured by Mr. Hewitson, whilst the vast majority are considerably smaller. His egg measures 1.33×0.96 . The largest of more than an hundred Indian specimens measure 1.3×0.95 . Many of our eggs do not measure more than 1.13×0.88 , and the average is something less than 1.2×0.93 . His figure too by no means gives a good idea of our egg; the ground colour varies much, but the two commonest shades are a very pale drab colour (with, when fresh, a faint greenish tinge), and a warm café-au-lait colour. All kinds of intermediate shades, creamy, buffy, and greyish stone-colour occur, but the commonest are those first described. The markings, as is usual on these Terns, consist of streaks, blotches, and spots of different shades of deep brown, with underlying clouds and spots of faint inky purple. As a rule the markings in this species are, I think, bolder, larger, and more streaky than those of the eggs of *S. melanogaster*, which though the egg itself is larger, are smaller and more niggling. The eggs as a rule are entirely destitute of gloss.



FALCO HENDERSONI.



PICUS SCINDIANUS.



LANIUS ARENARIUS.



HEMICHELIDON FULIGINOSA.



ALSEONAX LATIROSTRIS.



HODGSONIUS PHENICUROIDES.



TROCHALOPTERON SIMILE.



TROCHALOPTERON LINEATUM.



CHATARRHÆA CAUDATA.



CHATARRHÆA EARLEI.



ORIOULUS KUNDOO.





PRATICOLA FERREA.





SAXICOLA HENDERSONI.



RUTICILLA CÆRULEOCEPHALA.



RUTICILLA FULIGINOSA.



ACROCEPHALUS BRUNNESCENS.



1. DRYMOIPUS INORNATUS.

2. DRYMOIPUS LONGICAUDATUS.



SUYA ALBOSUPERCILIARIS.

PHYLLOSCOPUS VIRIDANUS.





1. ABRORNIS XANTHOSCHISTUS.
2. ABRORNIS ALBOSUPERCILIARIS.



AGRODROMA JERDONI.



2/3

PODOCES HENDERSONI.



PODOCES HUMILIS.



STURNUS NITENS.



PASSER CINNAMOMEUS.



LINOTA BREVIROSTRIS.



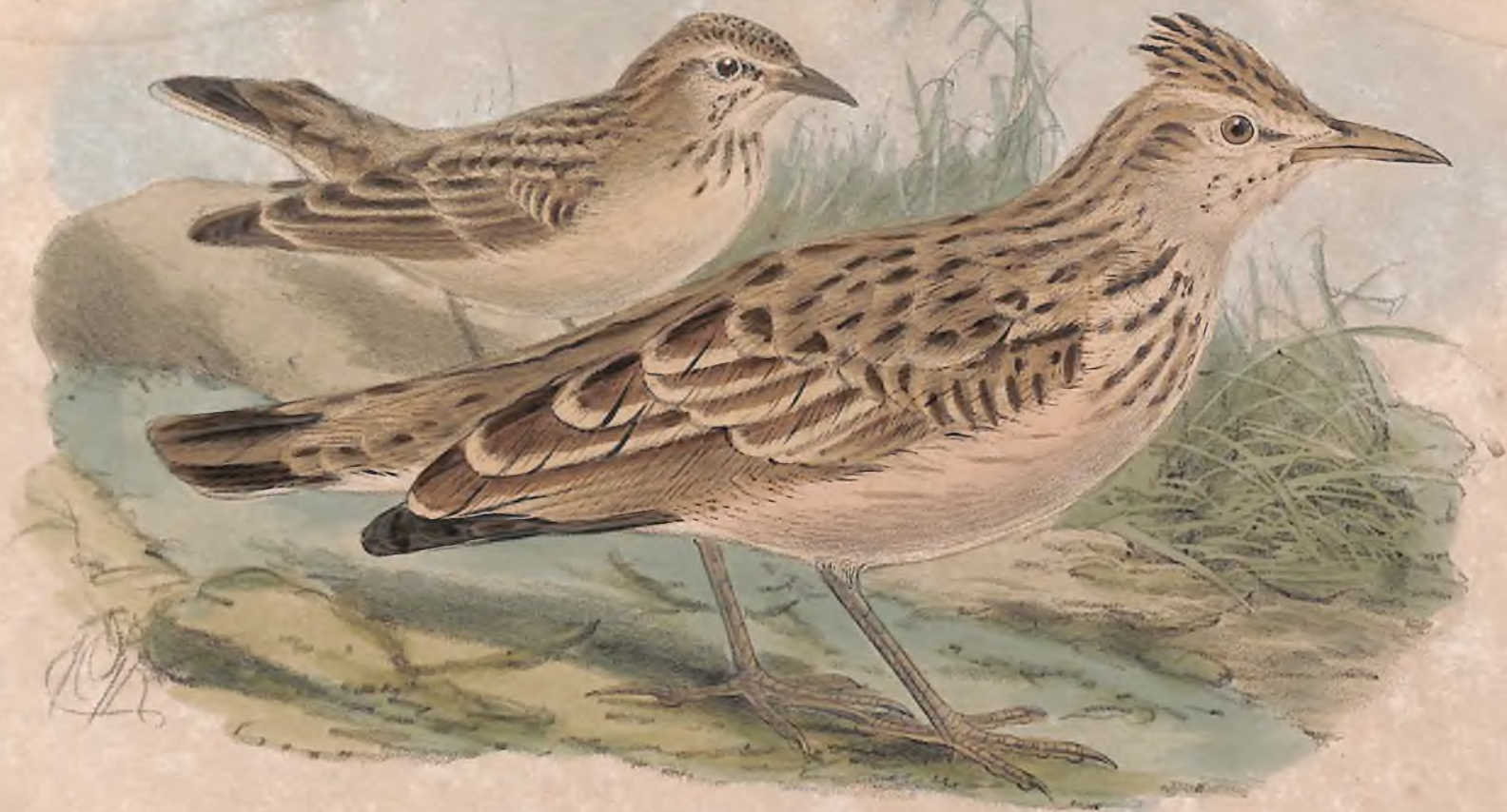
MELANOCORYPHA TORQUATA



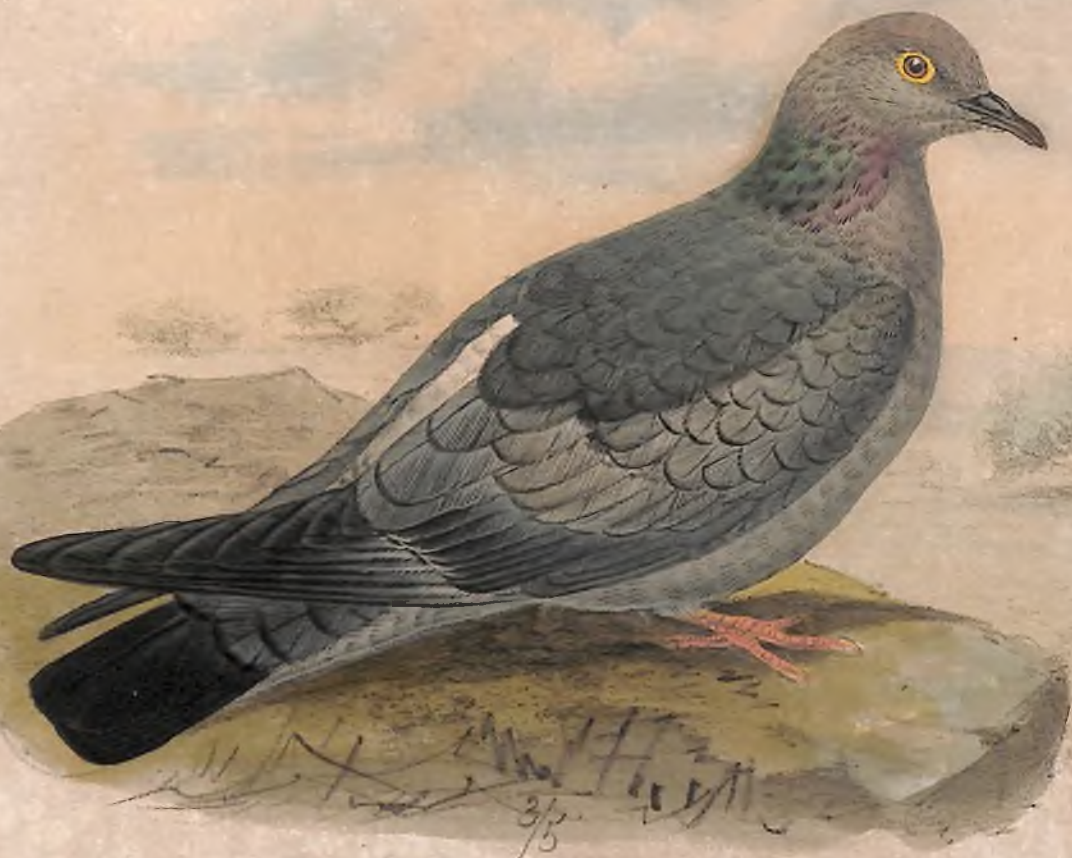
ALAUDA TRIBORHYNCHA.



ALAUDA GULGULA.



GALERITA MAGNA.



PAUMBŒNA EVERSMANNI.



XEMA BRUNNEICEPHALA.

