BOOK NO.
874

ITISH ORNITHOLOGISTS' UNION.

1883.

[An asterisk indicates an Original Member.]

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VALENTINE BALL, F.R.S.; Trinity College, Dublin.

2. HANBURY BARCLAY, Lieut.-Col., F.Z.S.; Cross Oak, Gre
Berkhampstead, Herts.

. RICHARD MANLIFFE BARRINGTON, LL.B
Fassaroe, Bray, Co. Wickl

5. JOHN BIDDULPH, M.
EDWARD
W. T. S. WILLI
1870. Sir VI
To 1871. ARTHU
1866. HENRY
ming
1868. THOMAS E
N.B.
1872. WALTER LA
care of Mr.
1879. THOMAS DAVID
N.B.; and S
1882. ROBERT WILLIA
mingham.
80. WILLIAM EAGLE C
76. EDWARD HENRY
Gravesend.

Date of Election.

1876. Albert C. L. G. Günther, M.A., M.D., F.R.S., &c.; Keeper of the Zoological Department, British Museum, London.

*John Henry Gurney, F.Z.S.; Northrepps Hall, Norwich.

1870. John Henry Gurney, Jun., F.Z.S.; Northrepps Hall, Norwich.

1877. Edward Harcourt, M.P.; Nuneham Park, Oxford.

1883. Lewis Vernon Harcourt; 7 Grafton Street, London, W.

1876. H. C. Harford, 99th Regiment; 2 Eldon Villa, Granada Road, Southsea.

1877. E. Hargitt; 1 Bedford Road, Bedford Park, Chiswick.

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1873. John A. Harvie-Brown; Dunipace House, Larbert, N.B.

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1875. J. C. Hele; Knowles, Newton-Abbot.

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1869. Allan Octavian Hume, C.B.; Simla, India.

1870. Hedworth Hylton, Lord Hylton; Merstham, Red Hill, Surrey.

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Date of Election.

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1879. Herbert Evelyn Rawson; Coney Hall Farm, West Wickham, Kent.

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1881. J. Scully, F.L.S., F.Z.S.; care of Messrs. Henry S. King & Co., 45 Pall Mall, London, S.W.

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1870. G. Ernest Shelley, F.Z.S., late Captain, Grenadier Guards; 6 Tenterden Street, Hanover Square, London, W.

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1864. Henry Stevenson, F.L.S.; 10 Unthank's Road, Norwich.

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Date of Election.

1882. Charles Swinhoe, Major, Bombay Staff Corps, Commissariat Department; Bombay.

*Edward Cavendish Taylor, M.A., F.Z.S.; 74 Jermyn Street, London, W.

1864. George Cavendish Taylor, F.Z.S.; 42 Elvaston Place, Queen's Gate, London, W.

1873. William Bernhard Tegetmeier, F.Z.S.; Finchley, Middlesex.

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Date of Election.

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1880. Robert Ridgway, C.M.Z.S., Smithsonian Institution, *Washington*.

1872. Count Tommaso Salvadori, Royal Museum, *Turin*.

1872. Prof. Herman Schlegel, University Museum, *Leyden*.

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CORRIGENDA.

Page	Line	
22,	28,	for DRYCORUS read DRYOCORUS.
105,	4,	*for* Monzbier *read* Menzbier.
217,	32 & 34,	*for* Nulting *read* Nutting.
218,	1,	*for* Nulting *read* Nutting.
218,	7,	for *nultingi* read *nuttingi*.
350,	8,	for *P. ulula* read *S. ulula*.
358,	7,	for *Orilus* read *Oriolus*.
360,	12,	for *Icteris* read *Icterus*.
553,	1,	for *Caliostrathus* read *Coliostruthus*.
560,	24,	for *bicalcaratas* read *bicalcaratus*.
566,	14,	for *onocratalus* read *onocrotalus*.

THE IBIS.

FIFTH SERIES.

Acc no. 530
dt. 13/12/06

No. I. JANUARY 1883.

I.—*Notes on the Birds of the Caucasus.*

By Henry Seebohm, F.Z.S.

In 1880, Modeste Bogdanow, the Ornithological Curator of the Museum of the Imperial Academy of Art and Science in St. Petersburg, published an important work on the Birds of the Caucasus, containing not only the results of his own travels in that district, but also a *résumé* of all the reliable information on the subject to be found in the works of previous writers. Unfortunately his valuable book is written in the Russian language. I have had a translation made of it; and when I was at St. Petersburg M. Bogdanow was kind enough to show me the skins of all the most interesting examples of Caucasian birds in the Museum. I have thus been able to prepare for the readers of 'The Ibis' a digest of this important addition to our knowledge of the geographical distribution of the birds of the Palæarctic region.

Bogdanow gives a list of sixty-nine books and papers in various periodicals relating to the birds of the Caucasus. In the last century the Caucasus was visited by Güldenstädt in 1770–73, by J. G. Gmelin in 1770–74, and by Pallas in

1793; but the information recorded by these travellers is very meagre, and their determination of species not very reliable. In 1825 Eichwald visited the Caucasus; but in Bogdanow's opinion his ornithological work is of no value whatever. Ménétriés was the first naturalist whose contributions to the ornithology of the Caucasus, founded upon his journey in 1829–30, were of great importance. In 1830 Eversmann was in the Caucasus—but was obliged to leave before he had made many observations, in consequence of an outbreak of cholera. Ornithological observations of some value were made in 1835–37 by Krinitzky; but, in consequence of his death in the Caucasus, the results of his journey were published by Kaleniczenko. In 1836 Nordmann visited the Caucasus, and in 1843 Kolenati; but the observations of the latter are of little value. In 1862 Filippi made some important observations in the Caucasus on his way to Persia: and since 1863 Radde has been engaged in forming a collection of the birds of the Caucasus in Tiflis; but his long-promised work on the subject has not yet appeared. In 1871 Bogdanow himself went to the Caucasus; in 1875 his labours were supplemented by Kessler; and in 1878 important additions to and confirmations of previous observations were made by Michailovsky, a zealous young ornithologist, whose acquaintance I had the pleasure of making in St. Petersburg last spring. It is much to be regretted that Bogdanow's excellent book is not written in a language in which it would be accessible to most ornithologists. Such a careful work, and such an exhaustive treatment of the subject, would serve as an excellent model for some of our more superficial writers.

GYPAETUS BARBATUS.

This bird is a not uncommon resident throughout the Caucasus above the limit of forest-growth. A female, caught in a fox-trap early in January, contained an egg nearly developed.

VULTUR MONACHUS.

The Black Vulture is rare throughout the mountains above the limit of forest-growth, descending into the plains in autumn.

VULTUR FULVUS.

The Griffon Vulture is very common above the limit of forest-growth, and is also frequently seen in the plains at all seasons of the year, generally in flocks.

VULTUR PERCNOPTERUS.

The Egyptian Vulture is more solitary in its habits, but is not less common and is more generally distributed than the preceding species, extending its flight in search of food to a great distance from the mountains where it breeds.

HALIAETUS ALBICILLA.

The White-tailed Eagle is very common in the plains, but does not visit the mountains. In winter their numbers are increased by migrants from the north.

HALIAETUS LEUCORYPHUS.

Pallas's Sea-Eagle was once seen by Bogdanow at the end of September in the delta of the Terek.

PANDION HALIAETUS.

The Osprey breeds in the valleys of the Terek, Kuban, Rion, Kur, and Arax, but is supposed to migrate southwards in winter.

AQUILA CHRYSAETUS.

The Golden Eagle is said to be only an occasional winter visitor to the Caucasus; but Nordmann describes it as common in the west.

AQUILA IMPERIALIS.

The Imperial Eagle breeds in the forests, in the plains, in the valley of the Terek, Kuban, Arax, &c. It is not known to winter there.

AQUILA ORIENTALIS.

The Steppe-Eagle breeds on the steppes near the Terek river and in the government of Stavropolsk. On the 1st of September Bogdanow saw a flock of more than 300 of this species on migration.

AQUILA CLANGA.

The Larger Spotted Eagle breeds in the mountain-valleys of the northern slopes of the Caucasus.

FALCO LANARIUS.

The Lanner Falcon is said by Bogdanow to be common in the valleys of the Terek and the Kuban; but the bird we should expect to find in the Caucasus would be the Saker.

FALCO PEREGRINUS.

The Peregrine Falcon is recorded doubtfully from the Caucasus.

FALCO SUBBUTEO.

The Hobby breeds in the lower forests and in the plains, especially on the northern slopes. It is not known to winter in the Caucasus.

FALCO ÆSALON.

The Merlin is said to pass through the Caucasus on migration in spring and autumn.

FALCO TINNUNCULUS.

The Kestrel is found throughout the region of the Caucasus, both in the plains and on the mountains. It is said to be a resident.

FALCO CENCHRIS.

The Lesser Kestrel is very common in summer in the plains on both sides of the Caucasus, and on the steppes as high as 10,000 feet.

FALCO VESPERTINUS.

The Red-footed Falcon is not uncommon in the plains in the government of Stavropolsk.

ACCIPITER PALUMBARIUS.

The Goshawk is common in the lower forests of the Caucasus.

ACCIPITER NISUS.

The Sparrow-Hawk is very common in the Caucasus below he pine-region.

MILVUS ATER.

The Black Kite is very common throughout the Caucasus below the steppes (10,000 feet). It is not known to winter there.

PERNIS APIVORUS.

The Honey-Buzzard is occasionally found in the Caucasus.

BUTEO MENETRIESI, Bogd.

This new Buzzard is a very rufous bird, with an unbarred tail. It appears to be an intermediate form between *B. desertorum* and *B. ferox*. It agrees with the rufous form of both in colour and in the absence of bars on the tail, but it is too small for the one and too large for the other. The female measures 16 inches in length of wing, and the male 15 inches.

BUTEO VULGARIS.

The Common Buzzard is said only to pass through the Caucasus on migration.

CIRCUS ÆRUGINOSUS.

The Marsh-Harrier is very common in the valleys of the Caucasus, but is not found on the mountains.

CIRCUS CYANEUS.

The Hen-Harrier is frequent on the steppes in the government of Stavropolsk and in the plains.

CIRCUS SWAINSONI.

The Pallid Harrier is found in the government of Stavropolsk and in the valleys of the Terek and Kuban.

CIRCUS CINERACEUS.

Montagu's Harrier is common in the valleys of the Terek and Kuban.

BUBO MAXIMUS.

The Great Horned Owl is found throughout the Caucasus, both in the plains and on the mountains.

ALUCO FLAMMEUS.

The Barn-Owl is doubtfully recorded from Colchis and Georgia.

NOCTUA NOCTUA.

The Little Owl is very common on the northern side of the Caucasus, both on the mountains and in the plains.

Noctua passerina.

The Passerine Owl is very doubtfully recorded from the Caucasus.

Strix aluco.

The Tawny Owl is found in the Caucasus.

Strix otus.

The Long-eared Owl is found on the northern slopes of the Caucasus, and has been obtained at Lenkoran.

Strix brachyotus.

The Short-eared Owl is very common in the steppes and valleys of the government of Stavropolsk and in other parts of the Caucasus.

Scops scops.

The Scops Owl is found in all the plains of the Caucasus.

Corvus corax.

The Raven is found throughout the Caucasus.

Corvus corone.

The Carrion-Crow breeds throughout the mountain-ranges of the Caucasus.

Corvus cornix.

The Hooded Crow breeds in the plains of the Caucasus.

Corvus frugilegus.

The Rook is a resident in the plains of the Caucasus.

Corvus monedula.

The Jackdaw is common in the plains on the north of the Caucasus.

Pica caudata.

The Magpie is common in the plains of the Caucasus.

Pyrrhocorax graculus.

The Chough breeds in the mountains of the Caucasus.

Pyrrhocorax alpinus.

The Alpine Chough is found in the Caucasus.

GARRULUS KRYNICKI.

The Black-headed Jay is found throughout the lower forests and plains of the Caucasus.

The Jay from the Caucasus must of course bear the name *G. krynicki*, which was originally applied by Kaleniczenko to a specimen obtained at Georgievsk. It is, however, more nearly allied to the Palestine bird, *G. atricapillus*, than to the extreme form from Asia Minor. I have a series of skins collected by Danford in the latter country bridging over the distance between these two Jays, which proves them to be conspecific. Besides a skin from Kutais, collected by Michailovsky, I have in my collection two skins from Lenkoran obtained from Herr Tancré. These latter are very different from the Kutais example, and are intermediate in colour between the extreme form of *G. krynicki* and *G. hyrcanus*, suggesting the idea that these forms are also conspecific. The Lenkoran examples are scarcely to be distinguished from the extreme form of the Asia-Minor bird, except that scarcely any of the feathers of the head are absolutely black, and the general colour is that of the Persian bird. It seems probable that all these local races of Jays interbreed when they have an opportunity of doing so; for Bogdanow, in his 'Birds of the Volga,' p. 114, says that many of the Jays in the provinces of Kazan and Simbirsk are intermediate between *G. glandarius* and *G. brandti*, and proposes for them the name of *G. severtzowi*. He says the ground-colour of the head is a brick-brown.

The series of local races of the Trans-Caucasian Jays appears to be as follows:—

G. atricapillus. A pale form, with a white forehead and throat, found in Turkey, Asia Minor, Palestine, Syria, West Trans-Caucasia, and Persia.

[*G. atricapillus*, subsp. *krynicki*, was described from skins obtained north of the Caucasus, and is said by Bogdanow to be the same as the Trans-Caucasian bird.]

G. atricapillus, subsp. *anatoliæ*, is hitherto nameless. It is much darker than the preceding, especially on the forehead and throat. It is the *G. krynicki* of Dresser, *nec* Kaleniczenko, and appears to be confined to Asia Minor.

G. atricapillus, subsp. *caspius*, is still darker than the preceding, in fact as dark as *G. hyrcanus*, but differs from that bird in having the feathers of the crown and nape black, with very narrow vinous margins. Only known from Lenkoran.

Ornithologists who have not yet brought themselves to use the Americo-Linnæan system of nomenclature may fairly admit four species of these Jays—*G. atricapillus*, *G. anatoliæ*, *G. caspius*, and *G. hyrcanus*.

STURNUS VULGARIS.

The Common Starling is abundant in the lower valleys.

?STURNUS PURPURASCENS (*Sturnus nitens*, Hume apud Bogd.).

In my paper on the Ornithology of Siberia ('Ibis,' 1880, p. 182), I thought I had finally disposed of the Starlings. After examining a series from Moscow, the Caucasus, and Turkestan, I am obliged to modify my views. The bird described by Bogdanoff is certainly not the *Sturnus nitens* of Hume, since the wing measures 5·1 inches. It is the *S. poltaratskii* of Finsch, and the *S. nobilior* of Hume. I have previously looked upon this variety as the Green-backed form of *S. purpurascens*; but I am now inclined to consider it more nearly allied to *S. vulgaris*, possibly a cross between that species and *S. purpurascens*. It was found by Michailovsky at Suram, between Kutais and Tiflis. In the Starlings I do not find any two characters that are always constant.

PASTOR ROSEUS.

The Rose-coloured Pastor is very common in the plains.

PASSER DOMESTICUS-INDICUS.

The Caucasian Sparrow is said by Bogdanow to be intermediate between our Common Sparrow and the Common Sparrow of India; and he calls it *Passer domesticus*, subsp. *caucasicus*. The inference I draw is that *Passer domesticus* and *Passer indicus* are conspecific, and that between the two extremes an infinite number of intermediate forms exist. It is said only to be found where cultivation has been introduced.

PASSER SALICARIUS.

The Spanish Sparrow is found at Lenkoran, but is doubtfully recorded from the Caucasus.

PASSER MONTANUS.

The Tree-Sparrow is common in many villages on the Caucasus.

PASSER PETRONIA.

The Rock-Sparrow is found in suitable localities throughout the Caucasus from the snow-line to the shores of the Caspian.

FRINGILLA CŒLEBS.

The Chaffinch is common in all the forests of the Caucasus.

FRINGILLA MONTIFRINGILLA.

The Brambling is occasionally found in the Caucasus, probably only on migration.

FRINGILLA COCCOTHRAUSTES.

The Hawfinch is occasionally found in the Caucasus.

FRINGILLA CHLORIS.

The Greenfinch, which is common throughout the Caucasus, is said by Bogdanow to be subsp. *chlorotina*, Licht., and to differ from the typical form in having a thicker bill and in being of a brighter green-colour, with the under tail-coverts pure yellow. A comparison with examples from Turkestan would be necessary to form an opinion as to its specific distinctness.

CARDUELIS ELEGANS.

The Goldfinch is very common in the lower forests and plains.

SERINUS PUSILLUS.

The Red-fronted Finch is found throughout the steppes and in the rhododendron-region, descending to the plains only in winter.

CHRYSOMITRIS SPINUS.

The Siskin breeds in the pine- and rhododendron-regions.

Linota bella.

The Asiatic Linnet is described by Bogdanow as common both in the pine- and rhododendron-regions, as well as in the plains. It only differs from the common Linnet in having the upper parts unspotted and the red of the breast somewhat more scarlet.

Linota cannabina.

The Linnet is a winter visitor to the Caucasus.

Linota brevirostris.

The Eastern Twite is found in the Caucasus. It has the upper tail-coverts bright red. It is the *L. erythropyga* of Bogdanow.

Montifringilla alpicola.

The Asiatic Snowfinch is found in the Caucasus only on the mountain-steppes and in the rhododendron-region. In June Bogdanow saw it in flocks. Dresser, in his 'Birds of Europe,' does not recognize this species as distinct from *M. nivalis*. It is, of course, the eastern form of our Snowfinch, from which it is much more distinct than *Picus pipra* and *Parus camtchatkensis* are from their western allies; and it seems scarcely just to admit specific distinctness for the Woodpecker and the Tit whilst denying it to the Snowfinch.

Pyrrhula vulgaris.

The Common Bullfinch breeds in the birch- and pine-regions, wintering in the plains.

Carpodacus erythrinus.

The Scarlet Grosbeak is common on the steppes and in the plains.

Carpodacus rubicilla.

The Caucasian Rose-Finch appears to be very rare in the Caucasus.

Loxia pityopsittacus.

The Parrot Crossbill is doubtfully recorded from the Caucasus.

EMBERIZA MELANOCEPHALA.

The Black-headed Bunting is common both on the steppes and in the plains.

EMBERIZA MILIARIA.

The Common Bunting is common both on the steppes and in the plains.

EMBERIZA CITRINELLA.

The Yellow Bunting is commoner on the northern side of the Caucasus than on the southern, ascending the mountains to about 4000 feet.

EMBERIZA HORTULANA.

The Ortolan Bunting is confined to the plains.

EMBERIZA HUTTONI.

Hutton's Bunting was found by Filippi at Sabarak, in the government of Erivan. His examples are in the Museum of Turin.

EMBERIZA CIA.

The Meadow-Bunting frequents the mountains above the limit of forest-growth to the limit of perpetual snow.

EMBERIZA SCHŒNICLUS.

The Reed-Bunting passes through the Caucasus on migration.

EMBERIZA PYRRHULOIDES.

The Large-billed Reed-Bunting is found among the reeds at the mouths of the Caucasian rivers.

OTOCORYS PENICILLATA.

The Eastern Shore-Lark is found on the steppes of the Caucasus.

ALAUDA CRISTATA.

The Crested Lark is found almost exclusively on the plains, rarely ascending to a height of 4000 feet in the mountain-valleys.

ALAUDA ARBOREA.

The Wood-Lark is an autumn or winter visitor.

ALAUDA ARVENSIS.

The Sky-Lark is common on the plains. A large form is called by Bogdanow *Alauda arvensis*, subsp. *armenica*. This bird varies so much in size in every locality where it is found that it seems unwise to make a subspecies on that character alone.

CALANDRELLA BRACHYDACTYLA.

The Short-toed Lark is common on many of the steppes.

CALANDRELLA PISPOLETTA.

Pallas's Short-toed Lark has been found in the deserts beyond the Caucasian range.

MELANOCORYPHA CALANDRA.

The Calandra Lark is found on many of the steppes.

MELANOCORYPHA BIMACULATA.

The Eastern Calandra Lark was found by Ménétriés on the Talischina Mountains, 6000 feet above the sea-level.

MELANOCORYPHA SIBIRICA.

The White-winged Lark was seen by Bogdanow on the steppes near Stavropol.

MELANOCORYPHA TARTARICA.

The Black Lark winters in the Caucasus.

TURDUS VISCIVORUS.

The Missel-Thrush breeds in the forests.

TURDUS MUSICUS.

The Song-Thrush breeds in the Caucasus.

TURDUS ILIACUS.

The Redwing is said to winter in the Caucasus.

TURDUS PILARIS.

The Fieldfare winters in the Caucasus.

MERULA MERULA.

The Blackbird is a resident bird in the Caucasus. Bogdanow saw it up to 5000 feet elevation.

MERULA TORQUATA.

The Ring-Ousel breeds in the rhododendron-region, and almost up to the snow-line.

MONTICOLA SAXATILIS.

The Rock-Thrush is very rare in the Caucasus.

MONTICOLA CYANUS.

The Blue Rock-Thrush is found in the rocky districts.

CINCLUS CASHMIRIENSIS.

The Dipper from the Caucasus appears to me to be *Cinclus cashmiriensis* of Gould. The head, nape, and upper back are sooty brown, shading into nearly black on the rest of the upper parts, where each feather has a paler and greyer submarginal band. The white throat somewhat suddenly shades into brown in the centre of the breast, and below the breast into very dark brown.

In the Caucasus this Dipper is common on the mountain-streams as high as the steppes.

ORIOLUS GALBULA.

The Golden Oriole is common below the forest-line.

MUSCICAPA GRISOLA.

The Spotted Flycatcher is very common up to the rhododendron-region.

MUSCICAPA ATRICAPILLA.

The Pied Flycatcher is local in the Caucasus.

MUSCICAPA COLLARIS.

The White-collared Flycatcher is doubtfully recorded from the Caucasus.

MUSCICAPA PARVA.

The Red-breasted Flycatcher is found throughout the Caucasus up to 6000 feet.

LANIUS COLLURIO.

The Red-backed Shrike is very common in the Caucasus up to 5000 feet.

LANIUS RUFUS.

The Woodchat-Shrike is very common on the shores of the Black Sea in the region of the Caucasus.

LANIUS MINOR.

The Lesser Grey Shrike is very common in the Caucasus up to 4000 feet.

LANIUS HOMEYERI.

This form of the Great Grey Shrike is occasionally found in the Caucasus. It is an intermediate form between *L. excubitor* and *L. leucopterus*. It should bear the name of *L. excubitor-leucopterus*, inasmuch as these two forms are conspecific, a complete series from the western to the eastern form being found in the intermediate localities. The frontal band is grey (being black in the former and white in the latter forms). In *L. excubitor* the rump and upper tail-coverts are grey. In the intermediate form the rump is white and the upper tail-coverts are grey, whilst in *L. leucopterus* both are white. The white at the base of both the primary and secondary quills and at the base of the tail is considerably more extended in the Caucasian bird than in *L. excubitor*, and considerably less so than in *L. leucopterus*.

PARUS MAJOR.

The Great Tit is found throughout the Caucasus up to the limit of forest-growth.

PARUS PHÆONOTUS.

Blanford's Cole Tit is found at Lenkoran.

PARUS MICHAILOVSKII.

Michailovsky's Cole Tit is a new species described by Bogdanow from skins obtained by Michailowsky on the pass of Suram, the pass of Zacarsk, and Abas-Touman. Bogdanow also saw it near Veden. It is an intermediate form between *P. phæonotus* and *P. ater*; and future researches will probably prove that these two forms are conspecific. An example measures—wing 2·65 inches, tail 2, culmen ·44, tarsus ·7. The upper parts are slate-grey, suffused with green, making an olive-brown yellower than that of *P. phæonotus*, and showing the slate-grey when the plumage is disturbed. The underparts scarcely differ from those of *P. ater*.

PARUS CRISTATUS.

The Crested Tit is doubtfully recorded from the Caucasus.

PARUS CÆRULEUS.

A Blue Tit is common on both sides of the Caucasus; but as no specimens were brought home, it is impossible to say whether it is of the European or the Persian form.

PARUS BRANDTI.

Brandt's Tit is described as new by Bogdanow from a single example much injured in shooting. The measurements are—wing 2·52 inches, tail 2·1, culmen ·38, tarsus ·64, which agree with those of the Marsh-Tit. The colours are also those of that bird, except that there is no black on the throat. I take it to be a young female of *P. palustris*.

PARUS PALUSTRIS.

The Marsh-Tit is said by Ménétriés and by Nordmann to be found in the Caucasus; but recent travellers have not confirmed this statement.

PARUS LUGUBRIS.

The Sombre Tit is recorded by Nordmann from the east shore of the Black Sea; but no examples from the Caucasus are known in collections.

PARUS CAUDATUS.

The Long-tailed Tit is recorded from the Caucasus both by Nordmann and Ménétriés; but recent travellers have not obtained it.

CALAMOPHILUS BIARMICUS.

The Bearded Tit has not yet been recorded from the Caucasus; but Bogdanow observed it in the reeds in the delta of the Terek.

ÆGITHALUS CASPIUS, Pölzam, Proc. Kazan Nat. i. p. 141.

The Caspian Pendulous Tit appears to be very local in the Caucasus. Bogdanow found it in the delta of the Terek.

SAXICOLA ISABELLINA.

The Isabelline Chat is common on the steppes of the Caucasus.

Saxicola œnanthe.

The Wheatear is not a rare bird in the Caucasus.

Saxicola melanoleuca.

The eastern form of the Black-throated Chat was originally described from the Caucasus, where, however, it is very rare.

Saxicola finschi.

The Euphrates Pied Chat was obtained by Ménétriés in the Caucasus.

Saxicola aurita.

The Eared Chat is a very local bird in the Caucasus. Bogdanow attempts to distinguish the eastern form of this species from the western form under the name of *Saxicola amphimelœna*, Hempr. et Ehr., asserting that the two birds differ in the colour of the frontal band, which he says is black in the western form and white in the eastern. An examination of a large series from Greece and Spain convinces me that the species are the same in both countries. The amount of black on the forehead varies in examples from both localities, those in which it is absent being probably birds of the year.

Saxicola morio.

The Siberian Pied Chat breeds in the Caucasus.

Pratincola rubetra.

The Whinchat is common throughout the Caucasus.

Pratincola rubicola.

A Stonechat is not uncommon in the Caucasus, but whether it is *P. rubicola*, *P. maura*, or *P. hemprichi*, it is impossible to say, as no specimens appear to have been collected.

Ruticilla phœnicurus.

The Redstart is very common in the wooded parts of the Caucasus up to the rhododendron-region.

Ruticilla mesoleuca.

Ehrenberg's Redstart breeds in the Caucasus.

Ruticilla ochrura (Gm.).

Gould's Redstart appears to breed throughout the Caucasus in the rhododendron-region. This is one of the most inter-

esting discoveries recorded in the volume. Hitherto this species has only been known in collections from the single type specimen of *R. erythroprocta*, Gould, in the British Museum, obtained at Erzeroum. I examined several skins in the Museum of St. Petersburg; and Bogdanow informed me that others were in the museum at Kazan. There can be no doubt that the *Motacilla ochrura* of Gmelin from the Persian mountains is Gould's Redstart (abdomine flavo), and not the Black Redstart, to which I have erroneously assigned it in the 'Catalogue of Birds,' v. p. 339.

RUTICILLA ERYTHROGASTRA.

Güldenstädt's Redstart was originally described from the Caucasus, but appears to be rare there, since no recent traveller, except Radde, has found it in that locality.

ERITHACUS HYRCANUS.

The Persian Robin breeds in the Caucasus.

ERITHACUS RUBECULA.

The Robin is also found in the Caucasus. I have an example in my collection obtained by Michailowsky.

ERITHACUS SUECICUS (Brehm, nec Temm.).

The Red-spotted Bluethroat passes through the Caucasus on migration.

ERITHACUS GOLZII.

The Persian Nightingale is said by Ménétriés to be common in the forests of the Caucasus. Examples collected by him are in the Museum at St. Petersburg. Bogdanow considers its song not nearly so fine as that of our bird.

ERITHACUS PHILOMELA.

The Eastern Nightingale is said by Nordmann and Ménétriés to be found in the Caucasus; but their statements require verification.

ACROCEPHALUS TURDOIDES.

The Great Reed-Warbler is common in suitable localities in the lowlands of the Caucasian district.

ACROCEPHALUS ARUNDINACEUS.

The Reed-Warbler is recorded by Filippi and Kessler from the Caucasus; but their statements require verification.

ACROCEPHALUS PALUSTRIS.

The Marsh-Warbler is said to have been found in the Caucasus by Krinitzky and Nordmann; but their statements require verification.

ACROCEPHALUS PHRAGMITIS.

The Sedge-Warbler was found by Bogdanow on the Terek river.

LUSCINIOLA MELANOPOGON.

The Moustached Warbler was obtained by Nordmann in the Caucasus.

CETTIA CETTII.

Cetti's Bush-Warbler has repeatedly been obtained from the Caucasus, where it is probably a resident.

HYPOLAIS PALLIDA.

The Olivaceous Tree-Warbler has been found in the Caucasus, where it is doubtless a summer migrant.

PHYLLOSCOPUS TROCHILUS.

The Willow-Warbler appears to pass through the Caucasus on migration.

PHYLLOSCOPUS SIBILATRIX.

The Wood-Warbler passes through the Caucasus on migration.

PHYLLOSCOPUS RUFUS.

The Chiffchaff passes through the Caucasus on migration.

PHYLLOSCOPUS TRISTIS.

The Siberian Chiffchaff appears also to pass through the Caucasus on migration, as an example was obtained by Kessler on September 17th.

REGULUS CRISTATUS.

The Goldcrest has been recorded from the Caucasus; but no examples are known to exist in Museums.

SYLVIA FAMILIARIS.

The Grey-backed Warbler was originally described from the Caucasus, where it breeds.

SYLVIA NISORIA.

The Barred Warbler is a summer visitor to the Caucasus.

SYLVIA ATRICAPILLA.

The Blackcap is a summer visitor to the Caucasus.

SYLVIA HORTENSIS.

The Garden-Warbler is a summer visitor to the Caucasus.

SYLVIA CURRUCA.

The Lesser Whitethroat is a summer visitor to the Caucasus.

SYLVIA CINEREA.

The Whitethroat is a common summer visitor to the Caucasus.

SYLVIA MYSTACEA.

Bowman's Warbler was first described from the Caucasus. I had an opportunity in St. Petersburg of examining a fine series of this bird from the banks of the Kur, collected by Ménétriés, and from Turkestan. Fully adult males in breeding-plumage are vinous-brown on the breast and flanks, but may easily be distinguished from a somewhat similar plumage of *S. subalpina* by their dark slate-grey head and cheeks. It is to be regretted that Dresser, in his 'Birds of Europe,' after confusing this species partly with *S. melanocephala* and partly with *S. subalpina*, should, after tardily admitting its specific distinctness, have adopted the name of *S. momus*, in direct violation of the Stricklandian code, to which he generally adheres.

ACCENTOR ALPINUS.

The Alpine Accentor is found in the mountain-valleys of the Caucasus.

ACCENTOR MODULARIS.

The Hedge-Sparrow is also found in the Caucasus.

MOTACILLA ALBA.

The White Wagtail appears to be a common summer visitor

to the Caucasus. Examples obtained by Michailovsky are undistinguishable from Indian and Siberian skins of *M. dukhunensis*; but the validity of this species requires confirmation.

Motacilla lugubris.

The Pied Wagtail has been recorded from the Caucasus; but, in the absence of any skins from this locality, we must consider the statement to be improbable.

Motacilla boarula.

The Grey Wagtail breeds in the mountain-valleys of the Caucasus up to the limit of perpetual snow, and is only seen in the plains during migration.

Motacilla flava.

The Blue-headed Wagtail breeds in the Caucasus, but does not ascend the mountains to any great elevation.

Motacilla viridis.

The Grey-headed Wagtail passes through the Caucasus on migration.

Motacilla melanocephala.

The Black-headed Wagtail breeds in the plains of the Caucasus.

Anthus spinoletta.

The Water-Pipit is recorded by Nordmann from the Caucasus; but recent travellers have not obtained it.

Anthus arboreus.

The Tree-Pipit is very common in the forests of the Caucasus during the breeding-season.

Anthus pratensis.

The Meadow-Pipit is said to pass through the Caucasus only on migration.

Anthus campestris.

The Tawny Pipit breeds in the Caucasus, and was described from there by Ménétriés as *Anthus rupestris*.

Troglodytes europæus.

The Common Wren is a resident in many parts of the Caucasus.

CERTHIA FAMILIARIS.

The Common Creeper is also a resident in many parts of the Caucasus.

TICHODROMA MURARIA.

The Wall-Creeper is not uncommon from the limit of forest-growth up to the snow-line and in the rocky passes too steep and narrow for the growth of trees.

SITTA CÆSIA.

The Common Nuthatch frequents the forests below the pine-region in considerable numbers.

SITTA NEUMEYERI.

The Rock-Nuthatch has been repeatedly obtained in the Caucasus. Dresser, in his 'Birds of Europe,' has involved this species in great confusion. It was originally described from Dalmatia, is found in Greece, Asia Minor, Palestine, the Caucasus, and Persia (*S. rupicola*, Blanf., is a synonym). A larger paler-coloured species, *S. syriaca* (of which *S. tephronota*, Sharpe, is a synonym), was originally described from Syria*, and is found in Palestine, Turkestan, and Afghanistan.

UPUPA EPOPS.

The Hoopoe is one of the commonest birds of the Caucasus.

CORACIAS GARRULUS.

The European Roller is very common in the plains.

ALCEDO ISPIDA.

The Kingfisher is very common in the Caucasus, ascending to a height of 5000 feet.

MEROPS APIASTER.

The Bee-eater is very common in the plains.

MEROPS PERSICA.

The Egyptian Bee-eater has only been found on the south-east side of the Caucasus.

* On what ground does Canon Tristram (Ibis, 1882, p. 410) contradict Temminck's statement (Man. d'Orn. iii. p. 287) that Ehrenberg found this species in Syria?

Hirundo rustica.

The Barn-Swallow is a common summer visitor to the Caucasus, and is often seen on the mountain-steppes.

Hirundo urbica.

The House-Martin is very common, building both on the houses and in the cliffs.

Cotile rupestris.

The Rock-Martin breeds at some elevation on the mountain-steppes and passes.

Cotile riparia.

The Sand-Martin is common in suitable localities in the Caucasus.

Cypselus apus.

The Swift is common in most of the towns and villages and on the mountain-steppes.

Cypselus melba.

The White-bellied Swift is found in all the mountainous regions of the Caucasus, but is rarely seen in the plains.

Caprimulgus europæus.

The Common Nightjar is common throughout the Caucasus up to 5000 feet elevation.

Cuculus canorus.

The Cuckoo is common in the Caucasus, but disappears about the middle of September.

Iynx torquilla.

The Wryneck is found in the Caucasus up to 5000 feet elevation.

Drycopus martius.

The Great Black Woodpecker inhabits the plane, beech, and pine forests of the Caucasus.

Gecinus viridis.

The Green Woodpecker is very common in the plains, forests, and mountains of the Caucasus. The Green Woodpecker of the Caucasus has twice been described as a new species, the first time in 1841 by Brandt (Bull. Sc. Acad.

Imp. St. Pét. ix. p. 12) as *Picus karelini*, and afterwards in 1878 by Taczanowski (Journ. Orn. p. 349) as *Gecinus saundersi*. I have carefully examined Brandt's type in the St. Petersburg Museum, as well as two skins from Lenkoran in my own collection, and am unable to detect any character by which to distinguish them from our common Green Woodpecker. M. Bogdanow and Mr. Hargitt both agree in this opinion.

Gecinus canus.

The Grey-headed Green Woodpecker is recorded from the Caucasus both by Ménétriés and Nordmann; but Bogdanow did not meet with it.

Picus poelzami, Bogd.

The Great Spotted Woodpecker of the Caucasus is fairly entitled to subspecific distinction. The male does not differ very much from our bird, except that the underparts are darker. In the female, however, this character is still more pronounced, the colour of the underparts being a cinnamon-brown, as near as possible to the colour of dry chocolate, or *café au lait*. So distinct is the bird from the St. Petersburg form of *P. major*, that Bogdanow does not apparently suspect their relationship, and points out at some length the differences between his species and *P. mandarinus* and its allies. He has doubtless been led astray by the article of Sharpe and Dresser in the 'Birds of Europe,' which, unfortunately, confounds the Woodpeckers of the *P. major* group with *P. cabanisi* and its allies, and ignores entirely the important variations of the former. Sharpe and Dresser having stated that, after an examination of "a very large series of birds from all parts of Europe," they "found little or no variation in examples [of *P. major*] from different localities," it was perfectly natural for Bogdanow to conclude, after a comparison of his birds from the Caucasus with those from North Russia, that the former constituted a good and probably distantly related species; and when he found that Sharpe and Dresser treated *P. cabanisi* as a "race or subspecies of *P. major*," it is not surprising that he should have considered the Caucasian bird a near ally

of the eastern form, which it greatly resembles in the colour of the underparts. The fact, however, is that the two species belong to different groups, apparently separated by a hard and fast line from each other—*P. major* and its allies always having white scapulars, and *P. cabanisi* and its allies always having black scapulars.

Malherbe, in his 'Monograph of the Picidæ,' divides *Picus cabanisi* into four species—*P. mandarinus*, *P. gouldi*, *P. cabanisi*, and *P. luciani*. The characters upon which these species are founded are the presence or absence of a red spot on the breast, the shape of the red spot on the nape, and the variation in tint of the underparts. All these characters appear to me to be valueless. There are two extreme forms of *P. cabanisi*—*P. luciani* and *P. cabanisi*—between which every intermediate stage occurs. In the former the white spots on the innermost secondaries meet, forming several broad white bars across the feathers. In the latter these white spots are obsolete or nearly so. The former are confined to North China, and the latter to South China, whilst the intermediate forms are principally confined to intermediate localities.

The other statement of Sharpe and Dresser, that examples of the Great Spotted Woodpecker from different parts of Europe show "little or no variation" is equally inaccurate.

Examples from St. Petersburg, Archangel, the valleys of of the Obb and the Yenesay, and from Lake Baikal are larger, and much whiter on the underparts, than those from Britain and South Europe, and are known to ornithologists as *P. cissa* of Pallas. They would undoubtedly be recognized as a good species, were it not for the fact that in Scandinavia, and in the valley of the Amoor, intermediate forms occur.

In Japan a form of the Great Spotted Woodpecker occurs which appears to be distinct from any of the allied forms. I propose to call it *Picus japonicus*. I have eleven examples—two from Hakodadi and five from Yokohama, two from South Yezo, one from the island of Sakhalin, and one from the Kurile Islands. The colour of the underparts agrees with *P. major-cissa* from Scandinavia; but the white on the secon-

daries is more developed, and the white on the innermost secondaries is as much developed as in *P. luciani*. It is probably only subspecifically distinct from *P. major*, as the Sakhalin bird is somewhat intermediate.

In Turkestan *P. leucopterus* occurs, in which the white on the wing is very much developed, and the white on the tail very little so. This species appears to be connected by a series of intermediate forms with *P. syriacus*, which Tristram and Newton have mistaken for intermediate forms between *P. major* and *P. syriacus*, and which Severtzow has named *P. leptorhynchus*. *P. leucopterus* and *P. syriacus* and all their intermediate forms, however, may always be distinguished from *P. major* and *P. cissa* and all their intermediate forms by the small amount of white on the wing and the large amount of white on the tail of the latter.

Picus minor.

The Lesser Spotted Woodpecker is said to be rare in the Caucasus.

Columba palumbus.

The Ring-Dove is a resident in the forests of the Caucasus below the pine-region; and in winter their numbers are largely increased by migrants from the north.

Columba livia.

The Rock-Dove is very common in the Caucasus; occasionally found breeding in great numbers in the caves.

Columba œnas.

The Stock-Dove is a common resident in the Caucasus.

Turtur auritus.

The Turtle Dove is common in the Caucasus below the pine-region.

Pterocles alchata.

The Pin-tailed Sand-Grouse is said to be an accidental visitor to the Caucasus from the steppes of Turkestan, which appears to be the western limit of its breeding-range. Eversmann's statement that it breeds in the Kirghiz steppes (J. f. O. 1853, p. 292, which is quoted by Dresser, doubtless

refers to *P. arenarius*. The western form is confounded with this species by Dresser; but Bogdanow (Bull. Ac. Imp. Sci. St. Pétersb. xi. p. 51, 1880) shows that the two forms are fairly separable, the Spanish and African birds having the subterminal bands of the wing-coverts yellow instead of white. Bogdanow falls into the error of giving a new name to the eastern bird, which he calls *P. sewerzowi*. Linnæus, however, distinctly describes *P. alchata* as having "tectrices ferrugineæ margine albæ;" so that his name must stand for the eastern bird. I propose to call the western bird *Pterocles pyrenaicus*, a name originally given to it by Brisson.

Pterocles arenarius.

The Black-bellied Sand-Grouse is also said to be occasionally found on the steppes.

Tetrao mlokosiewiczi.

The Georgian Black Grouse is found throughout the Caucasus in the upper pine-region and in the birch- and rhododendron-regions. In summer it feeds on the berries of the rhododendron, and in winter on the birch-buds and pine-needles. They pair early in May, at which time Nordmann (who, however, did not distinguish the species from the Common Black Grouse) describes their peculiar note as a kind of singing murmur. The best time to secure them is at sunrise, when, leaving the pine-forests in which they roost, they cross the narrow belt of birch and willow and retire to the "tundra" to feed. The Caucasian tundras above the limit of forest-growth possess an alpine flora; and the last trace of trees appears to be a dwarf rhododendron, which creeps along the ground almost like the creeping birch of the Norwegian fjelds and Siberian tundras.

Perdix cinerea.

The Partridge is common in the Caucasus, especially on the steppes.

Perdix chukar.

The Chukar Partridge is common from the steppes down to the sea-shore.

TETRAOGALLUS CAUCASICUS.

The Caucasian Snow-Partridge is probably the only bird which is only found in the Caucasus, where it is abundant from the limit of forest-growth to the snow-line. Nothing whatever is known of its habits.

TETRAOGALLUS CASPIUS.

The Caspian Snow-Partridge was found by Radde in the Caucasus; but the exact locality is somewhat obscure.

FRANCOLINUS VULGARIS.

The Francolin is found in the Caucasus, but is very local.

COTURNIX COMMUNIS.

The Quail abounds in the Caucasus, except in the forests and swamps. In mild seasons it remains during winter.

PHASIANUS COLCHICUS.

The Pheasant abounds in the Caucasus in the river-valleys up to 3000 feet elevation.

RALLUS AQUATICUS.

The Water-Rail is common in most suitable localities—swamps, the reedy banks of rivers and creeks, &c.

RALLUS CREX.

The Land-Rail is very common up to a considerable elevation.

RALLUS PORZANA.

The Spotted Crake is common.

RALLUS MINUTA.

The Little Crake is not uncommon in the Caucasus.

GALLINULA CHLOROPUS.

The Moorhen is found throughout the Caucasus, except on the mountains.

PORPHYRIO CÆRULEUS.

The Purple Gallinule has been obtained in the Caucasus, but is said to be very rare.

FULICA ATRA.

The Coot is common in the rivers and lakes on the plains.

OTIS TARDA.

The Great Bustard is a common bird on the northern

steppes of the Caucasus, migrating in large flocks to winter in the plains of the Kur and Arax.

Otis tetrax.

The Little Bustard is similar to the preceding in its range and migration.

Otis houbara.

The Houbara Bustard is recorded from the Caucasus by De Filippi, who obtained two examples. He expressly states that they were not *O. macqueeni*.

Œdicnemus crepitans.

The Stone-Curlew is very common on some of the steppes.

Charadrius vanellus.

The Lapwing passes through the Caucasus in great numbers in the spring and autumn migrations; and a few are said to remain to breed.

Charadrius gregarius.

The Sociable Plover was seen by Bogdanow on the steppes in August.

Charadrius pluvialis.

The Golden Plover is only a winter visitor to the Caucasus.

Charadrius helveticus.

The Grey Plover is seen in the Caucasus on the autumn migration.

Charadrius asiaticus.

The Caspian Plover is seen in the Caucasus on migration.

Charadrius hiaticula.

The Ringed Plover is found in the Caucasus in suitable localities.

Charadrius minor.

The Lesser Ringed Plover is common on most of the rivers of the Caucasus, sometimes to a considerable height.

Charadrius cantianus.

The Kentish Plover is very common on the shores of the Caspian and on the salt steppes near Bakon.

GLAREOLA PRATINCOLA.

The Pratincole is found on the north of the Caucasus, and is said sometimes to occur on the south slope.

GLAREOLA MELANOPTERA.

The Steppe-Pratincole reaches the western limit of its range on the steppes of the Caucasus.

CURSORIUS GALLICUS.

The Cream-coloured Courser was seen in the Caucasus, both by Nordmann and Ménétriés.

HÆMATOPUS OSTRALEGUS.

The Oystercatcher is very common in the Caucasus, except on the mountains.

STREPSILAS INTERPRES.

The Turnstone is very common on the Caucasian shores of the Black Sea.

NUMENIUS ARQUATA.

The Curlew breeds on the steppes of the Caucasus.

NUMENIUS PHÆOPUS.

The Whimbrel breeds on the northern steppes of the Caucasus.

LIMOSA MELANURA.

The Black-tailed Godwit breeds in the Caucasus.

LIMOSA LAPPONICA.

The Bar-tailed Godwit passes through the Caucasus on the autumn migration.

TEREKIA CINEREA.

The Terek Sandpiper, originally described by Güldenstädt from the river Terek, passes the Caucasus on the autumn migration.

TOTANUS GLOTTIS.

The Greenshank passes the Caucasus on the autumn migration.

TOTANUS STAGNATILIS.

The Marsh-Sandpiper is very common during the breeding-season in the valleys of the Terek and the Kuban.

Totanus fuscus.

The Spotted Redshank passes the Caucasus on the autumn migration.

Totanus calidris.

The Common Redshank breeds in the Caucasus wherever there are swamps, and winters on the salt marshes of Baku.

Totanus glareola.

The Wood-Sandpiper passes through the Caucasus in great numbers on the autumn migration.

Totanus ochropus.

The Green Sandpiper breeds throughout the Caucasus up to the steppes.

Totanus hypoleucus.

The Common Sandpiper breeds throughout the Caucasus up to the steppes.

Tringa alpina.

The Dunlin passes through the Caucasus in great numbers on the spring and autumn migrations.

Tringa minuta.

The Little Stint is very common during the autumn migration.

Tringa temminckı.

Temminck's Stint is very common on migration.

Tringa subarquata.

The Curlew Sandpiper was first described by Güldenstädt from the Caucasus, but is only seen there on the spring and autumn migrations.

Tringa pugnax.

The Ruff is very common in the Caucasus during the spring and autumn migrations.

Scolopax rusticula.

The Woodcock passes through the Caucasus on migration. A few remain to breed in the forests below the pine-region; and some winter in the plains.

SCOLOPAX MAJOR.

The Great Snipe passes through the Caucasus on the spring and autumn migrations.

SCOLOPAX GALLINAGO.

The Common Snipe passes through the Caucasus on the spring and autumn migrations; and many winter in the swamps on the southern slopes.

SCOLOPAX GALLINULA.

The Jack Snipe passes through the Caucasus on migration, wintering in the swampy plains to the south.

PHALAROPUS HYPERBOREUS.

The Red-necked Phalarope passes along the Caucasian shores of the Caspian on migration. Ménétriés says that it breeds on the southern slopes; but this statement respecting so arctic a bird is scarcely credible.

RECURVIROSTRA AVOCETTA.

The Avocet is found in great numbers during migration on the salt lakes and on the shores of the Caspian and the Black Sea.

HIMANTOPUS CANDIDUS.

The Black-winged Stilt is common on the shores of the Caspian and the Black Sea, and on the banks of the rivers and salt lakes, in early spring and summer.

GRUS COMMUNIS.

The Common Crane passes through the Caucasus on migration; and a few are said to breed on the steppes north of the mountains.

GRUS VIRGO.

The Demoiselle Crane is very common on the northern steppes; but Bogdanow does not say at what time of the year —probably in summer only.

ARDEA CINEREA.

The Common Heron is found on all the waters of the Caucasian plains; but Bogdanow does not say if it winters there.

ARDEA PURPUREA.

Bogdanow simply says that the Purple Heron inhabits the rivers and lakes of the Caspian plains in great numbers. It probably does not winter there.

ARDEA ALBA.

The Great White Egret is common on the plains, probably only in summer.

ARDEA GARZETTA.

The Lesser Egret breeds on the delta of the Terek.

ARDEA COMATA.

The Squacco Heron is common on the shores of the Caspian.

ARDEA BUBULCUS.

The Buff-backed Heron has once been obtained in the Caucasus.

ARDETTA MINUTA.

The Little Bittern is found throughout the Caucasus on the plains.

BOTAURUS STELLARIS.

The Bittern is common on the waters throughout the plains of the Caucasus.

NYCTICORAX GRISEUS.

The Night-Heron breeds in the delta of the Terek and in many other places in the Caucasus.

CICONIA ALBA.

The White Stork is very common in the Caucasus, and is said to be a resident.

CICONIA NIGRA.

The Black Stork is common in the Caucasus, and is said to be a resident.

PLATALEA LEUCORODIA.

The Spoonbill passes through the Caucasus on migration.

IBIS FALCINELLUS.

The Glossy Ibis is very common in the plains of the Caucasus; but Bogdanow does not say if it is a resident.

PHŒNICOPTERUS ROSEUS.

The Flamingo has not been found breeding in the Caucasus, but is often seen as an occasional visitor.

CYGNUS OLOR.

The Mute Swan is common in the Caucasus, and is said to breed in the delta of the Terek.

CYGNUS MUSICUS.

The Whooper Swan winters in the Caucasus.

ANSER CINEREUS.

The Grey-lag Goose breeds in great numbers in the valley, and especially in the delta, of the Terek.

ANSER SEGETUM.

The Bean-Goose passes the Caucasus in great numbers on migration; and a few winter on the southern shores of the Caspian.

ANSER ALBIFRONS.

The White-fronted Goose is very common in winter on the southern shores of the Caspian, and on the lakes of the south-west Caucasus.

ANSER ERYTHROPUS.

The Little White-fronted Goose winters on the southern shores of the Caspian.

BERNICLA RUFICOLLIS.

The Red-breasted Goose visits the Caspian in large flocks on the autumn migration.

TADORNA VULGARIS.

The Sheldrake is very common in the Caucasus: it is probably a resident.

TADORNA CASARCA.

The Ruddy Sheldrake is a common resident throughout the Caucasus, except on the mountains.

ANAS BOSCHAS.

The Mallard is a common resident in the plains of the Caucasus.

ANAS STREPERA.

The Gadwall is a common resident in the plains of the Caucasus.

ANAS ANGUSTIROSTRIS.

The Marbled Duck is a rare resident in the plains of the Caucasus.

ANAS ACUTA.

The Pintail is a common resident in the Caucasus.

ANAS QUERQUEDULA.

The Garganey is common throughout the Caucasus.

ANAS CRECCA.

The Teal is common throughout the Caucasus, except on the mountains.

ANAS PENELOPE.

The Wigeon is not so common in the Caucasus as the other ducks.

ANAS CLYPEATA.

The Shoveller is found in all the plains of the Caucasus.

FULIGULA RUFINA.

The Red-crested Pochard winters in the Caucasus, and probably breeds there.

FULIGULA MARILA.

The Scaup winters on the southern shores of the Caspian.

FULIGULA CRISTATA.

The Tufted Duck is common during the spring and autumn migrations in the plains of the Caucasus, and winters on the southern shores of the Caspian.

FULIGULA FERINA.

The Pochard is found throughout the plains of the Caucasus.

FULIGULA NYROCA.

The White-eyed Duck is very common in the valleys of the Terek and the Kuban.

FULIGULA CLANGULA.

The Golden-eye is very common in the valleys of the Terek and the Kouban, and winters on the southern shores of the Caspian.

FULIGULA GLACIALIS.

The Long-tailed Duck winters on the southern shores of the Caspian.

ŒDEMIA FUSCA.

The Velvet Scoter is said to winter in the Caspian.

ŒDEMIA NIGRA.

The Scoter is said to winter in the Caspian.

ERISMATURA MERSA.

The White-headed Duck is a resident in the Caucasus.

MERGUS MERGANSER.

The Goosander passes the Caucasus on migration, and winters on the shores of the Black Sea.

MERGUS SERRATOR.

The Red-breasted Merganser passes through the Caucasus on the autumn migration.

MERGUS ALBELLUS.

The Smew winters in the Caucasus, but is not common.

COLYMBUS SEPTENTRIONALIS.

The Red-throated Diver winters in large numbers on the southern shores of the Caspian.

COLYMBUS ARCTICUS.

The Black-throated Diver also winters in large numbers on the southern shores of the Caspian.

PODICEPS CRISTATUS.

The Great Crested Grebe is a resident in the plains of the Caucasus.

PODICEPS RUFICOLLIS.

The Red-necked Grebe breeds in great numbers in the valleys of the Terek and the Kuban.

Podiceps cornutus.

The Eared Grabe has been found in the Caucasus.

Pociceps auritus.

The Sclavonian Grabe has been found in the Caucasus.

Podiceps minor.

The Little Grebe has been found in the Caucasus.

Pelecanus crispus.

The Dalmatian Pelican is found throughout the summer in the valleys of the Terek and the Kouban. It winters on the southern shores of the Caspian.

Pelecanus onocrotalus.

The Roseate Pelican frequents both the Caspian and Black Sea, both summer and winter.

Phalacrocorax carbo.

The Cormorant winters both in the Caspian and Black Sea, and is said occasionally to be seen in summer.

Phalacrocorax pygmæus.

The Pygmy Cormorant is very common on the Caspian, and is said to breed on the delta of the Terek.

Puffinus anglorum.

The Manx Shearwater is said to be found both on the Caspian and Black Sea.

Larus canus.

The Common Gull is said to be a resident on the Causasian shores both of the Caspian and Black Sea.

Larus cachinnans.

The Yellow-legged Herring-Gull is a resident both on the shores of the Caspian and Black Sea.

Larus borealis.

The Siberian Herring-Gull passes down the Caspian Sea on migration.

Larus ichthyaetus.

The Great Black-headed Gull is continually seen on the Caspian Sea during summer.

LARUS RIDIBUNDUS.

The Black-headed Gull is found throughout the Caucasus, except on the mountains. It is probably a resident.

LARUS MINUTUS.

The Little Gull passes the Caucasus on migration.

STERNA CASPIA.

The Caspian Tern is seen on the Caspian Sea during autumn.

STERNA CANTIACA.

The Sandwich Tern is seen in autumn on the Caspian Sea.

STERNA ANGLICA.

The Gull-billed Tern is frequently seen in the Caucasus in summer and autumn.

STERNA HIRUNDO.

The Common Tern is very abundant in the valleys of the Terek and the Kuban. It is probably a resident.

STERNA MINUTA.

The Lesser Tern is very abundant in the valleys of the Caucasus.

STERNA NIGRA.

The Black Tern is common in the valleys of the Terek and the Kuban during summer.

STERNA HYBRIDA.

The Whiskered Tern is very common in the valleys of the Terek and the Kuban.

STERNA LEUCOPTERA.

The White-winged Black Tern is often seen during summer and autumn in the valleys of the Terek and the Kuban.

II.—*On the Position of the Acrocephaline Genus* Tatare, *with Descriptions of two new Species of the Genus* Acrocephalus. By H. B. Tristram, F.R.S.

(Plates I. & II.)

In many cabinets a drawer near the bottom, generally deeper than most of the others, serves as a receptacle for various odds and ends which have not found a place elsewhere, or which, perhaps, from their shape and size, do not exactly fit in symmetrically with the contents of the upper drawers. To this Bluebeard's closet are relegated all sorts of miscellaneous curiosities. The owner is not very fond of examining and sifting it. To do so gives a great deal of trouble, and, besides, if its contents are to be reduced, may involve the labour of rearranging some very pretty and undoubtedly homogeneous series.

Such a deep drawer in the practice of many ornithologists is the family Timeliidæ. The Timeliine group is, in fact, the waste-paper basket of the puzzled systematist in the Passerine birds.

Our late dear friend Dr. Jerdon, on seeing a specimen which perplexed him, used to say, "Oh! put it among the Timeliines; some one will find a place for it there." And certainly we do find a motley group relegated by one and another of our systematists to this elastic family. What is its definition? I can only find (1) "Bill very similar to that of the Thrushes and Warblers; (2) wings rounded and short, concave, so as to fit close to the body. (3) Birds generally of limited migration" (Cat. Birds, iv. p. 7, & vi. p. 1). Is this a sufficient diagnosis on which to found a *family*? I trow not. In the first place we may dismiss the last sentence, as we can scarcely form genera, still less families, on a vague and indefinite statement of life-habit that the bird is rather a stay-at-home traveller. The first we dismiss, as there is nothing very differentiating in a strong similarity to others. There remains therefore only the distinction of a rounded and short concave wing. Is this sufficient to mark off a

family, irrespective of other differences *inter se*? What causes a wing to become rounded sufficiently to constitute its possessor a Timeliine? How far is the first primary to extend beyond primary-coverts? How many decimal points is the second primary to fall short of the third? Is the third ever to be permitted to extend to an equality with the fourth?

Really these questions are not frivolous, but are very practical; and they have come home to me in a very practical manner while endeavouring to arrange my collection in accordance with our latest authorities. Everywhere I come upon some unhappy outcast, unknown to his supposed relatives, and waiting, we must charitably hope, for a home in some future volume of a Timeliine catalogue. If from long sedentary habits, from a dislike to reckless and aimless adventure, some lonely Sylviad or Thrush has remained happy and contented for countless sæcles on his lonely island rock, is he to be spurned and cast aside, unworthy of a place among Warblers or Thrushes, because disuse has somewhat shortened the feathers of his pinion, or induced a slight exaggeration in another rudimentary one?

Take, for instance, *Nesocichla eremita*. Here we have an island form, to all outward appearance a true spotted Thrush. It has not even an elongated bastard primary; it lays the eggs of a Blackbird; its third and fourth primaries are equal, and its second shorter than its sixth; it has the spotted plumage and every other Turdine character; but its excursions have been restricted to the narrow limits of its native Tristan d'Acunha, and therefore its wing has become weaker and rounder than that of its fellows. "It will be treated of in the Timeliidæ" (B. M. Cat. vi. p. 104). I cannot but demur to such a divorce, grounded on the accidents of its insular condition, from the family of the Turdidæ.

But there is a want of consistency in the methods by which the ranks of the Timeliidæ are recruited. If *Nesocichla eremita* is remitted thither because, though with a very small bastard primary, it has a somewhat rounded wing, what shall we say to the treatment of *Saxicola arnotti*, *S. shelleyi*, and their allies, which have not a rounded wing, but very

decidedly the contrary, but of which the first primary is unfortunately developed one eighth of an inch beyond that of other species retained among the Saxicolinæ? I have measured the first primary of *S. arnotti* and compared it with that of half a dozen other Saxicolinæ, and I find the line, the fatal line, is drawn at one and a quarter inch. Beyond that limit *Saxicola* passeth not.

I next turn to my Redstarts, and find no place for a most interesting old friend, *Ruticilla moussieri*. It is omitted from the Ruticillinæ because its tail is short. Its nest and eggs, if not its habits, are certainly Ruticilline, rather than Pratincoline. I turn to the genus *Pratincola*, which finds itself in unwonted company, in the centre of the Muscicapinæ; but there is no place there for my North-African friend. He is left out in the cold by all.

More fortunate is *Irena*. Having formerly been attached to the Dicruridæ, this genus, properly, no doubt, removed by Mr. Sharpe from that connexion, is now taken altogether from the neighbourhood of the Orioles, with which certainly it has some affinity, and appears in the Timeliine Miscellany.

I happened to be admiring the other day a specimen of that most beautiful and anomalous bird, *Urocynchramus pylzowi*, with the beak, head, and upper plumage of *Emberiza*, and the tail and lower plumage of *Uragus*. But having a rounded wing, it was admitted neither into the society of Bunting nor Rose-Finch, but lay in a Timeliine drawer! I shall be told that no system is perfect, and that it is very easy to criticise; and I grant it; but what I wish to do is to record my humble protest against the siezing of one special character, not always homologous to the rest of the structure, whether it be palatal bones, the wing-formula, the sternum, the tail-feathers, or aught else, and the building of a system of classification upon it to the exclusion of many countervailing and modifying circumstances on either side.

I have been led to these remarks by endeavouring to find a place for the little group of Pacific Warblers generally known as *Tatare*; and in proposing to absorb them into the

genus *Acrocephalus*, I am happy to know that I have the sanction of my friend Mr. Seebohm, who has already absorbed one of them, *A. syrinx*, and who assures me that, had his attention been called to them, he should have also included the other species in his valuable fifth volume of the Brit. Mus. Catalogue. I am also justified in my proposal by the remarks of Dr. Hartlaub (Faun. Central-Pol. p. 70).

The genus *Tatare* was formed by Lesson in 1830 for the reception of *Turdus longirostris*, Gm., = *Sitta caffra*, Sparrm., = *Sitta otatare*, Less. Voy. Coquille, i. p. 666. To this various other species have since been added.

The group is a most interesting one, being one of the very few links (the others being the solitary *Hirundo tahitica* and the *Merulæ*) between the avifaunâ of Oceania and our own; and it has a much wider range east and west than either of the other links, extending from the Carolines in the east to the Marquesas in the west.

There is nothing whatever in Lesson's diagnosis of his genus *Tatare* to separate it from Naumann's and Mr. Seebohm's definition of *Acrocephalus*, under which genus I propose to class all the Sylviinæ of Oceania at present known, as:—

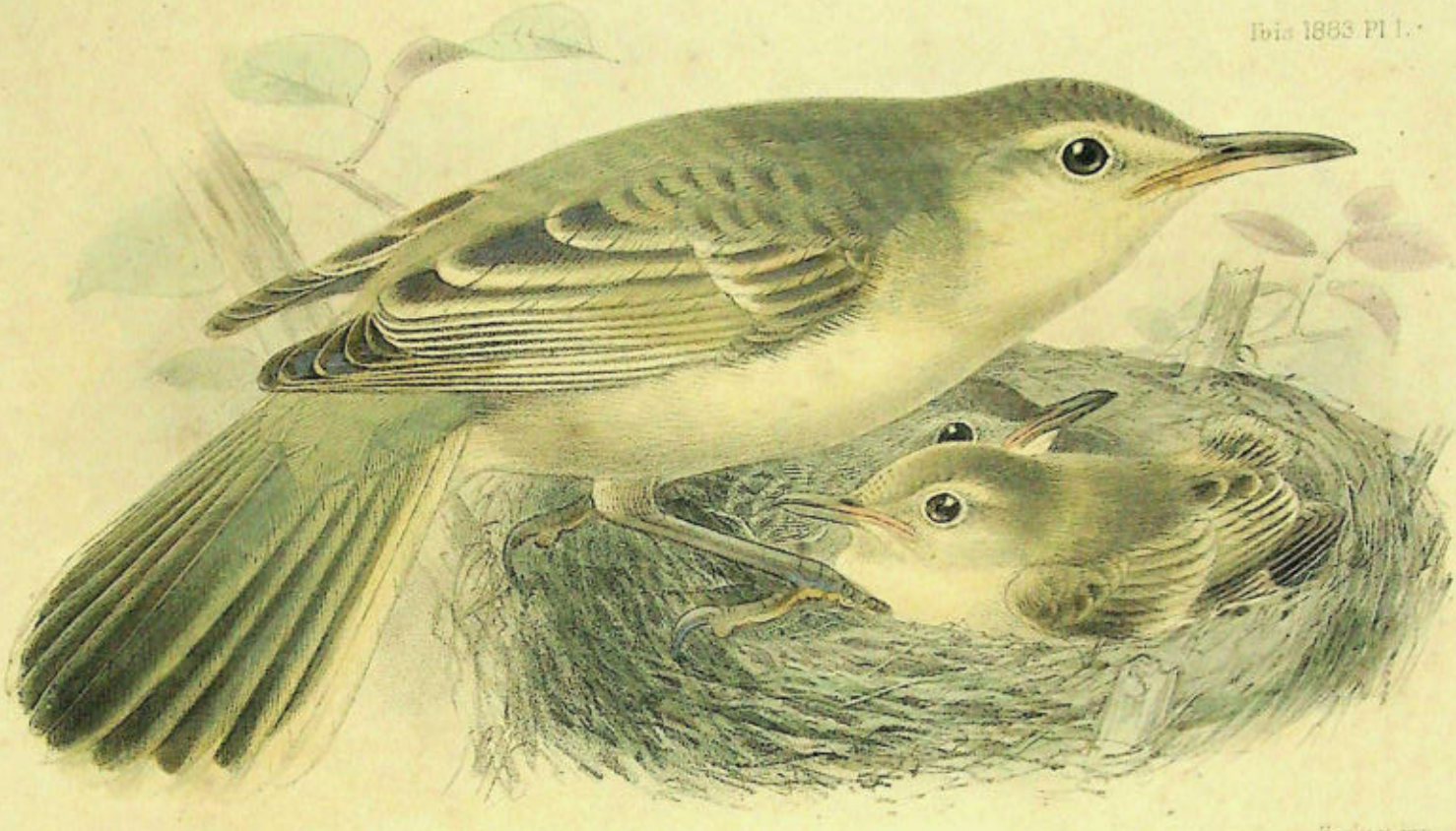
1. *Acrocephalus otatare*.
2. *Acrocephalus mendanæ*.
3. *Acrocephalus syrinx*.
4. *Acrocephalus pistor*.
5. *Acrocephalus mariannæ*, and
6. *Acrocephalus æquinoctialis*.

1. Acrocephalus otatare (Less.).
Turdus longirostris, Gm.
Sitta caffra, Sparrm.
Sitta otatare, Less. Voy. Coq. i. p. 666, t. 23. f. 2 (1826).
Tatare otaitensis, Less. Tr. d'Orn. p. 317 (1830).
Tatarea longirostris, Reich. 1834.
Tatare fuscus, Less. Rev. Zool. 1842, p. 210, juv.

Though there can, I think, be no doubt that this is the species intended by Gmelin, whose description and measure-

ments are most exact, excepting that he states the tail to be yellow, yet, I fear, when we unite the genus with *Acrocephalus*, his name cannot stand, having long been appropriated to another species. Sparrman's name must be rejected for its inaccuracy. Lesson's term is very appropriate, being the vernacular name of the bird in the Society Islands. Gmelin, after Latham, states it is found in Eimeo. Lesson's bird was procured in Tahiti. Latham's type in the Derby Museum, from Eimeo, and my own from Tahiti and Huaheina, are absolutely identical. But I can find no indisputable evidence of the occurrence of the species beyond the immediate neighbourhood of the Society-Islands group. It is indeed commonly spoken of as generally distributed in Oceania. Peale speaks of it as a well-known inhabitant of the Sandwich Islands (where it has never been found), and states that he obtained specimens of this variable species in the Paumotu Islands, Tahiti, the Samoan Islands, Tongatabu, and sundry other places in the South Pacific Ocean; and that it is the most widely spread of all the Polynesian land-birds. Mr. Whitmee never found it in the Samoas, and doubts its existence there. Mr. Layard repeats the same of Tongatabu. I have never seen a specimen except from the Society and Paumotu Islands; and, so far as our present knowledge goes, I think we may restrict its habitat to these groups, specimens from the Marquesas belonging to the next species. Mr. A. Garrett, who has collected for me in several of the oceanic groups, reports that he considers it the rarest of all the Polynesian birds, and that it is rapidly becoming extinct. Several writers speak of the great individual variation in *Tatare*; but until the localities have been clearly ascertained we may be free to question this. In all adult specimens from the Society Islands I have never seen any differences save in size. Herr v. Pelzeln (Ibis, 1873, p. 24) pleads earnestly fort wo Tahitian species; but he does not differentiate the sexes, nor does he notice the characters which distinguish the Marquesas bird. His larger specimen has the bill incurved and the outer tail-feathers white.

The next species I formerly, through unpardonable care-



ACROCEPHALUS MENDANÆ.

lessness, stated to be identical with the Tahiti bird. I can only plead in excuse that I worked by gaslight, and failed to notice the distinction in coloration.

I propose now to describe it as

2. Acrocephalus mendanæ, sp. nov. (Plate I.)

A. ♂ *Acrocephalo otatare* (*Tatare longirostri*) coloribus simillimus, sed paullo minor, et rostro paullulum incurvato. Non solum tectricibus alæ inferioribus flavis, sed etiam remigum pogonii interni dimidio læte flavo, ita ut tota ala inferior sit flava, apice brunneo; rectricibus externis omnino flavis, secundæ et tertiæ scapo et pogonio interno flavis; rectricibus omnibus flavo terminatis. Long. tot. 8, alæ. 3·7, caudæ 3·6, rostri a rictu 1·15, tarsi 1·05.

♀ mari similis et vix minor.

Habitat. Ins. Marquesas.

I have named this very distinct species in honour of Mendana, the adventurous Spanish voyager and discoverer of the Marquesas Islands, its home.

In coloration and character of plumage it resembles *A. otatare*, but may be at once distinguished by its much smaller size, by its bill being slightly incurved instead of perfectly straight as in its congener, by the whole under surface of the wings being of a rich lemon-yellow, excepting for the lower third of the outer primaries, while the under wing of the other species is buffy white interiorly and dark brown towards the outside, only the axillaries being lemon-yellow. Lastly, it is distinguishable at a glance by the outer tail-feathers being pure yellow, and the next two pairs being yellow on their inner webs, while the whole tail is broadly tipped with lemon-yellow. In *A. otatare* the whole tail is brown, with an indistinct buffy white termination.

There is also a remarkable difference in the young birds of the two species. Those of the Marquesas bird are coloured in every respect precisely like the adults (and I possess them in two stages), while, according to the specimens in the Bremen Museum, the young of the Society-Island species are of a uniform very dark brown, strangely unlike the coloration of the adult, and with no trace of yellow in their

plumage. In this stage the bird seems to be the *Tatare fuscus* of Lesson (Rev. Zool. 1842, p. 210).

3. Acrocephalus syrinx (Kittl.).

This species is decidedly the most normal of all the Oceanic forms in its coloration, but with the long bill characteristic of the group. Its home is very far away from that of the two previous species, being confined, so far as we know, to the eastern islands of the Caroline archipelago. It was first discovered at Ponapé, and has since been found at Nawodo, or Pleasant Island, by Dr. Finsch, as also in Ruk, and in the Mortlock group, in the islets of Lugunor and Ulcei. Here, where there are no reeds, Kubary found it breeding gregariously in the Pandanus trees. In Ponapé it breeds exactly like the Reed-Warblers, in reeds over water.

4. Acrocephalus pistor, sp. nov. (Plate II.)

♂. Suprà pulverulento-cinereus, gula et pectore albis; lateribus albidis: remigibus fuscis, marginibus arctissime albidis; secundariis in externo pogonio albo marginatis: rectricibus brunneis albo terminatis, rectricis externæ interno pogonio albo arcte marginato; alarum tectricibus inferioribus albis; rostro corneo, tarsis et pedibus fusco-nigris. Long. tot. 7·15, alæ 3·25, caudæ 3·2, rostri a rictu 1·0, tarsi 1·1.

♀ mari similis, sed gula et alarum tectricibus inferioribus cinereo-albis. Long. tot. 7·0, alæ 3·05, caudæ 2·9.

Hab. Fanning Island, Pacific.

This very striking species is in size very close to *A. syrinx*, but differs markedly from it in coloration, in the size and colour of the beak, and in the colour of the feet and tarsi.

In its slaty-grey colour and peculiarly marked appearance it differs from all its congeners; but this *marking*, which gives it the dusty powdered appearance exactly like a baker's coat, and from which I have named it *pistor*, is caused by a whitish fringe round each of the slate-grey feathers, exactly as the marking of the backs of *A. aquaticus* and *A. phragmitis* is caused. The white edges of the remiges and upper wing-coverts are also very conspicuous.

By its dark horn-coloured beak, which is at the same time



J.G. Keulemans lith.

ACROCEPHALUS PISTOR.

Hanhart imp.

much more compressed and shorter than that of *A. syrinx*, and by its dark, almost black tarsi and feet, it is easily distinguishable from that species. Mr. Arundel was fortunate enough to secure its nest and eggs. The nest is placed in the fork of a *Pandanus* tree, entwined round three of its stems, round which the long grasses and rootlets of which it is composed are looped, so that the stems are concealed in the fabric. Feathers and tufts of small herbage are worked in; but the interior lining of this very neat structure, which is 3 inches deep and 2¾ inches in diameter, is formed exclusively of very fine rootlets. The eggs, two in number, are pale green, with dark blotches and spots of three shades of brown and green, exactly like those of *A. turdoides*, 1 inch by 0·6 inch in diameter. Fanning Island is one of the most isolated atolls of the Pacific, lying in lat. 2° 40′ N. and long. 159° 20′ W.

Mr. Arundel specially remarks that he did not find this Warbler on any of the neighbouring islands, while Dr. Streets noticed two distinct species, one a Flycatcher-like bird on Washington Island, and another, like it, but somewhat browner, on Christmas Island. This latter may very possibly be the *Sylvia æquinoctialis* of Latham (Ind. Orn. ii. p. 553).

5. Acrocephalus mariannæ = *Tatare luscinia*, Quoy & Gaim., Voyage Astrolabe, Zool. vol. i. p. 202, pl. 5. f. 2.

This species I have never seen; but it is impossible to doubt, looking at the description and the plate, that it is one of this group, very like *A. otatare* in coloration, but at once distinguishable by its slightly curved bill, and especially by the locustelline markings of the tail, mentioned in the text and represented in the figure. Its tail appears also to be squarer and the wings shorter than in its congeners. I know that Dr. Hartlaub is inclined to group this species with *A. otatare*; but noting these particulars, and the vast distance between Guam, in the Marianne group, where it was procured, and the Society Islands, and that several distinct species occur in the intervening islands, I cannot hesitate to acknowledge the distinctness of Quoy and Gaimard's bird.

I fear that *luscinia* is preoccupied as a specific sylviad name,

and therefore am reluctantly compelled to suggest the name of *A. mariannæ*, from its habitat, for this species.

6. Acrocephalus æquinoctialis, Lath.

Sylvia æquinoctralis, Lath. Ind. Orn. ii. p. 553.

Latham's description is :—

"*S.* fusco-testacea subtus alba, uropygio pallido, rectricibus fuscis obsoletis.

"Habitat in insulâ Christi natalis: magnitudine fere *Fr. domesticæ*: debili sed haud ingratâ voce cantans."

Although I cannot further trace the type of Latham's description (for, alas! it has not come under the care of Herr v. Pelzeln at Vienna), yet the diagnosis is so clear, and so manifestly distinct from that of any known species, that we may safely assume that this was the bird noticed by Dr. Streets on Christmas Island. He speaks of it as smaller than the other species, and as brown, in both which remarks he corroborates Latham.

There can be no doubt that further research will bring several additional species of this group to light. Those of Washington and Christmas Islands have already been alluded to; and it is scarcely probable that the Marshall, Gilbert, Phœnix, and Ellice groups should be without representatives of a genus found in smaller islets on either side of them.

III.—*Notes on the Birds of Fanning Island, Pacific.*

By H. B. Tristram, F.R.S.

I have just received a small but most interesting collection of birds, made last year on Fanning Island by J. V. Arundel, Esq., who has most kindly placed them at my disposal. As this island does not appear to have been visited by any naturalist since its discovery in A.D. 1798, I think that a short catalogue of its avifauna may not be without interest.

In the 'American Naturalist' for February 1877, Dr. T. H. Streets, U.S.N., gives a very careful account of the other islands of the group, but makes no mention of Fanning Island itself; nor does he in his paper, Bullet. U.S. Nat. Museum,

No. 7, 1877, p. 13. The island lies in lat. 2° 40′ N., long. 159° 20′ W., N.E. of Christmas Island, about 1540 miles N.E. of Tahiti, and about the same distance N.W. of Samoa, and 1260 miles due south of the Sandwich Islands. It is thus, with the atolls of Palmyra and Washington, which may be grouped with it, one of the most isolated peaks in Oceania.

The birds obtained by Mr. Arundel were :—

1. Coriphilus kuhli.

This most exquisitely beautiful Parrakeet is not uncommon here, and was found also on the neighbouring atoll of Washington, but neither on Christmas Island nor anywhere else. Its true habitat was long a mystery; and Bourjot's specimen in the Paris Museum was the only one which bore the true locality till Dr. Streets discovered it on Washington Island. In the paper above referred to he gives a very interesting account of its habits. Finsch, when he wrote his 'Papageien,' was ignorant of its true home; and very few specimens are known. I have for some time possessed one, which I received from Bora-bora; but it had evidently been a caged bird, as have been most of those received in Europe.

2. Acrocephalus pistor, Tristr.

As I have just described this very remarkable bird in another paper, I need only refer to my previous remarks. Mr. Arundel specially notes that he never saw the bird on any other island.

Dr. Streets states that a Flycatcher-like bird was obtained on Washington Island, but the specimens were lost; and also that on Christmas Island he saw a bird "like the Washington Flycatcher-like bird, but smaller, and somewhat browner," and that it was the only land-bird there. Mr. Arundel did not obtain either of these.

3. Charadrius fulvus.

In winter plumage.

4. Numenius femoralis, Peale.

5. Totanus incanus.

6. Gygis candida.

This Tern was breeding in considerable numbers, laying its single egg on the bare branches of a *Pandanus* tree, without any nest whatever. The eggs, though much smaller, are in shape and markings exactly like those of *Anous stolidus*. Found on nearly all the low islands.

7. Anous melanogenys.

This Tern also Mr. Arundel states is found on nearly all the low islands. He has brought home a nest, which is a large, slovenly, but rather solid structure of stems, leaves, and fibrous roots in the fork of a *Pandanus* tree, about the size and depth of a Missel-Thrush's nest. He did not succeed in finding the eggs.

8. Anous cæruleus, Bennett.

This rare little Tern, which Mr. Arundel did not find breeding, was noticed also on most of the low islands, both north and south of the line.

IV.—*On the Birds of the Pamir Range**.

By N. A. Severtzow.

The fauna of the Pamir Range was studied, and zoological collections were made in it, by the author between the 24th October and the 6th November 1877, and between the 17th July and the 22nd September 1878.

I unite with the fauna of the Pamir that of the Alai, especially the Upper Alai (Bash-Alai), which, geographically speaking, is only a somewhat lower northern terrace of the Pamir.

* This paper was originally written in Russian by M. Severtzow, and translated into English in Moscow. After revision in this state by the author it was sent to Mr. Seebohm, with a request that he would put it into a condition fit for publication in this Journal. At Mr. Seebohm's request Captain Wardlaw Ramsay originally undertook this task, but, being unable to complete it from press of other matters, returned the paper unfinished to Mr. Seebohm, who has endeavoured to make it as perfect as possible, and has kindly supplied us with a certain number of editorial foot-notes.

On the eastern border of the central Pamir there is also a lower terrace, which, however, is not a continuous steppe, like the Alai, but is interrupted by mountain-ranges. On the southern side the Pamir is also bordered by the somewhat lower tableland of Chitral. On the west of the Pamir is Kohistan, a terrible entanglement of almost impassable mountains and gorges, which separates the valleys of Shignan, Roshan, and Darwaz. Still further away there is another terrace of the Pamir, consisting of the tableland of Wakhan and North-east Badakshan.

For the lower frontier of Bash-Alai we can take a line which goes from the northern end of the Kysil-art gorge, in the Trans-Alai range, to the mouth of the Katyn-art river (whence diverge to the north-east and north-west the roads leading to the passes of Artchat and Taldyk), across the Kysil-Su, the northernmost source of the Oxus. The Kysil-Su crosses this line at a height of about 10,000 feet.

Beneath this line the Alai steppe is mostly covered with feather-grass, *Stipa altaica* ; but above it the predominating grass is *Festuca*, with a slight mixture of feather-grass, which rises up to the highest points of the Alai steppe, up to the Taumurun pass, and is even seen in the Pamir proper.

The Taumurun pass lies between the two branches of the Kysil-Su river, the western of which flows towards the Oxus, and the eastern towards the Kashgar-Daria ; it is a flat intumescence of the Alai steppe, the topographic character and fauna of which continue unchanged on the higher parts of its eastern slope. In the steppe along the western branch of the Kysil-Su there is no sharp limit between the upper and lower Alai : the faunæ mingle very gradually ; and even the fauna of Bash-Alai does not change as far as the first groves of trees on the Kysil-Su, a little higher than Darant-Koorgan.

In the mountains a change in the fauna begins nearer to the frontier of Bash-Alai above indicated. Bushes of Artcha (juniper) appear in the gorges at Artcha Bulak, some fifteen versts (ten English miles) from Katyn-art, along with

characteristic birds, which do not breed on Bash-Alai and the Pamir.

The Pamir can be called a plateau only because its valleys are of great altitude; they reach a height of 14,500 feet, and are nowhere lower than 12,000 feet. The average height of the Pamir mountains is from 15,000 to 17,000 feet; and they do not rise very high above the valleys. These valleys bear a steppe-like character; but none of them reach the width of twenty versts, like the continuous steppe of Bash-Alai. The main Pamir valleys have a breadth of from one to five miles; and the steppes which border the Pamir lakes are not broader. The secondary valleys are open, and not mere gorges; their breadth is from 150 sajen (about 1000 feet) to a mile or a mile and a half. At least four fifths of all the surface of the Pamir is not covered with high steppes, but with steep rocky mountains, the highest of which reaches 20,000 feet. On the north rises the Trans-Alai range; and on the western side tower the snowy mountains west of Kara-kul and Jeschil-kul. On the east there are two groups of snowy peaks eastward of Lake Ran-kul, of which the southern, Mustagh-ata, attains the height of 25,000 feet. It is the highest point of the Pamir range, of which the interior mountains are much lower than those situated on the outside. But on the frontier the high snowy mountains do not form uninterrupted chains, but alternate with lower peaks: even the most compact chain, the Trans-Alai range, presents the relatively very low depression of the Kysil-art pass.

On the northern slopes of the Pamir mountains perpetual snow begins at 15,000 feet; the southern slopes are free from snow in summer to the height of 18,500 feet. The valleys through which run the rivers that descend from the interior of the higher Pamir retain their steppe-like character down to about 12,000 feet, when the rivers enter into narrow gorges. The height of the Pamir valleys ranges from 11,000 to 13,500 feet.

The flora of the Pamir is principally formed of a striking mixture of grasses peculiar to steppes with the more varied grasses of higher ranges; the latter mingle also with the

grasses of the steppes of Alai. But, besides grasses, the Pamir possesses some bushes, and even trees. In two places, near the river Ak-su and near Jeschil-kul, are found groves of white willows at the height of 12,500 feet, with trees 10, and even 15 feet high; and here and there, on different rivers, we found tamarisk-bushes (*Myricaria*?) growing as high up as 13,500 feet. In general the fauna and flora of the Pamir are richer than its severe climate would lead one to expect.

There are only ten or fifteen days in the latter part of July of the whole year which can be said to be free from frost at night; and in the month of August the frosts already reach $-15°$, and even $-17°$ C. In the daytime the temperature is generally above zero, and when it is calm the thermometer rises to 12° and 15° C. in the shade, and to more than 20° C. in the sun; but such calm weather is rarely experienced, except in well-protected valleys, as, for instance, near Ran-kul and Bulum-kul in the Pamir Alichur. In most of the long valleys near Kara-kul, on the Alichur and elsewhere, strong winds are constantly blowing, which often increase to tempests. Sometimes even as early as August these winds bring down fine crisp snow. In September more snow falls, and there is frost both night and day. In October the waters—first the lakes and then the rivers—begin to freeze. The ice on the latter begins to break up at the end of April, and on the lakes at the end of May; but the weather is still very cold in June, and snow often falls during that month. The snow that falls in spring and summer melts very rapidly, and waters the vegetation of the Pamir. Rain is very rare, and falls only in the valleys which lie below 13,000 feet. The spring lasts two months and a few days—May, June, and the beginning of July; the pure summer, without frosts, lasts about two weeks, but frequently less, and three weeks at the very most. The autumn lasts about as long as the spring—August, September, and the beginning of October—after which come seven long months of winter, to which may perhaps be added, especially in the upper

valleys above 14,000 feet, two months, one in late autumn and the other in early spring.

In most winters there is not a great quantity of snow, but the frosts are very hard. The snow, however, on the southern slopes melts by day in sunny places throughout the winter, and in many places it is blown off by winds, so that during this season a considerable extent of uncovered pasture-land is to be seen. It is here that the Kirghiz have their winter camps, notwithstanding the severe frosts and tempests*.

The greatest amount of snow falls on the Pamir in February, March, and April, and affords means for an abundant watering of the flora when it thaws. The seasons are distributed in pretty much the same way on Bash-Alai, only that the snow falls in much greater quantities in the late autumn and winter, and in spring begins to melt earlier than on the Pamir, because the Alai lies lower; but, owing to frequent falls of snow in June, it does not disappear any earlier than on the Pamir. Rain is also frequent in summer.

The time when the Kirghiz remove their camps to the summer pasture-grounds on the Alai depends upon whether the spring is early or late. It is generally about June; but in 1878 it was not before July. The lower Alai is decidedly warmer.

Such is a brief sketch of the conditions of animal life on the Pamir and the Alai steppe; and I now proceed to treat of the birds of this district in systematic order.

1. Gyps himalayensis, Hume.

The Himalayan Vulture (*G. nivicola*, Sev.) is a rather rare bird, but still it is found in all parts of the Pamir; I saw it more frequently near the river Ak-baital. It is also found in the North Alai mountains.

2. Gypaëtus barbatus (Linn.).

The Lämmergeyer lives in the same parts of the country

* As to the summer and autumn, I speak from my own experience; but my statements as to winter are derived from the accounts of Wood and Mirza, and as regards the spring from Gordon. Besides these authorities, I have the verbal statements of the Pamir Kirghiz.

as the preceding. In September 1878 these birds were seen in groups of six or seven, picking up bones in the forsaken camp of the Alai detachment; they catch hares and marmots, of which I found the remains in their stomachs; and they also feed on carrion.

3. Haliaetus leucoryphus, Pall.

Pallas's Sea-Eagle is often seen near the Pamir lakes in August, also near Kara-kul, Ran-kul, and Jeschil-kul, where some old birds and a young one (three years of age) were shot. The old birds do not breed every year, but only every second year, in the same manner as *Gypaëtus barbatus* and the large Vultures. In the year in which they do not breed they moult in June, and lead a migratory life until winter, during which period many are seen on the Pamir.

4. Buteo ferox (Gmel.).

The Long-legged Buzzard feeds on the different *Arvicolæ*, which are common on the Pamir and innumerable on the Alai. It was seen near Ran-kul in July and August; but I do not know where it breeds. The dark variety of this species (*B. aquilinus*, Hodgs.) is also common enough.

5. Milvus ater (Gmel.).

The Black Kite was seen near the camp of the Alai detachment on the Bash-Alai in July.

6. Falco hendersoni, Hume.

Hume's Saker was obtained on the Alai at the entrance of the Kysil-art gorge; it was also seen on the Pamir. The stomach of the specimen I got contained field-mice (*Arvicola*). This species probably breeds here *.

* I have since found in my collection a young female of *F. hendersoni*, shot on the 11th August on the tableland near Lake Sairam-kul, north of Kuldja, at about 7000 feet, in the Tian-shan system. I have also been informed that it was observed on the Yulduz tableland at 8000 to 9000 feet, which also belongs to the Tian-shan system. Combining my observations and information with those of Colonel Prjevalsky, I find that *F. hendersoni* is generally spread over the tablelands of Central Asia.

7. Falco peregrinus, Tunst.

The Peregrine Falcon migrates through the Alai and Pamir in a southerly direction in September.

8. Falco æsalon, Tunst.

The Merlin was seen at the end of July in the Bash-Alai. It probably breeds in the North Alai range. I found it breeding in the mountains near Vernoiè in June 1879, and obtained for my collection a pair, male and female, with three nestlings, which all died soon, though fed on freshly shot small birds only, which they ate greedily, and which was the food given them by their parents. They were taken too young, only just out of the egg. Vernoiè (43° N.) and Ferghana (39° 45′ N.), on the north Alai range, are unusually southern, although alpine breeding-places. The nest near Vernoiè was on a pine (*Pinus schrenkiana*) at a height of 8000 feet above the sea.

9. Falco tinnunculus (Linn.).

The Kestrel is often seen in summer on the Pamir and Alai. It comes after the broods of young birds, and is also probably attracted by the great quantities of *Arvicolæ*, which offer it a copious supply of food.

10. Circus æruginosus (Linn.).

The Marsh-Harrier is found during its migration near the Kara-kul in the beginning of September. It was also seen near Ran-kul in the middle of August; probably young ones come to the Pamir in summer.

11. Circus cyaneus, Linn.

The Hen-Harrier was seen in September during its migration near the Kara-kul lake, and was found on the Alai. Birds of this species, especially immature, are rather common in this part of the country.

12. Scops giu (Scop.).

Very few Scops Owls were seen, and those at the end of August during their migration through the Pamir.

13. Bubo turcomanus, Eversm.

Eversmann's Eagle-Owl is probably a resident. A young one was shot near Ran-kul in August.

14. Asio brachyotus (Lath.).

The Short-eared Owl was seen in October on the Bash-Alai.

15. Corvus corax, Linn. (var. *C. tibetanus*, Hodgs.).

The Raven is common enough throughout the Pamir, and was seen there in summer and autumn. It is probably a resident; but it may be presumed that being an early-breeding bird, it descends in winter to lower elevations.

16. Corvus orientalis, Eversm. (*C. corone* part. auct.).

Some specimens of the Carrion-Crow were seen near the Jashil-kul and on the river Ak-bai-tal at the end of August.

17. Corvus cornix, Linn.

The Hooded Crow only migrates through the Pamir in October.

18. Pyrrhocorax graculus, Linn.

The Chough is found here and there on the Pamir mountains, and is common in the Kysil-art gorge; it breeds there, and probably also sometimes winters on the Pamir. I found still numerous in October.

19. Pica leucoptera, Gould.

The eastern form of the Magpie was often found in the Kysil-art gorge in October, and more rarely on the whole Pamir range in August.

20. Sturnus purpurascens, Gould.

A specimen of the Purple-winged Starling was procured during migration at the south of the Kysil-art in October.

21. Pastor roseus, Linn.

Young Rose-coloured Starlings straggled near Kara-kul at the beginning of August 1878, when a large flight of locusts arrived, ascending the Kashgar Darya from Eastern Turkestan.

22. Oriolus kundoo, Sykes.

The Indian Oriole was seen during migration near the river

Kara-su and on the Pamir Alichur in the second half of August. It is common.

23. Carpodacus erythrinus (Pall.).

The Scarlet Grosbeak was seen at the same time throughout the whole Pamir.

24. Carpodacus mongolicus, Swinh.

Erythrospiza incarnata, Sev.

This Rose-Finch breeds on rocks in the North Alai range, and throughout almost the whole region. In the middle of August the young were only just able to fly; and the old birds moult in September, when they hide themselves. I saw them most frequently on the Alai and in the Pamir, and occasionally throughout the whole Tian-shan. Prjevalsky found them in Ordoss, on the river Hoang-ho, and along the southern borders of the Mongolian plateau, whence came Swinhoe's type specimens. The eastern limit of this species is near the meridian of Pekin. It inhabits the woodless rocks and the steep ravines of the plateaux. In Turkestan this bird belongs in summer to the upper alpine region, and lives above the highest limit of the tree-vegetation, but goes a little lower to breed. It stays on the heights in autumn as long as possible, in fact until the snow drives it down; but even then only a very few descend to the cultivated regions, where I shot them in October near the river.

This species is a very near relative to *C. githagineus*, a bird known and described long ago, which lives in the more southern deserts and is found from the Canary Islands, through the northern Sahara, Egypt, north of Arabia, Persia, and Beluchistan to Sindh. M. Fedchenko, having found *C. mongolicus* in the mountains of the Lower Alai, mistook it for the true *C. githagineus*, and insisted on the strange occurrence of such a characteristic type of the Saharan fauna in the Alai mountains. He disputed my specific separation of *C. mongolicus* (under the name of *E. incarnata*) from *C. githagineus*, and referred to the authority of Cabanis, who told him that both birds were of the same species. But this is an error. When I got the first specimens of *C. incarnatus* I

thought myself, at the first glance, that they were *C. githagineus*; but after thoroughly comparing them I saw the specific distinction. Cabanis, as he told me himself, was led into the same error, and mistook my *C. incarnatus* (*C. mongolicus*, Swinh.) for the Saharan species; but we examined them together, and he then acknowledged their distinctness, which the English ornithologists also admit. I have been able to examine many specimens of *C. mongolicus* found in different parts of Turkestan and Mongolia, and I am now firmly convinced of the constancy of their specific distinction throughout the whole region where they reside. I have also compared my specimens (found near Keleso and Tianshan) with Swinhoe's type specimens, and found them identical. When compared with specimens of *C. githagineus* taken from various museums and obtained in various countries, the following differences are always apparent:—

C. mongolicus.	*C. githagineus.*
Maxilla yellowish brown. Mandible pale yellow.	Maxilla and mandible reddish orange, deepening to coral-red with age.
Occiput, back, and scapulars reddish-grey ground-colour, with numerous shaft-spots. These spots more marked in spring.	Occiput, back, and scapulars without shaft-spots; but the feathers have a rose-coloured shading, which is more marked in spring, especially at their tips.
Wing: Great wing-coverts and the secondary quills white on two thirds of the length of the outer web, bordered with rose-colour or, in spring, vermilion; so that the wing has two white patches, with long red streaks.	Wing: All the feathers greyish brown, with rose-coloured borders, but without any white on the outer webs. The white patches on the wing are therefore wanting.

25. Linota bella, Ehrenberg.
Linota fringillirostris, Bp.

Ehrenberg's Linnet has not yet been seen in the Bash-Alai, nor in the Pamir proper; but probably it is to be found there, at least during migration. This supposition is confirmed by the fact that these birds were found near the Karakasyk pass (14,200 feet), which leads from Ferghana to the

Lower Alai, and also in the mountains between the rivers Kashgar Darya and Tara, high up in the juniper region.

26. Linota brevirostris, Gould.

The Eastern Twite breeds near the Tan-murun pass; the nestlings had flown at the end of July. We obtained mature birds in July near the source of the river Irkestan, above the juniper region in the Pamir system.

27. Leucosticte brandti, Bp.

Brandt's Snow-Finch is found on the Kysil-art pass and south of it in the Pamir; it breeds there. In summer these birds live on mountains 12,000 to 14,000 feet high, but are more scarce on the Pamir and neighbouring mountains than the following.

28. Leucosticte pamirensis, sp. nov.

I give here comparative descriptions of this species and its two nearest allies.

Leucosticte pamirensis, mihi.

Capite, collo postico et cervice nigricantibus; remigibus primariis et rectricibus nigro-fuscis albicante limbatis; remigibus secundariis cano-fuscescentibus, versus apicem nigricantibus, pallido fulvescenti marginatis; ceterum tota dilute canescenti-cinerea; hieme apicibus plumarum plerumque fulvescentibus; uropygio saturatius cinereo, marginibus totis apicalibus omnium plumarum hieme roseis, æstate coccineis; tectricibus minoribus alarum, etiam hieme roseo, æstate coccineo marginatis. *Femina* marginibus tectricum alarum et uropygii paululum dilutioribus, ceterum mari simillima: pedes atri; rostrum æstate atrum, hieme flavum, apice fusco.

Long. tot. 7·2–7·4, alæ 4·3–4·5, caudæ 3″.

Leucosticte brandti, Bp.*

Præcedenti similis, sed marginibus roseis uropygii nullis; uropygio hieme fulvo-rufescenti marginato: æstate unicolor cinerea, tota, vel singulis plumis, perpaucis, 2–3 maculis apicalibus parvis irregularibus coccineis notata:

* *L. gebleri*, Brandt, 1843, nec Brandt, 1841, quæ *L. arctoa*.

tectricibus minoribus alarum in mare roseis, in femina fulvo-rufescente limbatis. Femina a mare semper distinctissima, præcedentis feminæ simillima.

Leucosticte hæmatopygia, Gould.

Præcedenti similis, sed uropygio toto roseo, apicibus plumarum coccineis; tectricibus minoribus alarum cinereis, rubedine marginali nulla; maculis scapularibus dorsi fuscis latissimis. Femina mihi ignota. (Spec. typ. in coll. Gould.)

Hab. High alpine regions of Tibet generally.

I compared in London, in 1875, my specimens of *L. brandti* with the type of *L. hæmatopygia*; and more recently I have compared a large series of *L. brandti* and *L. pamirensis*, which I discovered during my last expedition, and which is intermediate between the first two, both in colouring and in geographical range.

The most northern of the three is *L. brandti*, which inhabits the alpine zone of the whole Tian-shan system up to the perpetual snow, descending in winter to the sunny rocks, not below 5000 feet, and feeding there upon seeds. It also inhabits the northern parts of the Pamir system, the Alai and the Trans-Alai ranges, reaching its southern limit near the Karakul lake.

L. pamirensis was found throughout the whole Pamir system, as far as I visited it, also on the snowy peaks south-east of Ferghana, between the Tian-shan and the Pamir, and on the crags on the tablelands of southern Tian-shan, but only south of the Naryn river. On the southern Tian-shan it is much scarcer than *L. brandti*, as this last is scarcer than *L. pamirensis* on the northern Pamir. In the winter *L. pamirensis* does not descend in the mountains of South-east Ferghana lower than 6500 feet, and not until the middle of November. I found it still at the top of the Kysil-art pass at the end of October; and I think that they may winter on snow-free places on the southern slopes of the Pamir ranges as high as their summer haunts.

The last species, *L. hæmatopygia*, inhabits the high alpine regions of the whole of Tibet, ranging perhaps into the Tag-

dumbash Pamir, which I have not visited, but not into the inner parts of the Pamir system which I explored.

L. pamirensis is found in summer up to a height of 15,000 feet. It breeds on the Pamir; and I got nestlings just fledged. It is found till the end of August in families, and in September, after moulting, congregate into flocks, out of which, on the Kysil-art, I sometimes shot both species, viz. *L. pamirensis* and *L. brandti*, at once.

29. Montifringilla alpicola, Pallas.

Pallas's Snow-Finch is closely allied to *M. nivalis* of Europe, which it represents in the mountains of Western and Central Asia. *M. alpicola* does not ascend so high as *Leucosticte*; it is very common, and breeds on the Bash-Alai, but was not found in the upper parts of the Pamir. In summer it inhabits a zone between 9500 and 12,000 feet above the sea, while the *Leucosticte* in the Pamir system is never seen lower than 11,500 feet.

Birds of this genus were seen, but not obtained, in the mountains between Ak-su and Alichen on the 31st August; they were very cautious, and did not allow a near approach with a gun. They disappeared among the inaccessible rocks. Perhaps these birds were the *M. adamsi* of Gould.

30. Fringilauda altaica, Eversm. (*F. sordida*, Stol.)

The Altai Lark-Finch is found in the mountains between the sources of the Kashgar-Darya and Yara, ascending higher than the juniper region; it was also seen in the Alai mountains above the same region; it was not met with in the Pamir, but is probably to be found there.

31. Emberiza luteola, Sparrm.

The Chestnut-headed Bunting was got during migration near the Kara-kul; they were partly in winter and partly in summer dress.

32. Emberiza pityornis, Pallas.

A specimen of the Pine-Bunting was obtained out of a small flock in the Kysil-art gorge, which had lost its way, in October.

33. Emberiza huttoni, Blyth.

Hutton's Bunting passes through the Pamir in great numbers at the end of August.

34. Emberiza, sp. nov. (?)

An intermediate form between *E. hortulana* and *E. huttoni*, which appears to me new, but needs still closer examination and comparison with *E. schach*, Bp., and immature *E. hortulana*. My Pamir specimen, a female, was shot between the rivers Ak-su and Alichur on the 31st August, during the migration of *E. huttoni*. I have, besides, a male and female from the Hangai range, near Oolias-sutas, in Mongolia, where this bird breeds, and perhaps some other specimens shot in different parts of Turkestan during the migration-time, which I determined at the first glance as varieties of *E. hortulana*.

35. Calandrella brachydactyla (Leisl.).

Some specimens of the Short-toed Lark, or a near relative of it, were found on the Pamir Alichur at the end of August. They had moulted, which fact favours the supposition that they breed there.

36. Otocorys elwesi, Gould.

The characteristics of Elwes's Shore-Lark lead to the supposition that it is the common ancestor of all the species of *Otocorys*. It lives in Tibet and on the Pamir and Tianshan tablelands, where it breeds.

In the Pamir a subspecies with a rather long beak predominates; but this difference is neither considerable nor constant.

37. Otocorys penicillata, Gould.

(*O. bicornis*, Ehrenb.; *O. scriba*, Bp.)

I established the identity of this bird with Gould's Shore-Lark from a comparison of all my Tian-shan specimens with the original specimens of Hemprich, Gould, and Brandt. The type of Bonaparte's *O. scriba* was from Gould's collection, and was obtained by Mr. Dickson near Erzeroum.

This bird is most frequent in the Alai; it is also often seen

in the interior of the Pamir; but in the latter region *O. elwesi* predominates, which is very rare in the Alai steppe. It is a mountain species, and was found by Hemprich and Ehrenberg on the mountains of Lebanon, and more lately has been observed and obtained by many travellers near Erzeroum and beyond the Caucasus. I saw this bird in all parts of the Tian-shan, Alai, and the Pamir; and the members of the Forsyth mission collected it in Western Tibet.

38. Anthus contelli*, Audouin.

This eastern representative of the Water-Pipit, *A. spinoletta*, differs from that species in very constant though (as in the whole genus) not very considerable characters, which I have verified by examination of a very large series of Central-Asiatic specimens.

I give here comparative diagnoses of the two species :—

Breeding-Plumage.

A. contelli.	*A. spinoletta.*
Superciliary streak light rufous.	Superciliary streak white.
Abdomen and lower tail-coverts rufous, only somewhat lighter than the breast.	Abdomen and lower tail-coverts white.
Breast pure rufous, inclining to fulvous.	Breast rufous, inclining to a violet tinge.
Crown rufous grey.	Crown pure grey.
Outer rectrices with cuneiform markings pale fulvous.	Outer rectrices with cuneiform markings pure white.
Feet black.	Feet brown.

Winter Plumage.

Characterized only by large shaft-streaks on the breast and flanks, the lower parts otherwise as in breeding-plumage.	As in *A. contelli*, but the ground-colour of the breast much paler than in breeding-plumage, being very pale fulvous, the throat, abdomen, and lower tail-coverts pure white.
The whole throat unspotted fulvous.	Chin and throat white, the former unspotted, the latter with dark shaft-streaks.

* [Mr. Seebohm assures us that this Pipit is undoubtedly the *A. blakistoni* of Swinhoe, of which *A. neglectus* of Brooks is a synonym. *A. contelli* of Audouin is probably = *A. spinoletta*, Linn.—Edd.]

The young *A. contelli*, in its first winter's plumage, has its underparts as pale as *A. spinoletta*; but the throat, abdomen, and lower tail-coverts are always of the same ground-colour as the breast.

These differences are greater than between *A. maculatus*, Hodgs. (*A. agilis* auct. nec Sykes) and *A. arboreus*.

In the Pamir system *A. contelli* breeds in brooks and brook-swamps of Bash-Alai and the mountain-valleys opening into it from both ranges, north and south, but was not observed in the inner Pamir, south of the Trans-Alai range.

39. Anthus microrhynchus*, Sev. (See Ibis, 1876, p. 180.)

This species is closely related to *A. arboreus*, but has a much smaller bill, and differs in some slight details of colouring; but when we consider its mode of life, we are compelled to see in this bird the common ancestor of two European species, viz. *A. arboreus* and *A. pratensis*. It is rather common on the Pamir at the end of August, in the high grass, and is also found in grassy places which are treeless or with only a few scattered shrubs throughout the whole of the mountains of Turkestan. It has the small thin bill of *A. pratensis*, with the short hind claw of *A. arboreus*; but some few specimens exhibit a series of intermediate measurements between the typical short-clawed specimens and *A. pratensis*. In size and colour also it is intermediate between *A. arboreus* and *A. pratensis*, which two, however, only differ *inter se* in the shades of the olive-brown upper and fulvous-white lower surface.

40. Budytes calcarata (Hodgs.).

Hodgson's Yellow-headed Wagtail breeds in great numbers everywhere in the Alai, the Pamir, and near the sources of the Kashgar-Darya; the male has a yellow head, like *B. citreola*, but differs from it in its back, which is of a black colour down to the rump and upper tail-coverts. Some traces of this black are also to be seen on the female.

* [Two examples of this species in Mr. Seebohm's collection are (as we are informed by him) undistinguishable from our European *A. arboreus*.—Edd.]

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* [Two examples of this species in Mr. Seebohm's collection are (as we are informed by him) undistinguishable from our European *A. arboreus*.—Edd.]

Soon after the young have flown they congregate in families and commence to moult, when they throw off their nest-plumage and assume their first autumn's garb, which greatly differs from that of the adults. In the plumage of the first winter they are without any yellow colour. Soon after the moult the families collect in flocks and migrate, the old birds being still in their breeding-plumage, only a few having assumed their winter dress. The majority of the young birds migrate along with the old ones; but some migrate separately a little later. These are probably fledgelings of later broods, and are seen throughout the whole Pamir, even at the end of August, in parties of two to five, flying very slowly from one swamp to another, gradually seeking their way.

Budytes flavus?

This bird was seen, during its migration, in the Pamir Alichur early in the morning. I could not obtain a specimen. I noted that the birds had grey heads, green backs, and yellow breasts; but I cannot be certain whether they were true *B. flavus* or *B. cinereocapillus*.

Motacilla melanope, Pall.

The eastern form of the Grey Wagtail was found in the Pamir Alichur at the end of August. It is a resident in Turkestan generally, and ascends in summer high up into the mountains, and winters down in the cultivated districts. Probably it breeds in the Pamir, but not commonly.

41. Motacilla personata, Gould.

Gould's Grey-backed Wagtail was not observed at all, either on the Alai or Pamir, until the end of August and first days of September, when many specimens were obtained. It flies in pairs. Some individuals winter in Ferghana.

42. Accentor fulvescens, Sev.

This Accentor breeds in the Alai mountains and in some parts of the Pamir; the young were found near Ran-kul at 12,000 feet in the middle of August; and they were common near the sources of the Kashgar Darya, between 11,000 and 13,000 feet, at the end of July.

43. Accentor altaicus, Brandt.

Old and young birds, congregated in flocks, of the Himalayan Accentor were seen in the Kysil-art gorge at the end of July. The old birds were moulting.

44. Locustella locustella (Linn.).

The Grasshopper Warbler was found at the beginning of August near Kara-kul, where it probably breeds. Observed on the Bash-Alai in the middle of September during its migration.

45. Locustella straminea, Sev.

I am still uncertain about the determination of this species*. It was found at the end of July on brook-swamps near the mountain-pass between the Katir-kul and Kara-kul in the northern range, at the height of nearly 15,000 feet. It probably breeds there.

46. Acrocephalus agricola (Jerd.).

Salicaria capistrata, Sev.

Specimens of this Reed-Warbler were obtained near Tanomurun in the second half of July and early in August, and it was seen on the Kara-kul and the southern Ak-bai-tal (13,000 feet). It was also found at 11,000 feet at the end of July near the source of the Kashgar Darya. It lives in the grass. It winters in the Punjab and Sindh, but in summer is spread both over the cold Pamir range and the warm parts of Turkestan, on the grassy slopes of Karau-tau, where *Locustella locustella* also occurs.

47. Acrocephalus dumetorum (Blyth).

Blyth's Reed-Warbler migrates through the Pamir in August.

* [The Siberian Grasshopper Warbler is a good species, and has erroneously been called *Locustella hendersoni*, Cass., by Dresser and other ornithologists (see Seebohm, Cat. B. Brit. Mus. v. p. 117). Mr. Seebohm considers the Pamir bird to be also referable to this species. He has examples in his collection obtained from Severzow.—Edd.]

48. Acrocephalus ilensis, sp. nov.*

This is an intermediate form between the East-European *A. dumetorum*, Blyth, and the western *A. streperus*, Vieill. It is found in summer on the Ili and in Ferghana. In August it appears in small numbers in the Pamir.

49. Hypolais caligata, Licht.

Breeds in the Bash-Alai and near the sources of the Kash-gar Darya, where it was found in July; in August it migrates through Central Pamir.

50. Phylloscopus pseudo-borealis†, Sev.

Collected on the Pamir during its migration in August; also found breeding in the mountains of northern Ferghana north-east of Namanghan, and since received from various parts of the Tian-shan system, eastward as far as the Upper Ili. While collecting I mistook this bird for *P. borealis*, Blas., to which it is very closely allied, differing particularly in having a much longer first primary, which is about ·6″. The second primary equals the seventh, rarely a little longer or shorter. In the primary quills, and them alone, it agrees with *P. viridanus*, Blyth, and *P. plumbeitarsus*, Swinhoe; but all its other characters, such as size, proportions, bill, and colouring, are those of *P. borealis*.

Having now compared considerable series (though not all my specimens), I find that, at any rate, the differences between my *P. pseudo-borealis* and both *P. viridanus* and *P. plumbeitarsus* are much greater than those between the two last named. Some of my specimens of *P. plumbeitarsus* were determined by Mr. Seebohm during his last visit to Moscow; and my specimens of *P. viridanus* have been compared with one of Mr. Brook's typical Indian specimens, which I received from Mr. Dresser.

* [Mr Seebohm has examined examples of this supposed new species, and considers them to be *A. dumetorum* in autumn plumage. They agree with that species in wing-formula, and are undistinguishable from Indian examples shot in September.—Edd.]

† [Two examples in Mr. Seebohm's collection are identified by him as *P. plumbeitarsus*, somewhat above the average size, but not larger than examples from Pegu.—Edd.]

51. Phylloscopus viridanus, Bl.,=*P. middendorffii*, Meves, var. *intermedia*, Sév.

52. Phylloscopus plumbeitarsus, Swinh.,=*P. middendorffii*, Meves, var. *hypolaina*, Sev.

I did not distinguish the Indian Willow-Warbler from Middendorff's Willow-Warbler while collecting, and therefore cannot now give a complete notice of their geographical distribution; but on the Pamir I noticed very characteristic specimens of both. They are found on migration in the second half of August throughout the Pamir. Some appeared to me to have bred on the Pamir near Lake Ran-kul, and also on the upper Kashgar-Darya, where I found them in July above the limit of vegetation.

I may mention here, incidentally, that I have found a specimen of true *P. viridanus* among my series of *Phylloscopus*, shot by me in May 1861 during migration at the mouth of the Ural river.

53. Sylvia nisoria, Bechst.

The Barred Warbler was obtained in August near Lake Ran-kul during migration.

54. Sylvia curruca, Gm.

The Lesser Whitethroat is found throughout the whole Pamir during migration from as early as August to October, when they frequent the neighbourhood of the river Kok-su, at the southern foot of the mountain-pass of Kisil-art.

55. Sylvia minuscula, Hume.

Hume's Lesser Whitethroat is a near relative of the preceding species. It is not larger than a Willow-Warbler (*Phylloscopus*), and breeds in great numbers in the Ferghana, where the true *S. curruca* is seen only in migration.

Obtained in migration in the beginning of September at the foot of the Artcha pass, in the Alai.

56. Calliope pectoralis, Gould.

The Indian Ruby-throated Robin belongs to the region of the upper junipers, and is sometimes seen in the Pamir during

migration. It was obtained near the source of the Tchon-su, in the river-system of Lake Kara-kul, in August, at a height of 14,000 feet.

57. Cyanecula suecica (Linn.).

The Arctic Blue-throated Robin is common on the Alai in July and in August, near the sources of the Kashgar-Darya, and throughout the Pamir, where it was obtained moulting. It probably breeds there.

58. Ruticilla rufiventris, Vieill.

The Indian Redstart is an autumn visitant in the Pamir, arriving in August and disappearing in October.

59. Ruticilla erythrogastra, Güldenst.

Güldenstädt's Redstart is found on passage through the Pamir in September and October; the earliest arrivals of this species are seen in the first half of September.

60. Monticola saxatilis (Linn.).

The Rock-Thrush passes through the Pamir in August. It is not common; but perhaps it may breed there.

61. Monticola cyanus (Linn.).

The Blue Rock-Thrush was seen during migration on the 13th September near Ak-su.

62. Saxicola isabellina, Rüpp.

The Isabelline Chat is very common in the Alai and the Pamir, where it breeds. It ascends as high as the *Leucosticte* in the upper alpine zone. The young birds on the Alai retain their nestling-plumage till the end of July, and on the Pamir even till the end of August—a conclusive proof that this species breeds there; the higher they live the later they retain it. This species appears quite to replace *S. œnanthe* in the Alai and the Pamir. In the narrow-ridged chains of the Tian-shan system *S. œnanthe* ascends into the alpine region far above *S. isabellina*, which there only reaches the treeless outskirts of this region, whereas in the Pamir it ascends to a far greater height. Specimens of *Saxicola isabellina* from the Pamir do not differ from those inhabiting the hottest steppes

of Egypt, the northern Sahara, and the neighbourhood of the Sea of Aral.

63. Saxicola deserti, Rüpp.
Saxicola montana, Gould.
Saxicola salina, Eversm.

The Kirghiz Desert-Chat, *S. salina*, differs from the North Sahara species, *S. deserti*, only in the rather greyer colour of its back. *S. montana** differs from *S. salina* only in being a little lighter and slightly larger, and in the black of the throat not descending so far on the breast; but all these characters are trifling and not constant. Gould got his specimens of *S. montana* from Western Tibet. I found many in the Pamir, where they probably breed. It was not seen in the Alai.

64. Saxicola leucomela, Pall.
Saxicola pleschanka, Lepech.
Saxicola hendersoni, Hume.

The Siberian Pied Chat was got during its migration in the Kysil-art gorge on the 20th September.

65. Saxicola morio†, Ehr.

Was obtained during its passage through Pamir and Alai at the end of August and beginning of September, and is much more abundant than the last species. I may here observe that this species and the last differ in their black tail-markings, and also in their geographical distribution. The northern limit of *S. leucomela*, Pall., is a line from the middle Volga to the eastern Tian-shan, and its southern one from the Caspian Sea to Yarkand and Western Tibet, whilst the northern limit of *Saxicola morio* runs from Asia Minor to Lake Baikal.

* According to Mr. Seebohm the true *S. montana* differs principally from *S. deserti* in having the basal half of the inner web of the primaries and of the adjoining five secondaries white to the shaft. See Cat. B. Brit. Mus. v. p. 385.—Edd.]

† [Mr. Seebohm has examples of both this bird and the preceding obtained direct from Severtzoff, but is unable to detect any difference between them.—Edd.

66. Pratincola indica, Blyth.

The Siberian Stonechat was seen frequently in August in all parts of the Pamir. It probably breeds there. The difference between this species and *P. rubicola* was confirmed and found constant in more than three hundred specimens.

67. Turdus mystacinus, Sev.*

This Thrush passes through the Pamir in October.

68. Lanius isabellinus, Ehr.

The Isabelline Shrike is rarely seen on the Pamir, and then only during migration. Two young specimens were obtained, one on the 8th August in the gorge of Kisil-art, the other on the 12th September near the river Aksu, in the inner Pamir.

69. Muscicapa grisola (Linn.).

The Spotted Flycatcher is frequent in all parts of the Pamir in August during migration.

70. Hirundo rustica, Linn.

Swallows appear towards the end of August, and pass through uninterruptedly till the end of September. When the weather on the Pamir is bad Swallows return to Gulcha along the Kurshab river, and, flying over the mountain-passes, appear on the roads near Osh in Ferghana. Probably these are young birds seeking the way to their winter quarters. One of these birds flew into a traveller's sledge in the Zaalai chain in the middle of September 1878. It followed his baggage-train daily, and at night sought shelter in the sledge, as far as the Taldit pass. Three others joined it *en route*.

71. Chelidon urbica (Linn.).

Martins were observed migrating in small parties through Pamir in the latter part of August.

72. Cotile rupestris, Scop.

The Crag-Martin was seen on migration, like the last, late in August. Families of these birds were seen in July near

* [= *T. atrigularis*, Temm., fide Seebohm, Cat. B. vol. v. p. 268.—Ed.]

the sources of the Kashgar-Darya and in the mountains of Alai. They probably breed at a lower elevation, and ascend these heights as soon as the young are able to fly.

73. Cypselus apus, Linn.

The Swift was seen on migration, like the two preceding, at the end of August.

74. Upupa epops, Linn.

The Hoopoe was seen in August throughout the Pamir, where it probably breeds.

75. Tichodroma muraria, Linn.

The Wall-Creeper was sometimes seen on the Pamir, where it probably breeds. It was obtained in the Kysil-art defile at the beginning of September.

76. Iynx torquilla, Linn.

The Wryneck was found in the grass in the middle of August at Rankul during migration.

77. Cuculus canorus, Linn.

The Cuckoo passed on migration through the Bash-Alai and the Pamir in August.

78. Columba rupestris, Pall.

Pallas's Rock-Dove was observed in July in the Bash-Alai, and in August near the Kara-kul.

79. Turtur auritus.

The Turtle Dove passed on migration at the end of August, and was constantly seen between Ali-chur and Kara-kul.

80. Turtur ferrago, Eversm.

The West-Siberian Turtle Dove passes on migration through the Pamir during September. Young ones were killed in the Bash-Alai in the middle of that month.

81. Syrrhaptes tibetanus, Gould.

The Tibetan Sand-Grouse is common enough throughout the Pamir, where it breeds. Fledgelings were seen in the middle of August. This bird ascends as high as 14,000 feet. It was not seen on the Alai.

82. Coturnix communis, Bonn.

The Quail was seen near Ran-kul on the 29th August, and was obtained near the river Ak-su on the 12th September.

83. Tetraogallus himalayensis, Gray.

The Himalayan Snow-Cock is called "Ullar" by the Kirghiz. It lives on the rocky mountains of the Pamir, and was seen in summer between Lake Kara-kul and the Aksu river, near the limit of perpetual snow, where it breeds. No specimen was obtained; so the identification may not be correct; this bird may be the *T. tibetanus* of Gould. On the North Alai range, and on all the other mountains surrounding Ferghana, and also throughout the whole Tian-shan system, the only Snow-Cock is *T. himalayensis*.

84. Scolopax gallinago (Linn.).

The Common Snipe was seen on the 24th August near Ran-kul before the migrating-season. It occasionally breeds on the Pamir.

85. Ardea cinerea, Linn.

The Common Heron was observed at the end of August flying near the Pamir-Alichur.

86. Ardetta minuta (Linn.).

The Little Bittern was seen on the 20th September during migration in the Kysil-art gorge.

87. Otis macqueeni, Gray.

On the 17th September I killed a female Macqueen's Bustard sitting on an ancient moraine near Lake Kara-kul. It only passes through the Pamir.

88. Otis tetrax, Linn.

The Little Bustard was seen on the 21st September in the Bash-Alai near the Kysil-art gorge. It is only met with on migration.

89. Charadrius mongolicus, Pall.

The Short-billed Sand-Plover breeds on the Alai, and on the Pamir, where it is more common; it lives in the brook-

swamps near rivers and lakes, and is particularly common near Kara-kul and Ran-kul at 12,000 to 13,000 feet, where it breeds. At the commencement of August the old birds gathered into flocks and departed, leaving the young behind; and by the 7th September they too had disappeared.

Besides the Pamir (with the Alai steppe) I know only the following summer haunts of *C. mongolicus*, viz.:—the southern parts of Trans-Baikalian Siberia, near the Mongolian border on the rivers Oxus and Argun, where it was found by Pallas, Radde, and Dybowsky; and the mouth of the river Uda, in the Sea of Ockotsk, where it was found by Middendorff in summer, but not breeding. It was not obtained by Prjevalsky in Southern Mongolia, nor on Lake Khu-khu-nor; and it is also wanting in the collections made by the expeditions of M. Potanon and Col. Pevtzov in West Mongolia, where, however, it may be occasionally found.

90. ÆGIALITIS CANTIANA (Lath.).

Æ. alexandrina, Hasselq., var. *dealbata*, Swinhoe.

The Kentish Plover was scarce on the Pamir in August, during migration. One female was obtained there, and also in Ferghana, where it breeds. I observed and collected in Ferghana the true *Æ. cantiana*, and a closely allied form, which I took for its eastern representative, *Æ. dealbata* *.

They differ in the dark markings behind the eye. On comparing two of Swinhoe's original specimens of *Æ. dealbata*, determined by himself, with some of *Æ. cantiana* in my collection from France, the Caspian coast, the Aral Sea, and Ferghana, I found these markings identical in both forms, and the true *Æ. dealbata* differing only in its larger bill, larger white tips on the greater wing-coverts, and a more narrow and crescent-shaped black patch between the white forehead and the rufous crown; but this last character varies in *Æ. cantiana* itself.

* In my Russian text, written and printed at Tashkent, without the necessary works of reference, this eastern representative is misnamed *Æ. placida*, instead of *Æ. dealbata*; but the true *Æ. placida* is more closely allied to *Æ. hiaticula* and *Æ. fluviatilis* than to *Æ. cantiana*, whereas the Ferghana bird, misnamed by me *Æ. placida*, only slightly differs from *Æ. cantiana*, and very much from *Æ. fluviatilis*.

From France to the Aral Sea the specimens I have compared are identical; but a Ferghana specimen (I have not yet compared all), in its bill, great coverts, and fronto-coronal patch, is intermediate between the western *Æ. cantiana* and the true *Æ. dealbata*, which hardly deserves specific distinction.

91. Chettusia gregaria, Pallas.

An example of the Sociable Plover was killed on September 23rd on the Bash-Alai, during southerly migration.

92. Hæmatopus ostralegus, Linn.

The Oystercatcher was seen at the end of August on the Pamir-Alichur, near the Boolma-kul, during migration.

93. Limosa melanura, Leisl.

Black-tailed Godwits were seen flying over the Pamir-Alichur during migration at the end of August.

94. Terekia cinerea, Gmel.

The Terek Sandpiper was obtained during migration near Tashil-kul on the 5th of September, and near Kara-kul on the 18th September. It is a regular visitant to the Pamir in small parties during the time of migration, unlike the last, which can only be considered a straggler.

95. Totanus glottis, Bechst.

The Greenshank passes the summer and breeds on the Pamir; but scarcely any specimens of young were obtained.

96. Totanus calidris (Linn.).

The Redshank breeds on the Pamir along the rivers and lakes below 13,000 feet. It is especially numerous near Ran-kul.

97. Totanus ochropus (Linn.).

The Green Sandpiper is common in summer everywhere on the Alai and Pamir, where it breeds.

98. Totanus glareola (Linn.).

The Green Sandpiper breeds throughout the Alai and Pamir, and is especially numerous near Ran-kul.

99. Totanus hypoleucus, Linn.

The Common Sandpiper breeds in great numbers on the Bash-Alai, on brook-swamps along rivers.

100. Tringa pugnax, Linn.

The Ruff was numerous in August near the Kara-kul and Ran-kul lakes, and was obtained on the Alichur at the commencement of that month with remains of the breeding-plumage. At the end of the month only young were seen. It probably breeds on the Pamir.

101. Tringa subarquata, Güld.

Curlew-Sandpipers were observed in the Pamir in July, in their breeding-plumage, which they throw off in August, and then migrate, the young only being left. They probably breed there, because the other northern *Limicolæ* do not pass through earlier than the end of August.

102. Tringa alpina, Linn.

The Dunlin migrates through the Pamir about the beginning of September.

103. Tringa minuta, Leisl.

The Little Stint is found throughout August in the Pamir. After the 16th many young birds were observed, but whether bred there or not I cannot say.

104. Tringa temminckii, Leisl.

Temminck's Stint was very numerous, and was seen everywhere on the Alai at the end of July and on the Pamir throughout August. It breeds there.

105. Tringa platyrhyncha, Temm.

One specimen of the Broad-billed Sandpiper was collected at Kara-kul on August 17th, before the migration-season—perhaps a single bird which had passed the summer there.

106. Phalaropus hyperboreus (Linn.).

The Red-necked Phalarope was obtained during migration in the Pamir Alichur on September 8th, and near Kara-kul on September 17th.

107. Phalaropus fulicarius (Linn.).

The Grey Phalarope was obtained with the last species near Kara-kul. Perhaps it is only a straggler; for it is rare.

108. Anser indicus, Gmel.

The Bar-headed Goose breeds on the brook-swamps near all the lakes in the Pamir, and was also found near the rivers Ak-su and Alichur. The young in down were seen at the beginning of August. As soon as the young are fully feathered the old birds moult. They are most numerous near Ran-kul, where the Cossacks escorting the expedition killed with sticks more than fifty moulting Geese in one swamp.

109. Tadorna tadorna (Linn.).

One specimen only of the Common Sheldrake was seen on the Katir-kul, between Kara-kul and the Kysil-art, and nowhere else on the Pamir lakes.

110. Tadorna casarca, Linn.

The Ruddy Sheldrake is numerous on all the Pamir lakes. It assembles in troops at the end of August, and was then seen in large numbers on the Sari-kul. Only young specimens were collected; the old birds were too wary. It breeds on the Pamir.

111. Anas acuta, Linn.

The Pintail breeds near all the lakes in the Pamir. It is not very common, but is often shot from the end of July to the end of September.

112. Anas circia, Linn.

The distribution of the Garganey is like that of the Pintail; but it is more numerous on rivers.

113. Anas crecca, Linn.

The Teal probably breeds here. Except *Anas tadorna*, no Ducks are abundant on the Pamir.

114. Anas clypeata, Linn.

The Shoveller also probably breeds in the Pamir.

115. Fuligula cristata (Leach).

The Tufted Duck was seen at the end of July on the Kara-kul; so it must breed there; but it is rare in the Pamir.

116. Fuligula nyroca, Güld.

The White-eyed Duck is a resident in Ferghana, where it breeds. It probably also breeds on the Pamir lakes.

117. Mergus albellus (Linn.).

The Smew was seen, but not shot, on the Boolum-kul in the Pamir-Alichur at the end of August. It probably breeds here. With the help of a binocular glass a pair was minutely examined on the lake at some 200 yards distance from the shore. I clearly distinguished the thin Mergus-like bill, and also its plumage.

118. Phalacrocorax carbo, Linn.

The Cormorant was seen on the Kara-kul at the end of July; and a specimen was obtained on the Taschil-kul at the end of August in fresh breeding-plumage, which proved that it was a single bird.

119. Larus cachinnans, Pallas.

Many specimens of the Mediterranean Herring-Gull were seen on the Tashil-kul at the end of August. A young one was shot. They probably pass the summer and breed there.

120. Larus brunneicephalus, Jerdon.

Some specimens of the Brown-headed Gull were obtained on the Kara-kul at the end of July. This Gull breeds on the Pamir lakes. At the end of August it had just assumed its winter plumage.

121. Sterna hirundo, Linn., nec Dresser.

The Common Tern is more frequent than the Brown-headed Gull, and found on all the lakes and rivers of the Pamir, where it breeds.

In conclusion, it may be remarked that the avifauna of the Pamir presents almost the same character as that of the

mammals, only perhaps with a greater mixture of Tibetan and Mongolian types, unobserved on the Tian-shan tablelands, such as *Syrrhaptes tibetanus*, *Charadrius mongolicus*, *Larus brunneicephalus*. Two other species, viz. *Otocorys elwesi* and *Budytes calcarata*, are very numerous in Western Tibet, in the Pamir, and in the Alai, and are found also, though not so common, in the Tian-shan tablelands. We may also remark that the steppe-types of the ornithological fauna of Bash-Alai and Pamir, viz. *Otocorys elwesi*, *Saxicola isabellina*, *S. deserti*, *Syrrhaptes tibetanus*, *Charadrius mongolicus*, and *Tadorna casarca*, are also found in Tibet. But of these steppe-types only the two species of *Saxicola* and *Tadorna casarca* are common to the Pamir and Aral-Caspian steppe, the *Saxicolæ* even ranging into the northern Sahara, while the remaining species, though belonging to the most characteristic genera of the desert avifauna, are peculiar to the tablelands of high Asia, where they represent closely allied species of the lower hot deserts. Thus, instead of *Carpodacus mongolicus*, peculiar to the highlands of Asia, we have the closely allied *C. githagineus* of Sahara, Syria, and Persia, and instead of *Otocorys elwesi*, we have *O. brandti* in the Aral-Caspian steppe and *O. bilopha* in the Sahara. In these genera the steppe-species, especially those of *Otocorys*, are near relatives to those living in the tablelands of the Pamir and Tian-shan. Greater differences exist between *Syrrhaptes tibetanus* and *S. paradoxus* of the steppe, and between *Charadrius mongolicus* and *C. caspius*.

We can see from the enumeration of the Pamir birds peculiar to the steppes, that they only constitute a small part of its avifauna, their number amounting to only one eighth of all the species which breed there, or seven out of fifty-four species. The greater part of the Pamir avifauna consists of Central-Asiatic alpine species, mostly land-birds, and of species which are widely spread over the whole Palæarctic region. These last are mostly Waders and Palmipedes.

The greater part of the northern birds belonging to the polar tundras are only seen in the Pamir during the time of migration, and are not common.

The fauna of the Pamir and that of high Asia in general is far from being a repetition of the polar fauna; it only bears some resemblance to it in the large proportion of Waders and Palmipedes among the breeding-birds of these heights. On the Pamir there are 23 Waders and Palmipedes out of 54 breeding species—that is, 43 per cent.; while the Turkestan fauna gives less than 20 per cent. of breeding Waders and Palmipedes. In the polar countries, if we exclude the sea-birds proper, we find the following percentages, viz. in the southern part of the Taimur peninsula, on the Boganida (a continental locality), 36 out of 52, or 69 per cent., and further north on the river Taimir, as much as 80 per cent.

Besides the few species that belong properly to the polar tundras, a considerable number of the generally spread Palæarctic species of the Pamir spread far north into the polar region; such are *Falco tinnunculus, Saxicola œnanthe, Totanus glareola, Tringa pugnax, Scolopax gallinago, Anas acuta.* These six species breed more or less generally throughout the whole country between the Pamir and Northern Siberia. Five of these (with the three polar species above mentioned, eight) breed on the Pamir as well as in Northern Siberia, and one (*Falco tinnunculus*) appears in summer in both localities but does not breed.

Eighty-five per cent. of the species breeding in the Pamir do not extend to the polar tundras, though the climate of the Pamir does not differ much from that of the polar region, judging by the number of days with frost. There is, indeed, if any thing, a rougher climate on the Pamir in summer, owing to its frosty nights, its low latitude depriving it of the unsetting polar sun. Though very differently composed, the fauna of the Pamir bears a highly arctic stamp, there being about the same number of breeding species, viz. 54 on the Pamir and 52 on the Boganida; but more additions are to be expected to the list of Pamir birds than to that of the Boganida made by Middendorff.

In the Pamir there are 54 species that remain to breed to 65 that do not.

The following birds, though generally distributed over the

high alpine zone of Turkestan above the limits of the alpine woods, were not found on the Pamir, viz. :—

1. Vultur monachus (*a*).
2. Athene plumipes.
3. Pyrrhocorax alpinus (*a*).
4. Acanthis fringillirostris (*a*).
5. —— brevirostris (*a*).
6. Fringilla montifringilla (*t*).
7. Fringillauda altaica (*a*).
8. Emberiza passerina, *Pall.*
9. Alauda arvensis (*t*).
10. Budytes citreola.
11. —— citreoloides.
12. —— melanocephala (*t*).
13. Motacilla alba (*t*).
14. Accentor rufilatus, *Sev.*
15. Phylloscopus indicus (*t*).
16. —— superciliosus (*t*).
17. Ruticilla erythronota (*t*).
18. Saxicola vittata (*t*).
19. Cinclus leucogaster (*a*).
20. Lanius homeyeri (*t*). *
21. Chelidon lagopoda*.
22. Perdix barbata (*a*).
23. Caccabis chukar (*a*).
24. —— hyemalis (*a*).
25. Grus cinerea. Yulduz.
26. —— virgo. Yulduz.
27. Charadrius geoffroyi.
28. Anas strepera.
29. Fuligula rufina.
30. Mergus merganser (*a*).
31. Larus ridibundus (*a*).

The sign (*a*) indicates bird breeding, the sign (*a*) indicates bird not breeding, on these heights, but lower in the mountains, and ascending after the breeding-season in July. The letter (*t*) indicates birds only found in migration.

All together 152 species have been found up to the present time in the high alpine regions of Tian-shan and the Pamir, of which 65 species breed there. Of these species 31 are not found in the Pamir; but I have given a list of them in order to complete the high alpine avifauna of inner Asia. As the distribution of these 31 birds is mostly local, the Pamir avifauna may still be increased by many of them, and may, besides, receive other additions; and so I give no list of the birds observed only on Pamir and not on the corresponding heights of the Tian-shan system, of which I could name 30 species or more. This great difference in the avifaunas, however, is only apparent: they are certainly different; but the difference is inconsiderable, and it would be premature to draw any conclusions upon the subject. Many birds that are common to the Pamir and the

* Found in Yulduz and determined by Col. Prjevalsky. This species breeds in Mongolia, north-east of Yulduz.

Tian-shan were, for instance, found in only one locality in that range, although they may occur in twenty; again, in Tian-shan some species were found in only one spot, whereas they probably occur in many others. There are still wide tracts of country unexplored between our routes.

As regards the upper alpine region of the Pamir and Tian-shan we have also insufficient observations, these only having been made in June as to breeding birds, and in September as to migratory species. As to the range of the alpine Pamir birds into Western Tibet, I have here* only the paper by Dr. Scully† on the avifauna of Eastern Turkestan, where he also enumerates the birds found on his way thither and back. I extract from this paper the following list of the birds observed by Dr. Scully between Leh and Yarkand along the road by the Karakorum Pass, on heights not below 10,000 feet, north of Ladakh, also on the road to Kitschik-yailak.

1. Vultur monachus.
2. Gypaetus barbatus (P).
3. Milvus melanotis.
4. Falco tinnunculus (P).
5. Circus swainsoni.
6. Corvus tibetanus (P).
7. Pica leucoptera (P).
8. Pyrrhocorax alpinus.
9. —— graculus (P).
10. Podoces humilis.
11. Parus cyaneus.
12. Leptopœcile sophiæ.
13. Carpodacus rubicilla.
14. —— erythrinus (P).
15. Linota brevirostris.
16. Leucosticte hæmatopygia.
17. Passer indicus.
18. Montifringilla adamsi.
19. Calandrella brachydactyla (P).
20. Otocorys penicillata (P).
21. Accentor fulvescens (P).
22. Motacilla personata (P).
23. Budytes citreola.
24. Phylloscopus tristis‡.
25. Phylloscopus viridanus (P).
26. Sylvia curruca (P).
27. Ruticilla semirufa (rufiventris, *V.*) (P).
28. —— erythrogastra (P).
29. Saxicola œnanthe§ (P).
30. —— deserti (P).
31. Motacilla saxatilis (P).
32. Cotile rupestris (P).
33. Upupa epops (P).

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* At Tashkend, April 1879. † S. F. vol. iv. pp. 44–205.

‡ The small dimensions of this bird given by Dr. Scully induce me to think that it is *P. sindhicus*, Brooks, found in Turkestan as well as *P. tristis*.

§ Scully saw it only once, during migration.

34. Coracias garrula*.
35. Columba rupestris† (P).
36. Caccabis chukar.
37. Tetraogallus tibetanus.
38. —— himalayanus (P).
39. Crex porzana‡.
40. Gallinago solitaria.
41. Ardea cinerea (P).
42. Ægialitis fluviatilis.
43. Totanus glottis (P).
44. —— calidris (P).
45. —— ochropus (P).
46. Actitis hypoleucus (P).
47. Querquedula crecca (P).
48. Sterna fluviatilis (P).

All the above are common to the Pamir and Tian-shan, except *Podoces humilis* and *Leucosticte hæmatopygia* (which is replaced by my *L. pamirensis*). About *Montifringilla adamsi* and *Megaloperdix tibetana* my observations were not conclusive. The remaining 44 are all found in Turkestan.

A more complete catalogue could now be compiled for Western Tibet by adding to the above list those of Drs. Henderson and Stoliczka and Capt. Biddulph; but this would scarcely make any change in the above given brief general id of the ornithological affinity between West Tibet, the Pamir, and Tian-shan. We could add some few species found on the Ladakh-Yarkand roads, and wanting in Turkestan, as *Carpodacus stoliczkæ*, Hume; but then we should also add many more species common to these roads and Russian Turkestan, as *Otocorys elwesi, Falco hendersoni*, &c.

In this list of the West-Tibetan birds the letter (P) designates the species found in the Pamir. We see that the Central-Asian ornithological district (to which belong Tian-shan and the Pamir) spreads to the south-east, and includes North-western Tibet as far as the right bank of the Upper Indus. The eastern limit cannot now be fixed, because the interior of Eastern Tibet is not yet explored. It may be remarked that some forms proper to Tibet were not found by Dr. Scully on his way, but extend to the west and north-west of it as far as Karakul; such, for instance, are *Syrrhaptes tibetanus, Larus brunneicephalus*, and others above mentioned.

The Mammal-faunas have different limits; and that of Tibe

* In Tibet as a straggler.
† *C. rupicola*, apud Scully.
‡ *Porzana maruetta*, apud Scully.

is markedly different from that of Pamir, as can even be observed from Scully's incomplete observations. He speaks of only four mammals; and two of them were not observed in Turkestan, viz. a wild sheep peculiar to Tibet and West China (*Ovis nahoor*), and an antelope (*Kemas hodgsoni*)*. The other two mammals of Western Tibet probably also range into the Pamir; they are a marmot (*Arctomys*, sp.) and a hare (*Lepus*, sp.) with a bluish grey rump.

V.—*Notes on the earliest available Scientific Name for the Woodchat Shrike.* By Howard Saunders, F.Z.S.

Mr. Seebohm and I have had occasion to examine the synonymy of the Woodchat Shrike, with the following result:—

The name most frequently employed until late years is *Lanius rufus*, Brisson (Orn. ii. p. 147); but Brisson's name, although correctly applied, antedates the ornithological era 1766, and is therefore not available. *Lanius rufus*, Linn. Syst. Nat. i. p. 137 (1766), is avowedly based upon *Lanius madagascarensis rufus*, Briss. Orn. ii. p. 178, a Madagascar bird; so that is out of the question. On turning to Mr. H. E. Dresser's 'Birds of Europe' for information, the first name on the list (iii. p. 147) is *Lanius auriculatus*, "Müll. Syst. Nat. Suppl. p. 71 (1766)" [sic]. These citations for title and date, given by Messrs. Sharpe and Dresser (for they were partners in this article), are both erroneous: the former should be "Müller, Natursyst [ems] Suppl. p. 71;" and the proper date is 1776. But the godfather of this name appears to be Professor Newton, who, in his 4th edition of Yarrell's Brit. Birds, i. p. 215, employs the name *L. auriculatus*, P. L. S. Müller, giving, it is almost needless to say, the correct reference. The question, however, is whether the bird so named by Müller is the Woodchat?

An examination of the second volume of Müller's 'Natursystem' shows that he only distinguished two species of

* Perhaps this is the straight-horned Ras mentioned by Wood on the authority of the inhabitants as occurring in the Pamir.

European Shrikes, which he named *L. excubitor* and *L. collurio*, the adult male of the latter being, at most, imperfectly known to him. In the Supplement, p. 71 (1776), he named a third, "Die schwarzöhrige" (the Blackeared), *Lanius auriculatus*; and the following is an exact translation of his description:—

"The name is given because this bird has a long black spot behind the eye on each side, which gives it the appearance of having black ears. For the rest the back is whitish grey.

"It is the *Piegrièche rousse* of Buffon; for a certain variety has a red breast. Habitat Europe."

Now by no elasticity of description can the back of the Woodchat be termed grey. The shoulders are chestnut, like the nape and crown; the mantle is black; and the only grey to be discovered is on quite the lower part, or rump. The black ear-patch is found in the adult males of all the European species; so that portion of Müller's diagnosis is useless. He goes on to identify his *L. auriculatus* with the *Pie-grièche rousse* of Buffon. On turning to the 'Planches Enluminées,' plate 9. fig. 2 is a perfectly recognizable representation of a male Woodchat, in which the *back*, right down to the upper tail-coverts, is entirely *black*, and the breast is buff-white. On pl. 31, fig. 1, which is *in the background*, is called *Pie-grièche rousse de France, femelle*, but is really the female of *L. collurio*. On the *same* plate, in the *foreground*, although numbered 2, is a representation of the adult male *L. collurio*, in which the back, with the exception of the mantle, really is grey. There is, however, no proof that Müller identified his bird with Buffon's from either of these plates, or even that he ever saw them; nor does Buffon's description make matters at all clear. My impression is, that by *L. auriculatus* Müller meant *L. minor*, which *has* the grey back, the black ear-patch, and the rosy breast; but all I maintain is, that there is no good reason for applying this name to the Woodchat, and that the sooner it is altogether discarded the better.

Next in order amongst the synonyms comes *Lanius*

pomeranus, Sparrman, Mus. Carls. fasc. i. no. 1, pl. (1786), an excellent description and plate of an adult Woodchat. By early authors, and by compilers like Degland and Gerbe, Gmelin is frequently quoted as the author of this name; and it is his No 33, Syst. Nat. i. p. 302 (1788); but he avowedly took it from Sparrman. So, unless some one can discover an earlier and valid title, it seems to me that the name of the Woodchat must stand as *Lanius pomeranus*.

Just for curiosity, let us look a little further and see what others have done. *Lanius rufus* γ, Gm. S. N. i. p. 301, is a supposed variety γ of his *L. collurio*, No. 12. *Lanius rutilus*, Latham, Ind. Orn. i. p. 70 (1790), is recognizable as the Woodchat, but anticipated four years by *L. pomeranus*. Bechstein, in his Vög. Deutschl., 1st ed., i. p. 387, taf. 15 (1791), calls the Woodchat *L. collurio*; but in the 2nd ed. ii. p. 1327, taf. 15. fig. 1 (1805), he names it *L. ruficeps*, Retzius, Fauna Suecica, p. 89 (1800). On referring to that page, Retzius appears to have given it no such name, but called it *L. rufus*. But what a waste of time it is to dig up these musty old authors, who cannot even quote their authorities correctly, and to try to make out their imperfect descriptions, so as to get a year or two nearer to the ornithological era 1766. The *earliest unimpeachable* description and figure of the Woodchat is that of *Lanius pomeranus*, Sparrman; and by the existing rules we must accept it, and get used to it as soon as possible. Those who refuse to do this, and adopt names merely because they have been sanctioned by the number or the authoritative weight of employers, will certainly go further and probably fare worse.

VI.—*On a Collection of Birds from Borneo.*

By Francis Nicholson, F.Z.S.

Mr. E. G. Lempriere, who is now collecting in Borneo, has forwarded to England a series of beautifully prepared skins, on which I have written a few notes.

The birds are from three localities, and include a number

from North-Eastern Borneo, from places which have not been worked before by any naturalist, excepting Mr. Pryer (*cf.* Sharpe, P. Z. S. 1881, p. 790).

From Labūan and the neighbouring islands Mr. Lempriere has sent a series, which, however, adds little to our knowledge of the avifauna of this part of Borneo. But there appear to be four species not recorded by Mr. Sharpe in his list of the birds of Labūan (P. Z. S. 1879, p. 317). These are as follows:—

1. Xanthopygia narcissina (Temm.).
Xanthopygia narcissina, Sharpe, Cat. B. Brit. Mus. iv. p. 250.
New to Borneo, but doubtless occurring regularly on migration.

2. Machetes pugnax (L.).
New to Borneo.

3. Tringa tenuirostris, T. & S.
Tringa tenuirostris, Salvad. Ucc. Born. p. 325.
Not before recorded from Labūan.

4. Querquedula circia (L.).
Querquedula circia, Salvad. tom. cit. p. 361.
Not before recorded from Borneo. Count Salvadori has, however, placed it in his book as a species likely to occur.

The following is a list of birds from the *Segilind River, N.E. Borneo*:—

(55) Microhierax latifrons, Sharpe.
Microhierax latifrons, Sharpe, Ibis, 1879, p. 237, pl. vii.

(33) Butastur indicus (Gm.).
Butastur indicus, Sharpe, tom. cit. p. 236.

(50) Loriculus galgulus (L.).
Loriculus galgulus, Sharpe, P. Z. S. 1881, p. 791.

(37) Harpactes duvauceli (T.).
Harpactes duvauceli, Sharpe, tom. cit. p. 792.

(46) Megalæma mystacophanes (T.).
Megalæma mystacophanes, Sharpe, Ibis, 1879, p. 239.

(68) Megalæma chrysopsis, Goffin.
Megalæma chrysopsis, Salvad. Ucc. Born. p. 32.

(36) Xylolepes validus (T).
Xylolepes validus, Sharpe, P. Z. S. 1881, p. 792.

(47) Callolophus puniceus (Horsf.).
Callolophus puniceus, Sharpe, tom. cit. p. 792.

(49) Callolophus mentalis (T.).
Callolophus mentalis, Sharpe, Ibis, 1879, p. 242.

(62) Callolophus malaccensis (Lath.).
Callolophus malaccensis, Salvad. Ucc. Born. p. 50.

(58) Meiglyptes tristis (Horsf.).
Meiglyptes tristis, Sharpe, P. Z. S. 1881, p. 792.

(53) Hemicercus sordidus (Eyton).
Hemicercus sordidus, Sharpe, Ibis, 1879, p. 240.

(48) Rhinortha chlorophæa (Raffl.).
Rhinortha chlorophæa, Sharpe, P. Z. S. 1881, p. 792.

(38) Zanclostomus javanicus (Horsf.).
Zanclostomus javanicus, Sharpe, tom. cit. p. 793.

(65) Nyctiornis amicta (T.).
Nyctiornis amicta, Sharpe, tom. cit. p. 793.

(34, 44) Carcineutes melanops (T.).
Carcineutes melanops, Sharpe, tom. cit. p. 793.

(31) Halcyon concreta (T.).
Halcyon concreta, Sharpe, tom. cit. p. 793.

(51) Batrachostomus adspersus, Brüggem.
Batrachostomus adspersus, Brüggem. Ann. & Mag. Nat. Hist. (4) xx. p. 178 (1877).
This appears to be a very distinct species.

(57) Xanthopygia narcissina (T.).
Xanthopygia narcissina, vide anteà.

(59) Stoparola thalassinoides (Cab.).
Stoparola thalassinoides, Sharpe, Cat. B. Brit. Museum, iv. p. 439.

(61) Timelia nigricollis, T.
Timelia nigricollis, Sharpe, Ibis, 1879, p. 257.

(52) Chloropsis zosterops, Vig.
Chloropsis zosterops, Sharpe, P. Z. S. 1881, p. 796.

(42) Criniger phæocephalus, Hartl.
Criniger phæocephalus, Sharpe, tom. cit. p. 797.

(41, 43) Oriolus xanthonotus, Horsf.
Oriolus xanthonotus, Sharpe, Ibis, 1879, p. 251.

(64) Platylophus lemprieri, sp. nov.
P. similis *P. coronato* ex Sumatra, sed clarius rufus, et genis nigris distinguendus.
This is probably the *P. coronatus* of Brüggemann (Abhandl. Nat. Verein, Bremen, p. 461).

(30) Pityriasis gymnocephala (Raffl.).
Pityriasis gymnocephala, Sharpe, P. Z. S. 1881, p. 795.

(35) Pitta cyanoptera, T.
Pitta cyanoptera, Sharpe, Ibis, 1879, p. 262.

(39) Pitta ussheri, Sharpe.
Pitta ussheri, Sharpe, P. Z. S. 1881, p. 798.

(40) Pitta muelleri (Bp.).
Pitta muelleri, Sharpe, tom. cit. p. 798.

(45, 69) Pitta baudi, M. & S.
Pitta baudi, Sharpe, tom. cit. p. 798.

(32) Pitta cærulea (Raffl.).
Pitta cærulea, Sharpe, tom. cit. p. 798.

(70) Pitta schwaneri, T.
Pitta schwaneri, Sharpe, Ibis, 1879, p. 263.

(60, 63) Eurylæmus javanicus, Horsf.
Eurylæmus javanicus, Sharpe. tom. cit. p. 263.

(54) Eurylæmus ochromelas, Sharpe.
Eurylæmus ochromelas, Sharpe, P. Z. S. 1881, p. 798.

(56) Cymborhynchus macrorhynchus (Gm.).
Cymborhynchus macrorhynchus, Sharpe, tom. cit. p. 798.

(67) Arborophila charltoni (Eyton).
Compared with the types in the British Museum.

From Silam, N.E. Coast of Borneo:—

(28, 4) Harpactes diardi (T.).
Harpactes diardi, Sharpe, P. Z. S. 1881, p. 791.

(24) Megalæma mystacophanes (T.).
Megalæma mystacophanes, vide suprà, "Lantoogo."

(13) Callolophus mentalis (T.).
Callolophus mentalis, vide suprà, "Wit-wit."

(8) Micropternus badiosus (T.).
Micropternus badiosus, Sharpe, P. Z. S. 1881, p. 792.

(12) Meiglyptes tukki (Less.).
Meiglyptes tukki, Sharpe, tom. cit. p. 792.

(2) Thriponax javensis (Horsf.).
Thriponax javensis, Sharpe, tom. cit. 792.

(26) Rhinortha chlorophæa (Raffl.).
Rhynortha chlorophæa, vide suprà.

(5) Rhopodytes erythrognathus (Hartl.).
Rhopodytes erythrognathus, Sharpe, tom. cit. p. 793.

(16) Alcedo meninting, Horsf.
Alcedo meninting, Salvad, Ucc. Born. p. 93, "Mantis."

(9) Ceyx dillwynni, Sharpe.
Ceyx dillwynni, Sharpe, tom. cit. p. 793.

(25) Halcyon chloris (Bodd.).
Halcyon chloris, Sharpe, tom. cit. p. 793, "Kic-kic."

(1) Platysmurus aterrimus (T.).
Platysmurus aterrimus, Sharpe, tom. cit. p. 799.

(22) Dissemurus brachyphorus (T.).
Dissemurus brachyphorus, Sharpe, tom. cit. p. 795, "Blakil."

(10) Terpsiphone affinis (Hay).
Terpsiphone affinis, Sharpe, tom. cit. p. 794.

(7) Henicurus frontalis, Blyth.
Henicurus frontalis, Sharpe, tom. cit. p. 798.

(18) Chloropsis cyanopogon (T.).
Chloropsis cyanopogon, Sharpe, Cat. B. vi. p. 32, "Perak Hyan."

(15) Micropus melanocephalus (Gm.).
Micropus melanocephalus, Sharpe, tom. cit. p. 65, "Piang."

(17, 29) Rubigula webberi (Hume).
Rubigula webberi, Sharpe, tom. cit. p. 171, "Perak Ungoot."

(19, 20) Irena crinigera, Sharpe.
Irena crinigera, Sharpe, tom. cit. p. 176, "Lalu."

(27) Arachnothera longirostra (Lath.).
Arachnothera longirostra, Sharpe, P. Z. S. 1881, p. 796.

(11, 6) Corydon sumatranus (Raffl.).
Corydon sumatranus, Salvad. Ucc. Born. p. 111.

(23) Treron olax (T.).
Treron olax, Salvad, tom. cit. p. 289, "Punie-Siur."

(21, 14) Rollulus roulroul (Scop.).
Rollulus rouloul, Sharpe, P. Z. S. 1881, p. 800, "Surokan."

(3) Euplocamus ignitus (Lath.).
Euplocamus ignitus, Sharpe, tom. cit. p. 800.

VII.—*Observations on the Pied Wagtails of Japan.*

By Henry Seebohm.

Captain Blakiston has called my attention to a species of *Motacilla* from Japan which appears to him to be distinct from both *M. japonica* and *M. amurensis*. Capt. Blakiston has

sent me three males, after comparing them with the skins in the Hakodadi Museum; and I find that I have four other examples of the same bird in my collection. It seems to be a good species, breeding in the Kurile Islands, the island of South Yesso, and the island of Askold, and wintering on the coast of China from Takow to Amoy; I propose to call this bird

MOTACILLA BLAKISTONI, sp. nov.

Forehead, chin, and the sides of the head and neck (except a black line through the eye) white. Throat, breast, hind head, nape, back, lesser wing-coverts, scapulars, innermost secondaries, tips of primaries, upper tail-coverts, and eight centre tail-feathers black. Rest of wings and tail and underparts white.

From *M. amurensis* this species may always be distinguished by having black instead of grey lesser wing-coverts, white instead of brown secondaries. From *M. japonica* its white, instead of black, cheeks and sides of the neck are a sufficient distinction.

Capt. Blakiston informs me that he has examples of *M. amurensis* from Kamtschatka; and Taczanowski also describes this species (under the name of *M. kamtschatica*, Pall.) as having been obtained by Dybowski in Kamtschatka. The synonymy of *M. amurensis* will therefore be as follows:—

Motacilla lugens, Pall. fide Kittlitz, Kupf. Nat. Vög. p. 16, pl. 21. fig. 1 (1832, nec Temm. et Schl. 1847).

Motacilla lugens, Illig. fide Bonap. Consp. Gen. Av. i. p. 250 (1850, partim).

Motacilla alba, var. *lugens*, Illig. fide Schrenck, Amur-Lande, i. p. 338 (1860).

Motacilla amurensis, Seebohm, Ibis, 1878, p. 345.

Motacilla camtschatica, Pall. fide Taczanowski, Bull. Soc. Zool. France, 1882, p. 388.

In winter both *M. amurensis* and *M. blakistoni* lose the black on the throat and on the lower breast. *M. japonica* appears to retain the black all the year round. The example of *M. amurensis* figured in 'The Ibis,' 1878, pl. ix. is the only skin of this species which I have seen that appears to

be quite in breeding-plumage. Seven other skins in my collection have white chins; but the male described by Dybowsky is said to have the throat black to the base of the bill. If full summer plumage be so rare in this species, it may also be so in *M. leucopsis*, and Mr. Hume is probably right in considering *M. sechuensis* as the fully adult plumage of the latter species. Assuming this to be the case, the Pied Wagtails of of Asia in adult summer plumage may be diagnosed as follows:—

a. Back grey.
  a'. Cheeks black ..... *personata.*
  b'. Cheeks white.
    a''. Black line through the eye ..... *ocularis.*
    b''. No black line through the eye ..... *dukhunensis.*
b. Back black.
  c'. Cheeks black.
    c''. Chin white ..... *japonica.*
    d''. Chin black.
      a'''. Black on the head coming down in a peak to the base of the tail..... *maderaspatana.*
      b'''. Forehead white ..... *hodgsoni.*
  d'. Cheeks white.
    e''. Black line through the eye.
      c'''. Shoulders black; secondaries white.. *blakistoni.*
      d'''. Shoulders grey; secondaries brown.. *amurensis.*
    f''. No black line through the eye ..... *leucopsis.*

VIII.—*On the Genera* Microbates *and* Rhamphocænus *of the Family* Formicariidæ. By P. L. Sclater, M.A., Ph.D., F.R.S.

(Plate III.)

In the Appendix to our 'Nomenclator Avium Neotropicalium,' published in 1873, Mr. Salvin and I instituted a new genus of Formicariidæ, with the subjoined characters:—

Microbates, gen. nov.

(*μικρὸς, parvus,* et *βατὴς, qui incedit.*)

Habitus generalis *Rhamphocæni*, rostro paulo crassiore at

ferè simili ; sed caudâ brevissimâ, alas haud superante, primo visu distinguendus. Typus *M. torquatus*, sp. nov.

The single species of the genus known to us was described as follows :—

Microbates torquatus.

Supra murino-brunneus unicolor, alis caudaque concoloribus ; superciliis angustis elongatis et genis albis ; spatio postoculari et striga rictali indistincta nigris : subtus albus, torque pectorali nigro ; hypochondriis et crisso fulvescentibus ; rostro superiore schistaceo, hujus tomiis et mandibula inferiore albicantibus ; pedibus clare corylinis : long. tota 3·5, alæ 2·0, caudæ 1·0, rostri a rictu 0·9, tarsi 0·95.

Hab. Cayenna, propè urbem "St. George d'Oyapock."

The only example of this curious little bird then known to us, which still remains unique in my collection, was obtained in 1872 from Madame Verdey of Paris. It bears a label in a handwriting at that time unknown to me, but which I have since made out to be that of M. Jelski, the well-known collector of the Warsaw Museum. The label informs us that the specimen was obtained by him at St. George d'Oyapock in Cayenne, in 1869, and was of the female sex.

Since the description of *Microbates torquatus* was published in 1872, I have found that what is evidently the same bird has been described by Herr v. Pelzeln in 1871 in his 'Ornithologie Brasiliens' under the name *Rhamphocænus collaris* (op. cit. p. 157), which being the oldest, should be adopted for this species.

The specimens of this bird described by Herr v. Pelzeln were obtained by Natterer at Barra do Rio Negro, Marabitanas, and on the Rio Içanna, showing that, like many other Cayenne species, it extends far into the interior.

Natterer describes the iris of this bird as dark brown ; the bill black above, and dirty white, passing into greyish, beneath ; tarsus and toes clear bluish grey, claws brownish grey. He obtained six specimens in all, and notes the sexes as alike.

In order to endeavour to come to a conclusion which of the two proposed generic names should be retained for this bird, I have assembled together the specimens of *Rhamphocænus* in my collection and that of Messrs. Salvin and Godman (thirty-three in number), and made a careful examination of them, with the following result:—

Comparing *Microbates* with *Rhamphocænus melanurus*, there can be no doubt that the points mentioned in our original description of the genus hold good. The tail, instead of being long and graduated, as in that species, is very short and almost square, or barely rounded at the tip. But in *R. cinereiventris*, on the other hand, nearly the same form of tail-structure prevails as in *Microbates*; and these two species cannot be fairly separated generically.

The best course to pursue is, on the whole, I think, to regard the structure of the tail as being only of subgen[eric] value, and to arrange the five species of *Rhamphocænus* un[der] two heads, somewhat as follows:—

Genus Rhamphocænus.

Subgen. A. *Rhamphocænus*: caudâ elongatâ, rectricibus graduatis.

1. Rhamphocænus melanurus.

Rhamphocænus melanurus, Vieill. N. Dict. xxix. p. 6; Enc. Méth. p. 863; Gal. Ois. i. p. 204, pl. 128; Burm. Syst. Ueb. p. 72; Cab. et Heine, Mus. Hein. ii. p. 11; Bp. Consp. p. 201; Scl. P. Z. S. 1858, p. 243; Cat. A. B. p. 183; Scl. et Salv. P. Z. S. 1867, p. 576 (r. Capim), et Nomencl. p. 73; Pelz. Orn. Bras. p. 84.

Rhamphocænus longirostris, Licht. Nomencl. Mus. Berol. p. 22.

Troglodytes rectirostris, Sw. Zool. Ill. ser. 1, pl. 140.

Troglodytes gladiator, Max. Beitr. iii. p. 751.

Murino-brunneus; subtus albus, lateraliter rufescens: caudæ nigra, rectricis unæ utrinque extimæ dimidio apicali sordide fusco, proximis plus minusve fusco terminatis: long. tota 4·75, alæ 1·9, caudæ 1·7, rostri a rictu 0·5, tarsi 0·8.

Hab. S.E. Brazil (*Max.*), Bahia (*Wucherer*), Rio Capim, Para (*Wallace*).

Mus. S.-G., P. L. S.

2. Ramphocænus albiventris, sp. nov.

Rhamphocænus melanurus, Scl. et Salv. P. Z. S. 1867, p. 750 (Amazons), 1868, p. 628 (Venezuela).

Præcedenti similis sed gastræo albo diversus.

Hab. Guiana, Venezuela, et Amazonia. Surinam (*C. Bartlett*), San Esteban, Venezuela (*Göring*), Sarayacu, Ecuador (*Buckley*), Chyavetas, Upper Amazons (*E. Bartlett*).

Mus. P. L. S. et S.-G.

The Amazonian form of this species seems to be distinguishable (as is usually the case) from that of the wood region of S.E. Brazil. The lower surface is nearly uniform white, not showing the rufous flanks of its Brazilian representative.

3. Ramphocænus rufiventris.

Scolopacinus rufiventris, Bp. P. Z. S. 1837, p. 119.

Rhamphocænus rufiventris, Gray, Gen. B. i. p. 157, pl. 47. fig. 2; Scl. P. Z. S. 1858, p. 244, et Cat. A. B. p. 184; Bp. Consp. p. 201; Scl. et Salv. Ibis, 1860, p. 399; P. Z. S. 1864, p. 356, 1879, p. 525 (Antioquia); et Nomencl. p. 73; Salvin, P. Z. S. 1867, p. 145 (Veragua), 1870, p. 195 (Veragua); Ibis, 1869, p. 319 (Costa Rica).

Rhamphocænus sanctæ-marthæ, Scl. P. Z. S. 1861, p. 380; Cat. A. B. p. 184.

Murino-brunneus, capite toto præcipue ad latera rufescente, subtus pallide rufescens; gutture albo, plumis subtus cinereis; cauda nigra, rectricibus tribus extimis albo terminatis, extima etiam in pogonio externo albo limbata: long. tota 5·3, alæ 2·2, caudæ 2·0, rostri a rictu 1·1, tarsi 0·9.

Hab. Central America from Vera Paz to Panama, and Northern Colombia. Vera Paz (*Salvin*); Costa Rica and Veragua (*Arcé*); Panama (*McLeannan*); Santa Marta (*Verreaux*); Antioquia (*Salmon*); Bogota.

Mus. P. L. S. et. S.-G.

The series of fourteen specimens of this species from the above-mentioned localities now before me shows that it extends

all through Central America into Colombia. My *R. sanctæ-marthæ* is, I now think, not to be separated. The prominent white tips to the lateral tail-feathers and the full rufous belly render this species easily distinguishable from the two former.

Subgen. B. *Microbates*: caudâ brevi ferè quadratâ.

4. Rhamphocænus cinereiventris.

Rhamphocænus cinereiventris, Scl. P. Z. S. 1855, p. 76, pl. 87; 1858, p. 244; Scl. et Salv. Nomencl. p. 73.

Olivaceo-brunneus; capitis lateribus rufis; gutture albo, nigro-cinerascenti striato; abdomine cinerascente, medialiter albescentiore, lateraliter obscuriore; cauda nigricanti-fusca: long. tota 4·0, alæ 2·0, caudæ 1·3.

Hab. Colombia, Pasto (*Delattre*); Ecuador, Sarayacu (*Buckley*).

Mus. Derbiano, P. L. S. et S.-G.

5. Rhamphocænus semitorquatus.

Rhamphocænus semitorquatus, Lawr. Ann. L. N. Y. vii. p. 469 (1862); Salvin, P. Z. S. 1867, p. 145 (Veragua), 1870, p. 195 (Veragua); Scl. et Salv. Nomencl. p. 73.

Rhamphocænus cinereiventris, Scl. et Salv. P. Z. S. 1879, p. 525 (Antioquia).

Præcedenti similis, et ventre obscuriore necnon gutturis striis fortioribus vix dignoscendus.

Hab. Veragua (*Arcé*), Panama, Antioquia (*Salmon*).

I am rather doubtful about the propriety of retaining this northern form of the last species as distinct; but as they have been already separated, I allow them to remain so. The Antioquian bird must, however, go with the Central-American form.

6. Rhamphocænus collaris. (Plate III.)

Ramphocænus collaris, Pelz. Orn. Bras. p. 84, et p. 157 (1871).

Microbates torquatus, Scl. et Salv. Nomencl. pp. 72, 161 (1872).

Hab. Guiana et Amazonia inferior.

Mus. P. L. S.



J. Rees lith. Hanhart imp.

MICROBATES COLLARIS

IX.—*Notices of recent Ornithological Publications.*

1. *Barboza du Bocage on West-African Birds.*

[Aves das possessões portugezas da Africa occidental. Por J. V. Barboza du Bocage. Vigesima tercera lista. Jorn. de Sc. Math., Phys. e Nat. Lisboa, no. xxxiii. 1882.]

Prof. Barboza du Bocage's twenty-third article on the birds of the Portuguese possessions in West Africa gives an account of a collection of 55 specimens of birds made by Sr. Anchieta at Caconda and Caçoco in the first three months of 1882. The species exemplified in this series are 35 in number, amongst which the most remarkable are *Pernis apivorus* and *Cotile cincta*.

2. *Bean on Birds from Alaska and Siberia.*

[Notes on Birds collected during the Summer of 1880 in Alaska and Siberia. By Tarleton H. Bean. Proc. U.S. Nat. Mus. 1882, p. 144.]

The collection was made while the writer was engaged in investigating the fisheries of Alaska, and contains examples of 77 species, several of which are of great interest. *Motacilla ocularis*, *Budytes flavus*, and *Eurinorhynchus pygmæus* were obtained in Plover Bay. Six examples of *Saxicola œnanthe* were found between Port Clarence and Cape Lisburne. *Larus marinus*, previously unknown in Alaska, was met with in abundance, and *Diomedea melanophrys* was observed in 40° 30′ N. lat., 142° 23′ W. long., about 1000 miles west of Cape Mendocino, California. Fine series of *Melospiza fasciata rufina* and *M. cinerea* were collected.

3. *Bolau on the Ornis of Eastern Siberia.*

[Beitrag zur Kenntniss der ostsibirischen Vogelwelt. Von Dr. Heinr. Bolau. J. f. O. 1882, p. 329.]

The brothers Dörries, in May 1880, moved their collecting-station to Kessakeff, at the confluence of the Ussuri with the Amoor, being the same as that occupied by Herrn Dybowski and Godlewski in 1873–74, of whose collection M. Taczanowski gave an account in the Journ. f. Orn. for 1875.

Of the 57 species of which examples are in the present series, 21 were likewise obtained by the above-mentioned naturalists, while 36 are additional to their list. Amongst the more interesting species we may notice *Pyrrhula cineracea* and *Grus viridirostris*. Dr. Bolau also makes a few additions to his former lists of the Askold and Suifun series of the same energetic collectors.

4. *Buller on the* Notornis.

[On the *Notornis*. By Walter L. Buller, C.M.G., Sc.D., F.R.S. Trans. & Proc. New-Zealand Inst. xiv. p. 238.]

Dr. Buller gives an account of the capture of the third known specimen of *Notornis*. It was taken on the Barepatch plains on the eastern side of Te Anau Lake, in 1880, by a man engaged in rabbiting on the "run" of Captain Hankinson. A full description of the external form and plumage is added.

The specimen was sent to this country for sale (*cf.* Newton, P. Z. S. 1882, p. 97), and ultimately purchased by the Dresden Museum (*cf.* Meyer, Ibis, 1882, p. 607).

5. '*Bulletin of the Nuttall Ornithological Club.*'

[Bulletin of the Nuttall Ornithological Club: a Quarterly Journal of Ornithology. Vol. vii. 1882, nos. 3 & 4. Cambridge, Mass.]

Amongst the more interesting papers in the July number is Mr. Wm. Brewster's article on the birds of Arizona, continued from the preceding number. Mr. Stephens, upon whose collection the article is founded, obtained a fine series of *Dendræca olivacea* in the pine-woods of the Chiricahua mountains at an elevation of from 10,000 to 12,000 feet, thus confirming its being a veritable member of the United-States avifauna. In the Santa Rita mountains Mr. Stephens found *Setophaga picta* breeding, and obtained its nest and eggs. Mr. Brewster also describes a new subspecies of *Vireo* (*V. huttoni stephensi*), based upon specimens obtained by Mr. Stephens in Arizona and New Mexico.

The concluding number for 1882 contains several articles

of much interest. Mr. Brewster continues his paper on Mr. Stephens's Arizona collections. It is curious that the true *Peucæa boucardi* should occur in Arizona and not in Texas. Has the Arizona form been compared with *Mexican* specimens? *Ornithion imberbe ridgwayi* is described as a new subspecies. It is certainly a most remarkable discovery so far north. Five specimens of *Iache latirostris* were obtained in the Santa Rita mountains, where this Humming-bird was found to be "not uncommon," along the streams.

Mr. Brewster's notes on Capt. Bendire's collection, made in Washington Territory, include the description of a new subspecies, "*Spizella monticola ochracea*," and of the adult male of *Falco richardsoni*, Ridgw. (from a Colorado skin), considered to be specifically distinct from *Falco columbarius**.

6. *Cheeseman on the Occurrence of* Charadrius fulvus *in New Zealand.*

[Notice of the Occurrence of the Eastern Golden Plover (*Charadrius fulvus*) in the Auckland District. By T. F. Cheeseman. Trans. & Proc. New-Zealand Inst. xiv. p. 264.]

Mr. Cheeseman records the occurrence of *Charadrius fulvus* on the Manukau Harbour in December 1880. Ten or twelve individuals were observed, and three killed. This confirms the claims of the species to a place in the New-Zealand list.

7. *Cheeseman on the Occurrence of the Australian Roller in New Zealand.*

[Notice of the occurrence of the Australian Roller (*Eurystomus pacificus*) in New Zealand. By T. F. Cheeseman. Trans. & Proc. New-Zealand Inst. xiv. p. 265.]

The specimen was shot at "Pihu, eight miles north of the Manukau Heads," and is the first example of this Australian species recorded to have occurred in New Zealand.

8. *Coues's Check-list of North-American Birds.*

[The Coues Check-list of North American Birds. Second edition.

* *Cf.* Gurney, Ibis, 1882, p. 100.

revised to date, and entirely rewritten under direction of the author, with a Dictionary of the Etymology, Orthography, and Orthoepy of the Scientific Names, the Concordance of previous Lists, and a Catalogue of his Ornithological Publications. Boston: Estes and Lauriat. 1882. 1 vol. 8vo, 166 pp.]

We cannot state the object of Dr. Coues's new "Check-list" better or more accurately than in the author's own words. First it is intended "to present a complete list of the birds now known to inhabit North America north of Mexico, including Greenland, to classify them systematically, and to name them conformably with the current rules of nomenclature; these being ornithological matters of science: secondly, to take each word occurring in such technical usage, explain its derivation, significance, and application, spell it correctly, and indicate its pronunciation with the usual diacritical marks; these being purely philological matters, affecting not the scientific status of any bird, but the classical questions involved in its name."

So far as a cursory examination can enable us to form an opinion, these specified objects are well carried out, and the whole volume is prepared with the care and exactitude always bestowed by Dr. Coues upon his work. With the second portion of it we are especially interested, as, as is well known to many of our readers, a list of British birds, with somewhat similar explanations of the names appended, is now under preparation by a Committee of the B. O. U., and will, we hope, shortly make its appearance.

Dr. Coues's first "Check-list" contained 778 species and subspecies. Ten of these have been removed in the present edition; but, on the other hand, 120 additions are made, bringing up the total of North-American species (found within the limits above stated) to 888. Besides this, ten further additions, made during the progress of the work, are noted in the "addenda." The "appendix" gives a useful catalogue of the author's ornithological publications.

We will venture to make a few remarks upon some of Dr. Coues's names and derivations.

If "*Myiadestes*" (p. 44) is to be derived from ἐδεστής (an

eater), it should be written "*Myiedestes*." Swainson wrote the name as "*Myadestes*." The emendation into "*Myiadectes*" does not involve greater change, and, having already acquired currency, should, in our opinion, be employed.

Ægiothus hornemanni (p. 49) was so called after J. W. Hornemann, a Danish naturalist, author of the 'Haandbog for Fugleelskere.' But there is, we believe, no sufficient reason against employing "*Linota*" (Bp. 1838) as a generic term for the Linnets: it is long prior to "*Ægiothus*," under which term Cabanis separated the Redpolls (very unnecessarily) in 1851.

We are quite unable to adopt Dr. Coues's view (Bull. Nutt. Club, v. p. 98) that *Hedymeles* (Cab. 1851) cannot be used for the Lousianan Grosbeak, because Sundevall, in 1846, proposed *Hedymela* for another bird, for which it is not (and never will be) used. We must therefore reject his term *Zamelodia* (p. 15) in favour of *Hedymeles*, which has acquired general use.

It is also, in our opinion, very inexpedient to alter the well-known and universally used name, "*Icterus baltimore*" into *Icterus galbula*. We cannot agree to it!

Icterus parisorum (p. 64) was thus named by Bonaparte (as he himself states, P. Z. S. 1837, p. 110) after "the brothers Paris." Dr. Coues's emendation into "*parisiorum*"! and his derivation (from the Parisians!) are consequently incorrect.

There is no such word as "*flammeolus*" (p. 81). The specific term of the "Flammulated Screech Owl" should be written "*flammeola*," as originally proposed by Kaup. In this case Dr. Coues has been led into error, no doubt, by the British Museum Catalogue. "*Flammeola*" is a diminutive of "*flamma*," and is a substantive in apposition with *Scops*. Many of Linnæus's specific terms are substantives; and there is no reason why other authors should not follow his practice.

Hydranassa (p. 106) must surely be derived from ὕδωρ (water) and ἄνασσα (a queen), and, if so, is orthographically correct*. If Dr. Coues's derivation is adopted, the word

* Mr. Ridgway, when instituting this term and *Dichromanassa* (Bull. U.S. Geol. & Geogr. Survey, iv. p. 224), did not give the derivation.

should be written "*Hydronessa*." But *νῆσσα* (a Duck) is a very bad term to apply to a Heron.

It would not be difficult, we believe, to criticise some of the other terms and derivations used in Dr. Coues's volume; but on the whole the work, as we have already said, is, in our opinion, excellent, and we have no wish to be hypercritical. The new "Check-list" is, without doubt, a most creditable publication.

9. *Elliot's 'Hornbills.'*

[A Monograph of the Bucerotidæ, or Family of the Hornbills. By D. G. Elliot, F.R.S.E. &c. Part ix. 1881. Part X. 1882.]

We heartily congratulate Mr. Elliot upon the completion of his beautiful monograph, which, as regards its last-issued parts, has been, perhaps, somewhat unduly procrastinated. With the aid of Mr. Keulemans's fine illustrations, the determination of the various species of Hornbills is now an easy matter; and into Mr. Elliot's text is worked up, so far as we know, nearly all the available information upon the subject.

Mr. Elliot recognizes 60 species of the family Bucerotidæ, and divides them into 19 genera, of which 2 (*Limonophalus*, for *B. montani*, and *Pholidophalus*, for *B. fistulator*) are proposed as new in the present numbers.

The following species are figured in parts ix. and x.:—

Part IX.

Bycanistes cylindricus.
Buceros silvestris.
Penelopides affinis.
Pholidophalus sharpii.
Tockus deckeni.
Tockus hartlaubi.

Part X.

Hydrocorax semigaleatus.
Limonophalus montani.
Bycanistes subquadratus.
Pholidophalus casuarinus.

10. *Grieve on Remains of the Gare-fowl.*

[Notice of the discovery of Remains of the Great Auk, or Gare-fowl (*Alca impennis*, L.) on the Island of Oronsay, Argyllshire. By Symington Grieve, Esq. (Communicated by Dr. J. Murie, F.L.S.) Journ. Linn. Soc. Zool. xvi. p. 479 (1882).]

The remains, consisting of a right humerus and portions

of other humeri, coracoids, tibiæ, &c. of *Alca impennis*, were found along with fragmentary bones of mammals and fishes and other aquatic birds in excavating the mound of Caistealnan-Gillean on Oronsay, in Argyllshire. The remains are evidently of kitchen-midden origin.

11. *'Guide to the Gould-Collection of Humming-birds.'*

[A Guide to the Gould-Collection of Humming-birds in the British Museum. Printed by order of the Trustees. 1881. Price Twopence.]

Though this Guide is dated 1881, we believe it was not sold in the bird-gallery of the British Museum (where our copy was purchased) until May or June 1882. After a preliminary essay on the group of a popular character, illustrated by a map of the distribution, a "list of species exhibited" follows, prepared, we are told, by Mr. R. Bowdler Sharpe. Mr. Elliot's classification in his well-known synopsis is followed. The cases are 66 in number. The total number of specimens of Humming-birds in the Gould-Collection, as we are informed in the Parliamentary Report of the British Museum, is 5378.

12. *Hartlaub on new Birds from the Upper Nile.*

[Ueber einige neue Vögel aus dem oberen Nilgebiete. Von Dr. G. Hartlaub. Journ. f. Orn. July 1882.]

From recent collections of Dr. Emin Bey, made on a journey from Laboré by Tadibek to Fatiko, and back by Tauvéra, Dr. Hartlaub describes the following new species:—*Pentholæa clericalis, Hyphantornis emini, Habropyga œnochroa, Lanius gubernator, Fringillaria forbesi, Ægithalus musculus, Trachyphonus versicolor*, and *Francolinus ochrogaster*. Of these, both sexes of *Sycobrotus* (*Hyphantornis*) *emini* and the brilliant new *Lanius gubernator* are figured (tab. i.). We are much pleased to hear that Dr. Hartlaub has in preparation a memoir containing a general account of the birds of Dr. Emin Bey's territory.

13. *Krukenberg on the Colouring-matters of Feathers.*

[Die Farbstoffe der Federn. Mitth. III. Von Dr. C. Fr. W. Krukenberg. Vergl.-physiol. Studien in Heidelberg, ii. Reihe, 2. Abth.]

This third communication of Dr. Krukenberg, who has ardently taken up the chemical side of the explanation of organic colours, contains the following very interesting investigations:—the colouring-matters of the Paradiseidæ and of the Psittacidæ; the blue colour of the naked parts of *Casuarius* and of the feathers of *Irene puella* (merely optical colours); the yellow pigment in the green feathers of *Picus viridis*; coloration of the skin of birds, &c. In conclusion a summary of the metamorphoses and spectra of various pigments in tabular arrangement are given.

14. *Menzbier on a new Grouse.*

[*Tetrastes gryseiventris*, n. sp. Von M. A. Menzbier. Bull. Soc. Natural. Moscou, tome lv. (1880) p. 105.]

Tetrastes griseiventris is a representative form of *T. bonasia* from Tscherdyn in the Government of Perm, Russia. Thirteen examples have been examined. It is likewise distinct from *T. albigularis* of Kamtschatka and *T. severtzowi* of China. The specific characters are given at full length.

15. *Menzbier's Ornithological Geography of Russia.*

[Ornitologícheskaya Geographiaya Evropeiskoye Rossiye. Michaila Menzbiera. Chast Pervaya. Moskva: 1882. (Ornithological Geography of European Russia. By Michael Menzbier. Part I. Moscow: 1882.)]

This work, unfortunately for those ornithologists who are only acquainted with western languages, is in Russian; but we will endeavour to give some account of it. The first portion of the volume, which contains 520 pages, is evidently devoted to preliminary remarks on the general subject, references being frequently made to works on geographical distribution both in English, French, and German. The second half of the book treats of each species *seriatim*, the geographical distribution of each Russian bird of prey being given, with

copious references, not only as to its range in Russia, but as regards the various other countries where it is found. If we divide ornithologists into two races, the "splitters" and the "lumpers," M. Monzbier decidedly belongs to the former. For example, to the four subspecies into which Brehm "split" the Peregrine Falcon our author adds a fifth, *Falco peregrinus brevirostris*. He also figures, and probably describes, a new species of *Hierofalco* under the name of *H. uralensis*, which he apparently identifies with the *Falco gyrfalco* of Linn., apud Radde (Reis. Süd. OstSibir. ii. p. 98). His figure is obviously that of a bird of the year, but whether of a Gyrfalcon or of a Saker it is difficult to determine. The Golden Eagle is split into three species, *Aquila chrysaëtos*, Linn., *A. nobilis*, Pall., and *A. fulva*, var. *alpina*, Sev. The Steppe-Eagle fares no better, being subdivided into *A. orientalis*, Cab., *A. bifasciata*, Gray, and *A. glitschii*, Sev. In this case the author is strictly logical. If the Spotted Eagle be divided into four species, why should not the Steppe-Eagle, which presents as much local or climatic variation, be equally honoured? The author recognizes *A. pennata* as distinct from *A. minuta*. It is difficult to say what his *Milvus glaucopus*, Eversm., can be.

Besides the coloured plate of *Hierofalco uralensis* already alluded to, the work is further embellished with plates of adult and young Peregrines—the former under the name of *Falco abietinus*, Bechst., var. *griseiventris*, Brehm, and the latter under that of *Falco peregrinus leucogenys*. Three plumages of the Steppe-Eagle (*Aquila orientalis*, Cab.) are figured, as well as a very rufous *Buteo vulpinus*, Licht. (*Buteo desertorum*). The first plate is that of *Parus pleskii*, var., a form which apparently differs from the typical examples of this species in having no black on the throat.

16. *Meyer on the Nestling-Plumage of* Eclectus.

[Ueber die Färbung der Nestjungen von *Eclectus* (Wagl.). Von A. B. Meyer. Zeitsch. f. wissensch. Zool. xxxvii. p. 146.]

The nestlings of *E. polychlorus* [this much-vexed species has, within only eight years, been treated of in more than 70

different papers] resemble in coloration the adult birds of the same sex. The young males are green, the young females are red. This has been proved by observations which exclude any doubt as regards their correctness. The frequent occurrence of green feathers in red, and of red feathers in green immature birds, is not a sign of transitionary plumage, but can only be explained by inheritance from the opposite sex: thus, the green feathers in an immature red (female) bird are inherited from the green father, and *vice versâ*. The general colour of the ancestral *Eclectus* seems to have been green.

17. *Meyer on Xanthochroism in Parrots.*

[Ueber den Xanthochroismus der Papageien. Von A. B. Meyer. Sitzungsb. Kön. Preuss. Akad. Wissensch. Berlin, 1882, No. 24.]

Xanthochroism, in our case the anomalous occurrence of feathers with yellow colour instead of their normal colour, has been frequently observed in Fowls. Since we know that "green" is sometimes produced by a yellow pigment being superimposed on a brown to dark pigment, Dr. Meyer is inclined to explain such abnormal yellow feathers by suppression of the underlying dark pigment. Hence xanthochroism in Parrots seems, to a certain extent, to supplant the albinism of other birds.

18. *Oustalet on new Birds from Eastern Africa.*

[Oiseaux nouveaux de l'Afrique orientale par M. E. Oustalet. Bull. Soc. Philomath. de Paris, sér. 7, tom. v. p. 161.]

M. Oustalet speaks of the collection lately sent to the Muséum d'Histoire Naturelle by M. Abdou Gindi from the Galla and Somali coasts, and describes as new a Hornbill of the genus *Toccus* (*T. bocagei*) and a Bustard of the genus *Eupodotis* (*E. gindiana*).

19. *Oustalet on Birds from Somali-land.*

[Note sur les Oiseaux recueillis dans le Pays des Comalis par M. G. Révoil. Par M. E. Oustalet. (Mission G. Révoil au Pays Comalis.)]

M. Oustalet gives an account of the collection of birds made by M. Révoil in Somali-land, and sent to the Muséum d'His-

toire Naturelle in 1881. It consists of 29 specimens, belonging to 21 species. *Merops revoilii* (allied to *M. bullocki*) is described as new.

20. *Oustalet on a new Form of Gallinæ.*

[Description d'un type peu connu de l'Ordre des Gallinacés. Par M. E. Oustalet. Bull. Ass. Scientif. de France, No. 120 (1882), p. 242.]

For many years some remarkable tail-feathers have graced the collection of the Jardin des Plantes, upon which the late Jules Verreaux based the provisional name of *Argus ocellatus**. A whole specimen of the bird has now been obtained from the interior of Tonquin, and turns out to belong, not to *Argus*, but to a new allied form of Gallinæ, which M. Oustalet proposes to call *Rheinhardius*, after M. Rheinhard, who sent home the specimen. *Rheinardius ocellatus* has not the long secondaries of *Argus*, nor its two lengthened median tail-feathers. The tail is composed of twelve large graduated rectrices: its head is wholly feathered.

21. *Palmén on the Migration of Birds.*

[Antwort an Herrn E. F. von Homeyer bezüglich der "Zugstrassen der Vögel." Von Dr. J. A. Palmén. 8vo. Helsingfors und Leipzig: 1882.]

E. F. von Homeyer has published several severe and furious attacks upon Palmén's remarkable work, 'Ueber die Zugstrassen der Vögel' (Leipzig, 1876). The Swedish naturalist now issues an elaborate reply, which we can only describe as a choice specimen of an "Antikritik." Indeed, its sharp and merciless logic reminds us of some of Lessing's best critical essays.

22. *Parker on the Skeleton of* Notornis mantelli.

[On the Skeleton of *Notornis mantelli*. By T. Jeffery Parker, B.Sc. London. Trans. & Proc. New-Zealand Inst. xiv. p. 245.]

Mr. T. J. Parker gives a long and elaborate description of the skeleton of the specimen of *Notornis*, of which the external parts are described by Dr. Buller (*v. s.* p. 98), and illustrates his remarks with four plates. Mr. Parker com-

* *Cf.* Elliot, Mon. Phas. i. t. xiii. figs. 1–3.

pares the skeleton with that of *Tribonyx*, *Porphyrio*, and *Ocydromus*, and decides that it comes nearest to *Porphyrio*. The author's concluding remarks as to the affinities of the Ratitæ are worthy of notice: he regards them as "the greatly specialized but degenerate descendants of Carinate birds."

23. *Ramsay on the Zoology of the Solomon Islands.*

[Notes on the Zoology of the Solomon Islands.—Part IV. By E. P. Ramsay. Proc. Linn. Soc. N. S. W. vol. vii. p. 16.]

This part of Mr. Ramsay's "Notes" commences with a résumé of previous authorities on the birds of the Solomons. Mr. Ramsay then proceeds to give a complete list of the known species, in all 104. Many exact localities and critical remarks are added, but no new species are described.

24. *Ramsay on the Zoology of Lord Howe's Island.*

[Notes on the Zoology of Lord Howe's Island. By E. P. Ramsay. Proc. Linn. Soc. N. S. W. vol. vii. p. 86.]

Mr. Ramsay has made great exertions to get the reputed *Notornis* of Lord Howe's Island, but has not succeeded. Other specimens, however, were obtained; and a list of the known birds of the island is given. These are 34 in number, of which 9 are peculiar to Lord Howe's Island. All are Australian in form, except the *Merula* (*M. vinitincta*).

25. *Ramsay on the Eggs of Fijian Birds.*

[Description of the Eggs of five Species of Fijian Birds. By E. P. Ramsay. Proc. Linn. Soc. N. S. W. vol. vii. p. 112.]

Mr. Ramsay describes the eggs of the following species of Fijian birds:—*Vitia ruficapilla*, *Procellaria albogularis*, *Artamus mentalis*, *Merula vitiensis*, and *M. ruficeps*.

26. *Ramsay's Contributions to Australian Oology.*

[Contributions to Australian Oology.—Part I. By E. P. Ramsay. Proc. Linn. Soc. N. S. W. vol. vii. p. 45.]

Mr. Ramsay describes the eggs of 42 species of Australian

birds, hitherto either altogether undescribed, or imperfectly known. Three uncoloured plates accompany the text.

27. *Reischek on the Birds of the Chicken Islands.*

[Notes on Zoological Researches made on the Chicken Islands, East Coast of the North Island. By Andreas Reischek; communicated by Professor von Haast, Ph.D. Trans. & Proc. New-Zealand Inst. xiv. p. 274.]

About 20 species of New-Zealand birds are to be met with on the Chicken Islands on the east coast. *Anthornis melanura*, nearly extinct on the mainland, is "still of frequent occurrence" there. Three Petrels, *Procellaria gouldi*, *P. cooki*, and *Puffinus gavius*, "live in holes dug out by the celebrated Tuatara lizard (*Sphenodon punctatus*)"!

28. *Report on the Australian Museum for* 1881.

[New South Wales Australian Museum. Report of the Trustees for 1881. Presented to Parliament pursuant to Act 17 Vict. No. 2. Sect. 9.]

This report, for a copy of which, we believe, we are indebted to Mr. E. P. Ramsay's courtesy, gives a flourishing account of the Institution, in which much scientific work seems to have been done during 1881. The appendix gives, among the additions, the names of a large number of birds, obtained by presentation, by purchase, and by the employment of collectors.

29. *Report of the Committee for Stations of Observation of the Birds of Germany.*

[Jahresbericht (1880) des Ausschusses für Beobachtungsstationen der Vögel Deutschlands. J. f. O. 1882, p. 18–110.]

The fifth Report of this Committee enumerates 280 different species of birds which, during the time from Nov. 1879 to Nov. 1880, have been observed in Germany and Austria. Many of the observations contain very useful hints as regards the migration and habits of certain birds, e. g. *Hirundo rustica*, *Scolopax rusticola*, *Grus communis*; likewise interesting is the number of Ducks (*Anas crecca*, *A. penelope*, and *A.*

acuta) caught in October on the North-Frisian Islands—namely about 24,000, against more than double that number in the autumn of 1877. The importance of other notes, again, must be evident, as, for instance, those on *Accentor alpinus*, *Gyps fulvus*, &c. And we have no doubt that, after the great amount of material which these Reports contain has been properly worked out, the summary conclusions arrived at will prove a valuable contribution to our knowledge of Central-European bird-life.

30. *Ridgway on Costarican Birds.*

[Notes on some Costarican Birds. By Robert Ridgway. Proc. U.S. Nat. Mus. 1881, p. 333.]

Mr. Ridgway's notes relate to specimens sent to the National Museum by Sr. Zeledon of San José. He describes as new *Troglodytes* (?) *ochraceus* and *Acanthodops bairdi*, a ne genus and species of Dendrocolaptidæ, allied to *Automo* but with an almost Fringilline bill.

31. *Ridgway on new Birds from the Sandwich Islands.*

[Description of a new Flycatcher and a supposed new Petrel from the Sandwich Islands. By Robert Ridgway. Proc. U.S. Nat. Mus. 1881, p. 337.]

The species described are *Chasiempis sclateri* and *Cymochorea cryptoleucura*, both from Kaui (*Knudson*).

32. *Ridgway on a new Owl.*

[Description of a new Owl from Portorico. By Robert Ridgway. Proc. U.S. Nat. Mus. 1881, p. 366.]

The new Owl is allied to our Short-eared Owl, *Asio accipitrinus* (melius *brachyotus*), and is named *Asio portoricensis*. Mr. Ridgway criticises Mr. Sharpe's arrangement of the Short-eared Owls, and gives diagnoses of the three species which he recognizes—namely *A. accipitrinus*, *A. portoricensis*, and *A. galapagoensis*. Mr. Ridgway is "entirely unable to distinguish between continental specimens of *Asio brachyotus* from any part of the world."

33. *Ridgway on new Thrushes from the United States.*

[Descriptions of two new Thrushes from the United States. By Robert Ridgway. Proc. U.S. Nat. Mus. 1881, p. 374.]

Mr. Ridgway describes *Hylocichla fuscescens aliciæ* from the Rocky-Mountain region, and *Hylocichla aliciæ bicknelli* from Slide Mountain, Ulster County, New York.

34. *Ridgway on two new North-American Birds.*

[On two recent Additions to the North-American Bird-fauna, by L. Belding. By Robert Ridgway. Proc. U.S. Nat. Mus. 1881, p. 414.]

Mr. Belding's researches at La Paz, Lower California, have recently added two new species to the avifauna of the United States—*Motacilla ocularis* and *Dendræca vieilloti bryanti*. The former is a straggler from Eastern Asia; the the latter a Western-Mexican form of *D. vieilloti*, which Mr. Ridgway considers to be recognizable as a subspecies, contrary to the views of Salvin and Godman (Biol. Centr.-Am. Aves, i. p. 125).

35. *Ridgway on new Races of American Birds.*

[Description of several new Races of American Birds. By Robert Ridgway. Proc. U.S. Nat. Mus. 1882, p. 9.]

The races described are *Methriopterus curvirostris occidentalis* from the coast-region of Western Mexico, *Mimus gilvus lawrencii* from Tehuantepec, *Merula flavirostris graysoni* from Tres Marias islands, *Sialia sialis guatemalæ* from Guatemala, *Chamæa fasciata henshawi* from the interior of California, and *Perisoreus canadensis nigricapillus* from Labrador.

36. *Ridgway on* Harporhynchus *and* Methriopterus.

[On the Genera *Harporhynchus* and *Methriopterus*, Reichenbach, with a Description of a new Genus of Miminæ. By Robert Ridgway. Proc. U.S. Nat. Mus. 1882, p. 43.]

After clearly distinguishing between the genera *Harporhynchus* with 3 species) and *Methriopterus* (with 7 species), Mr. Ridgway institutes a new genus, "*Mimodes*" for *Harporhynchus graysoni*, Baird, from the island of Socorro.

Though in general appearance somewhat intermediate between *Methriopterus* and *Harporhynchus*, *Mimodes*, it is considered, is really "very much more nearly related to the genus *Mimus*."

37. *Ridgway on the Tree-creepers* (Certhia).

[Critical Remarks on the Tree-creepers (*Certhia*) of Europe and North America. By Robert Ridgway. Proc. U.S. Nat. Mus. 1882, p. 111.]

After examining considerable materials, Mr. Ridgway comes to the conclusion that there are 7 races or subspecies of the Tree-creeper (*Certhia*) susceptible of definition: (1) *familiaris* of Scandinavia, (2) *costæ* of Savoy, (3) *britannica*, subsp. nova, of England, (4) *rufa* of Eastern U. S., (5) *montana*, subsp. nova, of Middle U. S., (6) *occidentalis*, subsp. nova, of Western U. S., (7) *mexicana* of Mexico and Guatemala. These are all carefully defined, and measurements are added. What do Messrs. Dresser and Seebohm say to this new "British bird"?

38. *Salvadori on the Cassowaries.*

[Monografia del gen. *Casuarius*, Briss., per Tommaso Salvadori (con due tavole colorite). Estr. dalle Memorie della Reale Accademia delle Scienze di Torino, serie ii. tom. xxxiv.]

A complete account of the present state of our knowledge of the Cassowaries was much wanted; it has been now supplied to us in this excellent memoir. After a historical introduction and bibliography, the 10 species of the genus recognized as distinct are successively discussed. Of the first section, with the helmet compressed, the species acknowledged are *C. tricarunculatus*, *C. bicarunculatus*, *C. galeatus*, *C. australis*, and *C. beccarii*. Of these the first, founded on a single young living specimen, which has never reached Europe, is considered to be doubtful. *C. salvadorii* of Oustalet and *C. altijugus* of Sclater are referred, not without some doubt, to *C. beccarii*.

Of the second section of the genus, with the casque flattened behind, five species also are allowed—namely *C. uniappendiculatus*, *C. occipitalis*, *C. papuanus*, *C. picticollis*, and *C.*

bennetti. Dr. Salvadori concludes his exhaustive essay by specifying eight open points upon which further information is much needed, and adds two plates, containing figures of the heads of the various species.

39. *Salvadori's 'Prodromus,'* xiii., xiv., & xv.

[Prodromus Ornithologiae Papuasiae et Moluccarum. Auctore Thoma Salvadori. XIII. Natatores. XIV. Struthiones. XV. Additamenta. Ann. Mus. Civ. di St. Nat. di Genova, xviii. August 1882.]

The Papuan Natatores are 41 in number—namely, 6 Anatidæ, 11 Pelecanidæ, 15 Laridæ, 7 Procellariidæ, and 2 Podicipitidæ. These are illustrated by 192 examples sent by Beccari, D'Albertis, and Bruijn to the Museum of Genoa, all of which the author has examined. *Hypoleucus gouldi* is a new name given to *Phalacrocorax leucogaster*, Gould (nec auctt. præcedentt.).

The Papuan Struthiones consist of the 9 Cassowaries now recognized by the author as distinct. Twenty-five specimens of this group have been transmitted to Genoa by the naturalists above named.

Part xv. of the 'Prodromus' enumerates the species added to the avifauna of the Papuan subregion during the progress of the work. These are 108—namely, 10 Accipitres, 13 Psittaci, 20 Picariæ, 41 Passeres, 23 Columbæ, and 1 Gallina. Most of these are from South-eastern New Guinea and the adjacent islands, where numerous discoveries have lately been made.

40. *Seebohm's 'Siberia in Asia.'*

[Siberia in Asia: a Visit to the Valley of the Yenesay in East Siberia. By Henry Seebohm. London: Murray. 1882. 1 vol. 8vo, 304 pp.]

Very few words are necessary to introduce Mr. Seebohm's 'Siberia in Asia' to ornithologists. We have read his most interesting narrative with the greatest pleasure, and have no doubt that most of our brother members of the B. O. U. have done the same. The great ornithological feats of the trip to Siberia in Asia were the finding of the nest and eggs of three species of *Phylloscopus*, of *Emberiza pusilla*, and of *Accentor*

montanellus, besides other discoveries summarized in the last chapter of the volume. We have no hesitation in expressing our opinion that but very few naturalists that any nation has produced could have carried out successfully such expeditions as those of Mr. Seebohm to the Petchora and Yenesay, and have turned the results to such excellent account.

41. *Seebohm's 'British Birds and their Eggs.'*

[A History of British Birds, with Coloured Illustrations of their Eggs. By Henry Seebohm. London: Porter. 1882. Part I.]

Mr. Seebohm's work will be known to most of our readers already; but the commencement of such an undertaking should not pass unchronicled in the pages of 'The Ibis.' Oology, it is true, as Mr. Seebohm tells us in his prospectus, has been much neglected of late years—at all events the scientific aspect of it; and Hewitson's works being o print and out of date, it was quite time that another Br Oology should take its place. Some naturalists may consider nests and eggs beneath their notice; but we agree with the author of this work that the "real history of a bird is its *life*-history. The deepest interest attaches to every thing that reveals the little *mind*, however feebly it may be developed, which lies behind the feathers."

"The habits of the bird during the breeding-season, at the two periods of migration, and in winter, its mode of flight and of progression on the ground, in the trees, or on the water, its song, and its various call- and alarm-notes, its food and the mode of procuring it at different seasons of the year, its migrations, the dates of arrival and departure, the *routes* it chooses and the winter-quarters it selects, and, above all, every particular respecting its breeding—when it begins to build, how many broods it rears in the season, the place it selects in which to build its nest, the materials it uses for the purpose, the number of eggs it lays, the variation in the colour, size, and shape—all these particulars are its re history."

Such, then, are the particulars which Mr. Seebohm will especially record in the present work; and, as his friends are

well aware, no one is more competent to do so, from his unrivalled personal experiences in almost every part of the western palæarctic region. We could well have wished he had confined himself to this branch of the subject, and had not gone into disputed points of nomenclature. What with the discordant views of Sharpe, Dresser, Newton, and Seebohm, the poor British birds' names are now in a sad plight. Who shall decide when doctors disagree?

42. *Sharpe on the Ornithology of New Guinea.*

[Contributions to the Ornithology of New Guinea. By R. Bowdler Sharpe, F.L.S. Part VIII. Journ. Proc. Linn. Soc. Zool. xvi. p. 422.]

This paper "contains notes on collections made by Mr. A. Goldie in districts at the back of the Astrolabe range in South-eastern New Guinea, and by Mr. C. Hunstein on Normandy Island, on the south shore of the mainland of the China Straits, and on the banks of a river at the end of Milne Bay." The author had already shortly characterized 11 new species from Mr. Goldie's collection (*cf.* Ibis, 1882, p. 467); he now describes these more completely, and also characterizes as new *Æthomyias guttata* from the same collection, and *Phonygama hunsteini* and *Ptilorhis intercedens* from Mr. Hunstein's collection. About 150 species all together are mentioned.

43. *Stejneger on* Myiadectes obscurus.

[Description of two new races of *Myadestes obscurus*, Lafr. By Leonhard Stejneger. Proc. U.S. Nat. Mus. 1881, p. 371.]

Mr. Stejneger has found that *Myiadectes obscurus* "ought to be divided into three distinct races—(1) *M. obscurus*, from the tableland of Mexico and Guatemala, (2) *M. obscurus*, var. *occidentalis*, from S.W. coast of Mexico and Guatemala, and (3) *M. obscurus*, var. *insularis*, from the Tres Marias islands."

44. *Stejneger on the West-Indian* Myiadectæ.

[Synopsis of the West-Indian *Myiadestes*. By Leonhard Stejneger. Proc. U.S. Nat. Mus. 1882, p. 15.]

This is an important and carefully prepared memoir, con-

taining a complete revision of the insular species of *Myiadectes**. Mr. Stejneger recognizes 7 species—namely *M. sibilans* from St. Vincent, *M. genibarbis* from Martinique, *M. sanctæ-luciæ* (sp. nov.) from St. Lucia, *M. dominicanus* (sp. nov.) from Dominica, *M. montanus* from Haiti, *M. solitarius* from Jamaica, and *M. elisabethæ* from Cuba. Besides these there is *M. armillatus* (Vieill.), which does not agree with any of the West-Indian species yet known. Mr. Stejneger's conclusions are based upon 35 specimens, from the U.S. National Museum and other collections.

45. *Stejneger's proposed alterations in Nomenclature.*

[On some Generic and Specific Appellations of North-American and European Birds. By Leonhard Stejneger. Proc. U.S. Nat. Mus. 1882, p. 28.]

Mr. Stejneger proposes to adopt the following, amongst other alterations, in generally received nomenclature:—*Phœnicurus* instead of *Ruticilla* for the Redstart (which would thus stand as *Phœnicurus erithacus*!); *Cinclus "merula"* for the Water-Ouzel; *Regulus "cristatus"* for *R. satrapa*; *Hirundo* (instead of *Chelidon*) for the Martens, and *Chelidon* (instead of *Hirundo*) for the Swallows; *Clivicola* (instead of *Cotile*) for the Sand-Martens; *Calcarius* (instead of *Centrophanes*) for *Fringilla lapponica* and its allies; *Plectrophenax* (gen. nov.), instead of *Plectrophanes*, for the Snow-Bunting; *Archibuteo "norvegicus"* instead of *A. lagopus*; *Morinella* for the Turnstone, instead of *Strepsilas*; *Vanellus "capella"* for the Lapwing; *Ægialitis "alexandrinus"* for the Kentish Plover; *Totanus "nebularius"* for the Greenshank; *Pavoncella*, as a generic name, for the Ruff, instead of *Machetes*; *Tadorna "damiatica"* for the Ruddy Shieldrake; *Harelda "hyemalis"* instead of *H. glacialis*; *"Gavia alba,"* instead of *Pagophila eburnea*, for the Ivory Gull; and *"Urinator"* vice *Colymbus*. As regards these proposals we may say, generally, that in most cases we cannot agree to them. In many of the cases the evidence in favour of the change is, to say the

* The most reasonable derivation of this term is μυῖα, *a fly*, and δήκτης, *mordax*. It should be therefore written *Myiadectes*. *Vide* p. 101.

least of it, incomplete*; and it is too much to expect us to give up well-established terms for names which have remained unnoticed since their authors invented them a century ago. Excellent reasons may be found for rejecting *any* terms given by Schäffer, Gunnerus (!), and Hasselquist. The use of a name is to distinguish the object to which it is applied; and as no one would recognize a Redstart as "*Phœnicurus crithacus*," or an Ivory Gull as "*Gavia alba*," it would be worse than useless to employ such terms. It seems to us to be always a most unsatisfactory piece of work to endeavour to upset old-established names. We have constantly protested against similar proposals made by Mr. Dresser and Mr. Sharpe, and we protest against those made by Mr. Stejneger.

16. *Stejneger on the Swans.*

[Outlines of a Monograph of the *Cygninæ*. By Leonhard Stejneger. Proc. U.S. Nat. Mus. 1882, p. 174.]

After discussing the general characters of the Cygninæ at some length, the author concludes to exclude *Coscoroba* as belonging more strictly to the Anatinæ. He recognizes 4 genera of Swans—(1) *Sthenelus* (gen. nov. for *C. nigricollis*), (2) *Cygnus*, (3) *Olor*, (4) *Chenopis*—besides *Palæocycnus* (gen. nov.) for the extinct *C. falconeri*. The species are described at full length; but we regret to find that Mr. Stejneger wishes to call the Mute Swan *Cygnus gibbus* and the Hooper *Olor cygnus*, besides making other unnecessary and objectionable changes in nomenclature. A hypothetical new name, *Cygnus*

* [*E.g.* Mr. Stejneger proposes a new term "*Plectrophenax*" for the Snow-Bunting, instead of *Plectrophanes*, because, he says, the latter = *Calcarius* (Bechst. 1803), of which the type is the *Fringilla lapponica*, Linn. But, although it is quite true that, in the preface to his 'Vögel Liv- und-Esthland' (1815), Meyer casually mentioned the term *Plectrophanes* as applicable to *Fringilla lapponica* only, we find, on reference to the 'Zusätze u. Bericht. zu Meyer & Wolf's Taschenbuch,' 1822 (in which the genus was first properly characterized), that *Plectrophanes* was intended to include both *Fringilla lapponica* and *Emberiza nivalis*. We maintain therefore that, after applying *Calcarius* to the former bird, we are quite justified in continuing the use of the universally adopted *Plectrophanes* for the latter.—Edd.]

pelzelni, is suggested for a Swan formerly living in the Menagerie at Schönbrunn, *in case C. unwini* of Hume shall prove to be only the young of *C. gibbus* (i. e. *C. olor*!).

47. *Vorderman's Birds of Batavia.*

[Bataviasche Vogels door A. G. Vorderman. Parts I., II. Overgedrukt uit het Natuurk. Tijds. Nederl. Indië, Deel xli. Afl. 4, et Deel xlii. Afl. 2.]

Heer Vorderman, in order to contribute to our knowledge of the distribution of bird-life in Java, which, as he truly says, has been very imperfectly worked out, proposes to give an account, with descriptions, of those birds which he has obtained in the neighbourhood of Batavia. In the two parts of this work already issued, about 80 species are contained. These are not arranged in systematic order; but probably an index will be added at the conclusion.

It would have been better, we venture to say, if a synonyms, at least those referring specially to Javan localities, had been added under the heading of each species.

48. *White's 'Cameos from the Silver-Land.'*

[Cameos from the Silver-Land, or Experiences of a young Naturalist in the Argentine Republic. By Ernest William White, F.Z.S. Vol. II. London: Van Voorst, 1882.]

Mr. White's second volume is devoted to an account of his excursions into different parts of the Argentine Republic. First he goes up the Uruguay to Concordia, then to Rioja, Catamarca, and Tucuman. We are next entertained with his adventures under canvas for 1200 miles into the extreme north of the Republic. Lastly, we go up the Uruguay to the territory of the Missiones, and back by the Parana. Many notices of bird-life are interspersed in the narrative, which should be studied in connexion with Mr. White's paper on the birds collected and observed during his various excursions, read at the Meeting of the Zoological Society of London on the 20th of June last*.

* See P. Z. S. 1882, p. 591.

X.—*Letters, Announcements, &c.*

We have received the following letters addressed to the Editors of 'The Ibis:'—

Sirs,—A Greenland Falcon (*Falco candicans*) was shot in the neighbourhood of Lewes on the 26th inst. The bird passed into the hands of Mr. Monk, of that town, and was taken to Mr. Swaysland to be preserved and set up. It was a very fine specimen, of the female sex, in the snowy-white plumage, speckled on the back, wings, and tail with brownish black; measured 52 inches across the wings, and weighed no less than 3 pounds 11 ounces. It had scarcely completed its autumnal moult, some of the new feathers having not attained their full length. I have had the pleasure of handling this *rara avis* in the flesh, through the kindness of Mr. Swaysland, who had just commenced skinning it.

It is a curious coincidence that rather more than three months ago, as I am informed, one of Mr. Swaysland's sons, who was at Lyme Regis, distinctly recognized a Falcon in similar plumage, when out walking with a friend on Sunday, 11th June. He wrote to his father at Brighton for his gun and licence, set traps for it, but never saw it again. A strange white bird was also seen lately about the Brighton coast, and is said to have been fired at on the 1st September. There can be little doubt that these statements all refer to the same bird.

Yours &c.,

Chas. A. Wright.

Brighton, 27th Sept., 1882.

P.S. Since writing the foregoing I have seen a letter from Mr. Swaysland's son Henry to his mother, dated Rousdon, 28th Sept., in which he gives some further particulars of the circumstances respecting his meeting with the Falcon above alluded to. He says he was out with a friend on the 11th June, down the landslip, when a bird flew up, and then went down a steep place and up the other side. He exclaimed, "That is a rare Gull; it has not any black tips to its wings; it must be an Iceland Gull. Keep quiet; we will go and look over and see if we can see it again." On

looking towards the other side of the cliff, about sixty yards off, where the landslip is, Henry said, "It is a Falcon; look! it's sitting straight upright." The letter then goes on to say that he had a good look at it with his field-glass: "The bird was sitting on a stone looking at us; it seemed quite white, except the tail. Had I gone to the other side of the landslip, I could have approached within ten yards of it. But I left, and went about two miles to the keeper's house, and told him I would give him a pound if he would let me shoot it, or, if he would shoot it, I would give him the same amount. I put down four traps baited with young rabbits. Two days after, on the 13th June, it was seen at Seaton to strike a tame Pigeon close to a man; it dropped the Pigeon, which was dead. Several persons saw it during the week. It was last seen at Lyme Regis, Dorset."

C. A. W.

Brighton, Oct. 5.

Clitheroe, September 1882.

Sirs,—I have been for some years working at the Birds of Lancashire, and am anxious to make the list as complete as possible. The value of local lists of birds is generally recognized; and I need not, therefore, apologize for attempting to bring together in a collected form, up to the present date, the ornithological knowledge of my native county.

Lancashire ornithologists, though numerous and intelligent, have, unfortunately, seldom published their observations; and the quantity of material ready to hand is much smaller than is possessed by some other counties. Thus, to make the work complete, it is the more necessary to have full information from those acquainted with every district.

If any of your correspondents are able to assist me, I shall be pleased to furnish them, on application, with the particulars on which I desire information.

Yours &c.,

F. S. Mitchell.

Sirs,—The paper on a collection of birds made on the river Yang-tze-kiang by the Rev. H. H. Slater, in the July

number of 'The Ibis' (1882, pp. 431–436), though it does not add any new species to the Chinese list, is an interesting contribution to the geographical distribution of birds in China. It is, however, a pity that a collection of birds from a country of which much must necessarily remain unknown, in spite of of the researches of Swinhoe and Père David, should not have been submitted to a competent ornithologist for identification before the list was published. The three examples alledged to be *Monticola saxatilis* are undoubtedly *Monticola cyanus-solitaria*; and the specimen of *Larus occidentalis* is, no doubt, *Larus cachinnans*, of which *L. leucophæus* is a synonym, and which is by no means out of its range in the interior of China. If the colour of the mantle is really the same as that of *L. argentatus*, which is difficult of belief, it would be a very extraordinary fact. *L. occidentalis* is almost as dark as *L. fuscus*, and also resembles that bird in the pattern of the primaries; but I am not aware that it has ever occurred in the eastern hemisphere.

Yours &c.,

HENRY SEEBOHM.

22 Courtfield Gardens, S.W.
October 10th, 1882.

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22 Courtfield Gardens, Cromwell Road,
December 8, 1882.

SIRS,—There is an old proverb which says that "prevention is better than cure." In the fifth volume of the 'Catalogue of Birds in the British Museum' I have done my best to *cure* some of the confusion caused by the ill-judged attempts of Messrs. Newton, Sharpe, and Dresser to carry out the Stricklandian code regardless of consequences. The object of the present letter is to try to *prevent* further confusion by pointing out a few of the rocks ahead on which these gentlemen must rush if they persist in their present course.

Whatever differences of opinion may exist as to the genus in which the Rough-legged Buzzard ought to be placed, all ornithologists agree that the specific name must be *lagopus*. This name cannot, however, stand according to the Stricklandian code. Messrs. Newton, Dresser, and Sharpe all refer

to *Falco lagopus* of Gmelin (Syst. Nat. i. p. 260), which dates from 1788, altogether ignoring the *Falco norvegicus* of Latham (Gen. Syn. Suppl. i. p. 282), which dates from 1787. Both these names are founded upon the Rough-legged Falcon of Latham (Gen. Syn. i. p. 75); and if the Utopian law of priority is to be observed, the specific name of *norvegicus* must be substituted for that of *lagopus*, which dates later by a year.

Messrs. Newton, Sharpe, and Dresser also agree in giving to the Greenland Falcon the specific name of *candicans*, which they date from 1788 (Gmel. Syst. Nat. i. p. 275). This name is founded on the White Jer-Falcon of Latham (Gen. Syn. i. p. 83), as is also the *Falco islandus* of Latham (Gen. Syn. Suppl. i. p. 282), which dates from 1787. Latham afterwards (Ind. Orn. i. p. 32) altered the name to *Falco islandicus*. Messrs. Sharpe and Dresser both include t[his] name under the synonyms of *Falco candicans*, but ignore [the] earlier name, either because it escaped their attention, or because they were afraid to alter a name which had received the sanction of so high an authority as Professor Newton, the Stricklandian code notwithstanding.

No book has been the cause of more confusion in nomenclature than Boddaert's Table of the 'Planches Enluminées' of Daubenton. Familiar names of long standing have been abandoned by the three ornithologists I have named, and new names have been raked up from this deservedly forgotten pamphlet, causing great annoyance to other ornithologists who are anxious to further the real study of birds, without hindrance from the pedantic alterations of unnecessary synonymy. All this confusion has been perpetrated in the name of the British Association in obedience to the law of priority.

Another book has now been unearthed from obscurity, published by Gerini in 1767 (Orn. Meth. Dig.)*. *Accipiter*

* Ornithologia Methodice Digesta atque Iconibus Aeneis ad vivum illuminatis ornata. Tomus Primus. Ad regiam celsitudinem serenissimi Petri Leopoldi, Regii Principis Hungariæ ac Bohemiæ, Archiducis Austriæ, Magni Ducis Etruriæ &c. &c. &c. Florentiæ, anno mdcclxvii. In Ædibus Mouchianis cum facultate Præsidum. Fol.

merillus (op. cit. i. p. 51, pls. xviii. & xix.) antedates the name in present use for the Merlin. *Bubo maximus* (op. cit. i. p. 84, pl. lxxxi.) closes the discussion between Prof. Newton and Dr. Sclater as to the name of the Great Horned Owl in favour of the latter disputant. The authority of Gerini to give binomial names may be disputed on the ground that he is not always binomial; but exactly the same remark applies to Boddaert. To say nothing of numerous non-binomial names quoted by him from Brisson, we find "*Fringilla dominicana cristata*, mihi" (op. cit. p. 7, no. 103), "*Columba turtur viridis*, mihi" (op. cit. p. 11, no. 177), "*Alcedo viridis rufa*, mihi" (op. cit. p. 36, no. 592), &c. It seems to me that sauce for the goose is sauce for the gander, and that the names of Gerini and Boddaert must either both stand or both fall. Either the new names to be found in Gerini must be introduced, or the names already adopted from Boddaert must be expunged.

Surely it is time that a stop was put to any further attempts to carry out the law of priority. Where is it all to end?

The object of the Stricklandian code was to introduce uniformity. In this it has miserably failed. To take a single example, let us see what the honest attempt to carry out the law of priority has done towards introducing uniformity in the name of the Lesser Spotted Eagle. A large majority of ornithologists have called and, I am glad to say, still call this interesting bird *Aquila nævia*. Prof. Newton, who admits that he tries to carry out the law of priority regardless of consequences, calls it *Aquila nævia*. I am delighted to find that, for once, we agree upon a disputed point of nomenclature. But Sharpe is equally anxious to carry out the law of priority to the bitter end; and he calls the bird *Aquila maculata*. Dresser, who tries to outherod Herod in his blind devotion to the Stricklandian code, calls the bird *Aquila pomarina*, whilst Gurney, equally anxious to obey the law of priority, calls it *Aquila rufonuchalis*! Where is the uniformity of nomenclature that the Stricklandian code was to have produced? It makes confusion worse confounded; and the sooner the law of priority is consigned to the moles

and the bats, before it has done more mischief among the birds, the better for the study of ornithology.

Yours &c.,

HENRY SEEBOHM.

St. Michael's on Wyre,
Garstang, Lancashire.

SIRS,—The few following notes were taken during a short travel through the Desert of Sinai last spring; and the only reason of my sending them to you is that the species referred to were either not observed by Mr. Wyatt (*vide* Ibis, 1870, p. 1) or were noticed by him rarely.

WOODCHAT SHRIKE. *Lanius pomeranus.*

Two or three birds of this species were seen by me on March 17 in the oasis of Feiran.

MASKED SHRIKE. *Lanius nubicus.*

I saw a single bird of this species on March 27 near our first encampment after leaving the Fortress of Nukhl, on our way north to Gaza.

BLUE THRUSH. *Monticola cyanus.*

We noticed several of these birds at the head of Wady Lejâ on our way up Jebel Katareena on March 18.

CURVED-BILL LARK. *Certhilauda alaudipes.*

A pair of these birds attracted my attention on March 23, just on entering the Desert of Tih.

Yours &c.,

HUGH P. HORNBY.

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5 East View, Leeds.
December 7, 1882.

SIRS,—Permit me, through the medium of 'The Ibis,' to direct the attention of ornithologists to what I conceive is a desideratum in the literature of our science—namely, a volume treating of the study of birds generally, which shall be on the one hand comprehensive and strictly scientific, and on the other sufficiently readable for the use of the average man of culture who is not specially an ornithologist. Such a manual

of ornithology should contain a preliminary sketch or *résumé* of the history and literature of the subject, followed by chapters dealing with (1) the external characters of birds, (2) their osteology, myology, and internal characters generally, (3) their distribution in time, (4) the broad outlines of their distribution in space, (5) their migrations, and (6), lastly, their classification. The last part, which should form the bulk of the work, should include a systematic description of the characters and distribution of the various subclasses, orders, families, and genera.

Such a work, worthily and adequately done, would furnish in a compendious form much information now scattered and inaccessible to most men, from the cost or scarcity of the works in which it is contained, such works including the innumerable Transactions and Journals devoted to zoological science. A compendium of the description I contemplate would be indispensable to the library of every ornithologist, whatever his standing may be, and would, I venture to surmise, be esteemed a boon.

In order to put my suggestion on a sound and practical basis, and make perfectly clear my ideas as to the exact nature and extent of the desideratum, I will mention a work, recently published, which, to my mind, is a perfect model of its kind, supplying this want most precisely and in an admirable manner to another class of vertebrates. I refer to Dr. Günther's 'Study of Fishes,' a book the value of which, from practical experience, I find it impossible to overestimate, and which, in fact, perfectly embodies the ideal of what a work of the kind should be. For the information of those who may be unacquainted with it, I may state that it is a moderately large volume of about 750 octavo pages, well got up, amply illustrated by woodcuts, and sold for twenty-four shillings.

The production of such a work for the Aves can only be undertaken satisfactorily by a first-rate ornithologist, well versed in every department of the science; and I believe that in the hands of a specialist, on the one hand, or of a compiler, on the other, the result would be a failure, or, at all events, a disappointment. And surely the preparation of such a

truly useful work would not be a waste of the time of any ornithologist of the standing required.

But high as the requirements are, there can be no hesitation in declaring that the B. O. U. includes members who could realize them worthily.

In conclusion I would remark that, if ichthyology, with its comparatively few votaries, can command such a work, it is fair to presume that if ornithology possessed a similar one it would prove more than a success.

Yours &c.,

Wm. Eagle Clarke.

Proceedings of the Anniversary Meeting of the British Ornithologists' Union, 1882.

The Annual Meeting of the British Ornithologists' Union was held at 6 Tenterdon Street, Hanover Square, on May 17th, 1882, Mr. P. L. Sclater in the chair. The following Members were present:—P. L. Sclater, Osbert Salvin, G. C. Taylor, W. A. Forbes, H. E. Dresser, E. C. Taylor, Edward H. Cooper, C. Bygrave Wharton, F. S. Mitchell, H. Gadow, J. Young, Henry T. Wharton, Howard Saunders, J. E. Harting, Frank B. Simson, H. B. Tristram, C. G. Danford, Edward Hargitt, H. Evelyn Rawson, Charles A. Wright, T. Southwell, G. E. Shelley, William Borrer, and W. B. Tegetmeier.

The minutes of the last Meeting, held May 18th, 1881, having been read and confirmed, the accounts relating to the Volume of 'The Ibis' for 1881, a copy of which had been sent to every Member in the United Kingdom, were discussed and passed.

The following Candidates were then balloted for and elected Members of the B. O. U.:—Robert William Chase, Southfield, Edgbaston, Birmingham; Charles B. Cory, 8 Arlington Street, Boston, U. S. A.; Philip Crowley, Waddon House, Croydon; Philip M. Kermode, Seabridge Cottage, Ramsay, Isle of Man; Rev. Edw. Ponsonby Knubley, M.A., Stavely Rectory, Boroughbridge, Leeds; Thomas Hudson Nelson,

North Bondgate, Bishop Auckland, Durham, and Redcar, Yorkshire; Eugene William Oates, 6 Tenterden Street, Hanover Square, W.; Rev. Henry H. Slater, M.A., F.Z.S., Sharrow, Ripon, Yorkshire; and Major Charles Swinhoe, Bombay Staff Cops, Commissariat Department, Bombay.

Mr. Salvin announced that the Fourth Series of 'The Ibis' would be completed with the Volume for 1882, and that he did not propose to offer himself for reelection as one of the Editors of a new Series. Mr. Godman intimated his wish to resign the Secretaryship.

The following Officers were then elected:—

Lord Lilford	*President.*
Mr. H. E. Dresser	*Secretary.*
Mr. P. L. Sclater Mr. Howard Saunders }	*Editors.*

Mr. Salvin was elected a member of the Committee in the place of Col. Godwin-Austen, and Capt. E. Shelley in the place of Mr. Saunders.

Mr. H. T. Wharton gave a short account of the progress of the Committee appointed to prepare a List of British Birds.

The Meeting then proceeded to the consideration of Mr. Harvie-Brown's resolution—

> "That the day of Meeting and of the Dinner be changed from May to the third week in February or first week in March,"

and Mr. Howard Saunders's amendment—

> "That the day of Meeting and of the Dinner be on the Wednesday after the Derby."

Both the resolution and amendment having been seconded, the latter was put to the Meeting and lost, and the former was also lost. The rule as to the day of the General Meeting of the B. O. U. therefore remains unaltered.

The Meeting then adjourned to attend the Anniversary Dinner.

Mr. Forbes's Zoological Expedition up the Niger.—Mr. W. A. Forbes writes from Lokoja, on the Niger, at the confluence with the Binué (September 9th), as follows:—

"I have been here, on and off, about a fortnight, and have been up the Binué as far as Loko, about 100 miles, where I got some birds. All together, up to the present, I have seen or got about 80 species of birds, including examples of *Scopus*, *Plotus*, *Indicator*, and *Rhynchops*; as yet no *Podica*, *Irrisor*, or Musophagidæ.

"Of Hornbills I have seen three or four species; but they are very shy, and as yet I have not shot one. Ploceine birds are the feature here: about one third of the species are of that family; and some I have are good ones, especially *Estrelda nigricollis* and *E. rara*, both of them discovered by Heuglin. These and other things make me fancy that we are out of the true West-African region here; the antelopes seem also eastern. There are four or five here, including brown *Hippotragus*, and what I fancy is *Alcelaphus tora*. I have skins and horns of these, and shall get others. *Bos brachyceros* is common here; but as yet I have only seen spoor, not the beast itself. We saw lots of Hippopotamuses coming up; and I killed the second I shot at, but could not recover the body.

"I have also killed a large crocodile, 15 feet long, apparently *Crocodilus acutus*. I have also a few fishes and reptiles, and shall get more, I hope. Butterflies are not very numerous at present; the country is too open for them, being, generally speaking, a large grassy plain, with lots of isolated trees not very big, and bushes. There is no regular thick forest up here at all; and even in the lower river, in the delta, it is nothing like the neotropical forests. The weather has been very dry, and the river is still rising. After leaving Bidda our plans are uncertain. Mr. M. talks of going on to Sokoto, if he can get away from his stock-taking; and if he goes, I shall probably go too. If not, I shall try and stay some time at Ischunga, a station a little off the river above Egga."

We are happy to be able to add that Mr. Forbes was in excellent health at the date of his letter.

A more recent letter from Mr. Forbes (dated Egga, September 17th) announces that he had determined to leave about the end of September for an excursion up to Sokoto, which would take about six weeks, after which he would probably return straight to England. In the meanwhile Mr. Forbes had selected Ischunga, on a creek a little above Egga, as a good collecting-station for birds and fishes, and intended to pass the intervening time there. "*Glareola cinerea* is very common on the sandbanks about Egga, and is met with in large flocks. *Pluvianus ægyptius* and a species of *Metopidius* are likewise plentiful."

Proceedings of Foreign Collectors.—Herr Stolzmann (of Warsaw) having convinced himself that nothing can be done in Peru in the present state of the country, has gone to Ecuador, and is exploring the hot forests on the Pacific seaboard of that country. His present station is Chimbo, at an altitude of 1100 feet, where he has obtained many interesting birds. M. Taczanowski is expected very shortly on a visit to this country for the purpose of working out Herr Stolzmann's collections, amongst which are examples of many species believed to be new to science.

Mr. Henry Whitely returned to London last September with a very fine and large series of bird-skins from the Roraima district of Guiana. Messrs. Salvin and Godman, who have had the first selection, promise us an account of the novelties for our next issue.

Mr. R. Parkinson writes to us from Apia, Samoa, that he is about to proceed to New Britain on a collecting-expedition. Mr. Parkinson will also endeavour to visit New Hanover and the north-east coast of New Guinea. His address is "Moko, Duke-of-York Islands, c. o. the German Consulate, Sydney, N. S. W." There is, no doubt, still a rich harvest to be reaped in these islands by an energetic collector.

The Secretary of the Smithsonian Institution writes that they are sending Mr. Nutting, an excellent field-naturalist, to the eastern coast of Central America, to collect from Nicaragua up to Honduras. Dr. Stejneger, who went to Behring

Island, in the North Pacific, last spring, has already sent home a large series of birds, some of which are of great interest.

Mr. H. O. Forbes, who has been for some time making collections in the East-Indian Islands, has just returned to Amboina from a short trip to Timor-laut, which has been carried out principally by means of funds voted in aid of this particular expedition by the British Association. Mr. Forbes's chief collections on this occasion consist of plants and birds. Of the former, according to the decision of the Timor-laut Committee of the British Association, the first set is to be deposited in the Kew Herbarium, of the latter the first set will go to the British Museum. But steps will be taken, we believe, to ensure the immediate publication of Mr. Forbes's discoveries, which, in the case of the birds at least, are likely to be of special interest, the avifauna of Timor-laut being quite unknown.

New Works in Preparation.—We are glad to be able to announce that Canon Tristram's long projected Synopsis of the Fauna and Flora of Palestine will at length appear as a volume of the Reports of the Association for the Exploration of the Holy Land. It will include, of course, a memoir on the birds, to which our excellent fellow-worker has devoted, as we all know, special attention.

We are also much pleased to hear that Mr. W. H. Blanford is likely to be shortly employed on the editorship of a series of handbooks on the zoology of India. This must, of course, include a new work on the birds, Jerdon's volumes, excellent at their time, being now quite out of date.

Two volumes of the British Museum Catalogue of Birds are, we have good reason to believe, in a forward state, and likely to appear in the course of a few months. In one of these Mr. Sharpe will continue and, we believe, complete his account of the great and varied group of Timeliidæ. Another volume, prepared by Dr. Gadow, will contain the Laniidæ, Vireonidæ, Paridæ, Nectariniidæ, and Meliphagidæ. After this the progress of the Catalogue will perhaps be somewhat delayed by the transfer of the zoological collections

to the new building in South Kensington, which is already begun, and will probably be finished during the present year. But we believe that arrangements are being made for the early commencement of future volumes of this important undertaking.

Mr. Dresser's Monograph of the Bee-eaters (Meropidæ) is, we are told, making good progress, the plates being all drawn on the stone.

Discovery of a new Bird of Paradise.—In a box of bird-skins just received from Mr. Andrew Goldie are specimens of a fine new Bird of Paradise, which were obtained in the D'Entrecasteaux Islands, off the coast of New Guinea. We propose to give a full description and figure of it in the next number of 'The Ibis.' In the meantime the following diagnosis will serve to distinguish it:—

PARADISEA DECORA.

♂. Supra sericeo-straminea, alis caudaque fuscis, rectricibus mediis elongatis filiformibus, sicut ut in *P. apoda*; fronte anguste et gula viridescentibus; subtus lilacina vinaceo tincta, pectore saturatiore, abdomine medio albicantiore; plumis hypochondriacis posticis ruberrimis, apicibus canescentibus, forma sicut in *P. sanguinea*, anticis brevibus, apicibus lætissime saturate vinaceis. Statura *P. raggianæ*. ♀ inornata; subtus gula fusca, abdomine rufo-fusco, pectore fusco irrorato.

O. SALVIN and F. D. GODMAN.

Obituary—Prof. Reinhardt.—We are sorry to record the death of Professor JOHANNES THEODOR REINHARDT, one of the original Honorary Members of the B. O. U., which took place after a tedious illness on the 22nd of October last. The son of Johannes Hagemann Reinhardt, Professor of Zoology in the University of Copenhagen (who died in 1845), our late member was born in that city in 1816, and at first applied himself to the study of medicine. His earliest publication was on ornithology, being a brief notice (Naturhistorisk Tidsskrift, iv. p. 71) of the discovery

by him, in 1840, of the long-forgotten Dodo's head among various "Naturalier" which had been recently transferred from the old Gottorp Museum to that of Copenhagen. In 1845 he sailed as a naturalist in the Danish corvette 'Galathea' on a voyage round the world, proceeding first to the Nicobar Islands (then belonging to Denmark), thence to India, China, and South America, arriving at Rio de Janeiro in 1847. Here orders awaited him to visit the bone-caves of Lagoa Santa, so celebrated for the collections made there by Lund, which, during Reinhardt's absence, had been transmitted to Copenhagen. To his native city he returned in 1848, and was appointed Inspector of the Zoological Museum, a position which, as well as that of Curator of the Lund Collection, and titular Professor of Zoology in the University, he held till his death. He subsequently twice revisited Brazil, namely in 1850–52 and in 1854–56. A list of Reinhardt's many zoological publications, up to 1875 inclusive, is given in Herr C. C. A. Gosch's* 'Udsigt over Danmark's Zoologiske Literatur' (iii. pp. 423–439), which is the more needed since, in the well-known Bibliographia of Carus and Engelmann, no distinction is made between the writings of the two Reinhardts, father and son. Our own readers have had several opportunities of becoming acquainted with some of the latter's labours; but that by which he will always be celebrated in ornithology is his having been the first to recognize the now fully admitted Columbine affinity of the Dodo. Of this he had already fully satisfied himself in 1843, as is proved by a letter he addressed in that year to Sundevall, who printed an extract from it in his 'Berättelse om Framstegen i vertebrerade Djurens Naturalhistoria och Ethnografien under åren 1845–1850' (p. 245, note). Reinhardt's extensive information, which he was always so ready to impart, and his unassuming manner made him greatly liked by all with whom he came into contact; and his death is regretted by a large circle of friends in his own country and by many abroad.

* The writer of this notice has to express gratefully his indebtedness to Herr Gosch for most of the particulars above given of Reinhardt's career.

THE IBIS.

FIFTH SERIES.

No. II. APRIL 1883.

XI.—*On the* Totanus haughtoni *of Armstrong.*

By J. E. Harting, F.L.S., F.Z.S.

(Plate IV.)

Novelties among the *Limicolæ* are so rarely met with now-a-days, that the acquisition of a new species is a matter of no little interest.

I have lately had an opportunity of examining two specimens of a Sandpiper (preserved in the Museum of Trinity College, Dublin) which were procured by Dr. Armstrong near Amherst in British Burmah in January 1877, and to which (when describing other specimens previously obtained by him in December 1875 near the mouth of the Rangoon river) he gave the name of *Totanus haughtoni* ('Stray Feathers,' vol. iv. p. 344, 1876).

Mr. Hume, who procured another specimen of this bird in the Calcutta market in December 1877, has described it under the name of *Pseudototanus haughtoni* ('Stray Feathers,' vol. vii. p. 488, 1878), and in his 'Game-Birds of India' has given a more detailed account of it, with a coloured plate, which, prepared without his supervision and unseen by him

till published, he has been obliged to condemn as inaccurate and misleading (*op. cit.* vol. iii. p. 403, 1880).

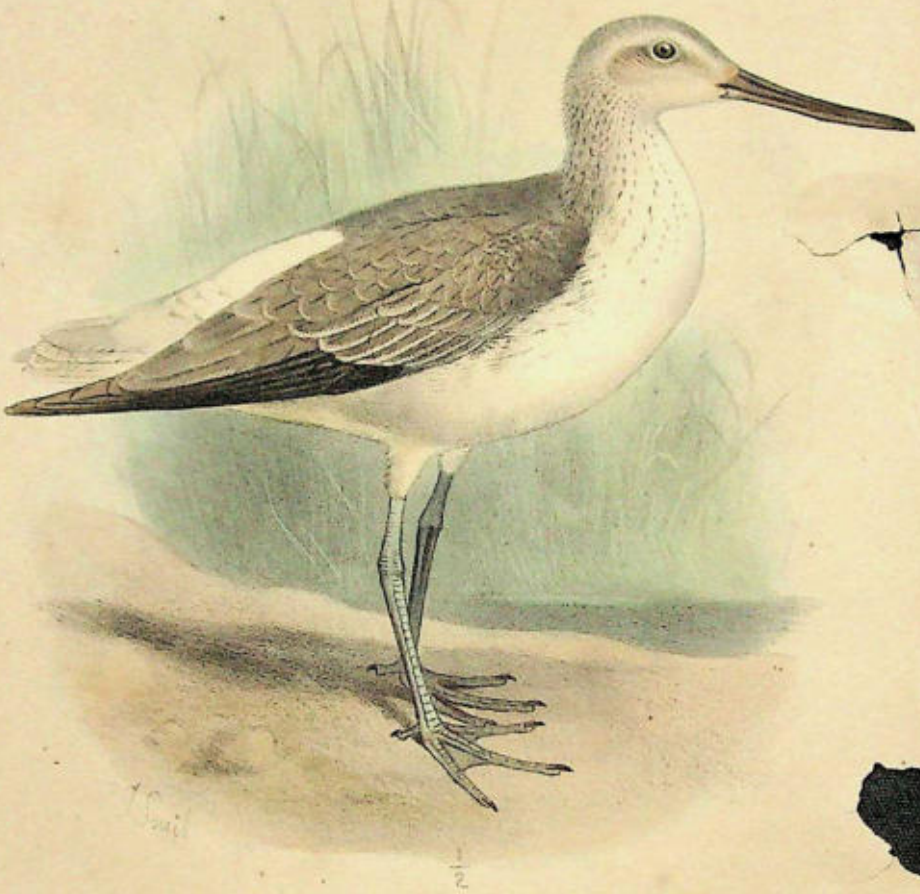
It will be unnecessary to repeat here the measurements and descriptions already published, as above stated; and I will therefore only offer a few critical remarks which have occurred to me upon the examination of the two specimens above referred to, which, so far as I am aware, are the only two to be found at present in any European collection.

At first glance this bird looks like a small specimen of the common Greenshank (*Totanus canescens*) in winter garb, the upper portions of the plumage being of a nearly uniform brownish grey, the rump and tail white, with very faint indications of having had bars across the tail-feathers when in summer plumage, and the underparts pure white.

It differs, however, from *Totanus canescens* in its smaller size, more robust bill with the lateral groove slightly more prolonged in proportion to the length of the bill, shorter and slightly more robust legs and feet, and in having a palmation on both sides of the middle toe instead of on one side only as in *T. canescens*. The tail does not extend beyond the ends of the closed primaries; and the tertials are not so long in proportion to the length of the primaries. Besides I have never seen any specimen of *Totanus canescens* in winter plumage which had the back of such a uniform brownish grey; there is always a hoariness or mealiness (as expressed by the term *canescens*) in the dorsal plumage of our Greenshank.

It does not appear that there is much difference in the bills of the two species; but there is a noticeable difference in the semipalmation of the toes. This, however, I do not regard as sufficient to render *generic* distinction either necessary or desirable, although there is a precedent for adopting such a course in the case of the American *Totanus semipalmatus* (Gm.), for which the generic name *Symphemia* of Rafinesque was proposed on account of a similar peculiarity.

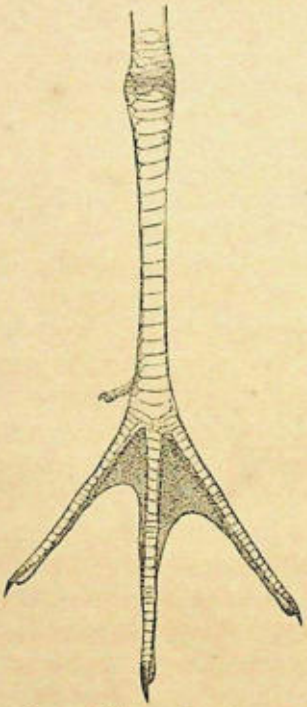
In an editorial note appended to the original description above cited, Mr. Hume wrote, "I do not, however, think generic separation necessary, and prefer to consider this an



J.Smit lith. Hanhart imp.

TOTANUS HAUGHTONI.

aberrant species of *Totanus*." In this I agree; but he subsequently altered his views ('Stray Feathers,' vol. vi. p. 488), and placed the bird in a new genus, to which he gave the name *Pseudototanus*—an indefensible course, as it appears, since (if it is to be regarded as generically distinct from *Totanus*) it might have been placed in the genus *Symphemia*.



Foot of *Totanus haughtoni*.

As the only figure which has been published of this bird is admitted to be altogether an erroneous one, I have thought it desirable, while opportunity served, to have it accurately redrawn (see Plate IV.), and to figure at the same time the foot with extended toes, in order to show the chief distinguishing feature in this newly described species.

XII.—*On a new Species of* Polyplectron.

By Eugene W. Oates, F.Z.S.

(Plate V.)

I propose to characterize an apparently new species of *Polyplectron* from Upper Burma under the name of

Polyplectron helenæ, sp. nov. (Plate V.)

Affinis *P. chinqui*, sed plumarum ocellis magis violaceis, haud fulvo circumdatis, fascia superiore et altera inferiore albis præditis, caudæ ocellis minoribus et violaceo chalybeoque nitentibus, nec metallice viridibus fulvo circumdatis, distinguendus. Long. tot. 24″, al. 8″, caud. 12″, tars. 3″.

This new species comes nearest to *P. chinquis*, but is readily distinguishable from that Pheasant by striking characters. The ocelli on the back, scapulars, tertiaries, and upper wing-coverts are smaller and fewer in number. The ocelli are deep violet, shading into black at the edges, and are subquadrate, not round. Instead of being surrounded by a buff annular ring, each ocellus is bounded both above and below by a white band, the lower band also forming the tip of the feather.

The ocelli on the tail are smaller and of a deep violet, not of a metallic green. In the case of these, as with those on the back, there is no annular buff ring round them.

The white marks on the back and rump are smaller and triangular in shape, not quadrate or round, as is the case in *P. chinquis*. The chin, throat, and entire fore neck are white, whereas in the other species only the chin and throat are white.

A skin of this Peacock Pheasant, now in the British Museum, was sent to me some years ago by Colonel Lowndes, Political Resident at Bhamo, in Northern Burmah. It was probably procured on the hills which form the boundary between China and Burmah, and which are known by the name of the Kachyen Hills.

The known species of Peacock Pheasants are now seven in number, distributed as follows:—



J.G. Keulemans lith. Hanhart imp.

POLYPLECTRON HELENÆ

1. *Polyplectron chinquis.* Bhotan Doars, Assam, Sylhet, Cachar, Chittagong, Arrakan, Tenasserim, and Lower Burmah.

2. *Polyplectron bicalcaratum.* Malay peninsula, Sumatra.

3. *Polyplectron germaini.* Cochin China.

4. *Polyplectron helenæ.* Upper Burmah.

5. *Polyplectron schleiermacheri.* Interior of Borneo.

6. *Polyplectron chalcurum.* Sumatra.

7. *Polyplectron napoleonis.* Palawan, Philippines. (Cf. Tweeddale, P. Z. S. 1878, p. 623).

XIII.—*Descriptions of three new Species of Birds from Bahia, Brazil.* By Hans von Berlepsch.

1. Elainea taczanowskii, sp. nov.

E. supra pallide grisea, notæo olivaceo tincto; pilei plumis mediis cristatis, ad basin albis et pallido flavo mixtis; loris et superciliis indistinctis albescentibus; subtus alba, pectore leviter griseo perfuso; alis caudaque brunneis, remigum primariorum et secundariorum marginibus externis flavescenti-albis, tertiariis et tectricibus alarum superioribus latius et purius albo extus marginatis; tectricibus alarum inferioribus et rectricum marginibus interioribus flavescenti-albis; rectricibus olivascente griseo extus marginatis; subcaudalibus albis; rostro pedibusque corneis, mandibulæ basi pallida. Long. tota 116, al. 61½, caud. 54½, rostr. 9½, tars. 16¾ millim.

Hab. Bahia, Brasilia. [Two specimens examined: one is still in my collection (No. 5633); the other I have sent to the Warsaw Museum. Both are of the peculiar make common to all Bahia skins, and were selected by me from a large lot received by Mr. Ashmead of London.]

Obs. E. cinereæ, Pelzeln (Orn. Bras. p. 108, ex Marabitanas) forsan proxima, hæc nova species differt dorso olivaceo perfuso, albedine cristæ flavo mixta, marginibus alarum flavescentioribus necnon rostro multo graciliore. *E. canicipiti,* Swains., item affinis differt corpore supra non viridi, corpore subtus fere albo, necnon alis caudaque longioribus.

I have dedicated this new species to Dr. L. Taczanowski, Director of the Warsaw Museum, well known to those who

take an interest in South-American ornithology for his excellent papers on Peruvian birds published in the P. Z. S. Dr. Taczanowski first confirmed my belief that this bird belonged to an undescribed species.

E. taczanowskii is a near ally of *Elainea cinerea*, Pelzeln*, of which I have examined the type specimen collected by Natterer at Marabitanas, on the Upper Rio Negro. *E. caniceps*, Swains., of which I got a Bahia skin too, is also of precisely the same group, presenting a similar style of colouring and agreeing in form with them. But all three are perfectly distinct species, as pointed out above.

E. taczanowskii has also some slight resemblance to *Serpophaga subcristata*, Vieill.; and perhaps Bahia specimens of the former may have sometimes been mistaken for the latter species. For instance, "*Serpophaga subcristata*, Forbes, Ibis, 1881, p. 342 (Pernambuco)," may possibly mean *E. taczanowskii*. But besides being differently coloured, having no yellow abdomen, having the back not brownish olive, the wing-markings not brownish white, and a quite differently shaped crest in which the white is suffused with yellow, it is also of quite different form, having much longer wings and tail, and the bill not so depressed.

There is, of course, only a superficial resemblance between these two species, which vanishes on closer examination. It is true that the species of the subgroup of *Elainea* to which *E. taczanowskii* belongs have much slenderer and more *Serpophaga*-like bills than more typical species of *Elainea* (viz. *E. pagana*); but they nevertheless must remain in the genus *Elainea*. *E. placens*, Scl. (which is otherwise a typical *Elainea*), presents an equally fine thin bill as *E. taczanowskii*, while, on the other hand, *E. cinerea*, Pelz., has the bill much stronger and higher than its nearest ally, viz. *E. taczanowskii*.

* It seems very probable that *Serpophaga albogrisea*, Sclat. & Salv., described in P. Z. S. 1880, p. 156, from Sarayacu, Ecuador, is identical with *Elainea cinerea*, Pelz.; at least there is nothing in the description of Messrs. Sclater and Salvin which could lead to a contrary opinion. Nevertheless, a reexamination of the type specimen in the museum S.-G. is desirable. In case of identity Pelzeln's name has the priority of several years.

By the kindness of Herr von Pelzeln I have been able to compare Nattererian skins from Ypanema and Rio Verde, named *Serpophaga subcristata* by him. This identification I found to be correct. It remains to be seen if birds from Minas, classed by Prof. Reinhardt under this name, belong also to the *Serpophaga*, or to my *Elainea taczanowskii**.

2. Myiarchus pelzelni, sp. nov.

M. supra olivascenti-griseus, pileo aliquot obscuriore, magis olivascenti-brunneo; plumis frontalibus, loris (in fundo griseis) et superciliis indistinctis flavescente olivaceo perfusis; plumis auricularibus brunnescentibus; gutture et pectore superiore albescenti-griseis, abdomine pallide limonaceo; remigibus secundariis et tertiariis cum tectricibus alarum superioribus albescenti late marginatis; rectrice utrinque extima margine externo late flavescente albo prædita; rostro angustiore, gracili, pallide brunneo; pedibus nigris. Long. al. 86–88, caud. 80–82, rostr. 17½–18½, tars. 19½ millim.

Hab. Bahia, Brasilia. [Three specimens in Mus. H. v. Berlepsch (nos. 5734, 5735, 5736) examined. All three are of the unmistakable make of Bahia skins, and were picked out from large lots received by Mr. Ashmead of London.]

Obs. M. tyrannulo auctt. plur.† (=*M. cantans*, Pelzeln),

* [Prof. Reinhardt's bird is *Serpophaga subcristata*, as I have one of Lund's skins (Lagoa Santa, 1836), received from Prof. Reinhardt, in my collection. I cannot find Mr. Forbes's skin from Pernambuco; but as I identified it myself from the skins in my own collection, I have little doubt that it is =*S. subcristata*. *E. taczanowskii* is, I think, a valid species.—P. L. S.]

† Having lately examined Buffon's Pl. Enl. 571. fig. 1, on which *Muscicapa tyrannulus*, Müller, *M. aurora*, Bodd. (fide Cassin), and *M. ferox*, Gmel. (partly), are founded, I was surprised to find that Buffon clearly figures the species (with red inner webs to the tail-feathers and rufous outer margins of the primaries) called "*erythrocercus*" by Messrs. Sclater and Salvin. The consequence is that Herr von Pelzeln was quite right in bestowing a new name (viz. *cantans*, Pelz.) on the other, common species (which has no red in the tail &c.) called "*ferox*" or "*tyrannulus*" by Messrs. Sclater and Salvin. It is true that *Muscicapa ferox*, Gmel. (p. 934), partly belongs to "*cantans*," the description of Brisson (*Tyrannus cayennensis*, ii. p. 398), which he cites first, and that of Latham, which he

maxime affinis, differt coloribus supra subtusque multo pallidioribus, notæo imprimis olivascenti-griseo (nec olivascenti-brunneo), pilei colore clariore, fronte olivaceo perfusa, gula pectoreque albescentioribus, necnon rostro angustiore et pallidiore.

This evidently new species is dedicated to Herr A. von Pelzeln of Vienna, who has kindly sent me many of the types of his new species for inspection, for which I owe him many thanks. *M. pelzelni* comes very near to *M. cantans*, but is nevertheless quite distinct, being a much more delicate bird, with a narrower and lighter-coloured bill. But it is especially characterized by its very pale plumage, the back being greyish olive and the throat and breast nearly white. The wing-formula is also different from that of *M. cantans*; the first quill is longer and equals the seventh (or little exceeds it), while in *M. cantans* the first is equal to the eighth or ninth.

Myiarchus cantans, Pelz., is likewise found near Bahia, and seems to be most common there. I got six Bahia skins of it, selected from the same lots as my specimens of *M. pelzelni*.

Mr. Taczanowski having examined my skins of *M. pelzelni*, agrees with me that it is a good species*.

I have had the types of *Myiarchus tricolor*, Pelz., and *M. gracilirostris*, Pelz., for inspection, kindly sent me for that purpose by the Trustees of the Vienna Museum. I find that these birds have nothing to do with my *M. pelzelni*, but belong to the *M. nigriceps* group, and are perhaps both referable

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cites also, being evidently referable to *M. cantans*. But the synonym, Buff. 4, p. 581 ("Tyran de Cayenne"), cited there, belongs to some other species of Tyrannidæ with yellow crest; and the var. β of Gmelin belongs altogether to *M. erythrocercus*, Scl. & Salv. On the whole, therefore, to avoid further confusion, I propose to drop the old names altogether, and to call the two species "*cantans*, Pelz.," and "*erythrocercus*, Scl. & Salv.," respectively.

* [I have two skins of *Myiarchus* in my collection which agree with Graf v. Berlepsch's type of this species, one from Bahia (kindly given me by Graf v. Berlepsch when he was in London), and the other from Oyapok (*Verreaux*). I am quite inclined to believe that the species is distinguishable.—P. L. S.]

to one and the same species, which seems distributed over a large area, being found in New Granada, Venezuela, Guiana, Eastern Ecuador, Brazil, and Bolivia, and for which the oldest name seems to be "*tuberculifer*, Lafr. & d'Orb." This species differs from the true *M. nigriceps*, Scl. (from Western Ecuador and Peru), in its sooty-black or brownish cap (which is pure black in *M. nigriceps*), besides having other minor points of distinction. Both species have always been united under the name of *M. nigriceps*, Scl.; but they must certainly be kept apart.

3. Dendrocolaptes intermedius, sp. nov.

D. corpore supra brunneo-rufescenti lavato, capite supra nigrescenti-brunneo, plumis singulis stria ad scapum pallide ochracea notatis; his striis in collo superiore latioribus, in dorso superiore criniformibus et sensim evanescentibus; tectricibus caudæ superioribus intense castaneo-rufis; gula et squamis in capitis lateribus et stria superciliari pallide ochraceo-albis, plumis, nisi in gula, nigro marginatis; corpore reliquo subtus rufescenti-olivaceo, abdomine medio clariore; pectoris plumis striis albescentibus et nigro punctatim marginatis præditis, abdomine medio et subcaudalibus nigro transradiolatis; cauda intense rufo-brunnea; alis extus olivascenti-brunneis, intus et in tertiariis rufo-brunneis; subalaribus pallide ochraceis nigrescenti transfasciatis; rostro pedibusque nigro-brunneis. Long. al. 122, caud. 114, rostr. 40, tars. 28½ millim.

Hab. Bahia, Brasilia. Typical specimen in my collection (no. 6484). It was purchased from Mr. Edward Gerrard, Jun., in London, and bears a museum label, on the top of which the letters W. W. S. are printed*. There is also written on the label "*Xiphocolaptes albicollis*, V., Brazil," number 2384;" but *X. albicollis* has, of course, nothing to do with it. The specimen is of the usual Bahia make.]

Obs. D. valido, Tschudi, proximus, sed differt pileo in fundo unicolori nigrescenti-brunneo, striis ochraceis latioribus (in

* Perhaps one of my English friends could tell me what museum is meant by the letters W. W. S. [The initials W. W. S. mean "W. Wilson Saunders," whose collection of birds was purchased, we believe, by Mr. E. Gerrard, Jun.—Edd.]

D. valido pileus in fundo olivascens, plumis nigro terminatis et striis ochraceis tenuioribus, in apice dilatatis præditis), corpore supra subtusque (imprimis in pectore) rufescentiore, gula absque marginibus lateralibus obscuris et striis in pectore angustioribus, necnon alis caudaque multo brevioribus; a *D. picumno* differt pileo in fundo non pure nigro, corpore supra subtusque multo rufescentiore (nec olivascente), tectricibus caudæ superioribus pure castaneo-rufis, striis in pileo minoribus et magis ochrascentibus (nec albescentibus) et tergo medio absque striis.

It is not easy to explain the specific characters of this new species in comparison with *D. validus*, Tschud., and *D. picumnus*, Licht., as it is, in fact, somewhat intermediate between the two; but I trust the above diagnosis will help ornithologists to recognize it at a glance among its congeners.

I have examined a typical specimen of *D. pallescens*, Pe[illegible] kindly lent me by the illustrious describer of it. It proves to be another good species, allied to *D. validus* and *D. intermedius*, but easily distinguished from both by its yellowish-white bill and the pale olivaceous crown, striped in the same style as in *D. validus*. It has been well described, and its distinctness from *D. validus* correctly pointed out, by Herr von Pelzeln (Orn. Bras. p. 61).

XIV.—*On a new Reed-Warbler from the Island of Nawodo, or Pleasant Island, in the Western Pacific.* By Otto Finsch, Ph.D., H.M.B.O.U., &c.

Having unpacked part of my collections from the Pacific, and taken a general look through my birds, I find that the Warbler from Nawodo, or Pleasant Island, has been wrongly identified by me with *Calamoherpe syrinx*. After a careful examination I have come to the conclusion that this bird belongs to a new species, which I have the pleasure of naming after my indefatigable companion during all my travels in the South Seas, Herr Ernst Rehse, of Berlin.

Calamoherpe rehsei, sp. nov.

Calamoherpe syrinx, Finsch, Ibis, 1881, p. 246.

Upper parts rufescent brown, more vivid on the rump and upper tail-coverts; a well-defined longitudinal stripe from the nostrils above the lores to behind the eyes light rufescent, the same as the sides of head and neck and all the lower parts, which are brightest on the flanks, lower tail-, and under wing-coverts; chin and throat lighter, passing into yellowish white; wings and tail umber-brown, faintly margined externally with rufescent; tail-feathers tipped faintly with the same colour; bill horn-brown, basal half of the lower mandible yellowish horn-colour; legs and feet dark brown. In life—bill dark horn-brown, basal half of lower mandible flesh-coloured; legs and feet lead-coloured; iris brown; inside of mouth orange.

Total l.	Wing.	Tail.	Culm.	Tars.	
"	" ‴ " ‴	" ‴ " ‴	‴ ‴	‴	
c. 6	2 9–2 10	2 4–2 6	6½-7	12	Two males.
c. 6	2 8–2 9	2 3–2 4	6½	12	Five females.
	3 2	2 5	7	13	*C. orientalis*; Batavia.
	2 8–2 11	2 6	9	12	*C. syrinx*; Ruck.

In coloration this species corresponds almost completely with *C. syrinx* and the well-known *C. orientalis*, of which I have before me one specimen shot near Batavia; but it may be easily distinguished from *C. orientalis* by the short rounded wings, and from *C. syrinx* by the short bill. *C. orientalis* has the upper parts of a more dull rufescent, the eye-stripe and lower parts lighter, more whitish; but this may be peculiar to the season, as my birds were all shot in the breeding-season, and are assuming a new and brighter plumage. *C. rehsei* has distinctly rounded wings, the first primary being very short (as in all Reed-Warblers), the third, fourth, and fifth the longest and equal, and the sixth only very little shorter; the second is considerably shorter, about three lines; the primaries reach only 5‴ beyond the secondaries. *C. orientalis* has a more pointed wing, the third primary being the longest, the second and fourth only very little shorter; the primaries reach beyond the secondaries 10‴. The formula of the wing in *C. syrinx*,

of which I have before me two specimens from the Ruck group (Hogoleu), Central Carolines, is nearly the same as in *C. rehsei*; but *C. syrinx* is a quite different species, as is shown by its narrow, slender, and much longer bill.

In regard to the habits of this new species I must refer to No. VII. of my "Ornithological Letters from the Pacific" (Ibis, *l. c.*), concerning the island of Nawodo, or Pleasant Island of the South-Sea people, which I visited on July 24th, 1880, being the first naturalist who ever landed on its shores. This island has been elevated by submarine forces, and consists only of coral-rock, but bears a more luxuriant vegetation than the pure low coral islands or atolls. Nawodo, situated in 0° 25′ S. lat., and 167° 5′ E. long., is peculiar for its isolated position. The nearest land is Bonaba, or Ocean Island, 180 sea-miles south-east, which, according to my information (as I had not an opportunity of visiting the island myself), has similar character; but this bird does not occur there. The same is the case with Ebon (or Boston Island), about 500 miles north, where, as in the rest of the Marshall and Gilbert groups, no land-bird exists at all. The other islands near to Nawodo are, to the south, the Santa-Cruz group, about 800 nautical miles distant, to the south-west Ontang-Java or Lord Howe's group, about the same, and more nearly due west New Ireland (over 1500), to the east Nonouti, in the Gilbert group (about 700), and to the north-west Kuschai. It will be seen from this that Nawodo is very isolated; and the occurrence of a notoriously bad-flying bird, such as this *Calamoherpe*, may make us wonder how this species originally came there.

In relation to this point I may add that I shall have to publish hereafter a lot of interesting facts regarding the geographical distribution of animals, chiefly birds—a subject which, I must confess, has always had a greater interest to my mind than the discovery of a new species.

Bremen, January, 1883.

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Bremen, January, 1883.

XV.—*Review of the Species of the Family* Icteridæ.—Part I. Cassicinæ. By P. L. Sclater, M.A., Ph.D., F.R.S.

(Plates VI., VII.)

The Cassiques have been mostly associated by modern naturalists with the Icterinæ or Hangnests, but may, I think, fairly stand apart as a separate subfamily of Icteridæ, recognizable by their naked nostrils and conspicuous frontal shield.

The Cassiques were arranged in the 'Nomenclator' in five genera, and placed at the head of the family Icteridæ. I will take them in the same order on the present occasion, but have a slight addition to make to the number of species, and have also been obliged, somewhat unwillingly, to make one new generic title.

Genus 1. Clypeicterus.

Clypeicterus, Bp. Consp. i. p. 426 (1850): type *C. oseryi*.

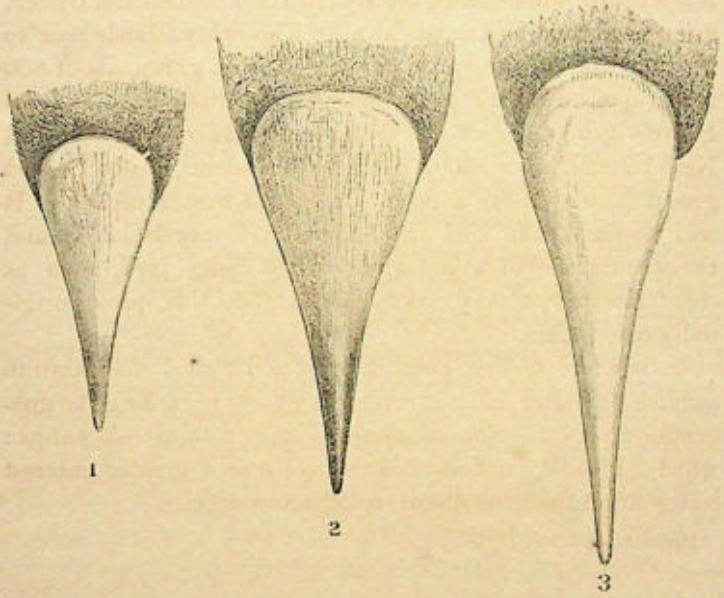


Fig. 1. Frontal shield of *Clypeicterus oseryi*; fig. 2, of *Oeyalus latirostris*; fig. 3, of *Eucarystes wagleri*.

1. Clypeicterus oseryi.

Cassicus oseryi, Deville, Rev. Zool. 1849, p. 57; DesMurs, Voy. de Castelu. Ois. p. 69, t. 18, fig. 3; Cassin, Pr. Ac. Sc. Phil. 1867, p. 72.

Clypeicterus oseryi, Bp. Consp. i. p. 426; Scl. et Salv. P. Z. S. 1867, p. 755, 1873, p. 265.

Suprà castaneus, subtùs flavus abdomine castaneo; alis intùs nigris; caudâ flavâ, rectricibus quatuor mediis et utrinque extimæ pogonio externo fusco-viridibus; rostro albido, apice corneo; pedibus nigris: long. tota 14·5, alæ 8·5, caudæ 5·5. *Fem.* Similis, sed crassitie valdè minore: long. tota 11, alæ 6, caudæ 4·3 poll. Angl.

Hab. Upper Amazonia: Pebas (*Deville*); Xeberos and Chamicuros (*Bartlett*); Sarayacu, Ecuador (*Buckley*).

The collectors in Upper Amazonia have recently supplied our collections with fine examples of both sexes of this remarkable bird. There is a considerable difference between the sizes of the two sexes, as will be seen by the dimensions given above.

Genus 2. Ocyalus.

Ocyalus, Waterhouse, P. Z. S. 1840, p. 183: type *O. latirostris*.

1. Ocyalus latirostris.

Cassicus latirostris, Sw. An. in Menag. p. 358; Cassin, Pr. Ac. Sc. Phil. 1867, p. 71.

Ocyalus popayanus, Waterh. P. Z. S. 1840, p. 183.

Ocyalus latirostris, Bp. Consp. p. 427; Scl. Cat. A. B. p. 127; Scl. et Salv. P. Z. S. 1866, p. 182, 1867, p. 749, 1873, p. 265; Nomencl. p. 35.

Velutino-niger; capite supero, nuchâ et dorso summo brunneo-castaneis; alis caudâque extùs æneo-nigris, rectricibus quatuor lateralibus aureo-flavis, nigro terminatis; rostro plumbeo, pedibus nigris: long. tota maris 12, alæ 9·2, caudæ 2·5; feminæ 9·2, alæ 6, caudæ 3·8.

Hab. Upper Amazonia: Nauta, Sarayacu, Chamicuros, and Santa Cruz (*Bartlett*), Yquitos (*Whitely*); Sarayacu, Ecuador (*Buckley*); Popayan (*Waterhouse*).

Of this fine and distinct species we have now full series of

both sexes from Upper Amazonia. The long wings, as already pointed out by Mr. Waterhouse, quite justify this bird's generic separation from its allies.

Genus 3. Eucorystes.

*Eucorystes**, gen. nov. ab *Ocyalo* clypeo frontali maximo supra oculos producto, rostri culmine incurvato, cristâ nuchali tenui et alis brevioribus diversum.

1. Eucorystes wagleri.

Cassicus wagleri, Gray et Mitch. Gen. of B. p. 342, pl. 85.

Ocyalus wagleri, Bp. Consp. p. 427; Sclater, P. Z. S. 1855, p. 153, 1857, p. 228, et 1859, p. 57; Cat. A. B. p. 127; Scl. et Salv. Ibis, 1857, p. 19, 1864, p. 353, 1870, p. 836, 1879, p. 508; Nomencl. p. 35; Salv. Ibis, 1861, p. 141, 1872, p. 317; P. Z. S. 1867, p. 142, 1870, p. 190; Cab. J. f. O. 1861, p. 9; Sumichrast, Mem. Boston S. N. H. i. p. 553.

Saturatè brunneo-castaneus; interscapulio, alis extùs, ventre medio et subalaribus æneo-nigris; caudâ flavâ, rectricis utrinque extimæ pogonio externo et rectricibus duabus mediis omnino nigris; rostro albicanti-cinereo; pedibus nigris: long. tota maris 14, alæ 8, caudæ 5, fem. 10·5, alæ 5·6, caudæ 4.

Hab. South Mexico, Vera Cruz (*Sumichrast*); Guatemala (*Salvin*); Honduras (*Whitely*); Costa Rica (*v. Frantz.*); Chontales, Nicaragua (*Belt*); Veragua (*Arcé*); Panama (*McLeannan*); Antioquia (*Salmon*); Bogota; Balzar mountains, Ecuador (*Illingworth, Mus. S.-G.*).

As will be seen by the list of localities, *Eucorystes wagleri* extends throughout Central America and beyond the isthmus of Panama into Colombia and the littoral of Ecuador. I have also seen skins of it of undoubtedly "Bogota" manufacture.

This Cassique has been hitherto referred to *Ocyalus*. But I do not think it possible to justify its retention in that genus, as it differs in several well-marked characters, notably so in the shape of the casque and form of the wing.

* Εὖ, *benè*, et κορυστὴς, *galeatus*.

Genus 4. Ostinops.

Ostinops, Cab. Mus. Hein. i. p. 187 (1851) : type *O. decumanus*.

The Cassiques for which Dr. Cabanis has proposed the generic term *Ostinops* may be best considered in two sections, to be distinguished as follows :—

a. Rostri mandibulâ inferiore ad basin pelle nudâ obtectâ	*Ostinopes nudirostres.*
b. Rostri mandibulâ inferiore ad basin plumis obtectâ	*Ostinopes plumirostres.*

Of the *Ostinopes nudirostres* (which are the finest and largest species of the whole group) four species are known, which are recognizable by the following diagnosis :—

a. Pileo nigro,
ventre castaneo,
femoribus nigris ..... (1) *montezumæ.*
femoribus castaneis ..... (2) *bifasciatus.*
ventre nigro ..... (3) *guatimozinus.*
b. Pileo flavo-virente ..... (4) *yuracarium.*

1. Ostinops montezumæ.

Cassicus montezuma, Less. Cent. Zool. pl. 7.

Cacicus montezumæ, Sclater, P. Z. S. 1856, p. 300, et 1859, p. 365.

Ostinops montezumæ, Sclater, P. Z. S. 1859, p. 380 ; Cassin, Pr. Acad. Philad. 1860, p. 139, et 1867, p. 71 ; Scl. Cat. A. B. p. 128 ; Sumichrast, Mem. Boston Soc. N. H. vol. i. p. 553 (Vera Cruz) ; Scl. et Salv. Ibis, 1859, p. 19 ; P. Z. S. 1864, p. 353, 1867, p. 279, 1870, p. 836, 1879, p. 509 ; Salv. Ibis, 1865, p. 195.

Ostinops bifasciata, Cab. Mus. Hein. p. 187 (partim).

Suprà luridè castaneus, capite nigro ; subtùs gutture nigro in abdomen castaneum transeunte ; femoribus nigris, crisso castaneo ; caudâ flavâ, hujus rectricibus duabus mediis nigricantibus ; rostri nigri basi et apice abruptè flavis ; pedibus nigris : long. tota (maris) 19, alæ 10·3, caudæ 8 ; (feminæ) 12·5, alæ 7·8, caudæ 6.

Hab. S. Mexico, Vera Cruz (*Sumichrast*) ; Jalapa (*de Oca*) ;

Guatemala, Chisec (*Salvin*); Brit. Honduras; Costa Rica (*Carmiol*); Panama (*McLeannan*).

This fine Cassique is distributed throughout Central America from S. Mexico to Panama. I have never seen it from south of the isthmus, where *O. guatimozinus* takes its place.

2. Ostinops bifasciatus.

Cassicus bifasciatus, Spix, Av. Bras. i. p. 65, t. 61.

Psarocolius bifasciatus, Wagl. Syst. Av. sp. 2.

Ostinops bifasciatus, Cassin, Pr. Acad. Sc. Phil. 1860, p. 139, et 1867, p. 71; Scl. et Salv. Nomencl. p. 35; Pelz. Orn. Bras. p. 192.

Similis *O. montezumæ*, sed abdomine cum tibiis et crisso dilutè castaneis diversus.

Hab. Lower Amazonia (*Spix*); Para (*Natterer*).

Mus. Academiæ Philadelphiæ et Vindobonensi.

This Cassique has been united by Dr. Cabanis and other writers to *C. montezumæ*; but Mr. Cassin has shown that the two birds are quite distinct, though nearly allied.

I am not aware of the existence of any specimens of *O. bifasciatus* in Europe, except the type in the Munich Museum (if that still exists) and Natterer's single example at Vienna. It is certainly a very rare species.

3. Ostinops guatimozinus.

Ostinops guatimozinus, Bp. C. R. xxxvii. p. 833, et Notes s. l. coll. Delattre, p. 10 (1853); Cassin, Pr. Acad. Sc. Phil. 1860, p. 138, et 1867, p. 71; Scl. et Salv. Nomencl. p. 35; P. Z. S. 1879, p. 508.

Nigerrimus, alarum tectricibus dorso postico et crisso castaneis; caudâ flavâ, rectricibus duabus mediis nigris; rostro nigro, apice flavo, basi carneâ; pedibus nigris: long. tota (maris) 18·5, alæ 8·6, caudæ 7·0; (feminæ) 15·5, alæ 8·0, caudæ 6·4.

Hab. Northern States of Colombia, Guaripata (*Fontanier*); Cer Truando (*Wood*); Antioquia, Remedios (*Salmon*).

See Mr. Salvin's and my remarks on this splendid species, P. Z. S. 1879, p. 508.

4. Ostinops yuracarium.

Cassicus yuracares, d'Orb. et Lafr. Syn. Av. ii. p. 2; D'Orb. Voy., Ois. p. 365, pl. 51. f. 1; Bp. Consp. p. 427; Cass. Pr. Acad. Phil. 1867, p. 69.

Ostinops yuracarium, Scl. Cat. A. B. p. 128; Pelz. Orn. Bras. p. 192; Scl. et Salv. P. Z. S. 1866, p. 182, 1873, pp. 185, 265, et 1879, p. 608; Nomencl. p. 35.

Cassicus devillii, Bp. Consp. p. 427; DesMurs, Voy. Casteln., Ois. p. 67, pl. 19. f. 1.

Ostinops devillii, Scl. Cat. A. B. p. 128.

Flavo-olivaceus, dorso postico, alis extùs et ventre inferiore toto cum tibiis et crisso saturatè castaneis; caudâ flavâ, rectricibus duabus mediis fusco-viridibus; rostri nigri apice flavo, mandibulæ inferioris basi nudâ carneâ; pedibus nigris: long. tota (maris) 18·0, alæ 10, caudæ 7; (feminæ) 13·5, alæ 8·5, caudæ 6·5.

Hab. Bolivia, Yuracares (*d'Orb.*); Matto-grosso (*Natterer*); S. Peru, Cosnipata (*Whitely*); Upper Amazonia, Rio Jav[illegible] (*Bates*); Upper and Lower Ucayali, Sarayacu, Chamicuros, and Santa Cruz (*Bartlett*); Sarayacu, Ecuador (*Buckley*); Bogota (*Mus. P. L. S.*).

I have little doubt that *Cassicus devillei* is referable to the female of this species. I have seen the type at Paris.

The second section of the *Ostinopes* (with the base of the lower mandible fully plumed) contains eight species, diagnosable as follows:—

a corpore præcipuè nigro ..... (5) *decumanus.*
b. corpore præcipuè olivaceo.
a'. clypeo frontali expanso ..... (6) *viridis.*
b'. clypeo frontali angusto,
a''. rostro flavo,
a'''. rectr. iv. med. omninò viridibus ..... (7) *atrovirens.*
b'''. rectr. ii. med. et paris proximi pog. int. viridibus
ventre nigricanti-olivaceo; tibiis nigris (8) *salmoni.*
ventre et tibiis fuscescenti-castaneis .. (9) *atrocastan[illegible]*
ventre et tibiis flavicanti-olivaceis ....(10) *sincipitalis.*
b''. rostro plumbeo, apice albicante .....(11) *oleagineus.*
c''. rostro toto nigricante .....(12) *angustifrons.*

5. Ostinops decumanus.

Xanthornus decumanus, Pall. Spic. Zool. vi. p. 3 (1769).

Cassique huppé de Cayenne, Pl. Enl. p. 344.

Oriolus citreus, Müll. Natursyst. Suppl. p. 87 (1776).

Oriolus cristatus, Bodd. Table d. Pl. Enl. p. 21 (1783) Gm. S. N. i. p. 387.

Cassicus cristatus, Vieill. Nouv. Dict. v. p. 357, et Enc. Méth. p. 721; Sw. Orn. Dr. pl. 32; Max. Beitr. iii. p. 1220; Tsch. Faun. Per. p. 232; Bp. Consp. p. 427; Cab. in Schomb. Guian. iii. p. 680; Burm. Syst. Ueb. iii. p. 275.

Psarocolius cristatus, Wagl. Syst. Av. sp. 3.

Ostinops cristatus, Cab. Mus. Hein. p. 187; Scl. P. Z. S. 1855, p. 153, et 1858, p. 455; Cat. A. B. p. 127; Cassin, Pr. Ac. Phil. 1860, p. 138; Reinh. Fuglef. Bras. Camp. p. 211; Scl. et Salv. P. Z. S. 1864, p. 354, 1866, p. 182, 1867, pp. 750, 978, 1873, p. 265, 1879, p. 608, et Nomencl. p. 35; Taylor, Ibis, 1864, p. 83; Salv. P. Z. S. 1870, p. 190; Finsch, P. Z. S. 1870, p. 578; Wyatt, Ibis, 1871, p. 328; Pelz. Orn. Bras. p. 191.

Ostinops decumanus, Salv. et Godman, Ibis, 1879, p. 200; Scl. et Salv. P. Z. S. 1879, p. 509.

Cassicus citreus, Cass. Pr. Ac. Phil. 1867, p. 68.

Niger, uropygio et crisso castaneis; caudâ flavâ, rectricibus duabus mediis nigricantibus; rostro albo; pedibus nigris: long. tota (maris) 16·5, alæ 8·5, caudæ 7; (feminæ) 13, alæ 7, caudæ 6.

Hab. America merid. a Panama usque ad Brasil. merid.

This is a common and widely distributed species. I have examined specimens from the following localities:—Chiriqui (*Arcé*), Panama (*McLeannan*), Santa Marta (*Simons*), Antioquia (*Salmon*), British Guiana (*Whitely*), Sarayacu, Ecuador (*Buckley*), Pebas, E. Peru (*Hauxwell*), Santa Cruz, E. Peru (*Bartlett*), Barra do Rio Negro (*Natt.*), Bahia (*Wucherer*), San Paulo (*Natt.*). Natterer obtained it besides in Mattodentro and Cuyaba.

6. Ostinops viridis.

Cassique vert de Cayenne, Daub. Pl. Enl. 328.

Oriolus viridis, Müll. Natursyst. Suppl. p. 87 ; Bodd. Table d. Pl. Enl. p. 20.

Oriolus cristatus, var., Gm. S. N. i. p. 387.

Cassicus viridis, Vieill. Enc. Méth. p. 723 ; Cab. in Schomb. Guian. iii. p. 680 ; Bp. Consp. p. 427 ; Cass. Pr. Ac. Phil. 1867, p. 68.

Ostinops viridis, Cab. Mus. Hein. p. 187 ; Scl. et Salv. P. Z. S. 1867, pp. 573, 750, et 1873, p. 265 ; Nomencl. p. 35 ; Layard, Ibis, 1873, p. 381 ; Scl. Cat. A. B. p. 128 ; Pelz. Orn. Bras. p. 192.

Psarocolius viridis, Wagl. Syst. Av. sp. 1.

Oleagineo-viridis, dorso postico tibiis et ventre imo cum crisso saturatè castaneis ; caudâ flavâ, rectricibus duabus mediis et remigibus alarum intus nigris ; rostro flavido, pedibus nigris : long. tota (maris) 17, alæ 10·3, caudæ 7·3 ; (feminæ) 13·5, alæ 7·5, caudæ 5·5.

Hab. Lower Amazonia: Para (*Wallace*) ; Rio Negro (*Natt.*) ; Upper Amazonia, Xeberos, and Chyavetas (*Bartlett*) ; Sarayacu, Ecuador (*Buckley*) ; Brit. Guiana (*Whitely*) ; Maranham (*Windeborn in Mus. S.-G.*).

This well-known Cassique has a wide distribution over the northern portion of South America, but does not extend into the wood-region of S.E. Brazil. Nor have I ever seen it from Bogota or further north.

7. Ostinops atrovirens.

Cassicus atrovirens, D'Orb. et Lafr. Syn. Av. ii. p. 1 ; D'Orb. Voy., Ois. p. 366, pl. 51. f. 2 ; Bp. Consp. p. 427 ; Cass. Pr. Acad. Phil. 1867, p. 69.

Ostinops atrovirens, Scl. et Salv. P. Z. S. 1869, p. 598, 1876, p. 16, 1879, p. 608, et Nomencl. p. 35 (partim) ; Cab. Journ. f. O. 1873, p. 309.

Oleagineo-viridis, uropygio et crisso rufis ; fronte flavâ ; caudæ flavæ rectricibus quatuor mediis et pari externo totis, cum paris secundi externi pogoniis externis viridibus, ceteri viridi terminatis ; rostro flavo ; pedibus nigris : long. tota (maris) 14·3, alæ 8·4, caudæ 6·5 ; (feminæ) 12·3, alæ 7·2, caudæ 5·5.

Hab. Bolivia, Yungas (*d'Orb.* et *Buckley*) ; S.E. Peru prov. of Cuzco (*Whitely*).



J.G.Keulemans lith. Hanhart imp.

OSTINOPS SALMONI

The five specimens of this species before me, four from Bolivia and two from Peru, agree generally in the characters above given; but in one of the Peruvian specimens the third and fourth pair of rectrices have no green at the tips. In all cases, however, the wholly olive-green colour of the four middle tail-feathers (as pointed out by Dr. Cabanis) seems to discriminate *O. atrovirens* from the four nearly allied species which follow.

8. Ostinops salmoni, sp. nov. (Plate VI.)

Ostinops atrocastaneus, Scl. et Salv. P. Z. S. 1879, p. 509.

Suprà brunnescenti-castaneus, dorsâ posticâ dilutiore, in fulvum transeunte; fronte latâ flavâ; alis extùs nigris: subtùs nigricanti-olivaceus, lateribus fulvo mixtis; tibiis nigris; crisso fulvo, uropygio concolori; caudâ flavâ, rectricibus duabus mediis totis et paris proximi pogonio interno nigris, rectrice laterali unâ extimâ et paris secundi pogonio externo præcipuè ad apicem olivaceis; rostro flavo, pedibus nigris: long. tota (maris) 18·5, alæ 9·5, caudæ 8·5; (fem.) 15, alæ 7·5, caudæ 7.

Hab. Antioquia (*Salmon*).

In our catalogue of Mr. Salmon's collections from Antioquia, Mr. Salvin and I united this form to *O. atrocastaneus*. But on close examination of the fine series of these birds now before me, it would seem that the Antioquian bird may be easily distinguished by the much darker hues of its lower surface. The whole breast and abdomen are of a dark olive, with a slight tinge of the chestnut-brown only on the flanks; and the thighs are almost black. In *O. atrocastaneus* the whole under surface is of a rich uniform chestnut-brown, and the thighs are but slightly darker.

I propose therefore to separate the Antioquian form under the name of its energetic discoverer.

9. Ostinops atrocastaneus.

Cassicus alfredi, DesMurs, Voy. Cast. Ois. p. 67, t. xix. fig. 2 (1855) (?).

Ostinops atrovirens, Scl. P. Z. S. 1859, p. 140, 1860, p. 88 (Ecuador); Scl. et Salv. P. Z. S. 1866, p. 182 (Ucayali), et 1873, p. 266 (Amazons).

Ostinops atrocastaneus, Cab. Journ. f. O. 1873, p. 309.

Suprà sicut in *O. salmoni*; subtùs ex castaneo brunneus, ferè unicolor, crisso fulvo; caudæ picturâ ferè ut in sp. præc., sed colore nigro interdum latius extenso: long. tota (maris) 16, alæ 8·5, caudæ 8; (fem.) 14, alæ 7·3, caudæ 6·5.

Hab. Ecuador and Upper Amazonia; San José, Ecuador (*Buckley*); Pallatanga and Nanegal (*Fraser*).

The merit of first distinguishing this species from its allies clearly belongs to Dr. Cabanis; and I adopt his name for it. But I suspect that *Cassicus alfredi* of DesMurs is a prior synonym, though it would be necessary to examine the type before stating this positively.

The colouring of the tail, although generally as above described, varies in some specimens. In one of Buckley's skins from Ecuador the black extends partially over the inner w[illegible] of the second median pair and over the outer webs of the [illegible] and fourth external pair.

10. Ostinops sincipitalis.

Ostinops sincipitalis, Cab. Journ. f. O. 1873, p. 309.

Cassicus alfredi, Cass. Pr. Ac. Phil. 1867, p. 692 (nec DesMurs).

Suprà præcedentibus duabus ferè similis; subtùs flavicanti-olivaceus, gutture dilutiore, lateribus et crisso in castaneum vergentibus; quoad caudæ picturam cum *O. salmoni* congruens: long. tota (maris) 16, alæ 10, caudæ 8.

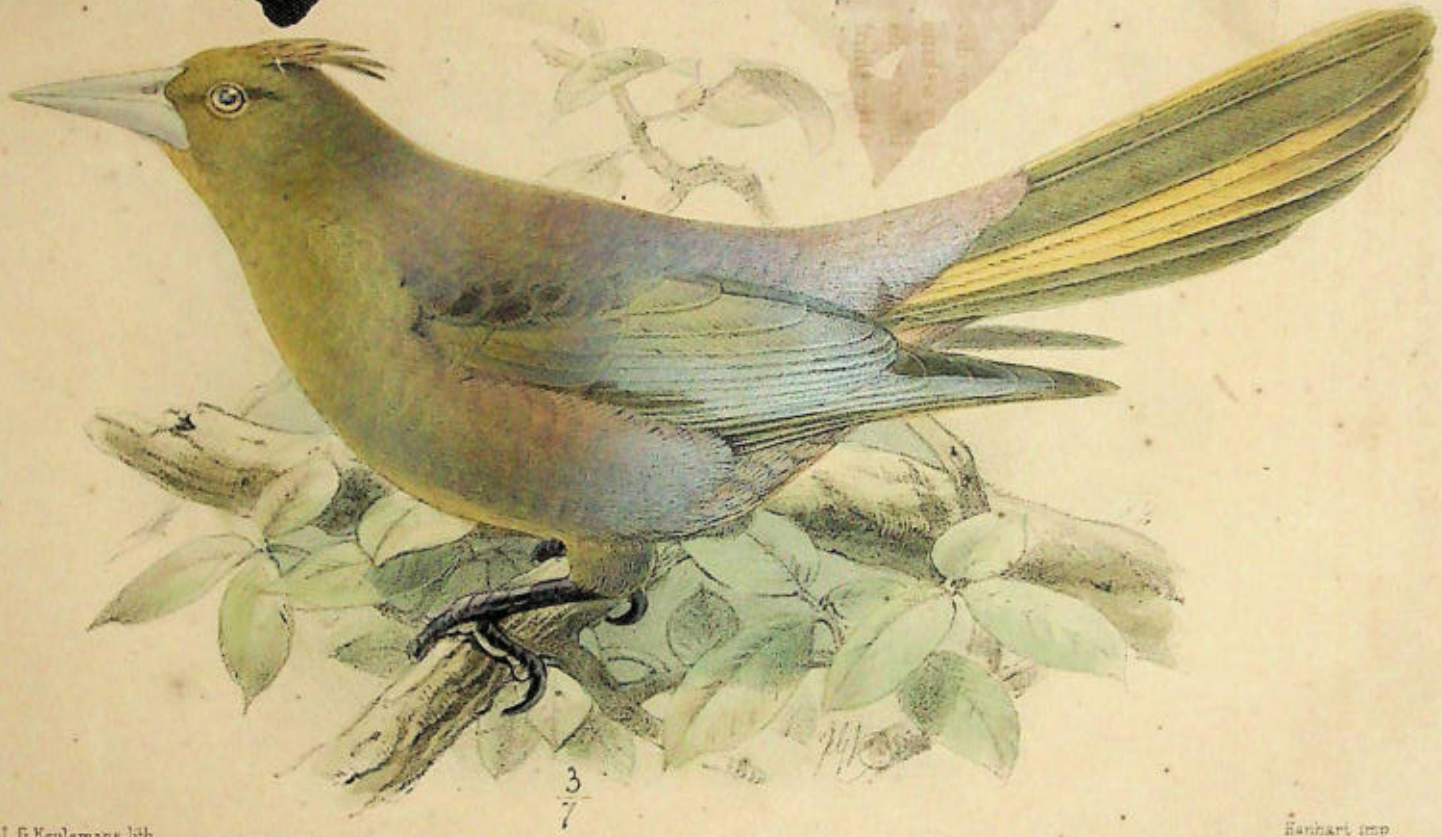
Hab. Colombia interior.

This is the only form of the *atrocastaneus* group of *Ostinops* that I have seen from Bogota. Four examples are now before me, three from my own and one of Messrs. Salvin and Godman's collection. They are easily recognizable by the uniform yellowish olive of the whole under-surface, but in other respects hardly differ from the two preceding forms.

11. Ostinops oleagineus, sp. nov. (Plate VII.)

Ostinops atrovirens, pt., Scl. Cat. A. B. p. 128 (ex. *a*).

Suprà olivaceus (fronte flavâ nullâ), interscapulio brunneo tincto, dorso postico in fulvum transeunte; alis intùs nigris, extùs olivaceis: subtùs olivaceus, in gutture dilutior: lateribus et crisso in fulvum transeuntibus



J. G. Keulemans lith

Hanhart imp

OSTINOPS OLEAGINEUS.

caudæ flavæ rectricibus duabus mediis et paris proximi pogoniis internis, necnon rectricibus duabus externis totis olivaceis, ceteris flavis olivaceo terminatis; rostro plumbeo, apice albicante; pedibus nigris: long. tota 17·5, alæ 9·3, alæ 7·6.

Hab. Venezuela (?).

Under the name *oleagineus* I find it necessary to separate a single specimen that has been in my collection since 1857, and was referred doubtfully to *O. atrovirens* in my American Catalogue. Its generally olive-green colour, which extends specially over the outer margins of the wings, renders it easily distinguishable from the three preceding forms; besides which it has a plumbeous bill (passing into white in the apical portion) and no yellow on the front. The yellow front, however, is occasionally wanting in *O. atrovirens*. *O. oleagineus* has a ...ht pendent crest on the vertex, like *O. atrocastaneus* and ...s of the group.

12. Ostinops angustifrons.

Cassicus angustifrons, Spix, Av. Bras. i. p. 68, pl. 62; Bp. Consp. p. 427; Cass. Pr. Ac. Phil. 1867, p. 70.

Ostinops angustifrons, Scl. Cat. A. B. p. 128; Scl. et Salv. P. Z. S. 1866, p. 182, et 1873, p. 265; Nomencl. p. 35; Cab. J. f. O. 1873, p. 308.

Suprà saturatè olivaceo-brunneus, capite viridescentiore, dorso postico in fulvum transeunte; alis nigricantibus, harum secundariis et tectricibus extùs dorso concoloribus: subtùs concolor, sed paulo dilutior, in gutture virescens; crisso uropygio concolori; caudæ flavæ rectricibus duabus mediis totis, paris proximi pogoniis internis et rectricum lateralium apicibus nigricantibus; rostro et pedibus nigris: long. tota 17·5, alæ 9, caudæ 7·7; long. tota (fem.) 14, alæ 7·2, caudæ 6·2.

Hab. Amazonia superior. Sarayacu, Upper and Lower Ucayali and Huallaga (*Bartlett*); Sarayacu, Ecuador (*Buckley*): Colombia int. (Bogota).

The uniform dark bill of this Cassique renders it easily distinguishable from its allies. It is a common bird on the Upper Amazons, whence I have seen numerous specimens. Bogota skins do not materially differ.

Genus 5. Cassiculus.

Cassiculus, Sw. Zool. Journ. ii. p. 352 (1827) : type *C. melanicterus*.

The single form upon which Swainson based the genus *Cassiculus* possesses certain peculiarities (such as an elongated bill and well developed crest) that may justify us in allowing it to remain under a separate generic heading, though it is certainly not very widely differentiated from the true *Cassici*.

1. Cassiculus melanicterus.

Icterus melanicterus, Bp. Journ. Acad. Philad. iv. p. 389 (1824).

Icterus diadematus, Temm. Pl. Col. 482 (1829).

Cassiculus coronatus, Sw. Zool. Journ. ii. p. 352, et Pl. Mag. 1827, i. p. 436.

Xanthornus coronatus, Jard. et Selb. Ill. Orn. pl. 45.

Cassiculus melanicterus, Bp. Consp. p. 428; Cab. Mus. Hein. p. 186; Sclater, P. Z. S. 1859, p. 380; Baird, Ibis, 1863, p. 476; Scl. Cat. A. B. p. 129; Scl. et Salv. Nomencl. p. 35.

Cassicus melanicterus, Cassin, Pr. Acad. Phil. 1867, p. 66.

Niger, dorso postico, alarum tectricibus minoribus, et crisso flavis; caudâ flavâ, rectricibus duabus mediis totis et ceterarum marginibus externis (præcipuè in exterioribus) nigris; rostro flavicanti-albo ad basin plumbescente; pedibus fusco-nigris: long. tota 10·5, alæ 5·8, caudæ 4·8. Femina, cinerascenti-nigra, flavo sicut in mari decorata: long. tota 9·4, alæ 5·0, caudæ 4·2.

Hab. South Mexico, Oaxaca (*Boucard*); Mazatlan (*Grayson* et *Xantus*).

Genus 6. Cassicus.

Cacicus, Cuv. Leçons d'An. Comp. table 2 (1800) : no type.
Cassicus, Ill. Prodr. p. 214 (1811) : type *C. hæmorrhous*.

Brisson originally spelt this term "*Cassicus*"* (no doubt from *cassis*, a helmet); but Cuvier, and Daudin after him,

* Orn. ii. pp. 98, 100, but not used as a generic term, the two birds called "*Cassicus*" being embraced in his genus "*Icterus*."

used "*Cacicus*." I think, however, we are justified in reverting to "*Cassicus*" (as a more correct form), under which name the genus was first properly characterized by Illiger, and which term most authors have employed.

Synopsis Cassicorum.

A. Nigri, dorso postico flavo,
  a. crisso flavo,
    rectricum dimidio basali flavo ..... (1) *persicus*.
    rectricum parte tertiâ basali flavâ..... (2) *flavicrissus*.
  b. crisso nigro,
    alis extùs omnino nigris ..... (3) *chrysonotus*.
    alarum tectricum plagâ flavâ,
      major: dorso postico toto flavo..... (4) *leucorhamphus*.
      minor: uropygio flavo ..... (5) *albirostris*.
B. Nigri, dorso postico rubro,
    dorso postico latè rubro,
      ptilosi fusco-nigrâ ..... (6) *hæmorrhous*.
      ptilosi nitidè nigrâ ..... (7) *affinis*.
    dorso postico anguste rubro,
      major, rostro validiore ..... (8) *uropygialis*.
      minor, rostro debiliore ..... (9) *microrhynchus*.
C. Nigri, unicolores,
      major ..... (10) *solitarius*.
      minor ..... (11) *holosericeus*.

1. Cassicus persicus.

Cassicus luteus, Briss. Av. ii. p. 100.

Oriolus persicus, Linn. S. N. i. p. 161.

Cacicus persicus, Daud. Orn. ii. p. 327.

Cassicus persicus, Max. Beitr. iii. p. 1234; Cab. in Schomb. Guian. iii. p. 687; Taylor, Ibis, 1864, p. 84; Scl. Cat. A. B. p. 128; Scl. et Salv. P. Z. S. 1866, p. 182, 1872, p. 266; Nomencl. p. 35; et P. Z. S. 1879, p. 608; Cass. Pr. Ac. Phil. 1867, p. 65; Pelzeln, Orn. Bras. p. 193; Layard, Ibis, 1873, p. 381; Forbes, Ibis, 1881, p. 338.

Cassicus icteronotus, Vieill. Nouv. Dict. v. p. 315, et Enc. Méth. p. 724; Tsch. Faun. Per. p. 228; Cab. Mus. Hein. p. 186; Bp. Consp. p. 428; Sw. Orn. Dr. pl. 3; Scl. P. Z. S. 1858, p. 455.

Psarocolius icteronotus, Wagl. Syst. Av. sp. 5.

Nitidè niger, plagâ tectricum alarium superiorum, dorso postico, crisso et caudæ dimidio basali flavissimis; rostro albo, pedibus nigris: long. tota 11, alæ 6, caudæ 4·3. *Fem.* Mari similis, sed magis fusco-nigra: long. tota 8·5, alæ 4·7, caudæ 3·6.

Hab. Colombia (Bogotá), Guiana, et Amazonia tota: Para (*Wallace*); Upper and Lower Ucayali (*Bartlett*); Sarayacu, Ecuador (*Buckley*); Bolivia, Chiquitos (*d'Orb.*); Yungas (*Buckley*); Brazil, Bahia (*Wucherer*); Rio Belmonte (*Max.*); Goiaz and Cuyaba (*Natt.*).

This is a common and widely spread species in South America, as will be seen by the above-given list of localities. In Western Ecuador, Northern Colombia, and Central America, its place is taken by *C. flavicrissus*. Concerning its pendent nest see Neuwied (Beitr. iii. p. 1239) and Bartlett (P. Z. S. 1872, p. 266).

2. Cassicus flavicrissus.

Cassiculus flavicrissus, Sclater, P. Z. S. 1860, p. 276; Cat. A. B. p. 129; Cass. Pr. Acad. Phil. 1867, p. 67; Ibis, 1871, p. 329, et 1872, p. 468; Tacz. P. Z. Z. 1877, p. 322; Scl. et Salv. P. Z. S. 1879, p. 509, et Nomencl. p. 35.

Cacicus persicus, Scl. et Salv. P. Z. S. 1864, p. 353.

Cassicus vitellinus, Lawr. Pr. Acad. Phil. 1864, p. 107; Cass. Pr. Acad. Phil. 1867, p. 68.

Nitidè niger, plagâ tectricum alarium superiorum, dorso postico, crisso et caudæ parte tertiâ basali aurantiaco-flavis; rostro albo; pedibus nigris: long. tota 11·5, alæ 6·7, caudæ 4·5. *Fem.* Mari similis, sed paulo minus nitida et valdè minor: long. tota 9, alæ 5·3, caudæ 3·5.

Hab. Panama (*McLeannan*; valley of the Magdalena (*Wyatt*); Antioquia (*Salmon*); Western Ecuador (*Fraser*).

Obs. Similis *C. persico*, sed colore caudæ flavo vix ultra tectrices extenso et rostro fortiore dignoscendus.

Mr. Lawrence has very accurately stated the differences which distinguish this northern bird from *Cassicus persicus*. An examination of the tail at once serves to separate the two species. In the present bird the yellow of the rectrices hardly extends beyond the coverts, either above or below; in *C.*

persicus the yellow colour reaches far beyond the coverts of both surfaces, especially in the external tail-feathers.

3. Cassicus chrysonotus.

Cassicus chrysonotus, d'Orb. et Lafr. Syn. Av. ii. p. 3; d'Orb. Voy., Ois. p. 367, t. lii. fig. 1; Cass. Pr. Acad. Phil. 1867, p. 67; Scl. P. Z. S. 1873, p. 781; Scl. et Salv. P. Z. S. 1879, p. 608.

Cassiculus chrysonotus, Bp. Consp. i. p. 428.

Niger: dorso postico flavissimo; rostro albo, pedibus nigris: long. tota 13, alæ 6·3, caudæ 5·8. *Fem.* Mari similis, sed minor: long. tota 9, alæ 5·1, caudæ 4·9.

Hab. Bolivia, mountains of Yungas and Ayupaya (*d'Orb.*); Tilotilo and Ramosani (*Buckley*); Southern Peru, Andes of Cuzco (*Whitely*).

This is a most distinct and unmistakable species, without any [illegible]low on the wings or tail. Cassin was not acquainted with it, and consequently cast unnecessary doubts on its validity.

4. Cassicus leucorhamphus.

Xanthornus leucorhamphus, Bp. Att. Sc. Ital. 1843, p. 404.

Cassiculus leucorhamphus, Bp. Consp. p. 428; Sclater, P. Z. S. 1858, p. 552; Cat. A. B. p. 129.

Cassicus leucorhamphus, Cass. Pr. Acad. Phil. 1867, p. 67; Scl. et Salv. P. Z. S. 1879, p. 509; Nomencl. p. 36.

Niger, alarum tectricibus superioribus dorso proximis et dorso postico flavissimis; rostro plumbeo, apice albo; pedibus nigris: long. tota 11, alæ 6·4, caudæ 5·4. *Fem.* Mari similis, sed minor: long. tota 9, alæ 5, caudæ 4·8.

Hab. Colombia (Bogotá); Antioquia (*Salmon*); Western Ecuador, Matos (*Fraser*); San Lucas (*Mus. S.-G.*).

This is also a distinct species, fully entitled to rank as a typical member of the genus, although the bill is straighter and less developed than in *C. persicus* and *C. hæmorrhous* and its allies. It is not uncommon in "Bogota" collections, and is also met with in those from "Quito."

5. Cassicus albirostris.

Japú negro y amarillo, Azara, Apunt. i. p. 269.

Cassicus albirostris, Vieill. Nouv. Dict. v. p. 364, et Enc.

Méth. p. 723; Cab. in Schomb. Guian. iii. p. 681; Cass. Pr. Acad. Phil. 1867, p. 68; Burm. Syst. Ueb. iii. p. 273; Scl. et Salv. Nomencl. p. 36.

Xanthornus chrysopterus, Vig. Zool. Journ. ii. p. 190, pl. 9; Jard. et Selb. Ill. Orn. pl. 80.

Cassiculus albirostris, Bp. Consp. p. 428; Scl. Cat. A. B. p. 129; Pelzeln. Orn. Bras. p. 193.

Archiplanus albirostris, Cab. Mus. Hein. p. 186.

Japus dubius, Merrem, Ersch u. Gruber's Enc. xv. p. 279.

Niger, tectricibus alarum mediis et uropygio flavis; rostro albo, pedibus nigris: long. tota 8·5, alæ 4, caudæ 3·7. *Fem.* Mari similis, sed minor: long. tota 7, alæ 3·8, caudæ 3·5.

Hab. Paraguay (*Azara*); Brazil, prov. Sao Paulo (*Natt.*); Rio Grande do Sul (*Plant*).

Obs. Sp. a præcedente staturâ minore et uropygio angus flavo dignoscenda.

This is not a very common species in collections; and I have only a single example of it, obtained by Plant some years ago in the Brazilian province of Rio Grande do Sul; Messrs. Salvin and Godman have several specimens from the same province. It extends into Sao Paulo, Parana, and Paraguay. But I am very doubtful whether Schomburgk really got *this* bird in British Guiana, as alleged; for I do not find its occurrence registered otherwise nearly so far north.

This species has much shorter wings than the last, which it so nearly resembles in colour, and is altogether feebler in structure. Dr. Cabanis has accordingly separated it under the title *Archiplanus*.

6. Cassicus hæmorrhous.

Oriolus hæmorrhous, Linn. S. N. i. p. 161 (partim.).

Le Cassique rouge de Brésil, Daub. Pl. Enl. 482.

Cassicus hæmorrhous, Daud. Tr. d'Orn. ii. p. 328; Max. Beitr. iii. p. 1230; Cab. Mus. Hein. p. 186; Cassin, Pr. Acad. Sc. Phil. 1867, p. 64; Bp. Consp. p. 428; Scl. Cat. A. B. p. 129; Burm. Syst. Ueb. iii. p. 275; Scl. et Salv. Nomencl. p. 35.

Icterus hæmorrhous, Sw. Orn. Dr. pl. 1.

Psarocolius hæmorrhous, Wagl. Syst. Av. sp. 6.

Fuscescenti-niger, uropygio latè rubro; rostro viridescenti-albo, pedibus nigris: long. tota 11, alæ 6·9, caudæ 4·6. *Fem.* Mari similis, sed magis fusca et minor: long. tota 9, alæ 5·3, caudæ 3·7.

Hab. Brasilia merid. orient. Bahia (*Wucherer*); Minas (*Rogers in Mus. P. L. S.*); Sao Paulo (*Natt.*); Rio Grande do Sul (*Joynes in Mus. S.-G.*).

I agree with Mr. Cassin (*l. s. c.*) that the distinctness of the Brazilian form of this bird from that of the Guianan and Amazonian districts is rather questionable. But in the series of seventeen specimens before me, all of the latter series (*C. affinis*) agree in having the plumage in both sexes of a deeper and more shining black, and in the males there is the additional character of the larger and thicker bill, specially alluded to by Bonaparte (C. R. xxxvii. p. 833).

It may be noted that Linnæus based his *Oriolus hæmorrhous* mainly on Brisson's *Cassicus ruber*, which = *Cassicus affinis*. Luckily, however, Linnæus put Brazil first in his list of localities; so I think (as he comprehended both forms under one name) we are justified in following the general practice of retaining the name *hæmorrhous* for the Brazilian form, and calling the Guianan form *affinis*.

7. Cassicus affinis.

Cassicus ruber, Briss. Orn. ii. p. 98.

Cassicus affinis, Sw. Orn. Dr. t. 2; Bp. C. R. xxxvii. p. 833 (1850); Cassin, Pr. Acad. Phil. 1867, p. 64; Scl. et Salv. Nomencl. p. 36; Pelz. Orn. Bras. p. 193.

Cassicus crassirostris, Bp. C. R. *l. s. c.*

Cassicus hæmorrhous, Cab. in Schomb. Guian. iii. p. 681; Scl. et Salv. P. Z. S. 1873, p. 267.

Splendidè niger, uropygio latè rubro; rostro (plerumque crassiore) viridescenti-albo: long. tota 10, alæ 9·3, caudæ 4. *Fem.* Mari similis sed minor: long. tota 8·5, alæ 5·2, caudæ 3·5.

Hab. Cayenne; Brit. Guiana; Para and Rio Negro (*Natt.*); Chamicuros, Peruvian Amazons (*Bartlett*); Sarayacu, Ecuador (*Buckley*).

Obs. Similis *C. hæmorrhoo*, sed colore nigro nitido et saturatiore necnon rostro maris crassiore dignoscendus.

8. Cassicus uropygialis.

Cassicus uropygialis, Lafr. Rev. Zool. 1843, p. 290, et 1847, p. 218; Bp. Consp. p. 428, et Notes Orn. p. 11; Scl. Cat. A. B. p. 129; Cass. Pr. Ac. Phil. 1860, p. 139, et 1867, p. 64; Scl. et Salv. P. Z. S. 1879, p. 509; Nomencl. p. 36.

Intensè niger, uropygii fasciâ rubrâ; rostro albo, pedibus nigris: long. tota 10·5, alæ 5·5, caudæ 4·7. *Fem.* Mari similis sed minor.

Hab. Colombia (Bogotá); Antioquia (*Salmon*); Rio Atrato (*Michler*); Ecuador, Jima (*Buckley in Mus. S.-G.*).

Obs. Species a duabus præcedentibus uropygii rubro colore angustiore facile distinguenda.

9. Cassicus microrhynchus.

Cassiculus microrhynchus, Scl. et Salv. P. Z. S. 1864, p. 35[illegible] et Nomencl. p. 36; Lawr. Ann. L. N. Y. viii. p. 180; Salv. P. Z. S. 1867, p. 142; Cassin, Pr. Acad. Phil. 1867, p. 65.

Intensè niger, uropygii fasciâ rubrâ; rostro albo, pedibus nigris: long. tota 9, alæ 5·1, caudæ 3·6. *Fem.* Mari similis, sed minor: long. tota 7·5, alæ 4·2, caudæ 3·1.

Hab. Panama (*McLeannan*); Chiriqui et Veragua (*Arcé*); Chontales, Nicaragua (*Belt*); Costarica (*Carmiol*).

Obs. Sp. *C. uropygiali* maximè affinis, sed crassitie minore et rostro debiliore dignoscenda.

10. Cassiculus solitarius.

Japu negro, Azara, Apunt. i. p. 268.

Cassicus solitarius, Vieill. Nouv. Dict. v. p. 364, et Enc. Méth. p. 723; Hartl. Syst. Ind. p. 4; Sw. B. of Brazil, pl. 4; Scl. et Salv. P. Z. S. 1879, p. 608; Pelz. Orn. Bras. p. 194.

Cassicus nigerrimus, Spix, Av. Bras. i. p. 66. pl. 63. f. 1.

Amblycercus solitarius, Bp. Notes Orn. p. 10.

Japus bursarius, Merrem, Ersch u. Grub. Allg. Enc. xv. p. 277.

Cassiculus solitarius, Scl. Cat. A. B. p. 12; Scl. et Salv. P. Z. S. 1866, p. 182, et 1867, p. 978, et 1873, p. 266.

Psarocolius nigerrimus, Wagl. Syst. Av. sp. 7.

Nigerrimus unicolor; rostro albo, pedibus nigris: long. tota 11, alæ 4·8, caudæ 4·5. *Fem.* Mari similis, sed minor: long. tota 8·5, alæ 4·4, caudæ 4·3.

Hab. Paraguay (*Azara*); Buenos Ayres (*Haslehurst*); Brazil, Cuyaba and Matto-grosso (*Natt.*); Ceará (*Jesse*); Upper Amazonia, Nauta (*Bartlett*); Pebas (*Hauxwell*); Bolivia, Yuracares (*Orb.*).

11. Cassicus holosericeus.

Sturnus holosericeus, Licht. Preis-Verz. Mex. Vög. p. 1; Cab. J. f. O. 1863, p. 55.

Cacicus holosericeus, Salvin, Cat. Strickl. Coll. p. 263.

Amblyramphus prevostii, Less. Cent. Zool. pl. 54.

Amblycercus nigerrimus, Cab. Mus. Hein. p. 190 (note).

Cassiculus prevostii, Bp. Consp. p. 428; Sclater, P. Z. S. 1856, p. 301, 1859, pp. 57, 365, 380, et 1860, pp. 276, 293, 1864, p. 174, et Cat. A. B. p. 129; Sclat. et Salv. Ibis, 1859, p. 19, et 1860, p. 34; P. Z. S. 1864, p. 353, 1870, p. 836; Salv. P. Z. S. 1867, p. 142, et 1870, p. 190.

Cassicus prevosti, Scl. et Salv. Nomencl. p. 36; Tacz. P. Z. S. 1877, p. 322 (Tumbez).

Nigerrimus, rostro albo, pedibus nigris: long. tota 9, alæ 4·1, caudæ 4·3. *Fem.* Mari similis et, ut videtur, crassitie vix minor.

Hab. Southern Mexico, Jalapa (*Sallé*); Oaxaca (*Boucard*); Yucatan (*Gaumer*); Guatemala (*Salvin*); Honduras; Costa Rica (*Rogers, Mus. S.-G.*); Veragua (*Arcé*); Panama (*McLeannan*); Bogotá (*Mus. P. L. S.*); Western Ecuador, Babahoyo and Esmeraldas (*Fraser*); Western Peru, Tumbez (*Jelski*).

This species, which is, I think, undoubtedly allied to *C. solitarius*, extends (as will be seen from the above-given list of localities) from Mexico throughout the Central-American isthmus down to Tumbez in Western Peru. I cannot make out that there is much difference in the dimensions of the sexes.

XVI.—*Remarks on the Thrushes of the Æthiopian Region.*

By Henry Seebohm, F.Z.S.

The Thrushes of the Æthiopian Region all belong to the genera *Geocichla* and *Turdus*. Of the former genus seven species are known; and of the latter twelve have been described from Africa. Of the former genus we have two types, one with the breast and flanks spotted, and the other without spots on the underparts. *Geocichla guttata* is probably the least changed Ground-Thrush in Africa. It inhabits the forests of Natal. Its nearest relations appear to be *G. litsitsirupa*, distributed throughout South Africa, and a northern form of this species inhabiting the highlands of Abyssinia, *G. simensis*, which differs from its southern ally only in being more rufous, a difference probably caused by living in a damper climate. The two last-mentioned species are somewhat more advanced than *G. guttata*, but are still more nearly allied to *Geocichla* than to *Turdus*. These three species appear to be the least changed descendants of the ancestors of the palæarctic Thrushes. Of the other type of Æthiopian Ground-Thrushes, with no spots on the underparts, four very nearly allied species are known—*G. princei* from the Gold Coast, *G. crossleyi* from the Cameroons, *G. piaggii* from the Uganda country, near the supposed sources of the Nile, and *G. gurneyi* from the Transvaal and Natal. These species are probably the least changed descendants of the ancestors of the Æthiopian species of the genus *Turdus*, to which Cabanis has applied the subgeneric name of *Peliocichla* (J. f. O. 1882, p. 318).

The *Peliocichlæ* are so closely allied to the South-American *Planestici* that it requires a careful examination to discriminate some of them; and the name of this group must be regarded as a purely geographical expression, and not in any way denoting the least difference of even subgeneric value. The *Peliocichlæ* are divided by Cabanis into twelve species; but the characters upon which many of these are founded are so slight that modern ornithologists would call them only local races or climatic forms, and some of them have already been described as such. There is very little variation in size,

and scarcely any in wing-formula. The colour of the upper parts varies, according to climate, from slate-grey through a neutral brown to olive-brown. In all of them the sides of the upper throat are streaked with brown or black. In all of them the axillaries and under wing-coverts are of an orange chestnut and the under tail-coverts white, with more or less brown margins on the basal half. They have all pale legs and feet and yellow bills.

Four fairly good species and half a dozen climatic forms or local races of this group are at present known. The four species may be distinguished as under:—

Upper parts varying from brown to dull slate-grey; centre of belly white.	
Streaks on the throat nearly black	*T. libonyanus.*
Streaks on the throat pale brown	*T. pelios.*
Upper parts bright slate-grey; very little white on belly; breast dull slate-grey; inner margins of quills orange-chestnut; a bare space behind the eye	*T. tephronotus.*
Upper parts brown; belly orange-chestnut with no white except on the feathers round the vent.	
Flanks orange-chestnut	*T. olivaceus.*

T. libonyanus inhabits South Africa, having been obtained in Damara Land, the Bechuana country, and the Transvaal. Two supposed new tropical races of this species, an eastern and a western one, have been described by Cabanis. They are both slightly smaller than the typical form. The eastern race (var. *tropicalis*) is found in Mozambique, and is paler and more buffy on the breast than the typical form, and is browner and less grey on the upper parts. The western race (var. *schuetti*, Cab. J. f. O. 1882, p. 319) is of the same colour on the breast as the eastern race, but is slightly paler on the flanks, and is somewhat greyer in the colour of the upper parts than the typical form. The difference in size is very trifling between these two northern races. The western race was described by Cabanis from Angola; but in the British Museum there is an example from Damara Land and another from the Zambesi. The latter skin seems to dispose of the supposition that they are local races. I take *T.*

schuetti to be the summer plumage, more or less abraded, and consequently greyer on the back and less brilliant on the flanks—in fact, faded—and *T. tropicalis* to be the newly moulted autumn form.

T. pelios is not found in South Africa, but in its restricted sense may be said to be confined to the lowlands of Abyssinia, the Bogos country, and the district from Abeokuta to the Gold Coast. A western local race (var. *cryptopyrrha*) is found in Senegambia, and differs from the typical form in having the buffish chestnut of the underparts absent altogether, that usually on the flanks being replaced by pale greyish brown. It is also slightly larger. On the east coast of the Gulf of Guinea, near the equator, a tropical form (var. *saturata*) occurs, having the upper parts and the breast darker and browner, the dark margins to the under tail-coverts somewhat more pronounced, and the size slightly less. Further south on the same coast, in Angola, a southern form has been described by Cabanis (var. *bocagei*), which is said to be slightly larger than the typical form and to be more olive on the upper parts, with the stripes on the throat less distinct; but of this there is only one example in the Berlin Museum. Newly moulted examples from the Gaboon exactly answer Cabanis's description; and I have two examples in my collection from the Congo. I have little doubt that it is only the newly moulted autumn plumage of *T. saturatus*.

T. tephronotus is found in Zanzibar, and appears to be a good species.

T. olivaceus inhabits the highlands of Abyssinia and the Uganda country. It has a very near ally in South Africa (var. *olivacea*), differing only in having the upper parts a shade paler and the ground-colour of the throat whiter.

T. cabanisi is very nearly allied to the preceding. It is found in the Transvaal and Kaffirland. It is, perhaps, a shade browner on the upper parts, and has the flanks also brown, the bill also is slightly longer; but some examples are quite intermediate and difficult to determine.

XVII.—*Notes on* Hirundo rufula *and its Allies, with Description of a supposed new Subspecies.* By Henry Seebohm, F.Z.S.

In 'Stray Feathers' (v. p. 254) Mr. Hume gave an excellent monograph of the Swallows of the subgenus *Littia*. Leaving out the African species, Mr. Hume enumerates nine Asiatic species, of which the range of one extends into South Europe. The points upon which he relies for the discrimination of the species are—(1) the presence or absence of striations on the rump, (2) the fineness or coarseness of the striations on the underparts, (3) the colour and depth of the rump-band, and (4) the size. Of these points all seem to be more or less variable.

Hirundo rufula may always be distinguished by the colour of the rump, which is not uniform chestnut, as in all the other species, but graduates from chestnut next the back to pale buff next the upper tail-coverts. There are no striations on the rump; the chestnut on the nape is well developed; and the striations on the underparts are very narrow. This species breeds in Greece, Asia Minor, Palestine, Persia, Turkestan, and Nepal. There appear to be two forms of it. Examples from Greece, Asia Minor, and Palestine vary in length of wing from 5 to 4·8 inches, whilst examples from Gilgit and Nepal vary from 4·6 to 4·4 inches. One of the most remarkable features of the Swallows appears to be the very small variation in size in each species; and as this difference in size in this case corresponds with a difference of geographical distribution, I propose to call the small eastern form *Hirundo scullii*, or, if we follow the wise example of the American ornithologists in adopting the system of Linnæus, *H. rufula β. scullii*.

Of the other species in which the general colour of the rump is uniform, *Hirundo erythropygia* is the most distinct. Its best character is its small size; it has a length of wing of 4·4 to 4·2 inches instead of 5·5 to 4·5 inches. Its next best character is the fineness of the striations of the underparts. These striations are not much more distinct than

those of *H. rufula*, but are decidedly finer than in the much larger *H. alpestris*, and more decidedly so than those of any form of *H. striolata*. The rich dark chestnut of the rump, which, even in birds of the year, scarcely shows a trace of shaft lines, is another good character. This species is a resident in North-west India.

H. alpestris (of which *H. intermedia* of Hume is a synonym) breeds in South Siberia and winters in Assam. The rump shows only traces of striations; and the striations of the underparts, though much more marked than those of the three forms we have already discussed, are scarcely so much so as in those we shall have to mention afterwards. *H. alpestris* may be divided into two subspecies, not, as in the first species, an eastern and a western form, but a northern and a southern race. The latter may be called *H. alpestris* β. *nipalensis*, and is a colony which has established itself in the Himalayas, wintering in the plains of India and Burma. This local race differs in no respect from its Siberian ally except in size. The Siberian birds vary in length of wing from 5·2 to 4·9 inches, and the Himalayan birds from 4·8 to 4·5 inches.

The remaining form may be allowed to be specifically distinct from the previous two on the ground that the rump is always more striated and the striations of the underparts are more pronounced. This species is called *H. striolata*, and comprehends three local races, which are said to differ only in size. The typical form is a resident in Java, and measures 5·5 inches in length of wing. *H. striolata* β. *substriolata*, is supposed to be a resident in Formosa, occasionally straying in winter to Assam, and measures 5 to 4·8 inches in length of wing; whilst *H. striolata* γ. *japonica* breeds in Japan and South China, and measures 4·6 to 4·4 inches in length of wing. *H. arctivitta* may be the young of *H. japonica*, or an eastern colony of *H. nipalensis*. It breeds at Pekin. All the examples of this form in the Swinhoe collections are autumn birds, and differ from *H. japonica* in being very slightly less streaked on the underparts, and in having the chestnut band on the rump less than three quarters of an inch deep, instead of more than an inch. Only one of these

skins appears to be that of an adult bird. I have an Indian skin in which the chestnut band on the rump is equally narrow.

The Asiatic species and subspecies of this subgenus may be diagnosed as under:—

a. Colour of rump graduating from chestnut next the back to pale buff next the upper tail-coverts.
  a'. Length of wing 5 to 4·8 inches ..... *rufula*.
  b'. Length of wing 4·6 to 4·8 inches ..... *rufula β. scullii*.
b. Colour of rump uniform chestnut.
  c'. Striations of underparts nearly as fine as in the preceding species. Length of wing 4·4 to 4·2 inches ..... *erythropygia*.
  d'. Striations of underparts coarser than in any of the preceding. Length of wing 4·5 or more.
    a^2. Striations of underparts intermediate between the preceding and the following species, those of rump almost obsolete.
      a^3. Length of wing 5·2 to 4·9 inches .... *alpestris*.
      b^3. Length of wing 4·8 to 4·5 inches .... *alpestris β. nipalensis*.
    b^2. Striations of underparts coarser than in any of the preceding, those of rump very distinct.
      c^3. Length of wing 5·5 inches ..... *striolata*.
      d^3. Length of wing 5 to 4·8 inches..... *striolata β. substriolata*.
      e^3. Length of wing 4·6 to 4·4 inches .... *striolata β. japonica*.

XVIII.—*On an Owl from South-east New Guinea, allied to* Ninox terricolor, *Ramsay, but apparently distinct and undescribed.* By J. H. Gurney.

The Norwich Museum has recently obtained, through Mr. Whitely of Woolwich, three specimens of an Owl of the genus *Ninox*, collected by Mr. Goldie in South-eastern New Guinea, which much resembles the species described by Mr. E. P. Ramsay in the 'Proceedings of the Linnean Society of New South Wales,' vol. iv. p. 466, under the name of *Ninox terricolor*, but is of considerably larger dimensions than those given by Mr. Ramsay for that species.

I understand that Mr. Goldie fastens the legs of his male specimens with the right tarsus uppermost, and *vice versâ* in the case of females; following this indication, I infer that the two birds which I shall call A and B are males, and th which I shall call C a female.

The following are the measurements of these specimens compared with those of *N. terricolor* as given by Mr. Ramsay:—

	Length of skin from point of bill to tip of tail.	Wing.	Tail.	Tarsus.	Middle toe *s. u.*	Culmen with cere.	Culmen without cere.
A	11·7	8·05	4·85	1·20	1·25	1·00	0·70
B	11·2	8·87	4·90	1·25	1·20	1·15	0·75
C ....circa	11·0	8·89	imperf.	1·20	1·20	1·10	0·70
N. terricolor as given by Mr. Ramsay	10·0	6·50	3·80	1·00	not given.	1·00	0·50

The following is a description of the three specimens above referred to as A, B, and C:—

The bill is yellowish horn-colour, suffused with dull olive about the eyes (and slightly also at the base of the upper mandible), and likewise tinged with dark olive about the point of the lower mandible; the bristly hairs which surround the bill are black and considerably developed; the upper surface of the head in all three specimens is a dark and somewhat greyish chocolate-brown, with a few feathers on the forehead, immediately adjoining the cere, edged with white; the mantle is chocolate-brown, darker in C than in A and B. In C a tinge of rufous is perceptible in the feathers on either side of the nape; in the other two specimens this tinge extends across the nape and on the median wing-coverts: the latter are variegated with small pure white spots, none of which are more than ·2 of an inch across (whilst most of them are less); and these spots in C extend to some of the external scapulars. In A the number of these spots, some of which are concealed, is about nine on the right side and twelve on the left side; in B only two spots are to be found on each side; in C there are about fifteen on

either side. The quill-feathers of the wing are alternately cross-barred with two shades of earthy brown, the external webs being tinged with fulvous at the interspaces between the dark bars, a character which is more conspicuous in A than in the other two specimens; at the bases of the feathers these interspaces are white towards the margin of the inner web, and most so on the tertials. The tail is a dark earth-brown; some of the lateral rectrices are cross-barred with a paler brown on the inner webs in A, but not in B and C. The cheeks are greyish brown; the under surface of the body from the throat to the crissum is a rufous-brown, mingled with white, the rufous tint being brighter in A and B than in C; in A the rufous-brown is crossed, here and there, with imperfect blackish-brown bars; these are less apparent in B and absent in C; the white portions of the feathers of the under surface are in the form of edgings, and occasionally also of cross bars and of spots, the latter, when they exist, being on the edge of the feathers. The tibiæ are a fulvous brown, mottled with a darker brown; the under wing-coverts are coloured somewhat similarly to the tibiæ, except the lowest row, which, with the axillaries, are dark brown, crossed with white.

Mr. Ramsay's *N. terricolor* appears, from his description, to bear a great resemblance in coloration to the present species, except as regards the tail, all the rectrices of which would seem, by his account, to be crossbarred, and not the lateral ones only, the interspaces being "white at the base," like those on the inner webs of the quill-feathers of the wing. At the same time, though the birds I have described differ from *N. terricolor* in these particulars, specimen A has a tail more approaching the description of the tail in that species than is the case in B. In C the tail is, unfortunately, very imperfect; but the remains of it appear to resemble the tail in B.

Should the birds now acquired for the Norwich Museum prove to be distinct from *N. terricolor*, I would propose that they should bear the specific or subspecific name of *goldii*, after their discoverer. The considerable difference in size, I

think, indicates that *N. terricolor* and *N. goldii* are at least distinct subspecies; and as both have been obtained in South-eastern New Guinea, they can probably hardly be considered merely two geographical races of *Ninox terricolor*.

XIX.—*Notes on Woodpeckers.*—No. III. *Descriptions of two new Species of Woodpeckers.* By Edward Hargitt, F.Z.S.

Of the two new species which I propose describing in this paper, the first will, I think, possess great interest for all students of European ornithology, as the bird is a new form of our Lesser Spotted Woodpecker, *Picus minor*. Upon an examination of the series of this bird belonging to Mr. Henry Seebohm (to whom I am indebted for the loan of all the specimens of Picidæ in his magnificent Palæarctic collection) I observed a character in the Lesser Spotted Woodpeckers collected by Mr. Danford in Asia Minor which I consider merits for them a separate title; and in this Mr. Seebohm agrees with me. The types were obtained at Zebil and Gozna, Taurus, by Mr. Danford; and the leading feature distinguishing the bird (which I propose to call *Picus danfordi*) from *P. minor* is, that in the former the branch from the black moustachial stripe entirely encircles the face and joins the occiput, whilst in *P. minor* it does not proceed further than the upper line of the ear-coverts, and is separated from the occiput by a white stripe. I have examined a large series of the Asia-Minor bird in Mr. Seebohm's collection, and also specimens in that of Mr. Dresser; and the specific characters hold good throughout. *P. danfordi* ranges into Greece and Turkey, from both of which countries are specimens in the collection of Mr. Dresser. I therefore propose the following diagnosis for the Asia-Minor bird.

Picus danfordi, sp. n.

P. similis *P. minori*, sed fascia genali nigra post regionem paroticam producta et cum occipite conjuncta distin-

guendus. Long. tota 5·3, culminis ·65, alæ 3·4, caudæ 1·85, tarsi ·55.

Hab. in Europa meridionali-orientali et in Asia Minore.

The second species which I bring under the notice of the readers of 'The Ibis' is from Gaboon, and has been known to ornithologists for some years, and has always been considered the young of *Dendropicus africanus* (Gray). The last-named species, which was described by Dr. J. E. Gray (Zool. Misc. 1831, p. 18) from Sierra Leone, has never been recognized by any subsequent writer; but I have little doubt that, whatever Gray's species may ultimately prove to be, the Gaboon bird is not the young of it, but is really a totally distinct species. The absence of the red rump, which is a feature in *D. africanus*, is alone of sufficient importance to separate the Gaboon bird, of which I add a short diagnosis.

DENDROPICUS XANTHOLOPHUS, sp. n.

D. scapis remigum et rectricum nigris; uropygio et supracaudalibus flavicanti-olivaceis; plumis frontalibus albo terminatis; sincipitis plumis flavo apicatis; occipite toto flavo. Long. tota 7, culminis 1·15, alæ 4·3, tarsi ·75.

Typus in Mus. Brit.

XX.—*Notes on the Birds of Santander, Northern Spain.*

By Lieut.-Col. L. HOWARD IRBY, F.Z.S.

IN May 1876 I accompanied Lord Lilford in his yacht 'Zara,' R.Y.S., to the north of Spain. We anchored on the 4th in the harbour of Santander, which is some four miles long and, in places, nearly two miles wide, with large extent of sands and mudflats, bare at low water, forming an excellent resort for aquatic birds. Two small rivers fall into the harbour, one of which, on the north-east, the Cubas, flows through many marshy places; but this stream is, in some spots, impassable for a small boat at low water. The west side of the harbour, mostly occupied by houses, is useless to an ornithologist. On the east side the level ground is but slightly cultivated, and chiefly consists of sandy "dehesa," with here

and there a small scrubby copse; the hills are covered with wood; and the whole country is seamed with red-coloured excavations for iron-ore.

We remained in harbour till the 23rd, shooting and making excursions in the vicinity every day. Then we started by rail for Torre la Vega, where the country is well cultivated, with vast numbers of fruit-trees and a great deal of meadow-land; thence we drove to Unquera, on the river Deva, going on the next day to Potes, the capital of the district of Llbana, a large village, also on the Deva.

Between Torre la Vega and Unquera we passed by an excellent road through fine scenery near Vicente de la Barquera; but nothing can equal the wild grandeur of the Desfiladero or the gorge of the Deva, where, for some ten miles, the road winds along the river-side through a mass of perpendicular cra of Carboniferous limestone, some 1500 feet high, with and rocks of all kinds of fantastic shapes, the abodes countless Choughs.

At La Hermida, about halfway through the pass, there are a few houses and a hot spring, with a wretched attempt at baths which are said to be efficacious for rheumatism. On emerging from the defile the road enters Llbana, a district which is a succession of high hills and deep valleys, mostly very steep, the whole country so broken and hilly that nowhere could you find a piece of ground level enough for a game of cricket. The upper parts of the lower hills are covered with scrubby jungle; the mountains on the south-west side have a natural growth of oak and chestnut, and on the north side, high up, are grand beech forests, dwindling away on the tops to tangled beech scrub. The oaks in many places are merely branchless masts, the shoots being yearly cut off when the leaves are green and stored for fodder. The chestnuts have gigantic trunks, but have nearly all at some time been pollarded. The trees and shrubs noticed in the district were, besides those named, poplar, walnut, ash, cherry, lime, holly, wild plum, willow, hawthorn, alder, ilex, mountain-ash, horse-chestnut, elder, hazel, dogwood, lentiscus, smilax, honeysuckle, wild rose, and jasmine. There

is one solitary yew in the churchyard at Lebeña; but, except this, no conifers of any kind were noticed.

The flora is rich in alpine plants; *Gentiana acaulis*, *Pinguicola lusitanica*, and *Aquilegia pyrenaica* are extremely abundant. On the hill-tops in places are acres of cyclamens, and we met with a gigantic daffodil (*Narcissus*). Our main object in visiting this country was to shoot a Spanish bear; but, after several beats, we were unsuccessful; the quarry, when started, would always go the wrong way, and never pass near our posts. Although some of the local "cazadores" had, or said they had, fruitless shots, all we saw of the bears was their foot-prints. Vast tracts of the hill-sides were beaten up to us; the beaters ate enormous quantities of ham, bread and sausages, and drank many skins of wine; but, beyond enjoying the views, which well repaid our trouble, and seeing *Picus martius* (a novel sight to me), the result was *nil*.

These bear-hunts were always headed by the cura of Bedoya, a jolly little priest, with a merry eye, in lay costume with the exception of his white collar. He was a great "cazador," excessively active and energetic, and was very proud of an ardent spirit illicitly manufactured, the strength of which exceeded any thing of the sort I have ever seen; liquid fire would be the only name for it. In spite of these proclivities, he did not neglect his sacerdotal duties, as one morning at daybreak found us at the chapel of La Virgen de la Luz, an isolated shrine at an elevation of 4100 feet. The door was unlocked; our cura entered and, donning some robes, forthwith performed mass, the beaters with much devotion forming the congregation. These curas, mostly uneducated men, have great authority in their respective villages, and are often to be seen riding with their housekeepers on a pillion to the market at Potes. There is a good posada at Potes; and from the village is a grand panorama—the Picos de Europa (8786 feet), with vast masses of snow, forming a fine background to the view. Alas! we were unable to ascend far; but there are said to be many chamois (rebecos), as in other ranges; we saw some on the Peña Segra above La Virgen

de la Luz. The most interesting animal about Potes is the water-mole (*Myogale pyrenaica*), which does not appear to be common, and little seems to be known regarding its habits. Lord Lilford obtained one alive from a miller; but it did not survive long. We saw no rabbits anywhere but on the island off Santander; nor did we see a hare.

The river Deva and some of the other rivers abound with salmon and trout, but are much poached, and the fish even killed with dynamite, by the miners. About Potes the Deva flows through deep cañons, the stream being only here and there approachable. During our stay the snow-water coming down rendered fly-fishing hopeless work. From Potes we returned to Santander, passing through Comillas, a bathing-resort with a large hotel, and Santillana (the birthplace of Gil Blas), our way lying through an uninteresting country. We left Santander for the Gironde on June 21st.

Lord Lilford returned to Santander in November 187[illegible] and remained there part of December; but I did not accompany him. I only wish his more able pen had written these notes; but various causes and the idea that one or both of us would again visit the country have created this delay in recording our sparse observations.

There is nothing particular calling for notice as to birds, except the remarkable absence of the Nightingale (*Daulias luscinia*); we also failed to observe the Crested Lark (*Galerida cristata*) and, except on one occasion, *Cypselus melba*. The specimens noticed as seen in the Museum at Santander were said to be local. Of course, during so short a stay in the country, the following list, one hundred and eighty-two birds, lacks many species that obviously must occur. Unless dates are given, the months of May and June are to be understood.

I. Accipitres.

Gyps fulvus. Griffon Vulture.

Occasionally seen near Santander. Abundant in the gorge of the Deva; evidently breeds near La Hermida.

Neophron percnopterus. Egyptian Neophron.

One adult bird often noticed about the harbour of Santander. Is common near La Hermida and Potes.

Gypaetus barbatus. Lammergeyer. "Casca-huesos."

Often seen about the neighbourhood of Potes, especially in the gorge of the Deva near La Hermida.

Accipiter nisus. Sparrow-Hawk.

Seen many times, and twice shot.

Circus æruginosus. Marsh-Harrier.

Only twice observed in May, and once in November. This is remarkable, as there are many places adapted to the habits of this species.

Circus cyaneus. Hen-Harrier.

Very abundant all over the country in suitable localities, [illegible], next to the Buzzard, the most common bird of prey. In May and June we only saw adult males, the females, as Harriers should be, no doubt being engaged in maternal duties. One shot rising from a Turtle Dove, which it was devouring.

Buteo vulgaris. Common Buzzard.

Very common throughout the country. Young in down on June 12.

Aquila chrysaetus. Golden Eagle.

Repeatedly seen in Llebana, especially at Navarros.

Aquila pennata. Booted Eagle.

Distinctly recognized once or twice near Potes, and near Panes on June 7.

Nisaetus fasciatus. Bonelli's Eagle. "Aguila cazadora."

Often seen near Potes, and was breeding not far from the monastery of San Toribio.

Milvus ictinus. Common Kite.

Occasionally noticed in Llebana and near Santander. Nests found near Maliano and at the falls of the river Cubas in June.

Milvus migrans. Black Kite.

Once observed near Santander, June 17.

Pernis apivorus. Honey-Buzzard.

Common in the beech forests of Llebana. A female shot from nest on June 7.

Falco peregrinus. Peregrine Falcon.

Common; often seen about the harbour of Santander.

Falco subbuteo. Hobby.

Seen several times near Santander and about Potes.

Falco æsalon. Merlin.

Two seen by Lilford, on May 9 and on November 23, near Santander.

Falco tinnunculus. Common Kestrel.

Plentiful near Santander, breeding on low cliffs of river Cubas. Occasionally noticed in Llebana.

Pandion haliaetus. Osprey.

One or two seen constantly about the harbour.

Syrnium aluco. Tawny Owl.

Reported as very common in Llebana, a district admirably suited to its habits. An adult female and two young nearly fledged obtained at Potes on June 8.

Scops giu. Scops Owl.

Neither seen nor heard; but there was a specimen in the Museum.

Strix flammea. Barn-Owl.

Never observed, but there was a specimen in the Santander Museum.

II. Picariæ.

Dendrocopus major. Greater Spotted Woodpecker. "Corre relincho," "Pico relincho."

Common in the lower ranges of the Llebana forests.

Dendrocopus medius. Middle Spotted Woodpecker.

Abundant in the beech forests and higher ranges of Llebana.

Gecinus viridis. Green Woodpecker. "Pico verde."
Numerous in the low ranges of Llebana. Two well-feathered broods brought into Portes on June 12.

Picus martius. Great Black Woodpecker. "Relincho negro," "Piconero."
Common at the heads of the forest-valleys in Llebana at about 3000 feet elevation; frequently seen and heard. Three specimens obtained.

Iynx torquilla. Wryneck.
Twice heard, on May 19 and 23.

Cuculus canorus. Cuckoo.
Plentiful throughout the country.

Oxylophus glandarius. Great Spotted Cuckoo.
Merops apiaster. Bee-eater.
Not observed; but there was a specimen in the Museum.

Alcedo ispida. Kingfisher.
Noticed about head of harbour in November.

Upupa epops, Hoopoe.
A single bird obtained in Santander market on May 5.

Caprimulgus europæus. Nightjar.
Several seen near Santander from May 17 to 19, one shot.

Cypselus melba. Alpine Swift.
Once observed by Lilford near Santander, May 15.

Cypselus apus. Common Swift.
Abundant. Seen in the Bay of Biscay on May 3.

III. Passeres.

Turdus viscivorus. Missel-Thrush.
Seen near Santander. Common in Llebana.

Turdus musicus. Song-Thrush. "Tordo blanco."
Common and breeds; common also in November.

Turdus iliacus. Redwing.
Noticed in November.

Turdus pilaris. Fieldfare.
Not observed. Specimen in Museum.

Turdus merula. Blackbird.
Abundant.

Monticola cyanus. Blue Rock-Thrush.
Once seen by Lilford on island in Quarantine Creek on May 10.

Cisticola cursitans. Fan-tailed Warbler.
Once seen on Boo river in May.

Locustella nævia. Grasshopper-Warbler.
Common in some places up the rivers Boo and Cubas. Specimens obtained on June 16 and 17.

Cettia sericea. Cetti's Warbler.
Heard both by myself and Alberto Ruiz, of Seville, on banks of river Deva near Potes on May 30.

Phylloscopus sibilatrix. Wood-Wren.
Heard, without doubt, by Lord Lilford near Maliano on May 16.

Phylloscopus trochilus. Willow-Wren.
Common in oak woods.

Phylloscopus bonellii. Bonelli's Willow-Wren.
Common in Llebana. Eggs found near Luriezo, May and June.

Phylloscopus rufus. Chiff-chaff.
Tolerably common in the oak woods.

Melizophilus undatus. Dartford Warbler.
A pair observed near Santander on Nov. 22.

Sylvia hortensis. Garden-Warbler.
Common near Santander.

Sylvia atricapilla. Blackcap.
Once observed near Cabezon de Sal, on May 23.

Sylvia cinerea. Greater Whitethroat.
Very abundant everywhere in May and June.

ERITHACUS RUBECULA. Robin.
Abundant.

RUTICILLA TITYS. Black Redstart.
Common. Nest in wall of a house in street of Potes.

RUTICILLA PHŒNICURUS. Common Redstart.
Common, especially in the oak forests of Llebana. One seen in Bay of Biscay on May 3.

SAXICOLA ŒNANTHE. Wheatear.
Tolerably common in suitable localities. Seen in Bay of Biscay on May 3rd.

PRATINCOLA RUBICOLA. Stonechat.
Very abundant.

ACCENTOR ALPINUS. Alpine Accentor.
Reported by Mr. J. P. Woods to Lord Lilford as very numerous in the village of Tresviso during heavy snow in the winter of 1880–81. Mr. Woods sent the wings of one for identification. It seems to be known to the natives as "Pajaro de la nieve."

ACCENTOR MODULARIS. Hedge-Sparrow.
A pair seen by Lord Lilford high up on the Peña Sagra; not noticed elsewhere.

CINCLUS ALBICOLLIS. Dipper.
Common on the Deva and Sagra.

TROGLODYTES VULGARIS. Wren.
Common.

TICHODROMA MURARIA. Wall-creeper.
Well known to the "cazadores" of Llebana as frequenting the Picos de Europa. There was a specimen in the Museum Two skins obtained at Tresviso were sent to Lord Lilford by Mr. J. P. Woods.

SITTA CÆSIA. Common Nuthatch.
Common in the oak and beech forests of Llebana.

PARUS MAJOR. Great Tit.
Abundant. Nest with eggs May 6.

Parus cæruleus. Blue Tit.

Common in woods up river Cubas. Nest with young May 20.

Parus ater. Cole Tit.

Once observed near Santander by Lord Lilford, Nov. 23.

Parus palustris. Marsh-Tit.

Observed and obtained in a wood near falls of river Cubas on June 17.

Acredula caudata. Long-tailed Tit.

Obtained May 17, and seen Nov. 20.

Oriolus galbula. Golden Oriole.

A specimen in Museum.

Muscicapa atricapilla. Pied Flycatcher.

Common in the beech forests near Potes.

Muscicapa grisola. Spotted Flycatcher.

Abundant near Santander.

Lanius rufus. Woodchat.

Lord Lilford saw a Shrike, which he believes to have been of this species, on May 16.

Lanius collurio. Red-backed Shrike.

Common all along the road from Torre la Vega to Potes, and all around the latter town.

Fregilus graculus. Red-billed Chough.

Excessively abundant in the high ranges of Llebana, and prized as food. Seen in immense flocks.

Pyrrhocorax alpinus. Yellow-billed Chough.

Very common in above-mentioned districts, but keeps higher up the mountains.

Corvus corax. Raven.

Very common throughout the country. Nests, with young well fledged, May 15.

Corvus corone. Carrion-Crow.

Several noticed between Torre la Vega and Unquera.

Pica caudata. Magpie.
Not common.

Garrulus glandarius. Jay. "Jayo."
Very common in Llebana. Considered good food by the natives.

Hirundo rustica. Swallow.
Very abundant.

Chelidon urbica. House-Martin.
Not common.

Cotile riparia. Sand-Martin.
Common, breeding near Santander.

Cotile rupestris. Rock-Martin.
Nesting in numbers about the Desfiladero near La Hermida.

Carduelis elegans. Goldfinch.
Very abundant.

Chrysomitris spinus. Siskin.
Specimen in Museum.

Serinus hortulanus. Serin.
Common.

Ligurinus chloris. Greenfinch.
Common.

Coccothraustes vulgaris. Hawfinch.
Specimen in Museum.

Passer domesticus. Common Sparrow.
Abundant.

Fringilla cœlebs. Chaffinch.
Very plentiful.

Fringilla montifringilla. Brambling.
Specimen in Museum.

Linota cannabina. Linnet.
Very abundant. A male shot in May, the most richly coloured that Lord Lilford ever saw.

Pyrrhula europæa. Bullfinch.
Found both near Potes and Santander.

Emberiza miliaria. Common Bunting.
Only once observed.

Emberiza citrinella. Yellow Hammer.
Common near Potes.

Emberiza cirlus. Cirl Bunting.
Common everywhere.

Emberiza hortulana. Ortolan.
A pair observed near Potes.

Emberiza cia. Foolish Bunting.
Tolerably common in pairs at heads of valleys in Llebana at from 3000 to 4000 feet elevation.

Plectrophanes nivalis. Snow-Bunting.
A specimen in Museum.

Sturnus vulgaris. Common Starling.
Sturnus unicolor. Sardinian Starling.
Never seen; but specimens of both species were in the Museum at Santander, the latter probably not from the vicinity.

Alauda arvensis. Sky-Lark.
Common in May and June, more plentiful in November.

Alauda arborea. Wood-Lark.
Only once seen by Lord Lilford, near Potes, June 12.

Anthus trivialis. Tree-Pipit.
Common up the river Cubas and about Potes.

Anthus pratensis. Meadow-Pipit.
Never observed in May or June, but very abundant in November.

Anthus campestris. Tawny Pipit.
Two or three seen and one shot on sandy common east of Santander May 12.

Motacilla alba. White Wagtail.
Very abundant.

Motacilla yarrelli. Pied Wagtail.
Specimen in Museum.

Motacilla sulphurea. Grey Wagtail.
Very common on upper parts of the Deva. Nested in a hole in the wall of our posada.

Budytes flava. Blue-headed Wagtail.
Common.

Budytes rayi. Yellow Wagtail.
Once clearly distinguished, May 23.

IV. Columbæ.

Columba palumbus. Ring-Dove.
Tolerably common. Said to be very numerous in the winter months.

Turtur vulgaris. Turtle Dove.
Very common near Santander.

V. Gallinæ.

Tetrao urogallus. Capercailzie. "Faisan."
Frequently heard and occasionally seen in the valleys of Llebana above Bedoya and Lebeña. The natives assert that in winter this species feeds chiefly on acorns and beech-mast.

Caccabis rufa. Red-legged Partridge.
Occasionally heard in the hills about Potes, and reported to be very abundant.

Perdix cinerea. Partridge. "Pardilla."
Once heard by Lord Lilford near Potes, and reported to be not uncommon on the grassy summits of the lower ranges of Llebana.

Coturnix communis. Common Quail.
Heard several times, both near Potes and Santander.

VI. Grallæ.

Rallus aquaticus. Water-Rail.
Two or three seen at Laguna de Laredo, Nov. 28.

Numenius arquata. Curlew.

Abundant about the harbour and on surrounding commons in May, June, and November.

Numenius phæopus. Whimbrel.

Abundant during May and June, less so in November.

Limosa lapponica. Bar-tailed Godwit.

Not common. Seen on the muds in May; Lord Lilford shot a specimen in fine red plumage on 20th.

Limosa ægocephala. Black-tailed Godwit.

Three seen on May 13, and often heard about that time in the harbour.

Recurvirostra avocetta.

One seen by Lord Lilford on Nov. 21, and a lot seen at head of harbour on Nov. 28.

Totanus calidris. Redshank.

Very abundant about harbour in May; not common in November.

Totanus glottis. Greenshank.

One observed on May 6; a few seen and one shot on Nov. 26.

Totanus ochropus. Green Sandpiper.

Three seen, one shot, on June 19.

Totanus hypoleucus. Common Sandpiper.

Occasionally seen about harbour; common on river near Torre la Vega, May.

Machetes pugnax. Ruff.

Doubtless observed on the muds in May. Specimen in the Museum.

Tringa canutus. Knot.

First seen on muds of harbour May 9. Three killed on 17th with fairly red breasts. Lord Lilford shot thirty-six in four shots on 22nd in almost complete red plumage. Five or six seen, one shot, as late as June 17.

Tringa subarquata. Pygmy Curlew.
A small flock seen in May.

Tringa alpina. Dunlin.
In thousands on the mudflats of harbour early in May. We shot some three hundred between the 4th and 18th, many in full breeding-plumage. By the end of the month they had nearly all disappeared.

Calidris arenaria. Sanderling.
Common in May.

Scolopax rusticula. Woodcock. "Sorda."
Found in November; said to be plentiful in some seasons.

Gallinago scolopacina. Common Snipe. "Laguneja."
Found in November; said to be at times very numerous.

Gallinago gallinula. Jacksnipe.
Some seen in November.

Phalaropus cinereus. Grey Phalarope.
Lord Lilford steamed past one about ten yards from the yacht, a few miles west of Santander harbour, on Dec. 19, when bound for Lisbon.

Vanellus cristatus. Peewit.
Seen in large flocks about the harbour in November.

Squatarola helvetica. Grey Plover.
Found about the mudflats in small numbers May, June, and November.

Ægialitis hiaticula. Ring-Plover.
Abundant during May, June, and November.

Ægialitis cantiaca. Kentish Plover.
Seen in small lots at the entrance of the harbour May 12.

Hæmatopus ostralegus. Oyster-catcher.
A small flock frequented sand-pits at entrance of harbour.

Strepsilas interpres. Turnstone.
Common in May and June, also observed in November.

Ardea cinerea. Common Heron.
One seen on river Cubas June 17. Common during November.

Botaurus stellaris. Bittern.
Specimen in Museum.

Platalea leucorodia. White Spoonbill.
A flock of eighteen frequented the harbour in May. One was shot in June. A flock seen on Nov. 21.

Ibis falcinellus. Glossy Ibis.
One observed by Lord Lilford in the harbour on May 22.

Ciconia alba. White Stork.
A single bird seen several times in the harbour during May.

VII. Anseres.

Anser cinereus. Grey Lag Goose.
A specimen in Museum. Wild Geese were seen about the harbour in November, but species not ascertained.

Mareca penelope. Wigeon.
Two seen up river Cubas on May 17, both males. Found in very large flights in November.

Dafila acuta. Pintail.
A few observed in May and November.

Anas boscas. Wild Duck.
Not often seen, either in May or November.

Querquedula crecca. Teal.
Found in large flocks during November.

Fuligula ferina. Common Pochard.
A flock seen in harbour on Dec. 14.

Fuligula cristata. Tufted Duck.
A flight of about a dozen seen in Quarantine river on Dec. 6.

Clangula glaucion. Golden-eye.
An adult male observed on Dec. 3.

ŒDEMIA FUSCA. Velvet Scoter.
Three or four seen and a female shot Nov. 21.

ŒDEMIA NIGRA. Common Scoter.
A few seen in May and June. Large numbers, chiefly young birds, seen in November.

MERGUS MERGANSER. Goosander.
Four or five made out with a telescope from the yacht in harbour on Nov. 25.

MERGUS SERRATOR. Red-breasted Merganser.
Common in small lots of from three to seven during November.

LARUS MARINUS. Great Black-backed Gull.
An immature bird shot on Dec. 2.

LARUS ARGENTATUS. Herring-Gull.
Common in November.

LARUS LEUCOPHÆUS. Yellow-legged Herring-Gull.
This race was the only Herring-Gull observed during May and June. On Nov. 23 one was shot; but during that month *L. argentatus* was most common.

LARUS FUSCUS. Lesser Black-backed Gull.
Observed in May and June, but more common in November.

LARUS RIDIBUNDUS. Black-headed Gull.
Once observed in May. Abundant in November.

RISSA TRIDACTYLA. Kittiwake.
Many seen off coast in December.

STERNA CANTIACA.
A few seen in May.

STERNA MINUTA. Little Tern.
One seen by Lord Lilford on May 20.

HYDROCHELIDON NIGRA. Black Tern.
One seen and shot on May 6.

Puffinus major. Great Shearwater.
Puffinus anglorum. Manx Shearwater.
Many seen off the coast in May.

Sula bassana. Gannet.
A good many seen on the coast Dec. 19 and 20.

Phalacrocorax carbo. Cormorant.
Not uncommon in May and November.

Phalacrocorax graculus. Shag.
More common than preceding species in November.

Colymbus glacialis. Great Northern Diver.
One frequented harbour in May, and was last seen on 17th. Occasionally seen in November. One shot on Dec. 4.

Colymbus arcticus. Black-throated Diver.
One shot in harbour after a long chase on Dec. 2.

Colymbus septentrionalis. Red-throated Diver.
Several about the harbour in November. One obtained on Dec. 4.

Podiceps cristatus. Great Crested Grebe.
Two or three seen in harbour in November.

Podiceps auritus. Sclavonian Grebe.
One shot in the harbour on Dec. 2.

Podiceps nigricollis. Eared Grebe.
Common in November. Specimens obtained.

Podiceps minor.
A specimen in Museum.

Alca torda. Razor-bill.
One seen and obtained in the harbour on May 19.

Fratercula arctica. Puffin.
Seen off the coast May 3.

Uria troile. Guillemot.
A specimen in the Museum.

XXI.—*Observations on Early Nidification and Migration in North-west Ceylon.* By H. Parker, C.E., F.Z.S.

The district of Mannâr, in the north-west of Ceylon, consists chiefly of a somewhat triangular extent of low-lying plain, stretching north and south of the town of Mannâr. The coast-line forms the base (about 45 miles long) of the triangle, which is a very flat one, its apex being only about 13 miles from the coast. The district is hemmed in by almost impenetrable low forest, out of which several streams and rivers flow through the plain into the sea. Though often full in the wet season, they are all empty, with the exception of a few scattered pools, during the dry months.

The plain, and more especially its central portion, is studded with village reservoirs, or "tanks," which have extensive paddy-fields below them, the remaining ground being covered with a more or less dense growth of thorny jungle from 12 to 20 feet high. In all, there are some 130 of these tanks in the district. The fall of the land towards the sea is so slight that, although the depth of the tanks near the embankments is only from three to eight feet, the areas vary from 20 to 400 acres. The shallower parts of these sheets of water are filled during the wet season with tall sedge and weeds, the latter sometimes extending almost up to the embankments. In most cases lofty *kumbuk* trees (*Terminalia glabra*) line the embankments; and a few others, and occasionally thorny bushes, stand isolated or in groups in various parts of the water. When full, these tanks abound with fish and frogs, and are the resort, for food and nidification, of many thousands of water-birds.

Along the coast north of Mannâr, a flat unproductive strip of ground, utilized in ancient times for the formation of salt by solar evaporation of the sea-water with which it was flooded, is very little above sea-level; and, separating it from the sea, there runs a line of mudbanks covered with a growth of low trees and, in places, with mangroves. These trees are the breeding-quarters of large flocks of water-birds, and the permanent home of innumerable Parrakeets (*Palæornis tor-*

Rainfall of Mannâr, N.W. Ceylon.

	Jan. in.	Feb. in.	March. in.	April. in.	May. in.	June. in.	July. in.	Aug. in.	Sept. in.	Oct. in.	Nov. in.	Dec. in.	Total. in.
W. Province (mean of 4 stations)	4·63	3·44	8·09	11·86	16·18	13·96	8·26	6·08	9·93	14·47	14·64	7·59	119·13
S. Province (mean of 5 stations)	2·98	3·85	6·30	7·88	15·03	7·01	5·75	3·86	5·70	9·01	11·04	8·69	87·10
N.W. Province (mean of 4 stations)	1·96	1·85	4·70	5·89	6·10	3·55	1·57	1·59	2·82	8·26	11·49	5·53	55·31
E. Province (mean of 13 stations)	5·83	2·17	4·14	1·78	1·52	0·98	2·09	2·86	2·44	5·42	9·83	11·11	50·17
Mannâr (for 11 years)..	1·75	0·78	3·00	2·57	2·92	0·65	0·14	0·52	0·87	5·58	8·37	6·48	33·63

	N.E. Monsoon (October to March). in.	S.W. Monsoon (April to September). in.
Western Province	52·86	66·27
Southern Province	42·87	45·23
North-western Province	33·79	21·52
Eastern Province	38·50	11·67
Mannâr	25·93	7·67

quata), the ancient "salt-pans" being frequented by immense numbers of the true migratory Grallatores—Curlews, Plovers, Stints, Sandpipers, &c.

The rainfall, which is the smallest in Ceylon, is compared with that of stations not more than 500 feet above sea-level in other Provinces in the preceding Tables (p. 192).

With an annual evaporation of nearly 70 inches, the natural result of the very small south-west monsoon rainfall is the drying-up of almost all the tanks throughout the district, accompanied, of course, by the disappearance of all the aquatic weeds and plants that overran them, and the fish that filled them during the early months of the year.

These influences have led to a very decided alteration in the time of breeding of many of the birds, and have also necessitated their absence from the district during the dry season. The breeding-season of all those species more or less directly dependent on the food obtainable from the tanks, or the abundance of whose food is partially or indirectly dependent on the rainfall, or that seek the protection afforded by large sheets of water, takes place during the north-east monsoon. The birds which breed during that monsoon in the south of Ceylon breed much earlier at Mannâr, evidently in order to rear their young while food is plentiful. In illustration of this, the following Table shows the ascertained date of nesting of some species*:—

	South Ceylon.	Mannâr.	Remarks.
aliastur indus	Feb., Mar.	Dec. to Feb.	Feeds on frogs, fish, and crabs in tanks.
vus govinda	....	Nov. to Jan.	" "
upa ceylonensis	Feb. to Apr.	Jan., Feb.	" "
eornis torquata	Mar., Apr.	Jan., Feb.	Nests in trees surrounded by floods; later in other positions.
do bengalensis	Feb. to June.	Dec. *et seq.*	At the tanks; later at streams.
cocercus striatus ..	Mar. to July.	Jan. to Oct.	First brood chiefly in February.

* The dates for "South Ceylon" are taken from Major Legge's excellent 'History of the Birds of Ceylon,' 1880.

	South Ceylon.	Mannár.	Remarks.
Turtur suratensis	Mar. to June.	Jan. to July.	From January to March in partly submerged bushes; afterwards other sites.
Turtur risorius	....	Jan. to July.	„ „
Drymœca jerdoni	June, July.	Jan., Feb.	Insects most abundant in grass.
Drymœca valida.....	....	Jan., Feb.	„ „
Drymœca inornata.....	May, June	Feb. to Apr.	In sedge and low thorns in tanks.
Ploceus philippinus	May to Aug.	Nov. to Feb.	Feeds in paddy-fields.
Munia punctulata	Apr. to July.	Jan., Feb.	Nests in partly submerged thorn-bushes in beds of tanks.
Munia malacca	May to Aug.	February.	„ „
Munia malabarica	....	Jan., Feb.	„ „
Acrocephalus stentorius .	June, July.	February.	In reeds in tanks.
Gallinula chloropus	....	Jan., Feb.	In partly submerged thorns.
Erythra phœnicura	May to July.	Jan., Feb.	„ „
Gallicrex cinerea	July, Aug.	(?) Feb., Mar.	In sedge and reeds.
Porphyrio poliocephalus .	....	February.	„
Dendrocygna javanica ..	June to Aug.	Feb. to Apr.	In partly submerged trees.
Sarcidiornis melanonotus	....	Jan. to (?) Mar.	
Ardeola grayi.....	May, June.	January.	In partly submerged thorn-trees.
Platalea leucorodia	March.	February.	„ „
Ibis melanocephalus	Jan., Feb.	Nov. to Feb.	„ „
Plegadis falcinellus	Jan., Feb.	Dec. or Jan.	(Young obtained.)
Herodias intermedia	Dec. to Apr.	Dec. to Feb.	In partly submerged trees.
Herodias garzetta	Dec. to Apr.	Dec. to Feb.	„ „
Nycticorax griseus.....	March.	Jan., Feb.	„ „
Phalacrocorax pygmæus .	Jan. to Mar.	Dec., Jan.	„ „
Plotus melanogaster	Mar., Apr.	Feb., Mar.	„ „

After the breeding-season is over and the young birds are well able to provide for themselves, there is a general exodus in March or April of most of the Grallatores that are not true migrants, and of the Natatores, which reappear only after the beginning of the next north-east monsoon rains. (Small numbers of some species, however, remain throughout the year, obtaining a precarious living among pools in the beds of streams or the muddy dregs of the water in the tanks. A few also are permanent residents on the coast.) These *special* (as distinguished from the *true*) migrants are the

following (and perhaps some others, regarding which there are doubts) :—

Gallinula chloropus.
Erythra phœnicura.
Gallicrex cinerea.
Porphyrio poliocephalus.
Hydrophasianus chirurgus.
Podiceps fluviatilis.
Sarcidiornis melanonotus.
Nettapus coromandelianus.
Dendrocygna javanica.
Platalea leucorodia.
Tantalus leucocephalus.
Anastomus oscitans.
Ibis melanocephalus.
Plegadis falcinellus.
(?) Xenorhynchus asiaticus.
Ardea cinerea.
Ardea purpurea.
Herodias alba.
Herodias intermedia.
Herodias garzetta.
Bubulcus coromandus.
Ardeola grayi.
Butorides javanica.
Nycticorax griseus.
Phalacrocorax pygmæus.
Plotus melanogaster.

The first to leave is the Moorhen (*Gallinula chloropus*), which disappears in March, the reason being not any want of food or climatic change, but manifestly the absence of the shelter or means of concealment that it apparently considers a necessity in Ceylon. Unlike the Waterhen (*Erythra phœnicura*), which for some time appears to feel at home in the jungle closely surrounding its former haunts, even after the water of the tanks has nearly evaporated, this bird completely abandons the district as soon as the low partly submerged thorn-bushes and the sedges which it frequents are left almost dry. The Blue Coot (*Porphyrio poliocephalus*), the Water-cock (*Gallicrex cinerea*), and the Bitterns are the next to follow. The other birds, being less partial to concealment, remain as long as a good supply of food is obtainable at no great risk; but the majority disappear before the departure of the true migrants.

Such being the general facts observed, it remains to endeavour to account for them.

In every case the birds which nidificate at Mannâr at an earlier date than in other parts of Ceylon find a most abundant supply of food during their stay in the district—a supply that a few months later is entirely wanting. This, and the almost complete security experienced, and the suitability of their haunts for breeding-purposes, appear to me to be the only causes of the variation from the usual time of nesting.

The special migrations above mentioned may perhaps assist in explaining this little-understood habit in the case of many of the true migrants. In the first place, the Mannâr district has certainly not been the home of these special migrants from prehistoric times. Previous to the construction of the village tanks, all of which are artificial, there cannot have been any seasonal movement of this kind. There are almost no natural pools of fresh water; and such as are found are in the forest-tract surrounding the plain, and of small size and not frequented by these birds. The streams are intermittent and unsuitable. In the south-west monsoon they are never the resort of more than an insignificant number of some few of the larger Waders, and only a very few Cormorants feed in them during the wet season. It is quite certain, therefore, that the migration to Mannâr (and, in fact, to a considerable part of Ceylon, for the same reasons) has begun since the formation of the tanks; and the earliest date to can be fixed for the construction of any of them is about B.C. 450. There is every reason to believe that many in this district were made between that date and B.C. 100. The migration is therefore *to* Mannâr, and not *from* Mannâr; and hence it is also clear that the migrants formerly bred in their original homes, and have since been induced to change their habits in this respect. It seems to be proved, too, that a period of about 2000 years is enough to establish a migration. For instance, the migration of the Moorhen is fully established in this period; and, strange as the fact may appear, the annual visit takes place only to these tanks, the bird, which is plentiful here, having hitherto been procured but three times in other parts of Ceylon.

The migration to Ceylon must have been due, in the first instance, solely to the attraction of the food-supply. Stragglers of some of the species which feed in both fresh and salt water were no doubt accustomed to work down the coast; and when once the resources of the tanks were discovered, few years would elapse before a regular stream of migrants found its way to them annually. The flow is certainly not from other parts of Ceylon, but much more

probably from Northern or Central India. Some peculiarities in the breeding-habits of *Ploceus philippinus* lead me to suppose that it may come from Western Ceylon; but no adequate diminution of the other species during the north-east monsoon (but rather an increase) has been observed in more southerly districts of the island.

Partial migrations.—In the admirable introduction to his 'History of the Birds of Ceylon,' Major Legge has already referred to a periodical absence of some species from the coast. This is observable throughout the Mannâr district; and in addition there is a departure, perhaps not quite *complete*, of *Coccystes jacobinus*, *Merops viridis*, and *Terpsiphone paradisi* (in the red plumage), the latter removing only from the immediate neighbourhood of the sea. The movement appears to be due, as Major Legge states, to the agency of the strong south-west winds, which blow with extreme violence [illegible]annâr. I surmise, however, that it is not caused by their direct influence on the birds themselves, but by their effect on the *food* of the birds, all of which, be it noted, are insectivorous. It is certain that insects cannot fly during strong winds without being carried away by them; and the result is that, in the littoral portion of the Mannâr district, few aerial insects are visible during the prevalence of the south-west breezes. Flies (which abound in countless insatiable hordes before the break of the monsoon), mosquitoes, and most beetles, moths, and butterflies alike disappear. In fact, in that tract the south-west monsoon is characterized by a general scarcity of winged insect life. Naturally, then, the first south-west winds are the signal for the inland movement of certain species of birds also. That the rains do not affect this partial migration is shown by its occurrence here, where often no rain, and never very much, falls at the heat of this monsoon or during its continuance.

The conclusions that would seem to follow from the facts thus observed are, therefore, as follows:—

1. That the time and place of nidification are determined by the food-supply and the feeling of security, and not by weather or climate.

2. That the cause of migration is the attraction of a plentiful food-supply.

3. That a period of 2000 years has sufficed for firmly establishing a migration.

4. That there are some exceptions to Mr. Seebohm's law that "every bird breeds in the coldest regions of its migrations" ('Siberia in Europe,' p. 244).

5. That the country in which a migratory bird breeds is not necessarily its original home.

XXII.—*On the Occurrence of* Charadrius virginicus *in Leadenhall Market, London.* By J. H. Gurney, Jun., F.Z.S.

On the 10th of November I bought, in Leadenhall Market, for the sum of fifteen pence, an American Golden Plover, *Charadrius virginicus*, a female by dissection, and apparently adult. The salesman was somewhat vague as to where it came from, first giving "Norway" as a locality, then "Holland." I should never like, from experience, to believe in any Leadenhall "locality" unless I actually saw the box, with the bird in it, unpacked; but that it was killed somewhere in Europe there can be very little doubt. On the 10th, and again a few days later, I looked to see if there were any American Grouse in the market, with which it might possibly have come over; but there were not any. The great similarity of this species to the Asiatic Golden Plover (*C. fulvus*), which is a somewhat smaller bird, has induced some ornithologists to think they are the same; but, in the opinion of Mr. H. E. Dresser, Mr. H. Seebohm, and other authorities, they are perfectly distinct. On comparing my example with a series of *C. fulvus* in the collection of Mr. Seebohm, they all proved to be smaller, while, on the other hand, the measurements, and the plumage also, in every respect, fitted exactly with a *C. virginicus* in Mr. Osbert Salvin's collection marked "female, Medellin, U. S. of Colombia," and quite sufficiently well with other specimens in the same collection. In 'The Ibis' for 1875 (p. 513) Mr. Dresser records, and

gives the measurements of, an individual of *C. fulvus*, obtained in Leadenhall Market by Mr. Edward Bidwell, believed to have come from Norfolk. For comparison I will give the principal measurements of my bird.

Wing from carpal joint 7 inches, tarsus 1·62, beak along the ridge ·9, middle toe and claw 1·12, tail 2·75.

Both *C. virginicus* and *C. fulvus* have occurred in Heligoland (Ibis, 1875, p. 184, 1877, p. 165).

XXIII.—*Description of a recently discovered Species of* Paradisea. By Osbert Salvin and F. DuCane Godman, FF.R.S.

(Plate VIII.)

In the last number of 'The Ibis' (p. 131) we published a brief diagnosis of a Bird of Paradise recently obtained in one of the D'Entrecasteaux Islands by Mr. Andrew Goldie. We now propose to give a fuller account of the bird, which, with the accompanying figure, drawn by Mr. Keulemans, will, we trust, do some justice to this beautiful and novel species.

Mr. Goldie, who visited the D'Entrecasteaux Islands in 1882, writes concerning this Bird of Paradise as follows:—

"The Birds of Paradise were shot on Fergusson Island, one of the D'Entrecasteaux group, in the mountains, at a considerable elevation above the sea, the first specimen obtained having been secured at the lowest point. The plumed males and the younger individuals were generally seen three or four together. Once heard, their call was unmistakable, being very like that of *Paradisea raggiana*; but the plumed and wired birds, after giving that call a few times, added to it a peculiar shrill whistle. Their motions whilst calling were identical with those of *P. raggiana*; but, so far as we were able to observe, they had no particular tree for dancing in. The females were found alone.

"We neither saw nor heard *P. raggiana* on these islands; and the new bird is not found on the mainland. On showing

it to the natives of Chad's Bay and China Straits along with a specimen of *Paradisea raggiana*, they, in both cases, made us to understand that the latter is found in their country, whilst the former is not; but two or three of them in China Straits who had traded to the D'Entrecasteaux Islands made signs that the new bird was to be found there."

The D'Entrecasteaux Islands were so called after the unfortunate admiral Jos. Ant. Bruni d'Entrecasteaux, the commander of the expedition sent by the French Government in the year 1791 in search of La Pérouse. This expedition consisted of two frigates, the 'Recherche' and the 'Espérance;' and during the voyage, which lasted till the autumn of 1793, the whole of the north coast of New Guinea was traversed; and it was in these seas that Admiral d'Entrecasteaux died. The second in command, M. Huon de Kermadec, predeceased him a few months. The names of both these explorers are associated with many of the geographic features of this part of the world.

Chad's Bay, alluded to in Mr. Goldie's remarks given above, is situated a little to the westward of East Cape, the eastern extremity of New Guinea, and on the north side o that promontory.

China Strait, so named by Capt. Moresby, who discovered it, is a channel between the south-easternmost point of New Guinea and a group of islands which lie beyond.

The most recentin formation we have of the D'Entrecasteaux Islands is that furnished by Captain Moresby, who visited them in 1873–74 in H.M.S. 'Basilisk,' and made surveys of them and of the adjoining parts of New Guinea and the islands to the eastward. A paper on this voyage is contained in the 'Journal of the Royal Geographical Society' for 1875 (p. 153), accompanied by a map; and a further account of it is given in the book of his travels published by Captain Moresby in the same year*.

* Discoveries and Surveys in New Guinea and the Dentrecasteaux Islands: a Cruise in Polynesia and Visits to the Pearl-shelling Stations in Torres Straits of H.M.S. 'Basilisk.' By Captain John Moresby, R.N. With Maps and Illustrations. 8vo. London: John Murray. 1876.

Fergusson Island was so named by Capt. Moresby, who calculated that the mountain called Kilkerran (the highest near the northern coast) reaches an altitude of 6000 feet above the sea. Two other large islands, Goodenough Island and Normandy Island, lie close to Fergusson Island, and form the chief islands of the group.

Paradisea decora, as we have proposed to call this Bird of Paradise, combines the characters of some of the previously known species. The side-plumes are like those of *P. sanguinea*, each feather having its barbs towards the end wide apart and destitute of barbules. These feathers are similarly formed in *P. sanguinea*; but in the present bird the barbs are even wider apart. The "wires" of the tail are like those of *P. apoda*, *P. minor*, and *P. raggiana*, the feathers having a simple stem on which the atrophied barbs become more and more evanescent till they disappear at the middle of the feather to appear again at its extremity. In *P. sanguinea* the stem is broad and flattened.

The side-plumes of *P. decora* are very peculiar, inasmuch as a number of the anterior plumes are quite short, with the barbs of each feather much lengthened towards the end; the distal ends of these feathers are deep rich vinous red, and appear as if the pigment which colours the elongated plumes were concentrated in these shorter ones.

The breast of *P. decora* is of a soft vinaceous lilac, and in this respect differs from that of all its congeners. The throat is velvet-green, showing two shades, owing to the feathers nearer the chin reflecting the light at a different angle. This darker-looking patch is larger in *P. decora* than in the other species. The back, except the narrow green forehead, is straw-coloured, like that of *P. minor*.

Mr. Goldie's series contains males in all stages of development. The youngest are like the females, but with throat green; the breast is of a ruddy tint, vermiculated with dusky marks on each feather. In the first plumage the two central rectrices are narrow and elongated, but with barbs &c. as in the perfect feather; they project beyond the rest of the tail-feathers, the length of the projection varying. In some

males (perhaps young birds, perhaps birds out of nuptial plumage) these feathers are much more elongated and the length of the barbs of the middle of each feather is much reduced; but these lengthen again so as to form a small spatule.

The moult to the nuptial plumage proceeds in various ways: sometimes the lilac feathers of the breast are the first to appear; in others the wiry rectrices are the first to take the place of their predecessors. In some cases these latter are fully grown before the ornamental side-plumes make their appearance. In others, again, they grow contemporaneously with these plumes.

The following is a diagnosis of the adult male and female birds:—

PARADISEA DECORA. (Plate VIII.)

♂. Supra sericeo-straminea, alis et cauda fuscis, illarum tectricibus stramineo lavatis; rectricibus mediis elongatis filiformibus, ramis ad medium evanescentibus sicut in *P. apoda*; fronte angusta et gula velutino-viridescenti nitentibus, mento sub certa luce obscuriore; subtus lilacino-vinacea, pectore saturatiore, abdomine medio albicantiore; plumis hypochondriacis posticis ruberrimis, apicibus canescentibus, ramis valde distantibus sicut in *P. sanguinea*, anticis brevibus, apicibus saturatissime rubro-vinaceis; rostro plumbeo ad apicem albicante; pedibus pallide plumbeis; iride (avis vivi) flava: long. tota 14 poll. Angl., alæ 7, caudæ rectr. elong. 18, rectr. lat. 6, rostri a rictu 1·6, tarsi 1·8.

♀. Inornata, supra olivacco-fusca stramineo tincta, gula saturate brunnea; subtus rufescenti-fusca, pectore et hypochondriis anticis fusco irroratis; caudæ rectricibus duabus mediis angustis et acutis, reliquis paulo brevioribus.

Hab. Fergusson Island, D'Entrecasteaux group (*Goldie*).

Mus. Brit. (specimina septem).

In conclusion we must congratulate Mr. Goldie on the discovery of this fine species, and at the same time express our opinion that these islands, with their peculiar Bird of Paradise, the home, too, of *Manucodia comrii* and of the *Otidiphaps* lately described as *O. insularis*, are well worthy of further patient investigation.

J.G.Keulemans lith. Hanhart imp.

PARADISEA DECORA.

XXIV.—*Notes on Birds from British Guiana.* Part II.*

By Osbert Salvin, and F. DuCane Godman, FF.R.S.

(Plate IX.)

As was stated in our last notice of Mr. Henry Whitely's collections from British Guiana, that enterprising explorer proceeded to the Roraima Mountains, and remained there during the autumn of the year 1881 and the early part of 1882. He then returned to Georgetown, and brought home with him the results of his expedition—a collection containing examples of upwards of 280 species of birds. During his stay at the foot of the Roraima Mountains and in their vicinity Mr. Whitely ascended to an elevation of about 5000 feet, a height still short of that attained by Schomburgk, who reached 6000 feet above the sea. Some of the birds of this higher zone have thus escaped Mr. Whitely's observation, and a few species, such as *Diglossa major*, *Setophaga castaneocapilla*, *Buarremon personatus*, and *Campylopterus hyperythrus* are still unrepresented in any Museum but that of Berlin, where Schomburgk's collection remains.

Mr. Whitely's researches have nevertheless produced a rich harvest, not only of novelties, but also of rarities hitherto but little known. Amongst the latter we may name *Granatellus pelzelni*, *Tachyphonus phœniceus*, *Agelæus imthurni*, *Pipra cornuta*, *Neopipo cinnamomea*, *Dendrocincla longicauda*, *Neomorphus rufipennis*, *Conurus egregius*, &c. Many of the remaining species are of equal interest, as extending our knowledge of their geographical distribution.

These we must treat of on a future occasion; suffice it to say that since Mr. Whitely began to work in British Guiana he has sent us skins of nearly 400 species of birds—a number approaching that obtained by Schomburgk during his well-known expedition.

Mr. Whitely has again returned to his old collecting-ground near the Roraima Mountains; and we hope still to receive from him additional collections, which may serve yet more to develop our knowledge of this interesting country.

* For Part I. see Ibis, 1882, pp. 76–84.

The following notes relate to the new and more remarkable species of Mr. Whitely's last collection :—

Microcerculus ustulatus, sp. n. (Plate IX. fig. 2.)

Cinnamomeo-brunneus fere unicolor, gutture toto dilutiore; alis extus et cauda lineis obsoletis fuscis transfasciatis; rostro nigricante, mandibulæ basi albicante: long. tota 4·4, alæ 2·35, caudæ 1·3, rostri a rictu 0·35, tarsi 0·95.

Hab. Roraima, Guiana Brit. (*H. Whitely*).

Mus. nostr. et P. L. S.

Mr. Whitely obtained three specimens of this distinct species, which has no near allies. It is distinguished by its rich cinnamon-brown plumage, which is almost destitute of markings, faint dark cross bars on the wing and tail being all that can be traced.

Cistothorus alticola, sp. n.

Supra brunneus, pileo immaculato, interscapulio nigricante plumis singulis medialiter linea albida notatis, alis et cauda frequenter sed irregulariter nigro transfasciatis; subtus albidus, pectoris lateribus, hypochondriis et crisso brunneis; rostro et pedibus corylinis, illius mandibula albicante: long. tota 4·1, alæ 1·75, caudæ 1·7, rostri a rictu 0·55, tarsi 0·65.

Hab. Roraima, Guiana Brit. (*H. Whitely*).

Mus. nostr.

Obs. B. brunneicipiti similis, sed statura minore, colore minus rufescente, fasciis alarum frequentioribus et fasciis caudæ irregulariter disjunctis distinguendus.

Though belonging to the same section of the genus *Cistothorus* as *C. brunneiceps* (Salv. Ibis, 1881, p. 129, t. 3. f. 1), this species presents several differences, which render it easily recognizable on comparison. Like *C. brunneiceps*, the head is uniform brown, without stripes of any kind; but the colour is rather duller in tint; beneath *C. alticola* is whiter, and the flanks are also less rufous in colour. The differences of the markings of the wings and tail alluded to above are strong characteristics.

Mr. Whitely has sent us several specimens of this species,



J.G.Keulemans lith. Hanhart imp.

1. BROTOGERYS PANYCHLORUS.
2. MICROCERCULUS USTULATUS.

all agreeing closely with one another. They were obtained at Roraima in November and December 1881.

HYLOPHILUS SCLATERI, sp. n.

Supra olivaceo-viridis, pileo cinereo, fronte anguste et loris rufescentibus; subtus ochraceo-albidus, pectore ochraceo, subalaribus flavis, crisso sordide albo; remigibus fuscis extus griseo limbatis, rectricibus fuscis: rostri maxilla cornea, mandibula dilutiore; pedibus pallidis: long. tota 4·5, alæ 2·35, caudæ 2·05, rostri a rictu 0·6, tarsi 0·75.

♀ mari omnino similis.

Hab. Roraima, Guiana Brit. (*H. Whitely*).

Mus. nostr. et H. von Berlepsch.

Obs. *H. muscicapino* similis, sed rostro breviusculo, loris nec superciliis rufescentibus, pectore ochraceo, remigum marginibus cinereis nec olivaceis, et cauda fusca nec olivacea distinguendus.

Our friend H. von Berlepsch, writing of this bird, of which he obtained a specimen from Whitely's collection, suggested the name which we gladly adopt in recognition of Mr. Sclater's useful monograph of this intricate genus (Ibis, 1881, p. 293 *et seqq.*). The bird itself is evidently allied to *H. muscicapinus*, but differs in many small characters.

PYRANGA HÆMALEA, sp. n.

Phœnicosoma azaræ, Cab. in Schomb. Reise n. Guiana, iii. p. 668?

Saturate sanguineo-testacea, subtus gula et abdomine medio multo pallidioribus, pectore fere dorso concolori; alis et cauda nigricantibus extus colore testaceo limbatis; rostro corneo, dente maxillari medio distincto, pedibus fuscis: long. tota 7·0, alæ 3·7, caudæ 3·1, rostri a rictu 0·9, tarsi 0·8.

♀ olivacea, subtus flavidior; gula et abdomine medio flavicantibus.

Hab. Roraima, Guiana Brit. (*H. Whitely.*)

Mus. nostr.

Obs. *P. azaræ* et *P. testaceæ* affinis, sed ab ambabus colore dorsi maris saturatius sanguineo-testaceo et gula et abdomine medio multo pallidioribus diversa.

This *Pyranga* seems sufficiently distinct from either of the above-named species to justify its separation. The chief character is the paler red throat and abdomen in contrast to the dark chest and flanks.

Mr. Whitely's specimens were obtained in January 1882.

Oxyrhamphus hypoglaucus, sp. n.

Supra viridis, crista coccinea utrinque nigro variegata, alis et cauda nigricantibus extus viridi limbatis, tectricibus alarum minoribus flavido terminatis, secundariis quoque internis flavido extus marginatis; subtus albus, undique nigro maculatus, hypochondriis et crisso vix viridi lavatis; rostri maxilla cornea, mandibula albicante; pedibus fuscis: long. tota 6·3, alæ 3·6, caudæ 2·5, rostri a rictu 0·85, tarsi 0·85.

♀ mari similis.

Hab. Roraima et Merume Mts., Guiana Brit. (*H. Whitely*).

Mus. nostr. et P. L. S.

Obs. *O. flammicipiti* et *O. fratri* similis, sed corpore subt[illegible] albo nigro guttato distinguendus.

This species seems to be distinct from both *O. flammiceps* of Brazil and *O. frater* of Central America, the under surface being nearly pure white spotted with black; in the allied birds this part is pale green with black spots. In the markings of the wing-coverts it is somewhat intermediate between the other species, the coverts being spotted, though not so clearly as in *O. frater*; the inner secondaries, too, have a yellowish outer margin.

In the male bird the outer primary has the barbs pointed and recurved, so that the edge of this feather is strongly serrated. Both the allied species have this feature; but it seems carried to greater development in *O. hypoglaucus* than in either of the others. The shape of each hook is somewhat similar to that which is found in the genus *Stelgidopteryx*.

Tyranniscus acer, sp. n.

Supra olivaceus, capite summo et fronte cinereis; alis et cauda nigricantibus, illarum tectricibus et secundariis flavo anguste limbatis, hac olivaceo marginata; subtus gutture albicante, abdomine toto pallide flavido-olivaceo; sub-

alaribus et campterio alari flavis; rostro et pedibus nigris: long. tota 4·0, alæ 1·9, caudæ 1·8, rostri a rictu 0·45, tarsi 0·6.

Hab. Bartica Grove et Camacusa, Guiana Brit. (*H. Whitely*).

Mus. nostr. et P. L. S.

Obs. *T. vilissimo* affinis, sed abdomine flavido et fronte cinerea distinguendus; a *T. improbo* fronte cinerea diversus.

This is a species belonging to the same section of the genus as *T. vilissimus*, having the wing-coverts and primaries edged with olive-yellow, but differing from that species and from *T. improbus* in the grey of the head extending to the base of the beak.

Mr. Whitely obtained many specimens, all of which agree closely with one another.

Myiobius roraimæ, sp. n.

♂. Supra brunneus, cervice postica et fronte vix olivaceo lavatis, crista celata læte rufa; alis et cauda nigricantibus, remigum marginibus et alarum tectricum apicibus læte cinnamomeis; subtus flavicanti-albidus, cervicis lateribus, pectore et hypochondriis olivaceo-fuscis, alis intus cinnamomeis; rostri maxilla fusca, mandibula flavicante: long. tota 5·4, alæ 2·7, caudæ 2·7, rostri a rictu 0·7, tarsi 0·75.

Hab. Roraima, Guiana Brit. (*H. Whitely*).

Mus. nostr. et H. von Berlepsch.

Obs. *M. flavicanti* proximus, sed colore corporis supra brunneo nec olivaceo et alis cinnamomeo limbatis primo visu distinguendus.

The wings of this species are marked not unlike those of *M. cinnamomeus*; but as the rump is coloured like the back, its nearest ally is probably *M. flavicans*.

Mr. Whitely obtained three specimens of this species, one of which is in the collection of Count Hans v. Berlepsch.

Myiarchus phæonotus, sp. n.

Supra nigricans capite summo vix saturatiore, alis et cauda concoloribus, tectricibus alarum et secundariis fusco mar-

ginatis; subtus gutture toto pallide griseo, abdomine pallidissime flavo; rostro et pedibus nigris: long. tota 6·5, alæ 3·5, caudæ 3·5, rostri a rictu 0·9, tarsi 0·7.

♀ mari omnino similis.

Hab. Merume Mountains, Guiana Brit. (*H. Whitely*).

Mus. nostr. et P. L. S.

Obs. M. apicali haud dissimilis quoad corporis colores, sed caudæ parte apicali albida carens.

Several specimens of this species were obtained by Mr. Whitely in the Merume Mountains. It belongs to the same section of the genus as *M. tyrannulus*, in which the tail is without any rufous edging; but the dark colour of the back renders it easy to be recognized. From *M. apicalis* it differs in wanting the light apex to the tail.

PIPRA VIRESCENS, Pelz.

We are indebted to Count v. Berlepsch for drawing our attention to the bird described by Sclater and Salvin as *Tyranneutes brachyurus*, and for the suggestion that it might prove to be *Pipra virescens* of Pelzeln. On reexamining our specimens we find that this surmise is quite correct. In Mr. Sclater's and our own collections are four specimens of *Pipra virescens*, one of them a type from the Vienna Museum, and the others obtained by Mr. E. Bartlett on the Upper Amazons. None of these specimens have any traces of the yellow vertex; so we must presume that they are all immature. Mr. Whitely's examples of *Tyranneutes brachyurus* are marked as of both sexes, but all have the yellow vertical spot. As they do not differ in any other way from our specimens of *Pipra virescens*, we conclude that the possession of this yellow vertical spot is a mark of maturity, and that those birds in which it is absent are still immature. Anyhow we have no hesitation in placing *Tyranneutes brachyurus* as a synonym of *Pipra virescens*.

PACHYRHAMPHUS GRISEIGULARIS, sp. n.

♂ adhuc ignotus.

♀. Supra olivaceus, capite summo paulo obscuriore; alis fusco-

nigris, secundariis internis olivaceo marginatis, tectricibus omnibus læte cinnamomeis; subtus griseus albo striatus, ventre medio et crisso albis, hypochondriis viridi lavatis; rostri maxilla corylina, mandibula albida; pedibus pallidis: long. tota 5·6, alæ 3, caudæ 2·3, rostri a rictu 0·8, tarsi 0·8.

Hab. Roraima, Guiana Brit. (*H. Whitely*).

Mus. nostr.

Obs. Species *P. viridi* quoad alarum tectricum colorem castaneum affinis, sed valde distincta.

Unfortunately Mr. Whitely obtained only a single female specimen of this obviously distinct species, which seems to be allied to the Brazilian *P. viridis*; for, besides the upper surface being olive, as in that bird, the wing-coverts are cinnamon, as in the female of Bahia specimens of *P. viridis*. *griseigularis*, however, may at once be distinguished by its grey throat and breast, the latter in *P. viridis* being yellow, and by the absence of the grey collar which separates the olive head from the back in the Brazilian bird. Judging from analogy, the male will prove to have the top of the head black and the wing-coverts olive, like the back.

ATTILA SPODIOSTETHUS, sp. n.

Supra cinereus, dorso olivaceo tincto, uropygio citrino-flavo, alis fuscis tectricibus sordide griseo notatis, subalaribus citrinis; cauda rufescente; subtus gutture toto griseo, plumis singulis albo marginatis, abdomine medio et crisso albis, hoc flavido induto; rostro et pedibus obscure corylinis: long. tota 6·5, alæ 3·5, caudæ 2·8, rostri a rictu 1·1, tarsi 0·9.

♀ mari similis, sed minor et coloribus corporis subtus grisescentioribus, crisso pure albo.

Hab. Bartica Grove, Guiana Brit. (*H. Whitely*).

Mus. nostr.

The bird here described differs from every species with which we are acquainted in having a grey head and grey breast and throat, rendering it more distinct at first sight than many acknowledged species.

Mr. Whitely sent us a pair of this species, and also a single example of *A. uropygialis* (Cab. in Schomb. Reise n. Guiana, iii. p. 686), which we also believe to be a distinct species. Along with these are several specimens of a third species, which so much resembles *A. sclateri* that we hesitate to separate it.

In Guiana, too, *A. spadiceus* (Gm.) is found, and also *A. thamnophiloides* (Cab. in Schomb. Guiana, iii. p. 686); so that in this region we find no less than five species of *Attila*, all more or less distinct!

Dendrocolaptes plagosus, sp. n.

Supra brunnescens, uropygio, alis et cauda rufescentibus; pileo et cervice postica cervino striatis; interscapulio indistincte nigro transvittato; subtus gula cervina plumis singulis fusco bimaculatis et fusco terminatis, pectoris summi plumis fuscis medialiter isabellinis utrinque nigro marginatis; abdomine toto pallide fusco et nigro regulariter transfasciato; rostro nigricante; pedibus plumbeis: long. tota 10·3, alæ 5·4, caudæ 4·6, rostri a rictu 1·8, tarsi 1·1.

Hab. Camacusa, Guiana Brit. (*H. Whitely*).

Mus. nostr.

Obs. D. valido affinis, sed interscapulio fuscescentiore et nigro indistincte transfasciato, striis quoque capitis angustioribus, subtus abdominis fasciis totis integris nec disjunctis distinguendus.

This bird is probably the representative in Guiana of the Andean *D. validus* (Tsch.), but seems sufficiently distinct for recognition. Mr. Whitely obtained two specimens of it, a male and a female, both at Camacusa.

Dendrornis polysticta, sp. n.

Supra brunnea, capite summo nigricante, uropygio, alis et cauda ferrugineis; capite summo, cervice et interscapulio cervino guttatis, guttis singulis nigro marginatis; subtus gutture cervino, pectore et abdomine toto brunnescentibus, illo guttis cervinis nigro marginatis notato; rostri maxilla nigricante, mandibula interdum nigricante interdum ad basin flavicante; pedibus corylinis: long. tota 8·5, alæ 4·0, caudæ 4·0, rostri a rictu 1·5, tarsi 0·9.

Hab. Bartica Grove, Guiana Brit. (*H. Whitely*).

Mus. nostr.

Obs. *D. lacrymosæ* affinis, sed guttis supra et subtus minoribus, abdomine imo fere immaculato, et tectricibus alarum brunneis diversa.

We have been unable to find a description of this species, which differs from its allies in having strongly marked spots both above and below, and for the most part a black bill. *D. lacrymosa* seems to be the most nearly related to it; but in this bird the spots are both larger and more extensively diffused.

Dysithamnus spodionotus, sp. n.

Supra schistaceus unicolor, alis extus vix olivaceo limbatis, tectricibus alarum albo anguste terminatis; subtus albus, pectore et corporis lateribus schistaceis, hypochondriis imis fuscescentibus; rostri maxilla nigricante, mandibula plumbea ad basin albida: long. tota 4·5, alæ 2·5, caudæ 1·8, rostri a rictu 0·8, tarsi 0·8.

♀ brunnescens, capite summo et alis extus rufescentioribus, subtus alba, pectore hypochondriis et crisso cinnamomeis.

Hab. Roraima, Guiana Brit. (*H. Whitely*).

Mus. nostr.

Obs. *D. semicinereo* affinis, sed dorso pure schistaceo et abdomine medio albo nec flavo tincto distinguendus; feminæ quoque colore supra saturate cinnamomeo-brunneo diversus.

A close ally of *D. semicinereus*, but differing constantly in the above characters.

Brotogerys panychlorus, sp. n. (Plate IX. fig. 1.)

Viridis, subtus dilutior, regione parotica flava, loris et mento flavido indutis, alis nigricantibus extus dorso concoloribus; cauda subcuneata brevi, rectricibus omnibus acutis; rostri maxilla pallide corylina, mandibula flavicante: long. tota 5·5, alæ 3·7, caudæ rectr. med. 1·85, rectr. lat. 1·5, tarsi 0·4.

♀ mari omnino similis.

Hab. Roraima, Guiana Brit. (*H. Whitely*).

Mus. nostr. P. L. S. et H. v Berlepsch.

This little Parrot is hardly larger than the members of the genus *Psittacula*, females of which it at first sight resembles. The nostril, however, is placed in the middle of a distinct cere, showing its relationship to *Brotogerys*.

Mr. Whitely obtained several specimens of this bird, which have passed into the hands of ourselves, Mr. Sclater, and Count H. v. Berlepsch; and we all, I believe, agree in considering it undescribed.

COLUMBA RUFINA.

The examination of a young bird of this species from Bartica Grove suggests to us that Mr. Lawrence's *Melopelia plumbescens* (Ibis, 1880, p. 238) may be *C. rufina* in its first plumage. There are some discrepancies between our bird and Mr. Lawrence's description, chiefly as regards the colo[ur] the top of the head, which has a rufous tinge in our spe[ci]men, instead of being whitish ash. As this may arise fro[m] our skin being that of a rather younger bird than Mr. Law[-]rence's type, and as in other respects the two agree very closely, we are strongly of opinion that *Melopelia plumbescens* must be placed as a synonym of *Columba rufina*.

XXV.—*Notices of recent Ornithological Publications.*

(Continued from p. 118.)

49. *Blasius and Nehrkorn on Birds from Amboina.*

[Dr. Platen's ornithologische Sammlungen aus Amboina, verzeichnet und besprochen von Wilh. Blasius und Ad. Nehrkorn. Verh. der k. k. zool.-bot. Gesell. Wien, 1882, p. 411.]

Dr. Platen's Amboina collections made in 1881 and 1882 contained 138 skins, referable to 43 species, of which an account is here given. Three species (*Myzomela boiei, Ardetta flavicollis,* and *Sterna nigra*) are new to the Amboinan avifauna. The nests and eggs of many species are described. *Tanysiptera dea* bores its holes in ants' nests which are placed in the trees, and deposits two shining white eggs.

50. *British Association's Report on Migration in* 1881.

[Report on the Migration of Birds in the Spring and Autumn of 1881. By Mr. John A. Harvie-Brown, Mr. John Cordeaux, Mr. Philip M. C. Kermode, Mr. R. M. Barrington, and Mr. A. G. More. 8vo. London: 1882.]

This is the third Report of the Committee appointed by the British Association for the purpose of obtaining observations on the migration of birds at lighthouses and lightships. It contains separate reports based upon returns from various points on the east and west coasts of England and Scotland, and also from the Irish coast, drawn up by different members of the Committee, and furnishes a mass of useful information which will ultimately, no doubt, throw much [illegible]t upon this obscure subject.

[illegible]. *'Bulletin of the Nuttall Ornithological Club.'*

[Bulletin of the Nuttall Ornithological Club: a Quarterly Journal of Ornithology. Vol. viii. no. 1, Jan. 1883: Cambridge, Mass.]

In this number Mr. Jeffries describes very clearly an extraordinary case of complete lateral hermaphroditism in a specimen of *Pipilo chlorurus*. Mr. Brewster continues his account of Mr. Stephens's Arizona birds, amongst which are noticed *Picus stricklandi* (14 specimens from the Santa Rita mountains), *Micrathene whitneyi* (common in the desert-region about Tucson), and (three examples of) *Buteo abbreviatus*. *Callipepla squamata castanogastris* (!) is a new subspecies from the Lower Rio Grande. We have also read with much amusement Dr. Coues's "Compliments of the Season," and admired the illustrations; but *where* was Dr. Coues when so many of his feathered friends paid him a visit? He does not state in what place he passed his New-Year's Day; and we believe that he does not always remain in the same abode.

52. *Dubois on the Variability of Birds of the Genus* Loxia.

[De la Variabilité des Oiseaux du Genre *Loxia*. Par M. Alph. Dubois. [illegible]ull. du Musée R. d'Hist. Nat. Belgique, 1882, Oct.]

M. Dubois speaks of the Crossbills as exemplifying his views that many so-called species are only "climatic varieties," and describes a new variety "*amurensis*" of *Loxia leucoptera*.

53. *Gould's 'Supplement to the* Trochilidæ.'

[Supplement to the Trochilidæ, or Humming-Birds. By John Gould, F.R.S. &c. Part III. Folio. London: 1883.]

The third part of the 'Supplement to the Trochilidæ' has now been issued, and contains figures of the following species:—

Urosticte ruficrissa.
Heliangelus micrastur.
Rhamphomicron dorsale.
Rhamphomicron olivaceum.
Ionolæma whitelyana.
Oxypogon cyanolæmus.
Selasphorus ardens.
Selasphorus flammula.
Panychlora stenura.
Panychlora russata.
Aphantochroa hypostícta.
Eriocnemis sapphiropygia.
Eupetomena hirundo.
Dorifera veraguensis.

The following species are described, but it has not been thought necessary to figure them:—*Selasphorus torridus, S. henshawi, Atthis ellioti, Eriocnemis dyselius, E. chrysorama, E. assimilis, E. smaragdinipectus, Dorifera rectirostris, D. euphrosinæ, Eutoxeres heterura, E. salvini, Eucephala scapulata, E. pyropygia, E. subcærulea, E. cyanogenys*, and *Lesbia chlorura*.

54. *Hartlaub on the Ornithology of Eastern Equatorial Africa.*

[Zweiter Beitrag zur Ornithologie der östlich-æquatorialen Gebiete Africa's von Dr. G. Hartlaub, nach Sendungen und Noten von Dr. Emin Bey in Lado. Abh. Nat. Ver. Bremen, Band iii. Heft 2. Bremen: 1882.]

Dr. Hartlaub's present memoir treats of the 120 species, examples of which were collected by Dr. Emin Bey during his recent travels in the districts of Bari, Lattuka, and Shuli, on the Upper White Nile, south of Ladó. The exact localities are plainly indicated on an accompanying outline ma

of these regions. The new species of this collection have been already described*; but one more is now added—*Cisticola ladoensis*. Numerous critical notes and references are given in the present paper, and also a few corrections and additions to the former article on the same subject. In conclusion Dr. Hartlaub furnishes a systematic list of all the species of birds (276) of which examples have been transmitted by Dr. Emin Bey to the Museums of Bremen and Vienna. *Psittacus erithacus* is common in Uganda and Southern Unyoro; and some interesting notes on its habits in a state of nature are given.

55. *Harvie-Brown's Report on Scottish Ornithology.*

[hird Report on Scottish Ornithology—October 1st, 1880, to April Compiled by Mr. John A. Harvie-Brown, F.R.S.E. Proc. Nat. list. Soc. Glasgow, 1881, p. 41.]

After an account of the terrible weather experienced during the winter of 1880–81 (gales from N.E. and E. all the season, and severe frosts and snows, especially in January 1881, which did great injury to the native species), Mr. Harvie-Brown gives his notes upon the more remarkable occurrences in systematic order. A *Saxicola deserti* (cf. Zool. 1881, p. 54) was the prize of the season. Several examples of *Lanius excubitor* occurred, and one of *Numenius borealis* was shot, in Kincardineshire.

56. *Harvie-Brown on the Migration of Birds.*

[Paper on the Migration of Birds upon our British Coasts, read before the Stirling Field Club on Tuesday, 13th December 1881. By J. A. Harvie-Brown, F.R.S.E. &c. 8vo. Stirling: 1881.]

An excellent essay upon migration, in which special attention is drawn to Herr A. Weissman's paper on this subject in the 'Contemporary Review' (vol. xxxiv. p. 531). At the end is given a useful list of some of the later and more important essays on migration.

* *Vide* Ibis, 1883, p. 103.

57. *Heywood's 'Field Naturalist.'*

[The Field-Naturalist and Scientific Student, a Medium of Intercommunication. No. 7. December 1882. Manchester: Abel Heywood and Son.]

This new popular magaziue of natural history contains occasionally articles on birds and bird-life. In the present number Mr. C. Oxendale gives an account of a "Lancashire Gullery."

58. *Hoffman on Birds observed at Ft. Berthold, D. T.*

[List of Birds observed at Ft. Berthold, D. T., during the Month of September 1881. By W. J. Hoffman, M.D. Proc. Boston Soc. Nat. Hist. xxi. p. 397.]

Fort Berthold is an Indian village in Dakota, on the M souri, about ninety-five miles above Bismark. Dr. H man was was studying the Indian tribes there in September 1881, but found time to record his observations on 40 species of birds, of which he gives a list, with notes. *Neocorys spraguei* was "rather abundant during the earlier portion of the month."

59. *Huet on Birds bred in* 1881 *in the Jardin des Plantes, Paris.*

[Note sur les Naissances d'Oiseaux obtenues en 1881 à la Ménagerie du Muséum d'histoire Naturelle. Par M. Huet. Bull. Soc. d'Acclim. France, 1882, p. 352.]

Amongst the birds which bred in the Jardin des Plantes in 1881 we find mentioned *Perdix fusca* of Senegal (*Ptilopachys fuscus*?), and *Cygnus buccinator*, besides other interesting species.

60. *Littleboy on the Birds of Hertfordshire.*

[Notes on Birds observed in Hertfordshire during the Year 1881. By John E. Littleboy. Trans. Hertfordshire Nat. Hist. Soc. ii. p. 83.]

Mr. Littleboy chronicles the additions made to the list of Hertfordshire birds in 1881, thirteen in all. *Oriolus galbula* nested near Ware in June of that year; and a specimen of

Falcinellus igneus was shot on a lake in Balls Park in September. Other interesting notes are given.

61. *Mela's 'Vertebrata Fennica.'*

[Suomen Luurankoiset, eli luonnontieteellisen Suomen Luurankoiselämistö. Kirjoitli A. J. Mela. 8vo. Helsingissä: 1882.]

This is a handbook of the vertebrated animals of Finland, written in Finnish, and consequently rather incomprehensible to the world in general. It is illustrated by occasional woodcuts. Two hundred and seventy-four species of birds are included as inhabitants of Finland.

62. *Müller on the Birds of the Island of Salanga.*

[...ie Ornis der Insel Salanga, so wie Beiträge zur Ornithologie der ...nsel Malakka. Ein zoogeographische Studie. Inaugural-Dissertation ...ur Erlangung der Doctorwürde der philosophischen Facultät der Universität Erlangen, vorgelegt von August Müller. 8vo. Hamburg: 1882.]

About 1000 bird-skins, transmitted to Berlin by Capt. J. Weber from Tongkah, in the Siamese island of Salanga, on the western coast of the Malaccan peninsula, form the basis of this memoir. The collection was made in less than a year, and embraces fine series of many of the species, which are all together 155 in number. Two species are described as new, *Criniger cabanisi* and *Gecinus weberi*. Two examples of *Ampeliceps coronatus* were in the collection. Careful notes are given on points of distribution and geographical variation. On the moot question of *Buceros* (*Rhytidoceros*) *undulatus* and *subruficollis*, Herr Müller agrees with Blasius and Nehrkorn in doubting the existence of two species. To the account of the species is appended an excellent essay upon the geographical relationship of the Salangan ornis, illustrated by tables showing the distribution of every species.

63. *Nulting on Birds from Costa Rica.*

[On a Collection of Birds from the Hacienda "La Palma," Gulf of Nicoya, Costa Rica. By C. C. Nulting. Proc. U.S. Nat. Mus. 1882, p. 382.]

Mr. Nulting spent four weeks in March and April last at the hacienda La Palma on the Gulf of Nicoya, Pacific coast of Costa Rica, and obtained examples of 97 species of birds, on which some excellent field-observations are given. Mr. Ridgway, who has determined the species, adds some valuable critical notes. *Icterus pectoralis espinachi* is a new subspecies, and *Myiarchus nultingi* a new species. *Muscivora mexicana* was found abundant and breeding.

64. *Oates on the Birds of Pegu.*

[A List of the Birds of Pegu. By Eugene W. Oates. Stray Feathers, vol. x. p. 175.]

A carefully drawn-up list of the birds ascertained to occur in the British province of Pegu, of which a map is given showing its exact limits and general features. Short notes of their distribution and times of occurrence are added; and in the cases of rare or doubtful species further explanations are given. The list contains 454 species, arranged in the order of Mr. Hume's Catalogue and according to his nomenclature, with but few exceptions. Pegu seems to be a paradise of Sylviadæ in certain seasons; *Calliope kamtschatkensis* and *Cyanecula suecica* are "very abundant" in the cold weather, and *Locustella lanceolata* and *L. certhiola* "extremely common."

65. *'Ornithologist and Oologist.'*

[Ornithologist and Oologist. Vol. vii. Nos. 22 & 23. November and December 1882. Joseph M. Wade, Boston, U. S. A.]

We have lately been favoured with copies of several numbers of this American magazine of popular ornithology, now in its eighth year of publication. It contains principally notes of the life-history of the birds of North America. In the two numbers now before us an interesting notice is given of the habits and nesting of *Phainopepla nitens*, as observed by Mr. B. W. Everman in Southern California.

66. *Payne-Gallwey's 'Fowler in Ireland.'*

[The Fowler in Ireland, or Notes on the Haunts and Habits of Wild-

fowl and Seafowl, including Instructions in the Art of shooting and capturing them. By Sir Ralph Payne-Gallwey, Bart. 8vo. London: 1882.]

There is not much that can be called scientific in this work, the title of which speaks for itself; but we are told by one who is a very experienced hand in such matters that it is one of the best books on the subject ever written.

67. *Pelzeln's Report on the Progress of Ornithology in* 1881.

[Bericht über die Leistungen in der Naturgeschichte der Vögel während des Jahres 1881 von August von Pelzeln. 8vo. Berlin: 1883.]

Herr v. Pelzeln's Report is as full and as complete as usual, a little late in its issue. A great number of the smaller oirs are mentioned.

68. *Ramsay on new Birds from the Solomon Islands.*

[Description of two new Birds from the Solomon Islands. By E. P. Ramsay, F.L.S. Proc. Linn. Soc. N. S. W. vol. vii. p. 200.]

Phlogœnas salamonis and *Dicrurus longirostris* are both from San Christoval. The former is probably *Phl. johannæ* of Tristram (nec Sclater).

69. *Ridgway on new North-American Birds.*

[Descriptions of some new North-American Birds. By Robert Ridgway. Proc. U.S. Nat. Mus. 1882, p. 343.]

The new birds described are:—(1) *Catherpes mexicanus punctulatus*, subsp. nov., from California; (2) *Lophophanes inornatus griseus*, subsp. nov., from middle U. S., Nevada, Utah, Colorado, Arizona; (3) *Geothlypis beldingi*, from Lower California; and (4) *Rallus beldingi*, from Espiritu Santo islands, Lower California.

70. *Salvadori's 'Ornithology of Papuasia.'*

[Ornitologia della Papuasia e delle Molucche di Tommaso Salvadori. Parte terza. Torino, 1882. 1 vol. 4to, pp. 596.]

We have now the pleasure of recording the completion of

the main portion of this important work, which has cost the energetic author eight years of incessant labour. No one, we are sure, will allege that this labour has been in vain; for a more complete and elaborate memoir on the avifauna of any part of the world has never been produced. Though daily discoveries are being made among the eastern islands, and the subject is far from being exhausted, Salvadori's 'Ornithology of Papuasia' will long remain the standard work of reference upon the birds of that portion of the globe.

The third volume of this work embraces the birds of the Orders Columbæ, Gallinæ, Grallatores, Natatores, and Struthiones, besides a supplement of species discovered and described during the progress of the work. The avifauna of Papuasia and the Moluccas, or the "Papuan Subregion," as we should prefer to call it, is thus shown to contain [illegible] species at present known to us. In conclusion Count Salvadori promises us an introductory volume to treat of the history, bibliography, and geographical distribution of the Papuan avifauna.

71. *Shufeldt's 'Anatomy of Birds.'*

[Contribution to the Anatomy of Birds. By R. W. Shufeldt, M.D. U.S. Geol. & Geogr. Surv. Twelfth Annual Report, 1882, pp. 593–806.]

This is a reprint of Dr. Shufeldt's papers on the osteology of certain North-American Birds, most of which have been already noticed in this Journal. It treats of *Speotyto cunicularia*, *Eremophila alpestris*, and the North-American Tetraonidæ, *Lanius ludovicianus*, and the Cathartidæ, and is profusely illustrated with plates and woodcuts.

72. *Shufeldt on the Osteology of* Cinclus mexicanus.

[Notes upon the Osteology of *Cinclus mexicanus*. By R. W. Shufeldt. Bull. Nuttall Ornith. Club, vii. p. 213.]

Mr. Shufeldt continues his studies on the osteology of North-American birds with an essay on the osseous structure of *Cinclus*, which he considers to be "quite closely related to *Siurus*, and not far removed from some of the Wrens."

73. *'Transactions of the Linnæan Society of New York.'*

[Transactions of the Linnæan Society of New York. Volume one. Published by the Society, Dec. 1882. New York: 1882. 1 vol. 168 pp.]

The Recording Secretary of the Linnæan Society of New York, Mr. L. S. Foster, has kindly sent us a copy of the first volume of the Society's 'Transactions.' Of the three memoirs which it contains, two are ornithological. One, by Mr. Dutcher, relates to the question as to whether the Fish-Crow (*Corvus ossifragus*) is only a summer visitor or a permanent resident at the northern limit of its range; the other, by Mr. E. P. Bicknell, is "a Review of the Summer Birds of a part of the Catskill Mountains, with prefatory Remarks on the Faunal and Floral Features of the Region," and is of much interest.

74. *Turner on* Lagopus mutus *and its Allies.*

[On *Lagopus mutus*, Leach, and its Allies. By Lucien M. Turner. Proc. U.S. Nat. Mus. 1882, p. 225.]

Mr. Turner recognizes four subspecies of *L. mutus*, namely —*L. mutus* (*typicus*) from Europe, *L. mutus rupestris* of N. America, *L. mutus reinhardti* of Greenland, and *L. mutus atkhensis* (subsp. nov.) of the Atka Islands (Aleutians). Mr. Turner has not been able to examine Icelandic specimens (*L. islandorum*, Faber).

75. *Vorderman's 'Batavian Birds.'*

[Bataviasche Vogels door A. G. Vorderman. Part III. Afgedrukt uit het Ned. Tijdschr. v. Ned. Ind. Deel xlii.]

This is a continuation of the article already mentioned (Ibis, 1883, p. 118). It contains notes and descriptions of thirty birds met with by the author near Batavia. *Cypselus infumatus*, not *C. palmarum* as given by Bernstein (J. f. O. 1860, p. 429), is the small Palm-Swift of Java.

76. *Zeledon's 'Birds of Costa Rica.'*

[Catalogo de las Aves de Costa-Rica, Por José C. Zeledon. 8vo. San José, Costa-Rica, 1882.]

The well-known collector José C. Zeledon has kindly sent us a copy of his catalogue of the birds of Costa Rica, printed at San José in June 1882. The list embraces no less than 701 species, arranged according to Lilljeborg's system as modified by the Smithsonian Institution. Merely the names are given, with an asterisk to indicate such as are represented in the author's collection.

XXVI.—*Letters, Announcements, &c.*

We have received the following letters addressed to the Editors of 'The Ibis:'—

Northrepps Hall, Norwich,
January 30, 1883.

Sirs,—Major Legge, in the article on *Gorsachius melanolophus* contained in his work on the Birds of Ceylon, says, "it is worthy of note that it has not been met with on the east coast, notwithstanding that it migrates from the east to Ceylon." I therefore transcribe the following from a communication just received from my friend Mr. Samuel Bligh, of Catton, near Lemastotle, Ceylon:—"A specimen (♂ juv.) of *Gorsachius melanolophus* was shot not far from here on November 25th, in a small bushy swamp by jungle, at an elevation of over 3500 feet. It was in good plump condition, slightly on the moult, and is the first capture of this species on the eastern side of the island."

Yours &c.,
J. H. Gurney.

Smithsonian Institution, Washington, D.C.,
February 8th, 1883.

Sirs,—Recognizing fully the courteous consideration bestowed upon my 'Check List' by your reviewer (who is not known to me as such), I beg to reply in the same spirit to some of the points raised.

Is not *Myiadectes* a purely suppositious emendation of *Myadestes*, Sw.? In my judgment, the derivation from μυῖα, Attic μύα, and ἐδεστής, is obvious, direct, and unimpeachable.

As to the orthography of the penultimate syllable, I can scarcely decide. It would simplify matters to take *μύα*, thereby eliding one of the vowels, with which suggestion I leave the composition in other hands, only urging that, in my opinion, the epsilon of ἐδεστής should certainly be preserved*. But, in any event, can the nominative plural of *Myiadectes* be *Myiadectæ*, as editorially written on p. 115 of the same number of 'The Ibis'?

My proposition of *Zamelodia* vice *Hedymeles* is based upon a rule which I follow in common with many zoologists, viz. that no synonym of any genus is available in any other connexion. *Hedymeles*, being the same word as *Hedymela*, is *functus officio*, because the latter is a synonym, even though an untenable one, of a different genus.

"Linnæus at 1758" is a watchword now adopted, I think, by American ornithologists without exception; and in writing *Icterus galbula*, *Limosa hæmastica*, &c., I simply conform to the rule. It is against the current of general usage, I know; but if some English ornithologist will try the experiment, he may be surprised to find how many nomenclatural Gordian knots this simple expedient cuts. And is there any reason in the nature of the case why Linnæus should *not* be taken at 1758? But this point, like that one involved in the "American idea" of binomials, will find, I fear, little, if any, favour from our Transatlantic co-workers, for the present at least.

The case of *Icterus parisorum* is a brilliant blunder of mine (*Meâ culpâ, meâ maximâ culpâ*, I cry), and serves my ingenuity in wrong-doing right!

A curious point comes up in the matter of *Hydranassa* and *Dichromanassa*. The former was not lately instituted by Mr. Ridgway, as your reviewer states, but by Prof. Baird in

* [There is no objection whatever, that we can see, to the emendation of "*Myadestes*" into "Myiedestes." But if the *i* is omitted, as Dr. Coues suggests, and the term is written "*Myedestes*," this would primarily signify "mouse-eater" (from μῦς, μυός), not "fly-eater." The correct Latin plural of Myiedestes would be "*Myiedestæ*" (ἐδεστής, gen. ἐδεστοῦ, pl. nom. ἐδεσταί=*edestæ*).—Edd.]

1858 (B. N. Am. p. 660). On my speaking about it to him today, he informs me that the coinage he intended was from ὕδωρ and ἄνασσα, the idea being that expressed by Audubon in calling the beautiful Louisiana Heron the "Lady of the Waters," or words to that effect. So far, so good; but now for *Dichromanassa*. I am myself responsible for that word; and the etymology *is* as given in the 'Check-List.' In conversation with me Mr. Ridgway was casting about for a suitable word to express the dichromatism of these Herons, and to also agree in termination with Baird's *Hydranassa*, which he proposed to adopt. On the spur of the moment I coined *Dichromanassa*, in the sense of "two-coloured Water-fowl," using the Doric *νᾶσσα* for the alliteration, in preference to Attic *νῆττα*, or the usual *νῆσσα* (cf. *Dendronessa*, *Pelionetta*). My wits were certainly wool-gathering when I failed to recognize *ἄνασσα* in the combination *Hydranassa*; but the curious facts are as I give them! If I may be permitted to revoke the *intended* and afterwards expressed etymology of *Dichromanassa* (contracted from *Dichromatonassa*) in favour of that derivation of the word which your reviewer very properly indicates, it will bring about the real agreement with *Hydranassa* which I had in mind and desired to express, as well as obviate any orthographic change in either of the two words in question.

Yours &c.,

Elliott Coues.

Chusley Vicarage, Aylesbury,
February 22, 1883.

Sirs,—I have to ask you to correct in your next number an error in my paper on Chinese birds (Ibis, 1882, p. 433), by substituting *Monticola solitarius* (Müll.) for *M. saxatilis* (Linn.). It is such a very obvious error, and will appear such to every reader of your pages, that I feel it almost needs an apology from me for troubling you to make the correction.

Might I mention that the paper has, in the General Index, been put down under the name of my illustrious namesake,

who has so many advantages over me, as well as the possession of the letter *c* in his name, that he might not altogether be flattered by the mistake.

Yours &c.,

HENRY H. SLATER.

Wilton House, Farnham,
March 3, 1883.

SIRS,—It may be of interest, with regard to the nidification of *Balearica chrysopelargus* (Licht.) = *B. regulorum* auct., to record that my friend Lieut. Giffard, of the Welsh Regiment (41st), recently shot in Natal an old bird of this species off a nest containing two bluish-white eggs without spots.

Some authors have stated that the eggs are spotted; but the balance of testimony appears now to be in favour of the absence of spots.

While on the subject of the eggs of South-African Cranes, I would beg to call attention to the notes of Majors Butler and Feilden and myself on the nesting of *Grus paradisea* (Licht.), published in our paper on the Birds of Natal in the 'Zoologist' for September 1882, and to express a hope that the interesting theory therein advanced—that the eggs of this species are deposited, like those of a Bustard, in a depression scratched on the open "veldt" or grassland, and not in marshes—may be investigated by one or more of the ornithologists whose labours may extend to its breeding-haunts in Natal, the Transvaal, &c.

Yours &c.,

SAVILE G. REID, Capt. R.E.

Zihawei, près Shang-hai,
20 Janvier, 1883.

MESSIEURS,—Vous serez peut-être content d'apprendre que j'ai un nouveau *Pucrasia*. Je me propose de la publier sous le nom de *P. joretiana*. Il diffère des *Pucrasiæ* décrits en ce qu'il n'a pas de brun ni de roux dans le plumage, soit au cou

who has so many advantages over me, as well as the possession of the letter *e* in his name, that he might not altogether be flattered by the mistake.

Yours &c.,

Henry H. Slater.

Wilton House, Farnham,
March 3, 1883.

Sirs,—It may be of interest, with regard to the nidification of *Balearica chrysopelargus* (Licht.) = *B. regulorum* auct., to record that my friend Lieut. Giffard, of the Welsh Regiment (41st), recently shot in Natal an old bird of this species off a nest containing two bluish-white eggs without spots.

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Yours &c.,

Savile G. Reid, Capt. R.E.

Zihawei, près Shang-hai,
20 Janvier, 1883.

Messieurs,—Vous serez peut-être content d'apprendre que j'ai un nouveau *Pucrasia*. Je me propose de la publier sous le nom de *P. joretiana*. Il diffère des *Pucrasiæ* décrits en ce qu'il n'a pas de brun ni de roux dans le plumage, soit au cou

soit aux aîles, soit aux sous-caudales. Il est de la taille du *P. xanthospila*. Si vous le jugez à propos, vous pouvez insérer cette note dans la correspondence de 'l'Ibis.'

Votre tout dévoué,

P. M. Heude, S. J.

Cambridge, Mass.,
March 5, 1883.

Sirs,—I have read with much interest Mr. Seebohm's paper in 'The Ibis' (Oct. 1882, pp. 546–550) "on the Interbreeding of Birds," and while agreeing with him that "the interbreeding of birds supposed to be specifically distinct" is a subject entitled to careful consideration, I cannot see therein the complete explanation of "incipient species," or "subspecies," he seems to find in it (*l. c.* p. 548). For instance, I do not see how it can possibly explain the g[illegible]l intergradation between the widely diverse forms of a sp[illegible] often found occupying respectively the northern and southe[illegible] borders of the breeding-range of the species of which they are unquestionably only extreme phases. To make my point clear, I will cite a single case out of the many well known to American ornithologists. Our common Partridge (*Ortyx virginianus*) has a latitudinal range extending from Massachusetts to the southern point of Florida, throughout which area it is an abundant and permanent resident. The South-Florida birds, compared with those from Massachusetts, are from one fourth to one third smaller, with bills not only relatively, but absolutely much larger, the whole plumage in general effect many shades darker especially on the ventral surface, where the transverse bars are greatly broadened at the expense of the alternating white interspaces. These differences combine to give to the two forms strikingly diverse aspects, the differences being as great and as easily defined as is often the case among perfectly distinct though allied congeneric species. If we knew only these two phases of the species in question we could view them in no other light than as perfectly "segregated" species. But between these forms there is every possible intergradation—a gradual passage of one

into the other through the representatives of the species occupying the area connecting the two above-mentioned localities, in other words, a gradually increasing variation, in passing southward, from the Massachusetts form toward the extreme Floridan phase.

If this were an isolated case, its significance in the present connection would be of less moment; but it is only one out of many among birds having the same breeding-range, not one of which but shows variations of a parallel character, and several of them in a nearly equal degree. It seems to me difficult to formulate the conditions whereby this tendency in so many species—in all the species, we may say, of the region under consideration—to vary in parallel lines and in the [illegible]eographical direction, can be brought about by inter[illegible]g, especially as these variations are strikingly correlated [illegible]th gradual changes in conditions of environment depending upon differences of latitude and climate. The difficulty of explaining all this on the theory of interbreeding becomes still more evident when we consider the adjoining regions to the westward, where, as soon as we strike markedly different conditions of environment, we meet with variations of a somewhat different character, which again affect to a greater or less degree all the species of the fauna, and are again correlated with a gradual modification of the environing conditions. When instances of intergradation between previously supposed distinct species began to attract attention, hybridity or interbreeding was the theory advanced for their explanation; but when it was found that variations of similar character obtained among most of the species (of course in varying degree in different species) inhabiting the same areas, and that certain phases of variation accompanied, or characterized, or were correlated with, certain changes in the conditions of life, the hypothesis of interbreeding was soon almost wholly abandoned, and that of geographical or climatic variation adopted as being not only rational but obvious.

While, from lack of requisite data, I cannot judge of the particular cases cited by Mr. Seebohm in illustration of his views, I cannot, on the other hand, subscribe to his belief

that interbreeding "is the great fact lying at the bottom of it all, and explaining it all,"—that is, the origin of "incipient" or "imperfectly segregated" species, or of intergradation between forms once supposed to be specifically distinct.

Yours &c.,

J. A. Allen.

Norwich, March 12, 1883.

Sirs,—As much confusion has hitherto existed between the British specimens of *Puffinus major* and *P. griseus*, it may be worth noting that a Shearwater which came alive into my possession in July 1851, and which was recorded in Morris's 'Naturalist' for 1851, p. 189, also in the 'Zool[ogist]' for the same year, pp. 3234 and 3279, under the na[me] Greater Shearwater (*P. cinereus*), has, upon a recent examination, proved to be an example of *Puffinus griseus* (Gm.). The bird, which measured in the flesh 17 inches in total length, gape $2\frac{1}{4}$, wing from anterior joint 12, tarsus 2, middle toe $2\frac{1}{2}$, proved, on dissection, to be a male, probably immature.

I am not aware of *P. major* having been met with on the Norfolk coast; but it seems probable that in other localities *P. griseus*, as in the present case, may have been mistaken for the female or immature male of that species.

Yours &c.,

T. Southwell.

One of the Editors, being in foreign parts, has addressed the following letter to his sorely pressed coadjutor:—

St. Jean de Luz, Basses Pyrénées,
4th March, 1883.

Dear Colleague,—You invite me to give an account of myself, and to make such amends as I can for deserting you, and this, too, at the very commencement of my career! I regret the unavoidable causes which have necessitated my absence, and also that circumstances have prevented me from

fixing my abode in a country where there was a chance of finding something new to relate in the ornithological way. However, at the command of the task-master, I must make my bricks without straw, or, at all events, make my scanty supply of straw go as far as possible.

Every visitor to Biarritz knows the pretty—and dull—little town St. Jean-de-Luz, ten miles to the southwards, situated on a crescent-shaped bay, into which the Nivelle pours its waters. To the south-east lie the ribs thrown out from the spinal column of the Pyrenees. The nearest of these is La Rhune, close upon 3000 feet in height, the mountain of the district; while to the south and west stretch the loftier ridges of Spain, the most conspicuous being the jagged Haya-curi, or Trois Couronnes. The lower hills are clothed with closely wooded woods, consisting principally of oak and beech, with some chestnut; and there is a considerable extent of moorland golden with gorse. To judge from the number of houses studded about, the country appears to be too thickly populated to be much adapted to birds of a retiring nature; nevertheless, for a civilized district, this Basque territory is not deficient in birds, and some species may be observed every day the mere sight of which would make an ornithologist's heart throb in Britain. The Red Kite, soaring over the town and steering its graceful course by alternate sideways depressions of the forked tail, is a very familiar object; the Black Kite does not arrive until April; but the loud mewing cry of the Common Buzzard not unfrequently reaches the ear, especially just now, when the breeding-season is commencing. I have never been up the Rhune without seeing the Bearded Vulture; in fact, the last time there were three (two young birds of the previous year and one adult) circling over the valley on the south-eastern side, in the crags of which there is probably a nest by this time, as there is certainly in Trois Couronnes. The more I see of the Bearded Vulture, so called, the more I feel inclined to doubt that he is really closely related to the Vultures; and I rather prefer to consider him a degenerate poor relation of the Falcons proper. This may be heresy for all I know: I have no books

to see what Mr. Gurney thinks. A few Griffon Vultures also nest, I believe, on that side of the Rhune, *just* within the French frontier.

The Egyptian Vulture has not yet arrived; last year I saw the first pair on 8th March. The Spotted Eagle I have seen several times on the wooded sides of the Spanish mountains; and very noisy birds they are; and that ignoble although handsome-looking bird the Short-toed Eagle drew my attention from a family party of Crested Tits not long since.

Magpies swarm; nineteen were counted in one field; and they are now hard at work upon their nests. People here complain of the scarcity of Partridges, and no wonder; but it is useless to tell them that the Magpies and Jays are some of the greatest egg-robbers in the world. The Raven may always be seen among the mountains; and not long since I saw a couple soaring round a man who was digging a grave for a dead horse just outside the town, a proceeding which they resented by repeated angry barks, expressive of their disgust at such a misapplication of the gifts of nature. Respecting the smaller birds there is nothing much to be said without making a catalogue. Yarrell's Wagtail, with the blackest of backs, is the common species; and there is every gradation up to the palest grey of the White Wagtail.

Passing from the land to the sea, the Herring-Gull of the coast is at present the yellow-legged *Larus cachinnans*; and an adult specimen which I shot on 12th January not only had those parts of the brightest lemon, but also showed scarcely a trace of those grey striations on the head and neck which are often considered to be a constantly recurring winter plumage and quite irrespective of age. Then, strange as it may appear, the large Shearwater which occurs, or at least which has been obtained, on these coasts is not *Puffinus major*, Faber, of the North Atlantic, but the Mediterranean *P. kuhli* (Boie). The severest shock that I received was, however, in the Bayonne Museum, where the Curator showed me, with pride, a fine specimen of the Great Skua, shot at the end of last year, and freshly mounted. A very *dark* bird, with *large coarse feet*. I raised the wing; the under-

coverts were *black*, not mottled brown, as they should be in *S. catarrhactes*! Could it be that the Antarctic Skua brought home alive by our worthy brother of the B. O. U., Capt. W. V. Legge, and which escaped from the Zoological Gardens, has been mixing matters in the northern hemisphere? and just as I flattered myself the Skuas were so nicely disposed of too! The thought was horrible.

On the other hand I have discovered another example of *Syrrhaptes paradoxus*, killed along the line of the Pyrenees, in addition to the two which I have already recorded as obtained near Bayonne in the western and Perpignan in the eastern portion of the chain. On a recent visit to Oloron an inspection of the collection formed by Philippe of Bagnères-de-Bigorre showed that the bird which that naturalist had recorded in his 'Ornithologie Pyrénéenne' (p. 100) under the name of "Ganga unibande, *Pterocles arenarius*," is really a male of Pallas's Sand-Grouse. In the above work (his rough journal, printed after his death, and very difficult to obtain) he describes the specimen accurately, and says, "J'ai tué cet oiseau sur la frontière espagnole, le 27 mai, 1863. Je ne l'ai plus revu." M. Adrien Lacroix, author of the 'Oiseaux des Pyrénées,' seems to have been unaware of the existence of these three specimens.

Lastly, I have been discovered and most cordially welcomed by the celebrated French ornithologist M. Olph-Galliard, formerly of Lyons, but now resident in the little frontier town of Hendaye. His museum, library, and store of experience have been freely placed at my disposal; but it is to be hoped that he will himself give us the benefit of his practical knowledge of the avifauna of these parts in the pages of this Journal, to which he has already been an esteemed, although too unfrequent, contributor.

Yours &c.,

HOWARD SAUNDERS.

New Ornithological Publications in Progress.—Mr. E. W. Oates's 'Handbook of the Birds of British Burmah' will be

issued in two volumes, the first of which is nearly ready, if not already out. It will contain descriptions of all the species of birds known to occur within the limits of British Burmah and the state of Karennee, about 800 in number.

Mr. C. B. Cory, of Boston, informs us that he has a collector at work in San Domingo, and will probably have a volume on the birds of that island ready in the course of next year.

M. Taczanowski is working hard on his 'Avifauna of Peru,' in which will be given an account of all the birds hitherto recorded as having occurred within the limits of that Republic, including those obtained by Haukswell, Bates, Bartlett, and other travellers on the Peruvian Amazons. The total number of species embraced in this extensive district will not be less than 1300, and probably more nearly 1400. M. Taczanowski was in London most of last February, engaged in examining the Peruvian birds in the collections of Mr. Sclater and Messrs. Salvin and Godman and in the British Museum, and on leaving London proceeded to Paris for the purpose of consulting the specimens in the Jardin des Plantes. His work will probably be printed in France.

We are glad to be able to announce that the final sheets of 'The Ibis' 'List of British Birds' have been corrected, and that the list will be ready for distribution very shortly.

The Birds of Timor Laut.—At the Meeting of the Zoological Society held on the 20th February last, Mr. Sclater gave an account of the birds collected by Mr. H. O. Forbes, F.Z.S., during his recent expedition to Timor Laut, and exhibited the specimens. The species were fifty-five in number, fifteen of which were described as new to science under the following names:—*Ninox forbesi, Strix sororcula, Tanygnathus subaffinis, Monarcha castus, Monarcha mundus, Rhipidura hamadryas, Myiagra fulviventris, Micræca hemixantha, Graucalus unimodus, Lalage mœsta, Pachycephala arctitorquis, Dicæum fulgidum, Myzomela annabellæ, Calornis crassa,* and *Megapodius tenimberensis.* The general facies of the avifauna, as thus indicated, was stated to be

decidedly Papuan, with a slight Timorese element, evidenced by the occurrence of certain species of the genera *Geocichla* and *Erythrura*; while the new Owl (*Strix sororcula*) was apparently a diminitive form of a peculiar Australian species. Mr. Forbes, at the date of his last letter, was intending to return to Timor Laut to continue his investigations.

Balæniceps *in East Africa* (?).—Dr. Hartlaub has been told by the well-known African traveller Dr. Pechuel Loesche, who has just returned from the Congo, that he had there made the acquaintance of Mr. H. H. Johnston (the painter and naturalist, well known to many of us). Mr. Johnston told him that on the Cunene, between Benguela and Angola, *Balæniceps rex* was "quite a common bird." Dr. Pechuel Loesch added, that near Ambrez a bird was described to him that could not be any thing else but *Balæniceps*, and that he did not doubt that Mr. Johnston was correct.

[We cannot say that we quite believe this to be correct. If *Balæniceps* really occurs on the Cunene, it is most singular that it should have escaped the knowledge of the energetic explorer Anchieta and the other Portuguese collectors.—Edd.]

The Blue Magpies of Spain and Siberia.—In the Zoological Society's Gardens, Regent's Park, there are now five examples of the Blue Magpie of Spain (*Cyanopica cooki*) and two of the Blue Magpie of Siberia (*C. cyanea*) together in one cage, thus affording an excellent opportunity of comparing together these two so nearly allied species, which inhabit such widely separated areas.

Ross's Gull.—The U.S. National Museum has received three (not very perfect) specimens of Ross's Gull (*Rhodostethia rossi*) from Point Barrow, Alaska, and are advised of the capture of three other specimens in perfect plumage.

Lord Lilford writes from Seville (March 3rd) that the Bustards (*Otis tarda*) which he was expecting to find in the

Marisma had not yet come down from the upper cornlands, and that, although there had been good rains about Christmas, the country was still very dry, and there were very few Waterfowl. Swallows (*Hirundo rustica*) seemed to have been there some time; and *Hirundo urbica* winters at Seville in small numbers. On the 28th February an arrival of Storks (*Ciconia alba*) had taken place, and a few Hoopoes had also put in an appearance.

Mr. E. F. Im Thurm has resigned his post at the Museum at Georgetown, British Guiana, and accepted an appointment as Colonial Magistrate on the Pomeroon river, in the same colony, where he will have a better opportunity of studying "nature" and the native races, in which he takes such a lively interest. Mr. Im Thurm has applied to his friends at home for an assistant collector; and we believe measures have been taken to send one out to him in the course of the summer.

Mr. W. A. Forbes's Niger Expedition.—Owing, it is believed, to the stranding of one of the river-steamers, no letters have been received from Mr. Forbes since those dated from Shonga on the 25th Oct., 1882. Shonga lies a short distance up a small creek on the right bank of the Niger, about fifty miles below Rebba. At the time he wrote, Mr. Forbes had been at Shonga three weeks, and expected to remain three weeks longer, after which he was intending to accompany Mr. Mackintosh and the British Consul in an attempt to get up to Sokoto by water. Mr. Forbes had, unfortunately, suffered from fever at Shonga, and had been able to do very little collecting there. His list of birds obtained only amounted to about 105 species; and the difficulty of procuring spirit had interfered with his collection of fishes. It has, we are glad to say, been ascertained that Mr. Forbes was still at Shonga and in good health and spirits at the commencement of January last.

THE IBIS.

FIFTH SERIES.

No. III. JULY 1883.

XXVII.—*On a second Collection of Birds made in the Island of Sumatra by Mr. H. O. Forbes.* By Francis Nicholson, F.Z.S.

(Plate X.)

Mr. H. O. Forbes has been collecting in Central Sumatra, and has sent to Mr. Janson a very interesting collection of birds, an enumeration of which will be found below. I have received a letter from Mr. Forbes respecting my previous communications to 'The Ibis' on the specimens obtained by him in Java and Sumatra. He writes as follows:—

"I hope you have found some specimens of interest in my collections from Sumatra—a finer island than Java, in my estimation. I am greatly vexed that my Mount-Dempo birds are so few; but I had the misfortune to lose my hunter and to have my extra supplies of ammunition lost. I noted some very interesting birds at 8000 and 9000 feet, which I could not obtain; but the deep ravines which cut up its sides make it a very difficult mountain to work over.

"I wish to add a few notes to your list of birds collected

by myself, and a few corrections which imperfect annotations on the labels have caused."

Page. *Java List* (Ibis, 1881, p. 139).

140. no. 2 (H. O. F. no. 75). Write Candar Cassicir with a *K*, *i. e.* "Kandar" &c.

„ no. 3 (H. O. F. no. 157). Read "elevation 2200 feet above the sea." My labels were many of them written before I had taken the height of the Estate House at Kosala.

„ no. 4 (H. O. F. no. 162). Height 2300 feet above the sea.

141. no. 7 (H. O. F. no. 49). Before "shot on cocoanut-tree" insert "Batavia."

142. no. 13 (H. O. F. no. 169). Elevation 2300 feet above the sea. *Hooroo Madang* is in my herbarium, now in the British Museum (no. 509). Hooroo sorts are species of *Laurineæ*. No. 227 *a*. This label should have been on 227 *b*, and *vice versâ* (see *Buchanga cineracea*, p. 144). 227 *a* = *B. cineracea* (Sellan Gunting); 227 *b* = *Megalæma armillaris* (Boroboi).

(H. O. F. no. 193). 2450 feet above the sea.

„ no. 14 (H. O. F. no. 163). 2300 feet above the sea.

143. no. 17 (H. O. F. no. 16). 700 feet above the sea.

„ no. 18 (H. O. F. no. 179). "At foot of Mt. Batoo," add "Kosala, Bantam."

(H. O. F. no. 176). "Sept. 13" should be "June 13." This specimen had the feathers at the base of the bill loaded with pollen.

144. no. 23 (H. O. F. no. 102). For "Sella Guntung" read "Sellan Gunting."

(H. O. F. no. 227 *b*). This should be 227 *a* (see p. 142. no. 227 *a* of *Megalæma armillaris*).

„ no. 25 (H. O. F. no. 178). For "Boorung Moortjang" read "Boorung Moontjang."

„ no. 26 (H. O. F. no. 203). Elevation above sea 225 feet.

145. no. 27 (H. O. F. no. 137). Add "Dark brown irides."

(H. O. F. no. 52). Should be 152.

Page.

145. no. 28 (H. O. F. no. 194). 2950 feet above sea.

„ (H. O. F. no. 230). After "2800 feet" read "above sea." Add native name, "Sellan Gunting."

„ no. 29 (H. O. F. no. 209). 2350 feet above sea.

„ no. 31 (H. O. F. no. 148). After "Tjipanas" add "village."

(H. O. F. no. 204). 2250 feet above sea.

146. no. 32 (H. O. F. no. 173). 2200 feet above sea.

(H. O. F. no. 174). 2400 feet above sea.

(H. O. F. no. 229). 2000 feet above sea.

„ no. 34 (H. O. F. no. 226). Add "above sea."

(H. O. F. no. 202). 2400 feet above sea.

„ no. 36 (H. O. F. no. 184). 4000 feet above sea.

147. no. 39 (H. O. F. no. 166). 2280 feet above sea.

„ no. 40 (H. O. F. no. 213). For "Kibjil" read "Kitjil."

„ no. 41 (H. O. F. no. 147). Read "about 800 feet above Tjipanas village on Goonoong Gobas."

(H. O. F no. 192). For "Korsala" read "Kosala."

(H. O. F. nos. 206, 207). 2250 feet above sea. For "Seram" read "Seran."

149. no. 49 (H. O. F. no. 180). For "Gooming" read "Goonnoong," at 3300 feet above sea. This bird (*Pomatorhinus montanus*) is either polyandrous or polygamous. I have not my journal by me at this moment, but in a letter to Mr. Sclater about four years ago on the subject of the *Mydaus meliceps** I mentioned the fact, but omitted the name of the bird. In the nest were seven or eight young.

„ no. 50 (H. O. F. no. 31). Add "locality Genteng, Lebak, Bantam."

„ no. 51. With regard to the eggs of this species, I find in my notes a mark of interrogation as to whether those eggs really belong to this species.

150. no. 52 (H. O. F. no. 117). For "Ziekrak" read "Zjiekrak."

„ no. 54 (H.O. F. no. 231). 3450 feet above the sea-level.

* See P.Z.S. 1879, p. 664.

Page.

151. no. 55 (H. O. F. no. 172). For "Katoel" read "Katoet."
„ no. 56 (H. O. F. no. 196). 3050 feet above sea.
„ no. 57 (H. O. F. no. 199). 2300 feet above sea.
„ no. 59 (H. O. F. no. 132). For "Sadjura" read "Sadjira."
152. no. 61 (H. O. F. no. 208). 2200 feet above sea.
„ no. 62 (H. O. F. no. 131). For "Sadjiren" read "Sadjira, Bantam."
„ no. 63 (H. O. F. no. 205). 2250 feet above sea.
(H. O. F. no. 200). For "Kosa" read "Kosala."
153. no. 67 (H. O. F. no. 158). 2300 feet above sea. Add native names "Beo," "Tjioeng." It feeds most voraciously on *Carica papaya*.
„ no. 69 (H. O. F. no. 69). For "Kalung" read "leng," and for "Kalery Cumbang" read "Kalung Kumbang." Found in flocks in dense second-growth forest. Feeds also, but not so commonly as *Sturnopastor jalla*, on the backs of buffaloes.
154. no. 72 (H. O. F. no. 4). On waste and wet lands.
„ no. 74 (H. O. F. no. 198). After "Katchembang (small berries)" add "*Ardisia tenuiflora*."
(H. O. F. no. 183). 3335 feet above sea.
„ no. 75 (H. O. F. no. 82). Instead of "some species of *Acacia*" read "*Emblica officinalis*."
155. no. 76 (H. O. F. no. 227). For "Kouran" read "Kourau."
„ no. 78 (H. O. F. no. 87). For "Pooyon" read "Pouyou."
„ no. 79 (H. O. F. no. 86). For "Ponyou" read "Pouyou."
156. no. 80 (H. O. F. no. 24). After "Direction Island" read "Cocos Keeling Islands." Other specimens in my collection had the yellowish band on the breast.

Unless otherwise stated, I have referred to my former paper on Mr. Forbes's Sumatran collections (Ibis, 1882,

p. 51) and to Count Salvadori's paper (Ann. Mus. Civic. Genov. xiv. p. 169).

I am aware that the papers which I have recently sent to 'The Ibis' are wanting in critical remarks; but it will be seen that most of the species obtained by Mr. Forbes are not rare, and hence there is not much to be said about them. I feel sure, however, that the publication of Mr. Forbes's original notes must be of value to the monographer in future.

1. Palæornis longicauda (Bodd.); Salvad. Ucc. Born. p. 22.

No. 423 *c*, *d*, ♂. Village of Kaban, river Moesie, 500 feet. Irides greenish yellow; bill scarlet; legs and feet dirty green. Feeding on cocoanut-palm.

No. 426 *d*, ♂. Kaban. Testes very large. Though in the plumage of the female, it seemed to be breeding.

No. 426 *h*, ♂. Kaban, Dec. 1881. "Betet."

No. 426 G, ♂. Kaban. Soft parts as above, but the lower mandible brownish grey or sooty.

No. 426 *e*, ♂. Kaban. Irides greenish yellow, of a rich bronzy colour; bill scarlet; lower mandible sepia.

These last two are evidently young males.

No. 412, ♂. Near Soeroelangoen, river Rawas, Nov. 3, 1881. Soft parts as in No. 423 *c*. Frequenting very high trees in the evening in great flocks.

No. 412 *a*, ♀. Near Soeroelangoen, Nov. 3, 1881. Bill brownish black, with the lower mandible greyish yellow. Small black fruits in stomach.

2. Loriculus galgulus (L.); Salvad. Ucc. Born. p. 26.

No. 401, ♀. Tandjong ning, 700 feet, Aug. 6, 1881. In villages on cocoanut-trees, and kept by natives in cages. Irides dark brown; bill black; legs and feet grey. "Serindet."

3. Spilornis bacha (Daud.); Sharpe, Cat. B. i. p. 290.

No. 422 *a*. Bigin Telok, river Rawas, Dec. 8, 1881. Irides golden yellow; space between eye and gape yellow; bill blue; legs and feet yellow.

4. Polioaetus humilis (Müll. & Schl.); Sharpe, Cat. B. i. p. 454.

No. 413, ♀. Near Mocara Mengkoelem, river Rawas, Sumatra, Nov. 14, 1881. Irides rich straw-colour; upper mandible sooty colour, the lower one slaty blue; legs and feet pale blue. Feeds on fish.

5. Syrnium myrtha (Bp.); Sharpe, Cat. B. Brit. Mus. ii. p. 264, note.

No. 370, ♂. Tandjong Djate, Lake Ranau, 1700 feet. Feb. 14, 1881. Irides rich brown; bill very pale blue; legs and feet sickly white.

The wing in this specimen measures 13 inches in length, which exceeds the dimensions given by Mr. Sharpe for *S. leptogrammicum*. I have therefore placed it under the name of *S. myrtha*, which, according to Sharpe, is a larger race of *S. leptogrammicum*.

6. Orescius gouldi, Bp.; Cab. & Heine, Mus. Hein. Th. iv. p. 161.

No. 369, ♂; 369 *a*, ♀. In deep forest near Hoedjoeng (foot of Mount Besagi), 3000 feet, Feb. 14, 1881. Irides greyish brown; wattle round eye bright deep blue; gape light blue; legs and feet light blue.

7. Anthracoceros convexus (Temm.); Elliot, Monogr. Bucer. pl. xii.

No. 414 *b*. River Rawas. Iris bright straw-colour; upper mandible white, with black band on both sides of the fore part of the crest; in front of the eye and on both mandibles a black band; skin round eye pale cobalt, but behind rich white; legs and feet black.

8. Buceros rhinoceros, L.; Elliot, Monogr. Bucer. pl. iv.

No. 413 *a*, ♂. Near Mocara Mengkoelem, river Rawas, Nov. 14, 1881. Irides deep lake; bill at base of both mandibles and on base of crest black; the crest is dark lake-red, of a most brilliant hue, shading at its lower portion into orange; front of crest deep orange; upper mandible on part below crest rich lake, changing into a broad band of orange, fading into yellowish white; junction of crest and mandible

marked by a broad band of bluish green; lower mandible black at base, after which are a few bright splashes of orange, and the rest is yellowish white; legs and feet yellowish green, soles yellow. Food *Urostigma*-fruit.

According to a note of Mr. Forbes, the irides of the young bird (three months old) are greyish blue, with indications on the lower regions of the appearance of the lake colour of the adult.

No. 400, ♂. Tandjong ning, 800 feet, August 6, 1881. Soft parts as in specimen No. 413 *a*.

9. Rhytidoceros subruficollis (Blyth); Elliot, Monogr. Bucer. pl. xxxvi.

No. 415. Moeara Mengkoelem, river Rawas, Nov. 18, [illegible] Irides rich reddish brown; bill white, but at base [illegible]ked with green; skin below throat sea-green, mottled [illegible]d marked with cobalt, then a bright cobalt line, followed by a broad black band and a rich cobalt region; legs and feet black. "Koko."

This species is new to Sumatra, but having been recorded from Borneo, it was quite likely to occur in the former island also. The specimen sent by Mr. Forbes is in the black plumage of the female bird; but from the colouring of the soft parts it would seem to be a young male, as he expressly mentions an appearance of sea-green on the throat. Mr. Elliot states that one of the characters distinguishing *R. subruficollis* is the absence of the black bar on the throat. Although I cannot detect it on the skin, Mr. Forbes seems to mention it particularly in his description of the soft parts.

10. Centrococcyx eurycercus (Hay); Salvad. *l. c.* p. 188.

No. 364, ♂. In the forest by Lake Ranau, 1700 feet, Feb. 5, 1881. Irides dark red; bill black, also legs and feet.

No. 391, ♀. Batoe Pantjeh, on river Moesie, July 4, 1881; 700 feet. Irides brownish grey; bill, legs, and feet black. Feeds on insects.

11. Centrococcyx javanensis (Dum.); Salvad. *l. c.* p. 188.

No. 425, ♀. Forest by side of river Moesie, at Kaban,

Dec. 14, 1881. Irides dark brown; bill black; legs and feet black.

12. Rhamphococcyx erythrognathus (Hartl.); Salvad. *t. c.* p. 186.

No. 414 *a*, ♀. Mocara Mengkoelem, Nov. 16, 1881. Irides pale orange; bill pale sea-green; a broad streak of lake on lower mandible (along its length), as also on angle of upper mandible; wattle round eye bright scarlet; legs and feet horny.

13. Rhinortha chlorophæa (Raffl.); Nicholson, *t. c.* p. 54.

No. 374, ♂. Banding agong, Lake Ranau, March 6, 1881; 1700 feet. Irides dark brown; skin round eye bl[ue] with ring of green round eye itself; bill faded green [and] and feet blue.

14. Chrysophlegma mystacalis, Salvad. *t. c.* p. 182.

No. 361 *b*, *c*, ♂ ♀. In forest near Hoedjoeng, Blalauw, Jan. 29, 1881. Irides reddish brown; eye-wattle green; bill very pale blue; legs and feet bluish green.

This very fine species of *Chrysophlegma* was discovered by Dr. Beccari on Mount Singalan. It is a very well characterized bird.

15. Xylolepes validus (Raffl.); Nicholson, *t. c.* p. 54.

No. 358 *i*, ♀. Forest near Hoedjoeng, Blalauw, Jan. 10, 1881; 3000 feet.

16. Iyngipicus auritus (Eyton); Hargitt, Ibis, 1882, p. 42.

No. 421, ♂. Side of river Rawas at Bigin Telok, Dec. 6, 1881. Irides brownish red; upper mandible black, lower one on underside greyish white; legs and feet sepia-green.

When flying about pecking (very often the flowers of *Eriodendron anfractuosum* and species of *Erythrina*) it utters a clear distinct whistle.

No. 426 *a*, ♀. By side of river Moesie at Kaban, Dec. 14, 1881. Irides pinkish red; bill black; legs and feet faded green.

Agrees with Mr. Hargitt's description of the species (*l. c.*).

17. Xantholema haemacephala (P. L. S. Müll.); Marshall, Monogr. Capit. pl. xlii.

No. 419, ♂. Bigin Telok, river Rawas, 180 feet above sea, Dec. 1, 1881. Irides greyish brown; edges of eyelid red; bill black; legs and feet light red, claws black.

An immature bird.

18. Psilopogon pyrolophus, S. Müll.; Salvad. *l. c.* p. 178.

No. 358 *d*. In the forest near Hoedjoeng, Blalauw, 3000 feet, Jan. 16, 1881. Irides rich brown; bill pale green, with a black band across both mandibles; legs and feet pale green.

No. 358 *c*, ♀. In forest near Hoedjoeng, Blalauw, Jan. 16, 1881.

No. 353 *c*, ♂. Hoedjoeng, Jan. 12, 1881.

19. Pelargopsis fraseri, Sharpe; Nicholson, *l. c.* p. 56.

No. 356 *a*, ♂. Hoedjoeng, Blalauw, 3000 feet, Jan. 14, 1881. Irides dark brown, eyelids scarlet; bill scarlet, also legs and feet.

No. 363 *a*, ♂. Tandjong djati, Lake Ranau, 1700 feet, Feb. 5, 1881.

No. 366 *a*, ♂. Tandjong djati, Lake Ranau, 1700 feet, Feb. 6, 1881.

20. Halcyon pileata (Bodd.); Sharpe, Monogr. Alced. pl. 62.

No. 414, ♂. By side of river Rawas, near Napul city, 2000 feet, Nov. 16, 1881. Irides dark brown; bill, legs, and feet scarlet.

21. Carcineutes pulchellus, Horsf.; Sharpe, Monogr. Alced. p. 96.

No. 353, ♂. Hoedjoeng, Jan. 12, 1881; 3000 feet. Irides grey; bill scarlet; legs dull yellow.

22. Ceyx rufidorsa, Strickl.; Sharpe, Monogr. Alced. p. 121.

No. 388, ♂. By the low shrubs by the Mengeu, a small stream near Goenoeng Meraksa, June 10, 1881; 1800 feet. Irides dark brown; bill, legs, and feet bright scarlet.

23. Merops sumatrana, Raffl.; Nicholson, *l. c.* p. 56.

No. 423 *a*, ♂. Side of river Rawas at Bigin, Telo river, Dec. 9, 1881. Irides reddish brown; bill black; legs and feet bluish sepia. Congregates in tall trees in the open, in the evening in myriads, whence a loud hum emanates, as if from a hive of bees.

24. Cissa minor, Cab.; Salvad. *t. c.* p. 229.

No. 359 L, ♀. In the forest near Hoedjoeng, 3000 feet, Jan. 8, 1881. Irides dark red; bill dark scarlet; legs and feet light scarlet.

This is a very distinct race of the Himalayan *C. chinensis*. The specimen now sent by Mr. Forbes measures as follows:— Total length 10·3 inches, culmen 1·3, wing 4·65, tarsus 1·6. These measurements are less than those of the young b given by Mr. Sharpe in his Catalogue (iii. p. 86), and sh that the female will probably turn out to be much sma than the male.

25. Dendrocitta occipitalis (Müll.); Nicholson, *t. c.* p. 58.

No. 358 *f*, ♂. Forest near Hoedjoeng, Blalauw, Jan. 16, 1881; 3000 feet. Irides dark red; bill, legs, and feet black. Fruit-eater: feeds on Kayoe Salaian (Herbarium, No. 1969). "Golang."

No. 403 *a*, ♀. Hot springs, foot of volcano of Zaba, Sept. 15, 1881; 3000 feet. Feeds on insects and fruits. Irides dark brown.

No. 383, ♀. Foot of Mount Dempo, May 13, 1881; 3500 feet. Irides reddish brown. "Paoe."

26. Platysmurus leucopterus (Temm.); Nicholson, *t. c.* p. 58.

No. 390 *a*, ♂. Batoe Pantjeh, on the river Moesie, 700 feet, July 4, 1881. Irides dark red; legs and feet black; bill black. Feeds on larvæ and fruits.

27. Oriolus maculatus, V.; Sharpe, Cat. B. Brit. Mus. iii. p. 199.

No. 424. Village of Kaban, river Rawas. Irides rich liquid purple-lake; bill pink, but paler near the tip; legs and feet slaty blue.

28. Buchanga leucophæa, V.; Salvad. *t. c.* p. 208.
No. 386 *a*, ♀. In village of Paoe, at foot of Mount Dempo, 3000 feet. Irides grey; bill, legs, and feet black. Frequents the villages in twos and threes, twittering just like Swallows. "Seran."

29. Dissemurus platurus (V.); Nicholson, *t. c.* p. 59.
No label.

30. Chaptia malayensis, Hay; Salvad. *t. c.* p. 43.
No. 381, ♀. Mount Dempo, 3800 feet. Irides dark brown; legs, feet, and bill black.

31. Rhipidura javanica (Sparrm.); Salvad. *t. c.* p. 203.
No. 420, ♂. Bigin Telok, river Rawas, Dec. 5, 1881. [Irides] dark brown; bill, legs, and feet black. Feeds on [insects] and seeds.

32. Poliomyias luteola (T.); Sharpe, Cat. B. Brit. Mus. iv. p. 201.
No. 960, ♀. Hoedjoeng, 3000 feet, Jan. 28, 1881. Irides very dark brown; bill grey; legs and feet purplish grey.
This I believe to be the first recorded occurrence of the species in the island of Sumatra; but as it breeds in Eastern Siberia, and migrates through China to Malacca and Borneo, its appearance in Sumatra was quite to be expected.

33. Culicicapa ceylonensis (Swains.); Sharpe, Cat. B. Brit. Mus. iv. p. 369.
No. 380 ♂. Mount Dempo in low scrub at 3800 feet, May 9, 1881. Irides deep brown; upper mandible black, lower one pale grey or sooty grey at tip; legs and feet sooty black.
This species, like the foregoing, has not been noticed from Sumatra before, but was a likely bird to occur in the island.

34. Siphia elegans (Temm.); Sharpe, Cat. B. Brit. Mus. v. p. 447.
No. 423, ♂. In low scrub by the side of river Rawas, near Bigin Telok, Dec. 9, 1881. Irides brown; bill black; legs in front of a sepia-colour, but as if washed with pale cobalt behind, as also the feet.

28. Buchanga leucophæa, V.; Salvad. *t. c.* p. 208.

No. 386 *a*, ♀. In village of Paoe, at foot of Mount Dempo, 3000 feet. Irides grey; bill, legs, and feet black. Frequents the villages in twos and threes, twittering just like Swallows. "Seran."

29. Dissemurus platurus (V.); Nicholson, *t. c.* p. 59.

No label.

30. Chaptia malayensis, Hay; Salvad. *t. c.* p. 43.

No. 381, ♀. Mount Dempo, 3800 feet. Irides dark brown; legs, feet, and bill black.

31. Rhipidura javanica (Sparrm.); Salvad. *t. c.* p. 203.

No. 420, ♂. Bigin Telok, river Rawas, Dec. 5, 1881. [illegible]s dark brown; bill, legs, and feet black. Feeds on [illegible]ts and seeds.

32. Poliomyias luteola (T.); Sharpe, Cat. B. Brit. Mus. iv. p. 201.

No. 960, ♀. Hoedjoeng, 3000 feet, Jan. 28, 1881. Irides very dark brown; bill grey; legs and feet purplish grey.

This I believe to be the first recorded occurrence of the species in the island of Sumatra; but as it breeds in Eastern Siberia, and migrates through China to Malacca and Borneo, its appearance in Sumatra was quite to be expected.

33. Culicicapa ceylonensis (Swains.); Sharpe, Cat. B. Brit. Mus. iv. p. 369.

No. 380 ♂. Mount Dempo in low scrub at 3800 feet, May 9, 1881. Irides deep brown; upper mandible black, lower one pale grey or sooty grey at tip; legs and feet sooty black.

This species, like the foregoing, has not been noticed from Sumatra before, but was a likely bird to occur in the island.

34. Siphia elegans (Temm.); Sharpe, Cat. B. Brit. Mus. v. p. 447.

No. 423, ♂. In low scrub by the side of river Rawas, near Bigin Telok, Dec. 9, 1881. Irides brown; bill black; legs in front of a sepia-colour, but as if washed with pale cobalt behind, as also the feet.

This species was originally described by Temminck from Sumatra, and was obtained by the late Mr. Buxton in Lampong.

35. Pericrocotus xanthogaster (Raffl.); Sharpe, Cat. B. Brit. Mus. iv. p. 74.

No. 388 *a*, ♂. Goenoeng Meraksa, 750 feet, on river Liutang, June 8, 1881. Iris dark brown; bill, legs, and feet black.

No. 382 *a*, ♂ (juv.). On Mount Dempo, Pass Oemah, 3800 feet, May 9, 1881. "Boeroeng temoenoengan." Soft parts as in male.

36. Lusciniola fuliginiventris, Hodgs.; Seebohm, Cat. B. Brit. Mus. v. p. 129.

No. 377, ♂. In low bushes in the hollow under the c[illegible] at Mount Dempo, 9000 feet, flitting near the ground, M[illegible] 1881. Irides greyish brown; bill sooty black; legs and fe[illegible] dull faded yellow.

Compared with the generality of Himalayan specimens the bird sent by Mr. Forbes is rather browner on the head, wings, and tail; but in this respect also it is entirely matched by a Nepal specimen in the British Museum.

37. Hemixus sumatranus, Wardlaw Ramsay. A. & M. N. H. (5) x. p. 431.

No. 358 *k*, ♂; No. 359 *a*. Near Hoedjoeng, 3000 feet, Jan. 16, 1881. Irides reddish brown; bill black; legs and feet greyish black. Feeds on *Rubus* sp., among other fruits.

No. 353 *a*, ♂. Soft parts as above.

No. 353 *b*, ♀. Soft parts as above.

No. 359, sex? Soft parts as above.

This appears to be the species referred by Count Salvadori to *H. malaccensis* (Ann. Mus. Civic. Genov. xiv. p. 221), but it differs from that species in being olive-brown above, with a brown head, the throat and breast being streaked with white as in *H. malaccensis*, but the edges of the feathers are olive-brown, instead of greenish. There are other minor differences, such as the shorter bill, greener flanks, &c., in the Sumatran bird.

38. Criniger gutturalis (Bp.); Sharpe, Cat. B. Brit. Mus. vi. p. 80.

No. 361, ♀. In forest near Hoedjoeng, Blalauw, Jan. 29, 1881; 3000 feet. Irides reddish brown; bill black; legs and feet pale purplish flesh-colour. "Pata."

39. Iole olivacea, Blyth; Nicholson, *t. c.* p. 59.

No. 390, ♂. Batoe Pantjeh, on river Moesie, 700 feet, July 2, 1881. Irides grey; upper mandible dirty black, lower one yellowish grey; legs and feet dirty yellow: "at the flowers of *Euphorbiaceæ*."

40. Ægithina viridis (Bp.); Sharpe, Cat. B. Brit. Mus. vi. p. 11.

No. 373 *a*. Banding Agong on Lake Ranau, March 3, [illegible]; 1700 feet.

41. Chloropsis cyanopogon (V.); Sharpe, Cat. B. Brit. Mus. vi. p. 32.

No label.

42. Pycnonotus plumosus, Blyth; Sharpe, *t. c.* p. 152.

No. 421 *a*, ♂. In low forest near Bigin Telok, river Rawas, Dec. 20, 1881. Irides greyish brown; legs and feet flesh-colour; bill greyish black.

A young bird.

43. Pycnonotus bimaculatus (Horsf.); Sharpe, *t. c.* p. 138.

No. 356 *b*, ♂. In forest near Hoedjoeng, Blalauw, Jan. 14, 1881; 3000 feet. Iris greyish brown; bill, legs, and feet black; eyelids orange; spot above each nostril orange.

44. Myiophoneus dicrorhynchus, Salvad. *t. c.* p. 227.

No. 359, ♂. Hoedjoeng, 3000 feet, Jan. 16, 1881. Irides dark brown; bill bright yellow; legs and feet black. "Malin batoc." Feeds in the evening on worms and seeds, flitting from stone to stone, and only in the evening frequenting the village.

45. Arrenga melanura, Salvad. *t. c.* p. 227.

No. 358 *a*, ♀. In forest near Hoedjoeng, Blalauw, Jan. 15, 1881; 3000 feet. Irides dark brown, with ring of pale blue;

bill, legs, and feet black. Feeds on fruits and insects. "Malin grenting."

46. Pnoepyga pusilla, Hodgs.; Salvad. *t. c.* p. 226.

No. 379, ♀. Mount Dempo at 6500 feet, May 2, 1881. Irides brown; bill black; legs and feet faded yellow. Feeds on insects, seeds, and vegetable scraps. Flits about among low herbage and roots of trees, taking refuge in holes.

This is an interesting bird, as it is the only specimen which has reached this country from Sumatra. Count Salvadori (*l. c.*) records an example obtained by Beccari on Mount Singalan, and proposes the name *P. lepida* if it should prove distinct from the true *P. pusilla*. Although it is difficult to tell from a single example, I can see no reason for separati the Sumatran bird from *P. pusilla*.

47. Orthotomus cucullatus, T.; Sharpe, Ibis, p. 115.

Nos. 376, 376 *a*, ♂. Near village of Paoe, Panoemah Lands, foot of Mount Dempo, April 25, 1881. Irides brown; legs and feet pale sooty colour or sooty grey; bill black. Frequents low herbage from 4000 to 6500 feet.

I have asked Mr. Sharpe to compare these two Tailorbirds with Javan examples in the British Museum, and he tells me that he cannot find any difference between them. The species is new to Sumatra.

48. Orthotomus cineraceus, Blyth; Nicholson, *t. c.* p. 62.

No. 373, ♂. Banding agong, on Lake Ranau, March 3, 1881; 1700 feet. Iris pale grey; bill blue, with dark line along the culmen; legs and feet pale blue.

No. 375, ♀. Village of Batoe Pantjeh, 700 feet, July 8, 1881. Iris reddish grey; upper mandible sooty colour, lower pale flesh-colour; legs and feet pale flesh-colour.

Feeding on cocoanut-palms.

49. Ianthocincla mitrata (S. Müll.); Nicholson, *t. c.* p. 61.

No. 353, ♂. Hoedjoeng, Blalauw district, Jan. 12, 1881; 3000 feet. Irides reddish brown; skin below eye creamy

white, with a flush of blue; bill yellow, also the legs and feet, but the latter slightly lighter.

Nos. 359 *a*, 359 *b*. In forest near Hoedjoeng, Jan. 5 and 7, 1881.

No. 385 *a*, ♀. Paoe, foot of Mount Dempo, 3000 feet, May 14, 1811. Irides brownish red; bill, legs, and feet bright yellow.

No. 402 *a*, ♀. Ayer Angat (Hot Springs), foot of volcano of Kaba, 3000 feet, Sept. 10, 1881. Iris mahogany-red; bill, legs, and feet orange. "Boeroeng redjang."

50. Garrulax palliatus, S. Müll.; Nicholson, *t. c.* p. 61.

No. 358 *g*, ♀. Irides brownish red (dark mahogany-red); skin below the eye blue, with white streaks; bill, legs, and feet black. Forest near Hoedjoeng, Blalauw, 3000 feet, Jan. 16, 1881.

No. 358 *h*, ♂. Forest near Hoedjoeng, Blalauw, 3000 feet, Jan. 16, 1881.

No. 361 *a*, ♀. Hoedjoeng, Blalauw, 3000 feet, Jan. 29, 1881.

51. Garrulax bicolor, S. Müll.; Salvad. *t. c.* p. 229.

No. 355, ♀. In forest near Hoedjoeng, Blalauw, flying in flocks of six or seven with a screaming note, Jan. 14, 1881; 3000 feet. Irides sooty brown; bill, legs, and feet black. "Wanway Oban."

No. 358 *b*, ♀. Hoedjoeng, Jan. 15, 1881. Native name as above and "Poegoe teba." Feeds on fruit and small insects.

No. 359 *c*, ♀. Hoedjoeng, in second-growth forest, January 1881.

52. Garrulax lugubris, Müll.; Gray, Hand-l. B. i. p. 281. no. 4158.

No. 402, ♂. In forest on the lower reaches of the volcano of Kaba, 3000 feet. Irides dark brown; bill light red; legs and feet green. "Boeroeng Siang."

53. Heterophasia simillima, Salvad. *l. c.* p. 232.

No. 403, ♀. Foot of volcano of Kaba at 3000 feet, Sept. 15, 1881. Irides mahogany-red; bill, legs, and feet black. Feeds on fruits.

This species, recently described by Count Salvadori, seems to be distinct from the Himalayan *H. picaoides*, although the points of difference are but slight.

54. Suya albigularis, Hume. (Plate X. fig. 1.)

No. 385, ♀. Near the village of Paoe, at the foot of Mount Dempo, 3000 feet, May 13, 1881. Irides greenish grey; upper mandible greyish black; legs and feet pale flesh-colour; line over eye white. Flits about on low herbage, ferns, and tall grass, keeping up a constant chirp answered by its companions.

This species was discovered by Mr. Davison in Acheen, and described by Mr. Hume (Str. F. 1873, p. 459). The latter gentleman, however, has recently come to the conclusion that the Sumatran species is the same as the Burmese *Suya superciliaris* of Anderson. Along with Mr. Sharpe I compared the above-mentioned bird from Sumatra with a specimen of *S. superciliaris* in the British Museum, and we decided that they are not identical, as the Sumatran species has a dark ashy head, while *S. superciliaris* has a brown head. Both are probably the non-breeding plumage of some black-breasted species, but I believe that they will be found to be specifically distinct.

55. Mixornis gularis (Raffl.); Salvad. *l. c.* p. 223.

No. 388 *b*, ♂. At Goenoeng Meraksa, on the river Lintang, 2000 feet, June 10, 1881. Irides dark grey; upper mandible black, lower sooty blue; legs and feet greyish green. In low forest on "Na Dah" (*Erythrina*) trees.

56. Brachypteryx umbratilis (Strickl.); Salvad. Ucc. Born. p. 220.

Brachypteryx umbratilis, Tweedd. Ibis, 1877, p. 308, pl. vi. fig. 2.



J.G. Keulemans lith. Hanhart imp.

Fig. 1. SUYA ALBIGULARIS.
„ 2. BRACHYPTERYX SATURATUS.

No. 422, ♂. By margin of river Rawas at Bigin Telok, Dec. 7, 1881. Irides reddish brown, of a rich colour; upper mandible sepia-brown, lower pale blue; legs and feet pale flesh-colour, with a tinge of pink.

57. Brachypteryx saturatus. (Plate X. fig. 2.)

Brachypteryx saturata, Salvad. *t. c.* p. 225.

No. 386, ♂. Mount Dempo, 5000 feet. Irides brown; white line over eye; bill black; legs and feet black. Flits about on ground or on fallen logs.

58. Timelia larvata, Müll.; Salvad. *t. c.* p. 222.

No. 384, ♀. Foot of Mount Dempo, May 13, 1881. Irides yellowish grey; bill, legs, and feet sooty blue.

59. Timelia striolata, Müll.; Salvad. *t. c.* p. 222.

No. 387, ♀. Frequenting low scrub at Goenoeng Meraksa, on river Lintang, 800 feet, June 7, 1881. Irides creamy grey; upper mandible black, lower sooty blue; legs and feet bluish green.

60. Malacopteron magnum, Eyton; Salvad. *t. c.* p. 226.

No. 409, ♂. Near Soeka Radja, river Roepit, 300 feet, Oct. 18, 1881. Irides bright brick-red; upper mandible black, lower one very pale blue; legs and feet light blue. Irides in young bird fulvous-grey.

61. Stachyrhis bocagii, Salvad. *t. c.* p. 223.

No. 354, ♂. In forest near Hoedjoeng, Blalauw, Jan. 14, 1881; 3000 feet. Irides brown; bill sepia; lower mandible pale grey; legs and feet light yellow.

Compared with *S. chrysea* from the Himalayas, the Sumatran species is much darker and more olive-green above. It has a rather longer bill, and underneath is everywhere of a deeper yellow. Mr. Forbes's specimen is somewhat damaged, but seems sufficient to indicate that *S. bocagii* is only a deeply coloured race of *S. chrysea*.

Total length 4·2 inches, culmen 0·5, wing 2·05, tail 1·9, tarsus 0·7.

62. [illegible]rus velatus (Temm.); Salvad, *t. c.* p. 234.

[illegible]; 359 *e*, *f*, ♂. Near Hoedjoeng Blalauw,

Jan. 18, 1881. Irides pinkish blue; bill black; legs and feet sickly white. Flitting from stone to stone in forest-streams.

63. Lanius magnirostris, Less.; Salvad. *t. c.* p. 210.

No. 426, ♀? On low scrub by the side of the river Moesie, near the village of Kaban. Irides brown; ridge of upper mandible blackish blue, the culmen very pale blue; ridge of lower mandible blackish blue, the rest very pale blue; feet and legs very pale cobalt.

64. Æthopyga siparaja (Raffl.); Salvad. *t. c.* p. 212.

No. 392, ♂. Batoe Pantjeh village on river Moesie, July 8, 1881; 700 feet. Irides dark brown; bill, legs, and feet black. Frequenting cocoanut-trees in flocks. Stomach full of spiders and of a watery juice.

No. 420. On *Pandanus helioscopus* in the under-water forest, side of river Rawas at Bigin, Telo river, Dec. 5, 1881. Irides brown; upper mandible dark sepia, lower reddish yellow; legs and feet pinkish sepia.

65. Cinnyris hasselti, T.; Shelley, Monogr. Nect. pl. 42. p. 127.

No. 393, ♀. Batoe Pantjeh, on river Moesie, July 8, 1881. Irides greyish brown; bill black; legs brownish sooty colour; soles of feet pale orange. Frequenting cocoanut-palms.

No. 398, ♂. Village of Tandjong ning, 700 feet, July 23, 1881. Irides brown; legs, feet, and bill black.

66. Anthothreptes malaccensis (Scop.); Salvad. *t. c.* p. 213.

No. 426*b*, ♂. On cocoanut-palms in village of Kaban, river Rawas, Dec. 14, 1881. Irides pinkish red; bill black; legs and feet faded blue, with a shade of green; soles pale yellow.

No. 394, ♀. On cocoanut-palms, Batoe Pantjeh, on river Moesie, July 8, 1881; 700 feet. Irides brick[illegible] legs greenish blue; feet and soles orange.

No. 394, ♂. Batoe Pantjeh, July 8, 1881. In stomach small insects. On cocoanut-palms.

No. 395 *a*, ♂. Batoe Pantjeh, July 9, 1881. Bill black; legs bluish green; feet and soles orange.

67. Arachnothera modesta (Eyton); Salvadori, *t. c.* p. 214.

No. 408, ♀. Near Sveka Radja, 300 feet, Oct. 14, 1881. Irides reddish brown; upper mandible black, lower whitish grey; legs and feet pale yellow. Feeds on insects and seeds of *Scitaminea*, and in the stomach was also a waxy substance. Flits about on the ground and feeds much on these *Scitaminea* and terrestrial flowers, and seems to be the agent of the cross fertilization.

68. Zosterops chlorates, Hartl. J. f. O. 1865, p. 23 (ex S. Müller, MS.).

Nos. 378; 378 *b*, ♂; 378 *a*, *c*, *d*, E, ♀. Mount Dempo, May 1, 1881. Irides pale grey; bill black; legs dirty slate-blue. Much pollen under chin. Feeding on flowers of *Encaceæ* (Herbarium, No. 2371).

Count Salvadori has already pointed out the mistake of Dr. Hartlaub in referring to the habitat of this species as Moretai Island, instead of Sumatra (Orn. Papuasia, p. 23).

69. Zosterops auriventer, Hume; Nicholson, Ibis, 1881, p. 152.

No. 358 *b*. Near Paoc, foot of Mount Dempo, 3200 feet, May 15, 1881. Irides grey; bill black; legs and feet dirty slate-blue.

This is a race of *Z. palpebrosa*, which it replaces from Taboy, in Tenasserim, through the Malayan peninsula and the Indo-Malayan islands. It is represented in the Philippines by a deeper-coloured form, *Z. everetti*, Tweedd.

70. Calobates melanope (Pall.); Salvad. *t. c.* p. 236.

No. 371 *d*, ♀. Tandjong Djate, Lake Ranau, 1700 feet, [illegible]. 15, 1881. Irides dark brown; upper mandible black, [illegible]ht yellow, black at the tip; legs and feet flesh-

No. 413 *b*, ♀. On river Rawas, 1700 feet, Nov. 14, 1881. Irides dark brown; bill black; legs and feet horn-colour.

71. Gracula javanensis (Osbeck); Nicholson, *l. c.* p. 63.

No. 415 *a*. River Rawas, 1700 feet, Nov. 22, 1881. Irides dark brown; tip of bill orange, rest of it light red; legs and feet orange.

72. Munia punctularia (L.); Salvad. *l. c.* p. 237.

No. 357. In forest near Hoedjoeng, Blalauw, Jan. 15, 1881; 3000 feet. Irides light red; upper mandible black, lower pale blue; legs and feet pale blue.

73. Munia atricapilla (V.); Salvad. Ucc. di Borneo, p. 265.

Nos. 411, ♂, 411 *a*. Moeara Roepit, Oct. 28, 1881. Irides dark brown; bill, legs, and feet pale slate-blue.

74. Cymborhynchus macrorhynchus (Gm.); Nicholson, *l. c.* p. 64.

Nos. 371 *b*, 371 *c*, ♂ ♀. In forest near Tandjong Djate, Lake Ranau, 1700 feet, Feb. 15, 1881. Irides metallic green of a rich colour; upper mandible deep cobalt, lower mandible with cobalt margin, but otherwise orange; legs and feet black.

Both sexes have the same colours of the soft parts, which differ a little from those given by Mr. Forbes in my former paper (*l. c.*).

75. Pitta venusta, S. Müller; Salvad. Ucc. di Borneo, p. 241.

No. 404, ♀. Forest at foot of volcano of Kaba, 3000 feet, Sept. 16, 1881. Irides dark brown; bill black; legs and feet a beautiful shade of pale blue. Feeds on small mollusca and seeds. "Boeroeng Api."

76. Carpophaga ænea (L.); Nicholson, *l. c.* p. 65.

No. 353 *e*. Hoedjoeng, 3000 feet. Irides dark red; [illegible] purplish pink on upper surface of upper mandible, tip [illegible] upper mandible with lower mandible pale bl[illegible] feet purplish pink.

No. 371 *a*, ♂. Tandjong Djate in forest near Lake Ranau, 1700 feet, Feb. 16, 1881. Rich brown irides; bill pink; legs pink. "Pergum."

77. Sphenocercus oxyurus (Reinw.); Salvad. *l. c.* p. 243.

No. 371, ♂. Tandjong Djate, Lake Ranau, 1700 feet. Irides cobalt-blue, with external ring of pink; skin round the eye bright green; upper mandible cobalt-blue, tip bright green; legs bright scarlet.

78. Gallus ferrugineus (Gm.); Salvad. *l. c.* p. 251.

No. 361 *b*, *c*, ♂ ♀. Tandjong Djate, near Lake Ranau, 1700 feet, Feb. 5, 1881.

79. Polyplectron chalcurum, T.; Elliot, Monogr. Phasian. i. pl. 10.

No. 358, ♂. In forests near Hoedjoeng, Blalauw, 3000 feet, Jan. 15, 1881. Irides dark brown, but sooty colour; legs and feet faded blue. Feeds on fruits. "Loekei."

80. Excalfactoria chinensis (L.); Salvad. Ucc. di Borneo, p. 311.

No. 389, ♀. Goenoeng Meraksa, on the river Lintang, 1800–2000 feet, June 13, 1881. Irides brown; bill black; legs and feet yellow. "Poeyoe."

81. Caloperdix oculea (Temm.); Salvad. *l. c.* p. 252.

No. 405, ♂. In forest near hot springs at foot of volcano of Kaba, 3000 feet, Oct. 5, 1881. Irides dark brown; bill black; legs and feet pale yellow. Feeds on insects. Enormous Fabrician glands. "Poeyoe rimboe."

82. Arborophila personata (Horsf.); Gray, Hand-l. pt. ii. p. 268. no. 9703 (?).

Similis *A. personatæ* et secundariis intimis late aureo-fulvo notatis, sed dorso toto nigro transfasciato, præpectore cum pectore summo et corporis lateribus pulchre cineraceis, et hypochondriis nigro alboque late transfasciatis distinguenda. Long. tot. 8·5, culm. 0·8, alæ 5·5, caudæ 1·9, tarsi 1·55.

No. 356, ♀. In forest near Hoedjoeng, foot of Besagi Mountains, 3000 feet, Jan. 4, 1881. Irides bluish grey;

wattle round eye dark scarlet; bill black; legs and feet red. "Berkaka."

No. 406, ♀. In forest at foot of Kaba volcano, 3000 feet, Oct. 6, 1881. Irides dark brown; bill black; legs and feet red; wattle round eye scarlet; skin of neck scarlet (below feathers). Feeds on seeds.

The specimens sent by Mr. Forbes differ consideraly from the type of *Arborophila personata* in the British Museum, being much more of a bluish ash-colour on the fore neck and breast, while the back is much more closely barred with black, and the flanks are much more broadly and distinctly barred with black and white. The different plumages of this species have not been thoroughly worked out; but the Sumatran bird may ultimately prove to be distinct.

83. Tringoides hypoleucus (L.); Salvad. *t. c.* p. 252.

No. 362, ♂. Feb. 4, 1881, Tandjong Djate.

No. 366 *b*, ♀. Irides brown; legs greenish; bill black at tip, grey behind on lower mandible. Tanjong Djate on Lake Ranau, 1700 feet, Feb. 7, 1881.

No. 410, ♂. On river Roepit, near Soeka menang, 500 feet, Oct. 26, 1881. Irides dark brown; upper mandible sooty colour, lower one sooty blue; legs and feet very pale blue. "Djoe-djoeat."

84. Herodias intermedia (Hasselt); Salvad. Ucc. di Born. p. 348.

No. 372, ♂. Lake Ranau, 1700 feet, Feb. 15, 1881. Irides straw-yellow; legs black; feet bright green.

85. Butorides javanica (Horsf.); Salvad. Ucc. di Born. p. 351.

No. 366, ♀. Margin of Lake Ranau, 1700 feet, Feb. 6, 1881. Irides light yellow, almost straw-colour; legs dirty green, yellow on back parts.

No. 367, ♀. Margin of Lake Ranau, 1700 feet, Feb. 10, 1881. Upper mandible black, lower greenish.

No. 415 *b*, ♂. On Rawas river, near Moeara Mengkoelem, 1800 feet, Nov. 22, 1881. Legs black, sole[illegible] feet yellow.

86. Bubulcus coromandus (Bodd.); Salvad. Ucc. Born. p. 350.

Nos. 410, 410 *b*, ♀. Irides bright straw-colour; bill yellow; feet and legs black. Feeds on insects, grasshoppers, shrimps, and small fish called "slocang," and vegetable matter. River Roepit, near Maoer, Oct. 27, 1881.

No. 365, ♀. Tandjong Djate, Lake Ranau, 1700 feet, Feb. 6, 1881. Irides light yellow; bill yellow; legs black, with a slight tinge of green on tibiæ; soles dirty green.

No. 415 *c*. Margin of river Rawas, near Moeara Mengkoelem, 1800 feet, Nov. 22, 1881. Soft parts as in No. 410.

87. Leptoptilus javanicus (Horsf.); Salvad. Ucc. di Born. p. 358.

No. 363, ♀. Djoengoe boetak, Lake Ranau, 1700 feet. Irides bluish grey; bill pale grey; legs and feet nearly blue-black.

88. Tantalus lacteus, Temm.; Salvad. Ucc. di Born. p. 358.

No. 418, ♂. Near Bigin Telok, river Rawas, Dec. 3, 1881. Irides greyish brown; bill with yellow markings and blotches; point of the upper and the lower mandible pale white; eye-wattle grey; occiput grey.

No. 407, ♀. Oelak Tanding, Sindang, Oct. 9, 1881. Irides dark grey; legs and feet greenish grey; bill the same. Feeds on the algæ on river-stones.

89. Hypotænidia striata (Linn.); Salvad. Ucc. di Born. p. 336.

No. 368, ♂. Tandjong Djate, on Lake Ranau, Feb. 10, 1881; 1700 feet. Irides reddish grey; upper mandible sooty; under mandible purplish, reddish grey at tip; legs and feet sooty blue. "Koentik."

XXVIII.—*On the* Columbidæ *of the Ethiopian Region.*

By Captain G. E. Shelley, F.Z.S.

Great confusion has arisen in the nomenclature of the African species of this family. I have no new names to propose; but I trust, by arranging the older ones in their proper places, to establish better order amongst the African members; and if I succeed in doing this I shall attain the object of my present endeavours.

Within my range I shall include Palestine and the islands surrounding Africa, such as Socotra, the Seychelles, Madagascar, and those extending as far eastward as Rodriguez; as also St. Helena, the Canary Islands, Madeira, and the Azores. These latter islands, together with the shores of the Mediterranean and Palestine, really belong to the Western Palæarctic Region, and I shall thus include six species (*Columba œnas, Palumbus palumbus, P. trocaz, P. bollii, P. laurivorus,* and *Turtur risorius*) which are not, properly speaking, members of the Ethiopian Region.

The order Columbæ I shall divide into two families:—

1. *Columbidæ.* The true Pigeons, with wings adapted for flight.
2. *Dididæ.* The Dodos, with wings obsolete, not adapted for flight.

The latter family I shall rapidly pass over, its representatives being now extinct.

Of the family Columbidæ there are likewise two extinct Ethiopian species: one, *Columba rodericana*, Milne-Edwards, is only known by a few bones. It was a native of Rodriguez, and probably belonged to the genus *Alectrœnas*; but I shall not treat further of it here. The other (more recently) extinct form is *Alectrœnas nitidissima*, of Mauritius, which I shall give a place to amongst the existing species.

The family Columbidæ I shall divide into two subfamilies to be distinguished by the number of their tail-feathers:—

1. Subfamily Treronnæ, with 14 tail-feathers, contains two genera, *Alectrœnas* and *Treron*.

2. Subfamily Columbinæ, with 12 tail-feathers, contains *Columba, Palumbus, Turtur, Turturœna, Haplopelia, Chalcopelia, Tympanistria, Œna,* and *Geopelia.* The latter genus only comes within my range as an introduced bird on some of the islands bordering Africa to the south of the equator.

In all the members of this family the sexes are similar in plumage, with the exception of *Turturœna delegorguei* and *Œna capensis.*

Subfam. I. Treroninæ.

Tail of 14 feathers; tarsus more or less feathered.

a. Entire tarsus feathered all round; feathers of the neck lengthened, and of a loose, rather hair-like texture; body and wings indigo-blue; the inner web of the first primary more or less indentated; the third primary entire ..... 1. *Alectrœnas.*

b. Tarsus only feathered in front for about half its length; feathers of the neck ordinary; general colouring olive; the first primary entire, the third generally indentated on the inner web (but this is not a very reliable character, for in *T. delalandii* I met with it in eight specimens, while in two others the third primary was entire) .... 2. *Treron.*

1. Alectrœnas.

	Type.
Alectrœnas, Gray, List Gen. B. 1840, p. 58	*A. nitidissima.*
Chlamydœna, Bp. Compt. Rend. xxxix. 1854, p. 879	*A. nitidissima.*
Furningus, Des Murs, Enc. d. H. N. vii. Ois. p. 32 (1854)	*A. madagascariensis.*
Funingus, Bp. (correction) Compt. Rend. xxxix. 1854, p. 880 . .	*A. madagascariensis.*
Erythrœna, Bp. *l. c.*	*A. pulcherrima.*
Alectorœnas, Agassiz, 1855 (correction)	*A. nitidissima.*

The little group of Pigeons which I assemble under this genus is confined to Madagascar and the neighbouring islands of the Indian Ocean, and were once probably five in number; of these two are now extinct. *Columba rodericana,*

M. A. Milne-Edwards, from the island of Rodriguez, is only known from a few bones, which scarcely justify one in assigning a place to it in our classification. The other extinct member of this genus is the type *A. nitidissima*, formerly found in the Mauritius, only at present known by three preserved specimens, one in the Paris Museum, another in the Museum of Port Louis, the capital of Mauritius, and the third in the Museum of Science and Art in Edinburgh. The three existing species are confined to Madagascar, the Comoro Islands, and Seychelles. Two inhabit Madagascar—*A. madagascariensis*, confined to that island, and *A. sganzini*, which ranges also over the Comoro group, having been procured at Mayotte, Anjuan, and Great Comoro. The third, *A. pulcherrima*, is confined to Seychelles.

Key to the Species.

a. Tail blue, like the back.
  *a*¹. Crown red ..... 1. *pulcherrima*.
  *b*¹. Crown silvery grey ..... 2. *sganzini*.
b. Tail red.
  *b*¹. Crown white ..... 3. *nitidissima*.
  *c*¹. Crown deep slate-colour ..... 4. *madagascariensis*.

1. Alectrœnas pulcherrima.

Le Pigeon violet à tête rouge d'Antigue, Sonn. Voy. Nouv. Guinée, 1776, p. 112, pl. 67.

Columba pulcherrima, Scop. Flor. et Faun. Insub. ii. 1876, p. 91 (ex Sonn.).

Columba rubricapilla, Gm. S. N. i. 1788, p. 784; Temm. & Knip, Pig. i. 1808–1838, p. 52, pl. 20 (good).

Erythrœna pulcherrima, Bp. Consp. Gen. Av. ii. 1857, p. 30; E. Newton, P. Z. S. 1867, p. 344; id. Ibis, 1867, p. 359.

Ptilonopus pulcherrimus, Gray & Mitch. Gen. B. ii. 1849, p. 467.

Alectrœnas pulcherrima, Hartl. Vög. Madag. 1877, p. 264.

Entire body, wings, tail, and feathers of the tarsus deep indigo-blue, with brighter blue reflections; the crop and neck ashy white, shading into pearl-grey towards the head, and into leaden grey on the cheeks and ear-coverts; fore-

head and crown crimson; the sides of the head and front of the forehead scarlet and much wattled; under tail-coverts deep green with bright reflections; iris red; bill dusky black with the end whitish; feet greyish olive. Total length 9·1 inches, culmen 0·7, wing 6·15, tail 3·5, tarsus 1.

Hab. Confined to the Seychelles archipelago, where it has been procured on the islands of Mahé, Silhouette, Praslin, and Marianne.

The description is taken from a specimen in my own collection.

2. Alectrœnas sganzini.

Columba sganzini, Verr. MS.

Turningus sganzini, DesMurs, Encyclop. Hist. Nat. Ois. p. 32.

Funingus madagascariensis, Cab. v. d. Decken's Reisen, iii. 1869, p. 43, Great Comoro.

Alectrœnas sganzini, Sclat. Ibis, 1864, p. 300, Anjuan; E. Newton, P. Z. S. 1877, pp. 300, 302, Anjuan; Hartl. Vög. Madag. 1877, p. 260, Madagascar; Shelley, P. Z. S. 1879, p. 678.

Ptilopus sganzini, Schl. P. Z. S. 1866, p. 424, Mayotte; Schl. & Poll. Faun. Madag. Ois. 1868, p. 115, pl. 37 (good).

Similar in general plumage to *A. pulcherrima*, but differs in the forehead and crown being pale grey and entirely covered by feathers, the chin and throat white, no wattles on the head, but a large bare scarlet patch round the eye; the white of the neck extends further onto the back, that part being more or less washed with white; the under tail-coverts are bluer, the smaller feathers only being partially washed with green; iris red; bill dusky olive, slightly paler towards the tip; feet olive-grey. Total length 10·5 inches, culmen 0·7, wing 6·7, tail 4·1, tarsus 0·9.

Hab. The Comoro Islands and Madagascar, the latter locality for this species resting solely on a single specimen in the Paris Museum.

In Mayotte, according to Schlegel and Pollen, these birds are common in the virgin forest, where they may be met with perched, in bands of ten or twelve, in the upper boughs of the

taller trees, and are easily killed, as they generally return at once to the same tree after being shot at. On that island they feed principally upon the wild dates, and are very good eating.

In Anjuan, according to Sir John Kirk, this species is ver abundant in the forest from the base of the hills up to abo 1000 feet. Mr. E. Newton calls it "a stupid bird, allowi you to get quite near it; food in crop figs; iris red. Nat name 'Ningha.'"

In Great Comoro it would appear to be equally abundant if I may judge from the fine series sent to me from that island by Sir John Kirk. Its occurrence in Madagascar appears to me very doubtful.

I have described a specimen in my own collection f Great Comoro.

3. Alectrœnas nitidissima.

Pigeon Holandais, Sonn. Voy. Ind. Orient. 1782, p. 175, pl. 100, Mauritius.

Columba nitidissima, Scop. Flor. et Faun. Insub. ii. 1786, p. 93 (ex Sonn.).

Columba franciæ, Gm. S. N. i. 1788, p. 779; Temm. & Knip, Pig. i. 1808–1838, p. 50, pl. 19 (fair); Temm. Hist. Pig. et Gall. 1813, pp. 228, 463.

Le Ramier hérissé, Levaill. Ois. d'Afr. vi. 1808, p. 74, pl. 267 (fair); Sundev. Crit. om Levaill. 1857, p. 53.

Columba batavica, Bonn. Enc. Méth. 1823, p. 233.

Columba jubata, Wagl. Syst. Av., Columba, 1827, sp. 22.

Alectrœnas nitidissimus, Gray, List Gen. B. 1840, p. 58; Hartl. Vög. Madag. 1877, p. 65; A. Newton, P. Z. S. 1879, p. 2.

Body and wings indigo-blue; feathers of the head and neck white and more elongated on the crown; the bare scarlet patch surrounding the eye extends onto the cheek and across the front of the forehead; upper tail-coverts and tail vermilion, a large portion of the outer web of the tail and a great portion of the inner webs of the tail-feathers black; iris red; bill dusky slate-colour, with the base red and the

end yellow; feet slate-colour. Total length 11·8 inches, bill 1, wing 8·2, tail 5·2.

Hab. Mauritius (now extinct).

I have not been able to examine a specimen of this bird, so have taken my description from other authors, with the assistance of the figure of *Le Ramier hérissé* of Levaillant and the measurements given by Dr. Hartlaub ('Vög. Madagascar'). The colouring of the under tail-coverts is unknown to me, but is probably red and green, as in *A. madagascariensis*. For my present purpose I think the above description sufficient.

4. Alectrœnas madagascariensis.

Columba madagascariensis, Linn. S. N. i. 1766, p. 283; Temm. & Knip, Pig. i. 1808–1838, p. 46, pl. 17 (fair).

Le Ramier Founingo, Levaill. Ois. d'Afr. vi. 1808, p. 72, pl. 266 (fair).

Columba phœnicura, Wagl. Syst. Av., Columba, 1827, sp. 23.

Carpophaga madagascariensis, Gray & Mitch. Gen. B. ii. 1849, p. 469.

Turningus madagascariensis, Bp. Consp. Gen. Av. ii. 1857, p. 29; Sclat. P. Z. S. 1863, p. 161; Roche & E. Newton, Ibis, 1863, p. 167; Grand. Rev. et Mag. Zool. 1867, p. 418; Aquarone, Bull. Soc. Imp. Acclim. 1869, p. 361; Sharpe, P. Z. S. 1870, p. 399.

Ptilopus madagascariensis, Gray, List Brit. Mus. Columb. 1856, p. 9; Schl. P. Z. S. 1866, p. 424; Schl. & Poll. Faun. Madag. Ois. 1868, p. 115.

Alectrœnas madagascariensis, Hartl. Vög. Madag. 1877, p. 262. ♂

Body and wings indigo-blue; neck slaty grey, passing almost into deep indigo-blue on the forehead, crown, nape, cheeks and ear-coverts; the slaty grey of the neck not sharply defined in front, but gradually passes on the crop into the colour of the breast; upper tail-coverts and tail crimson, glossed towards their junction with bright blue and often with green; tail with nearly the entire outer webs and the bases of all the feathers slaty black; all but the two centre

feathers have narrow ends and broader inner margins of black, with a greenish gloss; under tail-coverts shade into crimson on the larger feathers, the remainder glossy green, mottled with large buff centres and partial edges; a bare patch round the eye red; iris red; bill olive-shaded slate-colour, fading into yellowish-white towards the tip; feet red, powdered with white between the scales. Total length 11 inches, culmen 0·6, wing 7, tail 3 8, tarsus 0·85.

Hab. Madagascar.

According to Schlegel and Pollen this bird is probably commoner on the east than the west of the island, but rather rare in the north-east. It lives in bands of six to eight, inhabiting the higher branches of the taller forest-trees, and is shy and difficult to approach. Its flight is strong and rapid. It feeds on berries, fruit, and grain, and during the planting of the rice-crops does much damage and becomes excessively fat, but is never so good to eat as the other Madagascar Pigeons. It is easily tamed, but is very lethargic in its habits. The native name is "Finingo," according to Schlegel and Pollen, and "Founi," according to Dr. Miller.

My description is taken from a specimen in my own collection.

II. Treron. Type.

Treron, Vieill. Analyse, 1816, p. 49 . . . *T. amboinensis*.
Vinago, Cuv. Règn. Anim. i. 1817, p. 457 . *T. waalia*.
Phalacrotreron, Bp. Compt. Rend. xxxix. 1854, p. 872 . . . . . *T. calva*.

The genus *Treron* ranges over the whole of Tropical and Southern Africa, Madagascar, and a large portion of the Indo-Malayan Region.

In Africa there are five well-marked species, and as the sexes do not differ in plumage, there is no reason for their being confounded; yet there is a general similarity in the colouring of them all, which has entailed many errors in nomenclature, and renders their geographical distribution somewhat uncertain.

Key to the Species.

a. With no grey collar at the base of the hind neck; thighs not uniform bright yellow; tail above grey.
  *a*¹. Head and neck ashy olive; chest bright yellow; thighs buff mottled with yellow ..... 5. *waalia*.
  *b*¹. Head, neck, and chest uniform olive-yellow; thighs bright yellow mottled with black ..... 6. *australis*.
b. With a grey collar at the base of the hind neck; thighs uniform bright yellow.
  *b*¹. Tail above grey; olive of the back and wings less yellow ..... 7. *calva*.
  *c*¹. Tail above olive-yellow like the back; olive of the back and wings yellower.
    *c*². Head, neck, and chest olive-yellow; terminal bar to the tail above slightly paler and more distinctly marked ..... 8. *wakefieldi*.
    *d*². Head, neck, and chest ashy olive; terminal bar to the tail above slightly darker and less distinctly marked ..... 9. *delalandii*.

5. Treron waalia.

Waalia, Bruce, Trav. Abyss. 1790, p. 186, pl.

"*Columba waalia*, Gm., Bruce's Reisen, übersetzt v. Cuhn, v. ii. (1791) Zusätze, p. 31; id. übersetz von Volkmann, v. 5 (1791) pp. 188, 190, pl. 38" (*fide* Finsch & Hartl.).

Columba abyssinica, Lath. Ind. Orn. Supp. 1802, p. 60; Temm. & Knip, Pig. i. 1808–1838, p. 131, pl. 9 (good), (nec ♀, pl. 8).

Le Columba à épaulettes, male, Levaill. Ois. d'Afr. vi. 1808, pl. 276 (not good).

Columba humeralis, Wagl. Syst. Av., Columba, 1827, sp. 2 (excl. ♀).

Vinago abyssinica, Cuv. Règn. An. 1817, p. 457; ? Verr. Rev. et Mag. Zool. 1851, p. 422, Gaboon; Antin. & Salvad. Viagg. Bogos, 1873, p. 129.

Treron abyssinica, Gray, List Gall. 1844, p. 3; Hartl. Orn. W. Afr. 1857, p. 193, pt.; ? Hartl. J. f. O. 1861, p. 266, St. Thomas's Is.; Blanf. Geol. & Zool. Abyss. 1870, p. 418.

Phalacrotreron abyssinina, Reichb. Taub. 1855, pp. 108, 181, pl. 242. figs. 1345–1346; Antin. Cat. descr. Ucc. 1864, p. 87.

Geopelia humeralis, Heugl. Syst. Uebers. 1856, p. 49.

Treron waalia, Finsch & Hartl. Vög. Ostafr. 1870, p. 533; Finsch & Jesse, Tr. L. S. vii. 1870, p. 288; Heugl. Orn. N.O.-Afr. 1871–1875, p. 817, App. p. 168; Hartl. Abhandl. nat. Vereins Bremen, vii. 1881, p. 117, Lado; Sclat. & Hartl. P. Z. S. 1881, p. 173, Socotra.

Entire head and neck pale ashy olive; back, scapulars, inner wing-coverts, innermost secondaries, and upper tail-coverts olive-yellow; remainder of the least and median wing-coverts rich vinous; remainder of the wings blackish brown; outer median wing-coverts, greater wing-coverts, and secondaries with very distinct yellowish-buff partial edges to their outer webs towards their ends; primaries with narrower partial buff edges on their outer webs; tail above le[ad]en grey, shading into slaty black on the basal two thirds [of] but the two centre feathers; chest bright gamboge-yell[ow] surrounded on the crop and sides by pale ashy olive; abdomen white; thighs buff mottled with bright yellow; thigh-coverts olive-green, with broad buff or yellowish-buff edges to the feathers; under tail-coverts with very broad white or buff edges, the centres of the smaller feathers being olive-grey and of the larger ones chestnut; under surface of the tail-feathers slaty black, hidden by the coverts, and with very broad white ends; under surface of the wings leaden grey, inclining to brown towards the outer webs of the quills; "iris blue, with an outer rim of salmon-pink; beak bluish grey, red at base; legs and feet pinkish yellow, toes blue" (*Jesse*). Total length 12·7 inches, culmen 0·6, wing 6·7, tail 4·3, tail 0·85.

Hab. Socotra, N.E. Africa, and Senegambia.

According to Dr. Hartlaub (Abh. nat. Ver. Bremen, vii. p. 117) there is a specimen of this Pigeon from Senegal in the Bremen Museum.

The following records of its occurrence, in my opinion, most probably refer to other species:—Casamanse (*Verr.*), Guinea (*Hartl.*), St. Thomas's Island (*Weiss*, Hartl. Orn. W.-Afr. p. 193), to *T. calva*; and *T. abyssinica* (Kirk, Ibis, 1864, p. 329), from Shupanga on the Zambesi, to *T. waldefieldi* or *T. delalandii*.

6. Treron australis.

Columba australis, Linn. Mant. 1771, p. 526; Temm. & Knip, Pig. i. 1808–1838, pl. 3 (good).

Columba madagascariensis, Gm. S. N. i. 1788, p. 779.

Columba humeralis, Wagl. Syst. Av., Columba, 1827, sp. 2 (excl. ♂).

Vinago australis, Cuv. Règne Anim. i. 1817, p. 457; Jard. Ill. Orn. iv. pl. 81 (1825–1839); Sclat. P. Z. S. 1863, p. 164; Roch & Newton, Ibis, 1863, p. 167; E. Newton, Ibis, 1863, p. 454; Grand. Rev. et Mag. Zool. 1867, p. 418; Hartl. Vög. Madag. 1877, p. 259.

Treron australis, Gray & Mitch. Gen. B. ii. 1849, p. 467; Bartlett, P. Z. S. 1875, p. 67.

Somewhat similar in plumage to *T. waalia*, but has the entire head and neck greenish yellow, and the centre of the breast of the same colour; back, scapulars, inner wing-coverts, the whole of the median wing-coverts, innermost secondaries, and upper tail-coverts olive, less shaded with yellow than in *T. waalia*; a small portion only of the least wing-coverts rich vinous; outer median wing-coverts and the greater wing-coverts with much broader yellowish-buff partial edges to their outer webs; remainder of the wings about similar; tail with the dark basal portion above slightly washed with greenish yellow; chest greenish yellow, like the neck, shading into grey on the sides; abdomen bright yellow; thighs bright yellow mottled with black; thigh-coverts, under tail-coverts, and under surface of the wing very similar to *T. waalia*, the ashy-white ends of the tail-feathers underneath rather narrower. Iris light blue; bill grey, with the basal portion lake-pink; legs yellow. Total length 14·2 inches, culmen 0·55, wing 6·75, tail 4·3, tarsus 1·1.

Hab. Madagascar.

7. Treron calva.

Columba calva, Temm. & Knip, Pig. i. 1808–1838, p. 35, pl. 7 (bad); Temm. Hist. Nat. Pig. et Gall. 1813, pp. 63, 442.

Vinago calva, Cuv. Règne An. i. 1817, p. 492.

Vinago nudirostris, Swains. B. W. Afr. ii. 1837, p. 205, Senegal; Gordon, Contr. Orn. 1849, p. 12, Gold Coast; Verr. Rev. et Mag. Zool. 1851, p. 421, Gaboon.

Treron crassirostris, Fraser, P. Z. S. 1843, p. 35, W. Africa; Allen & Thomas, Exp. Niger, ii. 1848, p. 42, Rollas I.; Fraser, Zool. Typ. 1849, pl. 60.

Treron calva, Gray, List Gall. 1844, p. 14; Hartl. J. f. O. 1855, p. 361, Gold Coast; id. Orn. W.-Afr. 1857, p. 192; id. J. f. O. 1861, p. 266, Bissao; Dohrn, P. Z. S. 1866, p. 339, Prince's I.; Sharpe, P. Z. S. 1869, p. 570, Angola; id. Ibis, 1869, p. 194, Fantee; id. P. Z. S. 1870, p. 147, Angola; Finsch & Hartl. Vög. Ostafr. 1870, p. 539, note; Shelley & Buckley, Ibis, 1872, p. 290, Gold Coast; Sharpe, P. Z. S. 1874, p. 206, Bulama; Reichenow, J. f. O. 1874, p. 388, Camaroons, Gaboon; Monteiro, Angola & Congo, ii. 1875, p. 169; Reichenow, J. f. O. 1877, pp. 7, 14, Loango Coast; Bocage, Orn. Angola, 1881, p. 378.

Vinago pyterioptis, Verr. Rev. et Mag. Zool. 1851, p. 421, Gaboon.

Phalacrotreron calva, Reichb. Taub. 1855, p. 107, pl. 240*b*. fig. 3370, Suppl. pl. 5. fig. 52; Bp. Icon. Pig. 1857, pl. 3. fig. A (head); Gurney in Anderss. B. Dam. Ld. 1872, p. 230.

Phalacrotreron crassirostris, Reichb. Taub. 1855, pp. 107, 181, Suppl. pl. 5. fig. 53; Bp. Icon. Pig. 1857, pl. 2.

Phalacrotreron nudirostris, Reichb. Taub. 1855, pp. 107, 181, pl. 244. fig. 2486, Suppl. pl. 5. fig. 51; Bp. Icon. Pig. 1857, pl. 3. fig. B.

Treron nudirostris, Hartl. Orn. W.-Afr. 1857, p. 192; Cass. Pr. Philad. Acad. 1859, p. 143, Gaboon; Hartl. & Monteiro, P. Z. S. 1860, p. 112, Angola; Hartl. J. f. O. 1861, p. 266; Heugl. Orn. N.O.-Afr. 1871–1875, p. 821, App. p. 168, pt., excl. Mombas; Finsch & Hartl. Vög. Ostafr. 1870, p. 537, pt., excl. Mombas; Sharpe & Bouvier, Bull. Soc. Zool. France, 1867, p. 52, Chinchoxo; Hartl. Abhandl. nat. Ver. Bremen, vii. 1881, p. 117, N.E. Afr.

Vinago australis, Jard. & Selby (nec Linn.), Ill. Orn. pl. 81.

Treron nudifrons, Heugl. MS.

Very similar to *T. australis*, but a smaller bird, with a bare forehead; has a broad leaden-grey collar at the base of the hind neck; the vinous patch on the wings is slightly larger, extending over nearly the whole of the least series of wing-coverts; the yellowish-buff partial edges to some of the wing-feathers narrower; tail grey, occasionally very narrowly washed with greenish yellow at the edges of the feathers; the entire underparts agree well with *T. australis*, with the exception of the thighs, which are uniform bright yellow, not mottled with black; iris blue, surrounded by a red rim; bill bluish grey, with the basal portion red; feet yellowish flesh-colour. Total length 10·5 inches, culmen from the frontal feathers 0·95, wing 6·1, tail 3·7, tarsus 0·9.

Hab. West Africa from Senegal to Ondonga in Damara Land, and in East Africa from about 16° N. lat. to the equator.

I have failed to detect any character for the separation of *T. nudirostris* and *T. crassirostris* from *T. calva*. The so-called *T. nudirostris* collected by Von der Decken at Mombas probably belongs to *T. wakefieldi*, but I have not examined the specimens.

My description is taken from a Gold-Coast specimen in my own collection. I have also examined specimens of this species from Abyssinia, Gaboon, R. Danger (*Ansell*), Ambriz and Angola (*Monteiro*). Two of the specimens in the British Museum have M. Verreaux's labels with "*Phalacrotreron nudirostris*" and "*P. crassirostris*" written on them.

8. Treron wakefieldi.

? *Treron nudirostris*, Hartl. P. Z. S. 1863, p. 106, Kazeh (*Speke*); Cab. v. d. Decken's Reisen, iii. p. 42 (1869), Mombas; Finsch & Hartl. Vög. Ostafr. p. 537, pt., ex Mombas; Heugl. Orn. N.O.-Afr p. 831, pt., ex Mombas.

? *Treron abyssinica*, Kirk, nec Lath. 1864, p. 329 (Zambesi).

Treron wakefieldi, Sharpe, P. Z. S. 1873, p. 715, pl. 58. 2, Mombas (*Wakefield*); Fischer & Reichenow, J. f. O. 1879, pp. 271, 339; Shelley, P. Z. S. 1881, p. 595, Lamo and Pangani (*Kirk*); Gurney, Ibis, 1881, p. 128.

Very similar to *T. calva*, which it resembles in size, nudity of the forehead, the grey collar at the base of the hind neck, the vinous and yellow on the wings, the thighs being bright yellow, and in the under tail-coverts; but differs in the head, neck, and chest being yellower, in the olive parts of the back and wings being also yellower, and in the tail being above olive-yellow instead of grey, and ending in a broad yellowish-buff terminal bar; the iris, bill, and legs are probably similarly coloured to those of *T. calva*. Total length 9·2 inches, culmen from the frontal feathers 0·8, wing 6·15, tail 3·5, tarsus 0·9.

Hab. E. Africa, from Lamo to Matabele Land.

My description is taken from a specimen collected by Sir John Kirk at Lamo. Mr. Sharpe, by error, in his original description, gave the culmen as 1·8 inch instead of 0·8. I have also examined specimens from Mombas (*Wakefield*), Pangani (*Kirk*), Zambesi (*Bradshaw*), and Matabele (*Oates*). In these the length of the wing varies from 5·7 inches to 7·2. Prof. Barboza du Bocage (Orn. Angola, p. 379) observes that some specimens from Quango, Biballa, and Humbe differ from his typical *T. calva* in their yellower colouring, and may, I think, possibly refer to *T. wakefieldi*; but I have not seen the specimens, and the author does not remark on the colouring of the tail. The greenish-yellow colouring of the upper surface of the tail in this species is, I consider, the best-marked character for its separation from the grey-tailed *T. calva*.

9. Treron delalandii.

Treron australis, Gray (nec Linn.), List Spec. Brit. Mus. iii. 1844, p. 3, pt.

Vinago calva, Verr. (nec Temm.) Rev. et Mag. Zool. 1851, p. 423; Jard. Edinb. New Phil. Journ. n. s. ii. 1855, p. 246; Bianc. Spec. Zool. Mosamb. fasc. xvi. 1865, p. 400.

Treron nudirostris, Licht. (nec Swains.) Nomencl. 1854, p. 82.

Phalacrotreron delalandii, Bp. Compt. Rend. xxxix. 1854, p. 872; id. Icon. Pig. 1857, pl. 1; Ayres, Ibis, 1880, p. 109, Transvaal.

Treron delalandii, Gray, List Brit. Mus. Columb. 1856, p. 14; Sclat. P. Z. S. 1862, p. 12, Ugaramo; Gurney, Ibis, 1862, p. 33, Natal; Sclat. P. Z. S. 1864, p. 113; Hartl. P. Z. S. 1867, p. 827, Zanzibar; Layard, B. S. Afr. 1867, p. 255; Gurney, Ibis, 1868, p. 164; Kersten, v. d. Decken's Reisen, i. 1869, p. 60; Finsch & Hartl. Vög. Ostafr. 1870, p. 535; Heugl. Orn. N.O.-Afr. 1871–1875, p. 822, App. p. 168; Shelley, Ibis, 1875, p. 83, Pinetown; Nicholson, P. Z. S. 1878, p. 359, Dar-es-Salaam; Fischer & Reichenow, J. f. O. 1878, pp. 250, 293, Mombas; Holub & Pelz. Beitr. Orn. Sudafr. 1882, p. 171; Shelley, Ibis, 1882, p. 358, Matabele.

Very similar to *T. calva* and *T. wakefieldi*, but differs from them both in the more ashy-olive shade of the head, neck, and breast; the feathers extend further onto the forehead; the vinous patch on the wings is generally slightly paler and more ashy, remainder of the wings similar, excepting that the olive parts, as well as the back and the tail, are yellower; tail olive-yellow, as in *T. wakefieldi*, with the broad terminal paler bar not so strongly marked; "iris grey; bill grey, with the basal portion pink; legs red" (*T. L. Ayres*). Total length 10 inches, culmen from frontal feathers 0·9, wing 6·65, tail 4·1, tarsus 0·95.

Hab. E. Africa, Mombas to Kaffraria.

My description is taken from a male collected by Mr. T. Ayres at Pinetown, in Natal. The specimens examined vary in length of wing from 6·2 to 6·8 inches.

Subfam. II. Columbinæ.

Tail of 12 feathers; tarsus entirely bare or feathered only on the upper portion in front.

a. With the wing longer than the tail.
b. Tail not two thirds of wing. Distance between the tip of the secondaries and tip of wing more than half the length of tail. Breed in holes. Tarsus naked. Fourth primary never longer than any of the outer three ..... 1. *Columba*.

b^1. Tail more than two thirds of wing. Distance between the tip of the secondaries and tip of wing less than half the length of tail. Do not breed in holes. Tarsus naked or feathered on the front towards the knee-joint. Fourth primary not always shorter than one or more of the outer three.

b^2. With no metallic spots on the wings; under surface of the wings not rufous.

b^3. With no pale terminal bar to the tail underneath. Larger.

b^4. Fourth primary longest; tarsus entirely naked ..... 2. *Trocaza.*

c^4. Fourth primary shorter than the outer three; upper portion of the tarsus feathered in front ..... 3. *Palumbus.*

c^3. With a white or pale terminal bar to the tail underneath. Smaller.

c^4. With no trace of black on the neck. Back of the neck and front of the mantle glossed with metallic shades.

c^5. Fourth primary shorter than the outer three; tarsus shorter than the hind toe with claw; upper portion of the tarsus occasionally feathered. Sexes sometimes dissimilar ..... 4. *Turturœna.*

d^5. Fourth primary longer than the first; tarsus longer than the hind toe with claw, and always entirely naked. Sexes always similar in plumage..... 5. *Haplopelia.*

d^4. With a more or less defined partial black collar on the neck; with no metallic shades on any portion of the plumage .. 6. *Turtur.*

c^2. With large metallic spots on the wings; under surface of the wings rufous.

c^3. First primary entire ..... 7. *Chalcopelia.*

d^3. First primary sulcated ..... 8. *Tympanistria.*

b. Tail longer than the wing.

b^1. First primary entire. Sexes very dissimilar in plumage ..... 9. *Œna.*

c^1. First primary sulcated. Sexes similar in plumage 10. *Geopelia.*

The ten divisions to which I give generic value in the pre subfamily are in their nature somewhat unsatisfactory, being, to a great extent, founded upon the arrangement of the colours

but by this means I think we arrive at an apparently natural arrangement, which can be easily followed, although perhaps the value of the genera may in some instances be questioned.

I. Columba.	Type.
Columba, Linn. Syst. Nat. i. 1766, p. 279 .	*C. livia.*
Tæniœnas, Reichb. 1853, *fide* Gray, Taub. 1855, p. 59	*C. albitorques.*
Lithœnas, Reichb. tom. cit. p. 54	*C. livia.*
Palumbœna, Bp. Compt. Rend. xxxix. 1854, p. 1107	*C. œnas.*

The members of the genus *Columba*, unlike all other Pigeons, breed in holes.

Six species are met with on the African continent; but one, *C. œnas*, properly belongs only to the Western Palæarctic Region.

C. chlorophœa, Hartl., from Prince's Island, is, in my opinion, after an examination of the type in the British Museum, nothing but a variety of *C. livia*, and *C. schimperi* is another variety of that species.

Key to the Species.

a. Mantle grey.
  *a*¹. Entire underparts grey; with no white bar on the tail.
    *a*². With no white on the neck.
      *a*³. Neck glossed all round with metallic green, passing into coppery purple on the front and sides; under wing-coverts white ..... 1. *livia.*
      *b*³. Neck glossed only on the sides and back with metallic green; under wing-coverts leaden grey ..... 2. *œnas.*
    *b*². With a large white patch on the nape ..... 3. *albitorques.*
  *b*¹. Middle of the abdomen and under tail-coverts white; a broad white bar on the tail ..... 4. *unicincta.*
b. Mantle brown; wing-coverts spotted with white.
  *b*¹. Rump and upper tail-coverts ashy white ..... 5. *guineensis.*
  *c*¹. Rump and upper tail-coverts deep leaden grey .... 6. *phæonota.*

1. Columba livia.

Columba livia, Briss. Orn. i. 1760, p. 82; Gm. S. N. i. 1788, p. 769 (ex Briss.); Bonn. Tabl. Encycl. et Méthod. i. 1790, p. 227; Temm. & Knip, Pig. i. 1808–1838, p. 27, pl. 12 (good); Gould, B. Eur. iv. 1837, pl. 245 (good); Hartl. J. f. O. 1854, p. 205, Senegal; Vernon Harcourt, P. Z. S. 1851, p. 142, Madeira; Hartl. Orn. W.-Afr. 1857, p. 193; Boll. J. f. O. 1857, p. 330, Canaries; Tristram, Ibis, 1859, pp. 35, 318, Palestine; 1860, p. 68, Algeria; Hartl. J. f. O. 1861, p. 266; Godman, Ibis, 1866, pp. 99, 107, Azores; Chambers, Ibis, 1867, p. 101, Tripoli; Drake, *l. c.* p. 428, E. Morocco; Tristram, Ibis, 1868, p. 209, Palestine; Schl. & Poll. Faune Madag. 1868, p. 155; Taczanowski, J. f. O. 1870, p. 51, Constantine; Gurney, Ibis, 1871, p. 275, Algeria; Dohrn, J. f. O. 1871, p. 7, Cape-Verd Is.; Heugl. Orn. N.O.-Afr. 1871–1875, p. 828, App. p. 169; Shelley, B. Egypt, 1872, p. 211; Godman, Ibis, 1872, p. 218, Canaries and Madeira; Gould, B. Gt. Brit. iv. 1873, pl. 3; Hartl. Vög. Madag. 1877, p. 266; Dresser, B. Eur. vii. 1879, p. 11, pl. 457 (good).

Columba saxatilis, Briss. Orn. i. 1760, p. 84; Gm. S. N. i. 1788, p. 769 (ex Briss.).

Columba œnas, Linn. S. N. 1866, p. 279, pt.

Columba domestica, Linn. S. N. i. 1766, p. 279, var. *a*.

Columba amaliæ, C. L. Brehm, Vög. Deutschl. 1831, p. 491.

Columba intermedia, Strickl. Ann. & Mag. Nat. Hist. 1844, p. 39.

Columba turricola, Bp. Compt. Rend. xxxix. 1854, p. 1106; Selys-Longchamps, Ibis, 1870, pp. 453, 454.

Columba schimperi, Bp. Compt. Rend. xxxix. 1854, p. 1106; Taylor, Ibis, 1859, p. 49, Egypt; Tristram, P. Z. S. 1864, p. 448, Palestine; Taylor, Ibis, 1867, p. 66, Egypt; Tristram, Ibis, 1868, pp. 209, 210, Palestine; Wyatt, Ibis, 1870, pp. 2, 6, 16, Palestine; Shelley, B. Egypt, 1872, p. 212.

Columba rupestris (nec Bp.), *C. elegans*, *C. glauconotus*, *C. unicolor*, *C. dubia*, C. L. Brehm, Vogelfang, 1855, p. 256.

Palumbus livia, Heugl. Syst. Uebers. 1856, p. 49.

Columba gymnocyclus, *C. plumipes*, G. R. Gray, List B. Brit. Mus. iv. 1856, pp. 28, 29.

Columba sp. ?, Tristram, Ibis, 1859, p. 35, Palestine.

Columba chlorophæa, Hartl. P. Z. S. 1866, p. 329, Prince's Island.

Columba fusca, Severtzoff, Turk. Jevotn. 1873, p. 68.

Columba neglecta, Hume, Lahore to Yark. 1873, p. 272.

Head and upper neck slaty grey; remainder of the neck, all round, metallic green, passing below into rich metallic coppery purple; upper back, wing-coverts, lower portion of the rump, upper tail-coverts, and tail leaden grey, with the middle back and upper portion of the rump ashy white; the greater and median wing-coverts, with the exception of the outer ones, have broad black subterminal bars, generally confined to the outer webs of the feathers, and which form two distinct cross bars on the wings; quills dark brown, partially washed with grey; the tail has a broad terminal black bar; breast and under tail-coverts leaden grey; axillaries and under wing-coverts white, the latter shaded with grey towards the edges of the wings; under surface of the quills white, shading into brown on the outer webs and towards their ends; iris orange-red; bill vinous slate-colour, inclining to white on the cere; legs red. Total length 11 inches, culmen 0·8, wing 8·5, tail 4·6, tarsus 1·2.

Hab. As a domestic bird the whole coast of the African continent and all the islands within my limits, and is liable to form a wild colony anywhere.

The characters which most readily distinguish *C. livia* from its near ally *C. œnas* are:—the green metallic collar entirely surrounding the neck and passing below into rich coppery purple; the two distinct black bars which partially cross the wing; the axillaries, greater portion of the under wing-coverts, and under surface of the quills being white; the nearly white colouring of the middle and lower back; but this latter is not so constant a character, being absent in the variety *C. schimperi*.

2. Columba œnas.

Columba œnas sive *vinago*, Briss. Orn. i. 1860, p. 86.

Columba œnas, Linn. Faun. Suec. 1761, p. 75; id. S. N. i.

1766, p. 279, pt.; Temm. & Knip, Pig. i. 1808–1838, p. 24, p. 11 (good); Gould, B. Eur. iv. 1837, pl. 244 (good); Vernon Harcourt, P. Z. S. 1851, p. 116, Madeira; Tristram, Ibis, 1859, p. 35, Palestine; 1860, p. 69, Algeria; id. P. Z. S. 1864, p. 448; 1868, p. 209, Palestine; Heugl. Orn. N.O.-Afr. 1871–1875, p. 827, App. p. 168, Egypt; Shelley, B. Egypt, 1872, p. 213; Gould, B. Gt. Brit. iv. 1873, pl. 2 (good); Dresser, B. Eur. vii. 1876, p. 23, pl. 458; Danford, Ibis, 1878, p. 27, Asia Minor.

Columba cavorum, C. L. Brehm, Vög. Deutschl. 1831, p. 492.

Palumbœna œnas, Bp. Compt. Rend. xxxix. 1854, p. 1106.

Columba arborea, C. L. Brehm, Vogelfang, 1855, p. 257.

Pabambœna columbella, Bp. Cat. Parzud. 1856, p. 9.

General plumage leaden grey, with the upper back, scapulars, and inner secondaries darker; sides and back of the neck brilliant metallic green, shot with lilac in certain lights; a few of the inner secondaries and inner greater and median wing-coverts are boldly blotched with black on their outer webs; the bastard wing- and primary-coverts shade into black, and the outer secondaries have broad black ends; the primaries shade into slaty brown towards their ends and on the entire outer feathers; tail with a broad black end; lower throat and crop vinous, gradually shading into grey on the chest; under surface of the tail slaty black, paler towards the base, and with a paler broadish bar about one inch from the end; under wing-coverts leaden grey; under surface of the quills dark brown, slightly washed with grey, and with very narrow partial white edges to their inner webs; iris dark brown; bill inclining to grey towards the cere and yellow at the tip; legs red. Total length 13·5 inches, culmen 0·8, wing 8·4, tail 4·8, tarsus 1·1.

Hab. Madeira, the Azores, and the shores of the Mediterranean.

This species can hardly be regarded as belonging to the African fauna. Its occurrence in Egypt is highly problematical; its claim to being Egyptian rests on a single specimen, so labelled, in the Berlin Museum.

3. Columba albitorques.

Columba albitorques, Rüpp. N. W. 1835, p. 63, pl. 22. fig. 1, Abyssinia; id. Syst. Uebers. 1845, p. 100; DesMurs in Lefebv. Voy. Abyss. Ois. 1845–1850, p. 140; Finsch & Jesse, Trans. L. S. vii. 1869, p. 288, Senafé, Rayrayguddy; Blanf. Geol. & Zool. Abyss. 1870, p. 416; Heugl. Orn. N.O.-Afr. 1871–1875, p. 826, App. p. 169.

Tæniœnas albitorques, Reichb. Taub. 1855, p. 59, pl. 220. fig. 1243.

Palumbus albitorques, Heugl. Syst. Uebers. 1855, p. 49.

Stictœnas albitorques, Schl. Mus. P.-B. iv. 1873, p. 73.

Entire head deep bluish slate-colour; on the nape a broad white collar surrounding the back half of the neck; this collar is indicated all round the neck by a few narrow white tips to the feathers in front and on the sides of the throat; hinder of the neck covered with slaty-blue lanceolate feathers, often with very narrow pale shaft-stripes, and partially glossed with metallic green and purple; back, wings, and tail brown, partially shaded with grey, mostly so towards the outer wing-coverts and on the middle back; some of the inner primary-coverts fade into white and form a rather conspicuous patch on the wing; many of the wing-coverts have large black oval patches on their outer webs; the tail approaches nearly to black on the end half, where, however, it is crossed by a broad paler and more ashy bar, beneath the tail is nearly uniform black; under surface of the body slate-colour, slightly paler and greyer than the back; under tail-coverts deep slaty grey; under surface of the wings brown, with the axillaries and under wing-coverts deep leaden grey; "iris dull red, approaching violet; beak black, cere white; legs pink" (*Blanford*). Total length 11·2 inches, culmen 0·8, wing 8·6, tail 4·7, tarsus 1·1.

Hab. Abyssinia.

4. Columba unicincta.

Columba unicincta, Cass. Pr. Ac. Phil. 1859, p. 143, Ogobai; Heine, J. f. O. 1859, p. 434; Hartl. J. f. O. 1861, p. 266.

"♂. Head above and neck light cinereous; back and upper wing-coverts dark lead-colour, every feather edged with light bluish cinereous, giving a squamose or scale-like character to those parts; rump and upper tail-coverts dark lead-colour, more obscurely edged with bluish ashy; underparts pale vinous, nearly white on the throat and pale ashy on the sides and flanks; middle of abdomen, tibiæ, and under tail-coverts white; tail dark lead-colour, nearly black, with one wide transverse band of white across the middle of the feathers; under wing-coverts dark cinereous; bill dark greenish at base; tip of both mandibles yellow; feet black or horn-colour; a large naked space round the eye red or dark yellow. Length 13 inches, wing 8, tail 5." (*Cassin.*)

Hab. W. Africa.

I have not been able to examine a specimen of this bird, so have quoted Mr. Cassin's original description, taken [illegible] a specimen collected by Duchaillu on the Ogobai river, Gaboon. Dr. Hartlaub has kindly informed me that a specimen has recently been obtained in Liberia by Mr. Büttikofer.

5. Columba guineensis.

The Triangular-Spotted Pigeon, Edwards, B. 1847, pl. 75.

Columba guinea, Linn. S. N. i. 1766, p. 282 (ex Edwards); Rüpp. N. W. 1835, p. 67, Abyssinia, Semnaar, Kordofan; id. Syst. Uebers. 1845, p. 100; DesMurs in Lefebv. Voy. Abyss. 1845–1850, p. 139; Strickl. P. Z. S. 1850, p. 219, Kordofan; Strickl. & Sclat. Contr. Orn. 1852, p. 216; Vierthaler, Naumannia, 1852, p. 48; Brehm, J. f. O. 1853, ext. p. 100, Blue Nile; Hartl. Orn. W.-Afr. 1857, p. 194, Senegal, Casamanse, Guinea, Rollas I., Angola; id. P. Z. S. 1863, p. 106, E. Afr.; Sclat. P. Z. S. 1864, p. 113, Kazeh, Meningo; Antin. Cat. 1864, p. 87, White Nile; Blanf. Geol. & Zool. Abyss. 1870, p. 415, Senafé, Lebka; Antin. & Salvad. Viagg. Bogos, 1873, p. 130, Keren.

Columba guineensis, Bonn. Enc. Méth. i. 1790, p. 244; Finsch & Jesse, Trans. L. S. vii. 1869, p. 288, Abyssinia; Finsch & Hartl. Vög. Ostafr. 1870, p. 539, pt.; Heugl. Orn. N.O.-Afr. 1871–1875, p. 822, App. p. 168.

Columba trigonigera, Wagl. Syst. Av., Columba, 1827, sp. 51; Swains. B. W. Afr. ii. 1837, p. 212, pt. descr.; Allen & Thomps. Exp. Niger, ii. 1848, p. 41, Rollas Is.

Stictœnas dilloni, Bp. Compt. Rend. xxxix. 1854, p. 1105.

Stictœnas guinea, Reichb. Taub. 1855, pp. 59, 171, Suppl. pl. 2. fig. 22.

Stictœnas trigonigera, Reichb. Taub. 1855, p. 60, pl. 221. fig. 1250.

Palumbus guineus, Heugl. Syst. Uebers. 1855, p. 49; Hartl. J. f. O. 1863, p. 468.

Very similar to *C. phœonota*, but the grey parts are generally slightly paler, especially the lower back and rump, which, in the present species, is pale pearl-grey, inclining to white. Total length 13·2 inches, culmen 0·9, wing 8·7, tail 4·6, tarsus 1·05.

Hab. West Africa, from Angola to Senegal, and crosses the continent into North-east Africa, where it ranges from Uniamuezi, about 4° S. lat., northward to about 16° N. lat.

My description is taken from a specimen in my own collection labelled "Niger (*Baikie*)."

The *C. guineensis*, Bocage, Orn. Angola, p. 381, I have referred to *C. phœonota*, so I do not include Benguela within the range of this species.

6. Columba phæonota.

Le Ramier Roussard, Levaill. Ois. d'Afr. vi. 1808, p. 70, pl. 265 (good).

Columba trigonigera, Swains. B. W. Afr. ii. 1837, p. 212 (pt. nec descr.); Gurney, Ibis, 1860, p. 214, 1864, p. 359, 1868, p. 164.

Columba guinea, Strickl. & Sclat. Contr. Orn. 1852, p. 156, Damara; Layard, B. S. Afr. 1867, p. 256; Chapman, Trav. S. Afr. 1868, App. p. 411; Woodward, Zoologist, 1875, p. 4615, Natal; Barratt, Ibis, 1876, p. 208, Transvaal.

Columba phœonota, Gray, List Brit. Mus. Columb. 1856, p. 32; Bp. Compt. Rend. xliii. 1856, p. 838; Buckley, Ibis, 1874, p. 381, Natal; Ayres, Ibis, 1877, p. 345, 1880, p. 109, Transvaal; Shelley, Ibis, 1882, p. 359; Butler, Feilden, & Reid, Zoologist, 1883, p. 337, Natal.

Columba guineensis, Finsch & Hartl. Vög. Ostafr. 1870, p. 439, pt.?; Bocage, Orn. Angola, 1881, p. 381, Huilla, Capangombe.

Stictœnas phœonotus, Gurney in Anderss. B. Damara Ld. 1872, p. 231; Shelley, Ibis, 1875, p. 83, Cape Colony.

Stictœnas trigonigera, Schl. Mus. P.-B. iv. 1873, p. 73.

Entire head leaden grey, with a large patch round the eye crimson; feathers of the neck lanceolate fawn-colour, with the ends vinous, often tinted with grey and partially glossed with metallic lilac and green; upper back, scapulars, inner wing-coverts, and innermost secondaries vinous-chestnut, shading into deep grey on the remainder of the wings; nearly all the wing-coverts are tipped with white triangular spots; the outer secondaries shade into black towards their ends, which are narrowly edged with white; the primaries shade into dark brown towards their ends, and have narrow partial pale edges to their outer webs; remainder of the back, the upper tail-coverts, and the tail dark leaden grey; the tail has a broad terminal bar and a less sharply defined narrower one about the middle black; under surface of the body deep leaden grey (the feathers of the chest sometimes partially edged with vinous, probably a mark of immaturity); under tail-coverts darker, often shading almost into black; under surface of the tail uniform slaty black; under wing-coverts leaden grey; under surface of the quills dark brown; iris pale yellow when immature, changing to red in the adult; bill dusky slate-colour, with the cere white; legs red, powdered with white between the scales. Total length 12·5 inches, culmen 0·9, wing 9·2, tail 4·8, tarsus 1·05.

Hab. S. Africa.

This species, as far as we know, is confined to South Africa, and has not yet been recorded from the whole of that subregion. It lives in flocks, and much resembles *C. livia* in its habits. It is abundant in Cape Colony, Great Namaqua and Damara Land, and also, at least at certain seasons, plentiful in Kaffraria, Natal, and the Transvaal. I think it highly probable that the *C. guineensis*, Bocage, Orn. Angola, p. 381, belongs to this species, and consequently that it

a native of Benguela. My description is taken from a male collected by myself in Cape Colony. In the specimens examined, the wing varies from 8·2 inches to 9·2 in length.

II. Trocaza. Type.

Trocaza, Bp. Compt. Rend. xxxix. 1854, p. 1104 . *T. meyeri.*

The genus *Trocaza*, Bp., was formed for the reception of *Columba trocaz*, Heineken, and *C. meyeri*, Marchal; and the only important character ascribed to that genus is "Remex prima brevior quam quinta." Now I find that in the former the first primary is not shorter than the fifth, but is so in the latter; therefore I consider *C. meyeri*, Marchal, must be ...ded as the proper type of *Trocaza*.

...is genus is represented by a single species, which is con...ed to the island of Mauritius.

1. Trocaza meyeri.

Columba meyeri, Marchal, MS., Prévost & Knip, Pig. ii. 1808–1838, pl. 60 (good); Schl. & Poll. Faun. Madag. Ois. 1868, p. 111, pl. 36 (good); Hartl. Vög. Madag. 1877, p. 265.

Trocaza meyeri, Bp. Compt. Rend. xxxix. 1854, p. 1104.

Head, neck, and entire breast pale pink, fading into white towards the forehead, cheeks, and upper throat, and passing into rather darker pink on the front of the upper back; remainder of the upper back and the entire wings brown, with a slight shade of olive and rufous; quills with narrow pale edges; remainder of the back ashy pink, strongly mottled with chestnut on the rump; upper tail-coverts and entire tail uniform chestnut, except the outer tail-feathers on each side, which fade into buff towards their edges; under tail-coverts deep pink; under surface of the wings ashy brown, slightly paler on the axillaries and under wing-coverts; iris yellow; bill yellow, shaded with red towards the base; legs red. Total length 15 inches, culmen 0·9, wing 8·2, tail 7, tar...s 1·2.

Hab. Mauritius.

My description is taken from a specimen in my own collection labelled "Mauritius (*Van Dam*)."

III. Palumbus. Type.

Palumbus, Kaup, Nat. Syst. 1829, p. 107 . . *P. palumbus.*
Stictænas, Reichb. Taub. 1855, p. 59 . . . *P. arquatrix.*

All the members of this genus are of comparatively large size, and have the upper portion of the tarsus near the knee-joint feathered.

I shall include six species in the genus; of these, two only, *P. polleni* and *P. arquatrix*, belong properly to the African Region, the other four, *P. palumbus*, *P. trocaz*, *P. bollii*, and *P. laurivorus*, to the Western Palæarctic Region.

Key to the Species.

a. General plumage nearly uniform brown, with no white spots on the wings ..... 8. *polleni*.
b. Wing-coverts and chest spotted with white; bill and legs lemon-yellow ..... 9. *arquatrix*.
c. With none, or only a small portion, of the plumage brown; wing-coverts and chest with no white spots; bill and legs not lemon-yellow.
*c*¹. With a large patch of white on the sides of the neck and a white patch on the outer wing-coverts. 10. *palumbus*.
*d*¹. With no white on the plumage.
*d*². With a broad pale central bar across the tail.
*d*³. Vinous of the underparts restricted to the upper half of the chest ..... 11. *trocaz*.
*e*³. Vinous of the underparts extends over the whole chest and portion of the abdomen .. 12. *bollii*.
*e*². With no bar on the tail ..... 13. *laurivorus*.

8. Palumbus polleni.

Columba polleni, Schl. Ned. Tijdschrift v. d. Dierk. iii. 1866, p. 88, Mayotte; id. P. Z. S. 1866, p. 424; Schl. & Poll. Faun. Madag. Ois. 1868, p. 112, pl. 35 (good); Hartl. Vög. Madag. 1871, p. 267; E. Newton, P. Z. S. 1877, pp. 300, 302, Anjuan; Shelley, P. Z. S. 1879, p. 778, Anjuan.

Stictænas polleni, Schl. Mus. P.-B. iv. 1873, p. 72.

Entire plumage nearly uniform brown; a collar at

back and sides of the neck of lanceolate blackish-brown feathers, with paler ashy-brown ends, these ends often partially edged with buff; the lower back is slightly paler and more ashy than the wings; the tail is uniform; the quills with very partial pale narrow edges; the underparts very slightly paler than the wings and tail, and often have the edges of the feathers slightly washed with rufous, and occasionally the chest is faintly spotted with buff; iris pale brown; bill yellow, shaded towards the base with dusky olive; legs olive, shaded yellow. Total length 13·8 inches, culmen 0·85, wing 8·9, tail 6·3, tarsus 1.

Hab. Comoro Islands.

This Pigeon has, as yet, only been obtained in the islands of Mayotte and Anjuan, where it appears to be rare. On the island of Mayotte it is known to the French colonists as "Pigeon voyageur;" and being a bird well constructed for ...al flight, I think it probably has a wider range than ...t present been ascertained. Its nearest ally appears to ...e to be *P. arquatrix* from the mainland. My description is taken from two specimens collected for me by Sir John Kirk in Anjuan; in one of these the chest is faintly spotted with buff, a sign, I presume, of immaturity.

According to Mr. E. Newton, this species has the "beak and feet yellow, iris yellow." This probably applies to the very fully adult, and the "iris brun clair" of Schl. & Poll. to the rather less adult bird.

9. Palumbus arquatrix.

Le Rameron, Levaill. Ois. d'Afr. vi. 1808, p. 67, pl. 264 (good).

Columba arquatrix, Temm. & Knip, Pig. i. 1808–38, p. 11, pl. 5 (not good); Temm. Hist. Pig. et Gall. 1813, pp. 93, 447; Rüpp. N. W. 1835–1840, p. 67, Abyssinia; id. Syst. Uebers. 1845, p. 100, Abyssinia; Gurney, Ibis, 1860, p. 213, Natal; Monteiro, P. Z. S. 1864, p. 18, Benguela; Layard, B. S. Afr. 1867, p. 257, Knysna and Capetown; Heugl. Orn. N.O.-Afr. 1871–1875, p. 825, App. p. 169; Ayres, Ibis, 1880, p. 109, Transvaal; Bocage, Orn. Angola, 1881, p. 382.

Stictænas arquatrix, Reichb. Taub. 1855, p. 59, pl. 221. figs. 1251, 1252.

Stictænas arquatricula, Bp. Consp. Gen. Av. ii. 1857, p. 50.

Forehead, front half of the crown, and the cheeks very deep vinous purple; remainder of the sides of the head, throat, and neck paler, of a more vinous lilac, shaded with grey towards the chin; back half of the crown and the nape pearl-grey; the feathers on the back and sides of the neck are somewhat lanceolate and their black bases partially show; the base of the neck is bordered in front and on the sides by a collar formed by the broad edges of vinous white to the feathers, these edges indented by the dark basal portion, which is shaded with rufous purple; upper back, smaller scapulars, and the inner half of the wing-coverts deep purple-shaded chestnut, passing gradually on the remainder of the wings into leaden grey, which colour again shades into brownish black towards the outer quills and into dark brown on the inner secondaries and greater scapulars; the lesser scapulars and the lesser and median wing-coverts are clearly spotted with white; the primaries are very narrowly edged with white; the middle and lower back deep slaty grey, shading into uniform black on the upper tail-coverts and tail; remainder of the underparts slaty grey; all the feathers of the chest have their edges broadly washed with purple shaded chestnut, and have clear white terminal spots; the under tail-coverts are occasionally edged with white; "iris, bare skin round the eyes, entire bill, and legs yellow" (*Gordye*). Total length 14·8 inches, culmen 0·85, wing 9, tail 6, tarsus 1.

Hab. S. Africa and Abyssinia.

This species ranges throughout South Africa and, according to Mr. T. Ayres, comes to Natal "by thousands in the month of June, leaving again in August; they keep to the bush along the coast, only a few stragglers being found a few miles inland; they feed entirely upon the berries which abound on the trees in the bush during the winter months. I have never seen them alight on the ground; they are shot

here by hundreds, and afford our Durban sportsmen capital sport."

My description is taken from a specimen collected for me by Mr. George at Berg Mountain, near Durban.

10. PALUMBUS PALUMBUS.

Columba palumbus, Linn. S. N. i. 1766, p. 282; Temm. & Knip, Pig. i. 1808–1838, p. 3, pl. 2 (good); Gould, B. Eur. iv. 1837, pl. 243 (good); Vernon Harcourt, P. Z. S. 1851, p. 142, Madeira; Salvin, Ibis, 1859, p. 318, E. Atlas; Tristram, Ibis, 1860, p. 152, Algeria; id. P. Z. S. 1864, p. 448, Palestine; Godman, Ibis, 1866, pp. 99, 107, Azores; Drake, Ibis, 1867, p. 408, E. Morocco; Tristram, Ibis, 1868, p. 209, Palestine; Taczanowski, J. f. O. 1870, p. 51, Constantine; Gurney, Ibis, 1871, p. 294, Algeria; Dresser, B. Eur. vii. 1878, p. 3, pl. 456; Danford, Ibis, 1878, p. 27, Asia Minor.

Columba torquata, Leach, Syst. Cat. M. & B. Brit. Mus. 1816, p. 26.

Columba pinetorum, C. L. Brehm, Vög. Deutschl. 1831, p. 488.

Palumbus torquatus, Bp. Cat. Parzud. 1856, p. 9; id. Icon. Pig. 1857, pl. 57 (good); Gould, B. Gt. Brit. iv. 1873, pl. 1 (good).

Palumbus excelsus, Bp. Compt. Rend. xliii. 1856, pp. 836, 948.

Columba trocaz, Morel (nec Hein.), Hist. Nat. Açor. 1860, p. 84.

Entire head and upper throat leaden grey; back and sides of the neck metallic green, with a large white patch on each side of the hind neck; upper back, the greater portion of the wing-coverts, and the secondaries brown, slightly glossed with metallic green and lilac towards the base of the neck; the wing-coverts gradually pass into pearl-grey towards the lesser ones, which are very broadly edged on their outer webs with white, forming a large white patch on the wing; hard wing and primary-coverts brownish black, remainder of the quills dark brown, with white edges to their outer webs; remainder of the back, upper tail-coverts, and tail

pearl-grey, shading into slaty black for about the end quarter of the tail; lower throat and crop deep vinous, slightly glossed on the sides with metallic lilac, gradually fading into white on the abdomen and under tail-coverts; the sides of the body shade into pale pearl-grey; under surface of the wings grey, shading into brown towards the outer webs and ends of the quills; under surface of the tail black, crossed by a broad white bar; iris pale yellow; bill pinkish red, fading into yellow towards the tip; legs red, powdered with white between the scales. Total length 17 inches, culmen 0·9, wing 10, tail 7·2, tarsus 1·2.

Hab. Madeira, Azores, and Mediterranean coast, with the exception of Egypt.

11. Palumbus trocaz.

Columba trocaz, Heineken in Brewster's Journ. 1829, p. 228, Madeira; Jard. & Selby, Ill. Orn. 1825–1839, (bad); Vernon Harcourt, P. Z. S. 1851, p. 142; id. Ann. Mag. Nat. Hist. xii. 1853, p. 58; A. Newton, Ibis, 1863, p. 180; Godman, Ibis, 1872, p. 214; Dresser, B. Eur. vii. 1875, p. 33, pl. 461 (good).

Columba laurivora, Webb & Berthelot, Orn. Can. 1836–1844, p. 26, pl. 3 (top fig.).

Trocaza trocaz, Bp. Compt. Rend. xxxix. 1854, p. 1104.

Trocaza bouvryi, Bp. Compt. Rend. xliii. 1856, pp. 837, 948, "Morocco"!; id. Icon. Pig. 1857, pl. 70.

"Head and neck slaty dove-blue, feathers on the hind neck and sides of the neck tipped with light silvery or French grey; back and lesser wing-coverts dark plumbeous slate on the fore part of the back and hind neck, glossed with purple and green; rump rather bluer than the rest of the upper parts; quills blackish, some of the primaries with a narrow greyish-blue margin, the inner secondaries tinged with slate; primary-coverts dove-blue; tail dark plumbeous slate, crossed by a broad subterminal dove-blue band; breast vinous red; [illegible] of the underparts slaty blue; bill and space round the [illegible] coral-red, the former tipped with blackish; iris straw-colour; legs coral-red; claws black. Total length about 16 inches,

culmen 1·0, gape 1·2, wing 9·2, tail 7·4, tarsus 1·38, middle toe with claw 2·0." (*Dresser.*)

Hab. Madeira.

This species appears entirely confined to the island of Madeira, and the locality Morocco assigned to it by Bonaparte is undoubtedly an error.

As this and the next two species do not belong to the African region, I have thought it sufficient here to quote Mr. Dresser's descriptions (B. Eur. vii.), where the three species are also well figured.

12. Palumbus bollii.

? *Columba bouvryi*, Bolle (nec Bp.), J. f. O. 1857, p. 329.

Columba bollii, Godman, Ibis, 1872, p. 217; Dresser, B. Eur. vii. 1875, p. 29, pl. 459 (good).

"Head, neck, and centre of the back dark dove-blue with [illegible] tinge; sides of the neck and hind neck glossed with [illegible]n, a small portion of the feathers on the sides of the [illegible]ck tipped with coppery red, fore part of the back extending to the sides of the back richly glossed with reddish purple, the hind crown being also slightly glossed with this colour; upper parts dark plumbeous slate, bluer on the rump; quills blackish; tail blackish, broadly subterminated with dark dove-blue, and finally tipped with dusky slate; throat down to the breast slaty blue, slightly glossed with green; breast and abdomen deep vinous, almost coppery red; flanks and lower abdomen, with the under tail-coverts, deep bluish slate; bill red, darker at the tip; legs coral-red; iris straw-colour; edge round the eye coral-red. Total length about 14·5 inches, culmen 1·0, gape 1·1, wing 8·2, tail 6·2, tarsus 1·2, middle toe with claw 1·5." (*Dresser.*)

Hab. Teneriffe.

13. Palumbus laurivorus.

Columba laurivora, Webb & Berthelot, Orn. Can. 1836–1844, p. 26, pl. 3, lower fig.; Prévost & Knip, Pig. ii. 1808–1838, p. 79, pl. 43 (very bad); Bolle, J. f. O. 1855, p. 171, 1857, p. 324; Godman, Ibis, 1872, p. 216; Dresser, B. Eur. vii. 1875, p. 31, pl. 460 (good).

Trocaza laurivora, Bp. Icon. Pig. 1857, pl. 69; id. Compt. Rend. xliii. 1857, pp. 837, 948.

"Head, neck, and back dull dove-slate, crown and nape glossed with green; sides of the neck glossed with purplish red and green; upper surface of the wings slate, with a brownish tinge; quills dull dark brown; tail dull brownish ashy grey, much paler than in *C. bollii*, on the central portion gradually becoming paler until the tip is light grey; on the under surface of the tail the terminal portion is whitish; feathers on the throat reddish at the base and tipped with greenish; rest of the underparts coppery red, the under tail-coverts only being dull slaty blue; bill red, darker at the tip; legs coral-red; iris straw-colour. Total length 14·5 inches, culmen 1·2, wing 8·6, tail 6·2, tarsus 1·5, middle toe with claw 1·82." (*Dresser.*)

Hab. Canary Islands.

IV. Turturœna.

	Type.
Turturœna, Bp. Compt. Rend. xxxix. 1854, p. 1104	*T. delegorguii.*
Peleianas, Reichb. Taub. 1855, p. 54 . .	*T. delegorguei.*

In size and general appearance these birds much resemble *Aplopelia*; but in the present genus the back and wings are slate-colour, occasionally partially washed with chestnut. From the relative proportions of the primaries, and from the shortness of the tarsi, they more nearly approach *Palumbus*. To this genus I shall refer three species, all very rare in collections:—*T. delegorguii*, which is only known from Natal, and *T. malherbii* and *T. iriditorques*, confined to West Africa.

Key to the Species.

a. With the upper portion of the front of the tarsus feathered close to the knee-joint. Sexes very dissimilar.

a¹. With a broad white collar at the junction of the back of the neck and mantle ..... 14. *delegorguii* ♂ *delegorguii* ♀

b¹. With no white collar .....

b. With the tarsi entirely naked; under tail-coverts brown. Sexes similar.

*b*¹. Chest grey; under tail-coverts sandy brown .. 15. *malherbii*.

*c*¹. Chest and under tail-coverts deep rufous..... 16. *iriditorques*.

14. Turturœna delegorguii.

Columba delegorguei, Delegorgue, Voy. Afr. Austr. ii. 1847, p. 615, Port Natal; Verr. Rev. et Mag. Zool. 1851, p. 514; Gurney, Ibis, 1861, p. 354, Natal; Layard, B. S. Afr. 1867, p. 257.

Columba johannæ, Verr. MS. 1851; Bp. Compt. Rend. xxxix. 1854, p. 1104.

Columba lunigera, Gray, MS. Brit. Mus. 1854; Bp. Compt. Rend. xxxix. 1854, p. 1104.

Turturœna delegorguii, Bp. Compt. Rend. xxxix. 1854, p. 1104; id. Consp. Gen. Av. ii. 1857, p. 45.

Oxyœnas delegorguei, Reichb. Taub. 1855, p. 54.

Male adult. Head and neck deep slate-colour, only very slightly paler towards the forehead and chin; back of the head and back and sides of the neck very strongly glossed with metallic amethyst-lilac, with reflections of green in certain lights; this same gloss extends onto the front of the neck, from the middle throat onto the upper chest, but is far less intense, only being visible in certain lights, and finally disappears altogether on the lower chest; the back of the neck is separated from the mantle by a broad white collar extending from shoulder to shoulder; remainder of the upper parts slaty black, shading into chestnut on the upper back, wing-coverts, and portion of the inner secondaries; the edges of the feathers of the upper back are faintly glossed towards their edges with metallic lilac and green; the tail has a narrow pale end, most perceptible from beneath. Under surface—crop and chest vinous, shading into slate-colour on the sides of the body, abdomen, and under wing and tail-coverts; towards the junction of the vinous and slate-colours the feathers become freckled with the two colours, and the ends of some of the under tail-coverts are also somewhat freckled with vinous; end portion of the bill yellow, basal portion dark; legs yellow. Total length 12·5 inches, culmen

0·75, wing 7·3, tail 4·6, tarsus 0·9. "Iris dark brown; bill ash; bare skin round the eye, and also the tarsi and feet, dark pink" (*T. Ayres*, Ibis, 1864, p. 354).

Female adult. Forehead, front of the crown, cheeks, ear-coverts, and entire underparts grey, freckled or vermiculated with buff; chin and front half of the head, pale grey, gradually deepening into slate-colour towards the lower breast; under tail-coverts uniform slate-colour, with almost imperceptibly paler edges; the vermiculations on the lower throat and chest are shaded with vinous; remainder of the crown, nape, and back of neck cinnamon, glossed towards the latter part with metallic lilac, shaded with green in certain lights; remainder of the upper parts slaty black, quills slightly browner; the metallic lustre of the hind neck extends for a short distance onto the upper back in lilac or green reflections according to the light; the remainder of the feathers of the upper back and many of the wing-coverts have a perceptible chestnut edging to the feathers; the tail has narrow pale end, most perceptible from beneath; under wing-coverts deep slate-colour; "iris dull red; end portion of the bill yellow, basal portion dark purple; legs flesh-colour" (*T. L. Ayres*). Total length 10·5 inches, culmen 0·65; wing 6·5, tail 4·8, tarsus 0·9.

Hab. Natal.

The male I have described from the type of *Columba lunigera*, Gray, in the British Museum, and the female from a fine specimen in my own cabinet, collected by Mr. T. L. Ayres at Durban, who writes, "This is the only specimen I have shot. It was feeding upon mulberries in a garden on the Berea. My cousin shot two a few days before at the same place in October."

I know of no other species of African Pigeon, excepting *Œna capensis*, in which the sexes differ so much as in the present instance; but that they are mere sexual differences, I think Monsieur Delegorgue, in his original description, places beyond a doubt. This species has not yet been figured.

15. Turturœna malherbii.

Columba malherbii, Verr. Rev. et Mag. Zool. 1851, p. 514, Gaboon; Gray, List Brit. Mus. Columb. 1856, p. 30; Hartl. Orn. W.-Afr. 1857, p. 194; Cass. Proc. Ac. Nat. Sc. Phil. 1859, p. 143, Camma river; Hartl. J. f. O. 1861, p. 266.

Turturœna malherbii, Bp. Compt. Rend. xxxix. 1854, p. 1104; id. Consp. Gen. Av. ii. 1857, p. 46.

Peleiœnas malherbii, Reichb. Taub. 1855, p. 54.

Columba chalcauchenia, Gray, List Brit. Mus. Columb. 1856, p. 30, Gaboon.

Turturœna chalcauchia, Bp. Compt. Rend. xliii. 1858, p. 837.

General colouring—head, neck, and underparts ashy grey; under tail-coverts sandy brown, under surface of the tail partially washed with that colour; back, wings, and tail [illegible]ish slate-colour; the inner webs of most of the tail-[illegible]ners partially washed with a sandy-brown shade; the [illegible]ck half of the head and the back and sides of the neck are brilliantly glossed with metallic amethyst-lilac, throwing off green reflections in certain lights; similar metallic shades of less intensity extend onto the cheeks, lower throat, crop, and upper portion of the mantle; "bill leaden grey, with the cere bright yellow, legs yellow" (*Verr.*). Total length 11·5 inches, culmen 0·65; wing 6·8, tail 4·5, tarsus 0·9.

Hab. Gaboon.

The specimen here described is mounted in the British Museum, and was collected in Gaboon.

This species has only been met with in the district of Gaboon.

16. Turturœna iriditorques.

Columba iriditorques, Cass. Pr. Ac. Nat. Sc. Philad. 1856, p. 254, St. Paul's river, Moonda river; Hartl. Orn. W.-Afr. 1857, p. 267; Cass. Pr. Ac. Nat. Sc. Philad. 1859, p. 143; Schl. Mus. P.-B. iv. 1873, p. 69.

Turturœna, sp.? Bocage, Jorn. Lisb. 1869, p. 144, St. Thomas Is.

Forehead, chin, and throat pale grey, shading into leaden

grey on the crown and sides of the neck; cheeks and ear-coverts washed with chestnut-brown; back of the head and nape dark grey mixed with cinnamon, with a strong metallic green gloss, slightly varied with lilac and copper; back of the neck cinnamon, glossed with copper and metallic lilac; remainder of the upper parts slaty black, partially glossed with metallic green, tinged with lilac and violet according to the light, excepting on the quills and tail; the metallic gloss is strongest on the upper back, which, in some lights, is entirely metallic lilac, and in others green; tail, two centre feathers uniform slaty black, the others broadly tipped with rufous-buff, passing into chestnut towards the shafts, and this chestnut-colour extends for some distance down the inner webs of the feathers and gradually mingles with the slaty black of the remainder of the feathers; the edges of the feathers towards the tip are powdered with slate-co[lour]; breast rufous, very slightly glossed towards the crop [with] metallic lilac, and with the bases of the feathers and fi[ne] vermiculation of slaty grey; abdomen and under tail-coverts uniform rufous; the flanks are more strongly shaded with slate-colour than the centre of the breast; under wing-coverts slate-colour; the end portion of the bill yellow, the basal portion dark; legs yellow. Total length 9·4 inches; culmen 0·6, wing 6·2, tail 3·8, tarsus 0·7.

Hab. W. Africa.

This species ranges from Gaboon to the Gold Coast, and occurs on the island of St. Thomas.

The specimen here described was collected for me at Abouri, on the Gold Coast, about thirty miles inland from Accra. It agrees well with Mr. Cassin's description of the type, but is slightly smaller, and is probably a female.

V. Haplopelia. Type.

Aplopelia, Bp. Compt. Rend. xxxix. 1854, p. 1104 . . . . . *A. larvata.*

Haplopeleia, Reichb. Taub. 1855, p. 76 . . . *A. larvata.*

As in the synonymy we find members of this genus re-

ferred to *Peristera*, Swains., and *Leptoptila*, Swains., I may here mention that *Peristera* differs from all the African forms in the hind toe not being more than half the length of the middle one. *Leptoptila* differs from all excepting *Tympanistria* and *Geopelia* in having the first primary sulcated.

Besides the characters already given for this genus, its members may be readily distinguished from those of *Turturæna* by the back and wings being always brown.

I shall only recognize three species as belonging to this genus, *H. larvata*, *H. principalis*, and *H. simplex*, being of opinion that *H. bronzina* (Rüpp.), from N.E. Africa, should not be separated from *H. larvata* (Temm.) of S. Africa. But I do not write with any authority upon the species belonging to this genus, having only seen South-African specimens of *H. larvata*, and consequently, with regard to *H. principalis* and *H. simplex*, I have been obliged to quote Dr. Hartlaub's descriptions.

Key to the Species.

a. Entire front half of the head white; breast and under tail-coverts rufous ..... 17. *larvata*.

b. Forehead not white; breast and under tail-coverts not rufous.

*b*¹. Under tail-coverts not white ..... 18. *principalis*.

*c*¹. Under tail-coverts white ..... 19. *simplex*.

17. Haplopelia larvata.

La Tourterelle à masque blanc, Levaill. Ois. d'Afr. vi. 1808, p. 80, pl. 269.

Columba larvata, Temm. & Knip, Pig. i. 1808–1838, p. 71, pl. 31; id. Hist. Pig. et Gall. 1813, pp. 266, 471.

Peristera larvata, Selby, Nat. Libr. v. 1835, p. 211, pl. 26 (very bad); Layard, B. S. Afr. 1867, p. 263; Gurney, Ibis, 1868, p. 47, Natal; Shelley, Ibis, 1875, p. 84, Durban; Woodward, Zoologist, 1875, p. 4617, Natal; Barratt, Ibis, 1876, p. 208, Macomac; Ayres, tom. cit. p. 433, Lydenburg.

Columba sylvestris, Forst. (nec Vieill.) Descr. An. 1844, p. 52, Cape.

Aplopelia larvata, Bp. Compt. Rend. xl. 1855, p. 18; id. Consp. Gen. Av. ii. 1857, p. 66; Holub & von Pelz. Beitr. Orn. Sudafr. 1882, p. 176.

Haplopeleia larvata, Reichb. Taub. 1855, p. 76, pl. 258. fig. 1434.

Haplopeleia erythrogastra, Reichb. tom. cit. pp. 77, 176, Suppl. pl. 3. fig. 28.

Leptoptila larvata, Schl. Mus. P.-B. iv. 1873, p. 161.

From N.E. Africa.

Columba bronzina, Rüpp. Neue Wirb. 1835, p. 65, pl. 23. fig. 1, Abyssinia; DesMurs in Zelebor's Voy. Abyss. 1845, p. 141.

Turtur bronzinus, Rüpp. Syst. Uebers. 1845, p. 100.

Aplopelia bronzina, Bp. Compt. Rend. xl. 1855, p. 18; Consp. Gen. Av. ii. 1857, p. 66; Heugl. Orn. N.O.-Afr. p. 844.

Haplopeleia bronzina, Reichb. Taub. 1855, p. 77, pl. 25 fig. 1440.

Haplopeleia chalcea, Finsch in Heugl. Orn. N.O.-Afr. App. 1875, p. 171.

Front half of the head and upper throat white; the cheeks and ear-coverts white, faintly tinted with vinous ash; remainder of the head and the neck vinous shaded rufous, strongly glossed with metallic shades of green and copper, changing to lilac in certain lights; interscapular region slate-colour, with broad metallic edges to the feathers of green, passing in certain lights into lilac; remainder of the back, wings, and two centre tail-feathers brown, with a very slight green gloss; some of the outer primaries with very narrow partial white edges; remainder of the tail brownish black, with the ends of the feathers deep grey for about one inch, underneath black and ashy white; under surface of the body rufous, with a vinous shade on the chest, and slightly glossed with the same metallic shades as the neck and passing into dusky brown on the sides of the body; under wing-coverts and under surface of the quills dark brown, the latter rather paler towards the basal portion of their inner

edges; iris deep lilac; bill black; bare skin round the eye and the legs red. Length 10·5 inches, culmen 0·65, wing 5·9, tail 4·2, tarsus 1.

Hab. S. and N.E. Africa.

My description is taken from a male specimen collected by myself at Durban.

I have followed Prof. Schlegel (Mus. P.-B. iv. p. 161) in uniting the N.E.-African *Columba bronzina*, Rüpp., with the S.-African *C. larvata*, Temm., as I cannot find any character in the description of *C. bronzina* to warrant its separation; but not having had an opportunity of examining a specimen from N.E. Africa, I have kept their synonymy separate.

This species is not uncommon in the bush from the Cape [illegible] Transvaal; but we have no record of it from the west [illegible]orth of the Orange river. In N.E. Africa it appears [illegible]confined to Abyssinia, and to be very rare.

18. Haplopelia principalis.

Peristera principalis, Hartl. P. Z. S. 1866, p. 330, Prince's Island.

"Supra brunnea, nitore cupreo-rubente et virescente; sincipite cano; nucha vinaceo-purpurascente; remigibus fuscis, 2ª–5ª valde emarginatis; subalaribus ardesiacis; mento niveo; pectore vinaceo-rubente; abdomine sensim albicante; subcaudalibus canis; colli lateribus læte rubentibus, rectricibus; 2 mediis exceptis, nigris, apice late et dilute cinereis; rostro nigro, pedibus nitide rubris. Long. 0·26, rostr. a fr. 0·018, alæ 0·156, caudæ 0·08, tars. 0·03 m." (Hartl. P. Z. S. 1866, p. 330.)

Hab. Prince's Island.

I have given Dr. Hartlaub's original description, as I have not seen the type, which I believe to be unique.

19. Haplopelia simplex.

Turtur simplex, Hartl. Rev. et Mag. Zool. 1849, p. 497, St. Thomas Is.; id. Abhandl. nat. Vereins Bremen, ii. 1852, p. 37, pl. 10; id. J. f. O. 1854, p. 207.

Aplopelia simplex, Bp. Compt. Rend. xl. 1855, p. 18; Hartl. J. f. O. 1861, p. 266.

Haplopeleia simplex, Reichb. Taub. 1855, p. 78, pl. 266. figs. 2872, 2873.

Peristera simplex, Hartl. Orn. W.-Afr. 1857, p. 196.

"Supra olivaceo-brunnescens, subtus pallidior, flavescenti-brunnea; gula, abdomine medio, crisso et subcaudalibus albis; fronte et sincipite dilute canis; pileo, collo toto et interscapulio nitore columbino-purpurascente, sub certa luce smaragdino-micantibus; remigibus primariis albo limbatis; subalaribus fuscis; rectricibus mediis dorso concoloribus, reliquis late cinereo terminatis; rostro nigro, pedibus rubentibus. Long. 11½", rostr. 7‴, al. 5" 9‴, tars. 10‴." (Hartl. Orn. W.-Afr. p. 196).

Hab. St. Thomas Island, W. Afr.

This rare bird is only known to me by the description and figure.

VI. Turtur.

	Type
Peristera, Boie, 1828, nec Swains. 1827 .	*T. communis*
Turtur, Selby, Nat. Libr. v. 1835, p. 169	*T. communis*.
Streptopelia, Bp. Compt. Rend. xl. 1855, p. 17	*T. semitorquatus*.

I shall here consider the genus *Turtur* as represented by fifteen species. One of these, *T. risorius*, only occurs within my limits as a native of Palestine. Two others, *T. communis* and *T. senegalensis*, are included in Mr. Dresser's 'Birds of Europe,' and belong also to the Asiatic as well as the Western Palæarctic Regions. Four, *T. picturatus*, *T. aldabranus*, *T. comorensis*, and *T. rostratus*, are confined to the islands of the Indian Ocean, which I include in the Ethiopian Region.

T. erythrocephalus is only known by a single specimen in the British Museum labelled "Cape of Good Hope." This part of Africa has been so well worked that, if the locality is correct, it appears most surprising that the specimen should have remained unique; and the only way I can account for it is by supposing *T. erythrocephalus* to be a hybrid cage-bird, for it is strikingly intermediate in plumage between *T. lugens* and *T. isabellinus*, both from E. Africa, only with a more vinous shade. The remaining five, *T. semitorquatus*, *T. decipiens*, *T. roseogriseus*, *T. vinaceus*, and *T. capicola*, belong

to the group of Collared Turtle Doves represented in Europe by *T. risorius* and our common cage-bird *T. roseogriseus*. The members of this group, from their somewhat general similar appearance, have been the cause of much confusion in our nomenclature, yet each of these species has a well-marked character by which they may be readily distinguished, and cannot, I think, be regarded as mere local races.

Key to the Species.

a. With some grey on the wings; wing-coverts never chestnut nor vinous brown.

*a*¹. Wings mottled; many of the scapulars and wing-coverts with their centres darker than their edges; collar confined to the sides of the neck ..... Group 1. Turtures.

Tail-feathers with broad white ends; under tail-coverts white.

*a*². Crown grey; upper parts shaded with grey ..... 20. *communis*.

*b*². Entire head sandy brown; upper parts not shaded with grey ..... 21. *isabellinus*.

*b*³. Tail-feathers with narrower white ends; under tail-coverts grey.

*b*³. Lower breast vinous, fading apparently into white on the vent; under tail-coverts pale grey ..... 22. *erythrocephalus*.

*c*³. Lower breast, vent, and under tail-coverts leaden grey ..... 23. *lugens*.

*b*¹. Wings not mottled by dark centres to any of the feathers; collar not confined to the sides of the neck.

*b*². With a well-marked black collar round the back and sides of the neck ..... Group 2. Streptopeliæ.

*b*³. With no black feathers in front of the eye.

*b*⁴. Bill larger; with grey on the head; under wing-coverts slaty or leaden grey; under surface of the quills uniform dark brown ..... Section A.

*b*⁵. Entire abdomen and under tail-coverts deep leaden grey; chest of a deeper vinous shade ..... 24. *semitorquatus*.

*c*⁵. Centre of the abdomen and vent white; remainder of the abdomen

and the under tail-coverts pale grey, the latter broadly edged with white ..... 25. *decipiens.*

c^4. Bill smaller; with no grey on the head; under wing-coverts ashy white; under surface of the quills brown, with the basal portion of their inner webs ashy white ..... Section B.

c^5. Abdomen and under tail-coverts uniform grey ..... 26. *risorius.*

d^5. Abdomen and under tail-coverts white ..... 27. *roseogriseus.*

c^3. With a narrow black band from the eye to the lores; under tail-coverts white; under wing-coverts leaden grey; under surface of the quills uniform dark brown Section C.

c^4. Smaller, wing 5·5 inches; crown vinous, with only a slight grey shade on the occiput; vinous shade of the head, neck, and breast deeper, and extending further onto the abdomen, which is pinkish white ..... 28. *vinaceus.*

d^4. Larger, wing 6 inches; crown grey; vinous shade of the head, neck, and breast not so deep; abdomen pure white, which colour extends further onto the chest ..... 29. *capicola.*

c^2. With a mottled collar on the front and sides of the throat, formed by the feathers of those parts being black, broadly tipped with fawn-colour ..... Group 3. Maculicolles. 30. *senegalensis.*

b. With no grey on the wings; wings entirely brown; wing-coverts chestnut or vinous brown; under tail-coverts white ..... Group 4. Insulares.

b^1. Head and rump grey; two centre tail-feathers brown ..... 31. *picturatus.*

c^1. Head, rump, and two centre tail-feathers brown.

c^2. Wing 5·75 inches ..... 32. *aldabranus.*

d^2. Wing 6·7 inches ..... 33. *comorensis.*

d^1. Head brown; rump and two centre tail-feathers grey ..... 34. *rostratus.*

20. Turtur communis.

Columba turtur, Linn. S. N. i. 1766, p. 284; Temm. & Knip, Pig. i. p. 89, pl. 42 (fair); Rüpp. N. W. 1835–1840, p. 67; Gould, B. Eur. iv. 1837, pl. 246 (good); Vernon Harcourt, P. Z. S. 1851, p. 146, Madeira; Buvry, J. f. O. 1857, pp. 67, 195, Algeria; Bolle, tom. cit. p. 266, Canaries.

Peristera turtur, Boie, Isis, 1828, p. 327.

? *Peristera tenera*, C. L. Brehm, Vög. Deutschl. 1831, p. 494.

Turtur communis, Selby, Nat. Libr. v. 1835, p. 171; B.O.U. List Brit. B. 1883, p. 139.

Turtur vulgaris, Eyton, Cat. Brit. B. 1836, p. 32; Drake, 1869, p. 153, Morocco; Dresser, B. Eur. vii. 1876, p. 39, 2 (good); Danford, Ibis, 1878, p. 27, Asia Minor.

tur auritus, Rüpp. Syst. Uebers. 1845, p. 100; Tris- bis, 1859, p. 35, Palestine; Salvin, Ibis, 1859, p. 318, as; Hartl. J. f. O. 1861, p. 266, "Gaboon"!; Hartm. O. 1863, pp. 303, 308, 315; Tristram, P. Z. S. 1864, 448, Palestine; Allen, Ibis, 1864, p. 239, Egypt; Tristram, Ibis, 1865, p. 77, 1868, p. 210, Palestine; Shelley, Ibis, 1871, p. 142, Egypt; Gurney, tom. cit. pp. 295, 300, Algeria; Heugl. Orn. N.O.-Afr. 1871–1875, p. 839, App. p. 169; Shelley, B. Egypt, 1872, p. 214, pl. 10. fig. 1; Gould, B. Gt. Brit. iv. 1873, pl. 4.

Turtur migratorius, Sclat. Contr. Orn. 1852, p. 126, Mollo and Moses's Well.

Turtur risorius, Tristram, Ibis, 1860, p. 69, Algeria.

Upper half of the head and back of the neck grey, passing to pale vinous pink on the sides of the head, throat, and breast; feathers on the sides of the neck black, with white tips, often tinted with grey, forming a partial collar, composed of oblique stripes of black and white; upper back greyish brown, with the edges of the feathers partially washed with fawn-colour; lower back and upper tail-coverts grey, partially washed with fawn-colour on the edges of some of the feathers; two centre tail-feathers slaty brown; remainder of the tail slaty black for about three quarters of its length, with the end quarter and the entire outer webs of

the exterior feathers white; scapulars, inner half of the wing-coverts, and the innermost secondaries slaty black, with broad fawn-coloured edges; remainder of the wing-coverts leaden grey; the bastard wing and primary-coverts blackish brown, slightly washed with grey; quills blackish brown faintly washed with grey, and with very narrow pale edges; chest pale vinous pink, fading into white down the middle of the breast; abdomen and under tail-coverts white; sides of the body and under wing-coverts leaden grey; under surface of the quills ashy brown; iris brownish red; bill vinous-shaded slate-colour; legs red. Total length 10·10 inches, culmen 0·7, wing 7, tail 5, tarsus 0·9.

Hab. The Canaries, Madeira, coasts of the Mediterra and Red Sea, and the Nile valley southward to 10° N.

This species is not, I believe, a native of any part West-African subregion south of Senegal; and I thi must be an error in recording this species from the G on the authority of M. A. Lecompte (J. f. O. 1861, p. 2

21. Turtur isabellinus.

? *Peristera rufodorsalis*, C. L. Brehm, Vogelf. 1855, p. 257.

Turtur isabellinus, Bp. Compt. Rend. xliii. 1856, pp. 942, 949; id. Icon. Pig. 1857, pl. 102 (very bad); Heugl. Orn N.O.-Afr. 1875, App. p. 170; Dresser, B. Eur. vii. 1877 p. 49, pl. 464. fig. 1; Taylor, Ibis, 1878, p. 372.

Turtur auritus, Antin. Cat. 1864, p. 91, Aboo-Simb Antin. & Salvad. Viagg. Bogos, 1873, p. 130, Assus; Tayl Ibis, 1867, p. 67, Egypt.

Turtur sharpei, Shelley, Ibis, 1870, p. 447, Egypt; Heu Orn. N.O.-Afr. 1871, p. 851; Shelley, B. Egypt, 1872, p. 2 pl. 10. fig. 2 (good).

Turtur turturoides, Württ. MS. Icon. ined. p. 67, fide Heugl Orn. N.O.-Afr. 1875, App. p. 170.

Very similar to *T. communis*, but differs as follows:—Eu head and back of the neck sandy brown, passing into f colour on the upper back; chin and centre of the t slightly paler; lower back fawn-colour, with dusky centr to the feathers and only very slightly washed with grey

the middle back and sides of the rump; greater upper tail-coverts and two centre tail-feathers dusky brown, broadly tipped with fawn-colour; remainder of the tail as in *T. communis*, only that the white end is partially washed with fawn-colour towards the centre feathers; wing as in *T. communis*, only there is a less extent of leaden grey on the coverts, and there is no grey shade on the quills; the sandy brown of the sides of the head and upper throat gradually passes into rich vinous pink, occasionally with a sandy shade on the sides and lower throat; remainder as in *T. communis*. Total length 10·8 inches, culmen 0·7, wing 6, tail 5, tarsus 0·8.

Hab. N.E. Africa.

The range of this species is, as yet, very badly defined. It ...bably migratory throughout Egypt, where I have found ...wever, breeding as far north as Damietta. It inhabits ... and Bogos Land, but I cannot trace its range further ... My description is taken from a specimen collected myself in Egypt.

22. Turtur erythrocephalus.

Turtur erythrocephalus, G. R. Gray, MS. 1854, in Brit. Mus.; Reichb. Taub. 1855, p. 69; Bp. Compt. Rend. xl. 1855, p. 16, xliii. 1856, p. 942; Gray, List Brit. Mus. Columb. 1856, p. 41; Bp. Consp. Gen. Av. ii. 1857, p. 60; Schl. Mus. P.-B. iv. 1873, p. 118.

Intermediate between *Turtur isabellinus*, Bp., and *Turtur ...ugens*, Rüpp. Head and throat darker and more vinous ...han in *T. isabellinus*, but with a similar black and white ...rtial collar; back and upper tail-coverts slaty grey, with ...e feathers of the upper half of the interscapular region ...oadly edged with vinous fawn-colour; wings as in *T. isa...llinus*, only the fawn-coloured parts are slightly redder and ...e pale margins to the feathers not quite so wide; tail-...verts slightly tinted with brown towards their extremities; ...above, two centre feathers brownish slate-colour, remainder ...he tail slate-colour, with a narrow whitish edge, and the ...feathers fading into greyish white on about half an inch of ...eir ends; throat and entire chest vinous red, with scarcely

any pink shade, fading into sandy white towards the chin, and almost into white on the vent; under tail-coverts greyish white; flanks grey; under wing-coverts dark leaden grey. Total length 10·8 inches, culmen 0·65, wing 6·7, tail about 5·2, tarsus 0·9.

Type. Cape of Good Hope (G. Campbell).

In its head, neck, wings, and front of the chest this species agrees well with *T. isabellinus*, with the exception of its slightly darker and more vinous shade. In its middle and lower back, upper tail-coverts, and tail it agrees perfectly with *T. lugens*. From both it differs in the deep vinous shade of the lower breast and in the under tail-coverts being pale greyish white.

The only known specimen, in the British Museu mounted and not in good condition, so that one cann amine as closely into details as one might wish; but I detect it to be a made-up bird. I must therefore adm as a good species; but if really from the Cape of Good H it appears incredible that the specimen should have so lon remained unique.

23. Turtur lugens.

Columba lugens, Rüpp. N. W. 1835–1840, p. 64, pl. 22 fig. 2, Dongola, Egypt; DesMurs, in Lefebv. Voy. Abyss. Ois 1845–1850, p. 141; Finsch & Jesse, Trans. Z. S. vii. 186 p. 289, Taconda Pass.

Turtur lugens, Rüpp. Syst. Uebers. 1845, p. 100, Abyssinia Blanf. Geol. & Zool. Abyss. 1870, p. 416; Heugl. Orn. N.O Afr. 1871–1875, p. 838, App. p. 169; Shelley, P. Z. S. 18 p. 596, Pangani.

Streptopelia lugens, Reichb. Taub. 1855, p. 73, pl. 2 fig. 1372.

Peristera lugens, C. L. Brehm, Vogelf. 1855, p. 258.

Upper half of the head and back of the neck slaty gr paler on the forehead, and passing into vinous shaded on the sides of the head, throat, and chest; a patch of thers on the sides of the neck black, with slaty grey edges forming a rather obscurely marked partial collar; ba

upper tail-coverts, and tail slaty brown, washed with grey on the sides of the rump, and shading into slaty black toward the outer tail-feathers, which have very narrow ashy edges; all but the two centre tail-feathers have narrow ashy ends, about 0·4 inch in width; under surface of the tail black and ashy white; wings dark brown, the inner half of the wing-coverts washed towards their edges with paler brown, often partially tinted with rufous; outer half of the wing-coverts, with the exception of the bastard wing and primary-coverts, washed with slaty grey, some of the inner greater coverts and inner secondaries are broadly edged with rufous, which produces a striking character in this species; the primaries have narrow pale edges, almost white; entire underparts grey, with the exception of the chin, centre of the upper and front of the chest, which either fade into vinous or are more or less washed with that colour; under ce of the quills uniform brown; iris orange; bill vinous-ded slate-colour; legs red. Total length 10·9 inches, culmen 0·7, wing 6·8, tail 4·6, tarsus 0·9.

Hab. E. Africa.

This species ranges from Abyssinia to Mamboio, about 7° S. lat., whence I have recently received a specimen from Sir John Kirk. Rüppell's specimens were from the highlands of Abyssinia.

My description is taken from a specimen collected for me by Sir John Kirk near Pangani. A good figure of this species accompanies Rüppell's original description.

24. Turtur semitorquatus.

Columba semitorquata, Rüpp. Neue Wirb. Vög. 1835, p. 66, pl. 23. fig. 2 (fair), Abyssinia.

Turtur erythrophrys, Swains. B. W. Afr. ii. 1837, p. 207, pl. 22 (fair); Hartl. Orn. W.-Afr. 1857, p. 195, Gambia, Ashantee, Gaboon; Cass. Pr. Philad. Acad. 1859, p. 143, Gaboon; Gurney, Ibis, 1862, p. 152, Natal; Monteiro, P. Z. S. 1865, p. 94, Angola; Hartl. P. Z. S. 1867, p. 827, Zanzibar; Chapman, Trav. S. Afr. ii. 1868, App. p. 411;

Cab. v. d. Decken's Reisen, iii. 1869, p. 42; Sharpe, Ibis, 1870, p. 57, Fantee; id. P. Z. S. 1870, p. 150, Angola; Shelley & Buckley, Ibis, 1872, p. 290, Gold Coast; Sharpe, P. Z. S. 1874, p. 306, Bulama Islands; Cab. J. f. O. 1878, p. 242, Mombas.

Turtur semitorquatus, Rüpp. Syst. Uebers. 1845, p. 100; ? Allen & Thomps. Exp. Niger, ii. 1848, p. 41, Rollas Is.; ? Gordon, Contr. Orn. 1849, p. 12; ? Kirk, Ibis, 1864, p. 330, Zambesi; Finsch, J. f. O. 1869, p. 336; Finsch & Jesse, Trans. Z. S. vii. p. 327, Abyssinia; Blanf. Geol. & Zool, Abyss. 1870, p. 416; Finsch & Hartl. Vög. Ostafr. 1870, p. 541; Sharpe, Ibis, 1870, p. 486, Volta river; Heugl. Orn. N.O.-Afr. 1871–1875, p. 830, App. p. 169; Reichenow, J. f. O. 1872, p. 213, Accra, 1874, p. 388, Camaroons, p. 13, Loango coast; Hartl. Vög. Madag. 1877, p. 27 descr. nec hab.); Fischer & Reichenow, J. f. O. 1878, p. 292, Zanzibar; Fischer, J. f. O. 1879, pp. 300, 303, E. Bocage, Orn. Angola, 1881, p. 383; Hartl. Abhandl. Vereins Bremen, vii. 1881, p. 117, Lado; Shelley, P. Z. S. 1881, p. 596, Dar-es-Salaam; id. Ibis, 1882, p. 259, Matabele; Holub and von Pelz. Beitr. Orn. Sudafr. 1882, p. 175.

Streptopelia erythrophrys, Bp. Compt. Rend. 1855, p. 17; Antin. Cat. descr. Ucc. 1864, p. 88, Dongola.

? *Streptopelia gumri*, Reichb. Taub. 1855, p. 73, pl. 247. figs. 1364, 1367.

Peristera semitorquata, C. L. Brehm, Vogelf. 1855, p. 258.

Turtur vinaceus, Layard (nec Gm.), B. S. Afr. 1867, p. 259.

Streptopelia semitorquata, Gurney in Anderss. B. Dam. Ld. 1872, p. 234; Antin. & Salvad. Viagg. Bogos, 1873, p. 131.

Columba levaillanti, Smith, MS.

Crown grey, passing into white on the forehead, and tinted with vinous buff in front and on the sides of the crown; remainder of the head, neck, and chest deep vinous pink, fading into pale vinous buff on the chin and centre of the upper throat; eyelids red; no black feathers in front of the eye; on the back of the neck a broad black collar, partially edged above with grey; back, inner half of the wing-coverts, secondaries, and two centre tail-feathers darkish brown, passing

into deep slate-colour on the remainder of the coverts; the rump washed with slaty grey; bastard wing and primary-coverts brownish black; primaries blackish brown, the quills generally with partial narrow whitish edges; remainder of the tail brownish black for more than the basal three quarters of its length, the end portion being ashy brown, slightly paler towards the tips of the feathers; the outer feathers with a very narrow paler edge to the outer webs; under surface of the tail black and white; the vinous chest passes into leaden grey on the sides, abdomen, thighs, and under tail-coverts, the latter are slightly paler at their edges; under wing-coverts deep slate-colour; under surface of the quills uniform dark brown; "iris bright orange-red; bill black; [illegible] and feet dark rose-red" (*T. Ayres*). Total length 11·8 [illegible], culmen 0·7, wing 7, tail 5·3, tarsus 0·95.

Hab. The whole African continent southward from about 11° N. lat. It has not been obtained either in Madagascar or the Comoro Islands. The *Turtur semitorquatus* of authors from those islands really refers to *T. capicola*. My description is taken from a specimen collected at Accra, on the Gold Coast, by Mr. T. E. Buckley.

I have in my own collection a very curious variety, which I refer to *T. semitorquatus*, labelled "Niger (*Baikie*)." It is nearly intermediate between *T. semitorquatus* and *T. decipiens*, and I shall endeavour to point out its characters and relationship to those two species in the following tabular form.

a. Entire abdomen and under tail-coverts uniform deep leaden grey; chest of a deeper vinous shade.	
*a*¹. With no shade of grey on the cheeks; forehead white, tinted in front with vinous buff; chin and centre of the upper throat pale vinous pink; upper parts darker; under wing-coverts slaty grey; with barely any white on the upper surface of the tail; white end on the under surface of the outer tail-feather narrower, about 1 inch in width..	1. *semitorquatus*, typical.

*b*¹. With a shade of grey on the cheeks; forehead grey; chin and centre of the upper throat white; upper parts paler; under wing-coverts leaden grey; with a considerable amount of white on the upper surface of the tail towards the end; white on the under surface of the outer tail-feather 1·5 inch in width ..	2. *semitorquatus*, var.
b. Centre of the abdomen and vent white; remainder of the abdomen and under tail-coverts pearl-grey, the latter broadly edged with white; chest of a paler vinous shade, and with all the characters specified in the above *T. semitorquatus*, var.	3. *decipiens*.

From the above it would appear to me that *T. decip* and *T. semitorquatus* may have come from a common o at, comparatively speaking, no very remote period; bu far as my present knowledge goes, it would, I consider, b very wrong not to recognize *T. decipiens* and *T. semitorquatus* as distinct species.

25. Turtur decipiens.

Columba risoria, Wagl. (nec Linn.) Syst. Av. 1827, sp. 93 (excl. var.).

Streptopelia erythrophrys, Reichb. (nec Swains.) Taub. 1855, p. 73.

Turtur senegalensis, Heugl. (nec Linn.) Syst. Uebers. 1856, p. 50.

Turtur vinaceus, Hartl. (nec Gm.) Orn. W.-Afr. 1857, p. 195, pt.

Turtur risorius, Brehm (nec Linn.), Reis. Habesch, 1863, p. 379.

Turtur erythrophrys, Bocage (nec Swains.), Jorn. Lisb. 1867, p. 152.

Turtur decipiens, Finsch & Hartl. Vög. Ostafr. 1870, p. 544; Heugl. Orn. N.O.-Afr. 1871, pp. 832, 837.

Turtur semitorquatus, Württ. (nec Rüpp.) Coll. Mergent Heugl. Orn. N.O.-Afr. App. p. 169.

Turtur, sp., Bocage, Jorn. Lisb. 1872, p. 67.

Turtur neglecta, Schl. Mus. P.-B. iv. 1873, p. 122 (ex N.E. Afr. nec var.).

Turtur fallax, Schl. tom. cit. p. 124.

Turtur ambiguus, Bocage, Orn. Angola, 1881, p. 386.

Somewhat similar to *T. semitorquatus*, from which it differs as follows:—Forehead, crown, and sides of the head pearl-grey, fading into white on the chin and centre of the upper throat, and passing into vinous pink on the back of the head and posterior portions of the cheeks; eyelids black; neck and chest vinous pink, paler than in *T. semitorquatus*; the black collar partially edged above with white; the upper parts are much paler, the grey on the wings being pearl-grey; the outer secondaries, rump, and centre tail-feathers partially [illegible]d with grey; remainder of the tail slaty black for [illegible] more than the basal half, the end portion being slaty [illegible], fading into white towards the ends of the feathers, the outer one on each side having a very narrow white edge; the pink of the breast shades into leaden grey on the flanks, paler grey on the thigh-coverts, and into white on the centre of the abdomen and vent; under tail-coverts pearl-grey, broadly edged with white; under wing-coverts leaden grey; under surface of the quills dark brown, with very narrow whitish edges to their inner webs. Total length 13 inches, culmen 0·75, wing 6·5, tail 4·9, tarsus 0·9.

Hab. Upper White Nile, Zambesi, and Benguela.

It is evident that we do not yet know the full range of this species, of which I have examined five specimens. A male and a female collected by Dr. Emin Bey on the Sobat river, which falls into the Nile at about 9° N. lat., betray its northern limit as yet known to me. I have above described the female; but the male is perfectly similar in plumage, excepting that the white end to the outer tail-feather beneath is 1·5 inch deep in the female and 2·1 inches deep in the male. A specimen collected by Hemprich and Ehrenberg, and labelled by them *T. collaris*, is in Mr. Dresser's collection, without a locality. It only differs from the specimen described above in the cheek not being quite so grey; the white end to the outer tail-feather is 2 inches deep. *T. collaris*, Hempr. &

Ehr., seems to be a MS. name; for I cannot find it with a description anywhere.

In the British Museum there are two specimens labelled "Tette (Livingstone Exped.)." The Zambesi is therefore here recorded for the species for the first time.

Professor Barboza du Bocage gives an excellent description of this species under the new title of *T. ambiguus*, from three specimens, two from Dambe and Rio Coroca, in Benguela, the third labelled "Senegal;" but he doubts the correctness of the latter locality. For that reason I have not entered Senegal in its range, although I think it highly probable that this species will be found to have the same range as *T. semitorquatus*.

26. Turtur risorius.

Columba risoria, Linn. S. N. i. 1766, p. 285.

Peristera risoria, Boie, Isis, 1828, p. 327.

Turtur risorius, Selby, Nat. Libr. 1835, p. 169, pl. 17 (very bad); Tristr. Ibis, 1864, p. 448, Palestine; Taylor, Ibis, 1867, p. 67; Tristr. Ibis, 1868, pp. 210, 333, Palestine; Drake, Ibis, 1869, pp. 151, 153, Morocco (as caged birds); Dresser, B. Eur. vii. 1877, p. 51, pl. 464. fig. 2 (good).

Turtur duraca, Hodgs. in Gray's Zool. Misc. 1844, p. 85.

Peristera ridens, C. L. Brehm, Vogelf. 1855, p. 257.

? *Peristera intercedens*, C. L. Brehm, tom. cit. p. 258, nec N. Afr.

Streptopelia intercedens, Reichb. Taub. 1855, p. 175.

Streptopelia risoria, Bp. Compt. Rend. xl. 1855, p. 18.

Turtur intercedens, Finsch & Hartl. Vög. Ostafr. 1870, p. 545.

Turtur neglecta, var. β, Schl. Mus. P.-B. iv. 1873, p. 123.

Turtur stoliczkæ, Hume, Stray Feathers, 1874, p. 519.

Head, neck, and chest pale pink, with no grey shade, and fading into white towards the chin; forehead nearly white; no black feathers in front of the eye; on the back of the neck a broad black collar, partially edged above and below with white; back, inner half of the wing-coverts, innermost secondaries, and two centre tail-feathers very pale brown,

passing into pearl-grey on the remainder of the coverts and secondaries; the rump and centre tail-feathers partially washed with grey; bastard wing and primary-coverts pearl-grey tipped with brown; primaries dark brown, the quills generally with partial white edges; remainder of the tail leaden grey, fading gradually into white towards the ends of the feathers, and the outer feathers have also a white edge; the under surface of the tail is nearly black and white, the dark basal portion being scarcely defined above; the pink of the chest shades into very pale grey on the flanks, abdomen, and vent; the under tail-coverts being darker pearl-grey, with more or less obsolete whitish ends; under wing-coverts white, tinted with pearl-grey, under surface of the quills brown, fading into ashy white on their inner webs towards the bases of the feathers; iris red; bill black; legs dark pinkish red. Total length 11·9 inches, culmen 0·6, wing 6·8, tail 5·3, tarsus 0·9.

Hab. Palestine, Turkey, and Southern Asia.

My description is taken from a female specimen collected at Jericho by the Rev. Canon Tristram. This species does not occur anywhere on the African continent.

Peristera intercedens, C. L. Brehm, I refer to this species on account of the author specially mentioning the bill as small. In *T. decipiens* and *T. semitorquatus* the bill is decidedly large in proportion to that of the other allied Doves.

27. Turtur roseogriseus.

Columba risoria, Rüpp. (nec Linn.) Neue Wirb. Vög. 1835, p. 67, Massowah.

Turtur risorius, Rüpp. Syst. Uebers. 1845, p. 100, Arabia, Abyssinia, Egypt.

Peristera vinacea, C. L. Brehm (nec Gm), Vogelf. 1855, p. 258.

Streptopelia vinacea, Bp. Consp. Gen. Av. ii. 1857, p. 64, White Nile.

Columba roseogrisea, Sundev. Krit. om Levaill. 1857, p. 54 (ex *C. risoria*, Rüpp.).

Turtur, sp., Heugl. J. f. O. 1863, p. 9.

Turtur risoroides, MS. in Mus. Lugd. fide Heugl. Orn. N.O.-Afr. 1871, p. 834.

Turtur albiventris, Finsch & Jesse (nec Gray), Trans. Z. S. vii. 1870, p. 289, Abyssinia; Blanf. Geol. & Zool. Abyssinia, 1870, p. 417; Finsch & Hartl. Vög. Ostafr. 1870, p. 546, pt., N.E. Afr.; Heugl. Orn. N.O.-Afr. 1871, p. 834; Shelley, B. Egypt, 1872, p. 217.

Turtur ridibundus, Württ. MS. in Coll. Mergenth., fide Heugl. Orn. N.O.-Afr. 1875, App. p. 169.

Very similar to *T. risorius*, but smaller, and with the following well-marked differences:—the pink of the chest fades into white on the lower breast, abdomen, and under tail-coverts. Total length 9·3 inches, culmen 0·65, wing 5·9, tail 4·1, tarsus 0·8.

Hab. N.E. Africa.

My description is taken from a specimen in my collection labelled "Koomale, Abyssinia (*Jesse*)."

Von Heuglin gives its range from Southern Nubia to the White Nile and the Red-Sea coast, so that its known range is, approximately, N.E. Africa from about 8° to 16° N. lat. Rüppell includes Egypt; but not having been met with there since his time, I should exclude it from the Egyptian list. It does not occur in W. Africa, but is there represented by *T. vinaceus*, which has frequently been identified with this species under the title of *T. albiventris*.

This is undoubtedly the *Columba risoria* of Rüppell, to which bird Sundevall, in 1857, applied the name of *Columba roseogrisea*, under the impression that Levaillant (Ois. d'Afr. vi. pl. 268) had figured a specimen of this species from N.E. Africa as "*La Tourterelle blonde à collier*." There appears to me no doubt that Levaillant intended to figure the pale form of *T. capicola*, the *T. damarensis*, Finsch & Hartl., discovered by him in Great Namaqua Land; but his artist failed to indicate the black stripe from the eye to the bill, possibly owing to the condition of the preserved skin, otherwise the grey shade on the crown indicates the pale form of *T. capicola*.

Our common tame Turtle Dove belongs to this species.

28. Turtur vinaceus.

Columba torquata senegalensis, Briss. Orn. i. 1760, p. 124 (descr. good), pl. 11. fig. 1.

Columba vinacea, Gm. S. N. i. 1788, p. 782, ex Briss.

Turtur semitorquatus, Swains. (nec Rüpp.), B. W. Afr. ii. [illegible]. 208; Sharpe, Ibis, 1870, p. 486, Fantee; Shelley & [illegible]ey, Ibis, 1872, p. 290, Gold Coast.

[illegible]rtur albiventris, Gray, List Gall. 1844, p. 191, W. Afr.; [illegible]l. Orn. N.O.-Afr. 1871, p. 834, pt., W. Afr.; Reichenow, [illegible]O. 1874, p. 388, Accra, 1877, p. 13, Loango coast.

[illegible]treptopelia semitorquata, Bp. Compt. Rend. 1855, p. 18.

Turtur vinaceus, Gray, List B. Brit. Mus. Columb. 1856, [illegible]3, pt.; Hartl. Orn. W.-Afr. 1857, p. 196, pt.; Schl. Mus. [illegible]iv. 1873, p. 123.

[illegible]ctopelia vinacea, Bp. Consp. Gen. Av. ii. 1857, p. 64, [illegible]hite Nile.

Head, neck, and breast rich vinous pink, with a slight grey shade on the occiput, paler and almost white on the chin and centre of the upper throat; forehead pale pink; a black band from the eyes to the lores; on the back of the neck a black collar, narrowly edged above with ashy white; back, inner half of the wing-coverts, innermost secondaries, and two centre tail-feathers rich pale brown, passing into pearl-grey on the remainder of the coverts; the secondaries and rump partially washed with grey; bastard wing and primary-coverts blackish brown; primaries dark brown, the quills generally with partial narrow white edges; remainder of the tail slaty black for rather more than the basal half, the end portion being ashy, rapidly fading into white, the outer feathers having also a rather narrow white edge; the under surface of the tail is black and white; the abdomen and vent pinkish white, fading into white on the greater under tail-coverts; the flanks shade into leaden grey; under wing-coverts leaden grey; under surface of the quills brown, with white inner margins; iris orange-red; bill black; legs [illegible]kish red. Total length 9·2 inches, culmen 0·55, wing 5·5, tail 4, tarsus 0·8.

Hab. W. Africa from Senegal to the Congo.

My description is taken from a male specimen collected by myself at Accra, on the Gold Coast. I have also examined the type of *T. albiventris*, Gray, in the British Museum, labelled "Tchadda R. (*Baikie*)."

It differs from its nearest ally, *T. capicola*, in the absen of grey on the head, except the very slight shade colour on the occiput, the forehead being pink, the vinous shade on the underparts, the under tail-coverts pa shaded with pink, and the smaller measurement of the From *T. roseogriseus* it may at once be distinguished b absence of white on the under surface of the wing, an its having a black stripe from the eye to the lores.

29. Turtur capicola.

La Tourterelle blonde (et "autre espèce"), Levail d'Afr. vi. 1808, p. 78, Gt. Namaqua, p. 79, Cape.

? *La Tourterelle blonde à collier*, Levaill. tom. cit. pl. 268.

Columba risoria, var. *e*, Terr. Caffr., Licht. Verz. Doubl. 1823, p. 67.

Turtur risorius, Selby (nec Linn.), Nat. Libr. v. 1835, p. 171; ? Chapman, Trav. S. Afr. ii. 1868, App. p. 410.

Turtur vinaceus, Strickl. & Sclat. (nec Gm.) Contr. Orn. 1852, p. 157, Damara.

Streptopelia semitorquata, Bp. (nec Rüpp.) Consp. Gen. Av. ii. 1857, p. 64, pt., S. Afr.

Columba capicola, Sundev. Krit. om Levaill. 1857, p. 54.

Columba vinacea, Grill, Zool. Anteckn. 1859, p. 51.

Turtur semitorquatus, Gurney, Ibis, 1864, p. 214, Natal; Sclat. tom. cit. pp. 279, 300, Anjuan; id. P. Z. S. 186 p. 113, Kazeh and Gondokoro, p. 487, Madagascar, 186 p. 23, Windvogelberg; Layard, B. S. Afr. 1867, p. 26 Schl. & Poll. Faune Madag. Ois. 1868, p. 113, Mayott Layard, Ibis, 1869, p. 374; Gurney, Ibis, 1873, p. 259; Schl. Mus. P.-B. iv. 1873, p. 124; Barratt, Ibis, 18 p. 208, Transvaal and Free States; E. Newton, P. Z. S. 1 p. 300, Anjuan; Hartl. Vög. Madag. 1877, p. 271 descr.).

Streptopelia barbarà, Antin. Cat. descr. Uce. 1864, p. 8

Senaar, Kordofan, White Nile; Heugl. J. f. O. 1867, p. 206; Salvad. Atti R. Ac. Torino, v. 1870, p. 745; Antin. & Salvad. Viagg. Bogos, 1873, p. 131, Keren, Anseba.

Turtur albiventris, Gray, List Brit. Mus. Columb. 1856, p. 44, pt., S. Afr.; Pelz. Novara Reise, Vög. 1865, p. 108; Hartl. P. Z. S. 1867, p. 827, Zanzibar; Sharpe, P. Z. S. 1873, p. 715, Mombas; Shelley, Ibis, 1875, pp. 60, 83, Cape; Holub & von Pelz. Beitr. Orn. Sudafr. 1882, p. 172.

Turtur capicola, Finsch & Hartl. Vög. Ostafr. 1870, p. 548, pt.; Heugl. Orn. N.O.-Afr. 1871, p. 835; Fischer & Reichenow, J. f. O. 1877, p. 208, 1878, pp. 250, 292, Zanzibar, Mombas; Fischer, J. f. O. 1879, p. 300; Shelley, P. Z. S. 1879, p. 678, Gt. Comoro; Ayres, Ibis, 1880, p. 109, Transvaal; Sharpe in Oates's Matabele Land, 1881, p. 322; Shelley, P. Z. S. 1881, p. 596, Pangani, Ugogo, Dar-es-Salaam; Ibis, 1882, p. 359; Butler, Feilden, & Reid, Zoologist, [illegible], p. 338, Natal.

Turtur damarensis, Finsch & Hartl. Vög. Ostafr. 1870, p. 550; Heugl. Orn. N.O.-Afr. 1871, p. 838, note; Cab. J. f. O. 1878, p. 242, Zanzibar; Bocage, Orn. Angola, 1881, p. 385.

Streptopelia damarensis, Gurney in Anderss. B. Dam. Ld. 1872, p. 233.

Crown leaden grey, fading gradually into ashy white on the forehead and shading into pale vinous slightly washed with grey on the neck, sides of the head, and chest: the front of the cheeks inclining to grey; a black band from the eye to the lores; on the back of the neck a broad black collar, partially edged above and below with grey; back, inner half of the wing-coverts, innermost secondaries, and two centre tail-feathers clear brown, passing into leaden grey on the remainder of the wing-coverts; the remainder of the secondaries and the rump strongly washed with grey; bastard wing and primary-coverts brownish black; primaries dark brown, the quills generally with partial narrow white edges; remainder of the tail slaty black for rather more than the basal half, the end portion being slaty grey fading into white towards the outer feathers and ends of some of the others,

the outer feathers having also their entire outer webs white; but this latter character is somewhat variable, the dark portion of the base of the tail often encroaching onto the white of the outer web, a character by which the N.E.-African bird may generally be distinguished from the Capetown bird; the under surface of the tail is nearly black and white; chin and centre of the upper throat white; remainder of the throat and breast ashy tinted vinous, fading into buff on the abdomen and thighs and into white on the under tail-coverts; the flanks are shaded with leaden grey; under wing-coverts leaden grey; under surface of the quills uniform brown; iris brown; bill black; legs pinkish red. Total length 10·8 inches, culmen 0·65, wing 6, tail 4·5, tarsus 0·85.

Hab. S. Africa, E. Africa, and N.E. Africa; the Comoro Islands and Madagascar.

I have above described a specimen collected by myself at Capetown.

There is a well-marked tropical race, rather constant in its character, first recognized by Levaillant and afterwards named by Drs. Finsch and Hartlaub *T. damarensis*. It differs from the typical Capetown bird, but the arrangement of the colours and the proportions are identical. The grey of the head fades almost, or occasionally quite, into white on the front and sides of the forehead and on the front of the cheeks; the grey shade on the cheeks is rarely present; the partial grey edges to the black collar above and below often pass into white; the vinous of the neck and breast is paler, generally almost clear pink with no grey shade, but greyer-breasted intermediate forms are not uncommon; the brown of the upper parts is generally paler, but not always so. Total length 10·3 inches, culmen 0·55, wing 6·2, tail 4·5, tarsus 0·8.

The typical form of this race and the measurements are taken from a specimen in my own collection labelled "M[illegible] congo, Benguella (*Anchieta*);" and the intermediate f[orms] I refer to are mostly in the British Museum, collected by Mr. T. Ayres in Natal and the Transvaal. Two specimens collected by Mr. E. Newton in Anjuan are somewhat inter-

mediate forms; while a specimen collected for me in Great Comoro by Sir John Kirk is a very typical *T. damarensis*. The N.E.-African form has received the name of *barbarù*, from Antinori.

This species appears to be very common throughout S. and E. Africa, and certainly extends northward into Bogos Land, whence I have specimens collected by Esler. It also inhabits Great Comoro, Anjuan, Mayotte, and Madagascar, but is not, I believe, to be met with in W. Africa from Senegal to Angola, where it is replaced by the nearly allied *T. vinaceus*. For the determination of a considerable portion of the synonymy I have had to refer to the specimens mentioned.

30. Turtur senegalensis.

Columba senegalensis, Linn. S. N. i. 1766, p. 283; Bolle, J. O. 1857, p. 332, Canaries.

Cambayan Turtle, Lath. Syn. ii. 1782, p. 652.

Columba cambayensis, Gm. S. N. i. 1788, p. 779; Savigny, Descr. de l'Egypte, 1810, pl. 5. fig. 9; Temm. & Knip, Pig. i. 1808–1838, p. 100, pl. 45 (good); Rüpp. Neue Wirb. Vög. 1835, p. 67, Nile, Abyssinia; Chapman, Trav. S. Afr. ii. 1868, p. 411, Damara.

Columba ægyptiaca, Lath. Ind. Orn. ii. 1790, p. 607; Des Murs in Lefebvre's Voy. Abyss. 1845, p. 140.

La Tourterelle maillée, Lavaill. Ois. d'Afr. vi. 1808, p. 82, pl. 270 (fair).

Columba suratensis, Bonn. et Vieill. Tabl. Enc. Méth. i. 1823, p. 236.

Columba maculicollis, Wagl. Syst. Av., Columbæ, sp. 97 (1827).

Peristera cambayensis, Boie, Isis, 1828, p. 327.

Turtur senegalensis, Bp. Ucc. Eur. 1842, p. 52; Rüpp. Syst. Uebers. 1845, p. 100; Hartl. Orn. W.-Afr. 1857, p. 205; Taylor, Ibis, 1859, p. 50, Egypt; Hartl. J. f. O. 1861, p. 266; Antin. Cat. descr. Ucc. 1864, p. 91, Egypt; Adams, Ibis, 1864, p. 27, Egypt; Allen, tom. cit. p. 239, Egypt; Kirk, tom. cit. p. 330, Zambesi; Tristr. P. Z. S.

1864, p. 448, Palestine; Layard, B. S. Afr. 1867, p. 261; Taylor, Ibis, 1867, p. 67; Gurney, Ibis, 1878, p. 47, Natal; Tristr. tom. cit. p. 210, Palestine; Finsch & Jesse, Trans. Z. S. vii. 1870, p. 290, Koomaylee; Blanf. Geol. and Zool. Abyss. p. 417; Finsch & Hartl. Vög. Ostafr. 1870, p. 551; Taczanowski, J. f. O. 1870, p. 51, Constantine; Heugl. Orn. N.O.-Afr. 1871–1875, p. 841, App. p. 170; Ayres, Ibis, 1871, p. 261, Transvaal; Gurney in Anderss. B. Dam. Ld. 1872, p. 232; Shelley, B. Egypt, 1872, p. 217; Sharpe, Ibis, 1872, p. 73, Fantee; Shelley & Buckley, tom. cit. p. 290, Gold Coast; Reichenow, J. f. O. 1872, p. 391, 1873, p. 213, Accra; Antin. & Salvad. Viagg. Bogos, 1873, p. 131, Karen; Reichenow, J. f. O. 1874, p. 388, Accra; Ussher, Ibis, 1874, p. 71, Gold Coast; Dresser, B. Eur. vii. 1876, p. 55, pl. 465 (moderate); Ayres, Ibis, 1877, p. 346, Transvaal; Cab. J. f. O. 1878, p. 243, Ukambani; Fischer & Reichenow, J. f. O. 1878, pp. 250, 292, Mombas; Bocage, Orn. Angola, p. 388; Sclat. & Hartl. P. Z. S. 1881, p. 173, Soco[illegible] Shelley, Ibis, 1882, p. 359, Mashoona; Butler, Feilden, [illegible] Reid, Zoologist, 1883, p. 338, Natal.

Peristera senegalensis, P. rufescens, P. ægyptiaca, C. L. Brehm, Vogelf. 1855, p. 257.

Columba savignyi, Reichenb. Taub. 1855, p. 72.

Turtur ægyptiacus, Tristr. Ibis, 1859, p. 35, Palestine; Salvin, tom. cit. p. 318, E. Atlas; Tristr. Ibis, 1860, p. 69, N. Africa; Shelley, Ibis, 1871, p. 143, Egypt; Gurney, tom. cit. p. 295, Algeria.

Head and upper half of the neck deep vinous, slightly paler on the chin and centre of the upper throat; eyelids red; a broad collar round the front and sides of the neck formed of black feathers broadly tipped with fawn-colour; back of the neck, back, scapulars, and four centre tail-feathers brown, the feathers of the upper back and scapulars generally more or less edged with fawn-colour; sides of the lower b[illegible] washed with grey; remainder of the tail slaty blac[illegible] rather more than half its length, then grey fading into [illegible] towards the end, the white extending in amount towards the outer feathers, which have also broad white edges to their

outer webs; wings—the coverts leaden grey, with the inner half of them broadly edged with fawn-colour; bastard wing and primary-coverts black; secondaries brown washed with grey, excepting the innermost ones, which are washed with fawn-colour; quills blackish brown, with narrow pale edges, becoming white towards the outermost feathers; breast rich vinous, fading into white on the abdomen; under tail-coverts white; sides of the body leaden grey; under wing-coverts rather deeper grey; under surface of the quills uniform brown; iris orange-red; bill dusky black, with a slight vinous shade; legs pinkish red. Total length 11 inches, culmen 0·6, wing 5·2, tail 4·9, tarsus 0·8.

Hab. The whole of the African continent, Socotra, S. Asia, Europe, and the Canary Islands.

[illegible]ve here described a male collected by myself in Egypt.

Turtur picturatus.

Columba picturata, Temm. Hist. Nat. Pig. et Gall. 1813, pp. 315, 481; id. Pl. Col. 1826, 242 (moderate).

Columba dufresnii, Leach in Shaw's Gen. Zool. xi. 1819, p. 77, pl., Mauritius.

Peristera picturata, Boie, Isis, 1828, p. 327.

Turtur picturatus, Reichb. Taub. 1855, p. 70, pl. 224. fig. 1260; Sclat. P. Z. S. 1863, p. 164, Madagascar; Roche & E. Newton, Ibis, 1863, p. 167; E. Newton, tom. cit. p. 454; Schl. P. Z. S. 1866, p. 424, pt., Réunion nec Mayotte; E. Newton, Ibis, 1867, pp. 346, 359, Seychelles; Grand. Rev. et Mag. de Zool. 1867, p. 418; A. Newton, Ibis, 1868, p. 477; Schl. & Poll. Faune Madag. Ois. 1868, p. 113, pt.; Bartlett, P. Z. S. 1875, p. 67; Hartl. Vög. Madag. 1877, p. 268.

Turtur prevostianus, Bp. Consp. Gen. Av. ii. 1857, p. 62, Marianne Is.

Head and upper half of the neck grey, paler on the chin and centre of the upper throat, and gradually shading into deep ashy vinous on the remainder of the neck; some of the feathers on the sides of the neck have black centres slightly exposed, indicating a very partial collar; the vinous of the

neck shades into chestnut on the upper back, portion of the scapulars, and the smaller wing-coverts; middle of the back, remainder of the wings, the centre tail-feathers, and the ends of some of the tail-coverts brown; the primaries mostly with narrow partial whitish edges; lower back and remainder of the upper tail-coverts slaty grey; remainder of the tail slaty black, with grey ends nearly one inch in depth, passing into white on the inner webs of the other feathers, which have also narrow white margins to their outer webs; under surface of the tail black and white; crop deep ashy vinous, fading gradually into vinous pink towards the lower breast and then into white on the abdomen and under tail-coverts; sides of the body occasionally slightly tinted with grey; under wing-coverts brown, shading into chestnut towards edges of the wing; under surface of the quills brown; almost obsolete pale inner edges to the feathers; bill brown, with a whitish tip; legs violet-(*Schl. & Poll.*). Total length 11·5 inches, culmen 0·; wing 6·6, tail 4·6, tarsus 0·9.

Hab. Madagascar, Réunion, Mauritius, and the Seychelles.

This Dove is probably a native of Madagascar only, and found wild on the other islands as an introduced bird. Schlegel and Pollen give Mayotte as a locality, but specially remark that the specimens from that island had no grey on the head, clearly proving that they should be referred to the nearly allied *T. comorensis*.

32. Turtur aldabranus.

Turtur aldabranus, Sclat. P. Z. S. 1871, pp. 623, 692, pl. 72 (very good), Aldabra Is.; Hartl. Vög. Madag. 1877, p. 270.

"Supra brunneus unicolor, capite toto cum collo undique vinaceo perfusis; colli postici plumis nigris vinaceo terminatis, tanquam squamatis; subtus cineraceus, usque ad medium pectus vinaceo perfusus, ventre medio crissoque albis; alarum remigibus cineraceo-brunneis, unicoloribus; caudæ rectricibus duabus mediis omnino et proximis in pogonio exteriore brunneis dorso concoloribus, ceteris omnibus nigris limbo unciali lactescenti-albo

terminatis; subalaribus cineraceis; rostro plumbeo, apice flavicante; pedibus carneis: long. tota 10·5, alæ 5·75, caudæ 3·9, tarsi 1·1 poll. Angl. et dec." (*Sclater.*)

Hab. Aldabra Island.

I have here quoted Mr. Sclater's original description, as I have not had the opportunity of examining the type. It is most nearly allied to *T. comorensis*, from which it chiefly differs in its smaller size, its wing being nearly one inch shorter; also, according to Mr. E. Newton, it has a more vinous colouring on the back, rump, and tail. From *T. picturatus* it differs in the absence of grey on the head, and from *T. rostratus* in the absence of grey on the rump and two centre tail-feathers, as well as in its much smaller bill.

33. Turtur comorensis.

Turtur picturatus, Schl. & Poll. Faun. Madag. Ois. 1868, p. 113, pt., Mayotte.

Turtur comorensis, E. Newton, P. Z. S. 1877, pp. 300, 302, Anjuan; Shelley, P. Z. S. 1879, p. 678.

Head, neck, and front portion of the upper back vinous purple, shading into chestnut on the smaller wing-coverts and into brown on the remainder of the back, wings, and two centre tail-feathers; on the sides of the neck a very partial collar, formed by the black basal portion of these feathers being partially exposed; the primaries are dark brown, with very narrow pale edges; the sides of the middle back are shaded with slaty grey; the feathers of the rump and upper tail-coverts are slightly edged with rufous; remainder of the tail brownish black, with a broad pale end and a very narrow pale edge; the pale end is grey, washed with brown towards the edges of the outer webs, and fades into white on the inner webs towards the outer feathers; under surface of the tail black and white; the vinous purple of the neck gradually fades into pale vinous towards the centre of the breast, into white on the abdomen and under tail-coverts, and into slaty grey on the sides of the body; under wing-coverts brownish slate-colour; under surface of the quills dark brown; iris red; bill slate-colour, with the end yellow; legs pinkish red.

Total length 11 inches, culmen 0·75, wing 6·65, tail 4·5, tarsus 1·1.

Hab. The Comoro Islands.

My description is taken from a specimen collected for me by Sir John Kirk on the island of Anjuan. This is the species referred to as being very common in Mayotte by Schlegel and Pollen under the name of *T. picturatus*.

I think I am right in considering this bird specifically distinct from the very closely allied *T. aldabranus*, from which it differs in its larger size and in the less vinous colouring of the back, rump, and tail; for our present knowledge does not warrant us in regarding any of these characters as variable.

34. Turtur rostratus.

Columba picturata, var. *Seychelles*, Temm. Pl. Col. 1826, text to pl. 242.

Turtur rostratus, Bp. Compt. Rend. xl. 1855, p. 16; id. Consp. Gen. Av. ii. 1857, p. 62; E. Newton, P. Z. S. 1867, p. 344; id. Ibis, 1867, pp. 337, 354, 359; A. Newton, Ibis, 1868, p. 477; Schl. Mus. P.-B. iv. Columb. 1873, p. 130; Hartl. Vög. Madag. 1877, p. 269.

Crown, upper back, scapulars, and the lesser wing-coverts deep vinous purple; remainder of the head, neck, and breast somewhat paler; a partial collar on the sides of the neck formed by the feathers having black bases and broad ashy vinous edges; remainder of the wings dark brown, many of the feathers partially washed on their edges with deep vinous purple; the primaries with narrow pale edges; remainder of the back and the two centre tail-feathers slaty grey; remainder of the tail slaty black for about the basal two thirds and third of the tail and a broad outer margin white, shading into slaty grey towards the four centre feathers; the vinous of the breast shades into slaty grey on the sides of the body and into ashy white on the abdomen; under tail-coverts white; under wing-coverts slaty grey; under surface of the quills dark brown; bill slaty black, with the end third yellow

legs reddish brown. Total length 10 inches, culmen 0·85, wing 5·9, tail 3·9, tarsus 1·05.

Hab. Seychelles.

My description, as well as the colour of the bill and legs, is taken from a male specimen in my own collection from the island of Marianne.

VII. Chalcopelia. Type.

Chalcopelia, Bp. Compt. Rend, xl. 1855, p. 19 . . *C. afra.*
Chalcopeleia, Reichb. Taub. 1855, p. 78 (correction) *C. afra.*

I shall include three species in this genus, *C. puella*, *C. brehmeri*, and *C. afra*.

Although I keep *C. brehmeri* as a distinct species, it appears to me probable that it will prove only to be a variety constituting a more or less constant race.

With *C. afra* I unite *C. chalcospilos*, Wagl., as I have no doubt that they are mere varieties of one species.

35. Chalcopelia puella.

Peristera puella, Schl. Bijdrag tot de Dierk. 1848, p. 17, pl. (good); Hartl. J. f. O. 1854, p. 208; 1855, p. 261; Cass. Pr. Philad. Acad. 1856, p. 321, Cape Lopez; Hartl. Orn. W.-Afr. 1857, pp. 198, 275; Cass. Pr. Philad. Acad. 1859, p. 143, Camma, Ogobai, and Muni rivers; Sharpe, Ibis, 1869, p. 387, Fantee; Ussher, Ibis, 1874, p. 71, Gold Coast.

Chalcopelia puella, Bp. Compt. Rend. 1855, p. 19.

Chalcopeleia puella, Reichb. Taub. 1855, p. 78, pl. 245. fig. 2593 (bad).

Head, upper half of the neck, and back of the lower neck cobalt-blue, fading into bluish white towards the forehead, chin, and centre of the upper throat; a narrow black band from the eye to the lores; remainder of the plumage bright [illegible]ous, rather darker above, where it inclines to chestnut; [illegible] throat and sides of the lower neck shaded with vinous; [illegible]s inclining to dark brown; a few of the inner greater wing-coverts and largest scapulars have boldly marked metallic golden-green blotches on their outer webs; the six centre

tail-feathers are uniform chestnut, the next pair have the basal portion of their inner webs slaty grey with a broad black subterminal bar very partially indicated; the outer four tail-feathers are slaty grey, with a broad subterminal black bar and chestnut ends; under tail-coverts chestnut, slightly darker than the breast; under surface of the tail slaty grey, with a silvery gloss for the greater part of the six outer feathers, and the remainder chestnut; under surface of the wings rufous like the breast, shading into brown towards the ends of the quills; iris brown; bill dusky slate-colour, inclining to yellow towards the tip; legs brown. Total length 10 inches, culmen 0·65, wing 5·05, tail 4·9, tarsus 0·95.

Hab. W. Africa, from the Gold Coast to the Gaboon.

My description is taken from a Gold-Coast specimen in my own collection. In an immature bird, some of the scapulars, wing-coverts, and secondaries are barred with black.

36. Chalcopelia brehmeri.

Chalcopelia brehmeri, Hartl. J. f. O. 1865, p. 97; id. Ibis, 1865, p. 236, Gaboon; Finsch, Ibis, 1875, p. 467; Bocage, Orn. Angola, 1881, p. 391.

Peristera brehmeri, Gray, Hand-l. B. ii. 1870, p. 244; Sharpe & Bouvier, Bull. S. Zool. France, 1876, p. 52, Landano and Chinchonxo; Reichenow, J. f. O. 1877, p. 13, Loango Coast.

Very similar to *C. puella*, from which it only differs in the metallic spots on the wings being of a metallic coppery red, with occasionally a slight green reflection. Total length 9·1 inches, culmen 0·65, wing 5·2, tail 4·5, tarsus 1.

Hab. W. Africa, from the Gaboon to the Loango Coast north of the Congo.

My description is taken from two specimens in the British Museum collected by Duchaillu.

For want of proof to the contrary, I here keep *C.* and *C. brehmeri* distinct, although, in my opinion, they are only races or varieties. This it remains for future facts to show, my reason for supposing that they are not distinct

species resting on the small importance of the colouring of the wing-spots in the allied forms *C. afra* and *T. tympanistra*.

37. Chalcopelia afra.

Columba afra, Linn. S. N. i. 1766, p. 284; Temm. & Knip, 1808–1835, p. 83, pls. 38, 39; Chapman, Trav. S. Afr. 68, App. p. 411, Damara; Godman, Ibis, 1872, p. 218, riffe?

Tourterelle émeraudine, Levaill. Ois. d'Afr. vi. 1808, 4, pl. 271 (good).

Columba chalcospilos, Wagl. Syst. Av. Columb. 1827, sp. et var. *a*.

Columba senegalensis, Rüpp. Neue Wirb. Vög. 1835–1840,

ur chalcospilos, Swains. B. W. Afr. ii. 1837, p. 210; & Thomps. Exp. Niger, ii. 1848, p. 11.

istera chalcospilos, Rüpp. Syst. Uebers. 1845, p. 98, 8 (good), Sennaar, Kordofan, Abyssinia; Strickl. & Sclat. ontr. Orn. 1852, p. 126, Damara; Cass. Pr. Philad. Acad. 1859, p. 321, Cape Lopez; Hartl. J. f. O. 1861, p. 266, Camma r., Grand Bassam, Bissao, Casamanse; Sclat. P. Z. S. 1862, p. 12, Uzaramo; Cab. v. d. Decken's Reisen, iii. p. 43, Mombas; Shelley, Ibis, 1875, p. 84, Durban.

Chalcopelia afra, Bp. Compt. Rend. xl. p. 19 (1855); Sclat. P. Z. S. 1864, p. 113, Usazamo and Duthumi; Antin. Cat. descr. Ucc. 1864, p. 88, White Nile; Finsch & Jesse, Trans. Z. S. vii. 1870, p. 290, Abyssinia; Finsch & Hartl. Vög. Ostafr. 1870, p. 554; Heugl. Orn. N.O.-Afr. 1871–1875, p. 845, App. p. 171; Gurney in Anderss. B. Dam. Ld. 1872, p. 236; Reichenow, J. f. O. 1872, p. 391, Accra; Sharpe, P. Z. S. 1873, p. 716, Mombas; Reichenow, J. f. O. 1873, p. 213, 1874, p. 387, Gold Coast; Fischer, J. f. O. 1877, pp. 173, 176, 207, E. Afr.; Fischer & Reichenow, J. f. O. 1878, pp. 250, 292, Zanzibar, 1879, pp. 300, 303, 339, E. Afr.; Fischer, J. f. O. 1880, p. 192, E. Afr.; Sharpe in Oates's Matabele Land, App. B, 1881, p. 322; Hartl. Abhandl. nat. Vereins Bremen, vii. 1881, p. 117, Lado; Bocage, Orn. Angola, 1881, p. 389; Shelley, P. Z. S. 1881,

p. 596, Pangani; Holub & Pelz. Beitr. Orn. Sudafr. 1882, p. 176.

Chalcopelia chalcospilos, Bp. Compt. Rend. xl. 1855, p. 19; Kirk, Ibis, 1864, p. 329, Zambesi; Cab. J. f. O. 1878, p. 243, E. Afr.; Shelley, P. Z. S. 1881, p. 596, Pangani and Dar-es-Salaam.

Peristera afra, Strickl. & Sclat. Contr. Orn. 1852, p. Damara; Hartl. Orn. W.-Afr. pp. 197, 275; Cass. Philad. Acad. 1859, p. 144, Camma, Ogobai, Muni, Moonda r.; Hartl. J. f. O. 1861, p. 266; id. P. Z. S. 1 p. 827, Zanzibar; Layard, B. S. Afr. 1867, p. 262; Gur Ibis, 1868, pp. 48, 164; Blanf. Geol. and Zool. Abyss. 18 p. 417; Sharpe, P. Z. S. 1870, p. 150, Angola; Shelle Buckley, Ibis, 1872, p. 290, Gold Coast; Sharpe & B Bull. Soc. Zool. France, 1876, p. 52, Chinchonxo; Reic J. f. O. 1877, p. 13, Loango Coast.

Chalcopelia afra. Crown leaden grey, fading into wh the forehead and inclining to slaty brown on the centr the occiput and nape; back of the neck, upper back, win coverts, scapulars, and inner secondaries palish brown; bastard wing black, partially inclining to chestnut towards the bases of the feathers, primary-coverts and quills, with the exception of a few of the innermost secondaries, chestnut, with broad ends and partial margins of brown, becoming almost black on the primaries and primary-coverts, and increasing in extent towards the first primary, which has nearly the entire outer web black; a few of the inner greater wing-coverts and largest scapulars have boldly marked steel-blue patches on their outer webs, these blotches are partially margined with metallic green; remainder of the back buffish brown, crossed above by two distinct broad black bars, the end feathers of the rump and the greater tail-coverts are generally broadly tipped with black forming two imperfect bars; the six centre tail-feathers brown with broad blackish ends, these black ends become subterminal on the remaining feathers, which shade into slaty grey, and the pale portion of the outer web of the last feathers fades into ashy white; cheeks, sides of the neck, throat, and breast vinous, fading almost into

white towards the chin and centre of the upper throat; the cheeks often shaded with grey; the vinous breast fades into white near the vent and a few of the first under tail-coverts are white, usually washed more or less with grey or brown; remainder of the under tail-coverts and the under surface of the tail black, with pale ends to a few of the outer tail-feathers, and often with brownish ends to some of the greater coverts; axillaries and under surface of the wings rufous, with the ends and partial outer margins to the quills dark brown; iris brown; bill dusky red with the end yellow; legs brownish red. Total length 8·5 inches, culmen 0·6, wing 4·3, tail 3·5, tarsus 0·7.

The preceding description is taken from a specimen collected [illegible]self on the Gold Coast in March, and the following [illegible] female also collected by myself in March at Pinetown.

Var. *Columba chalcospilos*, Wagl., differs from the typical form as follows:—metallic spots on the wing golden green, with scarcely any trace of blue; the black on the primary-coverts and primaries is rather more extended; the secondaries are rather darker, their central portions inclining to black and considerably less washed with rufous; the colouring of the upper parts generally is of a slightly more ashy shade; bill uniform dark brown. Total length in the flesh 7·9 inches, culmen 0·55, wing 4·3, tail 3·5, tarsus 0·7.

Hab. The whole of Africa south of about 17° N. lat.

This Dove is not known to me from any of the islands with the exception of the small Ilha das Rolhas in the Gulf of Guinea. As to its occurrence on Teneriffe as a regular migrant I think it impossible; certainly it has never been procured there; and although very different in appearance, I have little doubt that *Turtur senegalensis* or *T. turtur* were the species confounded with it at Teneriffe.

Although it is difficult positively to prove, I have no doubt in my own mind that the forms above described, those with the blue and those with the green spots on the wings, are only varieties of one species. They have exactly the same range and have both been invariably collected in the same localities, and they are neither sexual nor seasonal differences.

A somewhat analogous case is presented in the dark and pale varieties of *Nisaetus pennatus*.

VIII. Tympanistria.

Tympanistria, Reichb Taub. 1855, p. 78 Type.
(1853, fide Gray) . . . . . *T. tympanistria.*

This genus contains a single species, confined to Africa, Madagascar, and the Comoro Islands.

38. Tympanistria tympanistria.

La Tourterelle à ventre blanc, Temm. Cat. Syst. p. 253.

La Tourterelle tambourette, Levaill. Ois. d'Afr. vi. 1808, p. 86, pl. 272 (good).

Columba tympanistria, Temm. & Knip, Pig. i. p. 80 (1808–1811); Temm. Hist. Pig. et Gall. 1813, pp. 287, Bianc. Spec. Zool. Mosamb. fasc. xvi. 1865, p. 401; Schl P. Z. S. 1866, p. 425, Mayotte.

Peristera tympanistria, Boie, Isis, 1828, p. 327; Selby, Nat. Libr. v. 1835, p. 205, pl. 23 (bad); Hartl. J. f. O. 1855, p. 361, Gold Coast; id. Orn. W.-Afr. 1857, pp. 197, 275; Cass. Pr. Philad. Acad. 1859, p. 143, Camma and Muni rivers; Gurney, Ibis, 1860, p. 214, Natal; Hartl. J. f. O. 1861, p. 266, Camma r. and Casamanse; Gurney, Ibis, 1864, p. 359, Natal; Layard, B. S. Afr. 1867, p. 262; Schl. & Poll. Faune Madag. Ois. 1868, p. 114; Sharpe, Ibis, 1869, p. 387, Fantee; Finsch & Hartl. Vög. Ostafr. 1870, p. 558; Reichenow, J. f. O. 1874, p. 387, Gold Coast; Shelley, Ibis, 1875, p. 84, Durban; Sharpe & Bouvier, Bull. Soc. Zool. France, 1876, p. 52, Landano; Hartl. Vög. Madag. 1877, p. 271; Reichenow, J. f. O. 1877, p. 13, Loango Coast; Fischer, tom. cit. pp. 173, 176, E. Afr.; Cab. J. f. O. 1878, p. 243, Mombas; Fischer & Reichenow, tom. cit. pp. 250, 292, 293, E. Afr.; Bocage, Orn. Angola, 1881, p. 393; Shelley, P. Z. S. 1881, p. 597, Pangani.

Peristera tympanistera, Fraser, P. Z. S. 1843, p. 53, Fernando Po.

Tympanistria bicolor, Reichb. Taub. 1855, p. 78, pl. 258. fig. 1435; Bp. Compt. Rend. xl. 1855, p. 19.

Tympanistria fraseri, Bp. Consp. Gen. Av. ii. 1857, p. 67.
Peristera fraseri, Gray, Hand-l. B. ii. p. 244 (1870).
Chalcopelia tympanistria, Shelley, P. Z. S. 1879, p. 678, Great Comoro; Fischer, J. f. O. 1879, p. 300.
Tympanistria tympanistria, Butler, Feilden, & Reid, Zoologist, 1883, p. 338, Natal.

Male. Forehead, front half of the crown, a broad eyebrow, chin, throat, and breast white; remainder of the upper parts brown, slightly darker on the crown and slightly washed with grey at its junction with the white on the crown and sides of the neck; ear-coverts and a narrow band from the eyes to the lores brownish black; bastard wing dark brown, often partially washed with chestnut; primary-coverts and primaries chestnut, with broad ends and partial margins of dark brown; the half of the secondaries next to the primaries rufous, shading into brown towards their edges; remaining half of the secondaries uniform brown, like the wing-coverts; a few of the inner greater wing-coverts and the largest scapulars have boldly marked black patches on their outer webs, these blotches have generally a metallic gloss of violet, steel-blue, or green; just below the centre of the back are two broad bands, more or less distinct, of blackish brown, and between them a pale band often inclining to brownish buff with an ashy shade; remainder of the rump and upper tail-coverts uniform brown like the mantle; the six centre tail-feathers uniform brown with a reddish tinge, the outer six feathers shade into grey with a broad subterminal black band; the white of the breast gradually passes into brown on the tail-coverts and on the outer thigh-coverts; under surface of the tail slaty black, with narrow greyish ends to the outer six feathers; axillaries and under surface of the wings rufous, with the ends and partial outer margins to the quills dark brown; the first primary is much sulcated and for 0·8 inch of its end it is not broader than the outer web of the second quill; iris brown; bill purple slate-colour; legs red. Total length 8·4 inches, culmen 0·6, wing 4·65, tail 3·9, tarsus 0·75.

Female. Differs slightly in the cheeks, lower throat, and crop being tinted with dusky grey.

Hab. The whole of S. Africa, northward on the W. coast to Casamanse, and on the E. coast to Mombas, also Madagascar, the Comoro Islands and Fernando Po.

IX. Œna.

Œna, Selby, MS., fide Swains Class. B. ii. 1837, p. 349 . . . . . Type. *Œ. capensis*.

This genus contains a single species, which ranges over the whole of South and Tropical Africa, Madagascar, and the Arabian shores of the Red Sea to as far north as Jeddah.

39. Œna capensis.

Columba capensis, Linn. S. N. i. 1766, p. 286; Temm. & Knip, Pig. i. 1808–1838, p. 117, pls. 53 ♀, 54 ♂.

La Tourterelle à cravatte noire, Levaill. Ois. d'Afr. vi. 1808, p. 88, pls. 273 ♂, 274 ♀, 275 juv.

Columba atrogularis, Wagler, Syst. Av. 1827, sp. 108.

Peristera capensis, Boie, Isis, 1828, p. 327.

Ectopistes capensis, Selby, Nat. Libr. v. 1835, p. 189, pl. 20.

Œna capensis, Swains. B. W. Afr. ii. 1837, p. 214, Senegal; Sclater, Contr. Orn. 1852, p. 126, Mokullo on Red Sea; Hartl. Orn. W.-Afr. 1857, p. 198; Hartl. J. f. O. 1860, p. 180, Pembe Is., Zanzibar; Roche & E. Newton, Ibis, 1863, p. 168, Madagascar; Antin. Cat. descr. Ucc. 1864, p. 91, N.E. Afr.; Gurney, P. Z. S. 1864, p. 3, Damara; id. Ibis, 1865, p. 270, Natal; Schl. & Poll. Faun. Madag. Ois. 1868, p. 114; Sperling, Ibis, 1868, p. 291, Mozambique; Finsch & Jesse, Trans. Z. S. vii. 1870, p. 29; Blanf. Geol. and Zool. Abyss. 1870, p. 418; Heugl. Orn. N.O.-Afr. 1871–1875, p. 248, App. p. 171; Finsch & Hartl. Vög. Ostafr. 1870, p. 557; Ayres, Ibis, 1871, p. 261, Transvaal; Gurney in Anderss. B. Dam. Ld. 1872, p. 235; Sharpe, P. Z. S. 1873, p. 716, Mombas; Antin. & Salvad. Viagg. Bogos, 1873, p. 132; Buckley, Ibis, 1874, p. 385, Transvaal; Shelley, Ibis, 1875, pp. 62, 83, Wellington; Sharpe &

Bouvier, Bull. Soc. Zool. France, 1876, p. 52, Landano; Hartl. Vög. Madag. 1877, p. 272; Reichenow, J. f. O. 1877, p. 13, Loango Coast; Cab. J. f. O. 1878, p. 243, E. Afr.; Bocage, Orn. Angola, 1881, p. 292; Sharpe in Oates's Matabele Land, App. B, 1881, p. 322; Hartl. Abhandl. nat. Vereins Bremen, vii. 1881, p. 117, Lado; Shelley, P. Z. S. 1881, p. 596, Pangani, 1882, p. 359, S.E. Afr.; Holub & Pelz. Beitr. Orn. Südafr. 1882, p. 171; Butler, Feilden, & Reid, Zoologist, 1883, p. 338, Natal.

Male. Front half of the head and the entire throat black; remainder of the head grey; back of the neck, back, scapulars, inner half of the wing-coverts, innermost secondaries, and tail-coverts pale brown, shading into pearl-grey on the sides of the neck and on the remainder of the wing-coverts; bastard wing slaty grey, passing into black towards the borders of the feathers; the greater series of wing-coverts also pass into black towards their borders, most distinctly so towards the outer feathers; primary-coverts and primaries chestnut, with broad black end and partial outer margins; the outer half of the secondaries with chestnut centres, broadly surrounded with ashy brown, passing gradually on the remainder of the secondaries into pale brown, and with narrow partial whitish edges most distinct towards the ends of the outer secondaries; inner webs of the inner secondaries shading into black on their edges; a few of the inner greater wing-coverts and largest scapulars have boldly marked steel-blue patches on their outer webs, these blotches are more or less shaded with metallic violet; just below the centre of the back are two broad bands, more or less distinct, of black, and between them a pale band of brownish buff often fading into white on the sides; upper tail-coverts broadly edged with black; tail slaty grey, shading into black towards the ends of the inner six feathers, the outer six with a broad subterminal black band, the end and nearly the entire outer web of the last feather white; breast white, shaded with grey towards the black of the throat and sides of the body; under tail-coverts black, with a few of the smaller ones white and some of the intermediate ones with white outer webs; under

surface of the tail black, with pale ends to the six outer feathers and with white on the outer web of the last one; axillaries and the inner half of the under wing-coverts black, outer half of the under wing-coverts and the under surface of the quills rufous, the latter with dark brown ends; "iris brown; bill, with the basal half lake-red, the end half a fine dark gamboge; tarsi and feet dark rose-red" (*T. Ayres*). Total length 9·2 inches, culmen 0·55, wing 4·2, tail 5·3, tarsus 0·5.

Female. Differs from the male in having no black on the head and throat; forehead, cheeks, chin, and centre of the throat white, slightly greyer towards the crown, which is brown like the back; ear-coverts, sides and front of the neck, and crop pale ashy brown, slightly greyer on the back of the cheeks and sides of the upper throat; remainder of the plumage as in the male. Total length 9·2 inches, culmen 0·5, wing 4·15, tail 6, tarsus 0·5.

Hab. Madagascar and the whole of South and Tropical Africa, extending northward on the W. coast to Senegal, and rather further so on the east side of the continent, where it crosses the Red Sea into Arabia, whence I have a specimen from Jeddah, the most northern limit yet known for that species.

My descriptions have been taken from a pair collected for me by Mr. Gordge in Natal.

X. Geopelia. Type.

Geopelia, Swains. Class. B. ii. 1837, p. 348 . . *G. striata.*

This genus is only represented within my limits by *G. striata*, which has been introduced into many of the islands surrounding the African continent south of the equator.

40. Geopelia striata.

Columba striata, Linn. S. N. i. 1766, p. 282.

Columba malaccensis, Temm. & Knip, i. 1808–1838, p. 104, pl. 47.

Geopelia striata, E. Newton, Ibis, 1861, p. 182, Round I. p. 274, Mauritius; Schl. P. Z. S. 1866, p. 421, Réunion and

Madagascar; E. Newton, Ibis, 1867, p. 342, Seychelles; Hartl. Vög. Madag. 1877, p. 404.

Turtur malaccensis, Schl. & Pöll. Faun. Madag. 1868, p. 155.

Forehead, front half of the crown, sides of the head, and upper half of the throat very pale grey; remainder of the crown pale brown of a slightly vinous shade; back of the neck, back, upper tail-coverts, upper wing-coverts, and innermost secondaries pale brown, each feather tipped with black; bastard wing, primary-coverts, and the remainder of the quills darker brown, the primaries with the basal portion of their inner webs rufous; tail of 12 feathers, two centre feathers slaty brown, the remainder black, the six outer ones with broad white ends, which extend obliquely down portions of their outer webs; centre of the lower throat and chest vinous pink, fading into pinkish white down the centre of the lower breast and on the under tail-coverts; feathers of the sides of the neck and sides of the body with narrow alternate bars of black and white, the white becoming shaded with vinous on the flanks; under surface of the wing dark brown; the coverts somewhat indistinctly barred with rufous and brownish black, a large portion of the inner webs of the quills rufous; the first primary is much sulcated, for the end 0·6 is not broader than the outer web of the second quill; iris brown; bill dusky slate-colour; legs red. Total length 9·2 inches, culmen 0·5, wing 4, tail 4·4, tarsus 0·7.

Hab. China, Australia, New Guinea, and the Malay archipelago, and, as an introduced bird, Seychelles, Madagascar, Mauritius, Round Island, Réunion, and St. Helena.

My description is taken from a specimen collected by myself at St. Helena.

XXIX.—*On the Variations in Plumage of* Saxicola monticola, *as observed in Natal.* By Majors E. A. Butler and H. W. Feilden and Capt. S. G. Reid.

During our stay at Newcastle, in the upper district of Natal,

for the greater part of the year 1881, we had a most favourable opportunity of observing the plumage, habits, and nidification of *Saxicola monticola*, an exceedingly common and resident species, concerning which we have already published some short notes in our paper on the birds of Natal in the 'Zoologist' for 1882, p. 211.

The variations in the plumage of the male of this species are, however, so remarkable, and apparently so little understood, that we think a few additional remarks on a point of such interest may be acceptable in the form of a separate article in 'The Ibis.'

On first arriving in the Newcastle district, in March and April 1881, we were greatly struck with the number and universal distribution of the Chats of this kind to be met with among the boulder-strewn hills on all sides of us, and we fancied for a short time there must be two distinct species: one with a tail only white, the other with a white tail and white shoulders as well; while the occasional occurrence of other birds with additional white or grey markings of varied extent considerably increased the difficulty of solving the question.

Soon, however, we found the white-tailed, white-shouldered birds to be the males of the white-tailed females, and, as the breeding-season approached, it became evident that the birds with the extra white and grey coloration were also males of the same species and were consorting with the white-tailed females. On this point we think it advisable to reproduce our notes on *Saxicola monticola* from the 'Zoologist,' as follows:—

"Almost as common on the rocky hills as *Myrmecocichla formicivora* is on the 'veldt.' Like *Monticola explorator*, they are very shy on first acquaintance, but soon acquire confidence if unmolested. Their song is pretty, though not very often heard. Many nests were taken in the neighbourhood of Newcastle; in most cases the complement of eggs was only three, pale bluish green spotted with brownish rufous at the larger end; they measure ·90 by ·65 inch.

"The plumage of the male is subject to great variation,

the ordinary type, or rather what we believe to be the *first* breeding-dress, being that given in Sharpe's edition of Layard's work." (This description, copied from that given in the monograph of Messrs. Blanford and Dresser in the P. Z. S. 1874, p. 232, is as follows:—

"*Adult male.* Shoulders, rump, abdomen, lower breast, upper tail-coverts, and the basal portion of all rectrices, except the central pair, white; a narrow streak from the base of the bill to above the eye grey, or mixed white and black; remainder of plumage black. The quills and greater coverts are brownish black, and the thigh-coverts the same; and some black is mixed with the white of the under tail-coverts. On the pair of rectrices next to the central pair the white extends about halfway from the base; on the other rectrices only the tip is black, but this colour extends on the outermost pair some distance up the outer web.")

[illegible] the bird gets older the black of the head changes [illegible]ually to grey, followed by that of the back and under-[illegible]rts, so that an old male has the greater part of the plumage grey. We saw several in this strikingly handsome plumage paired with the ordinary white-tailed black female; the latter does not appear to undergo any such modifications of colouring. It seems clear that the grey colour is not, as stated in the first edition of Layard, a sign of immaturity, for no females were ever observed with any grey at all about them, and, moreover, young birds just out of the nest and barely able to fly, seen on the 26th October 1881, were dull black, without the faintest trace of grey. We suspect that an examination of the series of skins in all stages of plumage which we have placed in Capt. Shelley's hands will lead to the lumping together of two or three species that have hitherto been regarded as distinct."

There is no doubt that the question of the proper deter-[illegible]ion of *Saxicola monticola* and its closely connected [illegible]s or allies in South Africa is still a work of the [illegible] and we can do no more in this short essay than contribute our mite to the general undertaking. At the present moment there are three high authorities on the genus *Saxicola*

to whom reference must be made by any one studying this question. Let us take them in order of priority.

In the 'Proceedings of the Zoological Society' for 1874 Messrs. Blanford and Dresser published a most important monograph of the genus, though they modestly termed it in their introductory paragraph "an attempt to reduce to something like order the excessively confused nomenclature of the species composing it." In this they express a certain want of confidence as to their determination of the South-African *Saxicolæ*, especially as regards *S. monticola* and its allies, and they include several species which their successors have since regarded as phases of *S. monticola* and *S. leucomelæna*, Burch. These we shall mention presently.

Mr. R. Bowdler Sharpe, in his new edition of Layard's 'Birds of South Africa,' writing in 1877, considers the *S. atmorii* of Tristram (Ibis, 1869, p. 206) and the *S. grisicens* of Messrs. Blanford and Dresser (P. Z. S. 1874, p. [illegible] be referable to *S. leucomelæna*, but retains *S. diluta*, B. [illegible] (P. Z. S. 1874, p. 234), and *S. castor*, Hartl., as distinct species. He, however, states his impression that *S. diluta* is the adult female of *S. leucomelæna*, and allows that a larger series of birds is requisite for a final decision of the question.

The third and latest authority, Mr. H. Seebohm, in vol. v of the 'Catalogue of Birds in the British Museum,' lately published, makes *S. diluta* a synonym of *S. leucomelæna* and *S. castor* one of *S. monticola*, thus reducing the limits of the question still further and leaving *S. leucomelæna* and *S. monticola* as the extremes, connected by forms produced by their interbreeding. This arrangement he characterizes nevertheless, as hypothetical, and says (at p. 377), "These two South-African Chats and their intermediate forms are involved in the greatest obscurity." So we may still look upon the exact definition of the species as unsettled. We may venture to offer what little information we have acquired for future consideration. This information we sum up briefly as follows:—

The females of *S. monticola* do not vary in plumage; the

very young males resemble the females, but pass through continual changes of plumage from the preliminary acquisition of white shoulder-patches to the ultimate development of the grey livery of *S. leucomelæna*.

From this it would seem certain that *S. leucomelæna* is only the grey-headed phase of *S. monticola*, the intermediate forms (*S. leucomelæna-monticola* and *S. monticola-leucomelæna* of Seebohm, Cat. B. B. M. v. pp. 379, 380) being merely the transition stages of the one species. There is no doubt as to the proper separation of the sexes in our specimens. Butler on one occasion shot two males in succession paired with the same female *S. monticola*, the first in the ordinary (*i. e.* the most commonly observed) plumage, with the abdomen slightly mixed with white, and, a week later, the second in the grey phase (*S. diluta*, B. & D.). Both these birds were sexed carefully, and found to be more or less developed for breeding; and we all obtained male birds with varying amounts of grey and white during the breeding-season, never meeting with a female with any abnormal coloration.

It seems perfectly clear, therefore, from our experience in the field during a ten months' residence in the neighbourhood of Newcastle, and after making a special study of these black-and-white Chats, and collecting a large series of specimens, that there is but one form of female bird of this group, and it is to be inferred from this fact that there is only one species of male consorting with it. The males, however, differ so remarkably in plumage, that we think it only natural that some confusion should have arisen, and that in several instances they should hitherto have been regarded as distinct species.

In order to elucidate this matter, consequently, we give the following subspecific description of the phases of plumage of the specimens collected, and which in future, showing the different stages through which the male bird passes:—

1st stage. Birds of the year in immature plumage, very similar to the females, though perhaps slightly darker.

2nd stage. Shoulders white, though the patch is not so

conspicuous as in the next stages. The whole of the lower parts black or blackish brown.

3rd stage. Shoulders white. Traces of white on the abdomen.

4th stage. Shoulders white. Head not so black as in the 2nd and 3rd stages, but a few shades lighter, indicating the commencement of the change to grey. Below, from breast to vent, white.

5th stage. Head grey or greyish white. Below white from breast to vent.

6th stage. Head grey or greyish white. Below black from belly to vent, with, in some cases, traces of white on the lower abdomen. We consider stages 6 and 7 to be of about the same period of the bird's life, but that in some the white head is gained before the white belly, while in others the white belly is assumed before the head changes.

7th stage. Grey, with greyish-white shoulders.

8th stage. Grey, shoulders white.

9th stage. Paler than 7th stage, becoming whitish grey; shoulders white.

In the first four stages it must be noted that the head, neck, and back are black or blackish, the head and neck getting gradually paler in the 4th stage, and becoming grey or greyish white in the 5th stage. In these five stages, too, the lower parts from breast to vent gradually change colour from black or blackish brown to pure white. In the 6th, 7th, and any succeeding changes the black of the back and breast changes into grey, in which plumage the bird is far less common, presumably on account of its greater age. We must also mention that we found males in every one of these stages, except the first, paired with the ordinary type of female, and developed for breeding. Under these circumstances we think we may be considered justified in asserting our opinion that the whole of the supposed species or subspecies previously alluded to are referable to *S. monticola*, and that it is not improbable that further research may reduce several others to the same common level.

In conclusion we beg to call attention to the carefully pre-

pared series of skins brought home by us, and now in the hands of Capt. G. E. Shelley (who has, with his usual kindness, afforded us the greatest assistance in our investigations), and to the fact that the entries on the labels may be implicitly relied upon, having been recorded with the greatest care in the flesh at the time the specimens were procured.

XXX.—*Note on* Saxicola monticola, *with special reference to the Observations of Majors Butler and Feilden and Capt. Reid.* By R. Bowdler Sharpe, F.L.S.

I need hardly state with what pleasure I have perused the very valuable notes given in the preceding paper. I was so convinced that my account of the black-and-white Chats, given in my edition of Layard's 'Birds of South Africa,' was exhaustive, that immediately on the conclusion of this portion of my work I wrote out to all my correspondents in South Africa begging them to send me as quickly as possible complete sets of these birds, in pairs, if possible, and with the dates of capture carefully recorded. Two of my friends, Mr. Lucas of Rustenberg, and Dr. Exton, the curator of the Bloemfontein Museum, at once responded to my request; and Mr. Seebohm, when he wrote the fifth volume of the 'Catalogue of Birds,' had quite a score of specimens more than I had at my disposal when I wrote my account of the South-African Chats. I was not a little disappointed, therefore, when I found that Mr. Seebohm could only reconcile the variations in plumage in the black-and-white Chats of South Africa by bringing in his favourite theory of interbreeding; and I felt that, although the work done by Messrs. Blanford and Dresser in their monograph, and by myself in the 'Birds of South Africa,' was not conclusive, I was sure that Mr. Seebohm's attempt to settle the matter by the theory of hybridization would prove to be unavailing.

The Chats of South Africa are not the only birds of that portion of the globe of which the changes of plumage are exceedingly difficult to follow; and it would be much to be regretted

if we could only settle the differences before us by the theory of hybridization instead of by natural sequence of change. For I have always felt that the crossing of birds in a state of nature is a theory that requires the utmost caution in accepting, as it runs the risk of being invoked on every occasion where the facts appear to be at all difficult of comprehension. As regards the conclusions arrived at by the authors of the foregoing paper, I must state that they seem to me incontrovertible. The solution of the question of the changes of plumage in *Saxicola monticola* was certainly one for a field-naturalist, and it was lucky that three such good observers as our authors should have been led to study this intricate subject. I have carefully gone over the skins of *Saxicola monticola* in the British Museum, and have tested them with the observations of our authors, with the following result:—

Saxicola leucomelæna, Burch.; Seebohm, Cat. B. [illegible] Mus. v. p. 377.

"*b.* ♀ ad. sk. Damara Land (*C. J. Andersson*). R. B. Sharpe, Esq. Type of *S. diluta*, Bl. & Dr."

Mr. Seebohm has made a guess at the sex of this specimen, as it has no collector's ticket attached. It is, according to the foregoing observations of Messrs. Butler, Feilden, and Reid, an adult *male* in the 9th stage.

"*c.* ♂ imm. sk. Dariep (*C. J. A.*). R. B. Sharpe, Esq."

A male in the plumage of the adult female, but darker. It is in the first stage of B., F., & R. On the forehead, eyebrow, and chin there is a hoary shade.

"*d.* ♂ imm. sk. Hykomkap (*C. J. A.*). R. B. Sharpe, Esq."

A young male in moult, apparently changing from [illegible] nestling plumage into its first winter dress; the sh[illegible] feathers slightly edged with hoary whitish.

"*e.* ♂ ad. Hykomkap (*C. J. A.*). R. B. Sharpe, Esq."

An adult male in 5th stage of B., F., & R.

"*f*. (♀) ad. Hykomkap (*C. J. A.*). R. B. Sharpe, Esq."

This specimen is marked a female by Andersson, and has misled both myself and Mr. Seebohm. According to B., F., & R. it would be a fully adult male in the 9th stage.

"*g*. Imm. sk. Hykomkap (*C. J. A.*). R. B. Sharpe, Esq."

A young male in first winter plumage.

"*h*, *i*. Imm. sk. Objimbinque (*C. J. A.*). R. B. Sharpe, Esq."

h is marked ♀, which it may be. It is a young bird after first moult. *i* is quite a nestling, and has not the sex marked. Both these birds may be somewhat of varieties, as they have a white feather or two on the head.

♀ imm. sk. Swakop river (*C. J. A.*). R. B. Sharpe,

ording to B., F., & R. this is a fully old male. It is in oult, and is intermediate between their 6th and 7th es, showing the transition from one to the other. Andersson does not seem to have understood the changes of these black Chats, as he labels the present specimen "young female," whereas it is certainly an old bird in very worn plumage.

"*l*, *m*. ♂ ♀. Oosop (*C. J. A.*). R. B. Sharpe, Esq."

The male is in the 5th stage of B., F., & R. The sex "female" is not so determined by Andersson. It is a very old male according to B., F., & R., in their 9th stage.

"*n*. ♂ ad. sk. The Reeds, Swakop river (*C. J. A.*). R. B. Sharpe, Esq."

An interesting specimen in 6th stage of B., F., & R. The white head is assumed, but the black belly still remains, though with slight traces of white.

"*o*. ♂ imm. sk. The Reeds (*C. J. A.*). R. B. Sharpe,

h stage of B., F., & R. This bird is in changing plumage, having almost assumed the white belly, while the head is very backward, being still dull greyish, with a few whitish feathers appearing over the eye.

"*p*. ♂ ad. sk. Swakop river, June 22 (*C. J. A.*). R. B. Sharpe, Esq."

Typical adult male in the 5th stage.

"*q*. ♀ ad. sk. Swakop river, Oct. 26th (erroneously entered in Cat. as June 22). R. B. Sharpe, Esq."

An adult female.

SAXICOLA LEUCOMELÆNA-MONTICOLA, Seebohm, Cat. B. v. p. 379.

"*e*. ♂ ad. sk. Colesberg (*T. C. Atmore*). R. B. Sharpe, Esq. Type of *S. griseiceps*."

In typical 5th stage of B., F., & R.

"*f*. ♀ ad.; *g*, *h*. Imm. sk. Thomas river, B. C. Trevelyan."

Mr. Seebohm appears to have so satisfied himself as to correctness of his views on these Chats as to repudiate determinations of the sexes by field-collectors. Allowing a few obvious mistakes, the series in the British Museum appears to have been, on the whole, very carefully selected, and in the present case Mr. Seebohm would seem thoroughly wrong in his calculations.

His "adult female" (*f*) is a fully adult *male*, and is so sexed by Capt. Trevelyan. It is in the 8th stage of B., F., & R.

One of his "immature" birds is an *adult female*, the mate of the foregoing male, shot on the same day and at the same place. It is sexed "female" by Capt. Trevelyan.

The third specimen is immature, being marked as the "young of the two birds."

"*i*. ♂ ad. sk. Bloemfontein, Nov. 15, 1872. Dr. Exton [P.]."

A male in breeding-plumage in the 6th stage of B., F., & R.

"*k*, *l*. ♂ ♀ ad. sk.; *m*. Imm. sk. Bloemfontein, 1876. Dr. Exton [P.]."

These are a breeding pair, the male in 7th stage of B., F., & R. The young bird is blacker than the female.

"*n*. ♀ ad. sk. Potchefstroom, Jan. 4, 1877 (*W. Lucas*). Dr. Exton [P.]."

Mr. Lucas's label says "sex not distinguishable," but Mr. Seebohm determines the specimen to be a female. According to B., F., & R. this would be an adult male in 7th stage.

"*o*. ♀ ad. sk. Potchefstroom (*T. Ayres*). T. H. Gurney, Esq. [P.]. Type of *S. tephronota*."

Also determined by Mr. Seebohm to be a female on his own authority. It would be, according to B., F., & R., a very old male in 9th stage. N.B. The sex was not given by Mr. Ayres.

"*p*. ♂ ad. sk. Koanquip, Great Namaqua Land (*C. J. A.*). R. B. Sharpe, Esq."

In typical 5th stage of B., F., & R.

"*q*, *r*, *s*. ♀ ad. sk. Koy's Fountain (*C. J. A.*). R. B. Sharpe, Esq."

In the case of the male, Mr. Seebohm follows Mr. Andersson's ticket on the specimen; it is an adult male in 6th stage of B., F., & R.

Mr. Andersson also marked the two other specimens "males;" but Mr. Seebohm, being convinced of the contrary, has put them down as females, because they were grey. But Andersson's indication of these birds as males agrees with the conclusions of our authors; and according to B., F., & R. the birds would be *very old males* in the 7th and 8th stages.

Saxicola monticola-leucomelæna, Seebohm, *l. c.* p. 380.

"*a*. ♀ ad. sk. South Africa. Purchased."

This bird is marked by the late Jules Verreaux on the label, "jne. ♂." This was done by him during his stay with me during the Paris Commune. The real sex of the specimen was not attached by the collector, the skin having been originally purchased by me from Leadbeater. Mr. Seebohm, following his preconceived notions, has boldly identified it as a female; but according to B., F., and R. it would be a male in the 8th stage in worn plumage.

"*b*. Imm. sk. South Africa (*E. L. Layard*). R. B. Sharpe, Esq."

Marked by Blanford and Dresser "*S. monticola*? ♀," and there can be no doubt that it is an adult female of this species.

"*c*, *d*. Ad. sk. Colesberg (*Ortlepp*). R. B. Sharpe, Esq."

Spec. *c* is a male, according to B., F., & R. intermediate between the 6th and 7th stages. It has the head and upper parts dull grey, the shoulders becoming white, while underneath it is dull grey.

Spec. *d* is a male in 4th stage, but not quite complete on the belly, which is black with plentiful traces of white.

"*e*, *f*. ♂ ad. sk. Potchefstroom, Feb. 1878 (*W. Lucas*). R. B. Sharpe, Esq."

Two males in 4th stage, but the white belly not ye[llow] from the preceding black-bellied stage.

"*g*. Imm. sk. Potchefstroom, Dec. 1876 (*W. Lucas*). Dr. Exton."

The sex was "uncertain," according to Mr. Lucas; but there can be no doubt of the bird being an adult female in breeding-plumage.

"*h*. ♂ ad.; *i–n*. Imm. sk. Potchefstroom, Jan. 1877 (*W. Lucas*). Dr. Exton."

A most interesting series, all being in change of plumage. The adult male is moulting from the 4th stage to the 5th. A second bird is evidently an adult female. Another is a young male moulting from the 2nd to the 3rd stage.

Three specimens are marked by Mr. Lucas as having been shot "from the same kraal" on the same day (Jan. 4, 1877). They are all young males, just passing from the 1st stage into the 2nd or white-shouldered stage.

Saxicola monticola, Seebohm, Cat. B. v. p. 380.

"*a*. Imm. sk. S. Africa (*E. L. Layard*). R. B. Sharpe, Esq."

Apparently a young female.

"*b*. ♀ ad. S. Africa (*E. L. Layard*). R. B. Sharpe, Esq."

Determined by Mr. Seebohm to be a female; but according to B., F., & R., it would be a very old male in the 7th stage.

"*c*. Imm. sk. Eland's Post (*Atmore*). R. B. Sharpe, Esq."

Apparently an adult female.

"*d*. ♂ ad. sk. Colesberg (*Ortlepp*). R. B. Sharpe, Esq."

An interesting specimen, showing the colour of the head in the 5th stage.

"*e*. ♂ ad. sk. Vaal river, May 6, 1879 (*T. Ayres*). Dr. Bradshaw."

Similar to the foregoing specimen, and showing a light loral streak of ashy whitish; the head otherwise black.

"*f*. ♂ ad., ♂ imm. sk. Rustenberg, June 21, 1877 (*W. [illegible]s*). R. B. Sharpe, Esq."

The supposed adult male, as determined by Mr. Seebohm, is in the 3rd stage and, as a matter of fact, is not nearly so advanced as the individual which he marks immature, but which, according to B., F., & R., would be a very old bird in the 7th stage.

"*h*. ♂ ad. sk. Amhoup, Damara Land, June 28, 1861 (*C. J. Andersson*). R. B. Sharpe, Esq."

A fine-plumaged bird in the 3rd stage, showing, however, traces of white on the lores; the entire under surface black, with a few white bars near the vent.

"*k*. ♀ ad. sk. High Veldt, Transvaal, June 15 (*F. Oates*). C. G. & F. Oates, Esqrs. [P.]."

Mr. Seebohm is responsible for calling this bird a female, as Mr. Oates did not determine the sex. According to the ideas of our authors, however, it would be a very old male in the 7th stage, with the shoulders not yet white.

Lastly, I have been favoured by my friend Dr. R. F. Bradshaw with a series of specimens collected by him at different

times of the year, carefully determined as to sex, and having the date of capture attached. The following result ensues:—

No. 1, ♂. Orange-river Mountains, Jan. 31, 1881.

An adult bird in black plumage with white shoulders, intermediate between the 3rd and 4th stages, *i. e.* the head is becoming grey, but the abdomen is still black with a few white feathers here and there. This bird is a "variety" with grey on the secondaries and tail-feathers.

No. 2, ♀. Three miles from Orange river, March 29, 1881.

A hen bird in full plumage.

No. 3, ♂. Same locality, March 19, 1881.

Intermediate between the 7th and 8th stage. Above grey, clearer on the head and mantle. Shoulders becoming pure white, but the outer coverts of the median and lesser series still grey. Below dingy grey, but clearer on the throat and breast.

No. 4, ♂. Rocky hills, Orange river, April 2, 1881.

Emerging from the 3rd stage; the head still glossy black like the back, but the abdomen nearly all white with remains of black.

No. 5, ♂. Orange river, June 24, 1881.

Almost identical with No. 3, having still a good deal of grey above and below, especially on the eyebrows.

No. 6, ♂. Same place and date as the preceding, and in the same plumage.

No. 7, ♂. Same place and date as the preceding.

In the 5th stage. A perfect example of *S. griseiceps*, Blanford and Dresser.

No. 8, ♂. Same place and date as the preceding, and in precisely the same plumage.

No. 9, ♂. Orange river, July 6, 1881.

In the 9th stage.

No. 10, ♂. Orange river, Aug. 19, 1881.

In the 5th stage, but with a good deal of black mixed with the abdomen.

No. 11. Orange river, Aug. 8, 1881.

A specimen of the greatest importance, as it shows the transition from stage 5 to stage 7. It is grey, but still retains the white abdomen.

No. 12, ♀. Orange river, Aug. 8, 1881.

An adult bird.

No. 13, ♂. Orange river, Aug. 8, 1881.

In the 7th stage.

No. 14, ♀. Orange river, Aug. 8, 1881.

The husband of No. 12. In the 6th stage; a beautiful specimen of *grisiceps* plumage.

occasion of Dr. Bradshaw's study of these black-and- Chats was his inability to master the different species orth in my edition of Layard's 'Birds of South Africa;' e brought the series to England for my especial benefit. need hardly be said that it confirms the observations of our thors to the letter, and even supplies some missing links. Dr. Bradshaw collected for some years in the Makalaha country and on the Zambesi, and is a most experienced observer. I may add that the above statements as to sex are taken from his original labels.

Perhaps some ornithologists who are also taxpayers will derive some comfort from the fact that our war with the Transvaal Republic, which ended in such an inglorious manner for England, has shown that at least three of our officers have turned their opportunities to a good purpose, and have given as good an account of the *Saxicolæ* as they would have done of the Boers if it had been allowed.

Mr. Seebohm will not agree with my political views, I know; but he is too honest a man, and too good a naturalist, not to admit that the theory of hybridization, which he so successfully demonstrated in the case of some Palæarctic birds, has signally failed in the case of these African Chats, and he will, no doubt, mentally apologize to those naturalists whose determinations of the sexes, which he repudiated in many instances, now prove to have been perfectly correct.

XXXI.—*On the Birds exhibited in the International Fisheries Exhibition.* By Howard Saunders, F.Z.S.

In the selection of the species of birds which may, with any show of consistency, be considered to be connected with fish or fisheries, the exhibitors in the various sections have permitted themselves an elasticity which is not without its advantages. As a general rule, the birds exhibited are either fish-eaters or frequenters of marshes and waters, salt or fresh; but to this there is a notable exception in the collection which, as it happens, is almost the nearest to the principal entrance of the Exhibition, and which, as every ornithologist will allow, is undoubtedly first in scientific importance. I[illegible] the Swedish section that the student will at once dire[illegible] steps, and, interesting as is the collection of skele[illegible] aquatic birds from the Gothenburg Museum, contribu[illegible] the liberality of Mr. Oscar Dickson, he will pass on to [illegible] more important monument of the enterprise of the mercha[illegible] prince and the daring of a scientific navigator—the birds [illegible] the 'Vega' Expedition under Professor and Baron Nordenskiöld.

It will be remembered that, after rounding Cape Chelyuskin and virtually accomplishing the north-east passage by sea, the 'Vega' was unexpectedly ice-bound at a point on the Siberian coast which is often reached by American whalers from Behring's Straits. The nearest settlement of the aboriginal Chukches was Pitlekaj, and it was in this neighbourhood that the most interesting portion of the ornithological collection was obtained. Up to the 19th October myriads of birds passed southwards from the north-west; but by the 3rd November this procession was over, and it was noticed as something uncommon that a Gull like an Ivory Gull, but with a black head, settled in the vicinity of the vessel. This might have been an adult Sabine; but it was probably an immature example of the Ivory Gull, some individuals being very dark about the face, and, at a distance, apparently black-headed. Only the cosmopolitan Raven, the Snowy Owl, and its prey the Ptarmigan remained

throughout the entire winter. Of the latter there are two examples, the one being a male obtained on 13th May 1879, still in winter plumage, except about the neck, where the ruddy-brown feathers are appearing, and catalogued as *Lagopus subalpinus*, Nilsson, = *L. albus* (Gm.), *i. e.* the Willow-Ptarmigan; and the other a female, without special date or locality, named *L. alpinus*, Nilss. The latter I should be inclined to refer to the form *L. rupestris*, obtained by Mr. Seebohm, in 71½° N., on the Yenesei, which ranges from Iceland, Greenland, and Newfoundland, right across the northern portions of America and Arctic Siberia, probably to the Ural range or the vicinity. Speaking of Ptarmigan it may be mentioned that there is, in the same show-case, a bird which has an amusing history, exemplifying the old proverb of "the biter bit." The specimen in question is an immature Ivory Gull (*Pagophila eburnea*), which was offered by Chukches as a Ptarmigan; and when Nordenskiöld with ght purchased the bird, a self-satisfied smile passed over e countenance of the seller, who was evidently proud of is successful trick. The last week in April the return of he birds after their winter absence commenced at Pitlekaj, nd most of the specimens in the collection were obtained be- ween that date and the liberation of the 'Vega' on the 18th uly 1879. It may be as well to notice the more interesting f the exhibited specimens in the order in which they are et down in the special Catalogue of the Swedish Section.

The King Eider Duck, *Somateria spectabilis*, represented by a fine pair of birds, is a well-known circumpolar species, which, in the northern latitudes, replaces the Common Eider, *S. mollissima*, a species not observed on the coasts of Eastern Siberia. It may be mentioned, incidentally, that the King Eider, which had only been known to reach Alaska, recently been recorded by Mr. Henshaw from San Fran- Bull. Nutt. Orn. Club, 1880, p. 189). Next in order e Pacific Eider, *Somateria v-nigrum*, recognizable by haped mark under the chin, to which it owes its name; d its range is now shown to extend for some distance nd American waters. A pair of the rare Spectacled Eider,

Somateria fischeri, a species which is also generically distinguished as *Arctonetta* and *Lampronetta*, is another North-American bird which crosses to Siberia: the coloration of the head in the male is remarkable for the quaintness of its arrangement, and the spectacle-mark is well defined in the female. Steller's Duck is represented, as a matter of course, the original specimens having come from Kamtschatka. The Brent Goose is the American form, *Bernicla nigricans*; and those who maintain the distinctness of the American and European forms of the White-fronted Goose have now an excellent opportunity for deciding whether the Pitlekaj bird is *Anser gambeli* or *A. albifrons*. A couple of the handsome Emperor Goose, *Bernicla canagica*, complete the list of the more important Anatidæ.

The only Cormorant represented is *Graculus bicristatus*; but three species of Divers were obtained, namely, the Black-throated, the Red-throated, and that Pacific fo[rm] the Great Northern Diver which is distinguished f[rom] *Colymbus glacialis* by its larger and differently shape[d] yellowish-white bill and some differences in plumage, an[d] which has received the name of *Colymbus adamsi*. Messrs Blakiston and Pryer will be interested in learning that I obtained a female specimen of this species shot off Nagasaki Japan, from Capt. St. John, when in command of H.M.S. 'Sylvia.' Of the Mormonidæ, *Phaleris cristatella* and *Ceceronia microceros* were obtained at Lawrence Island, and *Mormon cirrhata* and *M. corniculata* at Behring's Island, after the liberation of the ship. Of the Laridæ in the same case, there is only one which calls for any special remark; but that bird is the gem of the whole collection, namely *Rhodostethia rosea*, Macgill., shot by Almquist on the 1st July 1879. It is a bird hatched the previous year, and a dark mottled band running down the wing-coverts and ter[tials] indicates immaturity; the wedge-shaped tail is, ho[wever] pure white, and the black collar is quite visible at [back] of the neck, although indistinct in front. This is a ve[ry] portant specimen, as it completes our knowledge of t[he] various stages of this bird's plumage: the young in d[own] and the egg have still to be discovered. According t[o]

correspondent of the 'New York Herald' of May 17th, 1882, writing from Irkutsk on 6th March, Mr. Newcomb, the naturalist to the ill-fated 'Jeannette,' obtained five examples of this small Gull at or near Herald Island; and Capt. Collins, of the American Section, informs me that he believes these were saved from the wreck, and finally reached the Smithsonian Institution, which has recently secured or received news of six specimens from Alaska. As it was obtained by the Austro-Hungarian Expedition on Franz-Josef Land, this species is now shown to be circumpolar. There is another Gull in the collection about which a few words may be said, and that is the adult specimen of *Larus cachinnans*, catalogued as *L. argentatus*, var. *occidentalis*, Schl. It may be *L. occidentalis* apud Schlegel; but it is most assuredly not the species to which Audubon first applied that name, and which alone has the right to it. As errors die hard, and it was only the other day that my old enemy was recorded under this name from China (Ibis, 1882, p. 136), I may repeat, what has already been stated in detail (P. Z. S. 1878, pp. 171–172), that *L. occidentalis*, Audubon, is, for a member of this group of Herring-Gulls, a very well-marked species, which has *only* been obtained on the Pacific coast of North America.

The examples of *Limicolæ* are interesting as showing their geographical distribution. For instance, I do not remember that *Eudromias morinellus* has previously been recorded from so far east as the 'Vega's' winter-quarters; but the great attraction is the Spoonbilled Sandpiper (*Eurynorhynchus pygmæus*), so rare in collections, but so common in spring in the vicinity of the 'Vega' that it was twice served in some numbers at the gunroom table, for which, as Nordenskiöld observes, many reproaches had subsequently to be endured from the partakers in the costly feast. This remarkable wader has been figured and described in detail by Mr. J. E. Harting (P. Z. S. 1869, pp. 426–434, pl. xii.); but although fourteen years have elapsed since he wrote, the only real addition to our knowledge of its habitat consists in the fact that it visits Japan and passes through North-eastern Siberia on its way to some breeding-grounds as yet undiscovered.

Amongst the Accipitres may be noted an example of the American Bald Eagle (*Haliaëtus leucocephalus*), from Behring Island, off Kamtschatka, a species which I do not recollect to have seen recorded before from any point on the Asiatic side; and there is a specimen of *Falco candicans* from the same locality. The Hawk-Owl obtained at Pitlekaj appears to be of the American form, *Surnia funerea*, and *not* of the Old-World form, *P. ulula*, which is generally stated by recent authors to range from Northern Europe to Kamtschatka.

The majority of the Passeres are still in spirits; but some interesting specimens are mounted, such as *Saxicola œnanthe*, *Sylvia borealis* (the identification of which I leave to Mr. Seebohm), and *Turdus swainsoni*, which, it will be remembered, has straggled to that closely-observed little island, Heligoland. The species in spirits are catalogued as *Junco hiemalis*, *Ægiothus linaria*, *Dendræca coronata*, *Anthus ludovicianus*, *A. cervinus*, *Motacilla flava*, *M. alba*, and true *Cyanecula suecica* with the red throat-spot. There also a specimen of Sabine's Gull in spirits.

The American section, under the charge of Mr. Goode, cannot be expected to rival in the rarity of its exhibits the spoils of the North-east Passage; but the cases of mounted birds contain many examples of great interest, and, as picked specimens, some of them are naturally superior to those of the 'Vega.' There are two fine cases of Herodiones, and a splendid series of Anseres, amongst which are conspicuous for their beauty the examples of the Emperor Goose, Steller's Duck, the Spectacled Eider, and the King Eider, all from Alaska. There is a small but choice collection of Laridæ, containing beautiful specimens of Sabine's and Bonaparte's Gulls, and also of Petrels. Amongst the latter, strange to say, is an example of the Cinereous Shearwater (*Puffinus ku* from Beyrout, but not of the Atlantic *P. major*, whic abundant on the American coasts. Probably there ha mistake in sorting the specimens; for, so far as I a the yellow-footed Mediterranean bird has not been fou beyond the Canaries and Madeira, and perhaps the Azor The Mormonidæ and Alcidæ are particularly good, an in

addition to those exhibited in the 'Vega' collection, are *Ciceronia pusilla* from St. Paul's Island, Alaska, and the Whiskered Auk and the Black-throated Guillemot from Copper Island, Kamtschatka, collected by Mr. L. Stejneger. Besides the mounted birds there are some hundreds of skins in boxes, accessible to ornithologists on application to Mr. Goode; and attached to this section will be found Captain Collins, well known by name to all readers of the 'Nuttall Bulletin,' who probably knows more about the distribution and the habits of sea-birds on the eastern coasts of North America than all the rest of the ornithological brotherhood together.

There are some handsome cases of birds in the Canadian [illegible]tment, the most remarkable object being, perhaps, a [illegible] nestling of the Great Northern Diver; and in the [illegible]wegian section are some fine and well-mounted specimens [illegible]Ducks, Gulls, and Divers. Newfoundland has a large [illegible]oup of a similar character, the most interesting bird being a young male of the King Eider in its second year's plumage—a stage rarely met with; and there is a fine case of Grouse lent by Capt. W. R. Kennedy, R.N.. The Bahamas also send a showy case of Gulls, Terns, Herons, Bitterns, Flamingos, &c.

Australia is well represented; and amongst other species are:—the remarkable Musk-Duck (*Biziura lobata*), which Mr. E. P. Ramsay declares to be as destructive to fish as any Cormorant; *Podiceps australis* and *P. novæ-hollandiæ*, the closely allied representatives of our *P. rubricollis*; the dusky Mutton-bird (*Puffinus brevicaudus*), with a small hind toe as sharp as a spur; the Australian form of the Gull-billed Tern, to which Gould gave the name of *Sterna macrotarsa*, but which is rather characterized by the size of the *bill*, and of [illegible]ich the breeding-grounds in Australia have but recently [illegible]iscovered; and a fine series of Herons, Grebes, &c. A [illegible] but well-chosen collection represents Tasmania. [illegible] the Indian section are six large cases of closely grouped [illegible]rds, mounted by Burton and Sons, from the Victoria and Albert Museum, Bombay; and on a table are some loose

specimens, amongst them a pair of dissipated-looking *Ardeola grayi* from Madras. In the Chinese quarter the most prominent object is the large boat, with a dozen or so of Chinese Cormorants (apparently *Phalacrocorax carbo*) ready for fishing; but as regards the rest of the exhibit, we are irresistibly reminded of the well-known opinion of Bret Harte when we see a Magpie and some other Passeres, a Coot, an Avocet, some Ducks, a Swan, and a conventional show-case of *Larus ridibundus* and its young put forth as representatives of the fish-eaters of the Celestial Empire.

In the long galleries on either side of and behind the Conservatory are a number of cases exhibited by various bird-stuffers, one of whom contributes a group containing, amongst other things, a Dipper with a small fish in its Mr. Gunn, of Norwich, has a series of cases, some of containing specimens of rare visitors which have prom been slain on arrival to make the joy of some collecto "British-killed" birds; and there are others contain more or less accurately rendered family groups, although it may be allowable to demur to a *Sterna minuta* hovering over a clutch of *four* eggs. As regards the rest of the British section, it may be well to imitate the filial piety of the patriarchs, and, discreetly walking backwards, drop the mantle of oblivion over the nakedness of the fatherland.

XXXII.—*A Review of the Species of the Family* Icteridæ.—Part II. Icterinæ. By P. L. Sclater, M.A., Ph.D., F.R.S.

(Plate XI.)

[Continued from p. 163.]

Shorn of the Cassiques, the Icterinæ, according to my views, contain only one large genus, *Icterus*, which, however, it is possible, for convenience' sake, to divide into three sections *Hyphantes*, *Pendulinus*, and *Icterus*. But I quite agr the distinguished authors of the 'History of North-Am Birds'*, that it is "exceedingly difficult to arrange thes

* Op. cit. vol. ii. p. 180.

birds in any sharply defined sections," and that it is better "to consider them all under the single genus '*Icterus*'".

The synonyms of this genus are as follows:—

Icterus.

[illegible], Brisson, Orn. ii. p. 85 (1760): type *I. vulgaris*.
[illegible]dulinus, Vieill. Analyse, p. 33 (1816): type *I. spurius*.
*[illegible]phantes**, Vieill. ibid.: type *I. baltimore*.
[illegible]nanivorus, Bp. C. R. xxxvii. p. 834, et Notes Orn. p. 12 (1854): type *I. spurius*.
Euopsar, Cass. Pr. Acad. Phil. 1867, p. 47: type *I. croconotus*.
Andriopsar, Cass. op. cit. p. 49: type *I. gularis*.
[illegible]leopsar, Cass. op. cit. p. 53: type *I. melanocephalus*.
[illegible]loides, Cass. op. cit. p. 54: type *I. parisorum*.
[illegible]ar, Cass. op. cit. p. 55: type *I. wagleri*.
Melanopsar, Cass. op. cit. p. 56: type *I. chrysocephalus*.
Icterioides, Cass. op. cit. p. 61: type *I. auricapillus*.
Aporophantes, Cass. op. cit. p. 63: type *I. pyrrhopterus*.

Following Messrs. Baird, Brewer, and Ridgway, I will shortly define the three subgenera as follows:—

A. *Hyphantes*. Bill stout, conical, the culmen and gonys straight; tail slightly rounded: type *I. baltimore*.

B. *Pendulinus*†. Bill slender, slightly decurved; tail graduated: type *I. spurius*.

C. *Icterus*. Bill stout, conical, the culmen and gonys nearly straight; tail slightly rounded: type *I. vulgaris*.

* Corrected from *Yphantes*, as written by Vieillot.

† *Xanthornus* is used by Messrs. Baird, Brewer, and Ridgway, and by other authors, for this subgenus. But *Xanthornus* was first employed [illegible]ically by Scopoli (Deliciæ, ii. p. 88) in 1786 for his *Xanthornus holo-* and would therefore be (strictly) synonymous with *Ambly-*. In 1800 Cuvier used the same term as an equivalent of the *Carouges*" (Leçons d'Anat. Comp. vol. ii. table 2), but without [illegible]er indicating the type. It seems to me that, under the circumstances, *[illegible]ndulinus* is the proper term for the section, as employed by Cassin (Pr. Acad. Sc. Phil. 1867, p. 54).

A. Subg. Hyphantes.

Clavis specierum.

a. Uropygio flavo,
lateribus capitis nigris ..... (1) *baltimore*.
lateribus capitis flavis ..... (2) *bullock*
b. Uropygio nigro ..... (3) *ab*

1. Icterus baltimore.

Oriolus baltimore, Linn. S. N. i. p. 162; Wils. Am. O
p. 23, pl. 1, et vi. pl. 53.

Icterus baltimore, Daud. Tr. d'Orn. ii. p. 348; Baird, B. N
Am. p. 548; Scl. et Salv. Nomencl. p. 36, et P. Z. S. 1864,
p. 353 (Panama); Scl. P. Z. S. 1864, p. 175; Baird, Brewer
et Ridg. N. A. B. ii. p. 195; Salv. et Godm. Ibis, 1880,
(Santa Marta).

Yphantes baltimore, Vieill. Enc. Méth. p. 708, et Ga
i. p. 124, pl. 87; Bp. Consp. p. 432.

Icterus baltimorensis, Bp. P. Z. S. 1837, p. 116; Sclat. et Salv. Ibis, 1859, p. 20; P. Z. S. 1870, p. 836; Scl. P. Z. S. 1867, p. 279 (Mosquitia); Cat. A. B. p. 130; Salv. P. Z. S. 1867, p. 142, et 1870, p. 190 (Veragua).

Hyphantes baltimorensis, Sclater, P. Z. S. 1859, pp. 57, 365.

Hyphantes baltimore, Cab. J. f. O. 1856, p. 10 (Cuba), 1861, p. 7 (Costa Rica); Cassin, Pr. Ac. Sc. Phil. 1867, p. 62.

Icterus galbula, Coues et auctt. Am. recent. (ex Linn.).

Aurantiacus, capite undique cum gulâ et dorso superiore nigris; alis nigris, tectricum majorum apicibus et remigum marginibus externis albis; tectricibus minoribus et campterio aurantiacis; subalaribus flavis; remigum marginibus internis albis; caudâ nigrâ, hujus basi et rectricum lateralium apicibus latis aurantiacis; rostro plumbeo, pedibus nigris: long. tota 7·02, alæ 3·8, caudæ 3·1. *Fem.* Coloribus valdè dilutioribus diversa, colore nigro aut absente aut maculis solùm indicato.

Hab. N. America from Atlantic coast to high c
plains, south to Panama and Sierra Nevada of Santa
Mus. P. L. S. et S.-G.

2. Icterus bullocki.

Xanthornus bullockii, Sw. Phil. Mag. 1827, i. p. 436.

Icterus bullockii, Aud. Orn. Biogr. v. p. 9; Baird, B. N. Am. p. 549; Scl. Cat. A. B. p. 130; Scl. et Salv. P. Z. S. 1869, p. 362 (Mexico); et Ex. Orn. p. 188; Baird, Brewer, et Ridg. N. A. B. ii. p. 199.

Yphantes bullockii, Bp. Consp. p. 432.

Hyphantes bullockii, Cassin, Pr. Ac. Sc. Phil. 1867, p. 62.

Aurantiaco-flavus; pileo, dorso superiore, loris et lineâ per oculos ductâ cum gulâ nigris; alis nigris, tectricibus minoribus et mediis et remigum marginibus externis albis; campterio alari et subalaribus flavis; remigum marginibus internis albicantibus; caudæ flavæ rectricibus quatuor mediis fere totis nisi ad basin nigris, ceteris plus minusve nigro terminatis; rostro obscurè plumbeo; pedibus nigris: long. tota 7·0, alæ 3·7, caudæ 3·0.

Hab. Pacific slope of N. America from Oregon to Mexico; [illegible] of Mexico (*le Strange*).

Mus. P. L. S. et S.-G.

Obs. Species a præcedente lateribus capitis flavis et tectricibus mediis latè albis dignoscenda.

3. Icterus abeillæi.

Psarocolius coztototl, Wagler, Ibis, 1829, p. 157 (?).

Xanthornus abeillei, Less. Rev. Zool. 1839, p. 101.

Icterus abeillii, Sclater, P. Z. S. 1860, p. 252 (Orizaba), 1864, p. 175, et Cat. A. B. p. 130; Scl. et Salv. P. Z. S. 1869, p. 362, et Ex. Orn. p. 187, pl. xciv.

Hyphantes abeillii, Cassin, Pr. Ac. Sc. Phil. 1867, p. 62.

Icterus bullocki, var. *abeillei*, Baird, Brewer, et Ridg. N. A. B. ii. p. 184.

Suprà nigerrimus, alarum tectricibus mediis et remigum marginibus externis albis; lineâ inter nares et oculum et corpore medio subtùs flavissimis, gulâ mediâ et lateribus nigris; subalaribus flavis; remigum marginibus internis cineraceo-albis; caudæ flavæ rectricibus duabus mediis totis cum paris proximi pogoniis internis et ceterarum maculis terminalibus nigris: long. tota 7·2, alæ 4·2, caudæ 3·2. *Fem.* Suprà olivaceo-flava, interscapulio et alis extùs nigricantibus, his albo bifasciatis et limbatis; subtùs flavescens, ventre medio et subalaribus griseo-albicantibus; caudâ olivaceo-flavâ, versus apicem grisescente.

Hab. Central and Southern Mexico (terra fria): Orizaba (*Boucard*); city of Mexico (*G. H. White*).

Mus. P. L. S. et S.-G.

Obs. Species uropygio toto et lateribus corporis subtùs nigris a duabus præcedentibus distinctissima.

It passes my comprehension why this species should be regarded as a variety (!) of *I. bullocki*. No ornithologist who had seen a specimen of it could, I think, make such a mistake as to unite the two birds.

B. Subg. Pendulinus.

Clavis specierum.

a. Abdomine toto castaneo,
- pileo nigro ..... (4) *spurius.*
- pileo castaneo ..... (5) *bonana*

b. Abdomine toto nigro,
- campterio rufo ..... (6) *pyrrhopter*
- campterio flavo,
  - pileo flavo ..... (7) *chrysocephalus.*
  - pileo nigro,
    - tibiis nigris ..... (8) *cayanensis.*
    - tibiis flavis ..... (9) *tibialis.*

c. Ventre nigro, crisso flavo,
- hypochondriis nigris ..... (10) *hypomelas.*
- hypochondriis flavis ..... (11) *dominicensis.*

d. Ventre medio nigro,
- imo flavo ..... (12) *portoricensis.*
- imo aurantiaco ..... (13) *laudabilis.*

e. Ventre toto flavo aut aurantiaco,
- suprà nigri: dorso postico flavo,
  - campterio nigro ..... (14) *oberi.*
  - campterio flavo,
    - crisso nigro ..... (15) *wagleri.*
    - crisso flavo,
      - caudâ nigrâ,
        - alis extùs nigris ..... (16) *prosthemelas*
        - alis albo maculatis ..... (17) *maculi-alat*
      - caudæ dimidio basali flavo .... (20) *parisoru*
- suprà flavi, pileo nigro,
  - rem. extùs nigris ..... (21) *melanocep*
  - rem. marg. albis ..... (22) *audubon*
- suprà flavi, interscapulio nigro,
  - campterio nigro ..... (19) *cucullatus.*

campterio flavo,
rectr. totis nigris ..... (18) *auricapillus.*
rect. med. nigris ext. flavis..... (24) *mesomelas.*
rectr. nigris ext. albo terminatis .. (25) *grace-annæ.*
suprà omnino flavi,
alis extùs nigris ..... (23) *giraudi.*
alis extùs albo limbatis,
tectr. mediis nigris ..... (26) *xanthornus.*
tectr. mediis albo terminatis ..... (27) *auratus.*

4. Icterus spurius.

Oriolus spurius, Linn. S. N. i. p. 162.

Icterus spurius, Aud. Orn. Biogr. i. p. 221; Sclater, P. Z. S. 1859, p. 380, et Cat. A. B. p. 130; Scl. et Salv. P. Z. S. 1864, p. 353 (Panama), et 1870, p. 837 (Honduras); Nom. Av. p. 36; Dresser, Ibis, 1865, p. 493 (Texas); Lawr. Lyc. N. Y. 1861, p. 331 (Panama); Salv. P. Z. S. 1867, p. 142 (Veragua); Baird, Brewer, et Ridgw. N. A. B. ii. p. 190; Baird, B. N. Am. p. 547.

Yphantes spurius, Bp. Consp. p. 432.

Oriolus mutatus, Wils. Am. Orn. i. p. 64, pl. 4. f. 1–4.

Pendulinus spurius, Cass. Pr. Ac. Sc. Phil. 1867, p. 61.

Xanthornus spurius, Cab. J. f. O. 1861, p. 8 (Costarica).

Xanthornus affinis, Lawr. Ann. Lyc. N. Y. 1851, p. 113; Cassin, Pr. Ac. Sc. Phil. 1860, p. 140; Sclat. et Salv. Ibis, 1859, p. 20, et 1860, p. 34.

Bananivorus affinis, Sclater, P. Z. S. 1856, p. 301, et 1859, p. 365 (Cordova).

Icterus affinis, Scl. Cat. A. B. p. 130; P. Z. S. 1864, p. 175 (Mexico city).

Pendulinus affinis, Cass. Pr. Ac. Sc. Phil. 1867, p. 91 (Rio Atrato).

Suprà niger, tectricibus alarum minoribus et dorso postico castaneis; alis nigris, remigibus et tectricibus mediis angustè albo limbatis; subtùs castaneus, gutture toto nigro; subalaribus ventri concoloribus; caudâ nigrâ, rectricum apicibus angustè albido terminatis; rostro et pedibus nigris: long. tota 7·3, alæ 3·2, caudæ 3·1. *Fem.* Olivacea, subtùs flavicans, alis extùs nigricantibus albo marginatis.

Hab. North America, Atlantic slope, south to Panama and Northern States of Colombia: Rio Atrato (*Michler*).

Mus. P. L. S. et S.-G.

The *resident* birds of this species in Texas and Mexico (*I. affinis*) are considerably smaller in size.

5. Icterus bonana.

Oriolus bonana, Linn. S. N. i. p. 162.

Le Carouge, Daub. Pl. Enl. 535. fig. 1.

Icterus bonana, Daud. Tr. d'Orn. ii. p. 332; Lawr. Pr. U.S. N. M. i. p. 355; Scl. Cat. A. B. p. 130; Scl. et Salv. Nomencl. p. 36; Taylor, Ibis, 1864, p. 167.

Pendulinus bonana, Vieill. N. D. v. p. 316; Bp. Consp. p. 432; Cassin, Pr. Ac. Sc. Phil. 1867, p. 54.

Xanthornus bonana, Cab. Mus. Hein. p. 183.

Suprà niger, capite et cervice tota saturatè badiis postico aurantiaco; subtùs castaneus, gutture et pect badiis capiti concoloribus; subalaribus et tibiis aurantiacis; crisso nigro terminato; rostro et pedibus nigris: long. tota 7·5, alæ 3·7, caudæ 3·5. *Fem.* Mari similis.

Hab. Martinique (*Taylor*).

Mus. P. L. S. et S.-G.

6. Icterus pyrrhopterus.

Tordo Negro cobijas de Canela, Azara, Apunt. i. p. 318.

Agelaius pyrrhopterus, Vieill. Nouv. Dict. xxxiv. p. 543, et Enc. Méth. p. 716.

Psarocolius pyrrhopterus, Wagl. Syst. Av.

Pendulinus periporphyrus, Bp. Consp. p. 432.

Hyphantes pyrrhopterus, Cassin, Pr. Ac. Sc. Phil. 1867, p. 63; Pelz. Orn. Bras. p. 194.

Xanthornus pyrrhopterus, Burm. La Plata-Reise, ii. p. 493.

Icterus pyrrhopterus, d'Orb. et Lafr. Syn. Av. ii. p. 6; Sc Cat. A. B. p. 130; Scl. et Salv. Nomencl. p. 36; P. Z. S 1868, p. 140 (Conchitas, rep. Arg.), 1879, p. 608 (Til Boliv.); Hudson, P. Z. S. 1870, p. 88; Durnford, Ibis p. 59; Salvin, Ibis, 1880, p. 356 (Salta).

Nigerrimus, tectricibus alarum minoribus saturatè castan rostro et pedibus nigris: long. tota 7·7, alæ 3·6, caudæ 3 *Fem.* Mari similis.

Hab. S. Brazil, Paraguay, Argentine Republic, and Bolivia; Cuyaba and Goiaz (*Natt.*); Tilotilo, Bolivia (*Buckley*); Corrientes (*d'Orb.*); Buenos Ayres (*Hudson*).

Mus. P. L. S. et S.-G.

[illegible]TERUS CHRYSOCEPHALUS.

[illegible]*lus chrysocephalus*, Linn. S. N. i. p. 164.

[illegible]*ula chrysoptera*, Merr. Icon. Av. pl. 3.

[illegible]*ulinus chrysocephalus*, Vieill. Gal. Ois. pl. 86; Bp. [illegible]p. 432; Cass. Pr. Ac. Sc. Phil. 1867, p. 56; Pelz[illegible]ras. i. p. 194.

[illegible]*thornus chrysocephalus*, Cab. Mus. Hein. p. 184; Burm. [illegible]eb. iii. p. 270.

[illegible]*us chrysocephalus*, Daud. Tr. d'Orn. ii. p. 336; Spix, [illegible]as. i. p. 68, pl. 67. f. 1; Scl. Cat. A. B. p. 131; Cab. [illegible]omb. Guian. iii. p. 680; Scl. et Salv. Nomencl. p. 36; [illegible]. Z. S. 1866, p. 182, et 1873, p. 266 (Ucayali).

Psarocolius icterocephalus, Wagl. Syst. Av. sp. 20.

Nigerrimus; pileo, nisi in fronte, tectricibus superioribus minoribus, subalaribus et uropygio flavis; rostro et pedibus nigris; caudâ graduatâ: long. tota 8·5, alæ 4·3, caudæ 3·9. *Fem.* Mari similis.

Hab. Colombia, Venezuela, Guiana, and Amazonia: Caracas (*Goering*); British Guiana (*Whitely*); Rio Negro (*Natt.*); Ucayali (*Bartlett*); Sarayacu, Ecuador (*Buckley*); Bogota (*Mus. P. L. S.*).

Mus. P. L. S. et S.-G.

8. Icterus cayanensis.

Oriolus cayanensis, Linn. S. N. i. p. 168.

Icterus cayanensis, Daud. Tr. d'Orn. ii. p. 336; Max. Beitr. iii. p. 1204; Sw. Zool. III ser. 2, pl. 22; Scl. Cat. A. B. p. 131; Scl. et Salv. Nomencl. p. 36; P. Z. S. 1867, p. 573 (Lower Amazons), 1873, p. 266 (Ucayali).

Pendulinus cayanensis, Bp. Consp. p. 433; Darw. Voy. Beagle, Zool. iii. p. 106; Cassin, Pr. Ac. Phil. 1867, p. 57.

[illegible]*gelaius chrysopterus*, Vieill. Nouv. Dict. xxxiv. p. 539, et [illegible]c. Méth. p. 713 (partim).

[illegible]*anthornus chrysopterus*, Burm. Syst. Ueb. iii. p. 271.

Nigerrimus, tectricibus alarum minoribus flavis; subalaribus nigris flavo mixtis; rostro et pedibus nigris; caudâ graduatâ: long. tota 7·5, alæ 4·1, caudæ 3·8. *Fem.* Mari similis.

Hab. Guiana and Amazonia: Cayenne (*Mus. P. L. S.*); Lower Amazons (*Wallace*); Ucayali (*Bartlett*).

Mus. P. L. S. et S.-G.

9. Icterus tibialis.

Icterus cayanensis, Max. Beitr. iii. p. 1204.

Xanthornus flavaxilla, Hahn u. Küster, Vög. aus Lief. vi. p. 1, t. 2 (?).

Icteris tibialis, Sw. An. in Men. p. 302; Scl. et Salv. Nomencl. p. 36; Salvin, Cat. Coll. Strickl. p. 263; P. Ibis, 1881, p. 339.

Pendulinus tibialis, Cassin, Pr. Ac. Sc. Phil. 1867, p.

Xanthornus chrysopterus, Burm. Syst. Ueb. iii. p. 271 (syn.).

Nigerrimus, tectricibus alarum minoribus, subalaribus et tibiis flavis; rostro et pedibus nigris; caudâ graduatâ: long. tota 7·5, alæ 3·6, caudæ 3·7. *Fem.* Mari similis.

Hab. S.E. Brazil, Rio et Bahia: Pernambuco (*Forbes*).

Mus. P. L. S. et S.-G.

Obs. Sim. præcedenti, sed subalaribus et tibiis flavis distinguendus.

10. Icterus hypomelas.

Icterus dominicensis et *I. virescens*, Vigors, Zool. Journ. iii. p. 441 (1828).

Pendulinus hypomelas, Bp. Consp. i. p. 433; Cassin, Pr. Ac. Sc. Phil. 1867, p. 59.

Xanthornus dominicensis, Cab. J. f. O. 1856, p. 10; d'Orb. in La Sagra's Cuba, ii. p. 92, t. xix. bis.

Icterus dominicensis, Albrecht, J. f. O. 1861, p. 212; Scl. et Salv. Nomencl. p. 36.

Psarocolius melanopsis, Wagl. Isis, 1829, p. 759.

Nigerrimus; dorso postico, tectricibus alarum minoribus, subalaribus crisso et tibiis flavis; rostro et pedibus nigris: long. tota 7·8, alæ 3·6, caudæ 3·4. *Jr.* Virescens alis caudâque fuscis, gutture nigro.

Hab. Cuba.

Mus. P. L. S. et S.-G.

11. Icterus dominicensis.

Oriolus dominicensis, Linn. S. N. i. p. 163.

Carouge de St. Domingue, Daub. Pl. Enl. 5. fig. 2.

Pendulinus flavigaster, Vieill. N. D. v. p. 317, et Enc. Méth. p. 705.

...s dominicensis, Daud. Tr. d'Orn. ii. p. 335; Sallé, ...S. 1857, p. 232; Scl. Cat. A. B. p. 131; Scl. et Salv. ...ncl. p. 36.

...dulinus dominicensis, Cass. Pr. Ac. Sc. Phil. 1867, p. 58.

...rrimus; dorso postico, tectricibus alarum minoribus, subalaribus, crisso, tibiis et hypochondriis flavis; rostro et pedibus nigris: long. tota 7·5, alæ 3·6, caudæ 3·4.

...ab. St. Domingo.

...s. P. L. S. et S.-G.

... Similis *I. hypomelano*, sed hypochondriis flavis.

... Icterus portoricensis.

Icterus dominicensis, var. *portoricensis*, Bryant, Pr. N. H. Soc. Boston, 1866, p. 254; Sund. K. Vet. Ak. Förh. 1869, p. 597.

Icterus dominicensis, Taylor, Ibis, 1864, p. 167.

Pendulinus portoricensis, Cassin, Pr. Ac. Sc. Phil. 1867, p. 58.

Icterus portoricensis, Scl. et Salv. Nomencl. p. 36.

Xanthornus portoricensis, Gundl. Añ. de Hist. Nat. Madrid, vii. p. 210 (1878).

Nigerrimus; dorso postico, tectricibus alarum minoribus, subalaribus, tibiis, ventre imo et crisso toto flavis; rostro et pedibus nigris: long. tota 7·6, alæ 3·6, caudæ 3·4.

Jr. Fusco-virescens, subtùs flavus, alis fuscis.

Hab. Portorico.

Mus. P. L. S. et S.-G.

Obs. Sp. duabus præcedentibus similis, sed hypochondriis nigris ab *I. dominicensi*, ab *I. hypomelano* ventre imo flavo distinguenda.

13. Icterus laudabilis.

Icterus laudabilis, Scl. P. Z. S. 1871, p. 270, pl. xxi., et 1872, ...49.

...igerrimus; dorso postico, tectricibus alarum superioribus ... minoribus, subalaribus et ventre inferiore toto cum late-

ribus et crisso aurantiaco-flavis ; rostro et pedibus nigris ; long. tota 8·9, alæ 4·3, caudæ 4·2.

Hab. St. Lucia, W. I.

Mus. P. L. S. et S.-G.

Obs. Sp. a tribus præcedentibus statura majore et colore flavo-aurantiaco distinguenda.

14. Icterus oberi.

Icterus oberi, Lawr. Proc. U.S. Nat. Mus. iii. p. 351 (1
Grisdale, Ibis, 1882, p. 487, pl. xiii.

Niger; dorso postico et subalaribus flavis; ventre toto
crisso aurantiaco-flavis ; rostro et pedibus nigris : l
tota 8·0, alæ 3·6, caudæ 4·0. *Jr.* Olivaceus, su
flavus, alis fuscis.

Hab. Montserrat, W. I.

Mus. P. L. S.

Obs. Affinis *I. laudabili*, sed tectricibus alarum minori
superioribus nigris, et ventre latiore flavo diversus.

15. Icterus wagleri.

Psarocolius flavigaster, Wagl. Isis, 1829, p. 756 (nec Vieill.).

Pendulinus dominicensis, Bp. Consp. p. 432 (nec Linn.) ; Baird, B. N. Am. p. 545.

Icterus wagleri, Sclater, P. Z. S. 1857, p. 7, et 1859, p. 381 ; Cat. A. B. p. 131 ; Sumichrast, Mem. Bost. Soc. N. H. i. p. 552 ; Sclat. et Salv. Ibis, 1859, p. 20 ; Nomencl. p. 36 ; Baird, Birds Mex. Bound. Surv. p. 19, t. xix. fig. 2.

Pendulinus wagleri, Cassin, Pr. Ac. Sc. Phil. 1867, p. 55.

Icterus dominicensis, Baird, Brew. et Ridg. N. A. B. ii. p. 182 (pt.).

Nigerrimus ; dorso postico, tectricibus alarum minoribus et ventre flavis, hoc interdum aurantiaco ; crisso nigro ; alis caudâque nigris : long. tota 9·0, alæ 4·2, caudæ 4·5. *Fem.* Mari similis.

Hab. South Mexico and Guatemala : Cordova (*Sum.*) ; Oaxaca (*Fenochio, Mus. S.-G.*); Presidio (*Forrer*); Dueñas (*Salvin*).

Mus. P. L. S. et S.-G.

Obs. Ab *Ict. prosthemelano* crassitie majore et crisso nig
diversus.

16. Icterus prosthemelas.

Xanthornus prosthemelas, Strickl. Contr. Orn. 1850, p. 120, pl. 62.

Pendulinus lessoni, Bp. Consp. p. 432 (?).

Icterus prosthemelas, Sclater, P. Z. S. 1856, p. 301, 1857, p. 7, et Cat. A. B. p. 132; Sclat. et Salv. Ibis, 1859, p. 20; P. Z. S. 1867, p. 279 (Mosquitia), 1870, p. 837 (Honduras); Nomencl. p. 36; Lawr. Bull. U.S. N. M. no. 4, p. 23 (Tehuantepec).

Pendulinus prosthemelas, Cassin, Pr. Ac. Sc. Phil. 1867, p. 56.

Nigerrimus; dorso postico, tectricibus alarum minoribus et ventre cum crisso flavis; rostro et pedibus nigris: long. tota 7·7, alæ 3·5, caudæ 3·8.

Hab. Tehuantepec, Guatemala, and southwards to Costa-rica. Tehuantepec (*Sumichrast*); Vera Paz (*Salvin*); Honduras (*Whitely*); Costarica (*Carmiol et Arcé*).

Mus. P. L. S. et S.-G.

17. Icterus maculi-alatus.

Icterus maculi-alatus, Cassin, Journ. Acad. Philad. ser. 2, i. pl. 16. f. 1; Pr. Acad. Sc. Phil. 1867, p. 56; Scl. Cat. A. B. p. 132; Scl. et Salv. Ibis, 1860, p. 398, et Nomencl. p. 36.

Pendulinus maculi-alatus, Bp. Consp. p. 433.

Nigerrimus; dorso postico, tectricibus alarum minoribus et abdomine cum crisso flavis; tectricibus alarum majoribus maculâ apicali albâ et remigibus externis apicem versus strigâ albâ ornatis; rostro et pedibus nigris: long. tota 7·0, alæ 3·9, caudæ 3·3. *Fem.* Virescens, subtùs flavicans, gutture nigro, alis extùs fuscis.

Hab. Pacific coast of Guatemala (*Salvin*); Escuintla (*Fraser*).

Mus. P. L. S. et S.-G.

Obs. Species maculis alarum facilè notabilis.

18. Icterus auricapillus.

Icterus auricapillus, Cassin, Proc. Ac. Sc. Phil. 1847, p. 332, et Journ. Acad. Philad. ser. 2, i. pl. 16. f. 2; Scl. Cat. A. B. p. 132; Scl. et Salv. P. Z. S. 1868, p. 167 (Caripé),

et Nomencl. p. 36; Finsch, P. Z. S. 1870, p. 553; Salv. et Godman, Ibis, 1880, p. 123 (Santa Marta).

Pendulinus auricapillus, Bp. Consp. p. 433; Cassin, Pr. Ac. Sc. Phil. 1867, p. 56.

Suprà nigerrimus, tectricibus alarum minoribus et dorso postico flavis; pileo et nuchâ aurantiaco-flavis; subtùs flavus, gutture lato et faciei lateribus cum fronte nigris; subalaribus flavis; rostro et pedibus nigris: long. tota 7·5, alæ 3·5, caudæ 3·5. *Fem.* Mari similis.

Hab. Coast-region of Venezuela and Colombia; Caripé (*Goering*); Santa Marta (*Simons*); Bogota (*Mus. P. L. S.*).

Mus. P. L. S. et S.-G.

Obs. Species pileo nitidè aurantiaco distinctissima; ab *I. cucullato* tectricibus flavis et remigibus non albo marginatis dignoscenda.

19. Icterus cucullatus.

Icterus cucullatus, Sw. Phil. Mag. 1827, i. p. 436; Lawr. Ann. Lyc. N.Y. v. p. 116; Cassin, Ill. B. Calif. p. 42, pl. 8; Sclater, P. Z. S. 1856, p. 301 (Cordova), 1864, p. 175 (City of Mexico), et Cat. A. B. p. 132; Scl. et Salv. Ibis, 1859, p. 20 (Belize), et Nomencl. p. 36; Salv. Ibis, 1859, p. 466 (Belize); Baird, Brewer, et Ridgw. B. N. A. ii. p. 193; Sumichrast, Mem. Boston S. N. H. i. p. 553 (hot district of Vera Cruz); Baird, B. N. Am. p. 546.

Pendulinus cucullatus, Bp. Consp. p. 433; Cassin, Pr. Ac. Sc. Phil. 1867, p. 60.

Suprà aurantiaco-flavus; fronte, interscapulio et alis extùs nigris, his albo marginatis; tectricibus mediis latè albis; subtùs flavus dorso concolor, gutture toto ad medium pectus cum lateribus faciei nigerrimis; caudâ nigrâ vix albo terminatâ; rostro et pedibus nigris: long. tota 7·4, alæ 3·3, caudæ 3·5. *Fem.* Flavido-olivacea, subtùs flavicans, gutture nigro, alis fuscis albo limbatis.

Hab. America, from Texas and Cape St. Lucas southwards to Belize, breeding in Tamaulipas and New Leon (*Couch*) and at Cape St. L[illegible] *Xantus*); Northern Yucatan (*Gaumer*).

Mus. P. L. S. et S.-G

20. Icterus parisorum.

Icterus parisorum, Bp. P.Z.S. 1837, p. 110; Selater, P.Z.S. 1858, p. 303 (Oaxaca), 1860, p. 251, 1864, p. 175, et Cat. A. B. p. 132; Cassin, Pr. Ac. Sc. Phil. 1867, p. 56; Sel. et Salv. Nomencl. p. 36; Sumichrast, Mem. Boston S. N. H. i. p. 553 (Orizaba); Baird, Brewer, et Ridgw. N. A. B. ii. p. 188; Baird, B. N. Am. p. 544.

Icterus melanochrysurus, Less. Rev. Zool. 1839, p. 105.

Icterus scottii, Couch, Pr. Acad. Philad. vii. p. 66.

Xanthornus parisorum, Bp. Consp. p. 434.

Suprà nigerrimus, dorso postico et tectricibus alarum minoribus flavis; tectricibus majoribus ad basin albis, albo quoque extùs terminatis; subtùs ad medium pectus niger capiti concolori; abdomine et tectricibus subalaribus flavis; caudæ ad basin flavæ dimidio apicali et rectricibus duabus mediis pro majore parte nigris; rostro et pedibus nigris: long. tota 7·5, alæ 4·0, caudæ 3·4. *Fem.* Olivacea, fusco irrorata, alis et caudâ nigricantibus, his albo limbatis; subtùs flavicantior, ventre medio clariore.

Hab. N. America, from Rio Grande and Lower California to South Mexico; breeding at Cape St. Lucas, L. C. (*Xantus*); Oaxaca (*Boucard*).

Mus. P. L. S. et S.-G.

Obs. Sp. caudæ paginâ inferiore flavo et nigro bipartitâ insignis.

21. Icterus melanocephalus.

Psarocolius melanocephalus, Wagl. Isis, 1829, p. 756.

Icterus melanocephalus, Baird, B. N. Am. p. 543; Selater, P.Z.S. 1858, p. 97, et Cat. A. B. p. 132; Scl. et Salv. Nomencl. p. 36; Cassin, Pr. Ac. Sc. Phil. 1867, p. 53; Baird, Brew. et Ridgw. N. A. B. ii. p. 186; Sumichrast, Mem. Boston S. N. H. i. p. 553; Lawr. Bull. U.S. N. H. M. no. 4, p. 23 (Tehuantepec).

Xanthornus melanocephalus, Bp. Consp. p. 434 (partim); Hahn u. Küster, Vög. aus Asien, Lief. vi. p. 2, t. 3 (?).

Oleagineo-flavus, capite toto, alis extùs et caudâ nigris, tectricibus alarum minoribus flavis; subtùs flavus, gutture toto ad medium pectus nigro, capite concolori; rostro et pedibus nigris: long. tota 7·2, alæ 3·4, caudæ 3·9.

Hab. Mexico, Orizaba and Tehuantepec (*Sumichrast*).
Mus. P. L. S.

22. Icterus audubonii.

Icterus audubonii, Giraud, B. Texas, p. 1; Baird, B. N. Am. p. 542; Sclater, P. Z. S. 1859, p. 381 (Oaxaca), 1864, p. 175 (City of Mexico), et Cat. A. B. p. 132; Scl. et Salv. Nomencl. p. 36; Cassin, Pr. Ac. Sc. Phil. 1867, p. 53; Sumichrast, Mem. Bost. S. N. H. i. p. 553 (Orizaba).

Icterus melanocephalus, Cassin, Ill. B. Calif. p. 137, pl. 21; Sclater, P. Z. S. 1856, p. 301, et 1859, p. 365 (Jalapa).

Icterus melanocephalus, var. *audubonii*, Baird, Brew. et Ridgw. N. A. B. ii. p. 186.

Suprà oleagineo-flavus; capite toto, alis extùs et caudâ nigris; tectricibus minoribus flavis, secundariis extùs angustè albo limbatis; subtùs flavus, gutture et pectore medio nigerrimis capiti concoloribus; rostro et pedibus nigris: long. tota 8·0, alæ 3·8, caudæ 3·6. *Fem.* Mari similis.

Hab. N. America, from valley of Rio Grande south to Orizaba and Oaxaca.

Mus. P. L. S. et S.-G.

Obs. Species mihi adhuc paulum dubia, a præcedente remigum marginibus albis et crassitie majore vix distinguenda.

23. Icterus giraudi.

Icterus giraudii, Cassin, Pr. Ac. Sc. Phil. 1847, p. 333, 1860, p. 140 (R. Truando), et 1867, p. 52; id. Journ. Acad. Philad. ser. 2, i. p. 138, pl. 17; Sclater, P. Z. S. 1855, p. 154 (Bogota), et 1857, p. 228 (Vera Cruz), et Cat. A. B. p. 133; Sclat. et Salv. Ibis, 1859, p. 20 (Guatemala), 1864, p. 353 (Panama), 1868, p. 167 (Caracas), 1879, p. 509 (Antioquia), et Nomencl. p. 36; Salvin, P. Z. S. 1867, p. 142, et 1870, p. 190 (Veragua).

Icterus melanopterus, Hartl. Rev. Zool. 1849, p. 275; Bp. Consp. i. p. 434.

Flavus aurantiaco tinctus; fronte et lateribus capitis cum gutture toto ad medium pectus, alis et caudâ nigris; rostro et pedibus nigris: long. tota 8·0, alæ 3·9, caudæ 3·8. *Fem.* Mari similis.

Hab. S. Mexico, Yucatan, Guatemala, and throughout Central America south to Venezuela and Colombia.

Mus. P. L. S. et S.-G.

Obs. Sp. interscapulio flavo a duabus sequentibus distinguenda.

24. Icterus mesomelas.

Psarocolius mesomelas, Wagl. Isis, 1829, p. 755.

Xanthornus mesomelas, Bp. Consp. i. p. 434.

Icterus mesomelas, Sclater, P. Z. S. 1855, p. 154 (Bogota), 1856, p. 301 (Cordova), 1859, p. 58 (Omoa, Hond.), 1860, pp. 277, 293 (Western Ecuador), et Cat. A. B. p. 133; Sclat. et Salv. Ibis, 1860, p. 34 (Coban); P. Z. S. 1864, p. 355 (Panama), 1867, p. 279 (Mosquitia), 1870, p. 838 (Honduras), 1879, p. 509 (Antioquia), et Nomencl. p. 36; Cassin, Pr. Ac. Sc. Phil. 1860, p. 140 (R. Atrato), et 1867, p. 51; Tacz. P. Z. S. 1877, p. 323 (Tumbez), et 1880, p. 200 (N. Peru); Sumichrast, Mem. Bost. Soc. N. H. i. p. 153 (Vera Cruz); Lawr. Bull. U.S. N. M. no. 4, p. 23.

Icterus atrigularis, Less. Cent. Zool. p. 73, pl. 22.

Oriolus musicus, Cabot, Boston Journ. N. H. iv. p. 465.

Icterus salvini, Cassin, Pr. Ac. Sc. Phil. 1867, p. 51; Scl. et Salv. P. Z. S. 1870, p. 838; Lawr. Ann. Lyc. N. Y. ix. p. 104.

Flavissimus; interscapulio lato, alis extùs, fronte, oculorum ambitu et gutture toto ad medium pectus nigerrimis; tectricibus alarum minoribus et subalaribus flavis; caudæ nigræ rectricibus tribus externis pro majore parte flavis; rostro et pedibus nigris: long. tota 8·5, alæ 3·9, caudæ 4·2. *Fem.* Mari similis.

Hab. Southern Mexico and Guatemala and southwards to Colombia, Ecuador, and Western Peru. Hot-region of Vera Cruz and Tehuantepec (*Sumichrast*); Vera Paz (*Salvin*); Antioquia (*Salmon*); Western Ecuador (*Fraser*); Western Peru (*Stolzmann*).

Mus. P. L. S. et S.-G.

[illegible] *salvini* of Costa Rica and Colombia has been separated [illegible]nly on account of the absence of the narrow white external edging of the outer secondaries. But this edging is

certainly quite apparent in some Bogotá specimens, and is also well marked in examples from Western Peru. It does not seem to me to be a constant character, and I cannot recognize the species.

25. Icterus grace-annæ. (Plate XI.)

Icterus grace-annæ, Cass. Pr. Ac. Sc. Phil. 1867, p. 52; Taez. P. Z. S. 1877, p. 323 (Tumbez); Salvin, Ibis, 1874, p. 323; Scl. et Salv. P. Z. S. 1878, p. 137 (Pacasmayo).

Flavissimus, aurantiaco tinctus; interscapulio lato, alis et caudâ, fronte, oculorum ambitu et gutture ad medium pectus nigerrimis; tectricibus alarum minoribus flavis; secundariorum plagâ oblongâ et rectricum externarum apicibus albis; rostro et pedibus nigris: long. tota 7·5, alæ 3·5, caudæ 3·7. *Fem.* Mari similis.

Hab. Littoral of Ecuador and N.W. Peru. Machala (*Orton*), Tumbez (*Jelski*), Pacasmayo (*Steere*), Payta (*Markham, Mus. S.-G.*).

Mus. P. L. S. et S.-G.

Obs. Sp. maculâ alari albâ notabilis.

The figure (Pl. XI.) is taken from a female specimen in my collection obtained at Tumbez by Jelski and Stolzmann.

26. Icterus xanthornus.

Oriolus xanthornus, Gm. S. N. i. p. 391.

Carouge de Mexique, Daub. Pl. Enl. 5. fig. 1.

Xanthornus linnæi, Bp. Consp. p. 434.

Icterus xanthornus, Daud. Tr. d'Orn. ii. p. 334; Cab. in Schomb. Guian. iii. p. 680, et Mus. Hein. p. 185; Burm. Syst. Ueb. iii. p. 269; Scl. Cat. A. B. p. 133; Cassin, Pr. Ac. Phil. 1867, p. 50; Scl. et Salv. P. Z. S. 1868, p. 167 (Venezuela), et Nomencl. p. 36; Taylor, Ibis, 1864, p. 84 (Trinidad); Salv. et Godm. Ibis, 1880, p. 123 (Santa Marta); Finsch, P. Z. S. 1870, p. 578 (Trinidad); Pelz. Orn. Bras. p. 195.

Flavissimus, loris et gutture medio nigerrimis; alis caudâque nigris; tectricibus minoribus flavis; tectricum et remigum marginibus externis angustè albis; caudâ ad [illegible] flavâ; rostro et pedibus nigris: long. tota 7·2, alæ [illegible] caudæ 3·2. *Fem.* Mari similis.



J.G. Keulemans lith. ICTERUS GRACE-ANNÆ. Hanhart imp.

Hab. Coast-region of Colombia and Venezuela, Trinidad, Guiana, and Rio Negro. Santa Marta (*Simons*); Carupano, Venezuela (*Goering*); Demerara (*Brown*); Rio Branco (*Natt.*).

Mus. P. L. S. et S.-G.

27. Icterus auratus.

Icterus auratus, Bp. Consp. i. p. 435; Lawr. Ann. Lyc. N. Y. ix. p. 271 (Yucatan).

Intense aurantiaco-flavus, loris et gutture medio nigerrimis; alis nigris; tectricibus minoribus flavis, tectricum mediarum apicibus latis et remigum marginibus externis necnon rectricum externarum apicibus angustis albis; subalaribus flavis; remigum marginibus internis albis; rostro et pedibus nigris: long. tota 8·0, alæ 3·7, caudæ 3·6.

Hab. Yucatan (*Gaumer*).

Mus. S.-G.

Obs. Species colore aurantiaco et tectricum mediarum maculis latè albis ab *I. xanthorno* dignoscenda.

C. Subg. Icterus.

Clavis specierum.

a. Gulæ plumis angustatis, elongatis:
- interscapulio nigro;
  - tectr. al. mediis latè albis ..... (28) *vulgaris.*
  - tectr. al. mediis nigris ..... (29) *jamacaii.*
- interscapulio dorso concolori ..... (30) *croconotus.*

b. Gulæ plumis normalibus:
- interscapulio nigro: mac. pect. nullis
  - rostro robustiore ..... (31) *gularis.*
  - rostro debiliore ..... (32) *sclateri.*
  - rostro incurviore ..... (33) *formosus.*
- interscapulio nigro: pectore maculato ..... (34) *pectoralis.*
- interscapulio flavo nigro maculato ..... (35) *pustulatus.*
- interscapulio flavo ..... (36) *graysoni.*
- interscapulio flavicanti-olivaceo ..... (37) *leucopteryx.*

28. Icterus vulgaris.

Oriolus icterus, Linn. S. N. i. p. 161.

Icterus vulgaris, Daud. Tr. d'Orn. ii. p. 340; Bp. Consp. p. 434; Baird, B. N. Am. p. 542; Scl. Cat. A. B. p. 133;

Scl. et Salv. P. Z. S. 1868, p. 167 (Venezuela), et Nomencl. p. 36; Finsch, P. Z. S. 1870, p. 578 (Trinidad); Cassin, Pr. Ac. Sc. Phil. 1867, p. 46; Salv. et Godm. Ibis, 1879, p. 200 (Santa Marta).

Icterus longirostris, Vieill. Nouv. Dict. xxxiv. p. 547; Bp. Consp. i. p. 435; Cassin, Pr. Ac. Sc. Phil. 1867, p. 46.

Aurantiaco-flavus; capite toto cum gutture, interscapulio et caudâ nigerrimis; alis extùs nigris, harum tectricibus minoribus aurantiacis, mediis cum secundariorum marginibus externis albis; rostro nigro, ad basin plumbeo; pedibus fuscis: long. tota 10·0, alæ 4·6, caudæ 4·0. *Fem.* Mari similis.

Hab. Coast-region of Colombia, Venezuela, and Trinidad. Valle Dupar (*Simons*); Carupano (*Goering*).

Mus. P. L. S. et S.-G.

Obs. Species a duabus sequentibus plagâ alarum latâ albâ et gulæ plumis longioribus distinguenda.

29. Icterus jamacaii.

Oriolus jamacaii, Gm. S. N. i. p. 391.

Icterus jamacaii, Daud. Tr. d'Orn. ii. p. 335; Max. Beitr. iii. p. 1199; Bp. Consp. p. 435; Cab. Mus. Hein. p. 185; Burm. Syst. Ueb. iii. p. 268; Scl. Cat. A. B. p. 133; Scl. et Salv. Nomencl. p. 36.

Xanthornus aurantius, Hahn u. Küster, Vög. aus Asien, Lief. vi. p. 1, t. 1 (1850).

Icterus aurantius, Cassin, Pr. Ac. Sc. Phil. 1867, p. 47.

Rubro-aurantiacus, capite toto cum gutture interscapulio et caudâ nigerrimis; alis nigris, harum tectricibus minoribus aurantiacis, mediis et majoribus nigris; secundariorum marginibus externis albis; rostro nigro, ad basin plumbeo; pedibus nigris: long. tota 8·5, alæ 3·9, caudæ 3·8. *Fem.* Mari similis, sed paulo minor et minus nitida.

Hab. S.E. Brazil: Ceará (*Jesse*); interior of Minas and Bahia (*Wied*).

Mus. P. L. S. et S.-G.

30. Icterus croconotus.

Psarocolius croconotus, Wagl. Isis, 1829, p. 757.

Icterus croconotus, Gray, Gen. B. p. 343; Bp. Consp.

p. 435; Scl. Cat. A. B. p. 133; Cassin, Pr. Ac. Sc. Phil. 1867, p. 47; Scl. et Salv. P. Z. S. 1873, p. 266 (Upper Amazons), 1879, p. 608 (Bolivia), et Nomencl. p. 36; Layard, Ibis, 1873, p. 381 (Para); Pelz. Orn. Bras. p. 195.

Icterus jamacaii, Cab. in Schomb. Guian. iii. p. 679.

Rubro-aurantiacus, fronte latâ et capitis lateribus cum gutture et caudâ nigerrimis; alis nigris, harum tectricibus minoribus aurantiacis, mediis et majoribus nigris; secundariorum marginibus externis albis; rostro nigro ad basin plumbeo; pedibus nigris: long. tota 8·0, alæ 3·8, caudæ 3·9. *Fem.* Mari similis.

Hab. Guiana et Amazonia tota usque ad Boliviam. Cuyaba et Rio Brancho (*Natt.*); Guiana (*Brown*); Sarayacu, Ecuador (*Buckley*).

Mus. P. L. S. et S.-G.

Obs. Species *I. jamacai* proxima, sed pileo et interscapulio aurantiacis diversa.

31. Icterus gularis.

Psarocolius gularis, Wagl. Isis, 1829, p. 754.

Icterus gularis, Bp. Consp. p. 435; Sclater, P. Z. S. 1837, pp. 205, 228, 1858, p. 358 (Honduras), et 1859, p. 365; Cat. A. B. p. 134; Scl. et Salv. Ibis, 1859, p. 19 (Guatemala), et Nomencl. p. 36; Salv. Ibis, 1859, p. 468, et 1860, p. 195; Taylor, Ibis, 1860, p. 111 (Brit. Hond.); Cassin, Pr. Ac. Sc. Phil. 1867, p. 49; Owen et Salv. Ibis, 1861, p. 62; Lawr. Bull. U.S. N. M. no. 4, p. 23; Des Murs, Icon. Orn. pl. 9.

Icterus mentalis, Less. Cent. Zool. p. 111, pl. 41.

Aurantiaco-flavus, interscapulio, caudâ, loris et gutture medio producto nigerrimis; alis nigris albo marginatis, harum tectricibus minoribus flavis; rostro (crasso) et pedibus nigris: long. tota 10·0, alæ 4·7, caudæ 4·5. *Fem.* Flava, gutture nigro, interscapulio fusco-viridi, alis fuscis extùs albo limbatis.

Hab. Southern Mexico, Yucatan, British Honduras, and Guatemala.

Mus. P. L. S. et S.-G.

32. Icterus sclateri.

Icterus mentalis, Cab. Mus. Hein. p. 185 (note); Scl. Cat.

A. B. p. 134; Scl. et Salv. Ibis, 1860, p. 275 (San Geronimo); Salv. Ibis, 1861, p. 62.

Icterus sclateri, Cassin, Pr. Ac. Sc. Phil. 1867, p. 49; Scl. et Salv. Nomencl. p. 36.

Similis præcedenti, sed crassitie minore et rostro multo debiliore, caudâ quoque albo terminatâ, ut videtur diversus; interscapulio in mari adulto, sicut in sp. præcedente, omninò nigro.

Hab. Guatemala, San Geronimo (*Salvin*).

33. Icterus formosus.

Icterus formosus, Lawr. Ann. Lyc. N. Y. x. p. 184, et Bull. U.S. Nat. Mus. no. 4, p. 23.

Similis *I. sclateri*, sed crassitie minore, colore saturatiùs aurantiaco, rostro magis incurvo, et interscapulii plumis ad basin grisescenti-albis (teste Lawrencio) diversus.

Hab. Tehuantepec (*Sumichrast*).

Mus. S.-G.

Messrs. Salvin and Godman's three specimens of this species (which are the only examples that I have seen) consist of two young males and a female, in which stage they are very like the corresponding forms of *I. sclateri*. I must say that I am not quite convinced of their distinctness, especially as the fully adult *I. sclateri* has a very deep orange plumage*.

34. Icterus pectoralis.

Psarocolius pectoralis, Wagl. Isis, 1829, p. 755.

Icterus pectoralis, Bp. Consp. p. 435; Sclater, P. Z. S. 1857, p. 205; Ibis, 1873, p. 373 (Nicaragua); Cat. A. B. p. 134; Sclat. et Salv. Ibis, 1859, p. 20, et Nomencl. p. 36; Lawr. Bull. U.S. N. M. no. 4, p. 23; Cassin, Pr. Ac. Sc. Phil. 1867, p. 48; Des Murs, Icon. Orn. pl. 10.

Icterus guttulatus, Lafr. Mag. de Zool. 1844, pl. 52; Cab. J. f. O. 1861, p. 9 (Costa Rica).

Icterus pectoralis espinachii, Nutting, Proc. U.S. Nat. Mus. 1882, p. 392 (Costa Rica).

Aurantiaco-flavus; interscapulio, caudâ, loris et gutture medio producto cum maculis pectoralibus nigris; alis nigris

* Mr. Ridgway has just sent me for examination one of Mr. Lawrence's types of *I. formosus* (adult male), which I must confess I cannot distinguish from *I. sclateri*.—July 6th, 1883.

albo marginatis, harum tectricibus minoribus flavis; rostro et pedibus nigris: long. tota 9·0, alæ 4·3, caudæ 4·1. *Fem.* Mari similis, sed obscurior, interscapulio olivaceo nigro variegato.

Hab. S. Mexico, Guatemala, Costa Rica, and Nicaragua. Tehuantepec and Chiapas (*Sumichrast, Mus. S.-G.*); Vera Paz (*Salvin*); Chontales (*Bell*).

Mus. P. L. S. et S.-G.

Obs. Similis duabus præcedentibus, sed maculis pectoralibus dignoscendus.

35. Icterus pustulatus.

Psarocolius pustulatus, Wagl. Isis, 1829, p. 757.

Icterus pustulatus, Bp. Consp. p. 435; Sclater, P. Z. S. 1858, p. 303 (Oaxaca); Cat. A. B. p. 134; Scl. et Salv. Nomencl. p. 36, et Exotic Ornith. p. 47, pl. xxiv.; Cassin, Pr. Ac. Phil. 1867, p. 48; Sumichrast, Mem. Bost. Soc. N. H. i. p. 553 (Vera Cruz).

Pendulinus californicus, Less. Rev. Zool. 1844, p. 436, et Descr. d. Mamm. et Ois. p. 333 (?).

Aurantiacus, rubro tinctus; interscapulio nigro guttato; alis caudâque nigris, illis albo marginatis et hujus apice angustè albo; loris et gutture toto nigris; subalaribus flavis, remigum marginibus interioribus albis; rostro et pedibus plumbeis: long. tota 8·5, alæ 4·0, caudæ 3·8, tarsi 0·9. *Fem.* Omnino dilutior et magis flavescens, interscapulio olivaceo nigro guttato.

Hab. Southern Mexico. Hot-region of Vera Cruz (*Sumichrast*); Acapulco (*Capt. Markham in Mus. S.-G.*); Mazatlan and Presidio (*Forrer*); La Parada, near Oaxaca (*Boucard*).

Mus. P. L. S. et S.-G.

Obs. Species interscapulii maculis ovalibus distinctissima.

As mentioned in our article in 'Exotic Ornithology,' Messrs. Salvin and Godman have a skin of a young bird of the present species, purchased of a London dealer, with one of Mr. Gruber's printed labels on it, on which is written:—"*Icterus cucullatus*, Hooded Oriole, Cape S. Lucas, May 1861. ♂. No. 178." There is certainly no improbability in this occurrence, as the species is met with on the Mexican coast just opposite.

36. Icterus graysoni.

Icterus graysonii, Cassin, Proc. Ac. Nat. Sci. Philad. 1867, p. 48.

Flavus aurantiaco tinctus, subtùs clarior; loris et gutture medio nigris; interscapulio maculis paucis nigris ornato; alis nigris albo marginatis, harum tectricibus minoribus flavis; caudâ nigrâ, rectricibus externis flavicanti-albo terminatis; subalaribus flavis; rostro et pedibus nigris: long. tota 7·5, alæ 4·0, caudæ 3·4. *Fem.* Suprà olivacea, subtùs flava, alis fuscis albo limbatis, caudâ olivaceâ.

Hab. Tres-Marias Islands, west of Mexico (*Grayson*).

Mus. P. L. S. et S.-G.

Apparently a modified descendant of *I. pustulatus*, with the interscapular spots obsolete.

37. Icterus leucopteryx.

Psarocolius leucopteryx, Wagl. Syst. Av. sp. 16.

Icterus leucopteryx, Gosse, B. Jam. p. 226; Bp. Consp. p. 436; Sclater, P. Z. S. 1861, p. 74; id. Cat. A. B. p. 134; Scl. et Salv. Nomencl. p. 36.

Pendulinus leucopteryx, Cassin, Pr. Ac. Sc. Phil. 1867, p. 59.

Icterus personatus, Temm. Pl. Col. sub tab. 482; Bp. Consp. p. 435.

Flavicanti-olivaceus, subtùs flavus; loris et gutture medio producto nigris; alis caudâque nigris, illarum tectricibus minoribus flavis, mediis cum secundariorum marginibus externis albis; subalaribus flavis; rostro plumbeo, pedibus nigris: long. tota 8·0, alæ 4·2, caudæ 3·6. *Fem.* Mari omninò similis.

Hab. Jamaica.

Mus. P. L. S. et S.-G.

[To be continued.]

XXXIII.—*Notices of recent Ornithological Publications.*

(Continued from p. 222.)

77. *Adamson's Book of Scraps.*

[Another Book of Scraps, principally relating to Natural History, with

thirty-six Lithographic Illustrations from pen-and-ink sketches of Wild Birds. By Charles Murrey Adamson. 4to. Newcastle-upon-Tyne; 1882.]

Mr. Adamson's second Book of Scraps will interest the many lovers of our native birds; for his drawings are evidently the product of observation from life, and though a little rough, are true to nature. Mr. Adamson's subjects are mostly taken from the sea-shore, with the inhabitants of which he is manifestly very familiar. We do not much like his Partridges; but some of his sea-birds are very well sketched.

78. *Aplin on the Birds of the Banbury District.*

[A List of the Birds of the Banbury District. By F. C. Aplin, Rev. B. D'O. Aplin, and Oliver V. Aplin. Published under the auspices of the Banbury Natural History Society. 8vo. Banbury: 1882.]

We are always glad to see local lists, as extending our knowledge of distribution and creating general interest in bird-life. Messrs. Aplin gives us short notes on 180 species which have been found in the district around Banbury. Amongst them is the Alpine Chough (*Pyrrhocorax alpinus*), of which an example killed in Broughton Park in April 1881 "showed no signs of confinement"*.

79. *Belding on Birds from Western Lower California.*

[Catalogue of a Collection of Birds made at various points along the Western Coast of Lower California, north of Cape St. Eugenie. By L. Belding. (Edited by R. Ridgway.) Proc. U.S. Nat. Mus. 1882, p. 527.]

Lists are given (with notes) of the species met with at four points. Mr. Ridgway tells us that the most important result of Mr. Belding's explorations is the discovery that as far south as Cerros Island (lat. 28° N.) the bird-fauna presents no differences from that of Southern California in the vicinity of San Diego. A single specimen of *Hæmatopus palliatus*, obtained May 17th on the Coronados Islands, is

* *Cf.* 'Zoologist,' 1881, p. 242, where the occurrence was originally recorded.

the only example of this species in the U.S. Nat. Mus. from any locality on the Pacific coast north of Mazatlan.

80. *Belding on Birds from Southern Lower California.*

[Catalogue of a Collection of Birds made near the southern extremity of the Peninsula of Lower California. By L. Belding. (Edited by R. Ridgway.) Proc. U.S. Nat. Mus. 1882, p. 532.]

This paper contains the results of a winter's work in Lower California, which appears to have been hardly touched by ornithologists since Xantus's well-known explorations in 1859. The species common to most of the localities visited (La Paz, San José, Cape San Lucas) were 109; the additional species found at San José de Cabo from April 1st to May 17th numbered 10, and 5 more were met with near the village of Miraflores. Many good notes are given—on *Passerculus rostratus* and its varieties, on *Basilinna xantusi* and [illegible]sting (it is common in orchards at San José), and on *Crotop[illegible] sulcirostris*. *Micrathene whitneyi* is "common, if not ab[illegible]dant," near Miraflores.

81. *Bennett on the Breeding of* Platalea flavipes *and* Ardea pacifica.

[On the Breeding-place of *Platalea flavipes* and *Ardea pacifica*. By K. H. Bennett. Proc. Linn. Soc. N. S. W. vii. p. 324.]

Mr. Bennett gives an interesting account of a swamp where the Australian Spoonbill and Pacific Heron were found breeding in 1877 and 1879. It is on the plains some thirty miles north of the Lachlan river. This Spoonbill's eggs are described as *white*.

82. *Blasius on Birds from Celebes.*

[Ueber neue und zweifelhafte Vögel von Celebes. (Vorarbeiten zu einer Vogelfauna der Insel.] Von Dr. Wilh. Blasius. J. f. O. 1883, p. 113.]

After an excellent essay on former contributions to our knowledge of the birds of Celebes, Dr. Blasius gives [illegible] account of two collections lately received from that islan[illegible]

Herr Schrader. The second of these contained about 3000 skins, referable to 115 species. Moreover, with the assistance of some specimens from the Museum of Lübeck, Dr. Blasius is enabled to give further particulars of the little-known *Gymnophaps pœcilorrhoa* (Brüggeman), and to establish a hitherto doubtful *Rhipidura* as *Rhipidura lenzi*, sp. nov. Further, he has received from Dr. A. B. Meyer explanations concerning several of the species mentioned in that naturalist's "Field-Notes," published in this Journal for 1879. Lastly, with the assistance of Dr. Koch of Darmstadt, Dr. Blasius is enabled to give particulars concerning some of the dubious Celebean species described by Brüggeman in 1876. [illegible] these four sources Dr. Blasius has greatly improved [illegible]owledge of the Celebean avifauna.

[illegible]. *Booth's Rough Notes on British Birds.*

[Rough Notes on the Birds observed during Twenty Year's Shooting and Collecting in the British Islands. By E. T. Booth. With Plates from drawings by E. Neale, taken from specimens in the Author's possession. Parts i.–iii. Folio. London: 1881–1883. Published by R. H. Porter, 6 Tenterden Street, W.]

Few living ornithologists have a better personal acquaintance with British Birds than Mr. E. T. Booth, and we are all glad to have the results of his observations, accompanied, as they are, by Mr. Neale's life-like illustrations. These are taken entirely from subjects in Mr. Booth's own well-known collection at Brighton, where every bird now figured may be examined. No visitor to Brighton who cares the least for ornithology should omit to visit Mr. Booth's bird-gallery.

84. *Chamberlain on the Birds of New Brunswick.*

[A Catalogue of the Birds of New Brunswick, with brief Notes relating to their migrations, breeding, relative abundance, &c. By Montague Chamberlain. Bull. Nat. Hist. Soc. New Brunswick, No. i. p. 25 (1882).]

Mr. Chamberlain's catalogue contains the names of 269 species of birds as belonging to the avifauna of New Bruns-

wick. Of these 225 occur in St. John and King's counties, the remainder having been recorded by different authorities as met with in other parts of the province.

As Mr. Chamberlain tells us, the catalogue is intended as a "starting-point," and contains "a fairly full account of the birds of the southern section of the province." Of the northern and central sections, "very little systematic investigation has been made," and it is believed that "many interesting facts are awaiting discovery." The Smithsonian nomenclature and arrangement are followed.

85. *Chamberlain's 'Ornithological Notes.'*

[Ornithological Notes. By Montague Chamberlain. Bull. N... Soc. New Brunswick, No. ii. p. 39 (1883).]

Mr. Chamberlain and his friends have already b... add to the catalogue given in the preceding paper. ... species are now recorded as new to the district, and other useful notes are given.

86. *Giglioli and Manzella on Italian Birds.*

[Iconografia dell' Avifauna Italica, ovvero tavole illustranti le specie di Uccelli che trovansi in Italia, con brevi descrizioni e note. Testo del Dott. Enrico Hillyer Giglioli. Tavole di Alberto Manzella. Fasc. v.–xviii. Folio. Prato: 1880–82.]

Eighteen parts have now been issued of this work; but, according to the prospectus, eighty will be required to complete it. The plates are coloured lithographs, in some cases well designed and coloured with sufficient accuracy. The letterpress is by the hand of one who is very well acquainted with the birds of Italy, and contains all necessary particulars.

87. *Godman and Salvin's 'Biologia Centrali-Americana.'*

[Biologia Centrali-Americana: or Contributions to the Knowledge of the Fauna and Flora of Mexico and Central America. Edited by F. DuCane Godman and Osbert Salvin. (Zoology.) Parts xvii. to xxii. 4to. London: 1882–1883. Published for the Editors by R. H. Porter, 10 Chandos Street, Cavendish Square, W.]

Of the six parts of this important work issued since our

last notice (Ibis, 1882, p. 460), the last only (pt. xxii. March 1883) contains a portion of the section devoted to birds. In this the Vireonidæ are finished, the Laniidæ and Ampelidæ treated of, and the Hirundinidæ commenced. The only species figured is the female of the remarkable Ampeline form *Phainoptila melanoxantha* of Costa Rica, discovered by Mr. Rogers in 1877, and since obtained by M. Boucard.

88. *Gould's 'Birds of Asia.'*

[The Birds of Asia. By J. Gould, F.R.S. Dedicated to the Honourable East India Company. Part xxxiv. Folio. London: 1883.]

The thirty-fourth part of the 'Birds of Asia' contains figures of the following species:—

Columba intermedia.
Turdinulus roberti.
Urociehla longicaudata.
Lioptila annectens.
Irene puella.
Iyngipicus semicoronatus.
—— canicapillus.
Iyngipicus hardwickii.
—— auritus.
—— fulvifasciatus.
—— maculatus.
Anorthura formosa.
Dicæum pryeri.

It is understood that the next (35th) part, now in preparation, will complete the work.

89. *Haswell on the Anatomy of two Pigeons.*

[Notes on the Anatomy of two rare Genera of Pigeons. By William A. Haswell. Proc. Linn. Soc. N. S. W. vii. p. 115.]

Mr. Haswell states that *Œdirhinus insolitus* only differs from *Ptilopus* in the bony excrescence on the nasal and frontal regions of the skull.

Turacœna is "a granivorous Pigeon resembling *Macropygia* in most respects, but distinguished by the possession of a large and powerful bill and the shape of the gizzard." There are no cæca.

90. *Haswell on the Anatomy of the Pigeons.*

[On some points in the Anatomy of the Pigeons referred to by Dr. Hans Gadow in a recent paper on the Anatomy of *Pterocles*. By William A. Haswell, M.A., B.Sc. (Edin.). Proc. Linn. Soc. N. S. W. vii. p. 397.]

Mr. Haswell endeavours to reply to some criticisms which Dr. Gadow has made on some statements in a former paper of Mr. Haswell concerning certain points in the myology of Pigeons, but not altogether successfully, we think. It is certainly a fact that ought to be easily settled whether in true *Columba* the posterior belly of the *latissimus dorsi* is absent or not.

91. *Oates's 'Birds of British Burmah.'*

[A Handbook to the Birds of British Burmah, including those of the adjoining State of Karennee. By Eugene W. Oates. Vol. i. March 1883. London: R. H. Porter and Dulau. Royal 8vo. Pp. 432.]

We hail with pleasure the issue of the first part of this excellent work, which is just what a handbook ought to be. Every species is shortly and plainly described, and references are given to all works bearing upon Burmese ornithology. A short account of the habits and nesting (where known) is always added. Mr. Oates's useful volume will be much appreciated by the students of the ornis of British Burmah, who with its aid will have no difficulty in recognizing the native species.

A new genus, "*Gypsophila*," is founded (p. 61) for the curious *Turdinus crispifrons* of Blyth, but no new species are described. Mr. Oates has made a slip in placing the Pittidæ and Eurylæmidæ in the "suborder Tracheophonæ." So far as we yet know, there are no true Tracheophones in the Old World.

Mr. Oates's second and concluding part will contain the remaining birds, the introduction, the index, and a map of the country. The present part is devoted to the 400 Passeres met with in British Burmah and Karennee.

92. *Ramsay on* Carpophaga finschi.

[Note on the Type Specimen of *Carpophaga finschi*. By E. P. Ramsay. Journ. Proc. Linn. Soc. Zool. xvii. p. 25.]

Mr. Ramsay now gives the measurements of this *Carpophaga* (described in the same work, xvi. p. 129) and the locality, which is Irish Cove, New Ireland.

93. *Reichenow on Foreign Cage-Birds.*

[Vogelbilder aus fernen Zonen. Atlas der bei uns eingeführten ausländischen Vögel, mit erläuterndem Text. Allen Naturfreunden, insbesondere den Liebhabern ausländischer Stubenvögel und Besuchern zoologischer Gärten, gewidmet von Dr. Ant. Reichenow. Lief. 5–10. Folio. Cassel: 1880–82.]

These six numbers are devoted to different groups of Psittacidæ, arranged mostly according to their countries. The colouring is apparently done by colour-printing, to which the decided colours of the Parrots offer great advantages. The figures are nicely drawn by Mützel.

94. *Report of the Committee on German Birds.*

[VI. Jahresbericht (1881) des Ausschusses für Beobachtungsstationen der Vögel Deutschlands. Separatabdruck aus Cabanis Journ. für Ornithologie, Jahrg. 1883, Januar-Heft. Naumburg a. S.]

A separate copy of the sixth report of the Committee for the observation of the birds of Germany (for the year 1881), which appeared in the first number of the 'Journal für Ornithologie' of the present year, has been kindly sent us by Dr. R. Blasius, a member of the Committee. After a list of the observers and an account of the rules laid down for their guidance, a systematic *résumé* is given of their observations upon altogether 245 species of birds, concerning which many interesting facts are recorded.

95. *Ridgway on Birds collected by Mr. Nutting in Costa Rica.*

[Catalogue of a Collection of Birds made in the Interior of Costa Rica by Mr. C. C. Nutting. By Robert Ridgway. Proc. U.S. Nat. Mus. vol. v. p. 493.]

Mr. Ridgway now gives us accurate lists of the collections made by Mr. Nutting during his recent excursion to Costa Rica in the interior of the country, an account of the collection made on the Pacific seaboard having been already published (*v. s.* p. 217). On the Volcano of Irazú Mr. Nutting obtained examples of 32 species, amongst which were

five specimens of *Zonotrichia vulcani* (Boucard, P. Z. S. 1878, p. 57). This rare Finch is "abundant in the belt of thick bushes surrounding the summit of the volcano." In the vicinity of San José Mr. Nutting procured examples of 33 species.

96. *Ridgway on a new Warbler.*

[Description of a new Warbler from the island of Santa Lucia, West Indies. By Robert Ridgway. Proc. U.S. Nat. Mus. 1882, p. 525.]

Mr. Ridgway describes a new subspecies from St. Lucia as *Dendræca adelaidæ delicata*, and distinguishes it from *D. adelaidæ* of Portorico.

97. *Ridgway on a supposed new Plover.*

[Description of a supposed new Plover from Chili. By Robert Ridgway. Proc. U.S. Nat. Mus. 1882, p. 526.]

The supposed new species, which somewhat resembles *Ægialites ruficapillus* of Australia, is named *Æ. albidipectus*. The exact history of the type specimen (in U.S. Nat. Mus.) is not known.

98. *Ridgway on the Genus* Tantalus.

[On the Genus *Tantalus*, Linn., and its allies. By Robert Ridgway. Proc. U.S. Nat. Mus. 1882, p. 550.]

Mr. Ridgway separates *Tantalus ibis, T. leucocephalus*, and other Old-world species from *Tantalus loculator* under the new generic term *Pseudotantalus*.

99. *Russ's "Talking Parrots."*

[Die sprechenden Papageien. Ein Hand- und Lehrbuch von Dr. Karl Russ. 8vo. Berlin: 1882.]

This is a Handbook for the use of those who keep living Parrots. After several chapters devoted to the mode of treatment of these birds, a short account is given of the species known to speak and of their relatives which may be supposed to possess the same qualifications.

100. *Stejneger on the Arrangement of the American* Turdidæ.

[Remarks on the Systematic Arrangement of the American Turdidæ. By Leonhard Stejneger. Proc. U.S. Nat. Mus. vol. v. p. 449.]

We cannot venture to disapprove of some of Mr. Stejneger's criticisms on Mr. Seebohm's arrangement of the Turdidæ; but we must also say that in our opinion some of the author's own proposals are open to serious objections. We are not satisfied, for example, that the position of *Turdus pinicola* is improved by being made the type of a new genus (*Ridwayia*) and placed along with *Sialia*, though we admit that there is a striking similarity between this Thrush and the immature dress of the Bluebirds. Nor could we allow that the Nightingales are intermediate between the Thrushes (*Turdus*) and the Blackbirds (*Merula*), for we do not believe it possible to differentiate these two (so-called) genera successfully.

Mr. Stejneger divides the American Turdidæ into two subfamilies, Turdinæ and Myadestinæ. The first subfamily is again divided into five groups—Sialieæ, Saxicoleæ, Turdeæ, Luscinieæ, and Meruleæ; the second into two, Platycichleæ and Myadesteæ. Besides *Ridwayia* already spoken of, a new genus (*Cossyphopsis*) is made for *Turdus reevei*, Lawrence, and another (*Entomodestes*) for *Myiedestes leucotis*, Cab. (in Tsch. 'Fauna Peruana'). *Platycichla brevipes*, Baird, is (we believe quite correctly) identified as the female of one of the Thrushes of the group of *Turdus flavipes*, and the generic name is employed for this section of *Turdus*. But it may be remarked that the term "*carbonarius*" cannot be properly used for the Venezuelan form of *Turdus flavipes*, as *Turdus carbonarius*, Licht., was based upon examples from Bahia and therefore = *T. flavipes* verus. Mr. Stejneger is also in error in suppressing the generic name "*Cichlopsis*" in favour of "*Turdampelis*, Lesson." In the first place, it is impossible to identify Lesson's *Turdampelis lanioides* with *Cichlopsis leucogonys*, as Mr. Stejneger would himself confess were he to read the original description of Lesson. In the second place, it seems more correct, from what Lesson says, to regard

Lipaugus cinereus (fam. Cotingidæ) as the true type of Lesson's genus *Turdampelis*!

101. *Vorderman on* Chlorura hyperythra.

[*Chlorura hyperythra*, Rchb., een Javaansche Vogel door A. G. Vorderman. (Overgedrukt uit het Natuurkundig Tijdschrift voor Nederlandsch-Indie, Deel xlii. Afl. 2.)]

Herr Vorderman of Batavia has made the discovery that *Chlorura hyperythra* of Reichenbach* (*species incerta ex loco incerto*, teste Salvadorio) is a Javan bird. A male example of this strange Finch was obtained by one of his collectors on the 28th of September, 1882, on Gunong Salah, about 5000 feet above the sea-level.

XXXIV.—*Obituary*.—Prof. J. T. Reinhardt, Dr. W. C. H. Peters, Mr. W. A. Forbes, Mr. T. Grisdale.

Our Foreign Member, Prof. John Theodore Reinhardt, was born in Copenhagen on the 3rd of December, 1816. After completing his course of medicine at the University, he devoted himself specially to zoological work. In 1845 he was appointed Naturalist to the Danish corvette 'Galatea,' on a three years' cruise round the world, and took this opportunity of spending some time in Brazil, at Lagoa Santa, where his well-known countryman, Dr. Lund, was then resident, and engaged in making his celebrated collection of fossil remains from the adjoining caverns. In 1848 Reinhardt returned to Copenhagen, and was appointed Director of the Zoological Museum of that city, a well-organized institution which many of us have had the pleasure of inspecting under his charge. This post he retained until his lamented death on the 23rd of October last. Reinhardt paid two subsequent visits to Brazil; and one of the most useful of his ornithological memoirs is his excellent treatise upon the Avifauna of the Campos of Brazil. Reinhardt was a good correspondent, and very exact and methodical in all his work; and his loss is severely felt by his many friends in England.

* *Vide* Ibis, 1881, p. 546.

Dr. Wilhelm Carl Hartwig Peters, the celebrated zoologist, whom many of us knew as a most obliging and kind friend at Berlin, where, since Lichtenstein's death in 1857, he had held the Directorship of the Zoological Museum of the University, died at that city on the 22nd of April last, in the ... of his age. Dr. Peters worked principally at ...ds, Reptiles, Batrachians, and Fishes; but he wrote ...short papers on Birds, chiefly descriptions of the new ...discovered during his expedition to the Mozambique ...3).

...much to be regretted that the volume on the Birds of ...pedition was never published, although we believe ... the plates have been prepared.

...ad intelligence of the death of our much-valued friend ...w-worker Mr. W. A. Forbes must be already known to every Member of the British Ornithologists' Union, and, indeed, to every one interested in zoological science. In our last number we gave some extracts from his letters, dated October 25th, 1882, from Shonga on the Niger, whence he was then expecting to proceed shortly further up the river, previous to his return home. This, owing to the non-arrival of the steamer, he did not do, but remained at Shonga busied with his collections and, as we fear, exposing himself, in the ardour of his passionate taste for natural history, more than was prudent to the deadly climate of that region. Shortly after Christmas last he was seized with fever and dysentery, and, in spite of all that could be done for him by the English Agent at that station, he expired on the 14th of January last. Thus ended, at the early age of 28, the career of one of the most promising naturalists that England has ever produced amongst her numerous devotees of science.

Mr. William Alexander Forbes, Fellow of St. John's College, Cambridge, Prosector to the Zoological Society of London, and Lecturer on Comparative Anatomy to Charing-Cross Hospital, was born at Cheltenham on June 24, 1855, the second son of Mr. J. S. Forbes, the well-known railway director. He was educated at Kensington School and Win-

chester College, which he entered at the early age of eleven. On leaving Winchester in 1872, Forbes passed a year at Aix-la-Chapelle studying German, and then became a student of the University of Edinburgh, where he pursued the regular medical course, paying special attention to zoology [illegible] botany, and commencing collections of insects a[illegible]. In 1875 Forbes transferred his residence to Lond[illegible], entered himself as a student of University College, [illegible] idea of taking a medical degree in the metropolis. [illegible] became quickly intimate with other zoologists, who [illegible] soon attracted by the astounding general knowledge o[illegible] and the acute intelligence of one so young. By th[illegible] of the late Prof. Garrod and other friends Mr. Fo[illegible] induced in October 1876 to leave London and to be[illegible] undergraduate of St. John's College, Cambridge, w[illegible] was subsequently elected Scholar and took his B.[illegible] with a First Class in the Natural Sciences Tripos in 1879. The post of Prosector to the Zoological Society of London having become vacant in October 1879 by the lamented death of Prof. Garrod, Mr. Forbes was appointed (*omnium consensu*) to that office in the January following. Indeed he had been designated by Garrod on his deathbed as his most obvious and proper successor, and appointed his literary executor.

Mr. Forbes entered upon the duties of his office with characteristic energy; and during the three following sessions of the Zoological Society brought before the scientific meetings a series of most interesting and valuable communications derived from his studies of the animals that came under his examination. He had a happy knack of putting forward abstruse points of anatomy in an understandable form; and especially directed himself to the investigation of the muscular structure and voice-organs of birds, in continuation of the researches of his predecessor Garrod on the same subjects.

In the summer of 1880 Mr. Forbes made a short excursion to the forests of Pernambuco, Brazil, of which he published an account in this Journal for 1881; and in the following year passed his holiday in the United States, in order to make the

acquaintance of his American brethren in science and their collections. In July 1882 he left England, on what promised to be a splendid opportunity of visiting the eastern tropics with every advantage and without much risk. Detained at [illegible]onga (a station some 400 miles up the Niger below Rebba) [illegible]eaking-down of his communications, Mr. Forbes, [illegible]ave already stated, fell a victim to dysentery on [illegible] 14 last, thus adding another name to the long list [illegible]rs of science in that deservedly dreaded climate.

[illegible]rbes's private qualities as a most efficient and ready [illegible]orker, a most charming companion, and a most [illegible] friend, the writer is able to testify, not only from [illegible] experience, but also from the universal regret ex[illegible]at his untimely end. We subjoin what is, we believe, [illegible] complete list of his published works and papers:—

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Zoological Record [Mammalia], 1879.

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1880.

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On the Anatomy of *Leptosoma discolor*. P. Z. S. 1880, p. 465.

On two rare Ploceine Birds now or lately living in the Society's Menagerie. P. Z. S. 1880, p. 475, pl. xlvii.

Note on a Specimen of Denham's Bustard (*Eupodotis* On s*i*). P. Z. S. 1880, p. 477.

(*Myrm*ition of drawings of the horns of the Prongbuck, Note arks upon the shedding of the horns of this animal. Bird-of 1880. p. 540.

On th*e* External Characters and Anatomy of the Red (*Manu*c Monke*y* (*Brachyurus rubicundus*); with Remarks on simila*r* Species of that Genus. P. Z. S. 1880, p. 627, Note-lxii.

P. Z. S*.* ks on Dr. Gadow's Paper on the Digestive System Or*.* Bir*.* 1880, p. 234.

and *w*e wee*.* Butterfly-collecting in the Alps. Entom. Month. Mag. xvi. p. 256.

Zoological Record [Mammalia], 1880.

1881.

On some Points in the Anatomy of the Koala (*Phascolarctos cinereus*). P. Z. S. 1881, p. 180.

Note on Mr. Bartlett's Communication on the Habits of the Darter. P. Z. S. 1881, p. 248.

Contributions to the Anatomy of Passerine Birds.—Part IV. On some Points in the Anatomy of the Genus *Conopophaga*, and its Systematic Position. P. Z. S. 1881, p. 435.

Notice of a Memoir on the external form and on the anatomy of the Californian Sea-lion (*Otaria gillespii*). P. Z. S. 1881, p. 453.

Notes on the Anatomy and Systematic Position of the Jaçanás (*Parridæ*). P. Z. S. 1881, p. 639.

On the Petrel called *Thalassidroma nereis* by Gould, and its Affinities. P. Z. S. 1881, p. 735.

On the Conformation of the Thoracic End of the Trachea in the "Ratite" Birds. P. Z. S. 1881, p. 778.

Note on the Structure of the Palate in the Trogons (*Trogonidæ*). P. Z. S. 1881, p. 836.

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On the Systematic Position and Scientific Name of Perroquet mascarin" of Brisson. Ibis, 1879, p. 303.

Notes on Butterflies observed in the Valais in 187 Entom. Month. Mag. xv. p. 275.

Zoological Record [Mammalia], 1879.

The Glacial Period and Geographical Distribution. Nature, xix. p. 363.

1880.

On some Points in the Structure of *Nasiterna* bearing on its Affinities. P. Z. S. 1880, p. 76.

Contributions to the Anatomy of Passerine Birds.—Part I. On the Structure of the Stomach in certain Genera of Tanagers. P. Z. S. 1880, p. 143.

Notice of a Memoir on the male generative organs of the Sumatran Rhinoceros. P. Z. S. 1880, p. 188.

Remarks upon the cause of death of a Leopard in the Society's Menagerie. P. Z. S. 1880, p. 358.

Contributions to the Anatomy of Passerine Birds.—Part II. On the Syrinx and other Points in the Anatomy of the Eurylæmidæ. P. Z. S. 1880, p. 380.

Contributions to the Anatomy of Passerine Birds.—Part III. On some Points in the Structure of *Philepitta*, and its Position amongst the Passeres. P. Z. S. 1880, p. 387.

On the Anatomy of *Leptosoma discolor*. P. Z. S. 1880, p. 465.

On two rare Ploceine Birds now or lately living in the Society's Menagerie. P. Z. S. 1880, p. 475, pl. xlvii.

Note on a Specimen of Denham's Bustard (*Eupodotis* On s*i*). P. Z. S. 1880, p. 477.

(*Myrm*ition of drawings of the horns of the Prongbuck, Note arks upon the shedding of the horns of this animal. Bird-of 1880, p. 540.

On the External Characters and Anatomy of the Red (*Manu* Monkey (*Brachyurus rubicundus*); with Remarks on simila er Species of that Genus. P. Z. S. 1880, p. 627, Note

P. Z. S. n Dr. Gadow's Paper on the Digestive System On is 1880, p. 234.

and s s Butterfly-collecting in the Alps. Entom. Month. Mag. xvi. p. 256.

Zoological Record [Mammalia], 1880.

1881.

On some Points in the Anatomy of the Koala (*Phascolarctos cinereus*). P. Z. S. 1881, p. 180.

Note on Mr. Bartlett's Communication on the Habits of the Darter. P. Z. S. 1881, p. 248.

Contributions to the Anatomy of Passerine Birds.—Part IV. On some Points in the Anatomy of the Genus *Conopophaga*, and its Systematic Position. P. Z. S. 1881, p. 435.

Notice of a Memoir on the external form and on the anatomy of the Californian Sea-lion (*Otaria gillespii*). P. Z. S. 1881, p. 453.

Notes on the Anatomy and Systematic Position of the Jaçanás (*Parridæ*). P. Z. S. 1881, p. 639.

On the Petrel called *Thalassidroma nereis* by Gould, and its Affinities. P. Z. S. 1881, p. 735.

On the Conformation of the Thoracic End of the Trachea in the "Ratite" Birds. P. Z. S. 1881, p. 778.

Note on the Structure of the Palate in the Trogons (*Trogonidæ*). P. Z. S. 1881, p. 836.

Note on the Systematic Position of *Eupetes macrocercus*. P. Z. S. 1881, p. 837.

Observations on the Incubation of the Indian Python (*Python molurus*), with special regard to the alleged Increase of Temperature during that process. P. Z. S. 1881, p. 966.

On the Contributions to the Anatomy and Classific[illegible] Birds made by the late Prof. Garrod, F.R.S. Ibi[illegible] p. 1. [illegible]nds the

Notes on the unfinished work left by the late Prof[illegible]RISDALE, on the Anatomy of Birds. Ibis, 1881, p. 174. [illegible] in last

Eleven Weeks in North-eastern Brazil. Ibi[illegible]risdale p. 312. He was

On the Male Generative Organs of the Sumatran [illegible]'s Deceros (*Ceratorhinus sumatrensis*). Tr. Z. S. xi. [illegible]ale was pl. xx.

The Insectarium at the Zoological Gardens. [illegible] Month. Mag. xviii. p. 15.

On the Anatomy and Classification of the Petrels, based upon those collected by H.M.S. 'Challenger.' Rep. Brit. Assoc. 1881, p. 671.

On a little-known Cranial Difference between the Catarrhine and Platyrrhine Monkeys. Rep. Brit. Assoc. 1881, p. 718.

Observations on the Incubation of the Indian Python (*Python molurus*). Rep. Brit. Assoc. 1881, p. 723.

The Collected Scientific Papers of the late Alfred Henry Garrod, M.A., F.R.S. Edited, with a Biographical Memoir of the Author, by W. A. Forbes. Royal 8vo. London, 1881.

The Descent of Birds. Nature, xxiv. p. 380.

Zoological Record [Mammalia], 1881.

1882.

Exhibition of the horns of a Prongbuck, and remarks upon the shedding of them. P. Z. S. 1882, p. 1.

Note on the Gall-bladder, and some other Points in the Anatomy of the Toucans and Barbets (*Capitonidæ*). P. Z. S. 1882, p. 94.

On some Points in the Anatomy of the Indian Darter

(*Plotus melanogaster*), and on the Mechanism of the Neck in the Darters (*Plotus*) in connexion with their Habits. P. Z. S. 1882, p. 208.

Description of the Pterylosis of *Mesites*, with Remarks on the Position of that Genus. P. Z. S. 1882, p. 267.

[illegible]me Points in the Anatomy of the Great Anteater [illegible]*cophaga jubata*). P. Z. S. 1882, p. 287, pl. xv.

[illegible]on a Peculiarity in the Trachea of the Twelve-wired [illegible]Paradise (*Seleucides nigra*). P. Z. S. 1882, p. 333.

[illegible]e Convoluted Trachea of two Species of Manucode [illegible]*odia atra* and *Phonygama gouldi*), with Remarks on [illegible]Structures in other Birds. P. Z. S. 1882, p. 347.

[illegible] on an Abnormal Specimen of *Pithecia satanas*. [illegible]1882, p. 442.

[illegible]me Points in the Anatomy of the Todies (*Todidæ*), [illegible]the Affinities of that Group. P. Z. S. 1882, p. 442.

Note on some Points in the Anatomy of an Australian Duck (*Biziura lobata*). P. Z. S. 1882, p. 455.

Contributions to the Anatomy of Passerine Birds.—Part V. On the Structure of the Genus *Orthonyx*. P. Z. S. 1882, p. 544.

Exhibition of, and remarks upon, some preparations showing the rudimentary hallux of several birds commonly described as three-toed. P. Z. S. 1882, p. 548.

Contributions to the Anatomy of Passerine Birds.—Part VI. On *Xenicus* and *Acanthisitta* as types of a new family (*Xenicidæ*) of Mesomyodian Passeres from New Zealand. P. Z. S. 1882, p. 569.

Supplementary Notes on the Anatomy of the Chinese Water-Deer (*Hydropotes inermis*). P. Z. S. 1882, p. 636.

Notes on the External Characters and Anatomy of the Californian Sea-lion (*Otaria gillespii*). Tr. Z. S. xi. p. 225, pls. xlviii.–l.

Report on the Anatomy of the Petrels (*Tubinares*) collected during the Voyage of H.M.S. 'Challenger' in the years 1873–76. 'Challenger' Reports [Zoology], vol. iv.

On the Variations from the Normal Structure of the Foot in Birds. Ibis, 1882, p. 386.

On a new Species of Hemipode from New Britain. Ibis, 1882, p. 428, pl. xii.

We are glad to be able to add that Mr. Forbes's collections and journals have been brought safely to England. We hope to be able to give some account of his birds (abo specimens) in our next number.

We much regret also to add to the list of lost fri name of our valued contributor, Mr. Thomas G author of the article "On the Birds of Montserrat" year's volume of 'The Ibis' (1882, p. 485). Mr. died on the 31st of January last, aged 41 years. Chief Clerk in the Receiver and Accountant Gener partment of the General Post Office. Mr. Grisd devotedly attached to the study of Birds and Bird-lif

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XXXV.—*Letters, Announcements, &c.*

We have received the following letter addressed to the Editors of 'The Ibis:'—

Northrepps Hall, Norwich,
May 24, 1883.

Sirs,—Mr. Seebohm, at p. x of the interesting introduction to his work on British Birds, has the following remark:—"It seems possible also that in some cases there may be a direct influence of climate upon colour," *i. e.* in the plumage of birds. This fact may be illustrated by the following circumstance, which, so far as I can recollect, has not hitherto been recorded*, viz. that the "Scarlet Ibis," when brought alive to this country in full adult plumage, loses its gorgeous crimson colouring at the next moult and assumes a rose-coloured livery, which it retains as long as it survives in this country.

* [But *cf.* 'Guide to Gardens of Zool. Soc. of London.' "Nothing can be more intense in colour than the Scarlet Ibis, when its plumage is developed under the hot sun of tropical America. In Europe, however, it rarely reproduces that gorgeous livery; and at each successive moult the adult birds usually become more pale."—Edd.]

Mr. Bartlett has been so good as to inform me that he has verified this by observations, during a long series of years, on specimens that have been placed in the Gardens of the Zoological Society of London.

Yours &c.,
J. H. Gurney.

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ersary Meeting of the British Ornithologists' Union.

nnual Meeting of the B.O.U. for 1883 was held at rden Street on Wednesday, the 30th of May, at Lord Lilford, the President of the Union, in the The minutes of the last meeting having been read firmed, the accounts for the volume of 'The Ibis' for pies of which were on the table) were discussed and

Secretary to the Committee appointed in 1877 pare a list of British Birds read the report, and copies e List of British Birds were placed on the table. The ort of the Committee was adopted, on the resolution of Mr. Sclater, seconded by Mr. Howard Saunders. A vote of thanks to the Committee was proposed by Mr. C. B. Wharton, seconded by Canon Tristram, and carried; and Mr. Sclater returned thanks on behalf of the Committee.

It was then proposed by Mr. W. T. Blanford, and seconded by Mr. Tegetmeier, that the Committee be authorized to arrange with Mr. Van Voorst as to the publishing price of the List of British Birds; and this resolution was put to the meeting and carried.

The following new Members were then balloted for and duly elected :—

Ordinary Members. James Davidson, 32 Drumsheugh Gardens, Edinburgh; Henry Parker, C.E., Public Works Department, Ceylon; Edmund Gustavus Bloomfield Meade-Waldo, Rope Hill, Lymington, Hants; Lewis Vernon Harcourt, 7 Grafton Street, London, W.; William Herbert St. Quintin, Scampston Hall, Rillington, Yorks; Scrope B. Doig, Public Works Department, Bombay; and T. M. Pike, Westport, Wareham.

Professor Othniel Charles Marsh, of Yale College, New-haven, U.S., was elected a Foreign Member of the Union.

The Meeting then adjourned with a vote of thanks to the Chairman, which was proposed by Canon Tristram, seconded by Mr. W. T. Blanford, and carried unanimously.

The Annual Dinner, which was subsequently h attended by about 30 members of the B.O.U. and gu

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More Novelties from Lower California.—Mr. writes to us that the United States Museum ha received some more good things from their coll Lower California, the most interesting of which a tional specimens of *Turdus confinis* (an "excellent s and examples of a new and very distinct *Junco*, a new *parus*, a remarkable new *Anthus* (most like *A. pr* besides examples of several new geographical or lo or subspecies. This collector, at the time of writing only commenced his season's work, this being his instalment, and more discoveries were expected.

New Birds from the Argentine Republic.—The last numbers of the 'Journal für Ornithologie' contain several articles by Dr. Cabanis upon the collection of birds recently made by Herr Fritz Schülz in the upper provinces of the Argentine Republic. The new species described are:—*Colaptes longirostris* (J. f. O. 1883, p. 97), *Cinclus schulzi* et *Phlœotomus schulzi* (ibid. p. 102), *Chloronerpes tucumanus* (ibid. p. 103), *Troglodytes auricularis* et *Scytalopus superciliaris* (ibid. p. 104), *Orospina pratensis* (ibid. p. 108), *Phrygilus dorsalis*, *Buarremon citrinellus*, *Placellodomus sincipitalis* et *P. maculipectus* (ibid. p. 109), *Chloronerpes frontalis* et *Synallaxis superciliosa* (ibid. p. 110). *Orospina* is a new genus of Fringillidæ, allied to *Sycalis*. The discovery of a Water-Ouzel so far south in the New World is of great interest. Herr Schülz met with it on the mountain-brooks of the Cerro Vayo of Tucuman. Herr Schülz has also himself described *Cri legus cabanisi* from the same district (J. f. O. 1882, p. 46

New Genera and Species of Count Salvadori.—In our notice of the last volume of Salvadori's 'Ornitologia della Papuasia' (*antea*, p. 219) it should have been mentioned that three new species—*Hydralector novæ-hollandiæ* (p. 309) from Australia, *Rhipidura finschi* (p. 532) from New Britain, and *Zigmatops blasii* (p. 543) from the Moluccas—were described in it.

In our notice of the same author's 'Prodromus' of the Grallatores of Papuasia (Ibis, 1882, p. 606) it should likewise have been stated that two new genera—*Neoscolopax* (type *Scolopax rochussenii*, Schleg.) and *Zonerodius* (type *Ardea heliosyla*, Lesson)—were characterized for the first time.

The National Collection of Birds.—The portion of the collection of birds in the British Museum kept in unmounted state (nearly 100,000 in number) has now been removed to the new Natural-History Museum in South Kensington, and is under process of arrangement in one of the one-storied galleries of the west wing. The mounted specimens (10,000) will shortly follow, and will be placed in the lowest of the three great galleries of the same wing.

In the lately issued Parliamentary Report the following account is given of the accessions in 1882 in the class of Birds.

"The number of accessions was 3574, the following being the most important:—

"The additions to the groups of British birds, presented by Lord Walsingham (viz. Long-eared Owl, Jay, Garden-Warbler, Whitethroat, Stonechat, Hawfinch, Redpoll, Cuckoo, and Snipe), by Lord Lovat (Grouse and Curlew), and by T. Harcourt Powell, Esq. (Golden-crested Wren and Greenfinch).

"Two specimens of Audouin's Gull from the Mediterranean, a species previously unrepresented in the collection; presented by Lord Lilford.

"A specimen of *Puffinus kuhlii* from Malaga; presented by Col. Irby.

"A collection of 85 Gulls and Terns from various localities; presented by Howard Saunders, Esq.

"Three species of Titmice from Russia and Central Asia, new to the collection; purchased.

"Thirty-six specimens from various localities between Eastern Siberia and the Straits of Malacca; collected [illegible] presented by Dr. A. McKinlay, of H.M.S. 'Mosquito'.

"Forty-two specimens from North China, collected [illegible] late Capt. Ince; presented by Mrs. Ince.

"A series of 190 Timeliine birds from the Himalayas [illegible] sented by H. Seebohm, Esq.

"A collection of 294 specimens made in Gil[illegible] J. Biddulph.

"A specimen of the rare *Trochalopteron jerdoni* [illegible] presented by A. O. Hume, Esq., C.B.

"Thirty-five specimens from the Nilgherri hills; [illegible] by W. Davison, Esq.

"The complete set of the birds collected by E. W. Oates, Esq., during his twelve years' residence in Pegu, and consisting of 1544 specimens; purchased.

"The type specimen of a Hornbill (*Buceros subcylindricus*); purchased of the Zoological Society.

"Two specimens of Honey-suckers new to the collection (*Melilestes iliolophus* and *Ptilotis cinerea*); received from the Museo Civico, Genoa.

"Thirty-five specimens collected in the province of Wasa, Gold Coast, and presented by Major Burton and Captain Cameron.

"Four species from Benguela new to the collection (*Fiscus souzæ, Sylviella ruficapilla, Parus rufiventris, Nilaus affinis*); presented by the Lisbon Museum.

"Sixty-eight specimens from Mombasa, East Africa; presented by the Rev. H. Fowell Buxton.

"Fourteen specimens from the Orange river; presented by Dr. Bradshaw.

"A selected series of 177 specimens and 373 eggs, collected by the Rev. W. Deans Cowan in the Betsileo country.

"Seven specimens from Madagascar, among which are *Mesites variegata* and *Hypositta corallirostris*; purchased.

"Eighteen specimens from the Amirante and Glorioso Islands, and 157 specimens from Torres Straits, collected by Dr. Coppinger during the survey of H.M.S. 'Alert,' and [illegible] by the Lords of the Admiralty.

[illegible]specimen of a rare Kingfisher (*Alcyone pusilla*) from [illegible] Ceram; presented by Hr. J. G. F. Riedel.

[illegible]rge series from the Astrolabe range of mountains in [illegible]ast New Guinea, collected by Mr. A. Goldie, and [illegible]ing many new or rare species; purchased.

[illegible]ty-one specimens from New Britain and Duke-of-York [illegible]; collected by the late Hr. Kleinschmidt, and pur[illegible]of the Godeffroy Museum.

[illegible]enty specimens from Bermudas, Nova Scotia, and [illegible] including a specimen of a species of Pipit recently de[illegible]ed (*Anthus butleri*); presented by Capt. Savile G. Reid."

Note on the Breeding of Phœnicopterus antiquorum.—My friend Mr. Abel Chapman, who has devoted much time and attention this spring to the exploration of the marisma to the south of Seville, writes to me as follows upon the question of the nesting of the Flamingo:—"I found a 'pajarera' early in May—many nests all together and others studded round in the shallow water. I visited this colony on the 9th and 11th May, but was disappointed in not finding any eggs laid by the latter date, when I was obliged to leave the marisma. However, I obtained sketches of the nests, and *birds sitting on them*, on both occasions. The nests were only 6 to 8 inches above the water or mud, as the case might be; and *the legs of the birds were doubled up*, their knees projecting beyond their tails, and the marks of their legs were distinctly visible on the side of the hollow top of the nests after the birds had gone." So now it would appear that the position of the Flamingos on their nests is finally settled: they do *not* sit astride, but double their legs beneath them like other brooding birds. As regards the time of laying: on a former visit to the marisma, Mr. Chapman found that

a few eggs were deposited by the 24th May. We expect that Mr. Chapman will shortly give us further details of his personal experiences upon a ground which, although visited by several ornithologists, is by no means worked out.—H. S.

Mr. Seebohm's Excursion to the Dobrutscha.—[illegible] bohm has just returned from a bird's-nesting trip [illegible] lower Danube and the Dobrutscha. The season wa[illegible] late and the river very high; but on the whole he w[illegible] cessful. In one of the large breeding-colonies he [illegible] nests of Common Heron (*Ardea cinerea*), Little Eg[illegible] *garzetta*), Squacco Heron (*A. ralloides*), Night-Heron [illegible] *ticorax griseus*), and Pygmy Cormorant (*Phalac[illegible] pygmæus*), many trees containing upwards of twent[illegible] Colonies of Caspian Terns (*Sterna caspia*) and of S[illegible] billed Gull (*Larus gelastes*) were almost destroyed [illegible] Russian fishermen. He was more fortunate with egg[illegible] Black-winged Stilt (*Himantopus candidus*), of Avocet (*[illegible] curvirostra avocetta*), of Great Bustard (*Otis tarda*), and [illegible] of Little Bustard (*O. tetrax*). He met with small parties of the Rose-coloured Pastor (*Pastor roseus*) and examined their nests of last year. He also met with the Demoiselle Crane (*Grus virgo*), the Siberian Pied Chat (*Saxicola morio*), the Steppe-Eagle (*Aquila nipalensis*), &c. &c.

THE IBIS.

FIFTH SERIES.

No. IV. OCTOBER 1883.

XXXVI.—*Notes upon some Rare Species of Neotropical Birds.*

By Robert Ridgway, Curator, Department of Birds, United-States National Museum.

Having intimated a desire to see specimens of the following rare and, to me, particularly interesting species, Mr. Sclater very generously sent them to me for inspection, with the suggestion that I should prepare a few notes concerning them for publication in 'The Ibis.' It is with great pleasure that I comply with this request, although there is not much to be said, all the species being so very distinct as to require little comment.

1. Harporhynchus ocellatus, Scl.

This large species is much the finest of the genus and is remarkably distinct. As originally placed by Mr. Sclater, it belongs to the subgeneric (?) group *Methriopterus**. In coloration it most resembles *H. cinereus*, Xantus, but may be immediately distinguished by the rounded and subcordate

* *Cf.* Proc. U.S. Nat. Mus. vol. v. pp. 43–45.

instead of cuneate markings on the breast, white lores and superciliaries, besides its much greater size. In the type specimen (which I believe is still unique) the tail appears to be very much more graduated than in any of its congeners, the lateral feathers being 2·10–2·25 inches shorter than the middle rectrices; but a close inspection shows that these feathers are not fully developed.

2. Pyranga erythrocephala (Sw.).

This plainly-coloured *Pyranga* is apparently more nearly related to *P. roseigularis*, Cabot, than to any other known species. Not only do the two agree pretty well in size and proportions, but the coloration also presents some similarity. Both have the pileum dull red and the throat pale red, with the rest of the plumage dull-coloured and unvariegated; but while *P. erythrocephala* is olive-green above and yellow below, *P. roseigularis* is greyish above, with dull reddish wings and tail, and whitish below, with pale red or pink lower tail-coverts. It is possible that full-plumaged males of *P. erythrocephala* may have the sides of the head also red; but it seems more likely that in this species, as in *P. roseigularis*, the two red areas are always more or less distinctly separated by the differently coloured lores, orbits, and auriculars.

3. Zonotrichia quinquestriata, Scl. & Salv.

This very peculiarly marked and exceedingly distinct Sparrow apparently belongs to the group which Dr. Coues has designated by the generic term *Amphispiza*, of which the *Emberiza bilineata* of Cassin is typical, and to which should also, in my opinion, be referred the "*Zonotrichia*" *mystacalis* of Hartlaub. The true *Zonotrichiæ* are a very well circumscribed group of purely Nearctic species, and include so far as known, only *Z. leucophrys*, *Z. intermedia*, *Z. gambeli*, *Z. coronata*, and *Z. albicollis*. Where *Emberiza pileata* Bodd., belongs I am undecided; but I cannot believe that it should be referred to *Zonotrichia*.

4. Peucæa notosticta, Scl. & Salv.

This is much the largest species of the genus, appro

certain members of the genus *Hæmophila*. In all s, however, it appears to be a true *Peucæa*, though sely related to any of the known species.

ONTORNIS OCHRACEUS, Scl. & Salv.

very strongly marked species is about the size and rm of *C. lugubris*, but is very different in its coloration, ich strongly suggests that of the little *Empidonax fla-*

PANYPTILA CAYENNENSIS (Gm.).

exact miniature of *P. sancti-hieronymi*, Salvin, of the tenalan highlands, the only difference, that I am able to ct, consisting in its very much smaller size.

mithsonian Institution,
June 27th, 1883.

XVII.—*Notes on Woodpeckers.*—No. IV. *On the Woodeckers of the Ethiopian Region.* By EDWARD HARGITT, .Z.S.

(Plate XII.)

may, perhaps, occur to ornithologists that, after Malherbe's extensive monograph, there would be little to write on the subject of the Woodpeckers of Africa; but the criticisms in Professor Sundevall's 'Conspectus' alone would show that the work of the above-named author was not altogether satisfactory; while the vast increase in our knowledge of African ornithology since Malherbe's time seems to me to warrant the necessity of a fresh revision of the family, as far the Ethiopian Region is concerned. I may state at the tset that I have not much additional information to give the South-African Woodpeckers, as these birds were the ect of very careful study by Mr. Sharpe in his edition of ard's 'Birds of South Africa,' and I am enabled in most cases to endorse the conclusions arrived at by the last-named author. If Mr. Sharpe has worked out many of the families of South-African birds in the same conscientious manner as

he has done the Woodpeckers, it is not surprising t
edition of Layard's book has taken him so man
to complete. I have already treated of *Verreauxia*
paper on "The Piculets of the Old World" (Ibis
p. 222); and I have not included *Iynx* in the present
as I hope to present to the readers of 'The Ibis' a
on the Wrynecks at some future date.

I must here return my thanks to Dr. Günther
facilities which he has always afforded me for stud
British Museum, while, I need hardly add, my fri
Sharpe has always done his utmost to help me in c
the fine collection under his charge. Capt. Shelley
me his entire collection of Woodpeckers; and ma
descriptions are taken from the birds so kindly plac
disposal. To Mr. Salvin I am indebted for the opp
of examining Swainson's types in the Cambridge U
Museum; and Professor Barboza du Bocage has sent me
Lisbon the types of his *Dendropicus congicus*. When in
I was enabled by the kindness of Professor Milne-Edw
and Dr. Oustalet to take descriptions of *D. sharpii*; an
both of these gentlemen I tender my thanks.

Key to the Genera.

a. Tarsus longer than outer posterior toe with its claw; culminal ridge narrow and rounded; nasal line in the bill tolerably well defined and situated near the culmen, gradually vanishing away towards the anterior portion of the bill ..... *Geocolaptes.*

b. Tarsus shorter than outer posterior toe with its claw.

*a*¹. Culminal ridge narrow and prominent, succeeded by a flattened shelf between the culminal ridge and the nasal line, which is situated nearer to the cutting-edge of the upper mandible than to the culmen (measured at nostrils), and disappears on the edge of the mandible at about two thirds of its length.

*a*². Bill very long; culmen much longer than tarsus *Mesopicus.*

*b*². Bill much shorter; culmen not exceeding tarsus in length ..... *Dendropicus**.

* I think that *Poliopicus* of Cassin, if really a distinct genus, will

in size
respect
not cl

nasal line situated high in the mandible and much nearer to the culmen than to the cutting-edge of the mandible, and vanishing gradually on the fore part of the bill ..... *Calapothera.*

5. C

1. Geocolaptes. Type.

ptes, Swains. Faun. Bor.-Am. Birds, 315 (1831) . . . . . *G. olivaceus.*

us, Malh. Intr. Monogr. Picid. p. liii 61) . . . . . *G. olivaceus.*

OLAPTES OLIVACEUS.

on-breasted Woodpecker, Lath. Gen. Syn. i. pt. 2, 1783).

olivaceus, Gm. Syst. Nat. i. p. 431 (1788, ex Lath.); raité, p. 218 (1831).

ic Laboureur, Levaill. Ois. d'Afr. vi. p. 27, pls. 254, 255 (1808); Sundev. Krit. Framst. Levaill. p. 52 (1857).

Picus arator, Cuvier, Règne Anim. i. p. 423, ex Levaillant (1817); Wagler, Syst. Av. *Picus*, sp. 86 (1827); Sundev. Consp. Av. Picin. p. 68 (1866); Giebel, Thes. Orn. ii. p. 141 (1876).

Picus terrestris, Burch. Trav. in South Afr. i. p. 254 (1824).

Colaptes olivaceus, Steph. Gen. Zool. xiv. p. 171 (1826); Gray, Gen. B. ii. p. 446 (1846); Layard, B. S. Afr. p. 239 (1867); Gray, List Picid. Brit. Mus. p. 123 (1868); id. Hand-l. B. ii. p. 203. no. 8837 (1870).

Geocolaptes terrestris, Swains. Faun. Bor.-Am. Birds, p. 315 (1831, ex Burch.), note; id. Classif. B. ii. p. 389 (1837).

Geocolaptes olivaceus, Gray, List Gen. B. 1840, p. 55; Licht. Nomenel. Av. Berol. p. 77 (1854); Gurney, Ibis, 1868, p. 462; Sharpe, Cat. Afr. B. p. 18 (1871); Sundev. Av. Meth. Tent. p. 73 (1872); Buckley, Ibis, 1874, p. 368; Sharpe, ed. Layard's B. S. Afr. p. 187 (1875); Butler, Feilden,

find its place near *Dendropicus*; but of this I have no means of judging, as the only specimen known is in Philadelphia.

& Reid, Zool. 1882, p. 208; Salvin, Cat. Strickl. Coll. p. 401 (1882).

Geopicus arator, Malh. Mém. Acad. Metz, 1848–1849, p. 359; id. Monogr. Picidæ, ii. p. 274, pl. cxi. figs. 1, 2 (1862).

Geocolaptes arator, Bonap. Consp. Av. i. p. 113 [illegible] memoir Reichenb. Handb. Scans. Picinæ, p. 429, pl. dclxxv. 4477–4479; Bp. Consp. Volucr. Zygod. p. 9 (1854). [illegible] for the

Adult male. Above pale dusky olive, faintly spotted at the dingy white; lesser wing-coverts dusky olive, tipped Mr. dull crimson; the median and greater series darker [illegible]sulting back and spotted with whitish; quills dusky bro[illegible]n, outer webs more or less edged with olive, and part [illegible] the entirely barred with whitish; the inner webs [illegible]otted at ry tially barred with pure white; shafts golden [illegible]ortunity crimson [illegible] tail-coverts dull yellowish o[illegible]versity barred [illegible]sh tail olive-brown, narrowly barred with buffy [illegible] tipped with orange, inclining to crimson; shafts rich brown; lores and side of the face ashy; forehead, crown, occiput, and side of the neck ashy with a slight olive tinge, the feathers of the latter faintly tipped with whitish; hind neck like the back, but uniform; cheek-feathers tipped with dull crimson, and forming a faint malar stripe; chin and throat whitish, more dusky on the fore neck; under-parts cream-colour washed with crimson; the margins of the feathers of the lower breast deeper crimson and having a striped appearance; flanks and thighs whitish, the feathers edged with cream-colour or dingy pale buff and barred with pale dusky olive; under tail-coverts pale buff, slightly washed with crimson and barred with light dusky olive; under wing-coverts dusky olive, barred with whitish; axillaries dusky, barred with light buffy brown; "bill black; tarsus black; iris orange" (*T. E. Buckley*). Total length 9·8 inches, culmen 1·5, wing 5·3, tail 3·7, tarsus 1·0; toes (without claws)—outer anterior 0·78, outer posterior 0·78, inner anterior 0·55, inner posterior 0·4.

Mr. Ayres gives the soft parts as follows:—Iris light ashy brown; bill black; tarsi and feet light ash-colour.

Adult female. Different from the male in having the malar stripe dusky, the head darker, and the side of the neck and breast more olive and considerably mottled and barred with dull white; "bill black; tarsus black; iris orange" (*T. E. Buckley*); "bill and tarsus light ash-colour; iris light ashy [illegible] (*T. Ayres*). Total length 9·5 inches, culmen 1·5, [illegible]3, tail 3·5, tarsus 1·0.

Young male. General colour above dusky olive-brown, [illegible]uniform, being very faintly spotted with a paler tint; [illegible]shy, the nape partaking of the colour of the back; [illegible]potted and barred as in the adult; rump dusky, barred [illegible]ighter shade of dusky buff and washed with pale [illegible]; tail-coverts dusky, barred with buff; tail dusky [illegible]barred with buff; shafts rich brown; malar stripe [illegible]crimson; breast dusky, spotted with buff; under-[illegible]buff, faintly barred with a darker shade, the [illegible]domen being faintly washed with crimson; under wing-coverts paler and less olive than in the older bird; the axillaries pale buffy brown with dusky spots; in all other respects very similar to the adult.

Young female. Similar to the young male, but having the crown and nape more olive-brown, and without any red on the malar stripe.

In a male specimen, dated April 24th, the feathers of the crown and nape are of a dusky olive upon their margins, this colour producing a mottled appearance; the flanks, thighs, upper tail-coverts, and tail (towards the tip) washed with crimson. On the tips of some of the feathers of the upper parts, both in adult and young, a trace of crimson is observable.

After carefully going over Latham's original description, I have come to the conclusion that, although it is not altogether satisfactory, it is really intended for the present species, [illegible] ought therefore to bear the name of *Geocolaptes olivaceus* (Gm.), founded on the "Crimson-breasted Woodpecker" of Latham. The description of the latter author gives the [illegible]l length of the bird as 10½ inches and the bill as 2 inches, [illegible]h will be seen to be incorrect on comparison with those

given above. He further gives the tail as 2 inches and *black* above, when it is really 3·5 inches and of an olive-brown colour, narrowly barred with buffy white. He may, perhaps, have had a young bird with a more dusky tail; but it is curious that he never mentioned the cross bars which are to be seen at every age. The rest of his des[illegible] (1850); however, leaves no doubt as to the species intende[illegible] ii. figs. I therefore adopt the name of *olivaceus*, as Gra[illegible] done before me. The present species, according [illegible]ed with Layard, is common throughout the Cape Colony, [illegible]d with sent to him from Colesberg. Major Bulger found [illegible]than the Windvogelberg, and it extends eastwards as far as [illegible]wn, the Mr. Buckley met with the species near Pietertially or burg, and Mr. Ayres procured it on the Mooi river[illegible] or par-common in Natal, according to Mr. Buckley; and [illegible]rump upper portions of the same colony extremely so, as [illegible]rowly corded by Majors Feilden and Butler and Capt. Reid. Major Butler found a nest on the 2nd of August near Newcastle. All observers agree that the habits of this bird are chiefly terrestrial, and that it breeds in holes of banks, sides of hills, walls of mud buildings, and never frequents trees.

2. Mesopicus.	Type.
Mesopicos, Malh. Mém. Acad. Metz, 1849, pp. 341, 342	*M. goertan.*
Scolecotheres, Reichenb. Handb. Scans. Picinæ, p. 427 (1854)	*M. griseocephalus.*
Thripias, Cab. & Heine, Mus. Hein. iv. p. 121 (1863)	*M. namaquus.*
Camponomus, Cab. & Heine, *t. c.* p. 137, note	*M. pyrrhogaster.*

Key to the Species.

a. Shafts of quills and of tail-feathers bright yellow or orange-brown above and below.

a[1]. Sinciput black, spotted with white; hinder crown and occiput red; colour above and below olive-dusky, narrowly barred with white; sides of face white.

a^3. With a broad auricular stripe of black and a second broad moustachial band, the two *not* meeting on the side of the neck ..... *namaquus.*

b^3. Auricular band uniting with moustachial band on the side of the neck ..... *schoensis.*

[illegible]. Forehead ashy grey; crown and occiput red; brown [illegible] red.

wing [illegible] Centre of abdomen yellow, sometimes with a slight tinge of red ..... *goertan.*

You[illegible] Entire abdomen conspicuously red, extending nearly [illegible] onto the breast ..... *spodocephalus.*

[illegible] as of quills and of rectrices black above, yellow [illegible] gin brown below.

[illegible] rehead, crown, and occiput, as well as the rump [illegible] red

[illegible] above and below uniform golden olive, without [illegible] moustachial or auricular stripes; face and throat [illegible] slaty grey; lower part of abdomen [illegible] parts. [illegible] mixed with red ..... *griseocephalus.*

[illegible] ve uniform golden olive; below dingy buffy [illegible] ute, striped and varied with black; a black moustache and auricular stripe; face and throat buffy white; a median stripe of red down the breast and the whole of the abdomen ..... *pyrrhogaster.*

d^3. Forehead and crown dark umber-brown, the feathers of the former tipped with white and the latter with yellow; occiput bright yellow; rump yellowish olive ..... *xantholophus.*

1. Mesopicus namaquus.

Picus namaquus, Licht. Cat. rer. Nat. Hamb. p. 17. no. 179 (1793); Sundev. Consp. Av. Picin. p. 42. no. 122 (1866); Finsch & Hartl. Vög. Ostafr. p. 507 (1870).

Pic à moustaches noires, Temm. Cat. Syst. 1807, p. 213.

Le Pic à double moustache, Levaill. Ois. d'Afr. vi. p. 22, pls. 251, 252 (1808); Sundev. Krit. Framst. Levaill. p. 52 (1857).

Picus mystaceus, Vieill. N. Dict. d'Hist. Nat. xxvi. p. 73 (1818); Bonn. & Vieill. Enc. Méth. iii. p. 1307 (1823).

Picus punctatus, Vieill. (nec Cuv.) N. Dict. d'Hist. Nat. [illegible]. p 89 (1818); Bonn. & Vieill. Enc. Méth. iii. p. 1316 [illegible]23); Wagl. Syst. Av. *Picus*, sp. 37 (1827, ex Vieill.).

Picus biarmicus, Cuv. in Mus. Paris; Valenc. Dict. Sc. Nat. xl. p. 176 (1826); Wagl. Syst. Av. *Picus*, sp. 44 (1827); Less. Traité, 1831, p. 220; Rüpp. Syst. Uebers. 1845, p. 85.

Picus diophrys, Steph. Gen. Zool. xiv. p. 161 (1826).

Dendromus punctatus, Swains. (nec Cuv.) Classif. B. ii. p. 307 (1837, ex Wagl.); Bp. Consp. Volucr. Zygod. p. 48 (1854).

Dendrobates namaquus, Gray, Gen. B. ii. p. 437 (? p. 47 Bp. Consp. Gen. Av. i. p. 124 (1850); Strickl. & Sclat. Orn. 1852, p. 155; Kirk, Ibis, 1864, p. 328; Bocage, p. 18. Lisb. iv. 1867, p. 336; Layard, B. S. Afr. p. 236 (golden Bocage, Jorn. Lisb. viii. 1870, p. 348; Sharpe, Feathers 1871, p. 134; Layard, Ibis, 1871, p. 227; Ayres, d-wing p. 261; Bocage, Jorn. Lisb. xvi. (1873); Buckley, Ibis er pri- p. 368; Bocage, Jorn. Lisb. xxii. 1877, p. 143; id. Or laries, gola, p. 75 (1877); Salvin, Cat. Strickl. Coll. p. 392 (1 quills

Dendropicus mystaceus, Malh. Mém. Acad. Metz, 1861, p. 339.

Campethera namaqua, Reichenb. Handb. Scans. Picinæ, p. 422, pl. dclxxii. figs. 4451–4452 (1851).

Campethera punctata, Reichenb. Handb. Scans. Picinæ, p. 425 (1851, ex Vieill.).

Dendropicus namaquus, Bp. Consp. Volucr. Zygod. p. 9 (1854); Gray, List Picid. Brit. Mus. 1868, p. 69; id. Hand-l. B. ii. p. 190. no. 8664 (1870); Sharpe, Cat. Afr. B. p. 18 (1871); Bocage, Jorn. Lisb. xvii. 1874, p. 57; Sharpe, ed. Layard's B. S. Afr. p. 188 (1875); Ayres, Ibis, 1879, p. 300; Sharpe, in Oates's, Matabele Land, App. p. 306 (1881).

Dendropicus biarmicus, Malh. Monogr. Picid. i. p. 193, pl. xlii. figs. 4–6 (1861).

Thripias namaquus, Cab. & Heine, Mus. Hein. iv. p. 121 (1863).

Adult male. Above, including scapulars and rump, dusky olive, with irregular narrow cross-markings of whi ; wing-coverts browner than the back, the lesser series ed with dull white, the remainder having irregular cross-m gs of the same; bastard-wing and primary-coverts brown; q dusky brownish, the outer webs partially or entirely d

yellowish olive, spotted or partially barred with whitish, the inner webs notched and spotted with pure white; a few of the inner feathers narrowly barred with white upon both webs; shafts golden yellow; tail-coverts golden olive, edged with bright golden, slightly tinged with crimson, and having cross-markings; tail olive-brown, narrowly barred rownish white (whiter upon the inner webs), the centir of feathers more olive and the barring almost obthe tips of all being deep golden, inclining to orange; bright golden yellow; nasal plumes white tipped with sinciput black, spotted with white; remainder of the and occiput scarlet, bases of the feathers blackish; ntense black; lores and side of the face and neck the latter narrowly barred with blackish; a black lar stripe; chin, throat, and fore neck white, the latter dusky bars; a very broad and intense black moustachial stripe running onto the side of the chest; underparts, together with the flanks and thighs, dusky, the breast and abdomen tinged with olive, and the whole barred with whitish; under tail-coverts similar to the underparts, but slightly tinged with golden; under surface of the tail washed with golden; under wing-coverts and axillaries white, barred with blackish; "bill dusky, with the under mandible lighter; irides bright garnet-colour; tarsi and feet pale dingy olive-green" (*T. Ayres*). Total length 8·5 inches, culmen 1·45, wing 5·2, tail 2·7, tarsus 0·85; toes (without claws)—outer anterior 0·62, outer posterior 0·72, inner anterior 0·45, inner posterior 0·35.

Adult female. Resembling the adult male, but rather more dusky, and without the red upon the posterior half of the crown and occiput, these parts being black; the forehead and crown spotted with white; some of the ear-coverts varied with white; "beak black; legs black; iris dark red: July (*T. E. Buckley*). Total length 8·5 inches, culmen 1·4, 5·4, tail 2·7, tarsus 0·75.

Young male. Resembling the adult male, but having the posterior half of the crown and the occiput of a duller red, and the feathers of the latter not elongated; general colour

of the plumage dusky, having scarcely a trace of olive, with the markings of the adult; upper tail-coverts less golden; tail duller and the barring more distinct; the shafts paler, those of the wing-feathers being nearly white; the dusky barring of the underparts narrower, especially the feathers of the vent and under tail-coverts; iris pinkish bro[wn] (Buckley label).

The Bearded Woodpecker does not appear to i[nhabit] the Cape Colony or Natal; but was procured by Mr. Buckley in Swazi Land, and I have seen specimens fr[om] Transvaal and Mâtabele Land, as well as from the Ma[koba] country to the south of the Zambesi. Sir John Kirk [obtained] it on the Shiré river; and I have a specimen in my [collec]tion said to have been obtained in the Schimba Mou[ntains] near Zanzibar. If this locality be correct, the ran[ge of] *M. namaquus* would appear to reach that of *M. schoen[sis]* on the east coast; but further research is necessary to verify this statement. On the west coast this species occurs from Damara Land, through Ondonga, to Benguela and Mossamedes; it also extends into Angola proper, having been procured by Sala at Galungo.

2. Mesopicus schoensis.

Picus (Dendrobates) schoensis, Rüpp. Mus. Senckenb. iii. p. 124 (1842); Finsch & Hartl. Vög. Ostafr. p. 509 (1870).

Dendrobates schoensis, Rüpp. Syst. Uebers. 1845, p. 88, pl. xxxiii; Gray, Gen. B. ii. p. 437 (1849); Bp. Consp. Gen. Av. i. p. 124 (1850); Heugl. Syst. Uebers. 1856, p. 47; Shelley, P. Z. S. 1881, p. 593.

Dendropicos schoensis, Malh. Mém. Acad. Metz, 1849, p. 339.

Dendropicus schoensis, Bp. Consp. Volucr. Zygod. p. 9 (1854); Malh. Monogr. Picid. i. p. 195, pl. xlii. fig. 8 (1861); Gray, List Picid. Brit. Mus. p. 70 (1868); id. Hand-l. [B]. p. 190. no. 8665 (1870).

Campethera schoensis, Reichenb. Handb. Scans. Pic[idæ], p. 122, pl. delxxii. figs. 4147–4148 (1854).

Thripias schoensis, Cab. & Heine, Mus. Hein. iv. p. 121 (1863).

Picus schoensis, Sundev. Consp. Av. Picin. p. 42. no. 123 (1866); Fischer & Reichenow, J. f. O. 1879, p. 343.

Picus schoanus, Heugl. Orn. N.O.-Afr. p. 809 (1871).

[illegible] *male*. Above dusky yellowish olive, barred with [illegible]; the upper back more dusky, the tips of the feathers [illegible] white crescent-shaped markings; scapulars like the [illegible] with whitish cross-markings; wing-coverts dusky [illegible]sh olive, the lesser series spotted, the median and [illegible] coverts having crescent-shaped whitish markings; [illegible]-wing and primary-coverts dusky brown; quills dusky [illegible] the outer webs partially or entirely dull yellowish [illegible] those of the primaries minutely spotted, and of the [illegible]aries partially barred with whitish; inner webs deeply [illegible]d with pure white; a few of the inner feathers entirely dull olive, with the same markings; shafts dull golden yellow; rump similar to the back, but more golden olive; upper tail-coverts golden olive, edged with bright golden and having buffy white cross-markings; central pair of rectrices golden olive-brown, margined and tipped with brighter golden, and partially barred upon the inner webs with buffy white; the remainder blackish brown (the centre of the webs being olive-brown), barred with brownish white upon the outer webs, and having broader and whiter bars upon the inner; dwarf feather dusky brown, barred with whitish; shafts bright golden yellow; nasal plumes white, tipped with black; sinciput and edge of the crown black, spotted with white; remainder of the crown and occiput scarlet, the bases of the feathers blackish; nape intense black; lores and sides of the face and neck white, with a few blackish markings; a broad and intense black auricular stripe, and a similar one from the base of the lower mandible running down the side of the t[illegible] and fore neck, the two uniting a little behind the cl[illegible]; chin and throat white; from the chest to the vent (i[illegible]ding flanks and thighs) pale olive dusky, barred with du[illegible] white; under tail-coverts broadly barred with pale dusky olive, and more narrowly with whitish; under surface of the

tail washed with golden, deeper and more orange at the tip; under wing-coverts white, with a slight yellow tinge, and barred with olive-black; axillaries dull white, tipped with yellow and having dusky bars. Total length 8·5 inches, culmen 1·45, wing 5·5, tail 2·65, tarsus 0·85; toes (without claws)—outer anterior 0·6, outer posterior 0·75, inner [illegible] 0·5, inner posterior 0·35.

In another male specimen (apparently a very old bi[illegible] an imperfect skin) the chest is more tinged with yell[illegible] back more uniform; tips of the upper tail-coverts [illegible] orange, approaching to red; the two central tail-f[illegible] darker and nearly uniform, with only an indicat[illegible] barring, and the margins more orange.

Adult female. Resembling the adult male, but hav[illegible] red on the hind crown and occiput, this region bein[illegible] velvety black; the forehead and greater part of the [illegible] black, spotted with white, as in the male. Total length 8·5 inches, culmen 1·35, wing 5·1, tail 2·45, tarsus 0·8.

This is the representative of *M. namaquus* in Eastern and North-eastern Africa. It is very like that species, but is distinguished by a branch from the moustachial stripe joining the auricular one. It was originally discovered by Rüppell in Shoa, and was noticed by Prince Paul of Wurtemburg in Quamamil. Von Heuglin met with it in the forests of Bongo and on the river Wan, where it was apparently rare. I have also seen a specimen in Captain Shelley's collection from Ugogo, procured by Sir John Kirk; and Dr. Fischer obtained it at Muniuni.

3. Mesopicus goertan.

Le Goertan ou Pic vert du Sénégal, Daubent. Pl. Enl. p. 369, pl. 32; Buff. Hist. Nat. Ois. vii. p. 25 (1780).

Picus goertan, P. L. S. Müll. Natursyst. Suppl. 1776, p. 91.

Crimson-rumped Woodpecker, Lath. Gen. Syn. i. [illegible]2, p. 583. no. 29 (1782).

Picus goertan, Gm. Syst. Nat. i. p. 434 (1788); Lath. Ind. Orn. 1790, p. 236; Steph. Gen. Zool. ix. pt. 1, p. 179 (1815);

Vieill. N. Dict. d'Hist. Nat. xxvi. p. 75 (1818); Bonn. et Enc. Méth. p. 1321. no. 71 (1823); Wagl. Syst. Av. (1827); id. Isis, 1829, p. 511; Sundev. Consp. Av. p. 45. no. 133*b* (1866); Heugl. Orn. N.O.Afr. p. 814

bates poicephalus, Swains. B. W. Afr. ii. p. 154

robates immaculatus, Swains. B. W. Afr. ii. p. 152 Gray, Gen. B. ii. p. 437 (1846); Bp. Consp. Gen. Av. (1850); Sharpe & Bouvier, Bull. Soc. Zool. France, 16; Bocage, Orn. Ang. 1877, p. 7*.

robates poliocephalus, Gray, Gen. B. ii. p. 437 (1846); sp. Gen. Av. i. p. 125 (1850).

robates goertan, Gray, Gen. B. ii. p. 437 (1846); Bp. Gen. Av. i. p. 125 (1850); Hartl. J. f. O. 1854, p. 199; Orn. Ang. App. p. 535 (1877); Salvin, Cat. Strickl. Coll. p. 393 (1882).

Gecinus goertan, Blyth, Cat. B. Mus. As. Soc. p. 57 (1849).

Mesopicus goertan, Malh. Mém. Acad. Metz, 1849, p. 340; Bp. Consp. Volucr. Zygod. p. 9 (1854); Malh. Monogr. Picid. ii. p. 45, pl. lxiii. figs. 1, 2 (1862); Cass. Proc. Acad. Philad. 1863, p. 324.

Picus poliocephalus, Cuv. in Mus. Paris; Pucher. Rev. et Mag. Zool. 1852, p. 479; Sundev. Consp. Av. Picin. p. 47 (1866).

Scolecotheres goertan, Reichenb. Handb. Scans. Picinæ, p. 428, pl. dclxxvi. figs. 4475, 4476 (1854); Cab. & Heine, Mus. Hein. iv. p. 136 (1863).

Scolecotheres poliocephalus, Reichenb. Handb. Scans. Picinæ, p. 427, pl. dclxxvi. figs. 4473, 4474 (1854).

Scolecotheres immaculatus, Reichenb. Handb. Scans. Picinæ, p. 428 (1854); Cab. & Heine, Mus. Hein. iv. p. 135 (1863).

Dendropicus goertan, Hartl. Orn. W.Afr. p. 179 (1857); Sh[illegible]e, Ibis, 1869, p. 386.

Dendropicus immaculatus, Hartl. Orn. W.Afr. p. 180 (1857); Gray, List Picid. Brit. Mus. 1868, p. 67; id. Hand-l. B. ii. p. 190. no. 8659 (1870); Sharpe, P. Z. S. 1873, p. 717.

Dendropicus poliocephalus, Hartl. Orn. W. Afr. p. 179 (1
Dendropicus goertae, Hartl. Orn. W. Afr. p. 179 (1
Gray, List Picid. Brit. Mus. p. 67 (1868); id. Hand-l
p. 190. no. 8658 (1870); Sharpe, Cat. Afr. B. 1871,
Nicholson, P. Z. S. 1878, p. 131.

Mesopicus poicephalus, Malh. Monogr. Picid.
(1862).

Mesopicus immaculatus, Malh. Monogr. Picid. ii.
(1862); Cass. Proc. Acad. Philad. 1863, p. 324.

Dendrocopus poliocephalus, Reichenow, J. f. O. 187

Adult male. Above, including scapulars, bright
olive; wing-coverts more brownish olive, the outer
of the greater series spotted with buffy white; bastar
and primary-coverts brown, the outer webs of the in
maries, as well as the outer webs of all the seco
partially margined with or entirely golden olive, the
spotted along the margin of both webs, the spotting on the
outer primaries and upon the inner webs of all the feathers
being white, the spotting on the outer webs of the secondaries
yellowish; inner secondaries almost uniform; shafts dark
brown; rump and upper tail-coverts bright scarlet; tail
brown, the penultimate feather spotted along the margin of
the outer web and upon the apical portion of the inner with
buffy white, the next inner feather being similarly spotted
on the outer web only; dwarf feather brownish olive; shafts
brownish black; nasal plumes and forehead grey; crown and
occipital crest bright scarlet, the feathers having grey bases;
hind neck greyish olive; lores, sides of the face and neck,
chin and throat silver-grey; underparts more ashy, with a
tinge of yellow; the lower part of the abdomen brighter
yellow, tinged with orange-red; under tail-coverts like the
underparts, but striped with brown; under wing-coverts
buffy white, with irregular transverse dusky-brown marki
axillaries dull white, very faintly barred with dusky
Total length 7·5 inches, culmen 1·05, wing 4·2, t
tarsus 0·75; toes (without claws)—outer anterior 0·5, outer
posterior 0·62, inner anterior 0·4, inner posterior 0·25.

Adult female. Different from the adult male in having the

crown and occiput silver-grey, like the rest of the head. Total length 7·5 inches, culmen 1·0, wing 4·2, tail 2·45, tarsus 0·73.

Extremely old birds have the upper surface of the body, the wing-coverts, and the secondary quills yellower; the underparts and under tail-coverts more of a buffy grey, with a stronger yellowish wash; the under surface of the tail-feathers with a yellowish gloss, the spotting on the outer ones becoming confluent and forming a yellowish margin.

Young birds have the upper parts, wing-coverts, and secondary quills dusky brownish olive; the red on the head, rump, and upper tail-coverts less brilliant; the face, neck, and the whole of the under surface of the body, also the under tail-coverts duller, and more of an ashy brown on the chest and breast; the abdomen, flanks, and thighs having almost obsolete dusky barring, the under tail-coverts being more distinctly barred; under wing-coverts and axillaries duller.

Sundevall, in his 'Conspectus,' states his opinion that Swainson's *D. immaculatus* is, without doubt, = *M. griseocephalus*, and that Swainson's type never came from West Africa at all. Although I admit that there are certain characters in Swainson's description which, at first sight, appear to refer his species to *M. griseocephalus*, the spots on the outer webs of the quills seem to me to settle the question and show it to be *M. goertan*. I regret that the type specimen does not appear to have been in the Swainson collection when it was presented to Cambridge, and I am therefore obliged to judge from the description only; but I have no doubt on the subject in my own mind.

This Woodpecker appears to inhabit the whole of West Africa from Senegambia to Angola.

4. Mesopicus spodocephalus.

Xylobates poiocephalus, Rüpp. (*nec* Sw.), Beschr. neuer Arten Klettervögel, in Mus. Senckenb., Extra-Band iii. [illegible] (1842); id. Syst. Uebers. p. 86, pl. xxxiv. (1845); Heugl. Syst. Uebers. p. 47. no. 485 (1856).

Dendrobates spodocephalus, Bp. Consp. Gen. Av. i. p. 125 (1850); Salvin, Cat. Strickl. Coll. p. 393 (1882).

Mesopicus spodocephalus, Bp. Consp. Volucr. Zygod. p. 9 (1854); Hartl. Orn. W.Afr. p. 180, note (1856); Malh. Monogr. Picid. ii. p. 49, pl. lxiii. figs. 4, 5 (1862); [illegible], Proc. Acad. Philad. 1863, p. 324; Antin. Cat. desw. [illegible] p. 78 (1864).

Scolecotheres spodocephalus, Reichenb. Handb. Scans. Piciuæ, p. 427, pl. dclxxvi. figs. 4171, 4172 (1854); Cab. & Heine, Mus. Hein. iv. p. 137 (1863).

Picus spodocephalus, Brehm, J. f. O. 1854, p. 78; Sundev. Consp. Av. Picin. p. 45. no. 133*a* (1866); Heugl. Orn. N.O.-Afr. ii. p. 813 (1871).

Dendrobates goertan, Blyth, J. A. S. Beng. xxiv. (1). 255 (1855).

Dendropicus spodocephalus, Gray, List Picid. [illegible] Mus. p. 68 (1868); id. Hand-l. B. ii. p. 190. no. [illegible]; Heugl. Orn. N.O.-Afr. iv. p. clxvii (1871).

Adult male. Above olive-yellowish, with the forehead, nape, sides of the head and neck ashy grey; crown scarcely cres[illegible] at all; the nape, rump, and upper tail-coverts bright crims[illegible] breast and abdomen pale olive-grey, the latter bright yel[illegible] in the middle, tinged with red; the sides, with the und[illegible] tail-coverts, banded with pale whitish; quills and wing[illegible] coverts dusky brown, marked with rather large whitish spots, having the appearance of bands; tail-feathers dusky brown, tinged with yellow below, the first and second banded with white on the inner and outer webs, the third on the outer web only, the rest more obsoletely marked in the same way; bill and feet dusky bluish; iris dusky. Total length 7″ 5‴, bill from front 10½‴, wing 4″, tail 2″ 5‴, tarsus 7½‴ (*Heuglin.*)

Adult female. Smaller than the male, with the he[illegible] uniform grey; abdomen, under tail-coverts, wings, a[illegible] pulars more conspicuously banded with white. (*Heugl*[illegible]

I have not been able to examine a specimen of this species, which I know consequently only from Rüppell's plate and Heuglin's descriptions. If the former were to be

trusted, the large amount of red on the breast would seem to indicate a specific distinction between this bird and *M. goertan*. It will be seen, however, that the description of the male given by Heuglin by no means emphasizes this [illegible] colour on the breast as being of any very great impor- [illegible] cannot see in what respect the species, as [illegible] euglin, really differs from the West-African

[illegible]ke, however, to unite *M. spodocephalus* to [illegible]hout further material before me, and I have [illegible]pt the two species distinct in my key, trust- [illegible]e examination of the birds themselves will [illegible]xtension of the red on the breast in the [illegible] will turn out to be a valid character.

[illegible] Heuglin this Woodpecker is resident in [illegible]ca, and apparently plentiful in Kordofan [illegible]ell as in Abyssinia, being generally found in [illegible]g bushes and high trees.

[illegible] MESOPICUS GRISEOCEPHALUS.

[illegible]e *Pic à tête grise du Cap de Bonne Espérance,* Daub. Pl. [illegible]. vii. p. 786, fig. 2.

Le Pic verd de l'Isle de Luçon, Sonn. Voy. Nouv. Guin. [illegible]76, p. 73, pl. xxxvi.

Cape Woodpecker, Lath. Gen. Syn. i. p. 586, pl. 2.

Manilla Green Woodpecker, Lath. Gen. Syn. ii. p. 583. [illegible]. 28.

Picus griseocephalus, Bodd. Tabl. Pl. Enl. 1783, p. 49.

Picus menstruus, Scop. Del. Fl. et Faun. Insubr. ii. p. 89. [illegible]. 50 (1786); Sundev. Consp. Av. Picin. p. 45. no. 132 [illegible]866).

Picus capensis, Gm. Syst. Nat. i. p. 430 (1788); Lath. [illegible]d. Orn. i. p. 237. no. 37 (1790); Licht. Cat. Rer. Nat. [illegible]mb. p. 16. nos. 175, 176 (1793); Vieill. N. Dict. d'Hist. [illegible] xxvi. p. 92 (1818); Steph. Gen. Zool. ix. p. 194 (1826); [illegible] Traité, p. 219 (1831); Rüpp. Syst. Uebers. p. 87 [illegible].

Picus manillensis, Gm. Syst. Nat. i. p. 434 (1788, ex Sonn.);

Latham, Ind. Orn. i. p. 236. no. 31 (1790); Steph. Gen. Zool. ix. p. 189.

Le Pic Olive, Levaill. Ois. d'Afr. vi. p. 16, pls. ccxlviii., ccxlix. (1808); Sundev. Krit. Framst. Levaill. p. 52 (1857).

Picus canicaps, Wagl. Syst. Av. sp. 46 (1827).

Picus obscurus, Wagl. Syst. Av. sp. 90 (182

Dendrobates capensis, Swains. B. W. Afr. ii. Bp. Consp. Gen. Av. i. p. 125 (1850).

Dendrobates griseocephalus, Gray, Gen. B. ii Layard, B. S. Afr. p. 236 (1867).

Chrysocolaptes menstruus, Gray, Gen. B. (1849); Bp. Consp. Gen. Av. p. 122 (185 Volucr. Zygod. p. 10 (1854); Reichenb Picinæ, p. 400, pl. dcliv. fig. 4356 (1854).

Mesopicus capensis, Bp. Consp. Volucr. Z Malh. Monogr. Picid. ii. p. 42, pl. xlii. fig

Mesopicus griseocephalus, Cass. Proc. Ac p. 324.

Scolecotheres menstruus, Cab. & Heine, Mus. Hein p. 134 (1863).

Dendropicus menstruus, Gray, List Picid. Brit. Mus. p. (1868); id. Hand-l. B. ii. p. 190. no. 8657 (1870); Shar Cat. Afr. B. p. 18 (1871); id. ed. Layard's B. S. Afr. p. 1 (1875); Barratt, Ibis, 1876, p. 200; Butler, Feilden, & Re Zoologist, 1882, p. 208.

Mesopicus menstruus, Ayres, Ibis, 1876, p. 432.

Dendrobates menstruus, Salvin, Cat. Strickl. Coll. p. 3 (1882).

Adult male. Upper parts, including scapulars and wing coverts, uniform golden olive, the inner webs of the greate series being ashy brown; quills blackish brown, the outer webs edged with golden olive, this colour being more dev loped on the secondaries; inner webs spotted with whi shafts brownish black; rump and upper tail-coverts scarl tail uniform blackish brown, shafts black; crown and o pital crest scarlet; forehead, lores, and entire side of face, also chin and throat, ashy grey; fore neck and golden olive, washed with dull red; underparts olive mixed

with grey, the bases of the feathers being of the latter colour; the centre of the abdomen tinged with scarlet; under wing-coverts light greenish, barred with dusky brown; "upper mandible dusky, the under one pale ashy; tarsi and feet greenish ashy; iris dusky" (*F. A. Barratt*); "iris reddish hazel" (*T. C. Atmore*). Total length 7·6 inches, culmen 1·2, wing 4·4, tail 3·0, tarsus 0·8; toes (without claws)—outer anterior 0·55, outer posterior 0·6, inner anterior 0·4, inner posterior 0·35.

Adult female. Resembling the adult male, but rather smaller, and having the head grey; the scarlet on the breast also absent, and a very slight trace of this colour on the centre of the abdomen. Total length 7·5 inches, culmen 1·1, wing 4·2, tail 2·75, tarsus 0·8.

In some of the skins examined traces of small white spots on the dorsal surface of the tail are discernible. In some [illegible] also there is no trace of the scarlet tinge on the breast [illegible] these are probably younger males.

The range of this species may be briefly stated to be the [illegible]e Colony and Natal, extending into the Eastern Trans-[illegible]l. Its distribution is given more particularly in Mr. [illegible]arpe's edition of Layard's 'Birds of South Africa.'

6. MESOPICUS PYRRHOGASTER.

Picus (Chloropicus) pyrrhogaster, Malh. Rev. Zool. 1845, 399.

Dendrobates pyrrhogaster, Gray, Gen. B. iii. App. p. 21 (1849); Hartl. J. f. O. 1854, pp. 201, 433.

Chloropicus pyrrhogaster, Bp. Consp. Gen. Av. i. p. 126 (1850).

Scolecotheres pyrrhogaster, Reichenb. Handb. Scans. Picinæ, p. 128 (1854).

Mesopicus pyrrhogaster, Bp. Consp. Volucr. Zygod. p. 9 (1854); Malh. Monogr. Picid. ii. p. 41, pl. viii. figs. 9 & 10 (1862).

Dendropicus (Mesopicus) pyrrhogaster, Hartl. Orn. W.-Afr. p. 157 (1857).

Dendropicus pyrrhogaster, Cassin, Proc. Acad. Nat. Sci.

Philad. 1859, p. 141; Hartl. J. f. O. 1861, p. 263; Gray, List Picid. Brit. Mus. p. 68 (1868); id. Hand-l. B. ii. p. 190. no. 8861 (1870); Sharpe, Ibis, 1870, p. 486; id. Cat. Afr. B. p. 18 (1871); Ussher, Ibis, 1874, p. 55.

Camponomus pyrrhogaster, Cab. & Heine, Mus. Hein. Th. iv. p. 137 (1863).

Picus pyrrhogaster, Sundev. Consp. Av. Picin. p. 45. no. 131 (1866); Giebel, Thes. Orn. iii. p. 175 (1876).

Adult male. General colour above rich golden olive, the tips of the feathers washed with crimson; wing-coverts less golden, the lesser and median series washed or tipped with dull crimson, and some of the feathers having a heart-shaped spot of buffy white; the greater coverts washed on the outer webs with dull crimson; quill blackish brown, the outer webs partially or entirely golden olive, those of the primaries barred with buffy white, the inner webs notched and spotted with pure white; shafts black; lower back, rump, and upper tail-coverts crimson; tail uniform blackish brown, shafts black; crown and occiput crimson; forehead umber-brown, lores, superciliary stripe, and sides of the face and neck yellowish white, the latter streaked with blackish; a broad stripe of black from behind the eye running along the upper edge of the ear-coverts and down the side of the neck; chin, throat, and fore neck buffy white; a deep black moustachial stripe reaching to the side of the chest; underparts dingy buffy white streaked and barred with black, darker on the breast; middle of the latter and of the abdomen bright crimson; under tail-coverts olive-brown, the centres of the feathers being whitish and the tips crimson; under wing-coverts yellowish white, barred with black; axillaries yellowish white, slightly tipped with blackish. Total length 8·3 inches, culmen 1·3, wing 4·4, tail 2·7, tarsus 0·75; toes (without claws)—outer anterior 0·6, outer posterior 0·67, inner anterior 0·5, inner posterior 0·3.

Adult female. Differing from the adult male in having crown and occiput black. Total length 7·5 inches, culmen 1·1, wing 4·6, tail 2·9, tarsus 0·8.

Young. Forehead and crown crimson; nape black, as are

also the bases of the feathers of the crown; side of the face, neck, and throat white, with a slight buffy tinge; lower neck and chest buffy white, some of the feathers having a shaft-streak of black, others with the inner webs black, and a few being tipped with bright crimson; middle of the breast and dusky olive, with brighter olive tips to some of the and a few with dull crimson terminal margins; r of the underparts whitish, streaked and barred ky olive; the feathers of the back, also the greater verts, tinged with crimson at their extremities; the e plumage similar to the adult, but less brilliant.

s a very distinct and easily recognizable species, and ently confined to West Africa between Sierra Leone Gold Coast, being by no means uncommon in col- s from the latter locality. Afzelius procured it at Leone, and Dr. McDowell found it on St. Paul's river. F. Blissett collected it in Wassaw (Wasa). Governor er received several specimens from Denkera, in the rior of Fantee; and Pel forwarded specimens from hantee to the Leiden Museum.

In some of the males (apparently young birds) there are ght traces of spots on the outer webs of some of the condaries.

7. Mesopicus xantholophus.

Dendromus africanus, Cass. Pr. Philad. Acad. 1859, p. 141 (*nec* Gray); Heine, J. f. O. 1860, p. 192.

Dendropicus africanus, Hartl. J. f. O. 1861, p. 263; Cassin, Proc. Acad. Philad. 1863, p. 322; Sharpe & Bouvier, Bull. Soc. Zool. France, 1876, p. 312.

Picus africanus, Bocage, Jorn. Lisb. no. xx. 1876, p. 259.

Dendrobates africanus, Bocage, Orn. Ang. 1877, App. p. 536.

Dendropicus xantholophus, Hargitt, Ibis, 1883, p. 173.

Adult female. Above, including scapulars, rump, and ger tail-coverts, olive, the feathers of the rump edged with yellow, those of the interscapular region sparingly spotted with dull white; wing-coverts olive, sparingly spotted with white;

bastard-wing and primary-coverts black; edge of wing black, spotted with white; quills black, the outer webs of the primaries partially or entirely margined with olive and spotted with white, those of the secondaries entirely olive, with only the faintest indication of a lighter spotting or partial barring; inner webs of all spotted with white, shafts black; tail-shafts black; nasal plumes a mixture of dus and white; forehead and crown brown, becoming the occiput, the forehead and outer edge of the crown with white; nape black, varied with white; lores, the face and neck, chin, and throat white; an a stripe of olive-black, and from behind the cheek (runni the side of the chest) an indication of another stri bases of the feathers showing olive-black, the tips white; chest olive-black; the remainder of the under including the under tail-coverts, dusky olive, spotte white or dingy yellowish white; under surface of t blackish brown, shafts brown; under wing-coverts b spotted and barred with white; axillaries barred black white; underside of wing-shafts brown. Total length 7 inches, culmen 1·15, wing 4·3 (the measurement of tail ca not be given, as the new central feathers are only growing tarsus 0·75; toes (without claws)—outer anterior 0·55, outc posterior 0·63, inner anterior 0·42, inner posterior 0·3.

Young male. Above, including scapulars, rump, and upp tail-coverts, deep olive, the latter rather brighter; wing coverts deep olive, with a few dirty white spots; bastard wing and primary-coverts blackish brown; quills brownish black, the primaries partially or entirely margined with olive, the outermost being minutely spotted with white outer webs of the secondaries entirely olive; inner webs of all spotted with white; tail and tail-shafts black; forehea and crown brown, the feathers of the latter tipped with saffron-yellow; occiput and nape black; lores white; outc edge of the crown striped with white; sides of the face an neck white, partly striped with black, the cheeks bei uniform; an auricular stripe of brownish black; chin and throat white, slightly varied with dusky stripes; from the

angle of the lower mandible a blackish moustachial stripe running onto the chest, the feathers being tipped with white; from the fore neck to the under tail-coverts, inclusive, dusky olive spotted with white, the spotting on the under tail-coverts being very obscure; under surface of the tail black; abdomen brown; under wing-coverts dusky olive, varied with feathers; underside of wing-shafts pale brown.

remaining species has hitherto been considered to be the young with du*dropicus africanus* (Gray); but the latter bird is wing-co[l]d as having a red crest and a red rump, which rest of t[h]e impossible to reconcile it with any stage of plu-

This i[s] *M. xanthol*ophus. I am not acquainted with any is appar[en]tly ch, having a red rump in the adult, would and the some dication of it in the younger stage. So far lection[s] e habitat of this species is restricted to Sierra [L]eone. types are in the British Museum.

Mr. w[e]

above

by hi[m]

to [D]endrobates, Swains. Classif. B. ii. p. 306 (1837, nec Swains. Faun. Bor.-Amer. st[r]. p. 301, 1831) . . . . . *D. cardinalis.*

A[n]dropicos, Malh. Rev. Zool. 1849, p. 532 *D. cardinalis.*

c[a]rdipicus, Bp. Consp. Volucr. Zygod. p. 9 (1854) . . . . . *D. gabonensis.*

[P]oictonus, Heine, J. f. O. 1860, p. 191 (nom. emend. pro *Dendropicus*).

[X]opophilus, Cab. & Heine, Mus. Hein. iv. p. 113 (1863) . . . . . *D. obsoletus.*

[X]opatis, iid. t. c. p. 129 . . . . . *D. gabonensis.*

3. Dendropicus. Type.

The fixing of the proper generic term for these Woodpeckers has been a sore puzzle to me. Nearly every author seems to have changed his opinion on the subject, and some of them more than once. *Dendrobates* of Swainson cannot be used, as his original type was the Brazilian *D. affinis*, to that type his name must be held, though six years later he indicated *D. cardinalis* as the type. Malherbe first mentioned *Dendropicos* in 1849, when he described *D. hart-*

laubi (*D. cardinalis*, ad.), and therefore the latter species should be the type; consequently *Ipoctonus*, with which Heine proposes to supplant *Dendropicus*, must have the same type, although he mentions it when writing of *D. gabonensis*. This seems to be Heine's own idea, for in 1863 Cabanis and Heine proposed *Ipopatis* for the latter species.

Key to the Species.

a. Shafts of quills and of tail-feathers bright yellow or orange-brown above and below.
  a^1. Above uniform.
    a^2. Upper surface uniform yellowish olive.
      a^3. No black on hind neck.
        a^4. Upper tail-coverts tinged with red ..... *lafresnayi.*
        b^4. Upper tail-coverts with no red ..... *sharpei*, *lepidus.*
        c^4. Rump, as well as upper tail-coverts, red .. *abyssinicus.*
      b^3. Hind neck with a black patch ..... *melanopogon.*
    b^2. Upper surface uniform brown ..... *obsoletus.*
  b^1. Upper surface distinctly barred.
    c^2. Upper tail-coverts blood-red; above brown barred with whitish.
      c^3. Throat and breast streaked, the abdomen spotted with dusky brown ..... *hemprichi.*
      d^3. Underparts entirely spotted ..... *minutus.*
    d^2. Upper tail-coverts yellow, sometimes slightly washed with scarlet; brown of the forehead extending beyond the eye; upper surface yellowish olive, barred with yellow.
      e^3. Larger, length 6·0 inches, wing 3·75; underparts dull white, thickly streaked with black; hind neck dusky ..... *cardinalis.*
      f^3. Smaller, length 5·5 inches, wing 3·6; underparts yellowish, narrowly streaked with dusky blackish; hind neck olive ..... *zanzibari.*
b. Shafts of quills and tail-feathers black above, yellow or light brown below; rump like the back, and no red on it.
  c^1. Under surface of the body spotted with black; ear-coverts streaked with black ..... *gabonensis.*
  d^1. Under surface of the body broadly striped with olive; ear-coverts uniform ..... *lugubris.*

1. Dendropicus lafresnayi.

Dendropicos lafresnayi, Malh. Rev. de Zool. 1849, p. 533.

Dendrobates lafresnayi, Bonap. Consp. Gen. Av. i. p. 125 (1850); J. & E. Verreaux, Rev. et Mag. de Zool. 1855, p. 272; Bocage, Orn. Ang. App. p. 535 (1877).

shafts *Hopethera lafresnayi,* Reichenb. Handb. Scans. Piciuæ, white; no. 1002 (1854).

This *Dendropicus lafresnayi,* Bonap. Consp. Volucr. Zygod. p. 9 of *Den.* Hartl. Orn. W.Afr. p. 177 (1857); Malh. Monogr. describe p. 204, pl. xliv. fig. 4 (1861); Hartl. J. f. O. 1861, render it Gray, List Picid. Brit. Mus. p. 66 (1868); id. Hand-l. nage of p. 192. no. 8654 (1870); Sharpe & Bouvier, Bull. Woodpeol. France, 1876, p. 50; Reichenow, Mitth. Afrik. not have ch. i. p. 3; Bocage, Jorn. Acad. Sc. Lisb. xxix. 1880, as is

Gaboon *Dendropicus lafresnayi,* Cab. & Heine, Mus. Hein. iv. p. 116 (1860).

parts *Picus lafresnayi,* Sundev. Consp. Av. Picin. p. 43. no. 127 unif 66); Giebel, Thes. Orn. p. 162 (1876).

Dendrocopus lafresnayi, Reichenow, J. f. O. 1877, p. 18.

Adult male. Above, including scapulars, uniform golden ve, the half-concealed portion of the feathers more of a ull olive; wing-coverts brownish black, margined externally ith yellowish olive and spotted with white; bastard-wing rownish black, spotted with white; primary-coverts uniform rownish black; quills blackish brown, the outer webs margined at the base, or along the whole length, with dull yellowish olive, and spotted with white or yellowish white; inner webs spotted with pure white, the spotting on the secondaries having an appearance of bars; some of the inner feathers dull yellowish olive on both webs, shafts olden yellow; rump like the back, but the half-concealed arker bases of the feathers producing an indistinct barred ppearance; upper tail-coverts more golden than the back, th a trace of red on the tips; tail brownish black (the r portion of the webs olive), barred with dingy brownish or yellowish white, the bars yellower on the central pair of

feathers; dwarf feathers olive dusky, barred and tipped with yellowish, shafts golden yellow; sinciput umber-brown; remainder of crown and occipital crest scarlet, the bases of the feathers dark leaden grey; hind neck dusky olive, the feathers having yellowish tips; lores and superciliary stripe white; side of the face and neck white, slightly streaked blackish; a narrow black moustachial stripe; chin, throat and fore neck white, the latter having blackish stri... from the chest to the under tail-coverts, inclusive, p... low, streaked with black; under surface of the tail ... golden; under wing-coverts yellowish white, spotte... black; axillaries pale yellow; "bill dark horn-colou... dark greenish; iris clear brown" (*Falkenstein*). Total ...ayn. 5·5 inches, culmen 0·73, wing 3·2, tail 1·7, tarsus 0·55 ... (without claws)—outer anterior 0·4, outer posterior 0·5, ...icus. anterior 0·3, inner posterior 0·2. ...uchen.

Adult female. Differing from the male in having th... brow...; head and crown dark brown and the nape black, the u... otches parts less yellow, and the striations appearing black... ries, "bill black; feet leaden grey; iris dark brown" (*Falke... stein*). Total length 5·5 inches, culmen 0·67, wing 3·2, t... 1·65, tarsus 0·6.

This small species is readily distinguished by its uniform... back. Malherbe gives its range as from Gaboon into Senegal, but we have not seen examples from either of these localities. Dr. Hartlaub states, however, that the Bremen Museum possesses a specimen from Casamanze. In the British Museum is an undoubted example from the interior of Fantee, and Riis collected it in Aguapim. Specimens from Landana, on the Congo (*Lucan & Petit*), are in Captain Shelley's collection; and Dr. Reichenow has recorded the species from the Loango coast (*Falkenstein*), as well as from Malange, in Angola, and specimens from the latter province are in the Lisbon Museum.

2. Dendropicus sharpii.

Dendropicus sharpii, Oustalet, N. Arch. Mus. (2) ii. p. ...2 (1879).

Adult male. Above, including scapulars, rump, and upper tail-coverts, uniform yellowish olive; lesser wing-coverts yellowish olive, the median and greater series dusky olive, spotted with whitish; quills brownish dusky, the secondaries edged externally with yellowish olive, the whole spotted on

Cat... outer webs with yellowish white and upon the inner with
p. 126. white, the spots upon the outer webs being very minute;
Dend... yellow; tail dusky brown, narrowly notched with pale
(1854) and having a barred appearance; dwarf feather yel-
Picid. i. dusky, faintly barred with a darker tint, shafts golden
p. 263; ... sinciput umber-brown, brighter on the forehead;
B. ii. ... half of the crown and occipital crest bright scarlet;
Soc. Z... eck dusky; lores, a stripe over the eye, and entire
Gesells... f the face and neck white, narrowly striped with
p. 49. a narrow black moustachial stripe; chin and throat
Ipoc... from the fore neck to the under tail-coverts, inclu-
(18...) ...hite, faintly tinged with yellow and striped with
...sh, the striations on the under tail-coverts being rather
...wner; under surface of the tail slightly washed with
...lden yellow; under wing-coverts white, spotted with black;
...illaries white. Total length 4·5 inches, culmen 0·68, wing
...15, tail 1·8, tarsus 0·5; toes (without claws)—outer anterior
...4, outer posterior 0·5, inner anterior 0·35, inner pos-
...erior 0·22.

Adult female. Resembling the adult male, but having the sinciput of a darker shade of brown; the rest of the crown and occipital crest black; upper parts and scapularies brighter in tint, and the underparts slightly yellower. Total length 5·0 inches, culmen 0·6, wing 3·25, tail 1·6, tarsus 0·57.

Young male. Differing from the adult male in being duller above and barred with dusky, the upper tail-coverts having a trace of scarlet on their tips; sinciput darker; the rest of the crown and occiput black, the feathers of the posterior half of the crown having scarlet tips, this colour coming more forward on the crown than in the adult. Total length 4·8 inches, culmen 0·62, wing 3·25, tail 1·9, tarsus 0·57.

The above descriptions have been taken from the type specimens in the Paris Museum. They are the only ones we

have seen as yet, and without a larger series it would be rash to argue too much concerning the validity of the present species. We incline, however, to the belief that it will be found, sooner or later, to be the same as *D. lafresnayi*. Indeed, on the upper tail-coverts of the young bird of *D. sh*[illegible] we remember seeing a trace of red; and as this is the [illegible] with difference between the latter bird and *D. lafresnayi*, w[illegible] throut that it is highly probable the two birds are identica[illegible]ations; present species was first described by Dr. Oustale[illegible]de yel- catalogue of birds collected by M. Marche in his [illegible]slightly upon the river Ogowé, the specimens having been [illegible]d with at Doumé, on the Upper Ogowé river, in Septem[illegible] October 1876.

3. Dendropicus lepidus.

Ipoctonus lepidus, Cab. & Heine, Mus. Hein[illegible] (1863).

Picus lepidus, Sundev. Consp. Av. Picin. p. 44 (1[illegible] Heugl. Orn. N.O.-Afr. p. 807 (1871).

Dendropicus lepidus, Gray, List Picid. Brit. Mus. p. [illegible] (1868); id. Hand-l. B. ii. p. 190. no 8653 (1870).

Male. Above somewhat yellowish olive-green; rump a[illegible] upper tail-coverts more yellowish olive; sinciput pale brow[illegible] ish; vertex and occiput bright crimson; sides of the hea[illegible] white varied with dusky, with two bands on each side, ou[illegible] behind the eye, rather broader and more obsolete, the othe[illegible] narrower, but more distinct, starting from the base of the [illegible] mandible and descending on the sides of the neck, so as to [illegible] skirt the throat on each side; wing-coverts and quills olive-[illegible] dusky, with small olive yellowish-white spots on the outer [illegible] webs, and on the inner webs longer whitish spots; shafts of [illegible] quills yellow; throat whitish, with small dusky shaft-streaks; [illegible] breast and abdomen dull olivaceous white, with dusky shaf[illegible] streaks, those on the breast and upper belly broader, on t[illegible] lower belly narrower, and those on the vent more obsol[illegible] and spot-like; under wing-coverts whitish, spotted wit[illegible] few dusky spots; the tail-feathers olivaceous dusky, marked on each margin with olivaceous white spots in the shape of bands, shafts bright yellow; bill and feet bluish dusky.

Female. Very like the male, but distinguished by the vertex and occiput being smoky brown; upper back duller and somewhat varied with paler and more obsolete spots. Total length 5″, wing 3″ 1‴, tail 1″ 8‴, culmen 7‴, tarsus 6‴, middle toe with the claw 6‴. (*Cabanis & Heine.*)

The above description is translated from the 'Museum the out… um,' where a pair of birds from Abyssinia are said to pure w… According to Sundevall the species is very close to shafts y… *nayi*, but in my opinion it must resemble *D. sharpii*, brown, … s of which I have seen in the Paris Museum, lowish … any description of the underparts of the latter bird yellow … grees with that of *D. lepidus* as given by Cabanis poster… ine.

hind n… glin says that he very well remembers obtaining this sides … rn-western Tigrié and in Wogara, but was unable black … of writing his work on the birds of North-eastern white … to find any of his specimens, so that he could not give … Bogos the characters definitely.

in S…

M… DENDROPICUS ABYSSINICUS.

an… *Picus aoyssinicus*, Stanley in Salt's Voy. Abyss. ii. App. Sc… lvi (1814); Rüpp. Syst. Uebers. p. 95 (1845); Sundev. w… onsp. Av. Picin. p. 44. no. 129 (1866).

o… *Dendrobates abyssinicus*, Gray, Gen. B. ii. p. 437 (1845).

Mesopicus desmursi, Malh. Rev. et Mag. Zool. 1849, p. 537.

Chloronerpes desmursi, Bp. Consp. Gen. Av. i. p. 118 (1850, ex Malh.).

Cyanopicus mursii, Bp. Consp. Volucr. Zygod. p. 10 (1854, ex Malh.).

Campethera abyssinica, Reichenb. Handb. Scans. Picinæ, p. 426 (1854).

Erythronerpes desmursii, Reichenb. Handb. Scans. Picinæ, p. 337 (1854, ex Malh.).

Chloronerpes (*Erythronerpes*) *desmursii*, Reichenb. Handb. Scans. Picinæ, p. 356 (1854, ex Malh.).

Dendromus abyssinicus, Heugl. Syst. Uebers. 1856, p. 47.

Dendropicus desmursi, Malh. Monogr. Picid. i. p. 202,

pl. xlii. figs. 5 & 6 (1861); Gray, List Picid. Brit. Mus. 1868, p. 65.

Ipoctonus abyssinicus, Cab. & Heine, Mus. Hein. iv. p. 116 (1863).

Picus habessinicus, Heugl. Orn. N.O.-Afr. p. 806 (1870, ex Cabanis).

Dendropicus abyssinicus, Gray, Hand-l. B. ii. p. 189. no. 8652 (1870); Heugl. Orn. N.O.-Afr. iv. p. clxvii (1871).

Adult male. Above yellowish olive; vertex, occiput, rump, and upper tail-coverts red; sides of the head whitish, with two bands of smoky brown; wing-coverts and quills dusky, spotted on the margins of both webs with a whitish colour; tail-feathers dusky brown, banded above with a beautiful buffy rufous colour, below with yellowish; throat whitish, with some dusky brown streaks; breast and abdomen dull olivaceous white, closely striated with dingy brown; under wing-coverts whitish, with a few scattered spots blackish; bill and feet dusky blackish. Total length ... wing 3″ 9‴, tail 2″, culmen 8½‴, tarsus 9‴. (*Heuglin.*)

Adult female. With the sinciput greyish dusky; the ver... and occiput dark blackish dusky; the back paler olivaceous ... (*Heuglin.*)

As far as I am aware, this species is unrepresented in any collection in this country, but examples are to be found in the Paris Museum. Heuglin also says that he never met with it himself; but the type specimen was described by the late Lord Derby, and was collected during Salt's expedition to Abyssinia.

The specimen originally described by Malherbe as *Mesopicus desmursi* was supposed to come from South America; but the mistake was afterwards rectified in his monograph. A species has more recently been described under the name of *Picus desmursi*, from China.

According to Cabanis there is an example of *D. abyssinicus* in the Munich Museum, without locality.

5. Dendropicus melanauchen.

Picus melanauchen, Heugl. Orn. N.O.-Afr. p. 808 (1871).

Above bright olivaceous yellow; occiput, as far as the nape, and the upper tail-coverts bright crimson; sinciput pale ashy brown; a large patch on the hind neck dusky black; the sides of the head dusky blackish, with two white stripes on each side, one above the eye conspicuous, one below the eye not so pronounced; wing-coverts, quills, and tail-feathers dusky blackish, marked in the form of bands with whitish spots (in part tinged with a washed-out umber-brown colour or olivaceous); the shafts above shining dusky, underneath whitish, not yellow; under surface of the body olivaceous grey, and with the throat, which is more whitish, conspicuously streaked with dusky blackish; bill blackish horn-colour; feet dusky lead-colour; iris red. Total length 5½″–6½″, bill to the forehead 8‴, wing 3″ 6‴–3″ 8‴, tail 1″ 10‴, tarsus 7‴. (*Heuglin.*)

Of this species, which is fully described in Heuglin's work from which quoted, we have not seen a specimen. It was obtained by him in Tigrié and Telemet, at an elevation of from 6000 to 8000 feet above the sea, in December and January. He states, moreover, that it is not rare in Eastern and Central Abyssinia. There are certain points in Heuglin's description, especially the colour of the shafts of the tail-feathers, which appear to indicate that he was describing a young bird.

It appears to be close to *D. abyssinicus*; but in the latter bird the rump and upper tail-coverts are crimson, whereas in *D. melanauchen* only the latter are described as being of the last-named colour.

6. Dendropicus obsoletus.

Picus obsoletus, Wagl. Isis, 1829, p. 510; Rüpp. Syst. Uebers. 1854, p. 88; Gray, Gen. B. ii. p. 435 (1846); Reichenb. Handb. Scans. Picinæ, p. 378, pl. dcxl. figs. 4271, 4272 (1854); Sundev. Consp. Av. Picin. p. 31 (1866); Heugl. Orn. N.O.-Afr. p. 803 (1871).

Dendrobates hemprichii, juv., Rüpp. Syst. Uebers. 1845, p. 88 (teste Malherbe).

Picus murinus, Sundev. Œfv. Kongl. Vet.-Akad. Förhandl. Stockh. 1850, p. 131.

Dendromus obsoletus, Bp. Consp. Volucr. Zygod. p. 9 (1854).

Dendrobates obsoletus, Hartl. J. f. O. 1854, p. 199.

Dendropicus obsoletus, Hartl. Orn. W.Afr. p. 178 (1857); Malh. Monogr. Picid. i. p. 206, pl. xlv. figs. 1–2 (1860); Hartl. J. f. O. 1861, p. 263; Gray, List Picid. Brit. Mus. p. 69 (1868); id. Hand-l. B. ii. p. 190. no. 8662 (1870).

Ipophilus obsoletus, Cab. & Heine, Mus. Hein. iv. p. 113 (1863).

Ipophilus murinus, Cab. & Heine, Mus. Hein. iv. p. 113, note (1863).

Picus hedenborgi, Sundev. Consp. Av. Picin. p. 31 (1866).

Dendropicus murinus, Gray, List Picid. Brit. Mus. p. 69 (1868); id. Hand-l. B. ii. p. 190. no. 8663 (1870).

Adult male. Back uniform umber-brown; scapulars darker brown, the median and greater series spotted with white; bastard-wing and primary-coverts uniform [illegible]; quills dark brown, spotted with white upon both webs, [illegible] yellowish brown; rump and upper tail-coverts pale um[illegible] brown, with bar-like spots of white; tail blackish bro[illegible] the feathers deeply indented with white upon both webs, a[illegible] having a barred appearance, shafts yellowish brown; na[illegible] plumes, forehead, crown, and hind neck light umber-brow[illegible] a scarlet occipital band; auricular and moustachial strip[illegible] umber-brown, the latter extending as far as the side of t[illegible] chest; sides of the face and neck, as well as a stripe from[illegible] above the posterior part of the eye, and another from th[illegible] gape passing under the ear-coverts, white; from the chin t[illegible] the under tail-coverts, inclusive, white; the breast, sides o[illegible] the body, and abdomen with very faint brown striations; the under tail-coverts also striped, but with a darker brown; under wing-coverts and axillaries white, the former havi[illegible] bar-like spots of brown. Total length 5·0 inches, culm[illegible] 0·7, wing 3·0, tail 1·43, tarsus 0·55; toes (without claws) outer anterior 0·38, outer posterior 0·43, inner anterior [illegible] inner posterior 0·2.

Adult female. Different from the adult male in wanting the scarlet occipital band, the occiput being uniform in colour

with the head and hind neck. Total length 5·0 inches, culmen 0·7, wing 3·2, tail 1·55, tarsus 0·5.

A specimen in the British Museum, an adult female, has a narrow white collar on the hind neck; but the bird exhibits a tendency to albinism, being very pale in colour, and this unusual marking appears to be purely accidental and not to form a specific character.

Although this Woodpecker bears the general aspect of an *Iyngipicus*, its wing-formula is so different that we do not think it can be properly placed in the latter genus; but it is tolerably certain that its changes of plumage are very similar to those undergone by the members of the above-named genus. Thus it will be seen, from the synonymy, that I have united three species which have hitherto been held distinct by writers on Woodpeckers; and although the series which I have examined has not been very extensive, it has been sufficient to show that the birds with striped under-ix. p are only the young of the birds with the under surface (18 orm.

C Examples are in the British Museum from Senegambia; d it also occurs in North-eastern Africa, ranging from Ghaar through Kordofan as far south as Langomeri, whence I have examined a specimen in Capt. Shelley's collection btained by Dr. Emin Bey.

7. Dendropicus hemprichi.

Picus hemprichii, Hempr. & Ehrenb. Symb. Phys, Aves, ol. r, p. 2 (1828); Rüpp. Neue Wirb. Vög. 1835, p. 59; Heugl. J. f. O. 1864, p. 253; Sundev. Consp. Av. Picin. . 43. no. 126 (1866); Finsch & Hartl. Vög. Ostafr. p. 514 1870); Blanf. Geol. & Zool. Abyss. 1870, p. 306; Finsch, . Z. S. 1870, p. 284; Heugl. Orn. N.O.-Afr. i. p. 804 871); Dresser & Blanf. Ibis, 1874, p. 336.

Dendrobates hemprichii, Rüpp. Syst. Uebers. 1854, p. 88, xxv.; Bp. Consp. Gen. Av. 1850, p. 124; Heugl. Syst. ebers. 1856, p. 47; id. Ibis, 1859, p. 343; Bianc. Spec. Zool. Mosamb. 1865, p. 327.

Dendropicus hemprichii, Bp. Consp. Volucr. Zygod. p. 9

(1854); Malh. Monogr. Picid. i. p. 199, pl. xliii. figs. 5, 6 (1861); Brehm, Habesch. pp. 221–336 (1863); Gray, List Picid. Brit. Mus. 1868, p. 65; id. Hand-l. B. ii. p. 189. no. 8650 (1870); Sharpe, Cat. Afr. B. 1871, p. 18; Heugl. Orn. N.O.-Afr. iv. App. p. clxvi (1871).

Campethera hemprichii, Reichenb. Handb. Scans. p. 189, Jurney p. 424, pl. dclxxiv. figs. 4161, 4162 (1854).

Dendrobates abyssinicus, Licht. Nomencl. Av. 18 , 1874, Jurney,

Dendromus hemprichii, Blyth, J. A. S. Beng. xxi (1855); Speke, Ibis, 1860, p. 245; Sclat. Rep. Co . p. 122 Country, 1869, p. 11. 854).

Ipoctonus hemprichi, Cab. & Heine, Mus. Hein. p. 124 (1863).

Adult male. Above dusky brown, barred with 1852, wing-coverts dusky brown, with a heart-shaped spot near the tip; quills dusky brown, the outer webs with white, those of the primaries being washed w inner webs notched and spotted with white, the deep producing a barred appearance on the innermost seconda p. 9 the shafts light golden yellow; lower back and rump rat yellower than the upper parts, and more narrowly barred w dusky brown; upper tail-coverts yellowish, the tips be blood-red; tail blackish brown, narrowly barred with p golden brown; dwarf feather dusky brown, tipped and spott with white, the shafts bright golden yellow; forehead ligh umber-brown, the tips of the feathers being lighter an having a mottled appearance; the crown and occiput scarlet nape blackish brown; superciliary stripe white; lores an sides of the face and neck white, streaked and spotted wit brown; a pale brown moustachial stripe; chin, throat, an fore neck white, the latter faintly streaked with brown; t underparts white, with a faint tinge of yellow, broad streaked on the chest and breast, and spotted upon the mainder with dusky brown; flanks and thighs barred w brown; under tail-coverts of the same colour as the u surface of the body, and having brown bars; under surface of the tail washed with pale golden yellow; shafts golden yellow; under wing-coverts white, spotted with dusky brown.

Total length 5·5 inches, culmen 0·68, wing 3·0, tail 1·68, tarsus 0·55; toes (without claws)—outer anterior 0·45, outer posterior 0·55, inner anterior 0·37, inner posterior 0·23.

Adult female. Different from the adult male in having the sinciput darker umber-brown, and the posterior half of the pulars and the occiput brownish black; the sinciput devoid (brightelight spotting. Total length 5·3 inches, culmen 0·7, cross-m2, tail 1·55, tarsus 0·55.

mary-colin states that this species is not rare in pairs on webs of ssinian and Adel coasts, and is found throughout daries al and Kordofan to the Lower White Nile. In spotted Abyssinia and the Gala country he found it as spotted 10,000 or 11,000 feet. Mr. Blanford met with it shafts Wadi Wells, in the pass below Senafe, and again in lowishebka valley, in the Bogos country, and we have seen slightlyspecimens collected by Mr. Esler in the latter country. brownsee also procured this species at Eylet and Rairo, in the in Land. The late Captain Speke met with it on the plateau with Somali Land, and Bianconi has recorded it from Southern bro sambique. We should have expected the bird from the last-named place to have been *D. zanzibari*; but Dr. Hartdub states that he examined the specimens in the Museum at Bologna, and that they were undoubtedly *D. hemprichii*.

The present bird is distinguished by the brown and white barred plumage above, the blood-red upper tail-coverts, the silvery white of the face, throat, and neck, and the dull white of the underparts, the breast being streaked, the remainder spotted and barred with dusky.

Malherbe, in his monograph (pl. xliii. fig. 5), gives an illustration of the male; but this seems to me to resemble *D. zanzibari* more than *D. hemprichii*. In the latter species the nape is brownish black, and this Malherbe has omitted in his figure.

(?) 8. Dendropicus minutus.

Picus minutus, Temm. Pl. Col. pl. 197. fig. 2 (1823); Steph. in Gen. Zool. xiv. p. 163 (1826); Wagl. Syst. Av. *Picus*, sp. 28 (1827); Lesson, Traité, 1831, p. 220; Sundev. Consp. Av. Picin. p. 44 (1866); Heugl. Orn. N.O.-Afr. p. 805 (1871).

Asthenurus minutus, Less. Compl. Buff. ix. p. 302 (1837).

Dendropicos minutus, Malh. Mém. Acad. Metz, 1849, p. 339.

Dendrobates minutus, Bp. Consp. Gen. Av. i. p. 125 (1850); Hartl. J. f. O. 1854, p. 199.

Campethera minuta, Reichenb. Handb. Scans. (*Pickley*). p. 425, pl. dclxxiv. fig. 4163 (1854). ail 1·8,

Dendropicus minutus, Bp. Consp. Volucr. Zygo- (1854); Hartl. Orn. W.Afr. p. 177 (1857); Malh. Ayres's Picid. i. p. 208, pl. xlv. figs. 4, 5 (1861); Hartl. J. f. p. 263. in birds

Ipoctonus minutus, Cab. & Heine, Mus. Hein. iv. ilippine (1863).

Male. Of small size. Above greyish dusky, the b very conspicuously banded with white and dusky, so washed with buff; underneath ashy whitish, with bir rounded dusky spots; occiput, rump, and upper scarlet; tail-feathers and quills dusky, spotted w plate in the form of bars; shafts bright yellow; bill and isle blackish lead-colour. Total length about 4″ 4‴, wing 2″ 9 ers tail 1″ 5‴, bill from front 6¾‴, tarsus 5¾‴. (*Heuglin.*)

Female. Head uniform ashy; rump and upper tail-covert slightly banded with smoky brown and whitish. (*Heuglin.*)

I have never seen a specimen of this species, and have been obliged to transcribe Heuglin's description. He has described Gambian examples; and I may here remark that the bird in the British Museum from Senegal (*Dendropicus minutus*, Gray, List Picidæ Brit. Mus. p. 66; id. Hand-l. B. ii. p. 190. no. 8656) is certainly not the true *D. minutus*. It appears to me to be very closely allied to *D. hemprichi*, if indeed, it is not that species. *D. hemprichi* has, however, not as yet been recorded from Western Africa; and the specimen in question differs from Abyssinian examples to the extent, that the striping of the underparts is of a rufescent character. Whether this is an individual variation, due to the bleaching of the specimen, I am unable to say from an examination of a single individual, as it is just possible that *D. hemprichii* may have a rufous-striped representative on the W. coast of Africa.

D. minutus has been stated to have been obtained by Arnaud on the Upper White Nile. Heuglin thinks that he saw it on the Gazelle river, and obtained a specimen from Mareb which he referred to this species, but which he thinks may have been confounded with *D. obsoletus*.

[illegible] DENDROPICUS CARDINALIS.

[illegible]ic Cardinal de l'Isle de Luçon, Sonn. Voy. Nouv. [illegible]. p. 72, pl. xxxv. (1776).

[illegible]rand Pic varié de l'Isle de Luçon, Buff. Hist. Nat. [illegible] p. 403.

[illegible] guinensis, Scop. Del. Fl. et Faun. Insubr. ii. p. 89 [illegible]ex Sonn.) ; Gray, Gen. B. ii. p. 435 (1845).

[illegible]dinal Woodpecker, Lath. Gen. Syn. i. p. 576. no. 22 [illegible], ex Sonn.).

[illegible]s cardinalis, Gm. Syst. Nat. i. p. 438. no. 51 (1788, ex [illegible]; Lath. Ind. Orn. i. p. 233 (1790) ; Steph. Gen. Zool. [illegible]176 (1815) ; Bonn. & Vieill. Enc. Méth. iii. p. 1308 [illegible]23) ; Wagl. Syst. Av. *Picus*, sp. 91 (1827) ; Sundev. [illegible]nsp. Av. Picin. p. 42. no. 124 (1866).

Le Petit Pic à baguettes d'or, Temm. Cat. Syst. Cabin. [illegible]rn. 1807, p. 212 ; Levaill. Ois. d'Afr. vi. p. 25, pl. cclxiii. (1808) ; Sundev. Krit. Framst. Levaill. 1857, p. 52.

Picus fuscescens, Vieill. N. Dict. d'Hist. Nat. xxvi. p. 86 (1818, ex Levaill.) ; Bonn. & Vieill. Enc. Méth. iii. p. 1314 (1823).

Picus fulviscapus, Licht. Verz. Doubl. 1823, p. 11 ; Wagl. Syst. Av. no. 45 (1827) ; id. Isis, p. 513 (1829) ; Rüpp. Neue Wirb. Vög. p. 89 (1835) ; Licht. Verz. Säugeth. und Vög. Kaffernl. 1842, p. 18 ; Grill, Zool. Anteckn. pp. 11–44 (1858) ; Shelley (pt.), P. Z. S. 1881, p. 593.

Colaptes capensis, Steph. Gen. Zool. xiv. p. 171 (1826).

Picus chrysopterus, Cuv. in Mus. Paris ; Less. Traité, 1831, [illegible]. 220 ; id. Compl. Buff. ix. p. 303 (1837).

Dendrobates fulviscapus, Swains. Classif. B. ii. p. 306 (1837) ; [illegible]ray, List Gen. 1841, p. 70 ; id. Gen. B. ii. p. 437 (1846) ; Bonap. Consp. Gen. Av. i. p. 124 (1850) ; Layard, B. S. Afr. 1867, p. 237.

Picus capensis, Forst. Descr. Anim. no. 47, p. 43 (1844).
Dendropicos hartlaubii, Malh. Rev. de Zool. 1849, p. 532.
Dendropicus hartlaubii, Malh. Mém. Acad. Metz, 1849. p. 339; Bonap. Consp. Volucr. Zygod. p. 9 (1854); M[alh]e Monogr. Picid. i. p. 201, pl. xliv. figs. 1, 2 (1861); G[ray] List Picid. Brit. Mus. 1868, p. 65; id. Hand-l. B. ii. [p.] no. 8651 (1870); Sharpe, Cat. Afr. B. p. 18 (1871); [Gurney] in Anderss. B. Dam. Ld. p. 219 (1872); Buckley, Ibis, p. 368; Sharpe, ed. Layard's B. S. Afr. p. 189 (1875); [Ayres] Ibis, 1877, p. 342.
Chrysocolaptes cardinalis, Bonap. Consp. Gen. Av. i. (1850); Reichenb. Handb. Scans. Picinæ, p. 339 (1[854]).
Dendrobates hartlaubi, Bonap. Consp. Gen. Av. i. (1850), pt.
Dendrobates fuscescens, Strickl. & Sclat. Contr. Orn. p. 155.
Dendropicus fuscescens, Bonap. Consp. Volucr. Zyg. (1854).
Dendropicus cardinalis, Bonap. Consp. Volucr. Zygod. (1854); Gray, List Picid. Brit. Mus. 1868, p. 64; id. Han. B. ii. p. 189. no. 8649 (1870); Sharpe, Cat. Afr. B. 187 p. 18; Gurney, in Anderss. B. Dam. Ld. p. 220 (1872 Sharpe, ed. Layard's B. S. Afr. 1875, p. 190; Barratt, Ibi 1876, p. 200; Sharpe, in Oates's Matabele Land, App p. 306 (1881); Butler, Feilden, & Reid, Zoologist, 1882 p. 208.
Campethera fulviscapa, Reichenb. Handb. Scans. Picinæ, p. 424, pl. dclxxiv. figs. 4459–60.
Campethera hartlaubii, Reichenb. Handb. Scans. Picinæ p. 426 (1854).
Dendropicus fulviscapus, Malh. Monogr. Picid. i. p. 196 pl. xliii. figs. 1–3 (1861); Ayres, Ibis, 1879, p. 298.
Ipoctonus cardinalis, Cab. & Heine, Mus. Hein. iv. p. 11 (1863).
Ipoctonus hartlaubi, Cab. & Heine, Mus. Hein. iv. p. 1 (1863).
Picus hartlaubi, Sundev. Consp. Av. Picin. p. 43. no. 125 (1866); Finsch & Hartl. Vög. Ostafr. p. 512 (1870); Fischer

& Reichenow, J. f. O. 1877, p. 207; id. op. cit. 1878, p. 254; Fischer, tom. cit. p. 292.

Dendrobates cardinalis, Buckley, Ibis, 1874, p. 368; ...win, Cat. Strickl. Coll. p. 392 (1882).

...dult male. Above dull olive barred with yellow, the sca... having whiter barring; wing-coverts umber-brown ...r yellowish olive along the forearm), with deep olive ...arkings and spots of whitish; bastard-wing and pri... ...verts dusky brown; quills dusky brown, the outer ...the primaries at their base and those of the secon... ...ong their whole length tinged with olive and minutely ...r narrowly barred with dull white, the inner webs ...and those of the inner quills barred with pure white; ...ight golden yellow; rump dull olive barred with yel... ... upper tail-coverts golden, with faint olive bars and ... tipped with red; central pair of rectrices golden olive-...arrowly barred with buff, the remainder nearly black, ...ner portion of the webs being olive, obliquely barred ... buffy white; shafts golden yellow; sinciput pale umber... ...wn, the feathers having lighter tips; posterior part of the ...wn and occipital crest scarlet, the bases of the feathers ...ky; nape dusky, the feathers tipped with white; lores ...d superciliary stripe extending to the nape white; sides of ...he face and neck white, narrowly streaked with blackish; ...oustachial stripe dusky brown; chin and throat white, ...sparingly streaked with blackish; entire underparts dull white, with a slight tinge of yellow and broadly streaked with black; flanks and thighs barred with blackish; under ...ail-coverts like the underparts, but barred as well as streaked with blackish brown; under surface of the tail washed with ...olden; under wing-coverts yellowish white, streaked and ...arred with black; axillaries white, slightly edged with ...lackish; "iris red; bill lead-colour; legs dull green" (*W. Ayres*). Total length 6·0 inches, culmen 0·8, wing ...5, tail 1·8, tarsus 0·63; toes (without claws)—outer ante... ...·45, outer posterior 0·55, inner anterior 0·35, inner ...terior 0·25.

Adult female. Different from the male in having nearly the

whole of the crown dark sepia-brown, and the occiput and nape black; moustachial stripe black; the upper parts blacker, with whiter barring; wing-coverts blackish brown, spotted and tipped with pure white; the outer webs of quills less olive, and the underparts rather whiter; black; legs dark green; iris dark red" (*T. E. B*. Total length 6·0 inches, culmen 0·73, wing 3·6, t tarsus 0·65.

For further description of the soft parts, see Mr. notes in 'The Ibis,' 1879, p. 298.

The present species is one of several South-Afric which were described by Sonnerat as from the Pl Islands; but there is little doubt that his "Pic Card l'Isle de Luçon" is the same bird as that subsequen scribed by Lichtenstein as *Picus fulviscapus* and by as *Picus fuscescens*. Although he speaks of the being of the size of the "Pic vert," it is evident refers to *Mesopicus griseocephalus*, which is figured on xxxvi. of his book, under the name of "Le Pic vert de de Luçon," and not to *Gecinus viridis*, to which he ref pointedly further on as the "Pic vert d'Europe," when is speaking of "Le Grand Pic de l'isle de Luçon." At same time there is evidently some confusion in the writer mind about the sizes of these three Luçon Woodpeckers, a *D. cardinalis* is certainly not larger than *M. griseocephalu* and Sonnerat's own plate represents the latter as larger than *D. cardinalis*.

The list of specimens examined by me is a large one, as, besides those in my own collection, I have compared the series in the British Museum and in Capt. Shelley's collection; and I can trace the species from various parts of th Cape Colony, throughout Natal, Zulu Land, and the Transva as well as the Matabele country to the Zambesi, while on th west coast it is found from Great Namaqua Land to Benguel The Cape form, which I consider the typical *D. cardina* extends to the Transvaal without any apparent variation a slightly paler form appears to be found on the confines the Zambesi, while in Damara Land and Benguela the bird,

although strongly striped beneath, is less yellow and has a somewhat greyer appearance. To the north of the Quanza, in Angola, the range of *D. cardinalis* appears to terminate on the west coast, as the specimens examined belong to the appars:ern form, *D. zanzibari* of Malherbe. The latter distinguo me to be a tolerably well-defined subspecies or race, surface shed by its slightly smaller size, yellower under sha[illegible]gritb very narrow striations, as well as by the olive *nalis.* n the nape, which is n ver so black as in *D. cardi-*
various . have examined specimens of *D. zanzibari* from every c[illegible]calities between Mombas and the Zambesi, and in in one [illegible]e the above-mentioned characters held good, except which specimen from Ugogo n Capt. Shelley's collection, th[illegible] san[illegible]hibited a slight affini towards *D. zanzibari*, but at The [illegible] time was really ne[illegible] to the true *D. cardinalis*.
[illegible]-called *D. [illegible]* take to be nothing but the *D. cardinalis* [illegible]ed colour of the rump strongly [illegible]ped with age. [illegible]emely old birds the sincipital [illegible]ers become light[illegible] on their tips and present a spotted [illegible]earance.

There can be no doubt that the oldest name of this species [illegible] *ineensis* of Scopoli, founded on Sonnerat's plate quoted [illegible]ve; but the name is so misleading that I have used in [illegible]ference that of *cardinalis*, which has also the merit of [illegible]cing better known.

10. Dendropicus zanzibari.

Dendropicus zanzibari, Malh. Monogr. Picid. i. p. 201 (1861); Gurney, Ibis, 1882, p. 73; Hargitt, tom. cit. p. 73 note).

Dendropicus hartlaubi (pt.), Malh. Monogr. Picid. i. p. 201 (1861); Sharpe, P. Z. S. 1869, p. 569.

Dendrobates hartlaubii, Kirk, Ibis, 1864, p. 328; Bocage, Orn. Ang., App. p. 535 (1881).

Dendrobates cardinalis, Sharpe, P. Z. S. 1871, p. 135; Bocage, Orn. Ang. 1877, p. 76.

Picus hartlaubi, Sharpe, P. Z. S. 1873, p. 711.

Ipoctonus hartlaubi, Cabanis, J. f. O. 1878, p. 238.

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vari[illegible] [illegible]exam[illegible]specimens of *D. zanzibari* from ev[illegible]ies [illegible]ombas and the Zambesi, and in in[illegible]e al[illegible]ed characters held good, except wh[illegible]er. [illegible]in Capt. Shelley's collection, th[illegible]d [illegible]ly towards *D. zanzibari*, but at T[illegible]e w[illegible]er to the true *D. cardinalis*.
[illegible]-called [illegible]*bi* I take to be nothing but the [illegible] *D. carv*[illegible] the red colour of the rump strongly [illegible]ped with age. In extremely old birds the sincipital [illegible]ers become lighter on their tips and present a spotted [illegible]earance.

There can be no doubt that the oldest name of this species [illegible]*ineensis* of Scopoli, founded on Sonnerat's plate quoted [illegible]ve; but the name is so misleading that I have used in [illegible]ference that of *cardinalis*, which has also the merit of [illegible]cing better known.

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Dendropicus hartlaubi (pt.), Malh. Monogr. Picid. i. p. 201 (1861); Sharpe, P. Z. S. 1869, p. 569.

Dendrobates hartlaubii, Kirk, Ibis, 1864, p. 328; Bocage, Orn. Ang., App. p. 535 (1881).

Dendrobates cardinalis, Sharpe, P. Z. S. 1871, p. 135; [illegible]age, Orn. Ang. 1877, p. 76.

Picus hartlaubi, Sharpe, P. Z. S. 1873, p. 711.

Ipoctonus hartlaubi, Cabanis, J. f. O. 1878, p. 238.

Picus fulviscapus (pt.), Shelley, P. Z. S. 1881, p. 593.

Adult male. Above, including scapulars, olive barred with yellowish; wing-coverts dusky olive (brighter along the fore-arm), spotted with white; bastard-wing and primary-coverts dusky brown; quills dusky brown, the outer webs more or less yellowish olive and spotted with buffy white; inn being spotted with pure white, some of the inner feather ellow; dingy olive barred with dull whitish; shafts golden ng the rump and upper tail-coverts like the back, but hav lackish barring and tips of the feathers more golden; tail barred brown, the feathers more or less washed with olive and pair with lighter brown, the tips (except those of the cen ith very pale brown; dwarf feather dusky brown, b part dull white; shafts golden yellow; forehead and g a of the crown ochreous umber-brown, the rem d occipital crest scarlet; hind neck dusky brown; l superciliary stripe white; sides of the face and nec striped with brown; moustachial stripe brown; ch throat white, the latter striped with blackish; entire u parts pale yellow narrowly striped with blackish being barred; under tail-coverts dull yellowish wh with and having V-shaped markings of brownish; und wing-coverts and axillaries yellowish white, the form streaked or spotted, the latter slightly tipped with blackis Total length 5·5 inches, culmen 0·8, wing 3·6, tai tarsus 0·65; toes (without claws)—outer anterior 0·45, ou posterior 0·55, inner anterior 0·35, inner posterior 0·25.

Young male (*first year's plumage*). Above olive dusk faintly barred with dingy yellowish white but having spotted appearance; wing-coverts of the same colour as t back and spotted with dull yellowish white; quills as in adult, but the olive on the outer webs more dingy and spotting whiter; shafts white; rump like the back, but barring less distinct; upper tail-coverts less golden th the adult, the tips slightly reddish; tail dusky black with grey, the central pair of feathers slightly washed dull olive; shafts yellowish white, slightly dusky olive at the tips; sinciput brownish dusky; remainder of the crown and

occiput scarlet, but less bright than in the adult; bases of the feathers dusky black; lores, superciliary stripe, and sides of the face and neck dull white, striped with brownish dusky; chin and throat white; moustachial stripe dusky brown; edges wi[illegible] from the fore neck to the under tail-coverts, inclusive, dull with not[illegible]riped with black or dusky, the striations on the chest brown, th[illegible]t darker and more clearly defined, the flanks having dark bro[illegible]rring; u[illegible]surface of the tail without the bright colour a[illegible]wash of the adult, the tips, however, being pale greenish[illegible] under wing-coverts white, spotted with black; axil-occipital[illegible]ite, slightly edged with blackish at the tips.

Young (male). In general plumage resembling the adult, with bl[illegible]ing the forehead more dusky and spotted with grey-throat[illegible]e occipital feathers less tipped with red; nape dusky greenish[illegible] with an olive tinge. The barring on the back almost black a[illegible]hite; upper tail-coverts tinged with red; face and [illegible]ving more numerous dusky stripes.

Adult female. Resembling the male, but without the scarlet [illegible]e posterior portion of the crown and occiput, these parts [illegible]g dull brown; under tail-coverts barred with dusky. [illegible]tal length 5·8 inches, culmen 0·75, wing 3·4, tail 1·8, [illegible]sus 0·6.

Younger female. Differing from the more fully adult female in having the forehead and crown darker; the dark barring on the back and quills deeper olive; the wing-coverts darker; underparts paler yellow, and the striations blacker.

Malherbe, in his Monograph, observes that he bestowed the name of *Dendropicus zanzibari* upon an unnamed bird in the collection of Prince d'Essling in Paris, and which had been obtained at Zanzibar; and although he subsequently cancels the name, still his comparison of the bird with his *D. hartlaubi* is sufficient to compel me to adopt the former name. The Zanzibar bird may readily be distinguished from its southern ally by its smaller size, the brighter yellow tinge of the under surface of the body, and the very narrow striations, and also in having the nape more olive—these differences being so apparent that I think it is fully entitled to subspecific rank.

Sir John Kirk, whose specimens I have examined in the British Museum, states that this species is frequent in all woods on the Zambesi and in the Shiré valley. I have seen many specimens from Eastern Africa in Capt Shelley's collection: they were from the Panganí river, [illegible] W.Afr. hills, and Dar-es-Salaam, all collected by Sir Jo[illegible]. I have already noticed, under the heading of *D.* [illegible] p. 405 that the bird obtained at Ugogo by t[illegible] last-name[illegible] p. [illegible]; should be referred to *D. cardinalis* instead of to [illegible]i. species, which occurs as high as Mom[illegible]as. I[illegible] Africa *D. zanziba*[illegible] is found from the Congo to [illegible] 117 the form which is met with in Damara Land [illegible] opinion, be referred to true *D. cardinalis*, [illegible] from a strictly typical.

11. Dendropicus gabonensis. (Plate XII. fig. [illegible] the

Dendrobates gabonenis, J. & E. Verreaux, Rev. et [illegible] Zool. 1851, p. 513; Hartl. J. f. O. 1854, p. 18.

Dendrodromus nigriguttatus, Verr. MSS. (female).

Dendropicus gabonensis, Bonap. Consp. Volucr. Zygod. (1854); Reichenb. Handb. Scans. Picinæ, p. 429. no. 101[illegible] (1854); Hartl. Orn. W.Afr. p. 178 (1857); Cass. Pr[illegible] Acad. Philad. 1859, p. 141; Heine, J. f. O. 1860, p. 19[illegible] Hartl. op. cit. 1861, p. 263.

Pardipicus nigriguttatus, Bonap. Consp. Volucr. Zygo[illegible] p. 9 (1854).

Scolecotheres nigriguttatus, Reichenb. Handb. Scans. Picinæ, p. 429. no. 1012 *c* (1854).

Dendromus (*Pardipicus*) *nigriguttatus*, Hartl. Orn. W.Af[illegible] p. 182 (1857); id. J. f. O. 1861, p. 264.

Dendropicus nigriguttatus, Cass. Proc. Acad. Philad. 185[illegible] p. 141.

Chrysopicus gabonensis, Malh. Monogr. Picid. ii. p. 14[illegible] pl. xci. figs. 1 & 2 (1862).

Ipopatis gabonensis, Cab. & Heine, Mus. Hein. iv. p. [illegible] (1863).

Picus gabonensis, Sundev. Consp. Av. Picin. [illegible] (1866).



J.G.Keulemans lith. Hanhart imp.

1 DENDROPICUS GABONENSIS.
2 " LUGUBRIS.

Campethera gabonensis, Cassin, Proc. Acad. Philad. 1863, p. 326; Gray, List Picid. Brit. Mus. p. 79 (1868); id. Hand-l. B. ii. p. 192. no. 8690 (1870).

Adult male. Above, including scapulars and wing-coverts, uniform bright green; quills dusky black, the outer webs th or entirely bright green, those of the primaries more than three longitudinal markings of pale e inner webs notched or spotted with white; shafts wn; upper tail-coverts uniform and of the same the back; tail dusky black, faintly barred with ; shafts rich brown; forehead greenish; crown and crest scarlet, the bases of the feathers dusky; lores, rts, and entire side of the face greenish white, striped ack; a short and narrow black moustache; chin and white, spotted with black; entire under parts light yellow, the centres of the feathers being deep olive- d giving a spotted appearance, these markings upon hs and flanks assuming the character of bars; under verts rather yellower than the under surface of the , and having a subterminal band of dusky olive; under g-coverts greenish white, barred with dusky; axillaries ite, with dusky spots. Total length 5·0 inches, culmen 8, wing 3·1, tail 1·55, tarsus 0·57; toes (without claws)— er anterior 0·12, outer posterior 0·5, inner anterior 0·35, ner posterior 0·2.

Female. "Forehead and the whole of the top of the head dark brown, slightly washed with olive; back and rump of a duller tint; underparts of a greener colour; the stripe on ach side on the cheeks less marked." (*Malherbe.*)

The description of the male is taken from a specimen in he British Museum. I have also an adult male in my wn collection; but I have not yet seen a specimen of the male, and therefore quote the description given by Mal- rbe. This species appears to be confined to Gaboon.

12. Dendropicus lugubris. (Plate XII. fig. 2.)

Dendropicus lugubris, Hartl. Orn. W.Afr. p. 178 (1857).
Campethera gabonensis (nec Verr.), Sharpe, Cat. Afr. B.

p. 17. no. 156 (1871); id. Ibis, 1872, p. 68; Shelley & Buckley, tom. cit. p. 287.

Adult male. Above, including scapulars and wing-coverts, uniform golden olive; bastard-wing and primary-coverts olive; quills blackish brown, the outer webs partially or entirely golden olive, those of the primaries bein with buffy white; inner webs of all spotted with p some of the inner feathers entirely golden oli brown; rump golden olive, the feathers having bri lowish tips; upper tail-coverts of a duller olive rump; tail blackish brown, the basal portion of th margined with olive, the penultimate one narro with brownish white and, together with the ne feather, spotted with the same on the inner webs feather brown; shafts dark brown; nasal plumes forehead and crown olive-brown; occiput scarlet, th the feathers being of this colour, the remaining porti hind neck dull olive, the bases of the feathers whitis and side of the face dingy yellowish white; side of th yellowish, striped with olive; ear-coverts and a broad m tachial stripe olive-brown; chin and throat white, spo with olive-brown; entire underparts, including under coverts, sulphur-yellow, broadly streaked with deep oli the thighs barred with the same; under wing-coverts lowish white, spotted with olive-black; axillaries yellow white, with blackish spots. Total length 5·3 inches, culm 0·75, wing 3·2, tail 1·45, tarsus 0·58; toes (without claws)— outer anterior 0·42, outer posterior 0·5, inner anterior 0·35 inner posterior 0·25.

Adult female. Differing from the adult male in the absen of red upon the occiput, the latter, as well as the forhea and crown, being brown. Total length 5·2 inches, culm 0·75, wing 3·2, tail 1·45, tarsus 0·6.

Young. Different from the adult in having the feathers the entire crown and occiput olive-brown, tipped with d scarlet, their bases being dark leaden grey; the quills their shafts, likewise the tail-feathers and shafts, less black; and the plumage generally not so bright in colour.

In very old birds the tail is uniform, or nearly so; in younger specimens the outer tail-feathers are notched with pale brown and have a barred appearance. The immature female has the forehead, crown, and occiput, likewise the moustachial stripe, olive, and the spotting on the throat, as the striations upon the underparts, of an intensely ve.

artlaub described this species from an imperfect spe- the Basle Museum. This accounts, no doubt, for rect description of the facial characters, which better e of *D. gabonensis*. Feeling sure that Riis's specimen uapim must be the same as the one I examined ntee, I have unhesitatingly adopted Dr. Hartlaub's *lugubris*, and once more establish a species which ent authors have been content to merge into *D. gabo-* It is easily distinguished from the latter bird by its face, and by having the underparts very broadly with deep olive (not spotted, as in *D. gabonensis*). It o remarkable for its broad olive-brown moustachial e, and for having in the adult stage the occiput only adly banded with crimson.

In the accompanying Plate, this species in now figured for e first time, by the side of *D. gabonensis*, to show the cific differences.

The two following species, which have been placed in the genus *Dendropicus* by several authors, must, I think, be expunged from the genus :—

1. Dendropicus meriani.

Dendromus meriani, Hartl. Orn. W.Afr. p. 181.

According to Dr. Hartlaub (J. f. O. 1861, p. 264) the type ecimen is a made-up bird; and Malherbe corroborates this tement, in his Monograph (ii. p. 182), saying that the d in question is the imperfect skin of a male of *Picus romelas* (Vieill.), adorned by an *intelligent* bird-preserver with the plumes of another species.

2. Dendropicus africanus.

Picus africanus, J. E. Gray, Zool. Misc. i. p. 18 (1831); Sundev. Consp. Av. Picinæ, p. 42 (1866, pt.).

Dendrobates africanus, Gray, Gen. B. ii. p. 437 (1849), Hartl. J. f. O. 1854, p. 199 (ex Gray).

Dendropicus (*Mesopicus*) *africanus*, Hartl. Orn. 1857, p. 180.

Dendropicus africanus, Malh. Monogr. Picid. i (1861, ex Gray); Cass. Proc. Acad. Philad. 1863, Gray, List Picid. Brit. Mus. 1868, p. 66; id. Hand p. 190. no. 8655 (1870).

Ipoctonus africanus, Cab. & Heine, Mus. Hein. iv (1863, pt.).

This species was described by Dr. J. E. Gray specimen said to have been procured by Captain Sa Sierra Leone. As the original description is no accessible to ornithologists I transcribe it below hopes that it may lead to the identification of the s For my own part, I greatly doubt its being a West-A bird at all.

"Golden olive-brown; top of head, streak from angl mouth, and from lower edge of lower jaw down side of n black; chin and throat, side of head and neck white; cr and rump scarlet; chest and beneath blackish olive, wh spotted; tail and quills black-brown; dots on outer w and spots on inner web of quills and under wing-covert white; bill cestriform, culmen three-keeled. Length 8½ wing 4½, bill to gape 15, to front 13, tarsus 7½ lines."

4. Poliopicus.

	Type.
Polipicus, Cassin, Proc. Acad. Philad. 1863, p. 197	*P. ellioti.*

1. Poliopicus ellioti.

Polipicus elliotii, Cass. Proc. Acad. Philad. 1863, p. 15 id. Journ. Acad. Philad. 1863, p. 457, pl. li. fig. 1.

Picus ellioti, Sundev. Consp. Av. Picin. p. 63 (1866).

Campethera elliotí, Gray, List Picid. Brit. Mus. p. 83 (1868); id. Hand-l. B. ii. p. 193. no. 8703 (1870).

Female (?). Wings rather long; first quill spurious, fifth slightly longest; tail long and wide; head above black; entire upper parts of body and wings of yellowish olive-green, with a golden tinge on the exposed surface of shorter quills and with a reddish tinge on the upper tail-coverts; primaries brownish black, slightly edged with green on their outer webs and having large spots of yellowish white on their inner webs; shafts of quills on their under surface yellowish white; tail brownish black, outer feathers with dull brownish-white spots on their inner webs; under surface of tail tinged with pale greenish yellow; superciliary line and cheeks dull buff; throat and underparts of body greenish or yellowish white, paler and nearly pure white on the throat, and darker on the breast, and the entire underparts with longitudinal stripes of brownish black, very narrow on the throat and [illegible] on the breast; flanks and under tail-coverts with a [illegible] regular bands and sagittate spots of the same brownish [illegible]k; bill light brownish, lower mandible and tip of upper [illegible]rly white; feet probably light-coloured; under wing-[illegible]erts light yellowish white, with black spots. Total length [illegible]out 7 inches, wing $3\frac{3}{4}$, tail 3. (*Cassin.*)

The type of this species is in the Academy Museum, Philadelphia, and is evidently a female. The specimen, which, to the best of my knowledge, is unique, was obtained by M. Duchaillu on the river Muni, Western Africa. Judging by the plate and description given by Mr. Cassin, Journ. Acad. Philad. v. p. 457 (1862–63), this bird cannot be mistaken for any other African Woodpecker.

As I have never examined an individual of this species, I am not able to say whether its structure allies it to *Dendropicus* or to *Campothera*.

5. Campothera.

Dendromus, Swains. Classif. B. ii. p. 307 (1837) . . . . . Type. *C. maculosa*.

Campethera, Gray, List Gen. B. 1841, p. 70 . *C. maculosa.*
Campothera, Agass. (emend.)
Chrysopicos, Malh. Mém. Acad. Metz, 1849, p. 352 . . . . . *C. nubica.*
Stictopicos, Malh. Intr. Monogr. Picid. p. liii (1861) . . . . . *C. nubica.*
Ipagrus, Cab. & Hein. Mus. Hein. iv. p. 123 (1863) . . . . . *C. bennetti.*
Stictocraugus, iid. tom. cit. p. 130 . . . *C. nivosa.*
Cnipothera, iid. tom. cit. p. 131 . . . . *C. caroli.*

Key to the Species.

a. Shafts of quills and of rectrices above and below yellow; red malar stripe.
  a^1. Above olive dusky, spotted *and barred* with white or yellowish; spotted with black below.
    a^2. Sides of face striped with black.
      a^3. Throat unspotted ..... *nubica.*
      b^3. Throat spotted ..... *caillaudi.*
    b^2. Sides of face uniform buffy white.
      c^3. Rump barred ..... *bennetti.*
      d^3. Rump spotted ..... *capricorni.*
  b^1. Above olive or yellowish olive, spotted but *not barred* with white or yellowish; spotted with black below.
    c^2. Larger: wing 4·15 inches, bill 1·05.
      e^3. Underparts entirely covered with very large spots of black ..... *notata.*
      f^3. Underparts very minutely spotted with black; abdomen unspotted ..... *punctata.*
    d^2. Smaller: wing 3·7 inches, bill 0·65. Underparts with moderately sized black spots ..... *malherbei.*
  c^1. Above yellowish olive, spotted and barred with white or yellowish; streaked with black below.
    e^2. Region above the eye black, spotted with white; throat and chest almost entirely black; side of the neck spotted with black ..... *smithii.*
    f^2. Region above the eye white, slightly streaked with black; throat, fore neck, and chest yellowish white, the throat minutely spotted, the fore neck and chest broadly striped with black; sides of the neck striped with black ..... *abingoni.*

b. Shafts of quills and of rectrices black above, yellow below; no red malar stripe.

d[1]. Under surface barred across.

g[2]. Larger: length 6·7 inches, wing 4·0, bill 0·75. Under wing-coverts uniform ..... *maculosa.*

g[2]. Smaller: length 6·0 inches, wing 3·7, bill 0·65. Under wing-coverts spotted and barred with black ..... *permista.*

d[1]. Under surface not barred, but distinctly mottled with black spots.

e[2]. Forehead, crown, and occiput red; on the side of the face, including the ear-coverts and extending onto the side of the neck, a broad rufous-brown patch ..... *caroli.*

e[2]. Forehead and crown olive-brown, occiput only red; no rufous patch on the face and neck .... *nivosa.*

CAMPOTHERA NUBICA.

Pic cheiche de Nubie ondé et tacheté, Buff. Hist. Nat. Ois. vii. p. 56 (1780).

Pic tacheté de Nubie, Daub. Pl. Enl. vii. pl. dclxvii.

Nubian Woodpecker, Lath. Gen. Syn. no. 23, vol. i. pt. 2, p. 576 (1782).

Picus nubicus, Gm. Syst. Nat. p. 439 (1788), female; Lath. Ind. Orn. i. p. 233 (1790); Steph. Gen. Zool. ix. pt. 1. p. 180 (1815); Licht. Verz. Doubl. p. 11 (1823, pt.); Bonn. & Vieill. Enc. Méth. iii. p. 1313 (1823, pt.); Sundev. Consp. Av. Picin. p. 67 (1866); Blanf. Geol. and Zool. Abyss. p. 305 (1870); Finsch, Tr. Z. S. vii. p. 283. no. 160 (1870); Finsch & Hartl. Vög. Ostafr. p. 508 (1870); Heugl. Orn. N.O.-Afr. p. 881 (1871).

Picus æthiopicus, Hempr. & Ehrenb. Symb. Phys. i. fol. 2, no. 2 (1828), female; Rüpp. Neue Wirb. Vög. p. 59 (1835); Dresser & Blanf. Ibis, 1874, p. 336.

Picus notatus (pt.), Wagl. Syst. Av. sp. 35 (1829).

Dendromus æthiopicus, Rüpp. Syst. Uebers. 1845, p. 90, no. xxxvi.; Vierth. Naum. 1852, p. 46; Brehm, J. f. O. 1855, p. 481; Heugl. Syst. Uebers. 1856, no. 487, p. 47; id. J. f. O. 1862, p. 37.

Campethera nubica, Gray, Gen. B. ii. p. 439 (1846); Reichenb. Handb. Scans. Picinæ, p. 423 (1854); Gray, List

Picid. Brit. Mus. p. 82 (1868); id. Hand-l. B. ii. p. 193. no. 8698 (1870); Sharpe, Cat. Afr. B. p. 17 (1871); Antin. & Salvad. Viagg. Bogos, p. 45 (1873).

Campethera æthiopica, Gray, Gen. B. sp. 7 (1846); Reichenb. Handb. Scans. Picinæ, p. 422, pl. delxxii. figs. 4449–50 (185

Dendrobates æthiopicus, Bp. Consp. Gen. Av. i. (1850); Sclat. Rep. Coll. Somali Country, 1860, p.

Chrysopicus nubicus, Malh. Monogr. Picid. ii. pl. xciii. figs. 2, 3, 5 (1862).

Ipagrus nubicus, Cab. & Heine, Mus. Hein. iv (1863).

Dendrobates nubicus, Antin. Cat. descr. Uce. 186 Salvad. Atti R. Accad. Torino, 1870, p. 743.

Adult male. Upper back olive-black, barred with scapularies and lower back yellowish olive, with in cross-markings of yellowish and diamond-shaped s white; wing-coverts olive, the lesser series with whitish shaft-spots, the median and greater having a shaped or V-shaped whitish spot near the tip; quills d edged externally with olive, notched and barred with whiti the inner webs notched and spotted with pure white; sha pale golden yellow; rump olive-dusky, barred with whitis upper tail-coverts similar to the rump but more washed wit olive-yellow; tail brownish olive barred with golden bu golden towards the tip; shafts yellow; forehead, crown, a occipital crest crimson, bases of the feathers dark leade grey; lores and superciliary stripe buffy white; ear-coverts dusky, streaked with black; sides of the face and neck white spotted with black; moustachial stripe crimson; chin an throat buffy white; underparts pale yellow, spotted wit black, the flanks and thighs being whiter and barred wi black; under tail-coverts yellowish white, spotted wit black; under wing-coverts buffy white, with blackish spots " bill dusky, paler beneath; iris pink; legs greenish horny (*W. T. Blanford*). Total length 8·0 inches, culmen 1 wing 4·3, tail 2·4, tarsus 0·83; toes (without claws)—outer anterior 0·7, outer posterior 0·65, inner anterior 0·5, inner posterior 0·3.

Adult female. In general plumage resembling the adult male, but having the forehead and crown black, each feather with a spot of white at the tip, these spots being more minute and closer together upon the forehead and tinged with buff, the occipital crest alone being crimson; moustachial stripe with the tips of the feathers greyish; chin and throat buff; axillaries pale buff, spotted with dusky; "bill paler beneath; iris pink; legs greenish horny" (*W. Ford*). Total length 7·3 inches, culmen 1·1, wing 4·3, tarsus 0·8.

male. More dusky above than the adult, and having s upon the back, also the notches and bars upon the arger and whiter; shafts of quills nearly white; upper erts more golden and tipped with the same; tail shafts pale yellow; forehead and crown black, the a few of the feathers being red; occipital crest also colour being more of a scarlet than crimson; a stripe under the eye; ear-coverts nearly black, finely ked with white; moustache crimson, the bases of the thers black; chin and throat more buff; under surface of body whiter, and the spots not of such an intense black; xillaries buffy white; "iris pearl-grey" (*W. T. Blanford*). otal length 7·0 inches, culmen 1·0, wing 4·2, tail 2·5, rsus 0·8.

Young female (May 30th). Differing from the young male in having the forehead and crown black, the occipital crest alone being scarlet; a very minute white spot upon the tips of a few of the feathers of the forehead, but scarcely visible to the naked eye; the back less olive than in the young male described, which was shot July 29th (*Jesse*); malar stripe black, with elongated spots of white, giving it a streaked appearance; the throat more buff; under surface of the body pale buff, and not washed with sulphur-yellow; tail slightly darker; shafts more golden; "iris pearl-grey" (*W. Blanford*). Total length 6·2 inches, culmen 0·95, wing 4·25, tail 2·4, tarsus 0·87.

The stages of plumage in this species are very varied: first, the young male, with the forehead, crown, and crest

scarlet, the tips of the feathers being of this colour, next to which is a black bar or patch, the bases being dark leaden grey; there is also the stage in which the light under surface of the body, including the chin, throat, and sides of the face are buff, the forehead, crown, and crest scarlet, the bases of the feathers light leaden grey, and no black bar or patch between these colours; then the more fully adult male, in which the crown and crest are the same as in the last mentioned but the under surface of the body is washed with yellow or golden yellow; the malar stripe in the male is scarlet in all stages. The young female has the forehead and crown black with a few most minute white specks on the forehead, the crest scarlet; the minute spots of white increase a little in size and cover the forehead and crown; they are not large, but mere pin-points. The birds in this stage have, however, a few scarlet feathers on the crown (one specimen examined having a little patch of red on the malar stripe), and the crests are of a wash of pale scarlet. There is another stage in which the forehead and crown are covered with white spots differing much in form, but there is the large terminal spot, as in the fully adult female, and also others, small and elongated, widening near the tip; the crest scarlet. After this comes the fully adult, the forehead and crown being covered with large spots of white; the crest scarlet. The malar stripe in the female is black, spotted with white.

According to the observations of Heuglin and other travellers in North-east Africa the present species appears to be very commonly distributed over that portion of the Ethiopian Region, from Southern Nubia and the Egyptian Soudan as far south as the Somali country.

Malherbe, in his Monograph, illustrates this species upon plate xciii. figs. 2–5. The bird said to be a young male (fig. 4) is certainly not *C. nubica*; the figure appears to be taken from a specimen of *C. abingoni*, and is altogether unsatisfactory. The same author also figures upon plate xciv. three birds, under the heading of *Chrysopicus æthiopicus* (Rüpp.), which are intended to represent *C. nubica* (vide errata); the figure of the male is possibly taken from a specimen of *C. nubica*, but figs. 2 and 3 correspond with *C. caillaudi*.

2. Campothera caillianudi.

Chrysopicos caillianti, Malh. Rev. Zool. 1849, p. 540.

Dendrocopus caillianti, Bonap. Consp. Volucr. Zygod. p. 9 (1854).

pt. *Chrysopicus caillianudi*, Malh. Monogr. Picid. ii. p. 167

Ipagr

(1863) *tus caillianudi*, Cab. & Heine, Mus. Hein. iv. p. 127

Picus

(1866) *tuligerus*?, Heugl. J. f. O. 1864, p. 253; Finsch

Cam g. Ostafr. p. 511, note (1870).

Layard *iaudi*, Sundev. Consp. Av. Picin. p. 65 (1866).

(1875) *a caillianti*, Gray, List Picidæ Brit. Mus. p. 81

Matat. Hand-l. B. ii. p. 193. no. 8701 (1870).

Ipag *s*, Heugl. Orn. N.O.-Afr. p. 810 (1871).

(1872) *cus* (nec Gm.), Shelley, P. Z. S. 1881, p. 593.

Adult female. Above, including scapulars, blackish olive, [illegible]sers margined with yellowish olive, tipped and barred [illegible]yellowish white; wing-coverts blackish olive, margined [illegible]yellowish olive (particularly along the forearm), tipped [illegible]d spotted with white; bastard-wing black, the edge being [illegible]llowish white; primary-coverts dusky, externally margined [illegible]ith dull green; quills brownish black, the outer webs partially [illegible]r entirely golden olive, spotted and tipped with buffy white or [illegible]ure white, the inner webs having larger spots or partial bars [illegible]f pure white; shafts of primaries golden yellow, those of the secondaries yellowish brown; rump and upper tail-coverts olive, the former barred with yellowish white, the barring of the latter being more golden yellow; tail blackish brown, the webs more golden olive near the shafts, barred with a paler brown; tips of the rectrices black and the shafts bright golden yellow; nasal plumes yellowish white, varied with black; forehead and crown black, spotted with white; occipital crest crimson; lores yellowish white; entire sides of the face and neck, chin, throat, and fore neck white, the side of the [illegible]e having streak-like spots, the remainder with rounded spots of black; from the chest to the under tail-coverts inclusive, together with flanks and thighs, yellowish white spotted with black, except on the abdomen, which is uni-

form; under surface of the tail and of the tail-shafts golden; under wing-coverts and axillaries yellowish white, spotted with black; underside of quill-shafts golden yellow. Total length 7·5 inches, culmen 0·92, wing 4·2, tail 2·45, tarsus 0·8; toes (without claws)—outer anterior 0·6, outer posterior 0·52, inner anterior 0·42, inner posterior 0·3.

The description of this species has been taken fro[m] cimen in Capt. Shelley's collection, from Lamo, south zibar, procured by Sir John Kirk; and according to M the bird ranges as far south as the borders of Natal, if tification of the specimen in the Stockholm Museum be It should be noted, however, that Sundevall identifies *liaudi* of Malherbe as the young of *C. abingoni*, judgi this very specimen in the Stockholm Museum, which he has in his hand as he writes. It would seem, th that Malherbe confounded the two birds; and I hav doubt in my own mind that Sundevall is right as reg Natal example. Malherbe's type, in the Nantes Mu was from an unknown locality; but the habitat of the sp will probably be found to extend from the Zanzibar distri in Eastern Africa as high as the Gazelle river; for, so far I can determine from the description given by Heuglin, h *Picus balius* is identical with *C. cailliaudi* of Malherbe.

3. Campothera bennetti.

Chrysoptilus bennettii, Smith, Rep. S. Afr. Exp., App. p. 53 (1836); Gurney, Ibis, 1869, p. 296.

Campethera variolosa, Gray, Gen. B. ii. p. 439 (1846, ex Licht.); Licht. Nomencl. Av. 1854, p. 76; Reichenb. Handb. Scans. Picinæ, p. 425, pl. dclxxv. figs. 4464–5 (1854); Gray List Picid. Brit. Mus. p. 80 (1868); id. Hand-l. B. ii. p. 192 no. 8693 (1870).

Campethera abingtoni, Gray, Gen. B. iii. App. p. 21 (1849) Reichenb. Handb. Scans. Picinæ, p. 427 (1854).

Dendrobates variolosus, Bp. Consp. Gen. Av. i. p. 1 (1850).

Dendromus bennettii, Bp. Consp. Volucr. Zygod. p. 9 (1854).

Dendromus guttatus, Bp. Consp. Volucr. Zygod. p. 9 (1854).

? *Picus abingtoni*, Grill, Zool. Anteckn. 1859, p. 44.

Chrysopicus variolosus, Malh. Monogr. Picid. ii. p. 165, ...cy, figs. 1, 2 (1862).

...*s bennetti*, Cab. & Heine, Mus. Hein. iv. p. 123

... *bennetti*, Sundev. Consp. Av. Picin. p. 63. no. 186

...*thera bennetti*, Sharpe, Cat. Afr. B. p. 17 (1871); Ibis, 1871, p. 227; Sharpe, ed. Layard, p. 181 Ayres, Ibis, 1879, p. 299; Sharpe, in Oates's ...e Land, App. p. 306 (1881).

...*rus variolosus*, Gurney, in Anderss. B. Dam. Ld. p. 222

...*lt male*. Above, including scapulars, yellowish olive, ...barred with dusky olive and more narrowly with yellow ...owish white; wing-coverts yellowish olive, spotted and ...g a few shaft-streaks of white; the median and greater ...s barred with the same near the tips; quills dusky ..., the outer webs partially or entirely yellowish olive and ...or less notched and barred with white, these markings ...faint upon the outer primaries, the inner webs notched ...d spotted with white; some of the inner secondaries ...ntirely olive; tips of the quills white, shafts golden yellow; ...rump and upper tail-coverts yellowish white, washed with golden and barred with black; tail rich brown, some of the central feathers washed with golden olive, the whole barred with black; tips of the four central feathers black, and of the remainder golden; dwarf feather dull yellowish, barred with blackish olive and having a shaft-spot and the tip white; shafts bright golden yellow; forehead, crown, and occiput crimson, the bases of the feathers dark leaden grey, darker on the occiput, a few of the nuchal feathers having a whitish spot at the base of the crimson tip; hind neck blackish olive, barred and spotted with white; lores, superciliary stripe, entire side of the face, chin, and throat uniform buffy white; a broad crimson malar stripe; side of the neck white,

spotted with black; from the fore neck to the under tail-coverts inclusive pale yellow, spotted with black; the chest washed with deep golden; flanks and thighs barred with black; under wing-coverts yellowish white and having large spots and bars of black; axillaries yellowish white, sp... with black; "bill black; iris red; tarsus greyish ... *Buckley*). Total length 8·5 inches, culmen 1·15, w... tail 2·6, tarsus 0·82; toes (without claws)—outer ... 0·65, outer posterior 0·53, inner anterior 0·53, inner ... 0·27.

Adult female. Differing from the adult male in ha... forehead and crown black, each feather with a white ... the tip, the occiput only being crimson; lores, orbital ... and ear-coverts chestnut-brown; cheeks and sides of t... white, the bases of the feathers black, producing a st... appearance; chin and throat chestnut-brown; und... and under tail-coverts rather less spotted, some o... markings being more of a short streak; "bill horn-co... legs lead-colour; iris dark red" (*T. E. Buckley*). T... length 8·3 inches, culmen 1·05, wing 4·5, tail 2·35, ta... 0·85.

Bennett's Woodpecker was met with by the lat... Andrew Smith in the country about Kurrichaine, whence ... extends into Natal and the Eastern Transvaal, and throug... the Makalaka country to the Zambesi and the Lake-region ... of Damara Land. I do not think that the species procured ... by Victorine at the Knysna, and determined by Grill as ... *Picus abingtoni*, will really turn out to be the present ... bird, although it has been referred to it by more than ... one writer.

4. Campothera capricorni.

Campethera capricorni, Strickl. & Sclat. Contr. Orn. 1852, p. 155; Jardine, Mem. Strickl. 1858, p. 344; Gray, List Picid. Brit. Mus. p. 81 (1868); Newton, Ibis, 1869, p. 32... pl. ix.; Gray, Hand-l. B. ii. p. 193. no. 8700 (1870); Sharpe, Cat. Afr. B. 1871, p. 17; id. ed. Layard's B. S. Afr. p. 180 (1875).

Dendromus capricorni, Bp. Consp. Volucr. Zygod. p. 9 (1854).

Chrysopicus capricorni, Malh. Monogr. Picid. ii. p. 169 (1862).

Ipagrus capricornis, Cab. & Heine, Mus. Hein. iv. p. 123

s capricorni, Sundev. Consp. Av. Picin. p. 64. no. 187

obates nigrogularis, Bocage, Jorn. Lisb. iv. 1867, id. op. cit. v. 1868, p. 45.

us capricorni, Gurney, in Anderss. B. Dam. Ld. p. 221

pethera bennetti, Bocage, Orn. Ang. p. 80. no. 61

pothera capricorni, Salvin, Cat. Strickl. Coll. p. 394).

lt female. Above, including scapulars, dark olive barred yellow, the feathers having a partially concealed bar; wing-coverts dark olive, brighter along the fore-, the lesser series spotted with white, the median and eater having a crescent-shaped white marking at the tip; astard-wing and primary-coverts blackish olive; edge of ing yellowish white; quills blackish brown, the outer webs artially or entirely margined with olive, those of the pri-aries having a few indistinct buffy-white spots upon their basal half, the secondaries being spotted along the whole length of the outer webs with buffy white; inner webs of the primaries margined and spotted upon their basal half with white, those of the secondaries spotted with the same, some of the innermost quills barred and tipped with white; shafts bright golden yellow; rump and upper tail-coverts pale olden, the latter having a few blackish spots; tail dark live-brown, barred with lighter rufous-brown, the webs near he shaft washed with olive, the central pair of feathers most entirely so; dwarf feather dusky olive, barred with hite; tips of central rectrices black, those of the outer being golden; shafts golden yellow; nasal plumes black, slightly varied with yellowish; feathers of the forehead and

crown tipped with a rounded white spot, the remaining visible portion black; occipital crest crimson; nape black; lores, superciliary stripe, and sides of the face and neck yellowish white, the neck barred with blackish; from the base of the upper mandible, passing under the eye and including the greater part of the ear-coverts, a patch chocolate-brown, this colour continued down the sid neck in a series of spots; chin and throat deep cl brown; from the fore neck to the under tail-coverts pale yellow, bright golden on the chest, the feather latter with faint narrow dusky barring; under surfa tail and tail-shafts golden; under wing-coverts pale y varied with dusky spots; axillaries white; underside o shafts golden yellow; "bill brown slate-colour; iris coloured; legs and toes lead-coloured" (*Andersson*). length 8·5 inches, culmen 1·15, wing 5·0, tail 3·2, tarsus toes (without claws)—outer anterior 0·7, outer poster inner anterior 0·55, inner posterior 0·35.

Female (*evidently younger than the above*). Differs in h the yellow bars upon the back broader, the wing-cov more barred; outer webs of primaries tipped with whit some of the upper tail-coverts having the spots in pairs, wi one near the tip, the others being barred with brown; ta with scarcely any trace of barring; the crown-spots les white, oval, and not forming such a broad terminal patch lores and sides of the face and neck not so white, the flanks and thighs more spotted with black; the chest having less of the bright golden wash; under tail-coverts with a few minute black shaft-spots; under surface of the tail less golden and the barring scarcely perceptible; "iris rose-colour" (*Anchieta*). Measurements rather less than the adult female described.

Adult male. Differing from the adult female in having th lores, side of the face, chin, and throat uniform yellowis white; the forehead, crown, and occiput, also a broad mal stripe, crimson.

The present species appears to be strictly confined to South-western Africa, and to be by no means uncommon at

Capangombe and Huilla, whence Anchieta has sent a good many specimens to the Lisbon Museum. It has also been met with by the late Mr. Andersson in the neighbourhood of the Okavango river.

Besides the two specimens in the British Museum, which th females, I have a male in my own collection l in exchange from Professor Barboza du Bocage, he name of *C. bennetti*. In his work on the Birds of the last-named ornithologist considers *C. capricorni* same species as *C. bennetti*; but after reading his C, although I believe that the differences mentioned are due to age, I consider his bird to be true *Picricorni*, in which species such changes of plumage ur. So far as I can see, *C. capricorni*, although ng to the same section of the genus as *C. bennetti*, y quite distinct from that species.

AMPOTHERA NOTATA.

Pic tigré, Levaill. Ois. d'Afr. vi. p. 14, pl. ccl. (1808), e; Sundev. Krit. Framst. Levaill. p. 52. no. 250 (1857).

Picus notatus, Licht. Verz. Doubl. 1823, p. 11; Wagl. st. Av., *Picus*, sp. 35 (1829); id. Isis, 1829, p. 511; undev. Consp. Av. Picin. p. 66. no. 191 (1866).

Picus nubicus, Bonn. & Vieill. Enc. Méth. iii. p. 1313 1823, pt.).

Campethera nubica, Gray, Gen. B. ii. p. 439 (1846, pt.); Layard, B. S. Afr. p. 17 (1871).

Dendrobates notatus, Bp. Consp. Gen. Av. i. p. 123 (1850).

Campethera notata, Reichenb. Handb. Scans. Picinæ, p. 423, pl. dclxxiii. figs. 4153–54 (1854); Gray, List Picid. Brit. Mus. p. 82 (1868); id. Hand-l. B. ii. p. 193. no. 8697 (1870); Sharpe, Cat. Afr. B. p. 17 (1871); id. ed. Layard's . S. Afr. p. 186 (1875).

Dendromus notatus, Bp. Consp. Volucr. Zygod. p. 9 (1854).

Chrysopicus notatus, Malh. Monogr. Picid. ii. p. 162, pl. xcv. figs. 4 & 5 (1862).

Ipagrus notatus, Cab. & Heine, Mus. Hein. iv. p. 127 (1863).

Campothera notata, Salvin, Cat. Strickl. Coll. p. 393 (1882).

Adult male. Above, including scapulars, olive, the feathers having a faint yellowish terminal margin; *down*- the half-concealed portions showing a few diamon white spots; wing-coverts the same colour as ker from minutely spotted with yellowish white; quills dusk common the outer webs margined partially or entirely wi eived it and spotted or partially barred with buffy white, th there webs notched and spotted with pure white; a few sher; inner secondaries entirely olive, tipped and narrowly bird with whitish; shafts brown; rump and upper tail- olive, barred with dull yellow or yellowish te; tai brown, narrowly barred with pale buff, se b reaching to the shafts; the tips of the shafts of the central feathers clear yellowish brow of the lateral ones becoming bright golden; the feath the forehead and crown dull red, the remaining vi portion being blackish olive; occipital crest bright scarl lores yellowish; entire side of the face dull white, becomi yellower on the side of the neck, the ear-coverts streak and the remainder spotted with black; malar stripe red, th bases of the feathers black; from the chin to the ver inclusive dull yellowish or yellowish white, lighter on the chi and throat, the whole covered with large black spots, except on the chin and throat, the spots being much smaller upon these parts; thighs broadly barred with black; under tail- coverts yellowish, and having large heart-shaped spots of black; under wing-coverts yellowish white, spotted with black; axillaries white, with blackish tips; "iris hazel (*T. C. Atmore*). Total length 8·5 inches, culmen 1·1, win 4·25, tail 2·85, tarsus 0·9; toes (without claws)—outer ant rior 0·6, outer posterior 0·6, inner anterior 0·4, inner post rior 0·25.

Adult female. Different from the adult male in having the forehead and crown black, minutely spotted with white, the

occipital crest alone being scarlet; malar stripe without red, the feathers being of the same colour as the throat, but barred and spotted with black; "iris hazel" (*T. C. Atmore*). Total length 8·1 inches, culmen 0·97, wing 4·25, tail 3·0, tarsus 0·8.

[illegible] species is found from the Knysna district, in the [illegible]olony, as far as the eastern districts, such as the [illegible]urhood of Grahamstown &c. and the Transkei. It [illegible]t seem to range either into Natal or the Transvaal.

[illegible]AMPOTHERA PUNCTATA.

[illegible]*s nubicus*, Licht. (nec Gm.) Verz. Doubl. p. 11 (1823).

[illegible]*us punctatus*, Valenc. Dict. Sc. Nat. xl. p. 171 (1826); Traité, p. 219 (1831); Rüpp. Neue Wirb. Vög. 1835–[illegible] p. 90; Pucher. Rev. et Mag. Zool. 1852, p. 478; Sun-[illegible]onsp. Av. Picin. p. 67 (1866).

[illegible]*s punctuligerus*, Wagl. Syst. Av. sp. 36 (1827); id. [illegible]1829, p. 512.

[illegible]*icus punctulatus*, Drap. Dict. Class. Hist. Nat. xiii. p. 505 [illegible]28).

Dendromus punctatus, Swains. B. W. Afr. ii. p. 163 (1837).

Campethera punctuligera, Gray, Gen. B. ii. p. 439 (1846); Reichenb. Handb. Scans. Picinæ, p. 423, pl. delxxiii. figs. 4155, 4156 (1854); Cass. Proc. Acad. Philad. 1863, p. 327.

Dendrobates punctuligerus, Bp. Consp. Gen. Av. i. p. 123 (1850); Hartl. J. f. O. 1854, p. 198.

Dendromus punctuligerus, Bp. Consp. Volucr. Zygod. p. 9 (1854); Hartl. Orn. W. Afr. p. 180 (1857).

Chrysopicus punctuligerus, Malh. Monogr. Picid. ii. p. 164, pl. xcii. figs. 4–6 (1862).

Ipagrus punctatus, Cab. & Heine, Mus. Hein. iv. p. 124 (1863).

Campethera punctata, Gray, List Picid. Brit. Mus. p. 82 (1868); id. Hand-l. B. ii. p. 193. no. 8699 (1870); Sharpe, Cat. Afr. B. p. 17 (1871); id. Ibis, 1872, p. 68.

Campothera punctata, Salvin, Cat. Strickl. Coll. p. 394 (1882).

Adult male. Above, including scapulars and rump, yel-

lowish olive, barred with dusky olive, each feather having a diamond-shaped spot of white, and at the tip a narrow shaft-streak or spot of yellow; wing-coverts dusky olive, with narrow shaft-streaks and a few diamond-shaped spots of white; quills dusky, the outer webs partially or entirely yel- lowish olive, with numerous small patches or narrow dull yellowish white, the inner webs having square or deep notches of white or buffy white along the the light markings forming bars upon some of th most secondaries, which have also a spot near the ti shaft-streak of whitish, shafts light yellow; upper tail golden yellow, barred with olive; tail golden olive the central feathers obliquely barred, from the margin wards, with golden buff, the remainder transversely with a paler shade of the same; dwarf feather more barred with yellowish white; shafts golden yellow, with olive-brown at the tip; forehead, crown, and o crest crimson, bases of the feathers leaden grey; lo stripe under the eye, and one from behind the upper pa the same, buffy white; ear-coverts white, finely streaked w black; sides of the face and neck white, minutely spott with black; a broad crimson moustache, bases of the fe thers dark leaden grey; chin, throat and fore neck white, th former very sparingly spotted, the latter closely covered with minute black spots; from the chest to the under tail-coverts inclusive, pale yellow, spotted with black, the spots being numerous on the chest and breast; the abdomen nearly uniform; flanks barred with black; under wing-coverts buffy white, with a slight yellow tinge, and spotted with black; axillaries buffy white. Total length 8·0 inches, culmen 1·15, wing 4·5, tail 2·25, tarsus 0·9; toes (without claws)— outer anterior 0·67, outer posterior 0·6, inner anterior 0·47 inner posterior 0·3.

Young male. Like the adult, but having the back an scapularies of a less rich yellowish olive; shafts of quills n so yellow; the tail rich in colour, as in the adult of both sexes, but the barring of golden buff on the central pair of feathers running obliquely from the shafts downwards; fore-

head and crown dusky black, bases of the feathers leaden grey, and only a few minutely tipped with crimson; occipital crest crimson, likewise the moustache; underparts less yellow, and the spots not so black; under tail-coverts uniform whitish; under wing-coverts buffy white, spotted with [illegible]. Total length 7·3 inches, culmen 1·05, wing 4·25, [illegible], tarsus 0·85.

[illegible] birds of this species are apparently rare in collections. In the specimen from which we have taken our description the sides of the face and neck are much damaged, but there is a trace of a crimson moustache.

Adult female. Different from the adult male in having the head and crown black, with shaft-streaks of pure white, the bases of the feathers being dark leaden grey, the occipital crest alone being crimson; this colour is absent on the moustache, the feathers of which have a shaft-stripe of black, the margin being pale buff; the barring of all the tail-feathers transverse, the dark bars being broader. Total length 8·0 inches, culmen 1·1, wing 4·5, tail 2·6, tarsus 0·9.

Younger female. Upper parts more dusky than in the adult; the wing-coverts and quills paler, the light markings upon the latter being broader and whiter, and the shafts dull white; the tail less rich in colour, and the barring very confused, shafts paler yellow; the light markings on the forehead and crown more of a buffy white, and the crimson occipital crest not so brilliant; moustachial stripe paler; the abdomen less yellow; under tail-coverts unspotted; under wing-coverts less tinged with yellow. Total length 8·0 inches, culmen 1·05, wing 4·25, tail 2·55, tarsus 0·85.

Although I have noted in our descriptions of this species the oblique and the transverse barring of the tail-feathers and upper tail-coverts, still I do not attach much importance to this character, as one serving to distinguish either sex or age. One adult male may have the upper tail-coverts barred obliquely, the tail-feathers transversely, but the dwarf feather obliquely; another adult male will have the upper tail-coverts transversely barred, the central tail-feathers obliquely, and the dwarf feather transversely. I have not

examined a sufficient number of specimens of the female to be able to say whether it varies in like manner, but this is very probable. A young male with the crest crimson, but only assuming the crimson crown, has the tail and tail-shafts as bright in colour as in the adult stage, but the barring of the central pair of tail-feathers is oblique, *from the shaft outwards*.

I have not seen any examples of this Woodpecker from any part of Africa but the west coast. It is not uncommon in collections from Senegambia; and Verreaux received from Bissao and Casamanze. In the British Museum there is a specimen from Accra, shot by the late Governor [illegible], and Capt. Shelley's collection also contains a young bird from the same locality.

7. Campothera malherbii.

Chrysopicus malherbei, Cass. Journ. Acad. Philad. p. 459, pl. li. fig. 3; id. Proc. Acad. Philad. 1863, p. [illegible].

Picus imberbis, Sundev. Consp. Av. Picin. p. 68 (1[illegible]); Finsch & Hartl. Vög. Ostafr. p. 511 (1870).

Campethera malherbei, Gray, List Picid. Brit. Mus. p. [illegible] (1868); id. Hand-l. B. ii. p. 193. no. 8702 (1870).

Dendrobates hartlaubi, v. d. Decken, Reisen, i. p. [illegible] (1869).

Campothera imberbis, Cab. in v. d. Decken, Reisen, ii. p. 39 (1869).

Adult female. Entire back, scapulars, rump, and upper tail-coverts yellowish olive, with longitudinal yellow or yellowish-white spots, and between the yellow and partly concealed white spots a bar-like one of dusky olive, the interscapular feathers having an apical spot, and lower down one upon each web, between these the feather being blackish olive; wing-coverts more golden olive than the back, with longitudinal yellowish spots; quills blackish brown, the outer webs partially or entirely golden olive, those of the primaries spotted with pale buff, those of the secondaries with faint yellow marginal spots, the inner primaries, also the secondaries, having a buffy white spot at the tip; inner

webs of quills with bar-like marginal spots of white, the secondaries spotted along their whole margin; shafts golden yellow; tail golden olive, barred with dusky brown, and having bar-like buffy white spots on the margins of both webs of the feathers; central feathers almost uniform golden ... shafts of rectrices bright golden yellow, and their tips ... nasal plumes buffy white, tipped with black; fore- ... d crown black, spotted with white, bases of the fea- ... ark leaden grey; a broad crimson occipital crest; ... lso the sides of the face and neck, white, with streak- ... ots of black; chin, throat, and fore neck white, and ... e chest to the under tail-coverts pale golden yellow, ... ole, from the chin (inclusive) downwards, covered with ... ed black spots, very minute on the chin and throat; ... surface of the tail washed with golden; under wing- ... s pale buff, sparingly spotted with black; edge of the ... ightly washed with yellow. Total length 6·5 inches, ... en 0·67, wing 3·65, tail 2·2, tarsus 0·65; toes (without ... ws)—outer anterior 0·5, outer posterior 0·43, inner ante- ... or 0·4, inner posterior 0·22.

Cassin described this Woodpecker from Zanzibar, and Capt. Shelley has lent me one of Sir J. Kirk's specimens from Dar-es-Salaam. I have not adopted Sundevall's name of *imberbis* for the species, as I do not anticipate any confusion of nomenclature between *Campothera malherbii* of Africa and the *Campophilus malherbii* of Gray from South America.

8. Campothera smithi.

Picus (*Chrysoptilopicus*) *smithii*, Malh. Rev. Zool. 1845, p. 403.

Dendrobates abingtoni (nec Smith), Bp. Consp. Gen. Av. i. p. 124 (1850); Bocage, Jorn. Sc. Lisb. no. iv. 1867, p. 336.

Campethera abingtoni (nec Smith), Strickl. & Sclat. Contr. Orn. 1852, p. 156.

Dendromus abingtoni (nec Smith), Bp. Consp. Volucr. Pyrod. p. 9 (1854).

Chrysopicus brucei, Malh. Monogr. Picid. ii. p. 170, pl. xciii. fig. 1 (1862).

Ipagrus brucei, Cab. & Heine, Mus. Hein. iv. p. 125 (1863); Gurney, in Anderss. B. Damara Land, p. 221 (1872).

Picus smithii, Sundev. Consp. Av. Picin. p. 65 (1866).

Picus brucei, Sundev. Consp. Av. Picin. p. 66 (1866).

Dendrobates brucei, Bocage, Jorn. Sc. Lisb. no. v. 18[illegible] p. 45; id. op. cit. no. xiv. 1873, p. 336; Sharpe, P[illegible] 1871, p. 134.

Campethera smithii, Gray, List Picid. Brit. Mu[illegible] (1868); id. Hand-l. B. ii. p. 193. no. 8695 (1870); [illegible] ed. Layard's B. S. Afr. p. 184 (1875); id. in Oates's M[illegible] Land, App. p. 306 (1881).

Campethera brucei, Gray, List Picid. Brit. Mus[illegible] (1868); id. Hand-l. B. ii. p. 193. no. 8696 (1870); S[illegible] Cat. Afr. B. p. 17 (1871); Bocage, Orn. Ang. 1877, p[illegible]

Campethera chrysura (nec Swains.), Sharpe, P. Z. S. [illegible] p. 170; Bocage, Orn. Ang. 1877, p. 78.

Dendrobates striatus, Layard, Ibis, 1871, p. 227.

Adult male. Above olive, barred with yellow or yell[illegible] white, and having whitish shaft-spots; scapulars olive, [illegible] diamond-shaped whitish shaft-spots; wing-coverts mo[illegible] golden olive than the back, streaked and spotted with buff[illegible] white; primary-coverts olive, spotted with buffy white; quills dusky brown, the outer webs partially or entirely golden olive, with bar-like spots of buffy white, the inner webs having large spots or partial bars of pure white; some of the inner quills margined with white at the tip, and having the apical portion of the inner web golden olive; shafts bright golden yellow; rump yellowish, barred with olive; upper tail-coverts more golden buff, barred with and having an intermarginal line of golden olive at the tip; tail very bright golden olive, barred with buff and golden buff, the barring whiter on the inner webs, tips of the feathers golden; shafts bright golden yellow; feathers of the forehead and crown having their extreme tips crimson, the basal portion dark leaden grey; a very bright crimson occipital crest; feathers of the hind neck blackish olive, margined and centred with dull white; outer edge of the forehead, crown, and occiput, also a patch behind the eye, black, a few of the feathers above

the eye and upon the side of the occiput spotted with white; lores and under the eye white, the bases of the feather black, producing a spotted appearance; side of the face white, with very few short and narrow black streaks; side of the neck white, spotted with black; cheeks, likewise the chin, throat, and fore neck, black, the cheeks having a crimson patch, the remainder being spotted with white; chest-feathers black, with a broad yellowish margin and shaft-streak; under parts of the underparts yellow, the abdomen striped, flanks and thighs barred with black; under tail-coverts yellowish, with olive-brown V-shaped intermarginal markings; under surface of the tail golden, and of the shafts pale golden yellow; under wing-coverts and axillaries pale yellow, spotted and varied with olive-black; under surface of the shafts bright golden yellow; "bill bluish brown; iris wine-colour; legs and toes greyish green" (*Andersson*). Total length 7·8 inches, culmen 1·3, wing 4·75, tail 2·5, tarsus 0·85; toes (without claws)—outer anterior 0·7, outer posterior 0·6, inner anterior 0·55, inner posterior 0·3.

Adult female. Differing from the adult male in having the forehead and crown black, spotted with white; no red malar patch, the cheeks being, like the throat, black, spotted with white; from the chin to the chest, inclusive, less black, the feathers broadly margined with yellowish. Total length 8·0 inches, culmen 1·2, wing 4·7, tail 2·55, tarsus 0·85.

Nestling female. In general colour resembling the adult, but having the forehead and crown dusky, the spotting dull white and confined to the forehead; the occipital crest more of a scarlet; side of the face whiter; the black of the cheeks, as also of the throat and chest, less intense, and the white spotting very dull, almost wanting upon the cheeks; underparts not so yellow, the breast being spotted, the remainder barred with blackish, the spotting being more intense; under tail-coverts marked as in the adult, but paler and duller; shafts of primary-quills pale yellowish brown, those of the secondaries darker; the upper surface of the tail not so clearly barred and of the same colour as the wings, the shafts paler yellow; under wing-coverts white, uniform along the forearm, the remainder having large dusky spots.

A male from Ovaquenyama, May 20th (*Andersson*), has not the black feathers under the eye; the lores, feathers under the eye, ear-coverts, and cheeks are buffy white, upon the latter the scarlet stripe shows clearly; chin buffy white, streaked with black; the throat, fore neck, and chest, unli[ke] the male described, are buffy white, tinged with yello[w] feathers having large black centre-spots and a termin[al] of the same; the rest of the under surface of the bod[y] white, faintly washed with yellow, and having sh[aft] narrow shaft-streaks of black; lower part of the al[domen] uniform; under wing-coverts more buff, with the larg[er] of a blackish olive; shafts of quills above very pale [yellow] nearly white below; shafts of tail-feathers above and [below] bright golden yellow. A female from Objimbinqué, [May] 30th (*Andersson*), has the entire under surface of the [body] striped with black.

The plumages of this Woodpecker differ so much at [the] periods of the bird's life as to render it very difficu[lt] account for the variations which are presented by a serie[s] specimens. When fully adult the black throat at once di[s]tinguishes the species; but before this is assumed, the bird goes through a striated stage, and it is unfortunately so rare in collections in this country that I have been unable hitherto to trace the absolute gradations from the striated dress to the fully mature plumage. The type of *D. striatus* of Layard from Matabele Land is in the British Museum; and I have no doubt, in my own mind, that the bird so named is referable to *C. smithi*; but until adult black-throated specimens have been procured in the Matabele country, it would be somewhat rash to assert positively that there is no eastern race of *C. smithi* to be found in that part of the country. The type of the species, also in the British Museum, is not black-throated; and although it bears merely the locality of "South Africa" on the label, it is reasonable to suppose that it was procured by Sir Andrew Smith in the far interior.

Again, in Angola the specimens are not perfectly typi[cal] as far as I can judge from the few specimens which

fallen under my notice. One specimen, from the Rio Logé, is in such a peculiar plumage that Mr. Sharpe originally referred it to *C. abingoni*, which it certainly is not; in fact the only specimens about which one can feel absolutely certain are those from Damara Land; but even there the species is so rare that Mr. Andersson was unable to forward many specimens to this country. As already stated, the type of *C. abingoni* was described by Malherbe from one of Sir Andrew Smith's specimens in the British Museum. Later on, however, Prince Bonaparte obtained an example, and lent it to Malherbe, who described it as *C. brucei*, without apparently recognizing that it was the same as his previously described *C. abingoni*. That these two species are identical has been correctly pointed out by Mr. Bowdler Sharpe, in his edition of Layard's 'Birds of South Africa,' where an excellent account of the birds will be found, to which we may refer our readers.

So far as is at present known, the headquarters of this species are Damara Land and the Portuguese provinces to the north; subject to the variations above noticed, it may be said to extend into Angola proper, and eastwards into Matabele Land, Dr. Exton having met with it at Kanye and Mr. Frank Oates at Tati. Dr. Exton has recently presented us with two specimens from Rustenberg.

9. Campothera abingoni.

Chrysoptilus abingoni, Smith, Rep. S. Afr. Exped. App. p. 53 (1836).

Dendromus chrysurus, Swains. B. W. Afr. ii. p. 158 (1837); Hartl. Orn. W.Afr. p. 181 (1857); id. J. f. O. 1861, p. 264.

Campethera chrysura, Gray, Gen. B. ii. p. 439 (1846); Reichenb. Handb. Scans. Picinæ, p. 424, pl. dclxxiii. figs. 4157, 4158 (1854); Gurney, Ibis, 1860, p. 213; Layard, B. S. Afr. p. 238 (1867); Gray, List Picid. Brit. Mus. p. 81 (1868); id. Hand-l. B. ii. p. 192. no. 8694 (1870); Sharpe, Cat. Afr. B. p. 17 (1871); Gurney, Ibis, 1881, p. 128.

Campethera chrysurus, Bp. Consp. Gen. Av. i. p. 123 (1850); Cab. J. f. O. 1854, p. 199.

Chrysopicus chrysurus, Malh. Monogr. Picid. ii. p. 153, pl. xciv. figs. 4, 5 (1862).

Dendromus smithii, Gurney (nec Malh.), Ibis, 1862, p. 37; id. tom cit. p. 157.

Ipagrus chrysurus, Cab. & Heine, Mus. Hein. iv[illegible] (1863).

Campethera chrysura, var. *lineata*, Cass. Proc. Ac[illegible] lad. 1863, p. 327; Gray, List Picid. Brit. Mus. p. 81

Picus chrysurus, Sundev. Consp. Av. Picin. p. 64 (

Campethera abingtoni, Sharpe, ed. Layard's B.S.Af[illegible] (1875); id. in Oates's Matabele Land, App. p. 306 (

Adult male. Above bright yellowish olive, spotte[illegible] yellowish white and dusky olive, the light spots being[illegible] conspicuous; wing-coverts more golden olive than the[illegible] and having diamond-shape spots of buffy white, and[illegible] the margins narrow crescent-shaped markings of the[illegible] quills brownish dusky, with nearly all the outer webs[illegible] olive, notched and narrowly barred with buffy white[illegible] inner webs notched and spotted with pure white, some of[illegible] inner feathers having the tips darker and with a subtermin[illegible] white bar and spot, the shafts being bright yellow; shafts o[illegible] all the other quills dirty yellow, inclining to brown; rump[illegible] and upper tail-coverts barred with olive and yellow or yellowish white; tail brownish olive, narrowly barred with buffy[illegible] yellow, tips of the feathers golden; shafts bright golden yellow; forehead, crown, and occipital crest scarlet, the bases of the feathers dark leaden grey, with a subterminal blackish bar; lores sulphur-yellow; stripe above and below the eye and entire sides of the face and neck white, faintly tinged with yellow and streaked with black; malar stripe scarlet, the bases of the feathers dark leaden grey; hind neck olive dusky, spotted with white; chin, throat, and fore neck yellowish white, minutely spotted with black; from the chest to the under tail-coverts, inclusive, yellow, the chest and breast broadly streaked with intense black, the abdomen an[illegible] under tail-coverts spotted, and the thighs barred with [illegible] same; under wing-coverts buffy white, washed with sul[illegible] yellow and spotted with black; axillaries white. Total l[illegible]

7·2 inches, culmen 1·1, wing 4·3, tail 2·3, tarsus 0·8; toes (without claws)—outer anterior 0·65, outer posterior 0·57, inner anterior 0·45, inner posterior 0·3.

Adult female. Differing from the adult male in having the forehead and crown black, spotted with yellowish white, the ...tal crest alone being scarlet; the malar stripe absent, ...ck being yellowish white striped with black; flanks ...ghs streaked (not barred) with black; "bill horn-... paler on the lower mandible; iris brown; tarsus yel-... olive" (*G. E. Shelley*). Total length 7·8 inches (*S.*), culmen 1·05, wing 4·3, tail 2·35, tarsus 0·8.

...ng female. Back and scapulars dusky, with a yellowish ... and spotted with dull yellowish white, each feather ... a rounded spot at the tip, and lower down a second ...ssuming a bar-like character, margin of the feathers ...ly yellowish; wing-coverts more olive than the back, ...ith smaller white spots; exposed portion of bastard- ... and primary-coverts dusky, with minute marginal ...ish spots; quills dusky brown, outer webs of the pri-...aries more or less olive and spotted with white; outer webs ...f the secondaries entirely olive, with marginal transverse spots of yellowish white; inner webs of all the quills (except the innermost) with larger pure white spots; the innermost secondaries barred with yellowish white across both webs; shafts clear light brown; rump and upper tail-coverts dusky, barred with white, the tips yellowish; tail brownish dusky, barred with light brown, the central feathers washed with yellow; shafts pale yellow; nasal plumes brownish dusky; feathers of the forehead and entire crown brownish dusky at the tip, the bases lighter dusky; on the forehead and outer edge of the fore part of the crown a few very minute white spots; nuchal feathers orange-scarlet, elongated and forming a broad band; lores and sides of the face whitish, streaked with black; sides of the neck whitish, spotted with black; ... slight dusky malar stripe; underparts from the chin (in-...ve) downwards dull white (slightly yellow on the chest, ...t, and abdomen), a median line down the chin and ... spotted with black, and the whole under surface, ex-

cept the abdomen, having longitudinal black spots, these being narrower on the breast, and somewhat heart-shaped on the flanks and thighs; under wing-coverts and axillaries white, the former varied with and having bar-like spots of dusky brown; under surface of quill-shafts almost p white; under surface of the tail slightly washed with the shafts being yellowish white. Total length 7·8 culmen 1·03, wing 4·28, tail 2·5, tarsus 0·75; toes (claws)—outer anterior 0·66, outer posterior 0·6, inne rior 0·53, inner posterior 0·28.

The young female above described being Swainson it seemed desirable to give as complete a descript possible.

Having, by the kind permission of Mr. Salvin, exa Swainson's types of this species, I think there can be no as to their belonging to the South-African bird. Sw describes the female as "having no white spots on the c and at first sight this would appear to be the case; but a closer examination a few very minute white spots are t observed upon the forehead and the outer edge of the fo part of the crown. It is, without doubt, a very young bird The male described by Swainson is an older bird than the female, still not fully adult, as will be seen by the spotting on the breast and sides of the body, which approaches more to the young female. In fully adult birds these black markings on the breast and sides of the body lose their spotted character and become distinctly striated, the abdomen, vent, and under tail-coverts, however, still retaining their spots.

The late Mr. Cassin described a specimen in the Philadelphia Museum under the name of *lineata*, but he doubted, at the time, whether the differences between it and *C. abingoni* were more than those which indicated a fully mature bird; there can be no doubt that this is the correct view of the case.

Mr. Sharpe, in his edition of Layard, was the first person as far as I am aware, to throw doubts upon the W African origin of Swainson's specimens of *C. chrysu* establish their identity with *C. abingoni* of Smith,

restore the latter name to the species. As before mentioned, I have examined Swainson's types in the Cambridge Museum, and there can be no doubt that they are the same as *C. abingoni* of Smith.

No ornithologist appears to have seen an example of the species from West Africa, if we except the record of b of a specimen from Casamanze (*Payés*). In this annot but think that some mistake has occurred identification of the specimen, though I candidly that I cannot hazard a conjecture as to the species to it should be referred. The only other truly West- specimen which has been referred to *C. chrysura* is llected on the Rio Logé, in Angola, by the late Mr. iro. This specimen is in the British Museum; and harpe now agrees with me that it is more probably *C.* , and that it certainly is not *C. abingoni*.

ve seen several specimens of the present species from , and Capt. Shelley has it from Zulu Land. Mr. Sharpe records it from Swazi Land.

The specimen from Mombasa mentioned by Mr. Gurney (*l. c.*) is also now in the British Museum; it is not quite typical, as it has an olive shade on the head, which is not seen in examples from South-east Africa; but I should wish to see more specimens before finally pronouncing on the distinctness of the Mombasa Woodpecker.

10. Campothera maculosa.

Picus maculosus, Valenc. Dict. Sc. Nat. xl. 1826, p. 173 (♀); Sundev. Consp. Av. Picin. p. 62 (1866).

Picus olivaceus, Gray, Zool. Misc. 1831, p. 18 (♀).

Dendromus brachyrhynchus, Swains. B. W. Afr. ii. p. 160 (1837); id. Classif. B. ii. p. 307 (1837).

Campethera brachyrhynchus, Gray, List Gen. 1841, p. 70.

Picus (Chloropicos) rufoviridis, Malh. Rev. Zool. 1845, p. 401.

Chloronerpes rufoviridis, Gray, Gen. B. i. p. 443 (1845); henb. Handb. Scans. Picinæ, p. 335 (1854).

drobates olivaceus, Gray, Gen. B. ii. p. 437 (1846).

Campethera maculosa, Gray, Gen. B. iii. App. p. 21 (1849); id. List Picid. Brit. Mus. p. 78 (1868); id. Hand-l. B. ii. p. 192. no. 8688 (1870).

Dendrobates brachyrhynchus, Bp. Consp. Gen. Av. i. p. 123 (1850).

Picus chloronotus, Cuv. in Mus. Paris; Pucher. Mag. Zool. 1852, p. 479.

Dendromus rufoviridis, Bp. Consp. Volucr. Zyg (1854).

Dendropicus olivaceus, Hartl. Orn. W.Afr. p. 177 (

Campothera maculosa, Cab. & Heine, Mus. Hein. iv (1863).

Picus (*Campothera*) *maculosus*, Reichenow, J. f. O. p. 98.

Adult male. Above rich golden olive, with a few streaks of yellow, the upper back being spotted with b yellow; scapulars of a more vivid green, with small shaft-streaks; wing-coverts golden olive, more vivid along the forearm, the lesser and median series havin few elongated spots or shaft-streaks of buff; quills browni black, edged externally with golden olive, the outer webs o the outermost primaries having not more than four spots or patches of white; all the inner webs with larger spots of the same; some of the inner secondaries entirely golden olive; shafts dark brown; rump and upper tail-coverts golden olive, with narrow yellow shaft-streaks, the half-concealed bases of the rump-feathers barred with dusky black and white; tail nearly black, the basal portion of the feathers edged with olive; dwarf feather olive, with a short and narrow yellowish shaft-streak; shafts of tail black; forehead, crown, and occiput scarlet, the bases of the feathers dark leaden grey, banded with black; hind neck dusky olive, spotted with buff; lores buff; superciliary stripe, orbital region, and side of the face buffy white, spotted with black; side of the neck yellower and barred with black; chin and throat pale buff, with black spots; from the fore neck to the breast, inclusive, yellow broadly barred with black; remainder of the underpart sulphur-yellow, spotted, and the thighs barred with b

under tail-coverts more of a buff-colour, with black spots; under surface of the tail-shafts yellow; under wing-coverts uniform buff, faintly tinged with sulphur-yellow; axillaries yellowish white, with a trace of dusky tips. Total length [illegible]57 inches, culmen 0·77, wing 3·9, tail 2·4, tarsus 0·67; toes occipital claws)—outer anterior 0·55, outer posterior 0·5, the c[illegible]terior 0·5, inner posterior 0·2.

and t[illegible]*ger male*. Resembling the more fully adult, but some colour feathers of the occiput having a yellowish spot at the lowish the scarlet tips; under tail-coverts without the buff (*G. E.* and having a subterminal crescent-shaped patch of *You* under wing-coverts uniform buff, tinged with sulphur-tingo

havin*lt female*. Differing from the adult male in having the one S[illegible]ad and crown black, spotted with whitish, the occiput sligh[illegible] being red; under wing-coverts spotted with black. and w[illegible]length 6·5 inches, culmen 0·7, wing 4·1, tail 2·3, tarsus 0·65.

There are two closely allied species in West Africa—one, a larger bird, from Senegambia, with the under wing-coverts uniform, and a second, more southern species, with the under wing-coverts spotted and barred with black. The northern species has been separated as *C. maculosa* (Valenc.), while *C. brachyrhyncha* (Swains.) has been the name applied to the southern species; but on comparing the descriptions I find that Swainson's characters of *C. brachyrhyncha* are evidently taken from the same species as *C. maculosa* of Valenciennes. Then comes the question, What name must the Gaboon bird bear? This, I think, must be *permista* of Reichenow, as I cannot separate the Congo from the Gaboon birds.

C. maculosa appears to represent *C. permista* from the Gold Coast to Senegal. I have myself only seen specimens from the former locality; but the type of the species is stated by Dr. Pucheran to have come from Senegal, and to have served as the original for Valenciennes's description of *Picus maculosus*, as well as of Cuvier's *P. chloronotus*. *Picus olivaceus* of Gray is evidently the female of *C. maculosa*.

11. Campothera permista.

Dendromus brachyrhynchus, Hartl. Orn. W.Afr. p. 182 (1857); id. J. f. O. 1861, p. 264.

Chrysopicus brachyrhynchus, Malh. Monogr. Picid. ii. p. 153, pl. xci. figs. 6, 7 (1862).

Campothera brachyrhyncha, Cab. & Heine, Mus. H[illegible] p. 132 (1863).

Picus brachyrhynchus, Sundev. Consp. Av. Picin[illegible] (1866).

Campethera brachyrhyncha, Gray, List Picid. Br[illegible] 1868, p. 78; id. Hand-l. B. ii. p. 192. no. 8689 (187[illegible]

Picus (Campothera) permistus, Reichenow, J. f [illegible] p. 97.

Campethera maculosa, Sharpe & Bouvier, Bull. [illegible] France, 1876, p. 51.

Campethera permista, Sharpe & Bouvier, Bull. [illegible] France, 1876, p. 312; Bocage, Orn. Ang. App [illegible] (1881).

Adult male. Above, including scapulars, rump, and [illegible] tail-coverts uniform vivid green, with a very faint [illegible] reddish bars upon the upper back and rump; wi[illegible] uniform vivid green; quills brown, the outer webs partial[illegible] or entirely yellowish olive, those of the primaries with very faint pale brown marginal markings; the inner webs spotted with white; both webs of some of the innermost secondaries yellowish olive; shafts light rich brown; tail less vivid green than the back, the four central feathers uniform, with blackish-brown tips, the remainder faintly barred upon the inner or both webs with blackish; dwarf feather with the faintest trace of a darker barring; shafts dark brown; forehead, crown, and occipital crest scarlet, the bases of the feathers dark leaden grey, with an intermediate black bar; hind neck barred with black and buff, the feathers tipped with yellowish olive; lores buff; a superciliary stripe and entire sides of the face and neck buffy or brownish white, minutely spotted and barred with black; from the chin to the chest, inclusive, pale buff, barred with black; remainder of the under [illegible] including the under tail-coverts, pale olive-yellow, t[illegible]

barred with black, the barring of the latter more dusky; under wing-coverts buff, barred with black; axillaries yellowish white, spotted with blackish. Total length 6·0 inches, culmen 0·67, wing 3·7, tail 2·4, tarsus 0·65; toes (without claws)—outer anterior 0·6, outer posterior 0·5, inner anterior 0·428, inner posterior 0·2.

Pardalotus *not fully adult.* In general appearance like the more *Chrysopt*[illegible] male, but having the forehead, crown, and occi- pl. xcii. [illegible] of a less brilliant scarlet, the bases of the feathers *Stictol*[illegible] back less vivid; tail blackish brown, with a faint p. 130 [illegible] upon the margins of the feathers; chin and *Picus* [illegible] tawny; underparts richer yellow, browner upon Av., Pic[illegible]; under wing-coverts buff, barred with black.

Dendr *female.* Different from the adult male in having no. xxii [illegible] and hind crown black, spotted with yellowish white, *Adul* [illegible] crest (only) being scarlet; upper parts less [illegible] under surface of the body not so yellow; under wing- [illegible] male buff, barred with black. Total length 6·0 inches, [illegible] 0·6, wing 3·55, tail 2·15, tarsus 0·65.

[illegible] this species I have examined several specimens from [illegible]boon, as well as one from the Congo. The latter bird is [illegible]dently the true *C. permista* of Reichenow, and is identical [illegible]ith Gaboon examples.

With regard to *C. vestita* of Cassin I am unable to speak [illegible]th certainty, as I have never examined a specimen in the exact state of plumage described by that author. It has been put down by subsequent authors as the young of *C. permista*; but I am not quite certain about this being the case, because in the British Museum is a bird with a yellow crown and crest, which I think is really the immature of *C. permista*; and therefore if *C. vestita* of Cassin ultimately turns out to be the young of *C. permista*, it must represent a still earlier phase of plumage than the yellow-crested bird above alluded to. Malherbe describes and figures as the female adult of *C. maculosa* a bird which I take to be the [illegible]s *C. vestita* of Cassin. I am sorry to have to leave [illegible]tion alone; but I cannot give any definite opinion [illegible] specimens.

The synonymy of *C. vestita* is as follows :—

Chrysopicus maculosus, Malh. (nec Valenc.) Monogr. Picid. ii. p. 156, pl. xcii. fig. 3 (1862).

Campethera vestita, Cassin, Proc. Acad. Philad. 1863, p. 197; id. Journ. Acad. Philad. 1863, p. 458, pl. li.

Picus maculosus (pt.), Sundev. Consp. Av. Picin. com- (1866). known,

Campethera maculosa (pt.), Gray, List Picid. Br inly not 1868, p. 78; id. Hand-l. B. ii. p. 192. no. 8688 (18 e bird's bleached

12. Campothera caroli. e being

Chloropicus caroli, Malh. Rev. de Zool. 1852, p. 5 owever,

Dendrobates caroli, Hartl. J. f. O. 1854, p. 198. of the

Pardipicus caroli, Bonap. Consp. Volucr. Zygo tify the (1854). nately

Scolecotheres caroli, Reichenb. Handb. Scans. seum. p. 429. no. 1012 *b* (1854). a West

Dendromus caroli, Hartl. Orn. W.Afr. pp. 182, 274 Cass. Proc. Acad. Philad. 1859, p. 141; Heine, J. f. O. p. 191; Hartl. op. cit. 1861, p. 264.

Chrysopicus caroli, Malh. Monogr. Picid. ii. p. 157, pl. fig. 4 (1862).

Cnipotheres caroli, Cab. & Heine, Mus. Hein. iv. p. 13 (1863).

Picus caroli, Sundev. Consp. Av. Picin. p. 56 (1866) Reichenow, J. f. O. 1877, p. 18.

Campethera caroli, Cass. Proc. Acad. Philad. 1863, p. 326; Gray, List Picid. Brit. Mus. p. 79 (1868); id. Hand-l. B. ii. p. 192. no. 8691 (1870); Sharpe, Cat. Afr. B. p. 17 (1871); id. Ibis, 1872, p. 68; Ussher, op. cit. 1874, p. 55; Sharpe & Bouvier, Bull. Soc. Zool. France, 1876, p. 16; Bocage, Orn Ang. App. p. 536 (1877).

Adult male. Above, including rump and scapulars, un form rich golden olive; bastard-wing olive-dusky, the feath externally margined with olive and spotted with yellowi white; primary-coverts olive-dusky, externally margined w olive; quills brownish black, the outer webs parti gined with or entirely golden olive, those of

maries spotted with yellowish, the inner webs of all having large spots of yellowish white, some of the innermost quills having the apical portion of the inner webs golden olive; shafts black, the under surface yellowish; upper tail-coverts [illegible]ive-dusky; tail black, the penultimate feather spotted on [illegible]ter web only, the dwarf one being spotted at the tip, [illegible]as on the outer web, with buffy white; shafts black, [illegible]er surface dusky, and whitish at the base; forehead, [illegible]nd occiput olive, the extreme tips of the feathers of [illegible]n and occiput dull crimson; hind neck golden olive, [illegible]with golden yellow; lores buff, the feathers tipped [illegible]ve; superciliary stripe, running as far as the nape, [illegible]riped with pale green; from under the middle of the [illegible]luding the ear-coverts, and continued down the side [illegible] neck, a large and broad patch of deep chocolate-[illegible] inclining to rufous on the side of the neck; cheeks, [illegible] brown [illegible] from the chin to the under tail-coverts, inclusive, those [illegible] olive, brighter on the breast, flanks, and thighs, the [illegible]whole spotted with buff on the dull ground and yel-sec[illegible]ish buff upon the olive ground; under wing-coverts bl[illegible]d axillaries uniform pale greenish yellow; "eyes dark [illegible]rown; feet greenish" (*Lucan & Petit*). Total length 7·3 inches, culmen 1·05, wing 4·15, tail 2·5, tarsus 0·72; toes (without claws)—outer anterior 0·63, outer posterior 0·57, inner anterior 0·45, inner posterior 0·27.

Younger male. Like the fully adult, but less golden on the upper parts; quills browner, and the light spots upon the inner webs confluent; the feathers of the forehead, crown, and occiput more sparingly tipped with red; the light markings over the eye and upon the side of the neck more verdigris-green, this colour showing faintly upon the cheeks; the patch upon the side of the face and neck slightly olive; the chin, throat, and under surface of the body less rich in colour and the spotting paler yellow and not buff; under wing-coverts pale buff, washed with verdigris-green, but less so than in the adult; the dwarf rectrice without spot.

Adult female. Different from the adult male in having the forehead, crown, and occiput blackish olive; the upper

parts of a less rich golden olive; the entire under surface of the body paler, the spots being less buff, and upon the chin and throat more of a dirty white; the under wing-coverts and axillaries less green; "feet clear grey; bill black; iris dark reddish brown" (*Falkenstein*). Total length 7·0 inches, culmen 1·0, wing 3·95, tail 2·4, tarsus 0·7

Malherbe described this species from Gaboon; but h in the Monograph is not altogether satisfactory, inas the plate represents the rufous colour as confined t coverts, whereas, in all specimens which I have e it is much more extended and spreads down the sid neck. I have also described a Gaboon bird; but observe that, in every specimen from this locality w come under my notice, there has been a conspicuous green on the sides of the face and under wing-cove uniformly distributed has been this coloration in the specimens that for some time I was tempted to beli it was a specific character, as none of the birds from showed a trace of this green colour, and I have seen a series of individuals from the latter country. An applic of soap and water, however, showed that this green colou was due to an artificial stain, probably the result of so peculiarity of the trees affected by the species in Gaboo alone. After careful consideration, therefore, I belie birds from Gaboon and the Gold Coast are identi especially as Malherbe does not seem to have noticed any peculiarity in the Gaboon example originally described by him.

13. Campothera nivosa.

Dendromus nivosus, Swains. B. W. Afr. ii. p. 162 (1837); Hartl. Orn. W.Afr. p. 183 (1857); Cass. Proc. Acad. Phila 1859, p. 141; Heine, J. f. O. 1860, p. 192; Hartl. op. c 1861, p. 264; Sharpe, Ibis, 1869, p. 194; Ussher, op. c 1874, p. 55.

Campethera nivosa, Gray, Gen. B. ii. p. 439 (1846); List Picid. Brit. Mus. p. 80 (1868); id. Hand-l. B. ii. p. 192. no. 2154 (1870); Sharpe, Cat. Afr. B. p. 17 (1871); id. P. Z. S. 1871, p. 607.

Chloropicus nivosus, Malh. Mém. Acad. Metz, 1848–49, p. 352.

Dendrobates nivosus, Bp. Consp. Gen. Av. i. p. 126 (1850); Hartl. J. f. O. 1854, p. 198.

Scolecotheres nivosus, Reichenb. Handb. Scans. Piciuæ, no. 1012 (1854).

picus nivosus, Bp. Consp. Volucr. Zygod. p. 9 (1854).

picus nivosus, Malh. Monogr. Picid. ii. p. 151, figs. 1, 2 (1862).

raugus pardinus, Cab. & Heine, Mus. Hein. iv. (1863).

pardinus, Temm. in Mus. Lugd.; Sundev. Consp. in. p. 56 (1866).

obates congicus, Bocage, Jorn. Acad. Sc. Lisb. x. p. 50; id. Orn. Ang., App. p. 535 (1877).

male. Above, including wing-coverts, rump, and il-coverts, uniform golden olive; quills blackish the outer webs more or less edged with golden olive, of the primaries having a few buffy-white markings; nner webs of all spotted with white; a few of the inner ondaries entirely golden olive; shafts black; tail brownish ck, the three outer feathers edged or notched on the outer ebs with buffy white; dwarf feather having the outer web lged with light brown; shafts black; forehead and crown ive-brown; occiput scarlet, the feathers having a small uff spot at the base of the scarlet tips; hind neck olive-brown, spotted with buff; lores, cheeks, and ear-coverts ight brown, with darker olive-brown streaks; chin and throat dull buffy white, streaked with olive-brown; sides of he face and neck, likewise from the fore neck to the under il-coverts inclusive, olive-brown, closely covered with buff buffy-white spots, the flanks and thighs having a barred pearance; under wing-coverts uniform buff, with a few k markings on the edge of the wing. Total length inches, culmen 0·8, wing 3·3, tail 1·7, tarsus 0·75; toes thout claws)—outer anterior 0·55, outer posterior 0·55, inner anterior 0·4, inner posterior 0·25.

Adult female. Like the adult male, but scarcely so bright

in colour, and having the occiput of the same uniform olive-brown as the crown. Total length 6·5 inches, culmen 0·8, wing 3·55, tail 1·8, tarsus 0·7.

Sundevall suggests that the name *nivosus* of Swainson should be rejected for this species, on account of its inappli- cability to the bird itself; but the name has been so monly employed by ornithologists, and is so well that it seems a pity to reject it. The title is cert well chosen; for there is nothing snow-white about t plumage, although Swainson may have met with a specimen, as he lays stress upon the under surfa covered "with round white spots." I have, never met with a specimen in which the spotting under surface of the body was white enough to jus epithet of "*nivosus*," and the type specimen unfort does not seem to have passed into the Cambridge Mu

The present species seems to have a wide range Africa, as it is recorded from Casamanze by Dr. H occurs plentifully in collections from the Gold Coas obtained by Crossley in Cameroons, by Duchaillu in Gab and even reaches to the Congo region, as I am una to separate *D. congicus* of Bocage from *C. nivosa*, havi through the great kindness of Professor Barboza du Bocag examined the type specimens of his *Dendrobates congic* from the river Luema, Loango, but failing to see any reas why it should be separated from *C. nivosa*. Professor Bocage does not appear to have seen that the latter bird (the female type specimen of his *D. congicus*) is unmistakably a young bird, the bar-like appearance of the spotting on the underparts, which that author gives as a specific character in his diagnosis being a distinguishing mark of the young in this as well as i many other species.

An average measurement of a series of specimens sho the female to be larger than the male.

I have thought it best to add to this essay a Table show the Geographical Distribution of African Woodpeckers; and I have selected as my model Mr. Sharpe's Table of localities

given in his paper on the Hirundinidæ of the Ethiopian Region, in the 'Proceedings of the Zoological Society' for 1870. As Mr. Sharpe has there divided the Ethiopian Region into districts or subregions, it seems to me only right to test his scheme of subdivision on every possible opportunity. I dded in the present Table a few more countries than umerated by Mr. Sharpe, as at the time when he wrote r many important districts of Africa were unexplored ve now been thoroughly ransacked by ornithological s. The Woodpeckers tend to prove that three at least bregions may still be accepted by ornithologists as re- ng natural divisions of the continent of Africa. Thus, 7 species of Woodpeckers admitted by me in the pre- er, 25 are found to have their ranges confined to the ions quoted below.

Abyssinian Subregion.

(*Subregio Abyssinica*, Sharpe.)

1. *Dendropicus lepidus.*
2. *D. abyssinicus.*
3. *D. melanauchen.*
4. *D. hemprichii.*
5. *Mesopicus spodocephalus.*
6. *Campothera nubica.*

South-African Subregion.

(*Subregio Capensis*, Sharpe.)

1. *Geocolaptes olivaceus.*
2. *Mesopicus griseocephalus.*
3. *Campothera bennetti.*
4. *C. notata.*

West-African Subregion.

(*Subregio Guineensis*, Sharpe.)

1. *Dendropicus lafresnayi.*
2. *D. sharpii.*
3. *D. gabonensis.*

4. *D. lugubris.*
5. *D. meriani.*
6. *D. africanus.*
7. *Mesopicus goertan.*
8. *M. pyrrhogaster.*
9. *Poliopicus ellioti.*
10. *Campothera punctata.*
11. *C. nivosa.*
12. *C. caroli.*
13. *C. permista.*
14. *C. maculosa.*
15. *C. vestita.*

Besides the above there are certain species whi almost certainly be considered typical of one or other above three regions. Thus, *Dendropicus cardinalis* wo strictly South-African if it did not occur on the Zam reach to Ugogo; and from the last-named locality the cannot be said to be absolutely typical. Again, *Mes namaquus* is another representative South-African W pecker; but as it reaches to Angola on the west coast, a probably to Zanzibar on the east, it cannot be definit entered as a typical Woodpecker of the South-African sul region. When it comes to testing the existence of the East African subregion, which Mr. Sharpe calls the "Subregi Mosambicana," there appears to be only one single Woodpecker which can be called typical of this part of Africa. As already mentioned, *Dendropicus cardinalis* of South Africa ranges into Ugogo, *D. zanzibari* occurs in Angola and on the Congo, *Mesopicus schoensis* extends from Abyssinia to Zanzibar, where it meets with *M. namaquus*, which comes as far fro South Africa. *Campothera bennetti* occurs on the Zambes and is an argument in favour of the Zambesi district bei added to the South-African subregion. *C. cailliaudi*, d scribed from Zanzibar, extends to the Lake-districts, wh Mr. Sharpe considers to form part of his Abyssinian su region. *C. abingoni*, otherwise a typical South-African Woodpecker, has been found at Mombas; and thus *C. mal-*

herbi is left as the only Woodpecker which can be said at present to be peculiar to East Africa.

Lastly, two Woodpeckers are common to North-east Africa and Senegambia. Such species are *Dendropicus minutus* and *D. obsoletus*; but it is quite possible that, when rior of the continent has been explored, many other will be found to range across from North-eastern nto Senegal.

III.—*Descriptions of six new Species of Birds from rn and Central America.* By Hans von Berlepsch.

(Plate XIII.)

PHŒNICOTHRAUPIS SALVINI, sp. nov.

corpore supra cum alis et cauda extus clare rubesnti-brunneo, colore griseo adumbrato; plumis pilei dii vix elongatis coccineis, colore dorsi terminatis; oris cum plumis rostrum ad latera cingentibus et mento nigrescentibus; gula usque ad pectus medium pallide carminea; corpore subtus reliquo necnon subalaribus et subcaudalibus pallide rosacco-griseis, lateribus brunnescentioribus.

♀ (aut ♂ juv.?) corpore supra cum alis et cauda extus intense umbrino-brunneo, plumis in pilei margine interiore vix pallidius rufescentibus; palpebris olivaceo-brunneis; plumis anteocularibus cum mento sicut in mare nigrescentibus; pectore cum lateribus et crisso pallide umbrino-brunneis, gula læte fulvo-flava, abdomine medio sordidius flavescenti-olivaceo; subalaribus griseo-olivaceo-brunneis.

Rostro in ♂ et ♀ elongato, gracili, nigro, pedibus brunnescenti-carneis. Long. ♂ ad. al. 100–103½, caud. 91–96, rostr. 18–20, tars. 25 millim.

Obs. P. rubicoidi, Lafr., similis, sed differt pilei plumis vix elongatis et non cristam ita longam et latam formantibus; plumis pilei coccinei omnibus colore dorsi terminatis; nea nigra ad latera cristæ quæ in *P. rubicoidi* notabilis est, rorsus deest; necnon differt loris cum plumis ad rostri latera et mento nigrescentibus, quæ regio in *P. rubicoidi* semper rubescet. Fem. (aut ♂ juv.) colore corporis brunneo-umbrino

(nec olivaceo-brunneo), gula circumscripte flavo-fulva, pileo medio non flavicanti-olivaceo, a ♀ *P. rubicoidis* primo visu distinguenda est.

Hab. Guatemala (*mus. H. v. B.* et *Salv.-Godm.*); Yucatan (*mus. Salv.-Godm.*); Brit. Honduras (*mus. Salv.-Godm.*); ? Tehuantepec (♂ juv. *in mus. Salv.-Godm.*).

List of specimens examined :—

(1) ♂ ad. Vera Paz, Guatemala (*Sarg coll.*). *Mus.* H. v. B. no. 3901 (ex G. Schneider).

(2) ♀ (sive ♂ juv.). Vera Paz, Guatemala (*Sarg*... *Mus.* H. v. B. (ex A. Müller).

(3) ♂ ad. Chisec, Vera Paz, Guatemala (*O. Salv*... no. 3461). *Mus.* Salv.-Godm.

(4) ♀ (sive ♂ juv.). Chisec, Vera Paz, Guatema... *Salvin coll.* no. 3479). *Mus.* Salv.-Godm.

(5) ♂ juv.? Chisec, Vera Paz, Guatemala (*O. Salv*... no. 3476). *Mus.* Salv.-Godm.

(6) ♂ ad. Belize, Honduras, January (*Blancaneaux*... *Mus.* Salv.-Godm.

(7) ♂ ad. Corosal, Brit. Honduras (*coll. Roe*, preserved... spirit). *Mus.* Salv.-Godm.

(8) ♂ ad. Izalam, N. Yucatan, January (*G. F. Gaume... coll.* no. 89 *a*). *Mus.* Salv.-Godm.

(9) ♂ juv. (*salvini* ?). Tehuantepec, May 7th, 1873 (*Sumichrast coll.*). *Mus.* Salv.-Godm.

There can be no doubt, I think, that *P. salvini* is a very distinct species, and that it has remained undescribed till now. I have long ago remarked the differences, having had old males of both *P. salvini* and *P. rubicoides* from the same locality, viz. Vera Paz, in Guatemala, sent to me in 1878 by Mr. Schneider of Basel. But before describing the new species, I wished to know the opinion of our first authority on the birds of Central America, and sent my specimens to my friend Mr. O. Salvin for comparison.

I feel much pleased that this gentleman agrees with me in considering the bird above described to belong to a new species, and I have accordingly named it after one of the distinguished authors of the 'Biologia Centrali-Americana.'

Mr. Salvin was kind enough to send me for examination all the specimens of *P. salvini* and *P. rubicoides* contained in the mus. Salv.-Godm.; so I have been able to study the differences between these two species in a satisfactory manner. The result arrived at is that *P. salvini* has only a ...al resemblance to *P. rubicoides*, being perhaps more ...related to *P. fuscicauda*, Cab., from Costa Rica, ...g with it in the form of the crest, which is short and ...ed, and in the blackish colour surrounding the bill ...y and on the chin. It has also the more compressed ...ngated bill of *P. fuscicauda*, from which it is never- ...quite distinct as a species, having the wings and tail ...n *P. rubicoides*.

...n *P. rubicoides* it is easily distinguishable by the form ...crest, which in the new species is very short, in *P. ru- ...s* long, full, and much apparent. In *P. salvini* the ver- ...of the crest is quite concealed, all the red feathers being ...y tipped with the colour of the back. In the adult ... of *P. rubicoides* the red feathers of the crest are not ...rgined with dusky, only the young male showing blackish ...ppings to some of them. In *P. rubicoides* the red crest is ...ways bordered laterally with a broad blackish stripe; this ...s altogether absent in *P. salvini*, which has the sides of the crown of the same reddish-brown colour as the back. The distinct blackish colour of the lores, sides of bill, and chin (in which character *P. salvini* agrees perfectly with *P. fuscicauda*) is always replaced in *P. rubicoides* by reddish. The reddish brown of the upper parts is somewhat paler in *P. salvini*, and has a more greyish cast.

It appears also that *P. salvini*, as a rule, is somewhat larger ...han *P. rubicoides*, having longer wings and tail and a longer ...ill too. The latter seems to be always somewhat slender and ...ot so broad at the base as in *P. rubicoides*. The obtuse tooth ...the middle of the cutting-edge of the upper mandible, which ... sometimes much developed in *P. rubicoides*, is nearly or ...ite absent in the new species.

The females of the two species show but little resemblance. The very dark brown upper plumage, the want of the olive-

yellow on the top of the head, and the chrome-yellow of the throat in sharp contrast with the brownish band of the breast, as well as the blackish feathers round the bill, are characters by which the female of *P. salvini* may be distinguished at a glance.

I am not yet quite sure that the young male of t
Salv.-Godm. belongs to *P. salvini*; but I believe it d
certainly does not belong to *P. rubicoides*, as it has
lowish on the crown, has the throat bright yellow, an
blackish feathers on the bill. It would be necess
examine an old male from Tehuantepec to sett
point.

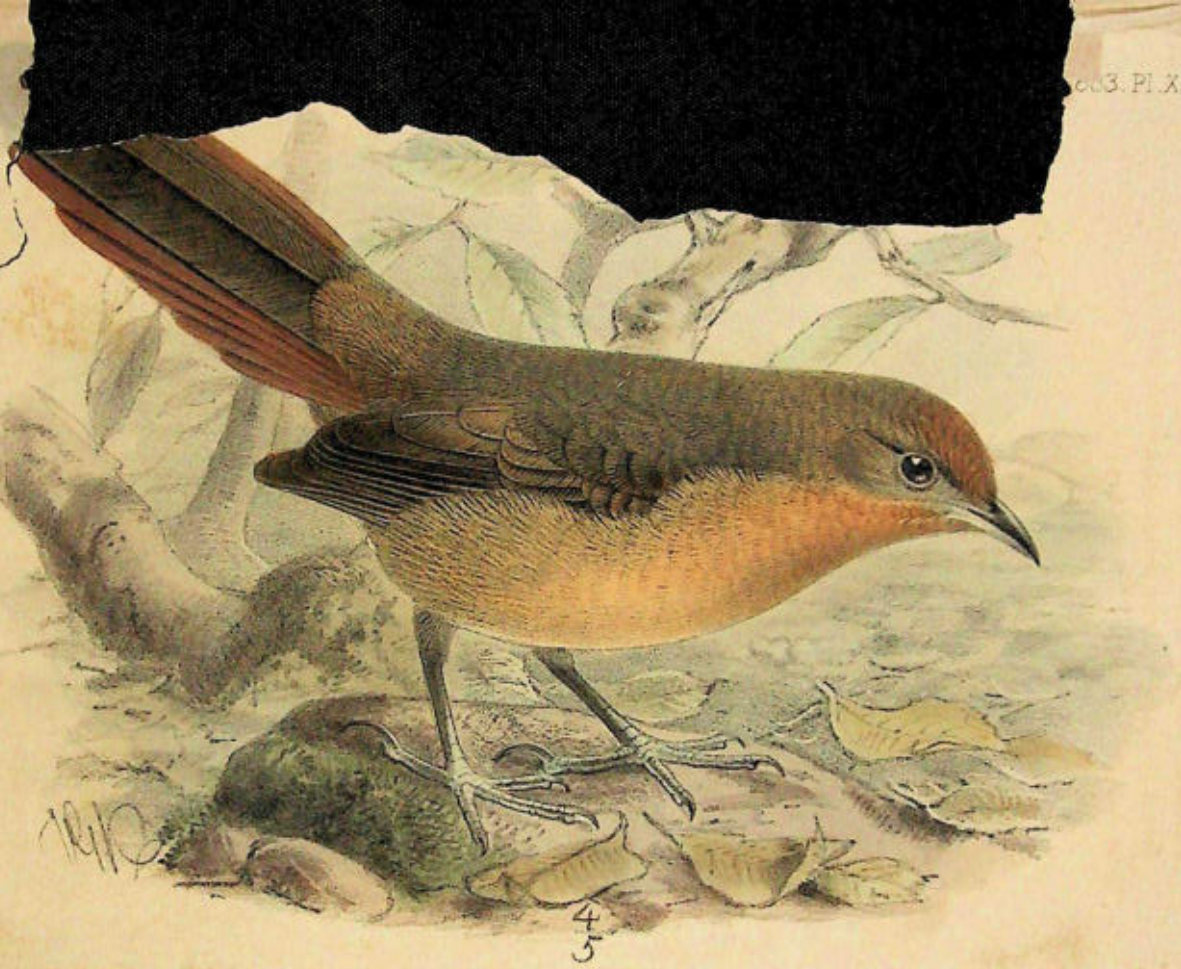
Perhaps there still remains another species of *Pl*
thraupis from Northern (?) Mexico undescribed, as
seen two female birds (but marked males) in the
Museum, collected by Deppe at Santinario and Alv
which differ from the usual style of *P. rubicoides* fe
having the throat nearly white.

2. Thripophaga sclateri, sp. nov. (Pl. XIII.)

T. corpore supra rufescenti-olivaceo, pileo anteriore (nisi i
occipite) castaneo-brunneo, gula cum pectore fulvo-rufo
corpore inferiore reliquo pallide cervino, rufescente plus
minusve lavato; alis extus et rectricibus quatuor mediis
brunneo-olivaceis, reliquis castaneo-rufis; tectricibus
subalaribus pallide cervinis, subcaudalibus olivaceo-
brunneis; remigibus intus rufo-brunneo marginatis;
pedibus brunneis; rostri maxilla brunneo-nigra, mandi-
bula fere alba.

Caudæ rectricibus latissimis et laxis 12, valde graduatis, ut in
T. erythrophthalma. Long. tota circiter 200, al. 62–
65, caudæ 92–98, rostri 16–17½, tars. 22½ millim.

Obs. T. erythrophthalmæ (Pr. Wied) proxima, differt
corpore subtus non olivaceo-brunneo sed cervino, gula non
circumscripte rufa, sed colore rufo in pectus et corporis
latera producto, rectricibus mediis brunneo-olivaceis nec cas
taneo-rufis, pileo castaneo magis versus occiput ducto (in
erythropthalma fronte solum castaneo-rufo), tectricibus sub
alaribus pallidius rufis, mandibula magis alba, rostro graci-
liore et depressiore etc.



J.G.Keulemans lith.

THRIPOPHAGA SCLATERI.

Hanhart imp.

Hab. in provinciis S. Paulo et Rio Grande do Sul, Brasiliæ merid.

[Typical specimens in mus. H. v. B. no. 7932, S. Paulo (*Josef Duschanek coll.*), et mus. Salv.-Godm., ♂ and ♀ from Pelotas, Rio Grande do Sul (*coll. Foyner*), and ♂ from S. (*coll. Foyner*).]

Species above described is certainly a near ally of *T. ophthalma* (Pr. Wied). It is of the same form and style of coloration, but is nevertheless quite dis- and I think it will not be difficult to recognize it e above diagnosis.

d always looked upon the typical specimen of *Thr.* , belonging to my collection, which I got in 1881, as bird;" but it was only lately that I sent it over to end Mr. Sclater in order to get his opinion on it.

ssrs. Sclater and Salvin having both examined the bird, with me that it belongs to an undescribed species; Salvin most kindly sent me three specimens of species belonging to the mus. Salv.-Godm. This d me to get a better idea of this excellent species, me after my respected friend Mr. P. L. Sclater, owe many thanks for his kind services.

OTHORUS RUFICAUDATUS, sp. nov.

m nucha rufescenti griseo-brunneo, dorso toto lis extus et cauda rufo-brunneis; remigibus extus tricibus vix fasciis obsoletissimis præditis; striga ciliari supra nigro marginata, altera ad latera man- lata, supra et infra striga nigra marginata, et isabellino-albis; plumis auricularibus nigrescenti- abellino striatis; pectore cum colli lateribus sordide llino-griseis; abdomine reliquo sordide cervino, ibus brunnescentioribus; subcaudalibus rufis non iatis; subalaribus cervino-albis. Long. tot. 150, 5, caud. 67, rostr. culm. 20, tars. 24 millim.

A *T. mystacali*, Scl., cui proximus est, differt cauda olori rufa et tectricibus subcaudalibus non fasciatis; extus et pileo rufescentioribus; superciliis et gula ellinis; pectore magis cervino tincto; pedibus et la pallidioribus et cauda longiore.

Hab. Pto. Cabello, Venezuela (*Starke coll.*). Type in mus. H. v. B. (*ex H. B. Moeschler*).

This new species is easily recognizable among its congeners by its long and nearly uniform rufous tail. There are only slight traces of dark bands on the tail-feathers, like water-marks. There are other minor points of difference f[rom] nearest ally *T. mystacalis*, Sel., which are expressed[d] above diagnosis.

4. Ochthodiæta lugubris, sp. nov.

O. O. fumigato (Boiss.) simillimus, differt tectricib[us] caudalibus pallide rufis nec obscure brunneis. [Wing] al. 111, caud. 91, rostr. 21½, tars. 22½ millim.

Hab. Merida, Venezuela (*A. Goering coll.*). Spe[cimen] typica in mus. H. v. B. et P. L. Sclater, a Goering in [Merida] collecta.

The difference of this new species (or race of *O. fum[igata]*) from the type species of *Ochthodiæta* seems to consist [only] in the colour of the under tail-coverts. But this [character] appears to be quite constant, two specimens from [Merida] which I have seen, showing pale rufous (or ochreo[us]) tail-coverts, while five specimens in mus. H. [from] Bogota, Ecuador, and Northern Peru, have them [dark] brown like the belly*.

The specific name *lugubris* was suggested to me [some] ago by the discoverer of this new form, Mr. A. [Goering] Leipzig, to whom I pointed out the distinctness [of it] from *O. fumigata*. He told me that it was a bird [of] habits, and appeared very mournful when sitting o[n] in the solitudes.

5. Pipra velutina, sp. nov.

P. ♂ corpore velutino-nigro, alis caudaque brunne[is] bus velutino-nigro extus marginatis; pileo [et] cæruleo, basibus plumarum nigris; fronte nigr[a] pedibusque nigrescentibus. Long. al. 61, c[aud.] rostr. 8¼, tars. 13½ millim.

* My specimen being not quite perfect, I refrain from pointi[ng] points of distinction which may possibly exist. The colour o[f] tail-coverts will always suffice to distinguish *O. lugubris*.

Obs. A *P. cyaneocapilla*, Hahn, differt corpore velutino-nigerrimo nec dilute brunneo-nigro, et minime cæruleo lavato; fronte nigro nec cæruleo; pileo cæruleo intensiore sed ubique magis restricto.

Hab. Panama et Veragua. Type in mus. H. v. B. no. [illegible]eragua (*Ribbe coll.*).

[illegible] bird above described was already known to some [illegible] on the birds of Panama and Veragua, but has [illegible]ken to be the same as *P. cyaneocapilla*, Hahn, [illegible]ame applies to the bird from Upper Amazonia. To [illegible]d it is easily distinguishable from that species (which [illegible]from Sarayacu, Eastern Ecuador, *coll. Buckley*) by the [illegible]y and uniformity of its black plumage, being of a [illegible]lack, whereas in true *P. cyaneocapilla* the plumage is [illegible]sh or greyish black, with a strong wash of blue on [illegible]opygium and abdomen. *P. velutina* has also a distinct [illegible]rontlet; while in *P. cyaneocapilla* the blue of the cap [illegible]uced to the bill, is also more extended laterally and [illegible]d, and shows a somewhat lighter tint.

Messrs. Sclater and Salvin, when preparing their article on [illegible]e birds of Panama (published in P. Z. S. 1864), had already [illegible]oticed the differences, saying:—"Plumage blacker, and head [illegible]f a rather brighter blue, than in specimens from the Peru[illegible]vian Amazons;" but they did not describe this form as a [illegible]different species.

I have not yet been able to examine the bird from Bogota; [illegible]but I have little doubt that it is the same as that from Upper Amazonia, viz. *P. cyaneocapilla*, Hahn.

6. Leucippus viridicauda, sp. nov.

[illegible]. corpore supra aureo-viridi (plumis glauco-viridibus intermixtis); plumis in gulæ, pectoris (imprimis) et abdominis lateribus necnon in subcaudalibus minoribus albis, maculis splendide viridibus præditis; corpore subtus reliquo pure albo; rectricibus dilute glauco-viridibus parum micantibus; remigibus violacescenti-brunneis; maxilla nigra, mandibula rufescente, apice brunneo. Long. al. 59, caud. 33½, rostr. 21 millim. Rectricibus ad apices acuminatis.

Obs. A *L. leucogastro* (Tschud.) differt rectricibus unicoloribus, intus non albo marginatis, necnon rostro breviore.

Hab. Huiro, Peruviæ merid. (typical specimen in mus. H. v. B. no. 6066, "♂, Huiro, 4800," 12th June, 1874, *H. Whitely coll.*).

I have sometimes looked upon this as being the yo
L. leucogaster (Tschud.); but Dr. Taczanowski assu
that he has had many specimens of *L. leucogaster* un
eyes, and amongst them young birds which already
the white marks on the inner webs of the outer rect
which *L. viridicauda* has not the slightest trace.

Dr. Taczanowski thinks the Huiro bird quite distinc
I do not dissent from the opinion of our best authority
birds of Peru.

XXXIX.—*The last Journal of* W. A. Forbes.

[Mr. Forbes's sorrowing relatives have entrusted
the Journal kept by him during his expedition up the N
We are sure that his brother Members of the B. O. U. a
other persons interested in natural history will be glad
have the opportunity of reading it.—Edd.]

July 19th, 1882. Left Liverpool in S.S. 'Bonny,' 797 tons
register, Captain Haltje, getting off about noon. Sea rather
rolling. Passed Skerries about 6 P.M., and off South Stack
at 9 P.M.

July 20th. Showery and dull, with a rolling sea. 40 miles
south of Tusker at breakfast. Run 130 miles from Skerries.

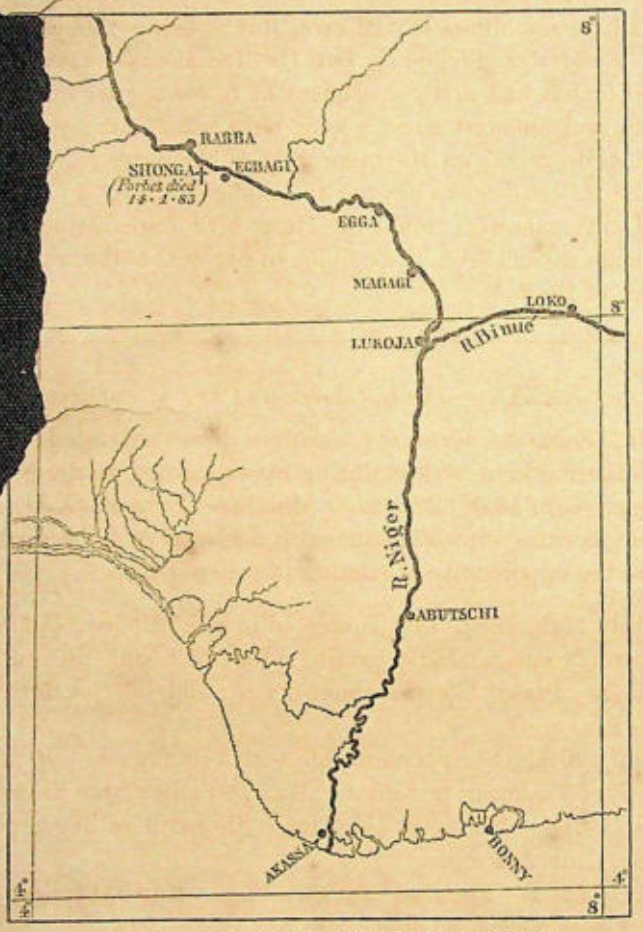
July 21st. Showery, but finer. Ship still rolling a good
deal. Run 214 miles.

July 22nd. Finer and sea smoother. Run 231 miles. A
few *Oceanites* behind ship.

July 23rd. Fine and bright. Swell gone down. Ru
about 238 miles. Many Petrels behind ship.

July 24th. Fine and bright, much warmer. Sea smoot
A number of Petrels behind ship, their yellow webs clearly
seen. The legs are carried straight out behind, extending a

little beyond tail, and only lowered when "coming-to" on the water. I have not yet seen one clearly settle. The flight Fulmar-like, the wings being rapidly beaten to get up speed, the bird then gliding with wings stretched for some



Map of Lower Niger, showing Forbes's Stations.

me. Run 256 miles. 289 miles from Madeira at noon, in latitude of Cape St. Vincent.

July 25th. Sighted Porto Santo about 10 A.M. on port, and Madeira, about three hours later, on starboard. There

is a deep sea (over 100 fathoms) between the two, whereas the Desertas, nearer Madeira, are connected to that by a bank. From Porto Santo to the lighthouse at Madeira is 23 miles. Between the two islands I saw many *Bulweria*, two quite close to the ship, settle on the water. The flight is strong, *Puffinus*- or Swift-like. Besides th *werias*, a good number of a brownish-grey *Puffinu* belly and rest of underside pure white; head, brea tail like the back. There were a number of these Funchal; also some Gulls, apparently *Larus affin* yellow feet, darkish mantle; patagial margins of wi of secondaries, and an oblique bar across second white. Got into Funchal about 5 P.M., anchoring c shore. The town looks very pretty from the sea- houses, green shutters &c., quite like other Portuguese The lower slopes of the hills are much cultivated in te the tops wooded with stone-pines and, apparently, *arborea*, a bright green conifer-like tree. The stre paved with rounded pebbles, closely packed together quite polished from the friction of the cow-sledges, th being no wheeled vehicles. Went to Miles's hotel and h some dinner. Pretty garden, with bananas, palms, hibiscu cannas, &c. &c., and many *Sphinx convolvuli*. Only bird seen were Swifts, apparently *Cypselus apus*, and a yellowish Wagtail, *Motacilla sulphurea*. On ship again about 8.30 P.M and off at 9. The 'Conway Castle' for Cape came in just after we did, and left again just after us, soon passing us. The three Desertas are well seen from Madeira, the most northern low and truncated, the two others high, rocky, and barren. All the group are obviously volcanic, some section of Madeira being seen in coast-cliffs as we steamed west fron the lighthouse to Funchal.

July 26th. Duller and cooler, with some swell. Running before the north-east trades. At noon had come about 15 miles from Funchal. In afternoon passed a Dutch steame schooner-rigged, going north. About 9 P.M. saw the r volving light of Palma, about 15 miles distant on st arboard

bow. In the morning saw a few of the same *Puffinus* as we had seen off Madeira.

July 27th. Duller and cooler. No ships or birds. Run 235 miles.

July 28th. Very smooth and fine, but not hot. Run 228 Paul[illegible] 50 miles off Cape Blanco at dinner. A lot of [illegible]es behind ship till dusk. A large Hawk appeared *erythr*[illegible], when ship about 50 miles from land, striking appa- generally [illegible]hing (? a Petrel) and not reappearing. tinct; [illegible] Cool and smooth. Run 235 miles. A few from t[illegible]sh-ger in the evening.

July 29th. Cape Verde in sight at breakfast time. A *slate*-[illegible]ff with lighthouse on top, rising rather suddenly from a "[illegible]d flat coast. No palms visible on shore from my [illegible]les off. A lot of *Oceanites* after ship all day; M[illegible] afternoon a flock of *Puffinus* fishing with a school of agree[illegible] Run 251 miles. Some rain towards evening.

is [illegible]ug. 31st. Showery in morning, cloudy, with a slight sea. behi[illegible]ced casting about 10. Run 215 miles. Roughish day.

th[illegible]g. 1st. Heavy rain in morning. About 10 A.M. a flock [illegible] about ten of a *Sula* behind ship, nearly all white, and apparently *Sula bassana*. Run 220 miles. Sea smoother. Cleared up at noon. In afternoon, about 4.30, sighted the high hills (Sierra Leone, s. str.) to south of Freetown. Close to land by 6 P.M., and anchored in river off lighthouse by 9.

Aug. 2nd. Up early on deck to see Sierra Leone; raining hard, but cleared up after breakfast. The high hills lie south of the town, which is small and very English-looking with brick houses, and the barracks &c. on higher ground behind town. The land on north of river is flat and bushy; an island above town on south bank also. Some traces of forest left on highest range of hills; the rest pretty nearly entirely cleared, with a few scattered big trees and bushy undergrowth, and numbers of palms close to shore. I took two photos, one of the lighthouse at point (west of town about 4 miles), the other of breakers, just to right of it;

the second Gallinia interfered with, exposing it too long. Got our "boys," and left by noon. Rather rough outside with heavy rain. Saw a number of *Oceanites* in Sierra-Leone river just behind ship; and the water being smooth, could watch them well. They never settle, but paddle in the water with fluttering wings, and also "duck-and-[illegible]m its along by bounds, the wings being kept steady and ho[illegible] in the and the tail spread, the legs depending vertically. O[illegible] could see some pensile long nests hanging from coco[illegible] (? of *Hyphantornis*), and a Tern or two, but too fa[illegible]s sub- make out the species. [illegible] Long.

Aug. 3rd. Warmer and finer, with sea smooth. R[illegible] miles from Sierra Leone. Men painting ship and "[illegible]cimina making themselves generally useful, cleaning donkey-[illegible]Merida brass-work, &c. Land at 12. About 5 P.M. off Cape [illegible] a thickly wooded high rounded promontory, appare[illegible]*gatus*) black basalt, rising abruptly from the rest of the coast[illegible] is flat, well wooded, and extends as far as one can se both east and west of it. About 10 P.M. saw the light at Monrovia.

Aug. 4th. Fine and smooth, with cool breeze. Still off the Liberian coast, here flat and low still. Mangos taste like tamarinds with a dash of turpentine. Alligator-pears like vegetable-marrow, or inferior cucumber, but pulp softer and sweeter. About 11 A.M. saw a whale spouting inshore, not a large one, apparently. The evening before passed close to a shoal of dolphins just off Cape Mount—pale grey above, below and side-stripes white; a long nose. Half-speed all day.

Aug. 5th. Off Grand Sestres at daybreak, and shipped seven boys and some others as passengers. The town consists three fourths of patches of mud and palm huts in cleared patches on the beach. The men are bigger and finer than those we shipped at Sierra Leone, and much browner in colour, as a rule, though varying much. Many have a broad line tattooed down forehead to tip of nose, and two arrow-shaped marks on face, one on each side, with apex just below outer centres of eyes. Most wear only a loin-cloth, with bracelets, bangles, and necklace of brass wire, with keys &c.

as pijues. Some have a few tattooed marks on back in stripes, or on breast just above nipples +. Hair very short and woolly on head, and some quite shaved there; little or no beard or whiskers; a good deal of short curly hair on abdomen, chest, thighs, &c. Saw a couple of whales, apparently very big and greyish in colour, about an hour after leaving Grand Sestres. An *Oceanites* off ship at Grand Sestres. Saw Cape Palmas about 9.30. Coast low, flat, and densely, with sandy beach, and black (? basalt) rocks [illegible]s. The Grand Sestres canoes are dug-outs, with [illegible] thwarts, and rounded away stem and stern. The [illegible]e third sit or kneel on bottom and paddle with both [illegible]n one side, the paddle being short, with a rhomboidal [illegible]. Besides this usually a wooden scoop to bale out. [illegible] and paddles often mended by being sown up with [illegible]reeper, also used for making thwarts fast at side of [illegible]. Had come about 100 miles at noon from position day [illegible]before [illegible]aw Cape Palmas and wreck of 'Joriba.' Lost land in afternoon.

Aug. 6th. Fine and smooth, with bright sun. Just after breakfast two steamers hove in sight, steering to the north. They turned out to be the 'Volta' and 'Coanza;' the latter in tow and disabled, having been on shore at Porto Seguro (close to Little Popo), and carried away stern-post, rudder, and three blades of propeller. Communicated and sent letters, papers, &c. on board, and then proceeded on our course. At noon 80 miles west of Cape Three Points. Run 261 miles. One or two *Oceanites* still occasionally seen off ship. In afternoon off Assinie hills and "Hummocks of Apollonia." At 10 P.M. in sight of the light at Cape Three Points. Got two photographs of our Kru boys; the second Ashbury exposed by lifting the slide.

Aug. 7th. Cool, fine, and smooth. Passed Cape Coast Castle at 1 in the morning. Accrà at about 7.30. Coast beyond Volta, which we passed about 1, with sandy beach and low scrubby bush; no thick forest apparently. Off Popo coast in afternoon. 'Congo' at anchor off Little (?) Popo, with captain down with fever. Passed Whydah about 11.30 P.M.

Aug. 8th. Off Lagos about 7 A.M. Quite a fleet of steamers there—'Corisco' (homeward), 'Kinsembo' (west coast), 'Malembe' and 'Winnebah' (Hamburg), also one or two smaller branch and bar boats. Rowland gone to Accrà. Quite cool and cloudy, with slight swell.

Aug. 9th. Cool and cloudy still, with calm sea. [illegible] sight at daybreak, low and flat. Anchored in Bonny r[iver] the town about 1.30. Coming in on a sandy spit below "[Point] Corner" (the white-men's burying-ground) is a great [colony] of a large grey-mantled Tern, *Sterna melanotis* [*S.* [illegible]]. Went on shore about 3 P.M. with Ashbury and John J[ones], clerk and brother-in-law (white). Interviewed J. [Jones], gave us a guide through the town to show us the juju [house] (much neglected), church, and other sights. Many unmarried girls up to 17 or so quite nude, as are children up to 10 or 12. Men wear a loin-cloth, or [trousers], drawers, &c. of European stuffs, and married women [cover] below navel. Many of the children and girls stencilled, often very beautifully and elaborately, all over with a native dye from a green pomegranate-like fruit, simulating tattooing. The street very narrow and in part paved with a large *Cardium*. The houses of wattle, the interstices filled up with mud, and the roofs palm-thatched or corrugated zinc. Some fine old forest-trees on outskirts of town, also bush, with many ferns (especially a large *Osmunda*, with fertile apex only of pinnules of fronds), and mangrove-swamps. Saw an *Elaphocerium* growing on a big tree. In Jumbo's garden a fine frangipani shrub in flower, with *Merium*, or yellow papilionaceous shrub, roses, *Carica*, &c. In the mangrove-swamp an *Anophthalmus* in swarms, going on *land* when disturbed, and hopping, duck-and-drake-like, *over* water like a lot of tadpoles. Many land-crabs also. Of birds saw *Vidua principalis*, a *Nectarinia*, a *Drymœca* (?), and others.

Aug. 10th. From ship in morning saw a large flock of Pelicans on sandy spit on right of river, also a largish white *Ardea*, and a black-and-white Eagle flying over water (? *Gypohierax*). Went on shore about 10, and took about twelve photos of town and natives, juju-house, church, and

mission-station. At latter saw Archdeacon Crowther, son of the Bishop. In the compound was a fine shrub in full flower of the orange-yellow *Lilias* (*fide* Gallinia), of which I had seen flowers before. The natives organized a grand dance of three or four men, including the chief juju priest, nd of two or three tomtoms. Some of the girls and n entirely covered with a red dye (camwood), whether ument or for curing "craw-craw" (a skin disease) is l. Caught a few butterflies, including a black-and- *apilio* and an *Acræa*; the latter common and flying in afternoon over a pink heliotrope, or allied shrub, ompanied by a mimicking *Geometer* with pectinated e. Saw a few grey Parrots flying in twos and threes d fast overhead.

11th. Wet in morning. Went on shore about 11, atson and Gallinia. Wet, but cleared up in evening. 4 P.M. went off with J. J., W., and G. to try and shoot elicans. Only got within 400 yards, and missed two at that distance; then went up a creek on other side of r and got into a warm corner with Curlews, Sandpipers, a Parrots, &c. Killed a few *Totanus hypoleucus* and a uple of large Terns (? *Sterna melanotis*), the best of which skinned. Came on to rain hard before we got back to hip.

Aug. 12th. Wet in morning. Left 'Bonny' about 11 nd went ashore with Ashbury to photograph. Took photos of a big tree (? a *Bombax*), and three of a so-called "albino" girl (Ibo), belonging to a black named Hart, who sent us (it having got very wet) aboard the 'Adriatic' hulk in grand style in his canoe, with about thirty paddlers, double-banked. On board 'Adriatic' for the night.

Aug. 13th. On board 'Adriatic' with Captain Gillies nd C. de Certi, a Corsican trader, formerly at Opobo. Wet ll morning, and did not leave ship till about 4 P.M., when eft with Ashbury and Greenshields for Akassa in 'Dodo.' hip rolled horribly during the night.

Aug. 14th. Off the mouth of the Nun at 8 A.M., but did not reach Akassa till three hours later, owing to the difficulty

of sighting the bar-buoy, the land being hazy. River about a mile or a mile and a half broad at mouth, 12 feet of water on bar, passage being surrounded by breakers on both sides, and particularly on the west. Akassa is situated on the right bank, a few miles above mouth. Two dwellings, a billiard room, some sheds, native huts, and further up the About 180 hands employed, all, except three, black W. A. Earnshaw in charge, Sargent and Macintosh away. A lovely yellow bushy *Hibiscus*, with big lea hind the house; also saw a black *Papilio*, a male *Ch* crowds of *Anophthalmus*, land-crabs of several spec with asymmetrical chelæ (? *Callianassa*), and a black with red head and tail. The natives had strings of *Achatina* hanging up for sale to eat, and with them a *C* Had some chops at the house and left about 5 in the Massaba,' Captain Charles Macintosh, for Abutschi, a just below Onitscha. For some miles steamed t nothing but half-flooded mangrove-swamps, in whic dually a few bushy palms appear, these increasing in nu as banks get a little higher and land firmer. Anchored night about 10. In swamps about 5.30 P.M.; saw hal dozen live *Scopus*, also a grey Parrot or two, and a large blac and-white Kingfisher.

Aug. 15th. Under steam all day from about 5.30 to 8 Out of the mangroves at daylight; they do not extend very far up. Ashbury photographing the banks, with village, a day. Towns in this part hostile. Passed in afternoon place where 'Sultan of Sokoto' got ashore and was plundered, a few miles below a largish village called Emblama. The banks are covered with not very thick forest and jungle, a large cotton-tree being the most conspicuous plant, also oil-palms in numbers. In afternoon saw several of a moderate-sized tree, with white smooth stem and splendid large scarlet flowers. Many plantains, a few cassavas, and a large *Calo dium*-like plant called "coco" are grown by the natives The banks are low, with many sand-banks in places, all apparently a light yellow or greyish loam, apparently quite recent and fluviatile. Saw in morning a few deep-blue small Swal-

lows, with white on tail (? *Atticora fasciata*), and a small *Motacilla*, very white. In afternoon a small *Buceros* or two, solitary, black, with white belly, high black beak, and casque with large white mark (? *Buceros fistulator*). The flight is an alternation of heavy flapping with smooth gliding. Lots *incola* flying like Swallows just over surface of river mblama—white tail and below, with large square white n primaries. Saw a flock of three of a green *Treron* r river, and got a shot at a crocodile lying on a bank. osh had previously killed one about 8 feet long.

16th. Fine morning. Started at 6, and at 7 were Wari creek, the head of the delta leading to Benin, out 200 miles from sea (in ship's course). Saw a *s* and a couple of Cuculine birds, chestnut with black d white throat (probably *Centropus*). On a bank just ri creek saw a great number of *Gypohierax* (both in and adult plumage) and a solitary *Ardea goliath*. A above saw two Hippopotami; but Macintosh failed to em. *Ardea flavirostris*, and another smaller grey species, sand-banks above. The coco and palm-nut trees near the lages are crowded with compact circular pensile nests of a eaver-bird, first seen yesterday. The banks are about 18 et high where exposed by river-section, of a reddish-grey r yellowish loam, obviously stratified, but not always horiontally. About 12 got to Aboh, where there is a factory nd the hulk 'Arran Isle.' The native town is inland about an hour's walk. Got about twenty butterflies near bank, chiefly *Acræa* of two or three species. Shot a male *Hyphantrnis*, and a female *Estrelda*—eyes pale brown-olive, beak rosy red marked with black, feet dirty flesh. On shore about three quarters of an hour. After lunch landed on a large sandy bank to stalk two crocodiles, and got within about 150 yards, but missed mine as it was going into the water. Greenshields did not get his shot. Walked about on bank and shot a male *Vidua principalis*, also saw several of the *Glareola* walking about on bank. In morning shot a crocodile from steamer at about 800 yards with the captain's Martini, and made fine practice at a bottle, a cartridge, or two inches of pipe put upon fore davits.

Aug. 17th. Passed Osomari, Alenso, Atani, and about noon got to Abutschi. In morning, just above Osomari, met Captain Macintosh in the 'Jessie' from Lukoja. He came on board for a few minutes and went on to Akassa. Abutschi is about 270 miles by river from Akassa, a little way below Onitschi, on the left bank of the river. Caught butterflies about the steamer on landing at factory. afternoon went down to a large sand-bank with Capt Macintosh and succeeded in shooting a hippopotamus the bank. He sank, but his body could not be found, we sent a boat and boys to watch for its rising. I shot *reola cinerea* (legs and base of beak bright red), a *Hyp nis personatus*, male, and one of another species (eyes o brown) which was nesting on the acacia-bushes on the The nests are of grass, nearly circular, of the size of two fists, with the aperture vertical to one side. A was bluish green, thickly freckled with red-brown bl forming a zone round larger pole. Captain D. Macintos shot a *Rhynchops* for me; we had seen large flocks of the banks coming up. When settled on the ground loo peculiarly small. Saw also *Corvus curvirostris*, which has *caw* like our Crow.

Aug. 18th. At Abutschi. Captain D. Macintosh ou shooting in the morning and brought me in six or seve birds, including a nice *Centropus* and a *Pogonias*. Caught most peculiar pale glaucous-green *Homopteron* in garden, flying about amongst shrubs, like a *Geometer*, which it was, I thought, till I pinned it. In evening shot two *Euplectes flammiceps*, these and *Vidua macrocerca* being very common in grass-lands behind factory amongst their plantations.

Aug. 19th. Went out in morning with young Macintosh along bank. Shot thirty of the orange-headed *Hyphantornis*, an *Estrelda*, and a *Pluvianus ægypticus*, of which I had seen plenty before (bill black, eyes dark brown, legs beautiful pale greyish blue, claws black). Started to get ready for Onitschi; but a heavy shower came on just after we started, so Greenshields and I turned back, Ashbury going on. After lunch at Abutschi on 'King Massaba' we went

out after birds, D. Macintosh shooting *Hyphantornis luteus* (eyes orange-brown), *Hyphantornis personatus*?, *Spermestes cucullatus*, a Timeliine bird, and a *Telephonus* (eyes deep smalt-blue). Also saw *Euplectes oryx* or *ignicolor*, several of a *Buceros* and *Psittacus erithacus*. About 5.15 P.M. started horses for Onitschi factory, which we got to in three quarters of an hour's ride through a sandy grass-covered country, with scattered trees and termite-hills 6 feet high. Saw a Lampyroid glowworm outside factory. Some of the *Hyphantornis* on beach (? *Hyphantornis auriceps*) had callow young, and one an egg of uniform pale chocolate-brown colour. Beautiful little purse-like nests of pale fibres in long grass made by the little *Estrelda*.

Aug. 20th. Started about 9 for a creek on left bank of river, a little above Onitschi, with Greenshields in a canoe and five boys. Saw no Hippopotami (native "Itabo"), but saw Manati, and saw several monkeys, apparently *Cercopithecus mona*, and a black one. One of the former I wounded, but did not secure. Saw several *Plotus*, and shot a female, its stomach just as in *Plotus melanogaster*: gastric epithelium on top of and covering proventricular area, and no V-shaped ridge distinct. Stomach full of nematodes, but none penetrated (apparently) past plug, numerous ones being caught and detained in it. Food was apparently entirely fresh-water prawns. Saw several fine *Haliaetus vocifer*, several *Neophron pileatus* (very tame), a large *Buceros* with high casque, *Psittacus erithacus*, a greyish-blue *Campephaga*, a steely-blue *Progne* with white throat, a *Butorides* with orange legs, dark cap, and pale chestnut gular streak, *Ceryle rudis*?, a beautiful small blue *Alcedo* with black bill, orange legs and underside, and white ear-spot, the *Centropus*, &c. Got a lot of orchids and a *Platycerium*, amongst which was a caterpillar (? *Noctua*) with large black yellow-bordered ocelli on sides of fourth segment. A fine grey Hawk-Eagle at factory, with black-and-white barred tail, elongated nuchal crest, yellow bill and feet, and pale greyish-yellow eyes. Also saw on banks a small chocolate Dove, with red beak and slaty-blue cap.

Aug. 21st. After chop went over to Onitschi (town) with Greenshields; he with gun, I with net. At first through fields of grass and yams, then to town, enclosed in a stockade neatly kept, with fine big trees, coco-palms, undergrowth, and red clay houses. *Papilio merope* abundant, and caught a pair in copulation, the male with a black-and-white *dema*-like female. Several species of *Terias* and *Pier* abundant in outskirts. Shot a pair of the *Lagonostict* olive-brown) in fields, a glossy green Swallow, a *Nect* *Hyphantornis castaneofuscus* (eyes yellow, legs dar flesh), and a *Sycobius* with red head, which frequen palms, and was in company with a similar, but black- bird. Also saw several of the smaller yellow-billed *H* in trees of town. On return to factory (Mr. Taylor, a S Leone man, is "boss"), found our "Manati" of yes was an immense crocodile, about 15 feet long, with scutes just separated from dorsal, of which there w strongly keeled in each series, diminishing to four o with indication of another row on flanks. A male tracheal loop (? *Crocodilus acutus*). Stomach contained f and stones, some of the latter much rounded. Saved sku nuchal plate, and trachea. Rode back with Greenshields Abutschi in evening, after "liquoring up" with M——, th agent of the French factory at Onitschi.

Aug. 22nd. Skinning birds and reloading cartridges nearly all day. In afternoon shot a *Hirundo senegalensis* in garden, one of several perching on a high tree and hawking insects. Also got a female Ploceine bird (? female of an *Euplectes*). Boy brought in one of the common house-lizards, which change colour most remarkably, head and middle third of tail becoming brick-red, basal third and middle of back metallic bluish green when excited, after a long rest entirely dull blackish. The *Buceros* here is apparently *Buceros cylindricus* or some closely allied form, shy, and not easy to approach.

Aug. 23rd. Out with Greenshields in morning in plantations behind factory. Shot a male *Euplectes franciscanus*, three *Hyphantornis textor* (irides red), which had nests in a

colony on a small tree over some water (nests purse-like, *not* pensile, strangely), mixed up with a smaller black-fronted species, and a *Crithagra chrysopygia*, which is not at all rare (in twos and threes) and has rather a pretty song. D. Macintosh on the 'Fulah,' with the 'Jessie' in tow, turned up [illegible]urn; and about 12 we started off up the river for Lu[illegible] board the 'Fulah.' Passed Onitsehi, the town quite [illegible]e from the river, and Asaba, and had shots at some [illegible]otami on way.

24th. Met the 'Busybody,' with Mr. Ashcroft on [illegible]about 8. He was fixing up a new station, and had [illegible]llecting birds for me, amongst them two *Glareola* [illegible], which he gave me. The banks here are about 15 [illegible]igh, nearly vertical, of a compact reddish-yellow or [illegible]oam, not obviously stratified; in other parts only [illegible]s of recent sand-banks are seen. Saw a large flock of [illegible]*us*, some Hornbills (? *Berenicornis* or *Buceros elatus*), [illegible]*Plectropterus*, *Ardea*, &c. Banks thickly wooded with [illegible]y dense, but not big, forest, with but few big trees or [illegible]*nas*. Heard some leopards miauling in bush at night.

Aug. 25th. Up to Idda about 9, a large town on left bank [illegible] river on a high bluff, with vertical cliffs towards river, [illegible]erhaps 120 to 150 feet high, apparently of an altered sandstone of a red colour, laminated or stratified in places, with contemporaneous veins (?) running nearly horizontal. Saw a number of white Egrets and *Plotus* on a high tree. Towards noon got in amongst the high country, with flat-topped hills, apparently remains of a continuous tableland.

Aug. 26th. Amongst the hills still, just below Beaufort Island, apparently of a much jointed compact yellowish sandstone, weathering out into large boulders. Some of the hills conical and nearly isolated, others flat-topped; Mount d'Or, one of the highest, rounded. Saw apparently a couple of *Chenalopex* on a sand-bank, also some Hornbills. Lukoja mountain, long, low, and flat-topped, to left of river, ascending. Saw a couple of *Balearica* on a bank, here called crown-birds. The country here, above Beaufort Island, seems to fall away and become less hilly and flatter, the hills

running transversely across the river on both banks. Got to Lukoja, passing Tybebe on left bank just before, about noon, and left again in an hour's time for Magagi, the country above Lukoja being a high tableland, coming down to river by steep inclines, more or less wooded. Got to Magagi by dark.

S. Aug. 27th. At Magagi, discharging and loading with some difficulty in getting alongside, the water shoal. Went on shore; but though I saw lots of bird vilely, loosing or missing all but a *Platystira* (eye vermilion, tarsal planta pseudo-mesomyodian, but syri nine). A *Toccus* rather common; and also saw from s a *Berenicornis*, with head and tail, except two media trices, white. Saw lots of *Euplectes franciscanus*, *Sper cucullata*, the *Ixos*, a *Turtur*, &c. Lots of butterflies. a black-and-white *Motacilla* and a yellow-wattled and *Lobivanellus* (*senegalensis*?). Macintosh got for me a *pithecus* alive from factory, quite young, with long fur, face, smutty nose, tipped ears, and a black facial ring (? *copithecus nisnas*). They also had a *Cercopithecus sab* and a *Cynocephalus*, apparently *Cynocephalus sphinx*, bo young. Lots of *Pluvianus*. Got photos of nests of *Hypha tornis textor* in town. Returned quickly to Lukoja, an before dark went on shore and shot a Waxbill, apparentl *Rhodopyga rhodopsis*, not at all rare in town. *Pluvianus* o beach walking about or flying over water in numbers.

Aug. 28th. Went on shore early to hills behind town and got a lot of birds amongst small bushy trees, a *Picus*, *Chrysococcyx*, *Turtur senegalensis* (in town and compound), *Estrelda melpoda*, *E. minima*?, *E. nigricollis*, two species of *Nectarinia*, a *Hirundo*, and two or three others. Saw also *Scopus*, *Euplectes franciscanus*, *E. flammiceps*, *Urobrachya macroura*, in grassy hills &c. outside town. Hill volcanic, quartzite- or felsite-looking, or metamorphic, cleared, with grass. Got a bright yellow-red antelope-skin from Macintosh. The commonest birds in town of Lukoja are *Passer simplex*, *Neophron*, *Spermestes cucullata*, *Hypochera*, and *Estrelda senegala* or *minima*. After breakfast again on

shore and saw a beautiful red-black *Nectarinia* singing quite sweetly in a gingeri-tree, which has an agreeable drupaceous fruit. In old factory *Spermestes cucullata* is very common; a nest I found was built on ground, of grass, lined with feathers, contained a pure white egg and three newly hatched covered young. The red- and green-headed lizards both round houses. *Hyphantornis textor* in great swarms of town, the *Spermestes* also nesting in a mango in the nd of factory, where the *Turtur* was also walking uite tame. Got away about 1 and went up the Binué, a large town on right as you enter the Binué, called with the tableland behind and to left of us. Wooded n both sides.

29th. Steaming up, the Binué running very rapidly t us, with lots of *Pistia* and floating drift-grass. This ises a little earlier, even more rapidly, than the Niger; vigable by steamer for about three months; for the the year very low and full of snags and sand-banks. French have factories at Lukoja and Loko. The banks erally low and wooded; saw some high land in distance left in morning, and earlier passed an isolated rising ing river by a steep bluff, apparently due to a thick, ightly inclined (dip ?) basalt bed, overlying a compact yel- w sandstone. Saw several *Plectropterus* (nearly certain *ambensis*, but ? head), and five or six Hornbills, apparently *Buceros buccinator*, with white wings and tail. "Arthur" down with fever, temperature 103°·8; mine, Greenshields's, and a boy's about 99°·6. Only passed two towns on left hand (or bank), Rumasha and Amàrà; there used to be a station at former. Above it we passed Mr. Watson in the 'Rosie' launch with a large boat in tow.

Aug. 30th. At Loko by 8. Went on shore shooting and again after chop, getting back by 4. Got a lot of birds, including an *Indicator*, *Turtur*, a *Pogonias*, *Drymœca*, *Ixos* and young ?, *Hypochera* (common), *Crithagra*, *Estrelda phœnicotis*, a fine *Pytelia* (one out of a lot in tree), a male *Hyphantornis* (? *textor*, male in non-breeding dress, the bird being common here), a black *Pœoptera* ?, a Muscicapine form,

and others, also *Euplectes franciscanus*, *Spermestes cucullata*, and *Vidua principalis*, as also *Passer simplex*, the first and last in numbers; also one *Ciconia episcopus*, a long-tailed Pigeon, a Woodpecker, &c. The country is flat, with corn-(? Guinea) fields and grassy lands, with 10- or 12-feet high termite-hills of red clay, everywhere interspersed with trees; no thick bush or big trees anywhere. The tow other towns here, surrounded by a mud wall, with gate of square shape, and beehive-roofed circular h entrance-gate with two facing doors, enclosed in or wicker fence. People (Mahometan) usually clo white or blue cloth. King tributary to Sokoto. higher land visible to south beyond left bank o here perhaps twice as broad as the Thames at Westi and with a strong current. Ivory comes from Ad country, thirty days off.

Aug. 31st. Left Loko about 9, and going down rapidly reached Lukoja about 5. Saw a few *Plectropt* banks of river, and a pair of *Balearica*. The *Neophron* abundant at Loko. Took up our quarters in old factory.

Sept. 1st. Looking after things in factory, not mu done. Caught a Bat and a Gecko in house, the form escaped. Curious ants' nest in mango-tree in factory com pound, with the leaves all spun together with abundance o silk. Got female and workers. Male much smaller tha latter.

Sept. 2nd. In morning shot an *Emberiza* (? *forbesi*), a couple of male *Nectarinia pulchella*, a *Lagonosticta*, and a *Motacilla*. Afterwards went down to old factory and into bush on hill, catching a few butterflies &c. Ashbury photographed M—— and natives. Got some fish, three species—a Clupeoid and a broad Cyprinoid, both with red fins, and a Percine form. Native dance by men—flowing garments, baggy trousers, and tobes. Got an antelope's head from chief, shot here two days ago, apparently *Alcelaphus tora*.

Sept. 3rd. Out shooting in morning and got a new species, an *Ortygospiza*, a *Corythornis*, an *Elminia*?, and a *Platystira*; also *Estrelda melpoda* and the *Saxicola*. Saw

Urobrachya macroura, same as already shot, with yellow interscapulars; *Nectarinia pulchella* quite common. A female antelope, bright yellow-brown colour, paler below, with black patches on fore legs, was brought in, apparently *Cervicapra bohor*.

4th. Arthur disappeared. Went up the Lukoja h Greenshields and five men. We started at 8.30 ok 55 minutes, including stops, to top a tough climb rocky and pebbly path in bush. The top is a fine e plateau, with more or less long grass and wooded, kly, with scattered trees (sometimes big), acacias, &c. ne of the red-flowered tree. Numerous "spoor" of antelope, and pig, but none seen. The hill consists amorphic oolitic sandstone and a breccia-like conglo-, or agglomerate, of red colour, with included rather r fragments. Shot a *Drymœca* on top, and saw some -fowl (?*Numida rendalli*), but few other birds. Green- caught some butterflies, dragonflies, and two moths. about 2 and took 30 minutes, without a stop, to return ld factory. Found that Arthur's body had been recovered, ving been found in the river a little way above white ssion house, the trousers and shirt on bank close by. Got small snake and a *Calotes* from Ankrah.

Sept. 5th. Shot four Sunbirds in morning from lime-tree n compound, including examples of two species new to me. Afternoon skinning and looking after spirit-specimens. At 4 buried Arthur in bush just below model farm, and close to graves of Consuls Fell and Maxwell, who died here in 1867, the former the last white who had died here. Mr. Jones, a Sierra-Leone black, of Church Missionary Society, performed the service, Ashbury, Greenshields, and self, and about twenty blacks assisting. The soil is a reddish clay, apparently of half-decomposed basalts and igneous rocks; no solid rock seen in grave. Abiga shot several "deer" to-day and lay before, close to town. Got five of the green-headed lizard from a boy at old factory. Saw a couple of *Agapornis* feeding on long grass on the banks of the creeks intersecting the town.

Sept. 6th. Went out with Abiga in morning down river after "deer;" but though we found lots of spoor, both of them and of buffalo, only saw one and did not get a shot. Saw some green- and yellow-backed *Pœocephali*. Abiga gave me the horns of a "deer" he had shot the day before close to town, described as rather small and red and white, apparently *gelaphus scriptus*. Got six of the common smaller striped-headed lizard from a boy; and a woman bro large, but mutilated, *Clarias*-like Siluroid, with free n About 4.30 the 'Formoso' arrived, bringing Mr. and a newspaper of July 29th. Ashbury very low mined to leave per 'Formoso' for Egga; Greenshie self stopping here. Man brought a young Rail of u sooty black, with bright yellow-green beak, red legs, c eyes and orbits (? *Limnocorax niger*).

Sept. 7th. Out all day from 8.30 to 5.30 in the bus Abiga down as far as opposite Igbebe, but got n though I had two shots at an antelope, apparently dish gazelle, with black patches on the feet. Saw *aetus vocifer* and lots of spoor of buffalo, antelope, and pard quite fresh. The country is an undulating or near level grassy plain, with small isolated trees, with thick bush only along the streams. In many places fine cairns big boulders of granite or gneiss, the former with very larg crystals of felspar and a good deal of hornblende. Many o the rocks obviously waterworn, and the whole valley clearly old valley of river.

Sept. 8th. Out for a couple of hours, 8 to 10, in morning with gun. Got an *Anthus* in too bad plumage (moulting) to skin (? *Anthus gouldi*), a female *Urobrachya macroura*, and a male *Hyphantornis* (? *atrogularis*) with nearly white eyes. Saw a fine adult *Helotarsus* flying high overhead, the white under wing-surfaces very conspicuous, and the legs apparently behind, short tail. At Abiga's house saw several antelope-skins, two dodoka (? *Hippotragus equinus*), mana (? *Adenota*), kanki (*Alcelaphus*), and mazo (*Tragelaphus scriptus*), of which latter he had given me the horns. Got a pair of horns of *Bos brachyceros*, and of what he said was a

young kanki, from him, and a skin. Later went out shooting up valley. Got very hot and only shot two birds, a *Drymœca* (same as that shot on top of Mount Patter), and two young Ploceine birds of uncertain species. (This is certainly young of *Spermestes cucullata*; I saw several of it next [illegible] company with adults.) A heavy rain and thunder-[illegible] came on just before sunset.

[illegible]th. Out shooting early up valley, but only got a male [illegible] *rara* (one of two) and a *Turtur* (*? semitorquatus*), [illegible] seen at Loko. Saw a yellow-bellied *Laniarius*, a [illegible], and some others, including *Thamnobia frontalis*, a [illegible] apparently all young. Picked up a *Mus*. In afternoon got a few butterflies in lane close to factory, and in [illegible]ooning some birds, including the *Elminia* (?), a young *principalis*, of which I saw several, two specimens of [illegible]cü, and *Estrelda rufopicta*, which occurs here with [illegible] *mimina*, but is rarer, female much redder, and male has [illegible]ale bluish eye-ring. Abiga brought in a skin of a female *Tragelaphus*.

Sept. 10th. Skinned birds in morning. Felt seedy, and about 3 a sharpish attack of fever came on. Piled on a lot of blankets and sweated profusely. Felt better in evening and cooler; slight headache and pains in leg.

Sept. 11th. In bed, more or less, all day. Felt better, but still weak, with little appetite. A slight recurrence of fever in afternoon. Greenshields went out in morning and shot three birds, a *Nectarinia* (*cuprea* ?) a *Lamprocolius* (one of a flock), and a *Timelia*. In evening brought in male and female *Urobrachya*, a *Spermestes cucullata*, and one of the thick-billed *Drymœca*.

Sept. 12th. Still feverish, but better. Wet all day.

Sept. 13th. 'Fulah' arrived with A. Macintosh, Shitta, and the consul. Felt decidedly better. Got a letter from mother, and news of Balfour's death.

Sept. 14th. On 'Fulah,' more or less well. The valley is wider up here, the hills only appearing in the distance. Macintosh tells me that at Abutschi very lately he found, on the rocks exposed by the very low water, freshwater mussels,

edible and "spiny;" also that a shark was killed there lately and another at Egga.

Sept. 15th. Got to Egga about 9 and landed at factory in a barge, the water being too low for steamer to come alongside, the passage up a very narrow channel. Saw some Jacanas close to town, also a *Sterna, Plotus, Balearica*, *Balanus, Euplectes abyssinicus*, and *Hyphantornis personata*, with acacia bushes by river. The town is well built of round, and huts, in mud-walled compounds and very narrow streets. Just off a toad in factory and head of big fish (31 × 24½ inches, with girth, 17½ lbs.). Adipose fin; ventral fin rather thin, tip very bony; white flesh. There is a tree in yard covered with *Hyphantornis textor*, and a large tree (? *Adansonia*) close to outside more so, with, I should say, near 1000 nests. —white

Sept. 16th. Convalescent. Repacked my baggage. towns. are lots of the two common house-lizards here, and a graces, *Corvus curvirostris* came to the big tree outside. *Erica* shields left for Tchunga.

S. Sept. 17th. Went out shooting with Macintosh down the river, but only got one *Chenalopex*, though we saw lots of it, and a Duck, apparently a *Dendrocygna*. On one of the banks *Glareola cinerea* was in thousands, with a few of a darker one (? *nordmanni*), one of which I got; also lots of *Pluvianus* and several flocks of *Rhynchops*. Also saw several *Balearica*, the large white black-billed *Ardea*, a *Merops*, *Vidua principalis*, and shot a *Chrysococcyx*.

Sept. 18th. In about factory all day. Got from Mr. Bishop a fine pair of horns of an *Alcelaphus*, apparently *Alcelaphus tora*.

Sept. 19th. Out with Macintosh in morning. He shot a *Chenalopex*, and we saw plenty; also a pair of *Balearica* and some *Plectropterus*. He shot for me also a pair of a deeply-forked-tailed Swallow (? *Atticora melbina*), very common on the sand-banks; and I got a Sandpiper on canoe as it lay on beach. Saw a *Porphyrio*; *alleni*, I suppose. Shitt brought in one of the large "singing" snails (? a *Paludina*), and later another still larger. The canoe-boys believed in it, and pointed out the *Paludina* as the performer. Had a ride in evening.

Sept. 20th. Shooting in the morning on the island. Got five birds, male and female *Euplectes abyssinicus*, a *Campephaga*, a *Drymœca*, and a female *Hyphantornis* of a species new to me. Saw also *Laniarius barbarus* ?, a *Merops*, and a Kingfisher; with lots of *Vidua principalis* (female or young), *...ticta*, *Hyphantornis personata* ?, *Turtur semitorquatus*, *...senegalensis*, and another smaller species with no white ... Macintosh and consul left about 4 for Wanengi, ... for Bidda, I remaining here with Ashbury, who is ...-day, the 8th of his attack. In morning saw four *...uite black* Hornbills. Heavy rain in night.

... 21st. Showery in morning; so did not go out till ...reakfast, when I shot a *Centropus* (same as at Abutschi) ... couple of *Merops*, both with bright crimson irides. *...uplectes franciscanus* on island, and saw several *Eu...melanogaster*. Got a mail per 'Wanderer,' which had ... in the night.

... 22nd, 23rd, *S.* 24th, and 25th. Fever.

...t. 26th. Ashbury left in 'Formoso.' Consul back.

...ept. 27th. Better. Still about factory. Dog caught a ...ple of rats, a blackish moderate-sized species. Also found ...other *Gecko* (same species as at Lukoja), and found a dead ...own rat of another species in factory-yard. Saw Barber.

Sept. 29th. Macintosh back from Bidda about 10. Discharged 'Jane' at Egga. Started up river for Rabba on 'King Massaba' (Macintosh, Flint, Lever, and self) about 3, and steamed till dark.

Sept. 30th. Fine and bright in morning; about 5.30 saw a magnificent comet, altitude about 20° about E., apparently twice as big as that of 1881, and with splendid tail. Saw an adult *Xenorhynchus* on a bank; C. M. had already described it to me at Egga, and Lever had shot at a young one there. Saw also *Gypohierax* and *Ardea goliath* and *A. flavirostris* (yellow beak, clear). About 9 off the Rennell Mountains, 1200 feet high (900 feet above river), flat-topped, but very detached, with only some remains of hills, much lower laterally, just above the river; the cliffs and lower (only) hills are composed of a pale whitish-and-pink stratified sand-

stone, said by Macintosh to be very clayey. About noon got to Egbagi, a factory on left bank. Afterwards the banks are low and grassy, with the flat hills still in distance when visible. About 5 off Kaduna river, and took a photograph of left bank covered with bush. Saw lots of Hornbills [illegible] evening, apparently of two species, a *Toccus* and *atratus* (♀ ?), flying high in air to resting-places.

S. Oct. 1st. Got aground twice in morning, and [illegible] got damaged. Distant hills on left bank still qu[illegible] topped; banks low and grassy. Hills recede going [illegible] and only seen on horizon. Banks alternate with gr[illegible] thick bushy (low) forests, with oil and a flabelliform [illegible] the latter more in grassy lands, and has a fusiform [illegible] About 4 P.M. got to Tchunga creek, on right bank of rive[illegible] narrow. Just before entering saw a single fine *Cercop*[illegible] *mona* in trees. A good number of birds in Tchunga [illegible] including *Plotus*, a nearly uniform brown-grey *Sc*[illegible] (*? concolor*), lighter beneath and with yellow bill (thre[illegible] tree), the smallish black-capped orange-legged *Buto*[illegible] Shot a large Owl from ship (*vide* description at end [illegible] Hartlaub) as we were anchored for night two-thirds way [illegible] to Tchunga.

Oct. 2nd. Started at 10 in 'Jessie,' with Macintos[illegible] Lever, and Flint, for Rabba. Saw three *Balearica* in mai[illegible] river. Got to Rabba about 3. Factory in ruins, and tow[illegible] almost deserted. Strolled up river a short way. The surface is river-gravel, derived from a metamorphic (?) fine-grained sandstone conglomerate, generally with rounded quartz-pebbles, only occasionally angular.

Oct. 3rd. Left Rabba about 5, and got down to Massaba by 8. The country is low, except about Rabba (left bank), generally grass-covered, with scanty dwarfed-looking trees scattered about or in clumps. *Plotus* abundant in creek [illegible] and saw several other birds coming down, including a[illegible] *Ardetta*, *Metopidius* (in creek), *Balearica*, a brown Ibi[illegible] (*? Ibis hagedash*), a pair of blue-winged red-beaked *Halcyon*, and a large black-and-white *Ceryle*, also a blue-green *Nectarinia* with long tail; these two last from Massaba. A large

fulvous Bat was common along banks, flying out from trees or margins. Very bad night, with fever and mosquitos.

Oct. 4th. Feverish all day; on 'Massaba,' at anchor in creek, Macintosh &c. being busy in rowing down stream from factory. About 4 left Massaba, and went up creek in canoe to miles. [illegible] in charge, Mr. Bishop. Creek very narrow latterly. *Oceanit*[illegible] myself in factory. Saw *Estrelda* on tree close to about 7 [illegible]-place: also *Hyphantornis textor, Hypochera, Passer*, [illegible]ently a[illegible] *Galearica, Lagonosticta*, &c.

July 5th. Good night, and felt much better in morning. flying-fi[illegible] short walk up to town, situated on hill beyond factory.

S. J[illegible]ay birds—*Ixos, Turtur vinacea* (?), an *Ardea* (either high ch[illegible]*ea* or *A. atricollis*), *Hoplopterus, Coliopasser, Chryso*- a low [illegible] several *Drymœca*, a new Timeliine, a large grey ship at[illegible], &c. In afternoon went up hill behind factory. and in[illegible] view of town, surrounded by castellated mud walls, Bonita[illegible] river-valley, very wide; the hills (? on the other Sep[illegible] apparently in distance. Hill covered with rounded S[illegible] pebbles, with occasional blocks of sandstone conglo- [illegible]rate of dark colour. Is this rock *in situ*? Saw [illegible]*strelda melpoda, Nectarinia pulchella*, and a dark species, [illegible]*permestes semitorquatus* and *S. senegalensis, Centropus*, a [illegible]*ufreron*, &c. About twenty *Neophron* settled for night in [illegible]ee outside factory. Greenshields arrived from Rabba [illegible]bout 9. Very bad night, and feverish again.

Oct. 6th. In factory all day, feeling seedy and weak, with [illegible]no appetite. Took a short walk in evening up to town. Greenshields had a touch of fever. Good night.

Oct. 7th. Better and stronger. Greenshields left again for Rabba, feeling better. In and about factory. Walked up to Egga in evening. Good night.

S. Oct. 8th. Decidedly better, but appetite still very poor. Shot a white-rumped Swiftlet, already, I think, seen at Egga (? *Cypselus abyssinicus*, in spirit), and a red-rumped Swallow (? *Hirundo melanocrissus*) in factory-yard. In morning's walk saw *Estrelda rufopicta* close to factory, and a peculiar-looking *Hyphantornis*—top of head, back, wings, and tail olive-brown; lores and part of face black; very

broad eyebrows (? *Euplectes melanogaster* changing, or a distinct species). Shot a *Turtur senegalensis* in morning in yard for "chop."

Oct. 9th. In factory all day, labelling birds &c. till 4, when I went up hill to back of factory. Got a few butterflies, including a nice-looking Eryeynide; but I was a[illegible]and in tired and dazed; so came down, and was back by river off Slept well. Rough

Oct. 10th. Went out shooting with Marma at G[illegible] colony Egga and back by road along back of hill. Got a *Dr[illegible]aspia*], and a *Centropus*, and shot also *Hyphantornis textor* (♀, jumbo's and *Turtur senegalensis* for "chop." Got fearfully da[illegible]., who light; so came back about 8, without having seen any -house new. In evening took a short stroll along track. Got of the *Cetonias*, a *Lycus*, and a very curious grasshopper, all the grass-stems; also some *Noctuæ*, flying round the grass-fl[illegible] shirt, of two or three species. [illegible]otbed

Oct. 11th. Went out in morning on hill behind to[illegible]e in a Egga. Shot an *Anthus* (? *campestris* ♂), and saw a *Bu[illegible]ides. flava* on cleared ground near farm. Further on shot a n[illegible] of *Francolinus* (? *bicalcaratus*) on top of a termite-hill: foo up dipterous larvæ. Got dazy, so returned by 8; very tire all day. Skinned birds; slept and sat in chair. In evening found a remarkable humpy-looking spider, which on being put into spirit dissolved, there being hundreds of young ones, which were closely applied to limbs, thorax, and abdomen of mother, and so carried about.

Oct. 12th. Slept till about 8, and felt much better. Shot *Budytes* (which turns out not to be *B. raii*) just outside factory-door, and saw several more in old disused factory-yard. In evening took a new walk, past landing-place parallel to creek. Got several *Lycus*, one or two pairs *in cop.*, the male being the form with dilated elytra; also a few *Acræas* &c.

Oct. 13th. Went out about 6.20 along same path after birds, but got very wet in long grass. Shot a *Hypergerus* and a *Timelia* (same as that Greenshields got at Lukoja), and saw *Laniarius barbarus* quite close, a *Merops* (? *viridissimus*), and a black Cuckoo (nearly certainly *Oxylophus ater*), also

Estrelda melpoda and a single *Pœocephalus* (I think, *P. senegalensis*), and others. Several *Budytes* in old factory. Very sleepy all day, with headache. Good night.

Oct. 14th. Out shooting about 6.30; back again by 8. As weak as a cat, and could hardly carry gun; got very [illegible] but managed to shoot two out of five *Merops nubicus* [illegible]ge tree back of factory, and saw three of a new noisy [illegible]. Saw a yellow-billed dull brown *Milvus* outside [illegible] in morning, apparently same species as the live one [illegible]tschi.

[illegible]ct. 15th. Did not go out all day, feeling very lazy [illegible]led-down. Marma forgot to call me for dinner, and I [illegible]ll 11 and admirably afterwards.

[illegible] 16th. Went out about 6.30. Saw a pair of *Hyper-* [illegible] several *Oxylophus*, an *Emberiza*, and shot a *Tricho-* [illegible] and a *Halcyon*, both new to list. Bad night.

[illegible] 17th. Went out, and soon came back, the sun being [illegible]t for me. Saw a *Cossypha*, and blew a *Laniarius bar-* [illegible]*s* to bits. Got a fine green *Treron* out of the "fig-tree," [illegible]d shot a *Passer*: is it *P. simplex*?

Oct. 18th. Took a stroll in old factory-yard. *Budytes* [illegible]ill abundant, apparently all young birds. Saw two or three *Œna capensis*, quite tame, and lots of two other species [illegible]of *Turtur*. The day before somebody brought a very peculiar scincoid lizard, pale pink above, lighter beneath, with black spots; head much damaged. Rained heavily in night.

Oct. 19th. Got a few butterflies and other insects, the latter chiefly at night. Went out in the morning, but got no birds.

Oct. 20th. Spent most of the day in labelling and repacking birds' skins. Did not shoot in morning.

Oct. 21st. Went out in morning and shot a white *Ardea*, one of three or four, from the top of a big tree in village. Saw a small *Phylloscopus* in fig-tree; but very little done, though I worked along top and bottom of hill.

Oct. 22nd. Took things easily; poor breakfast. In evening took constitutional up to town. Bad night.

Oct. 23rd. Continued lying-up, so did not go out in

morning. Christmas-day here: so in morning a great procession of horsemen coming from mosque, gorgeously arrayed, especially as regards umbrellas, with much furious galloping and explosion of petards. Greenshields arrived in evening from Rabba, very weak, having been very ill with fever, dysentery, worms, &c. Goodish night.

Oct. 24th. Lying-up. Greenshields quite invalided made cartridges. Dreadful night.

Oct. 25th. Still lying-up. Greenshields slightly At Rabba he got some birds for me (see end of boo *Prionops* was the only new one. He also got a coupl *Astacus*, which reached me badly preserved. M attempts at shooting hitherto rather feeble, result a couple of *Pluvianus*. Been here three weeks; whole a very bad time as regards "chop," sleep, strength, and no spirit for specimens.

Oct. 26. Had a better night, having taken a stron of chlorodyne. Felt sleepy all day in consequence, an not get up till 10. Greenshields not so well again. To constitutional up to town in evening. Wretched night aga with impossible dreams.

Oct. 27th. No change. Greenshields considerably bett In evening went out for a short time, and shot a *Budyte raii* in old factory-yard (a young bird, moulting) and a *Phylloscopus* (apparently Willow-Wren) out of fig-tree; also an *Ixos* and the female *Hypochera* (spoilt). Took a strong dose of chlorodyne at night, and slept better.

Oct. 28th. Did not get up till 10. Skinned birds. Appetite seems better. In evening went out and shot a *Cypselus* (? *abyssinicus*), a Swallow (*Hirundo melanocrissus*), and one of the dark *Nectarinias*. Slept very badly.

S. Oct. 29th. Very poor appetite. Skinned birds shot the day before. In evening went out and got a female *Hyphantornis textor* and a fine *Schizorhis* (sp. inc.). Slept better.

Oct. 30th. Did not go out all day. Skinned birds. Very weak still, with poor appetite. Slept wretchedly.

Oct. 31st. Did not go out all day. Slept much better, having taken a strong dose of chlorodyne.

Nov. 1st. Greenshields went out before breakfast, and shot a young *Ardea atricollis*, in the stage with the neck behind grey and in front white and buffy (upper mandible black, lower bony, and ringed at base and apex with yellow [illegible] along culmia with blackish; lores naked, yellow, as is to a [illegible] round eye; a leaden streak below eye leads to beak; childr[illegible]ht yellow; legs black). In factory all day.

for [illegible] 2nd. Lots of *Milvus parasiticus* about factory in d[illegible]ofu[illegible]g: also saw a *Merops nubicus* or two. Skinned a yellow [illegible]*nus* which Greenshields had shot the previous evening. slowly [illegible]t we went down creek in canoe, but did not get and ac[illegible]only a *Corythornis* and another of the yellow-chinned antenn[illegible]*phorus*), though we saw lots of birds, Wishie-wishies, high an[illegible]parently another kind of Duck (no, it is *Œdicnemus*), Aug[illegible]*olus*, Kingfishers, &c.; *Schizorhis* we saw several of; with [illegible]*s nubicus* was common, hawking in the air, flying Abou[illegible], with alternate flapping of wings and gliding, and side) [illegible]ing a low repeated note. Saw lots of *Parra*.

flint [illegible]or [illegible]gr[illegible]. Shot a *Neophron pileatus* in morning from m[illegible]tory for a skeleton. Appetite decidedly better. In after-[illegible]oon went down creek again, but without very great results. Shot a young *Parra* (for coloration, see Hartlaub), a *Merops erythropterus* in bad plumage, a *Ceryle rudis*, and an *Ixos*. Went ashore amongst some really big forest-trees, but no second-growth or creepers, and only long grass &c. below. Quite a swarm of *Merops nubicus* flying very high over trees.

Nov. 4th. Saw five of the brown Ibis in morning in front of factory. They have a loud mewing Hornbill-like cry, and fly like Cranes with extended downwardly directed head and neck. Appetite much better, and made a heavy breakfast, which kept me asleep most of the day. Skinned the *Ixos*. Did not go out in the evening, Greenshields being busy with his accounts.

Nov. 5th. The weather the last few mornings has been remarkably cool and fresh. Going on well. Went down creek in afternoon in canoe alone, rather earlier than usual, and got a long way down. Shot an adult Jacana, an *Ispidina cyanotis*, one of the smaller Flycatchers so common

along creek, a couple of *Merops* (very common all along lower part), as well as a couple of the orange-winged Bats. All the wing-membranes are cadmium-yellow; the muzzle, nose-leaf, and ears light orange-yellow (diaphanous); fur yellowish grey. Saw also *Ceryle maxima*, the Greenshank of Egga, the small grey Heron, and apparently also Bishops. *purpurea*, or perhaps young *A. goliath*. A good Mr. *Monitor* tumbled off a tree into the boat, but got away being

Nov. 6th. Appetite still good. Went out in canoes, bedown creek. Shot a *Peristera afra* and *Halcyon cinerealcosia*, or *dryas* (upper mandible scarlet, blackish at apex; eyes, one black, shaded with red; feet red; iris brown), a M lizard *Schizorhis*, *Hyphantornis personatus* (in change), large Swallow of the species so common at Lukoja. Saw *inixys. maxima* again, and the *Monitor* in the same place; also King plenty of *Merops nubicus* and *M. castus*. station

Nov. 7th. Spent day as usual. In evening went through other branch of creek. Got three birds—*Halcyon se*en to *lensis*, *Corythornis cæruleocephala*, and *Œdicnemus*, the l*ytes* being what we had taken for young of *Hoplopterus*. Sale also a Heron (size of *Ardea cinerea*) with yellow legs and beak, in brown striated plumage; nearly sure it is *Ardea purpurea*, jr. In creek saw several *Ceryle gigantea*, but could not shoot one; also lots of *Plotus*. Young *Merops nubicus* was in thousands, in great swarms high in air, flying over the fields, and in forties and fifties on the trees; mixed with it a good number of *M. castus*. Got a shot at a pair of Ibis, but missed. Also saw an Eagle, apparently a young *Spizaetus occipitalis*. Plenty of *Merops erythropterus*, *Euplectes ignicolor*, &c.

Nov. 8th. Skinned birds in morning, and filed down brass cartridges to fit shot-gun. No canoe to be had in evening; so did not go out at all. Not so well, with no appetite and some fever (? in consequence). Took a strong dose of quinine, and slept better. Comet still visible in east by a little south, higher than it was at Rabba. Canoe arrived at last from Egga with stores and gin.

Nov. 9th. All right again. Packed up and soldered

spirit-specimens. Did not go out in canoe in evening, as all the people are engaged getting sticks &c. for wall of new factory. Took a walk along hills and back along top, but saw nothing. Slept very badly.

Nov. 10th. Packed away bird-skins. Greenshields shot a of *Pr*[illegible] which I pickled. In evening went down creek again below [illegible]. Lots of the two Bee-eaters close to "beach," over patch of [illegible]. Saw very few birds in creek, but shot a Fly-fly over [illegible] (? *Ardea* sp. ?), one out of several flying about top [illegible] in some bush where we landed, and a very fine Au[illegible]ly a new *Scotopelia*, in creek; also a Bat (*Epo-* near to [illegible]ttering in water, apparently bathing.

and a [illegible] Got a Siluroid from natives, about 2 feet *Buce*[illegible] small *Protopterus* ("Addo"). Skinned the cap a[illegible]ook best part of the day. In afternoon went up at W[illegible] of creek in canoe. Got a large *Epomophorus* (? *mon-* young[illegible], of which there were considerable flocks, disturbed too h[illegible] ing trees, mixed with the orange-winged species. *haru*[illegible] a *Laniarius barbarus*, *Ceryle rudis*, and a small ar[illegible]sked *Ploceus*. This species swarms all round the creeks reeds and long grass; but all the flocks consist of females [illegible] males in olive plumage, with a few males not quite in full colour (are these moulting from, or changing to, full dress?), *vide* a skin procured. Saw an *Ardetta* (*minuta*?) in full dress.

Nov. 12th. Three Ibises passed in morning. They fly like Cranes, with *outstretched* necks, and are very noisy on wing. Note, two long followed by three short, uttered in a bleating sort of way. *Balearica* says "*quack, quack,*" in a very resonant trumpeting way. In evening went up left arm of creek again. Shot a young *Saxicola* (? *rubetra*) at landing-place, and in creek a *Merops nubicus*, *Halcyon senegalensis*, a *Plotus*, and a *Phalacrocorax africanus*, of which I saw four or five in the trees. Swarms of *Merops* again; besides, saw a very fine red-white-and-blue *Halcyon*, and a large white bird (I think a Pelican), *Haliaetus vocifer*, *Gypohierax*, *Ibis hagedash*, &c.

Nov. 13th. Dissected the stomach of the *Plotus*. Just as in the first, no V-shaped "ridge," except that the proven-

tricular patches, particularly one, are rather elevated marginally. Fish (all small and transfixed) in stomach, with nematodes, though many taeniæ. Remade all cartridges. Greenshields shot a *Halcyon senegalensis* close to new factory. Saw an adult *Ardea atricollis* in rice-fields opposite. Did not go out in evening.

Nov. 14th. Went out about 6.30 on hills behind [illegible] and in towards town, but only got another Whinchat a[illegible]ain D. *Merops nubicus*, which was in numbers on two or thre[illegible]rom Saw a fine pair of a red-headed grey-backed *Falco* (though *collis*) and a flock of apparently *Foudia erythrops*, bu[illegible] a *Gla*one was in colour, and that flew. Got two fine *Malaphantor*and a Percine form from natives. In evening went [illegible]ange-creek, but only got a *Halcyon* (*dryas* ?) and a *Lacerta* [illegible] bank. latter caught in canoe. "Flogging palaver" in ev[illegible] one's Saw a single *Palæornis* in creek.

Nov. 15th. Started about 6.30 A.M. in canoe, and w[illegible]tches, left arm of creek. Unlucky; only got a Jacana and a[illegible]d did Warbler, apparently *Acrocephalus arundinaceus*. Sa[illegible]ok a *Plectropterus, Emblema rufopicta, Limnocorax,* several *Ar*[illegible]in, *purpurea, Laniarius,* an Oriole, *Ceryle gigantea,* seven you[illegible] *Nycticorax* (? *europæus*), and four *Irrisor* (apparently *Irris*[illegible] *pusillus*), &c., &c., three together, but all unfortunately ou[illegible] of shot. They fly with tail stretched out straight behind. Saw two *Balearica,* each *perched* on *top* of a tree answering each other. Greenshields got my gun "fixed" again safely. Got six half-grown examples of the Percine form. In afternoon caught a few butterflies &c. and a very fine bug—in life straw-colour, with Veronese-green spots and red sinuous line on prothorax.

Nov. 16th. Went out in morning along footpath at base of hills to near bush on creek. Got four or five new birds, including a Parrot, apparently *Pœocephalus rufiventris,* and saw more; also one or two *Acrocephalus turdoides* (in bushy part), a *Drymœca* (? new), and *Estrelda cinerea.* Also saw *Euplectes oryx* in flocks with last, *Euplectes franciscanus, Urobrachya macroura, Hyphantornis personatus, Spermestes cucullata,* &c.; all *Euplectes oryx* out of full colour,

apparently moulting, whereas many *E. franciscanus* in full plumage. Shot a ragged female, same as male, some still in yellow-and-black dress. Also got a *Crithagra chrysopygia*. Got a good-sized *Clarias* and another Siluroid, also a large-scaled barbel-like fish, from natives.

on rest 17th. Finished-off Parrot in morning; put fresh koja on tins &c. In evening went down to bush and palm-invisib where I saw many birds—*Colius*, Hornbills, King-Hippop Ibis, &c.; but all out of shot, and only got a ragged

Aug. Weaver-bird of a species new and unknown to board. black crown and broad rufous eyebrows (ptil. been The note of the *Ixos* usually is a mellow whistle *cinere* notes, the second stronger and more pronounced. feet l each ith Palm-birds' nests now quite deserted, grey Greenshields says young flown. This, taken with other sectio (*Hyphantornis personatus*), looks as if Weaver-birds bred *Psitt* wet season (*cf.* Abutschi), moult into non-breeding dress, and take to fields in flocks. Greenshields got me a nice living *Cyclanosteus* from the natives.

Nov. 18th. Down to palm-groves early. Got some good birds, three new, *Cossypha albicapilla*, *Andropadus* sp.?, and *Anthus pratensis*, another species, the doubtful Weaver, the fine *Nectarinia*, and *Criniger gularis*, and saw many others—*Pæocephalus*, *Palæornis* and *Agapornis* (both in some numbers), *Colius*, *Irrisor*, a pair of a *Musophaga*, the striolated *Halcyon* (? one at Abutschi), the rufous-fronted *Timelia*, &c., &c. The *Ibis* is, I believe, *falcinellus* after all. I saw a Coly clinging to tree-trunk (a vertical palm-stem) just like a Woodpecker, one of which, also of a species not seen before, was just above it. Both *Irrisor* and *Colius* are very wary, keeping just in front of you out of shot, and flying from one palm-crown to another. I rather thought I recognized a fourth Parrot, a *Pæocephalus* of the *meyeri* lot, but too far away to be certain of. Greenshields got me a nice Murænoid fish (about 30 inches), with very small eyes. Skinned birds all day. Greenshields went down to palms in evening, but only got an *Ixos*.

Nov. 19th. Down to palm-groves in morning. Got two

new birds (*Pyrenestes ostrinus* ♂ and two *Egialitis tricollaris*) in rice-fields, where there was also another Wader with white tail; also shot a *Drymœca* and *Agapornis*, of which there were a good many. Saw a small orange-fronted black-faced Weaver (? *Hyphantornis brachypterus*) of [illegible] unobtained species, *Pœocephalus*, a large black Hawk (*Spizaetus*), *Tragerus*, *Cossypha*, &c. &c.; no *Colius* nor *Irrisor*, and one green-*Toccus*. Greenshields got another scorpion. In ought a down to palm-groves again; got two new species—axilla? *pœcilorhynchus* and *Hyphantornis brachypterus*. [illegible]argent

Nov. 20th. Down to palm-groves early. Di[illegible] deter-shooting two *Irrisor senegalensis*, a large Bulbul of[illegible]lds and species, another *Pœocephalus*, and a *Halcyon senegalensi*[illegible]niform black-and-white Hornbill is apparently *Toccus semifa*[illegible]imson Greenshields went out and got two or three small bir[illegible] a Wader of a new species, apparently a young Red[illegible]h with Later on he got a *Halcyon rufiventris* on beach and [illegible]hing, snake. Got four fish from natives, two specimens of a large marbled grey-and-black siluroid, and two of a Percine form with dark-banded tail. Felt rather seedy all day, having had a bad night.

Nov. 21st. Much better. Got a small grass-snake from native, of a bright dark green above, paler below, a few of the scales entirely light blue, many with a small spot towards base of same colour. Also got a large-scaled abdominal carp-like fish, with yellow eyes. Comet still visible and much higher, apparently as long as height of Orion when vertical; bearing E.S.E. Took things easily rest of day, skinning Parrot and reloading cartridges. [illegible]ie

Nov. 22nd. A regular "thoke." Got no specimens [illegible]ish any kind, except two of the Murænoid fish. Went [illegible]other creek in afternoon, but got nothing. Had a shot at a [illegible]ot swimming across creek, and another at a Falcon in tree close to Katambos (the outside houses with two entrances are called "kattas").

Nov. 23rd. Down to palm-groves again. Got a Hornbill of a new species (apparently a *Toccus*, sp. nov.), two *Andropadus*, the *Passer*, and the same green *Nectarinia* as occurred

at Lukoja. Saw *Cossypha*, the grey-and-red *Tchitrea*, &c., but no *Colius* or *Irrisor*. The Ibis has red feet and reddish beak, and is apparently after all *Ibis hagedash*. Got a calabash full of small fish of five or six species, a *Phoxinus* and perhaps one or two others new. Got two large specimens of the Murænoid fish from the fishermen: it makes a storm even held in hand.

Sept. 24th. Almost a blank day, and did not go out at all. *Estreid* a few beetles &c. from box. Bought a pair of female same as a Florin and a mat from Bidda. Packed a tin and *Tchitrea* red, which took five men about two hours, and then *Ruticilla*

noon 25th. Down to palm-groves in morning. Got fields as new, and saw comparatively little except a fine *Vidua*, *Spizaetus occipitalis*. Shot a Parrot, *Nectarinia*, *Drymoipornis textor* (♂ out of colour), &c. Found four *Estrelda* for me on return, and later on got three smaller ones from same women. Heads all broken, being supposed to be very savage by natives (name *Nupi*). Went out again in evening in canoe, but got no birds. Saw two or three *Ceryle gigantea*, lots of *Merops nubicus*, &c. &c. Got some more fish from boys in evening, all small, and another specimen of Siluroid, very silvery beneath, olivaceous above. A Labyrinthicine (?) form has a series of small metallic bright blue spots along back, 2–5 in vertical series, and a similar (1–2) series on dorsal fin; a blackish spot on operculum and another on sides of body posteriorly; skin at base of scales reddish; general colour olivaceous green, paler and redder below.

Nov. 26th. Again down to palm-groves, but only shot a young *Centropus*. Missed a Hornbill, and only wounded one of two other birds, which escaped. Saw a covey of Guinea-fowls perched in high tree; the one struck got away wounded. Got another *Polypterus*, and a second specimen of one of the Labyrinthicine forms. In afternoon went out for a ride with Greenfields to Shonga town (the wharf town is called Shonga Patasi) and beyond. Got a nasty tumble, hurting badly left [illegible] and side. Very busy market-place, sur-

rounded by king's house, mosque (destroyed), &c. In garden of former are some fine date-palms (introduced), and in one of the yards I saw a Cactoid (*Euphorbia*), which is rare in this part, so far as I have seen.

Nov. 27th. Did not go out in morning. Got a *Polypterus* (the ninth) and another fish from people, and in ever*Pluvi-* of the large Siluroids and a basinful (about 20)*tus* in eight-barbed species of small size. Went down c*d* mud evening, but got nothing. Saw *Ceryle gigantea*, a*.* Got *Schizorhis*, and a single *Podica*, which got away w*hes* in it climbed up bank out of water, and rather nir*oracic*, a small tree to ten or twelve feet from ground; ver*rowded* like altogether in habit. *sonia*)

Nov. 28th. Went down creek again in morning after *Podica*, but in vain. Only shot a *Platystir*There scarlet eye-wattles and a *Totanus* of same species *pair* of skinned at Egga (iris brown; beak greyish; legs pal*-een-* flesh colour). A small scarlet *Homopteron* is comm*on* on reeds in reed-beds, and a brilliant object when flying in the sun. Refilled cartridges, labelled birds, &c. rest of day.

Nov. 29th. Down to palm-groves in morning. Did w*ell* getting three specimens of Woodpeckers (all new to m*e*), *Hirundo senegalensis*, one of the obscure *Ploceus* in goo*d* (out of colour) plumage, and an *Ægialitis*, apparentl*y* *hiaticula* (eyelids narrowly yellow; iris olive-brown; bea*k* black; legs pale orange), on beach, and a mature moulting specimen of the black-and-white *Toccus*. Saw three or fou*r* *Crithagra*, the fine *Nectarinia*, &c. Saw a family of a fi*ne* large *Cynocephalus*, apparently *C. anubis*, on border of b*ush* and in banana-clearing—large, with long tail, mane ra*ther* deep colour, and large callosities; face blackish. G*ot* small harmless snake in afternoon from a native; and i*n* afternoon went down creek, getting five birds—a *Turdu*, *Dicrurus*, *Butorides*, *Œdicnemus*, and a *Caprimulgus*, the f*ive* two in bush, the last in reed-marsh. Got two shots at big Kingfisher, and of course missed; also saw, but get, a *Cossypha* in bush. *Dicrurus* was in

fifteen, and is awfully active, incessantly in motion. Got my tenth *Polypterus* (undamaged) from fishermen in marshes. About 10 P.M., as Greenshields and I were sitting in piazza, with lamp, a snake's head appeared above low parapet-wall separating piazza from factory, and disappeared again di- *Lagonos* I saw it, and going out killed (in three shots from and *T.*)—a good deal damaging it—a fine puff-adder, 14 on tail ong. On dissection it turned out a female full of en rotten with empty stomach. Shonga cannot be con- better exhausted as regards birds, as to-day I have got or five new species, six of which I had not even seen before.

Sept. en here eight weeks, and have got or seen about after b ts and a 30th. Not out in morning, but put spirit-specimens Saw *Efr.* Got some fish from Suma (=Sheedi), a black *plectes ssum* (?), a Percine form, and a silvery Clupeoid arrive chiral and anal fins slightly tinged, with lower lobe of caudal entirely bright red (? same as got at Lukoja). In evening w t down creek, but only got a *Melierax* (has not this ne lambar powder-downs ?), beautifully shot. Had a sh at *Macrodipteryx*; of course saw, but did not get, the ne *Ceri*

Dec. 1st. Down to palm-groves, but unlucky; only got e new species, *Estrelda subflava*, a *Euplectes franciscanus* moult, and another of the doubtful *Ploceus*. Saw little se, except a flock of five *Colius* (one of which I might, if not ort-sighted, have got), *Crithagra*, *Agaporxis*, &c. Got ve fishes from natives—two Siluroids (new species: of the silvery form which has lower lobe of tail reddish, and one very heavily armoured), a *Polypterus*, and two banded-tailed Percoids. The natives have an idea that the eggs of he puff-adder (Edou-Tappa-Nupi-Arka-Yagi=Yoruba) pro- ce *Polypterus*. Got a lot of eggs of a very large Teleostean Siluroid), full of yolk (size and colour of a large white-heart Per y), with small very vascular area, pellucid above, in sh n lie well-developed and active 1½-inch embryos, with tefect black conspicuous eyes and limbs, extracted from ..erus: natives say eggs grow to twice size before hatching:

adult has smooth thick skin, of dull silvery colour; across middle of body (in transverse section) 10 inches. In afternoon got a small black snake in stable, coiled up beneath lumber. Took some photographs of beach and natives in afternoon, and afterwards went down creek, shooting a co[illegible] of *Elminia longicauda* in bush. Got a few smallwfully native boys, including a nice little *Polypterus* and 5.30. (of several sizes) of a curious suctorial-mouthed fo grows to about 18 inches. Felt feverish in evenin[illegible].30 to a wretched night, not getting any sleep after 12. *ymœca*

Dec. 2nd. Felt seedy, and did not go out in co[illegible]spoilt) all day. Got a good *Polypterus*, and in evening a [illegible]ed by cimen of the silvery Siluroid (with very long upper thing and an adult of the banded-finned Percoid. Shuma a few in for inspection a mutilated and much-contracted sk[illegible]ll on *Viverra*, apparently *V. civetta*, thickly spotted with [illegible]wers, with black head and white patch on each side; fu[illegible] long.

S. Dec. 3rd. Got two more *Polypterus* from natives, still alive when brought; neither very big. Greenshields shot a nice *Laniarius barbarus* in tree behind yard. Went d[illegible]vn creek in evening, but did not fire a shot. [illegible]ell,

Dec. 4th. Got a *Macronyx croceus* (structure of tar[illegible]), typically Oscinine and Alaudine) and a *Halcyon rufiventris* (s[illegible] in palm-groves; but saw little else particular, except a flock of six or seven *Colius*, which I "chivied" hard, but could not get within range of. A large specimen (28 inches long) of the large-scaled Ceratodoid *Osteoglossum* was brought in, but too big for pickling with the poor spirit at my disposal.

Dec. 5th. Went down to palm-groves in morning, with gun and net. Got a *Pogonias* and *Estrelda cinerea*, and saw a solitary *Colius*, but could not get up to it. Caught a few butterflies &c., and had a little sweeping amongst rushes and ferns &c. in damp parts, producing a very curious *Mantis*, wonderfully plant-like, and two or three species of stalk-eyed flies. Got two new specimens of fish from natives, a very curious horse-headed form, and two large specimens of a large-scaled Cyprinoid. In evening shot a male *Macro*

dipteryx in factory-yard, the long feathers apparently broken or shot short. Alarm of a hyæna in night (before).

Dec. 6th. Only got an *Estrelda melpoda* in morning's shooting, and saw nothing interesting except a *Hypergerus* and the *Ibis* which has very conspicuous light metallic-green dazed, s and white stripe on sides of head. In evening in a larwn other branch of creek. Saw few birds, except *Tmeliagantea* (as usual) and a lot of *Treron* and *Corythaix* factory e near fork. Got five Bats (three *Epomophorus* and at Aba o insectivorous form), and coming back got a female S. *Gyteryx* in reed-beds. Got one big and a lot (about and pa smaller *Polypteri*.

slept ti th. Went out for two hours' entomologizing in Oct , and got four specimens of *Lycæna*, two *Hesperias*, *gerus*, *Acræa*, &c. &c. in or on road to palm-groves. Got *phorus* blubbery fat *Malapterurus*-like fish (greenish grey Oct with black above, whitish beneath), a Scaroid (silvery dark-striped, like a young mullet, with red fins), a Clupeoid with red fins (?=that got at Lukoja), two specimens of Chr odontoids (silvery, one with entirely red fins and unmot ed; the other with eleven long lines, the more dorsal bigzagy, fins edged with red and larger scales), and a large all grey barbel-like fish. In evening down to palm-groves. Got a *Turdus pelios* and a second larger specimen of *Centropus*, of which I had also got (but not recognized as distinct) a oung bird.

Dec. 8th. Got one big and two small *Polypteri*, two of the black *Osteoglossum*, and two of a new fish with no ventrals, small pointed dorsal, and very long anal fins. People brought in with other hides a skin of *Hippotragus equinus* from Potashi, a town about half-a-day's steaming from Bussah. Got a large, small-scaled, carp-like fish, of a new species, in evening from Bishop. Went down creek in afternoon, as far (? bush at fork. Got a *Xerus* and three birds—female of *Platystira melanoptera*, *Hypergerus* (several seen; its note a wiesh one, repeated several times), and a new *Drymœca*-like perm. Saw and wounded a large grey monkey, apparently *Cercocebus albigena* or *C. fuliginosus*, also a *Nycticorax*; but both escaped.

Dec. 9th. Got three *Polypteri* and two other fishes, the silvery Clupeoid and the Scaroid, which superficially exactly resemble one another, differing in teeth, form of head, anal fin, and coloration of ventrals. In evening went down creek, but got little, only an *Epomophorus* and an *Estrelda rubri-picta*, both damaged.

Dec. 10th. Down to palm-groves &c. and got five. Re- two being new, a small *Barbatula* (iris brown, with orange-yellow frontal spot, light yellow-sulphury uro better. and citron-yellow edgings to lesser wing-coverts; ♂), but coverts and most proximal remiges bordered with of an crown, nape, and neck flammulated with white) and arma's *Drymœca*. All flocks of *Euplectes* and of *Ploceus*, sp. ing in now in full winter plumage. Lots of *Pratincola* abou the evening went down creek; got a female *Ploceus brach* and and male *Macrodipteryx*. Saw also the male of the 7 I had previously got female of; it is white, with glossy dose head and two long rectrices. Saw also some females of it, *Laniarius*, &c.

Dec. 11th. Down to usual shooting-grounds in morning. Got two females and one male of *Ploceus brachypterus* and a small *Drymœca*. Saw a single *Scopus* (flight light, e. sailing, with no heavy flapping as in Herons), and wounded us or killed, but could not find, what was apparently an *Indi-cator*. In evening, down creek, got the male *Tchitrea*; also a *Scotornis climacurus* on way back. Rather feverish again.

Dec. 12th. Did not go out in morning, but took a "thoke." Filled a tin full of specimens. In evening down creek. Saw a *Scopus*, and shot one of the large species of *Centropus*. Stores from Egga arrived. Got a few fishes, including two specimens of a new barbel-like fish with a red spot on tips of scales.

Dec. 13th. Got about eighteen fishes in morning, of six or seven species, including one new one, a barbel-like form with very large scales. Did not shoot in morning. Got a young *Ibis æthiopicus* in evening in rice-fields opposite factory, one of a number; these birds have appeared quite commonly during the last few days. Saw several *Scopus* in company

with these Ibises and Cow-birds; and there were also a fine pair of *Xenorhynchus* stalking about in same fields, now with water let off and rice about a foot high. Down creek in evening, and got a new *Phylloscopus* in high bush. Saw a pair of *Ciconia episcopus* flying over creek.

space [illegible] 14th. Down to palms in morning; got a *Campe-*iris bri(♀), one of the small *Centropus*, and three others. Nov number of what was nearly certainly, from size, colour, mornin te (which is particularly whirring), *Ploceus textor*, *Plavia* ating the small palms there. Greenshields tells me About o not return to beach till about March, *i. e.* beginning much s. All those I saw to-day were in female plumage, and *Tricho* ng time I have seen no full-plumaged males. Comet and a sible from about 10 till early morning, much more dim an *O* formerly; movement from E. to W. Got a number of *Mero* fishes in afternoon, chiefly a perch-like form; amongst slowly t curious, spotted, small Siluroid, with the two inferior pairs of tentacles *branched*.

Dec. 15th. Went into rice-fields in morning, but was nearly murdered by mosquitoes and had to come back soon. S t in rice-fields a large *Centropus*, an *Acrocephalus turdoides*, and a *Limnocorax flavirostris*. Greenshields afterwards dishot an *Ibis*; and we saw *Scopus* and a *Ciconia episcopus*, each singly, in same flock. In evening down creek and got a *Nycticorax europæus* in adult dress, but with no long crest-feathers. Saw, going down creek, an antelope (apparently a male *Tragelaphus*), a Gull (? *Rissa*), and a white-winged pale rufous Heron (? *Ardea comata*).

Dec. 16th. Rather seedy, with a headache. Went down to palms, and got at last a big *Ceryle*; also a *Macronyx* and a small *Drymœca*. Did not go out in evening.

Dec. 17th. Started about 9 with Greenshields in canoe for an expedition down creek into big river (Edon-Tappa-as-Quorra-Gambari-Oiya-Yagi), getting back about 7.30. In lower part of creek came across *Merops bullocki* in some numbers, settling in high trees on bank and flying off in regular Bee-eater style; also shot a *Ceryle gigantea* (? female or young, very different from others) and one of the *Lobiva-*

nellus which is common here and turns out to be *albiceps*. Went up river towards Rabba for some way, and saw plenty of birds on banks—about twenty *Balearica* on one bank, with some Ibises (*I. æthiopica*), a pair of *Chenalopex*, and three Spoonbills, one of which I shot, Greenshields getting one of the Geese. Also saw an Osprey, one or two *Haliaet*[illegible] *Ardea* plenty of *Gypohierax*. Saw a couple of monkeys (? *C*[illegible]-sized *thecus cynosurus* or *C. griseoviridis*) in bush, and migh[illegible] had a fine shot at them, but rifle not loaded. Also s[illegible]vening shot at a single Hippopotamus. Feverish all day. *cifrons*

Dec. 18th. Slept till 10, and felt much better. "Gu[illegible] lower brought in two bush-fowl, chickens, just hatched. Th[illegible]*lerops*, apparently a *Turnix* in first plumage. Got a second [illegible] and a *nosteus*; it has yellow iris. The *Platalea* (a male) has *Ceryle* pipe thoracically dilated, depressed, of peculiar structur[illegible] saw convoluted subcutaneously, the loop coming halfway u[illegible] nearly. Greenshields shot a *Balearica* opposite factor[illegible] down afternoon down creek. Got an immature Squacco [illegible]eron and a nice *Scopus*, perched on a low branch of tree over-hanging water; it vomited up a number of small fishes when shot. Saw the *Rissa* (?) again in reed-beds. Wretch[illegible] night.

Dec. 19th. Greenshields shot a second *Scopus* just outside in morning. Filled up a tin with spirit-specimens. Felt seedy all day. Went down creek in afternoon, and shot a *Cossypha verticalis* in bush, and saw others. They hop about ground and low bushes and trees, and are very shy; their note a harsh whistle. A sharp attack of fever came on in canoe; so got home early and lay up. No dinner. Got two more *Cyclanosteus* from a woman; smaller than others.

Dec. 20th. Much better this morning. Got another *Cyclanosteus* and five other fishes—two *Malapterurus* and three specimens of a small-scaled barbel. Went down creek in evening and saw two or three *Rissa* (?) near wharf, and shot a small *Phylloscopus* (greenish, with yellow soles), which got ruined in rain. About 5.30 a strong tornado-breeze, with lightning and heavy rain, came on; and we got a good wetting. It has been very cool and cloudy for last day or

two. This is first rain for about two months, except one or two very slight showers. It rained again in night, sleepless for me.

Dec. 21st. Got a large Siluroid, with big rounded adipose fin; I think new to me. Dull and cloudy all day, and in afternoon it came on to rain about 5, and rained afterwards Crow, [illegible] night. Did not go out all day.

in cane [illegible]. Not out in morning. Got a few fishes, but grass-f[illegible] new. Cloudy and dull all day, but no rain; cleared catcher[illegible]le before sunset. Went about 5 down creek, and of high[illegible] young black Tern (new) and a second *Cossypha verti-nopho[illegible]* a tree the other side of creek. Saw the white male again, with female *Laniarius* and *Dicrurus*, &c.

Nov[illegible] 23rd. Down to usual shooting-grounds, but saw and long, [illegible] nothing new. *Ploceus brachypterus* is now abundant; Owl, [illegible] feeding on corn (and palms?). Got another of the left ar[illegible] œcine form, in which sexes differ in colour of soft *strosi*[illegible] parts, a *Macronyx* (perched in a biggish tree), one of the *Zosterops*-like form, and a *Hypergerus*. In evening down creek; got two males of the *Tchitrea* (one in perfect, one in immature dress) and a *Scopus*.

Dec. 24th. Down to usual shooting-grounds in morning, and then turned off to right over hills, where grass has been burnt, and so back to Shonga. Saw several (and shot one) *Hoplopterus spinosus*, *Toccus pœcilorhynchus*, a *Dicrurus*, *Macrodipteryx*, and two or three of a *Pterocles* in sandy places on hills, the *Zosterops*, &c. A pair of *Xenorhynchus* again in rice-fields opposite, stalking about in afternoon.

Dec. 25th. Christmas Day. Out shooting in morning, but got little, though I saw several nice things—an Oriole, grey *Campephaga* (?), a single *Pterocles*, *Toccus pœcilorhynchus* (several), &c. &c. A small flock of *Schizorhis* in palm-groves; they have a loud call-note, rapidly repeated, "*cow-cow-cow*" &c., and when sitting sometimes raise tail till quite vertical over body. Bag: one *Turdus pelios* (shot hopping on ground amongst burnt bush) and one *Drymœca*. Got a *Diodon* (or *Tetrodon*) from a native woman—ground-colour olive-black; chin and belly nearly whitish, shading

off above into yellow; several long stripes pale yellow dorsally, getting deeper ventrally, and below level of caudal fin getting chrome-yellow of flanks and vent, round latter of which the colour is brightest; dorsal fin yellowish; caudal fin olive-green for basal half, rest bright yellow; pupil yellow, with a red ring round it. This specimen was rather dry when br*Hyper*-the colours are much brighter where skin has been kep*t*ly one by being covered by the fins. In its stomach were rem*a*vening a small *Anodon* or *Unio*, which also forms food for the *C**Toccus osteus*. The fish is well known to natives, and it is said common. They do not "chop" it, but make drums of its*l* well, Greenshields caught, almost uninjured, a small snake in fa*a* new yard, and brought it in alive; apparently allied to *Tr**s*. The *notus*. In evening down creek; got a new Flycatcher *ciatus*. second specimen of Tern with reddish beak, perched on*s* and grass amongst reeds. Saw also a *Musophaga violacea* i*n* shank. trees, but could not get a shot at it; a second specimen *a* small big *Scotopelia*, which I missed twice; and a third time got a missfire at several *Platystira*, a couple of female *Tchitrea*, *Scopus*, &c. &c.

Dec. 26th. Boxing Day. Intended to have gone out photographing in morning; but the fall was out of order, and it took some time to set it right. Got a couple of small fishes in afternoon—one new, one of the red-spotted barbel. Went down creek in evening, but got nothing and saw little—two or three *Laniarius*, a *Malaconotus*, &c. The canoe-men saw and caught for me a chamæleon which was on a small tree overhanging river; it is apparently *Chamæleon senegalensis*. Saw also a snake swimming across creek; but it just escaped; apparently a *Tropidonotus* with a row of dark brown spots down back.

Dec. 27th. Seedy from diarrhœa in morning and did not go out, having slept badly. Went down second branch of creek in evening, but got nothing, not even firing my gun. Got two fishes, one new, a large Gadoid-like Acanthopteron, which Greenshields says is the species that grows to be the biggest fish in this river.

Dec. 28th. Still ill, having had another wretched night.

Stayed in house all day. Greenshields shot a second *Lanius rutilans* for me from bush opposite factory.

Dec. 29th. Not much better, the diarrhœa (or dysentery) continuing. Women brought in a small land-tortoise, with a movable carapace (*Cinixys*). In factory all day. Greenshields shot me a small *Centropus* in field opposite.

noise w[illegible]c. 30th. Still ill. Greenshields got me a *Limnocorax*; Nov. they brought in a pretty lineated Tropidonotine snake, Only go[illegible]ly at all damaged.

jujus free. 31st. In factory all day; perhaps a little better. got it s[illegible]nshields in morning shot a young *Anastomus lamelligerus* it leake[illegible] of roof of house. He says they are not uncommon Nov. (N.B.—Notice the peculiar lamellæ at the apex of nothing[illegible]) pair of[illegible] *Hyphan*[illegible] 1883. *Polyptc*[illegible]an. 1st. Much the same, with no decided change. Got a new Scaroid fish and a very pretty small Colubrine snake.

Jan. 2nd. Still seedy.

Jan. 3rd. A small snake was caught in factory during [illegible] night.

Jan. 4th. Still seedy, getting better only slowly, with want of appetite and weakness. Greenshields shot a couple of Waders from two separate flocks in rice-field; they are both new to me. Canoe-men brought in a small *Monitor* (? *ocellatus*).

Jan. 5th and 6th. Still ill; feverish, with no sleep or appetite. Saturday afternoon got a big packet of letters from home; the last about November 8th. It is about 14 *weeks* since the last lot reached Egga.

Jan. 7th, 8th, 9th, and 10th. Still very ill; in great fever.

[*In another hand.*]

Jan. 11th. In high fever.

Jan. 12th and 13th. In very high fever, and delirious night and day.

S. Jan. 14th. W. A. F. died at 8.40 A.M.

XL.—*A List of the Birds collected by the late Mr. W. A. Forbes in the Niger Region.* By Captain G. E. Shelley, F.Z.S.

(Plate XIV.)

Our late fellow-worker Mr. W. A. Forbes, during his [illegible]ing one dition to the unhealthy region of the Niger, where he[illegible] of an cumbed to the deadly effects of the climate, made a valu[illegible]eek in collection of birds, comprising examples of over one hun[illegible]pair of species. Many of them are extremely rare, and severa[illegible]unded; them hitherto only known from North-east Africa, as[illegible]ably up instance, *Muscicapa aquatica*, Heugl., *Hyphantornis atr[illegible]* Duck-laris, Heugl., *Lagonosticta melanogastra*, Heugl., and *L[illegible]* gricollis, Heugl. This would indicate apparently that t[illegible]to look is no obstacle to the transit of birds between the u[illegible]a with waters of the White Nile and those of the Niger. [illegible]as one

The following list contains an enumeration of the spe[illegible] dead-mens collected by Mr. Forbes, and their localities, toge[illegible]her with the collector's notes where there are any on the labels.

1. Turdus pelios.

Turdus pelios, Bp. Consp. Gen. Av. i. 1850, p. 273; Hartl. Orn. W.Afr. p. 75; Seebohm, Cat. B. Brit. Mus. v. p. 230.

a. ♂, Shonga, 25th December: iris brown; bill orange-yellow; legs dirty greenish yellow. *b*. ♂, Shonga: iris and bill brown; legs brownish yellow.

2. Cossypha albicapilla.

Turdus albicapillus, Vieill. Nouv. Dict. xx. 1819, p. 254.

Cossypha albicapillus, Hartl. Orn. W.Afr. p. 77.

a. ♂, Shonga: iris crimson; bill and legs black.

3. Cossypha verticalis.

Petrocincla albocapilla, Swains. (nec Vieill.), B. W. Afr. i. 1837, p. 284, pl. 32.

Cossypha verticalis, Hartl. Beitr. zur Orn. W.Afr. in Abh. Geb. Nat. Hamburg, ii. pt. 2, 1852, p. 23; id. J. f. O. 1854, p. 22; id. Orn. W.Afr. p. 77.

a. ♂, Shonga: iris dark brown; bill black; legs pinkish

horn-colour. *b.* ♂, Shonga: iris brown; bill black; feet dark brownish grey.

6. Crateropus reinwardti.

Crateropus reinwardti, Swains. Zool. Ill. 2nd ser. ii. pl. 80.

Craterópus reinwardtii, Hartl. Orn. W.Afr. p. 78.

16-hore ♀, Shonga: iris yellowish white; bill black; legs horn-

inches l

eggs, b Hypergerus atriceps.

sidered *oho atriceps*, Less. Tr. d'Orn. 1831, p. 646.

eight ne *pergus atriceps*, Hartl. Orn. W.Afr. p. 80.

Have b ♀, *b.* ♀, Shonga: iris brown or chestnut; bill black; 105 bir pale flesh-colour.

Nov

in orde Pratincola rubetra.

Oste *Motacilla rubetra*, Linn. S. N. i. 1766, p. 334.

with *Pratincola rubetra*, Hartl. Orn. W.Afr. p. 67; Sharpe, Cat. B. Brit. Mus. iv. p. 179.

a, *b*. Shonga.

7. Pentholæa albifrons.

Saxicola albifrons, Rüpp. Neue Wirb. Vög. 1835–40, p. 78; id. Syst. Uebers. p. 40, pl. 17.

Saxicola frontalis, Swains. B. W. Afr. ii. 1837, p. 46.

Pentholæa frontalis, Cab. Mus. Hein. i. p. 40.

Thamnobia frontalis, Hartl. Orn. W.Afr. p. 68.

Pentholæa albifrons, Heugl. Orn. N.O.-Afr. p. 364, App. p. 101.

a. ♂, Lukoja: iris brown. *b*. ♀, Loko: iris brown.

On comparing the male with two other specimens in my own collection, it would appear that the white forehead (only met with in the male) varies in extent, probably according to age.

Although I follow Von Heuglin and Finsch, it does not appear to me certain that Rüppell's name has priority over that given by Swainson.

8. Phylloscopus trochilus.

Motacilla trochilus, Linn. S. N. i. 1766, p. 338.

Phylloscopus trochilus, Dresser, B. Eur. ii. p. 491, pl. 76; Seebohm, Cat. B. Brit. Mus. v. p. 56.

a. ♂, Shonga, 24th December: upper mandible horn-colour; lower mandible yellowish; legs horn-colour, soles yellow.

9. Hypolais opaca.

"*Hypolais opaca* (Licht.)," Cab. Mus. Hein. i. p. 36; Hartl. Orn. W.Afr. p. 60; Dresser, B. Eur. p. 531, pl. 82. fig. 1; Seebohm, Cat. B. Brit. Mus. v. p.

a. ♂, Shonga, December: upper mandible horn-col lower mandible yellowish; legs greenish grey.

Although I consider *H. opaca* to be only a western ra *H. pallida*, I find the characters assigned for the separ of these two forms are recognizable on comparing the a specimen with a male of *H. pallida* in my own collection f Lado in N.E. Africa.

10. Acrocephalus turdoides.

Acrocephalus arundinaceus, Dresser, B. Eur. ii. p. 579, pl. 88.

Acrocephalus turdoides, Seebohm, Cat. B. Brit. Mus. v. p. 95; List Brit. B. 1883, p. 19.

a. ♂, Shonga, November: iris olive; bill horn-colour, fading into flesh-colour towards the base of the lower mandible; feet bluish grey. *b*. ♂, Shonga, December: iris olive-brown.

This species is new to the Niger district, having, so far as I know, only been previously collected in W. Africa on the Congo by Messrs. Lucan and Petit.

11. Melocichla mentalis.

Drymoica mentalis, Fraser, P. Z. S. 1843, p. 16.

Melocichla mentalis, Hartl. Orn. W.Afr. p. 58.

a. ♂, Shonga: iris brown, greyish round pupil; bill very dark horn-colour, tip of mandible yellowish; legs light grey. *b*. ♀, Shonga: iris pale creamy yellow; upper mandible dark horn-colour; lower one pale flesh-colour; legs livid flesh-colour. *c*. ♀, Lukoja: iris brownish yellow; bill pale bluish;

upper mandible darker; feet bluish flesh-colour. *d*, not labelled.

12. Prinia mystacea.

Prinia mistacea, Rüpp. Neue Wirb. Vög. 1835–40, p. 110.
Drymoica melanorhyncha, Hartl. Orn. W.Afr. p. 56.
Prinia mystacea, Sharpe, Cat. B. Brit. Mus. vii. p. 191.

a, ♂, Lukoja; *b*, ♀, Loko: iris yellow; bill black; feet red; nails grey.

13. Cisticola cinerascens.

Macrodiymœca cinerascens, Heugl. J. f. O. 1867, p. 296.
Cisticola cinerascens, Sharpe, Cat. B. Brit. Mus. vii. p. 9.

a, ♂, Shonga: iris light chestnut; upper mandible horn-colour, lower one bluish grey; feet light red, claws grey.

14. Cisticola erythrops.

Drymœca erythrops, Hartl. Orn. W.Afr. 1857, p. 58.
Cisticola erythrops, Sharpe, Cat. B. Brit. Mus. vii. p. 250.

a, ♂, Lukoja: iris ochreous yellow; legs reddish flesh-colour.

15. Cisticola rufa.

Drymoica rufa, Fraser, P. Z. S. 1843, p. 17.
Drymoica brachyptera, Sharpe, Ibis, 1870, p. 476.
Cisticola rufa, Sharpe, Cat. B. Brit. Mus. vii. p. 252.

a, ♂, Shonga: iris olive-brown; upper mandible horn-colour; lower one and legs flesh-colour. *b*, Shonga.

a is an adult in winter plumage, *b* is an immature bird.

16. Cisticola strangei.

Drymoica strangei, Fraser, P. Z. S. 1843, p. 16.
Drymoica fortirostris, Hartl. Orn. W.Afr. p. 56.
Cisticola strangei, Sharpe, Cat. B. Brit. Mus. vii. p. 276.

a, ♂, *b*, ♂, Shonga: iris brownish yellow; upper mandible horn-colour, lower one very pale flesh-colour; legs flesh-colour.

This is the W.-African representative of *C. natalensis*, Smith, of which it is only a small race.

17. Cisticola lugubris.

Sylvia lugubris, Rüpp. Neue Wirb. Vög. 1834-40, p. 111.
Drymœca nævia, Hartl. Orn. W.Afr. p. 56.
Cisticola lugubris, Sharpe, Cat. B. Brit. Mus. vii. p. 280.

a. ♂, *b*. ♂, Shonga: iris yellowish brown; upper mandible horn-colour, lower one flesh-colour; feet flesh-colour. *c*, Shonga: iris brownish yellow; bill horn-colour; feet light red. *d*. ♂, Egga: iris brown; bright yellow. *e*. ♂, *f*. ♀, Lukoja.

a is in immature plumage, the others are adult.

18. Camaroptera brevicaudata.

Sylvia brevicaudata, Rüpp. Atlas, 1826, p. 53, pl. 53.
Camaroptera brevicaudata, Hartl. Orn. W.Afr. p. 62.

a. ♂, Shonga: iris orange-brown; bill horn-colour; light red.

19. Dryodromas caniceps.

Camaroptera caniceps, Cass. Pr. Philad. Acad. 1859, p. 38.
Dryodromas caniceps, Finsch & Hartl. Vög. Ost-Afr. p. 240; Sharpe & Bouvier, Bull. Soc. Zool. France, 1876, p. 306.

a. ♂, Shonga: iris yellowish brown, yellower round pupil; bill dark brown; feet light red.

This is the most northern limit known for this species, which ranges from the Congo to the Niger. The specimen agrees well with Mr. Cassin's description, *l. c.*

20. Eremomela pusilla.

Eremomela pusilla, Hartl. Orn. W.Afr. p. 59.

a. ♀, Lukoja: iris brown; upper mandible horn-colour, lower one yellowish; legs ochreous. *b*, Lukoja.

21. Motacilla vidua.

Motacilla vidua, Sund. Kongl. Vetensk. Ak. Handl. 1850, p. 128.

a. ♂, Lukoja: iris brown. *b*, Rabba (*Greenshields*).

22. Motacilla flava.

Motacilla flava, Linn. S. N. i. 1766, p. 331; Dresser, B. Eur. iii. p. 261, pl. 129.

a, ♂, Shonga: iris brown; bill and feet blackish. *b*, Shonga, December. *c*, Shonga.

None of these specimens are in quite full plumage; but they all have the white eyebrow of the typical race.

ANTHUS TRIVIALIS.

Alauda trivialis, Linn. S. N. i. 1766, p. 288.

Anthus trivialis, Dresser, B. Eur. iii. p. 309, pl. 132. fig. 1.

Shonga, November: iris olive-brown; upper mandible [illegible] colour, lower mandible flesh-colour; feet pale flesh-

ANTHUS PYRRHONOTUS.

Anthus pyrrhonota, Vieill. Nouv. Dict. i. 1816, p. 361.

Anthus gouldi, Hartl. Orn. W.Afr. p. 73.

[illegible]ding, Shonga: iris brown; bill yellow; upper [illegible]orn-colour; legs light red.

MACRONYX CROCEUS.

Alauda crocea, Vieill. Nouv. Dict. i. 1816, p. 365.

Macronyx croceus, Hartl. Orn. W.Afr. p. 73.

a, ♂. *b*, ♀, Shonga: iris brown; upper mandible dark horn-colour, lower mandible bluish grey; legs ochreous.

26. CRINIGER BARBATUS.

Trichophorus barbatus, Temm. Pl. Col. pl. 88 (1824); Hartl. Orn. W.Afr. p. 82.

Criniger barbatus, Sharpe, Cat. B. Brit. Mus. vi. p. 82.

a. ♀, *b*. ♀, Shonga: iris ochraceous.

27. XENOCICHLA SCANDENS.

Phyllastrephus scandens, Swains. B. W. Afr. i. 1837, p. 270, pl. 30; Hartl. Orn. W.Afr. p. 89.

Xenocichla scandens, Sharpe, Cat. B. Brit. Mus. vi. p. 102.

a. ♂, Shonga: iris brown; bill and feet bluish grey; upper mandible darker; claws flesh-colour.

This is the most southern limit of this species; formerly it was only known to range from Senegambia to the Gold Coast.

28. ANDROPADUS VIRENS.

Andropadus virens, Cass. Pr. Phil. Acad. 1857, p. 34;

a. ♂, Shonga: iris brown; bill and feet dark horn-colour. *b*. ♀, Shonga.

29. Pycnonotus barbatus.

Turdus barbatus, Desfont. Mém. de l'Ac. Roy. Sciences, 1787, p. 50, pl. 13.

Ixos ashanteus et *I. inornatus*, Hartl. Orn. W.Afr. p.

Pycnonotus barbatus, Dresser, B. Eur. iii. p. 353, pl.

Sharpe, Cat. B. vi. p. 146.

a. ♂, Shonga; *b*. ♂, Loko: iris and eye-ring brow

♂, Lukoja: iris brown.

30. Dicrurus ludwigi.

Dicrurus ludwigi, "Smith, Proc. S. Afr. Instit. I

fide Smith, Ill. Zool. S. Afr. pl. 34; Sharpe, Cat. B.

Mus.

a. ♀, Shonga: iris bright red; bill and legs black.

The present bird is certainly identical with my specim

D. ludwigi from Natal; and I much doubt whether *Dic*

atripennis, Swains. (B. W. Afr. i. 1837, p. 256, pl. 29), is distinct from the *D. ludwigi*, Smith, 1834.

31. Campophaga phœnicea.

Ampelis phœnicea, Lath. Ind. Orn. i. 1790, p. 367.

Campophaga phœnicea, Hartl. Orn. W.Afr. p. 98; Sharpe, Cat. B. Brit. Mus. iv. p. 59.

a. ♀, Shonga: iris brown; bill blackish, fading into flesh-colour towards the base; legs black.

32. Lanius badius.

Lanius badius, Hartl. J. f. O. 1854, p. 100, Gold Coast.

Lanius rufus, Hartl. Orn. W.Afr. p. 102, pt. *L. badius*.

Lanius auriculatus, Dresser, B. Eur. iii. p. 407, pt., Gold Coast.

a. ♂, Shonga, December: iris brown; bill bluish black, dull flesh-colour towards the base; feet black. *b*. ♂, Shonga; iris brown; bill bluish flesh-colour; culmen and apex darker; legs blackish.

These specimens agree perfectly with two others in m

own collection, from the Gold Coast, in having no white at

the base of the primaries. The absence of a white patch on the primaries appears to me the only character by which *L. badius* can be separated from the European Woodchat Shrike, *L. pomeranus*; but this character is a very striking one.

[illegible]

LANIARIUS BARBARUS.

Lanius barbarus, Linn. S. N. i. p. 137 (1766).

Laniarius barbarus, Hartl. Orn. W.Afr. p. 107.

[illegible] ♀, Shonga: iris brown; bill bluish black; legs bluish [illegible] *b*, not labelled.

[illegible]

DRYOSCOPUS GAMBENSIS.

Lanius gambensis, Licht. Verz. Doubl. 1823, p. 48.

Dryoscopus gambensis, Hartl. Orn. W.Afr. p. 110.

[illegible] ♂, Lukoja: iris orange-yellow.

[illegible]

PRIONOPS PLUMATUS.

Lanius plumatus, Shaw, Gen. Zool. vii. 1809, p. 292.

Prionops plumatus, Hartl. Orn. W.Afr. p. 107; Sharpe, Cat. B. Brit. Mus. iii. p. 320.

a. Rabba (*Greenshields*).

This specimen agrees well with one in my own collection from the Gambia.

36. BRADYORNIS PALLIDUS.

Muscicapa pallida, Von Müll. Naum. i. pt. 4, 1851, p. 28.

Bradyornis pallidus, Sharpe, Cat. B. Brit. Mus. iv. p. 310.

Bradyornis modestus, Shelley, Ibis, 1873, p. 140.

a. ♂, Loko. This bird is in immature plumage: it agrees perfectly with a specimen in my own collection from the White Nile (*Emin Bey*).

37. PACHYPRORA SENEGALENSIS.

Muscicapa senegalensis, Linn. S. N. i. 1766, p. 327.

Platystira senegalensis, Hartl. Orn. W.Afr. p. 93.

Batis senegalensis*, Sharpe, Cat. B. Brit. Mus. iv. p. 134.

a. ♂, Lukoja: iris bright yellow.

* *Batis* has been previously used in botany.

38. Platystira cyanea.

Muscicapa cyanea, P. L. S. Müll. Syst. Nat. Suppl. 1766, p. 170.

Platystira melanoptera, Hartl. Orn. W.Afr. pp. 92, 272.

Platystira cyanea, Sharpe, Cat. B. Brit. Mus. iv. p. 145.

a, Shonga: iris bluish grey, with very narrow silvery ...ght; round pupil; eyelids black; fleshy wattle vermilion; ... moist black; feet dark grey. This is an adult male.

b. ♀, Shonga: iris blue-grey, with silver ring round p... ...ins of wattles scarlet (externally only), internally parchment ... to be bill black; legs dark grey. ...skins.

39. Muscicapa aquatica. ...ctory-

Muscicapa aquatica, Heugl. J. f. O. 1864, p. 256; Sh... ...pido- Cat. B. Brit. Mus. iv. p. 154. ...nd a

a. ♂, Egga: iris brown. Total length 5·5 inches, cu... ...high 0·55, wing 2·7, tail 2·2, tarsus 0·55. ...n big

b. ♂, Shonga. Total length 5·2 inches, culmen 0·45, ...of the 2·7, tail 2·2, tarsus 0·55.

This species has been rarely obtained, possibly owing to its close resemblance to *M. grisola*, from which it may be most readily distinguished by the colouring of the flanks, crop, and sides of the neck being duller and of a more ashy shade, with no rufous tint, and no inclination in the colour to form stripes; the under tail-coverts are pale ashy brown, not white. The upper parts are duller, slightly darker, and more ashy, and the crown nearly uniform; the wings are more uniform, the pale edges to the wing-coverts and secondaries being almost obsolete.

40. Hyliota flavigastra.

Hyliota flavigastra, Swains. 1837, Class. B. ii. p. 263; id. B. W. Afr. ii. p. 47; Hartl. Orn. W.Afr. p. 97; Sharpe, Cat. B. Brit. Mus. iv. p. 248.

a. ♂ adult, Loko, 30th August: iris brown; bill bluish grey; upper mandible blackish; legs grey. *b*, immature, Loko.

41. Terpsiphone cristata.

Muscicapa cristata, Gm. S. N. 1788, p. 938.

ristatus, Sharpe, Cat. B. Brit. Mus. iv. p. 354.
nga: iris dark brown; eyelids caruneulated
lue; bill and feet greyish blue. *b.* ♂ adult,
brown; eyelids violet-blue; bill violet-blue,
ish towards the tip; feet violet-blue. *c.* ♂ immature,
ga: soft parts as above. *d.* ♀, Shonga: iris brown;
horn-colour, paler on the lower mandible; feet bluish

. Elminia longicauda.
yiagra longicauda, Swains. Monogr. Flyc. in Nat. Libr.
38, p. 210, pl. 25.
minia longicauda, Hartl. Orn. W.Afr. p. 93; Sharpe,
B. Brit. Mus. iv. p. 363.
♂, Shonga: iris brown; bill and feet black.

. Hirundo æthiopica.
rundo æthiopica, Blanf. Ann. Nat. Hist. iv. 1869, p. 329;
pe, P.Z.S. 1870, p. 309; Blanf. Geol. & Zool. Abyss.
47, pl. 2.
a. ♂, Shonga. *b*, Lukoja.
New to W. Africa.

44. Hirundo domicella.
Hirundo melanocrissus, Hartl. (nec Rüpp.), Orn. W.Afr. p. 27.
Hirundo domicella, Hartl. & Finsch, Vög. Ost-Afr. 1870, p. 142; Sharpe, P.Z.S. 1870, p. 315.
a. ♂, *b.* ♀, Shonga: iris brown.
This form is scarcely more than a small W.-African race of *H. melanocrissa* (Rüpp.).

45. Nectarinia pulchella.
Certhia pulchella, Linn. S. N. i. 1766, p. 187.
Nectarinia pulchella, Hartl. Orn. W.Afr. p. 52; Shelley, Monogr. Sun-birds, p. 9, pl. 4.
a, Lukoja, August 1882. *b, c*, Rabba (*Greenshields*). All these are adult males in full plumage.

46. Cinnyris cupreus.
Certhia cuprea, Shaw, Gen. Zool. vii. 1812, p. 201.

Nectarinia cuprea, Hartl. Orn. W.Afr. p.
Cinnyris cupreus, Shelley, Mongr. Sun-bi
a. ♂, Lukoja; *b*, Shonga; *c*, not labell
are all males in full plumage.

47. Cinnyris splendidus.

Certhia splendida, Shaw, Gen. Zool. viii. 1812, p. 19
Nectarinia splendida, Hartl. Orn. W.Afr. p. 46.
Cinnyris splendidus, Shelley, Monogr. Sun-birds, p.
pl. 62.
a. ♂, Lukoja; *b*. ♂, Shonga. Both are males in
plumage.

48. Cinnyris venustus.

Certhia venusta, Shaw, Nat. Misc. x. 1799, pl. 369.
Nectarinia venusta, Hartl. Orn. W.Afr. p. 48.
Cinnyris venustus, Shelley, Monogr. Sun-birds, p.
pl. 74. figs. 1, 3.
a, *b*, Lukoja; *c*, *d*, Shonga. These are all males in
plumage; those from Lukoja have the bill very slig
smaller, and the breast and under tail-coverts brighter yello
but cannot, I think, be separated specifically.

49. Anthreptes hypodila.

Nectarinia hypodilos, Jerd. Contr. Orn. 1851, p. 153;
Hartl. Orn. W.Afr. p. 52.
Nectarinia subcollaris, Hartl. Orn. W.Afr. p. 52.
Anthodiæta hypodila, Shelley, Monogr. Sun-birds, p. 345.
Anthreptes hypodila, Shelley, tom. cit. pl. iii. figs. 1, 2,
p. xlviii.
a. ♂, Onitschi.

50. Passer occidentalis.

Pyrgita simplex, Swains. (nec Licht.), B. W. Afr. i. 1837,
p. 208.
Passer simplex, Hartl. Orn. W.Afr. p. 150.
Passer swainsoni, pt., Hartl. & Finsch, Vög. Ost-Afr.
p. 450.
a, not labelled.
The name *Passer simplex*, Swains., cannot be employed for

this bird, because *Fringilla simplex*, Licht. (Verz. Doubl. 1823, p. 24), is a different species; therefore the W.-African form, if it is to be kept separate from *P. diffusus* (Smith), requires a name; and I here propose for it *Passer occidentalis*, on account of its being the western representative of this little sheep.

[illegible] Africa there have generally been recognized as distinct and [illegible] three closely allied forms of Sparrows:—

[illegible] *P. diffusus*, Smith, Rep. Exp. Expl. Centr. Afr. 1836, [illegible]

[illegible] *P. simplex*, Swains. (nec Licht. 1823), B. W. Afr. i. [illegible] p. 208.

[illegible] *P. swainsoni*, Rüpp. Neue Wirb. Vög. 1835–40, p. 94, [illegible]. 2.

[illegible]on, as stated in his work, named the W.-African [illegible] *simplex* on the authority of Rüppell; therefore it [illegible]ears almost certain that *P. swainsoni*, Rüpp., was published subsequently. For the very obvious reason that *P. diffusus*, Smith, was published the year prior to *P. simplex*, Swains., that name must be the oldest of the three. Therefore, should these three forms be united, as Drs. Hartlaub and Finsch propose (*l. c.*), as races of one species, then *Passer diffusus* (Smith) should be the name adopted for them collectively; and this appears to me to be the correct view to take.

51. Crithagra chrysopyga.

Crithagra chrysopyga, Swains. B. W. Afr. i. 1837, p. 206, pl. 17; Hartl. Orn. W.Afr. p. 154.

a, not labelled.

52. Fringillaria septemstriata.

Emberiza septemstriata, Rüpp. Neue Wirb. 1835–40, p. 86, pl. 30. fig. 2.

Fringillaria septemstriata, Hartl. Orn. W.Afr. 1857, p. 152.

a, not labelled.

53. Pyrenestes ostrinus.

Loxia ostrina, Vieill. Ois. Chant. 1805, p. 79, pl. 48.

Pyrenestes sanguineus, Swains. B. W. Afr. i. p. 156, pl. 9.

Pyrenestes ostrinus, Hartl. Orn. W.Afr. p. 139.

a. ♂, Shonga, November: iris chestnut-brown; bill blue-black; culmen basally greyish blue; eyelids black, with pale blue-grey median spots on each; legs dark horn-colour. A very fine adult specimen of this rare species.

54. Hyphantornis textor.

Oriolus textor, Gm. i. 1788, p. 390.

Hyphantornis textor, Hartl. Orn. W.Afr. 1857, p. 12[illegible]

a, Rabba (*Greenshields*). *Adult male*. *b*. ♂, Sh[illegible] November: iris orange; bill and feet flesh-colour; [illegible] mandible inclining to horn-colour. *Immature*? *c*. ♀, Sh[illegible] iris scarlet; bill livid flesh-colour; feet light red. *A*[illegible] *d*. ♂, now breeding, Abutschi: iris pale orange-brown; [illegible] horn-colour; lower mandible very pale flesh-colour at [illegible] feet pale flesh-colour. *Immature*: *e*. ♂, Loko. A [illegible] label appears to have been attached to this specimen. [illegible] very similar to *d*.

55. Hyphantornis capitalis.

Tanagra capitalis, Lath. Ind. Orn. i. p. 432.

Hyphantornis capitalis, Hartl. Orn. W.Afr. p. 124.

a. ♂, Abutschi, August: iris brown; feet flesh-colour. *b*. ♀, Abutschi: iris orange-brown; bill and feet as in male *a*. *c*. ♂, Shonga: bill black; lower mandible inclining to horn-colour; legs dirty flesh-colour: in partial moult. *d*. ♂, Shonga: iris pearly; bill blackish; base of mandible horn-colour; feet greyish flesh-colour: immature or in full moult.

56. Hyphantornis personatus.

Ploceus personatus, Vieill. Gal. Ois. i. 1825, p. 117, pl. 84.

Hyphantornis personatus, Hartl. Orn. W.Afr. p. 123.

a. ♀, Egga: iris brown; feet grey.

57. Hyphantornis atrogularis.

Textor atrogularis, Heugl. (nec Voigt), J. f. O. 1864, p. 245.

Hyphantornis atrogularis, Heugl. Orn. N.O.-Afr. p. 559, pl. 19.

a. ♂, Lukoja: iris buffy white; bill black; feet flesh-colour.

s now received for the first time from

k, can only be confounded with *H. vitellinus* *us*, in both of which the upper throat and cheeks , but which have no black band across the forehead, eathers behind the base of the culmen never being black. e following short key will, I think, clearly point out specific characters :—

s of the forehead next to the nostrils black; front half the crown strongly shaded with chestnut.
lack of the throat confined to the chin and upper portion, not extending below the jawbone; entire ear-coverts black ..... *vitellinus.*
lack of the throat extending below the jawbone, nearly to the crop; ear-coverts chestnut, fading behind into deep yellow ..... *tæniopterus.*
s of the forehead next to the nostrils deep golden llow, like the crown; crown not shaded with chestut; black of the throat extending nearly to the crop; ar-coverts black, edged behind with yellow..... *atrogularis.*

58. Hyphantornis superciliosus.

Hyphantornis superciliosus, Shelley, Ibis, 1873, p. 140.

a. ♀?, Shonga, 17th November: soft parts as in male. *b*. ♂, 18th November: iris brown; upper mandible dark horny black, lower one pale bluish grey; legs dirty flesh-colour. *c*. ♂, Shonga, 29th November: iris olive-brown; upper mandible horn-colour, lower one pale flesh-colour; feet dirty flesh-colour. *d*. ♂, Shonga, 1st December.

b has the entire crown and lower throat yellow, and the breast mottled with that colour; *a* has only a slight mottling of yellow on the lower throat and breast; *c* and *d* are entirely without yellow. From this it would appear that the present species moults out of the breeding-plumage in November.

59. Hyphantornis aurantius.

Malimbe orangé, Vieill. Ois. Chant. 1805, p. 73, pl. 44.
Ploceus aurantius, Vieill. Nouv. Dict. xxxiv. 1819, p. 130.
Hyphantornis aurantius, Hartl. Orn. W.Afr. p. 121.
tachi, August: iris orange-brown; feet flesh-

60. Hyphantornis brachypterus.

Ploceus brachypterus, Swains. B. W. Af
pl. 10.

Hyphantornis brachypterus, Hartl. Orn. W

a, Shonga, November: iris yellowish grey;
b. ♂, December: iris pale stone-colour; beak black
bluish grey: length in the flesh 6·5 inches. *c*. ♀, Sh
iris very pale stone-colour; bill black; legs light bluish
d. ♀, Shonga, December: length in the flesh 6·5 i
soft parts as in the others. *e*. ♀, Shonga.

61. Hyphantornis castaneofuscus.

Ploceus castaneofuscus, Less. Rev. Zool. 1840, p. 99

Hyphantornis castaneofuscus, Hartl. Orn. W.Afr.
p. 126.

a. ♂, Onitschi, August: iris yellow.

62. Malimbus scutatus.

Sycobius scutatus, Cass. Proc. Acad. Nat. Sc. Phila
1849, p. 157; Hartl. Orn. W.Afr. 1857, p. 133.

Malimbus scutatus, Elliot, Ibis, 1876, p. 460.

a. ♂, Onitschi: iris brown.

63. Pyromelæna flammiceps.

Euplectes flammiceps, Swains. B. W. Afr. i. 1837, p. 186,
pl. 13; Hartl. Orn. W.Afr. 1857, p. 127.

a. ♂, *b*, Abutschi, August: both in full plumage.

64. Pyromelæna franciscana.

Loxia franciscana, Isert, Schrift. Berlin. Nat. Fr. ix. p. 332.

Euplectes franciscanus, Hartl. Orn. W.Afr. 1857, p. 128.

a, Rabba (*Greenshields*); *b*, Abutschi, August. Both in
full plumage.

65. Pyromelæna afra.

Loxia afra, Gm. S. N. i. 1788, p. 857, ex Brown.

Euplectes melanogaster, Hartl. Orn. W.Afr. p. 128.

a. ♀, Egga: bill horn-colour; feet dirty flesh-colour. *b*.
♂, Egga.

66. Coliostruthus macrurus.

Loxia macroura, Gm. S. N. i. 1788, p.

Coliostrutus macrourus, Hartl. Orn. W.Afr. p. 137.

a, Lukoja; *b*, ♂, Abutschi, 19th August: iris brown; feet yellowish brown. *c*, ♂, Abutschi, August: iris brown; bill brownish black; apex of mandible pale bluish grey; legs horny grey. *d*, Lukoja. *e*, ♂?, Shonga, November: iris [illegible]; bill and feet flesh-colour; upper mandible inclining [illegible]n-colour. *f*, Lukoja: iris brown; bill and legs pale [illegible]colour, upper mandible horn-colour. *g*, ♀. The three [illegible]pecimens are in the brown plumage, with no trace of [illegible]

[illegible] VIDUA PRINCIPALIS.

[illegible]eriza principalis, Linn. S. N. i. 1766, p. 313.

[illegible]*ua principalis*, Hartl. Orn. W.Afr. p. 136.

[illegible]boh[illegible] [illegible] full plumage.

[illegible] SPERMESTES CUCULLATA.

Spermestes cucullata, Swains. B. W. Afr. i. p. 201; Hartl. W.Afr. p. 147.

♀, immature, Lukoja. *b*: iris brown; bill blackish [illegible]; legs dark grey. These specimens are both in the immature brown plumage.

69. PYTELIA HYPOGRAMMICA.

? *Fringilla afra*, Gm. S. N. i. 1788, p. 905, ex Brown.

Pytelia afra, Hartl. Orn. W.Afr. p. 149.

Pytelia hypogrammica, Sharpe, Ibis, 1870, p. 56.

a, ♂, Loko: iris crimson.

This specimen, which I have compared with the type of *P. hypogrammica* in the British Museum, evidently belongs to that species. I consider the *Fringilla afra*, Gm., ex Brown, cannot be determined, as Brown's description, taken from an Angola bird, would apply equally well to the *Pytelia wieneri*, which, according to Forbes (P. Z. S. 1880, p. 476, pl. 47. fig. 2) has been met with in Angola.

70. LAGONOSTICTA MELANOGASTRA.

Lagonosticta melanogastra, Heugl. J. f. O. 1863, p. 273.

Rhodopyga hypomelas, Heugl. J. f. O. 1868, p. 13, pl. i. fig. 4.

Habropyga hypomelæna, Heugl. Orn. N.O.-Afr. p. 611.
Lychnidospiza melanogastra, Heugl. tom. cit. App. p. 137.

a. ♂, Lukoja: iris brown; eye-ring very pale pink; bill rosy, upper mandible blackish; feet dark grey. Full adult. *b*. ♂, Lukoja, 27th August: immature.

Specimen *b* I presume to be a young bird of this sp[illegible] the entire head and body are ashy brown, only slightly w[illegible] with red on the crop.

This bird has been well figured. It is rare in colle[illegible] and was hitherto only known from N.E. Africa.

I see no reason for separating this species from the [illegible] *Lagonosticta*. The members of this genus have the [illegible] upper tail-coverts, and edges of the tail-feathers red; [illegible] wing-coverts white or nearly so; generally with small [illegible] spots on the sides of the chest.

Key to the W.-African members of the Genus Lagonost[illegible]

a. Chin and throat red.
  *a*¹. Crown and mantle red.
    *a*². Centre of the chest, abdomen, and under tail-coverts jet-black; no white spots on the sides of the chest ..... *melanogastra*.
    *b*². With no black on the chest, abdomen, or under tail-coverts; with white spots on the sides of the chest more or less visible..... *minima*.
  *b*¹. Mantle brown; with white spots on the chest.
    *b*². Darker; with no pink shade on the red portions; bill uniform slaty grey ..... *polionota*.
    *c*². Paler; with a strong pink shade on the red portions; larger portion of the bill red ..... *rufopicta*.
b. Chin and throat black; chest, crown, and mantle ashy grey, the latter slightly darker; with small white spots on the sides of the chest ..... *nigricollis*.

71. Lagonosticta minima.

Fringilla minima, Vieill. Nouv. Dict. xii. 1817, p. 183.
Lagonosticta minima, Hartl. Orn. W.Afr. p. 143.

a. ♂, Lukoja: iris olive-brown; eye-ring yellow; feet dark flesh-colour. *b*. ♀, Lukoja, 28th August: eye-ring yellow; bill rosy red, blackish towards the culmen; feet fleshy brown.

72. Lagonosticta rufopicta.

Estrilda rufopicta, Fraser, P. Z. S. 1843, p. 27.

Lagonosticta rufopicta, Hartl. Orn. W.Afr. p. 143.

a, ♀, Abutschi, August. *b*, ♂, Abutschi.

73. Lagonosticta nigricollis.

Pytelda nigricollis, Heugl. J. f. O. 1863, p. 273.

Lagonosticta nigricollis, Heugl. J. f. O. 1868, p. 17, pl. i. fig. 1.

♂, Lukoja, 20th August: iris brown; eye-ring and bill greyish blue, the latter darker on the culmen and apex; feet dark grey.

This rare species is here recorded from W. Africa for the first time.

a, ♂, Lukoja, 20th August: iris brown; eye-ring and bill greyish blue, the latter darker on the culmen and apex; feet dark grey.

74. Estrelda cinerea.

Fringilla cinerea, Vieill. Nouv. Dict. xii. 1817, p. 176.

Estrelda cinerea, Hartl. Orn. W.Afr. p. 141.

a, ♂, Shonga: iris ochraceous brown. *b*, ♀, Shonga: iris brown; bill red; feet horn-colour. *c*, ♀, Shonga: iris green; bill very red; feet dark horn-colour.

75. Estrelda melpoda.

Fringilla melpoda, Vieill. Nouv. Dict. xii. 1817, p. 177.

Estrelda melpoda, Hartl. Orn. W.Afr. p. 141.

a, ♂, Shonga: iris light brown; bill scarlet; legs dark horn-colour. *b*, Lukoja.

76. Estrelda subflava.

Fringilla subflava, Vieill. Nouv. Dict. xxx. 1819, p. 575.

Estrelda subflava, Hartl. Orn. W.Afr. p. 144.

a, ♂ breeding, Shonga, 1st December: iris red; bill scarlet, black along the culmen and symphysis; feet flesh-colour.

77. Lamprocolius purpureus.

Turdus purpureus, P. L. S. Müll. S. N. Suppl. 1776, p. 143, descr. good.

Turdus auratus, Gm. S. N. i. 1788, p. 819.

Lamprotornis ptilonorhynchus, Swains. B. W. Afr. i. p. 140.

Lamprocolius auratus, Hartl. Orn. W.Afr. p. 117.
Lamprotornis amethystina, Heugl. J. f. O. 1863, p. 20.
Lamprocolius auratus et var. *orientalis*, Hartl. Abhandl. Nat. Ver. Bremen, iv. 1874, pp. 57, 59.

a, Lukoja: iris bright yellow.

I have compared a good series of specimens from Wour. N.E. Africa, and they appear to me perfectly similar in upper surements and colouring. knish

Müller's description (*l. c.*) is a very good one, so bound to reject Gmelin's name, although in more use.

78. Dendropicus lafresnayi. fig. *b*.

Dendropicus lafresnayei, Malh. Rev. et Mag. Zool. p. 533; Hartl. Orn. W.Afr. p. 177. legs

a. ♀, Shonga: iris pale lake; bill and feet plumbeo

79. Merops nubicus.

Merops nubicus, Gm. S. N. i. p. 464: Hartl. Orn. W. p. 41.

a. ♂, *b*. ♀, Shonga: iris red; feet dark lead-col *c*. ♀, Rabba: "iris ochraceous. Flies in stomach" (*Green shields*).

80. Merops albicollis.

Merops albicollis, Vieill. Nouv. Dict. xiv. 1817, p. 15; Hartl. Orn. W.Afr. p. 39.

a. ♂, *b*. ♂, *c*. ♀, Shonga: iris red; feet olive.

81. Melittophagus bullocki.

Merops bulocki, Vieill. Nouv. Dict. xiv. 1817, p. 13.
Merops bullockii, Hartl. Orn. W.Afr. p. 41.

a. ♀, *b*, Shonga: iris brown; bill and feet black.

82. Melittophagus pusillus.

Merops pusillus, P. L. S. Müll. S. N. Suppl. 1776, p. 95.
Merops erythropterus, Hartl. Orn. W.Afr. p. 40.

a. ♀, Shonga: iris scarlet; feet blackish.

83. Corythornis cyanostigma.

Alcedo cyanostigma, Rüpp. Neue Wirb., Vög. 1835–40, p. 70, pl. 24. fig. 2.

Corythornis cristata, Hartl. (nec Linn.) Orn. W.Afr.p. 36; Sharpe, Monogr. Alced. p. 35, pl. 11.

Corythornis cyanostigma, Sharpe, tom. cit. p. vi.

a, Shonga; iris brown; bill black; feet brownish, soles red. Immature.

Ala HALCYON SEMICÆRULEA.

Alcedo semicærulea, Forsk. Descr. Anim. 1775, p. 2.

a, *Sceyon semicærulea*, Hartl. Orn. W.Afr. p. 33; Sharpe, horn-gr. Alced. p. 173, pl. 64.

colour), Shonga: iris brown; bill and feet bright red.

24. HALCYON SENEGALENSIS.

Alcedo senegalensis, Linn. S. N. i. 1766, p. 180.

Anlcyon senegalensis, Hartl. Orn. W.Afr. p. 31; Sharpe, *a*. gr. Alced. p. 191, pl. 70.

mand*lcyon cyanoleuca*, Hartl. Orn. W. Afr. p. 31; Sharpe, bgr. Alced. p. 189, pl. 69.

a. ♀, Shonga: iris brown; upper mandible scarlet, lower iris b black; feet black, sole reddish. *b*. ♀, Shonga: iris bro wn; upper mandible bright red, lower one jet-black; feet black, soles red. Insects in crop. *c*. ♂, Shonga.

I do not think that *H. cyanoleuca* (Vieill.) can be considered specifically distinct from *H. senegalensis*, for it appears to me that Mr. Sharpe in his Monograph has figured and described an extreme form, and that a perfectly intermediate series is to be met with, of which Mr. Forbes's specimens form a part.

86. HALCYON MALIMBICA.

Alcedo malimbica, Shaw, Gen. Zool. viii. 1812, p. 66.

Halcyon cinereifrons, Hartl. Orn. W.Afr. p. 32.

Halcyon malimbica, Sharpe, Monogr. Alced. p. 195, pl. 72.

a. ♂, Shonga: iris brown; upper mandible red and black, lower one black; feet red.

This species may be most readily distinguished from its nearest ally, *H. dryas*, by having the lower mandible black. Mr. Sharpe gives correct figures of these two species in his

Monograph of this family, but by error describes the under mandible of *H. dryas* as black.

87. Toccus semifasciatus.

Buceros semifasciatus, Temm. MS.; Hartl. J. f. O. 1855, p. 356; id. Orn. W.Afr. p. 163.

Tockus semifasciatus, Elliot, Monogr. Bucerotidæ, 88. pl. 142;

a. ♂, Shonga, November: iris brown, greyish round bill dirty pale yellow and black; feet black.

88. Musophaga violacea.

Musophaga violacea, Isert, Shrift. Berlin. Nat. Fr. ix. p. 18, pl. 1; Hartl. Orn. W.Afr. p. 160.

The collection contains the portion of a wing of

89. Schizorhis africanus.

Phasianus africanus, Lath. Ind. Orn. ii. 1790, p. 631.

Schizorhis africanus, Hartl. Orn. W.Afr. p. 160.

a. ♀, Shonga: iris olive-brown; bill yellow; legs dar. horny black.

90. Centropus senegalensis.

Cuculus senegalensis, Linn. S. N. i. 1766, p. 169.

Centropus senegalensis, Hartl. Orn. W.Afr. p. 187; Sharpe, P. Z. S. 1873, p. 617.

a. ♀ adult, Shonga: iris scarlet. *b*. ♂ adult, Egga: iris bright red. *c*. ♀ immature: iris brownish orange; upper mandible dark horn-colour, lower one fleshy brown; feet black.

91. Centropus monachus.

Centropus monachus, Rüpp. Neue Wirb. 1835–40, p. 57, pl. 21. fig. 2; Hartl. Orn. W.Afr. p. 187; Sharpe, P. Z. S. 1873, p. 620.

a. ♀ adult, Shonga, December: iris crimson; bill black; legs very dark grey. Length in the flesh 17·3 inches. Stomach contained frogs' bones, Mantidæ and other Orthoptera. *b*. adult, not labelled. *c*. ♀ immature, Shonga,

November: iris brownish orange, upper mandible dark horn-colour, lower one dirty flesh-colour; feet black.

92. Pogonorhynchus vieilloti.

Pogonias vieilloti, Leach, Zool. Misc. 1815, pl. 97; Hartl. W.Afr. 1857, p. 170.

Pogonorhynchus vieilloti, Marshall's Monogr. Cap. 1871, pl. 11.

, Shonga: iris chestnut, yellower round pupil; bill black.

Psittacus senegalensis.

Psittacus senegalensis, Linn. S. N. i. 1776, p. 149.

Psittacus senegalus, Hartl. Orn. W.Afr. p. 168.

breeding, Shonga: iris bright yellow, with a slight circumpupillar ring; bill and feet greyish black; orbits ere black. *b*. ♂, Shonga: iris yellow, with greenish ound pupil. *c*, Shonga.

Psittacula pullaria.

Psittacus pullarius, Linn. S. N. i. 1766, p. 149.

Agapornis pullaria, Hartl. Orn. W.Afr. p. 168.

a. ♂, Shonga.

95. Scotopelia peli.

Scotopelia peli, Bp. Consp. Gen. Av. i. 1850, p. 44; Hartl. Orn. W.Afr. p. 18; Sharpe, ed. Layard's B. S. Afr. p. 69; id. Cat. B. Brit. Mus. ii. p. 18.

a. ♂, Shonga: iris brown; bill blackish, cere grey; feet very pale yellowish flesh-colour, claws grey.

96. Astur sphenurus.

Falco sphenurus, Rüpp. Neue Wirb., Vög. 1835–40, p. 42.

Astur brachydactylus, Hartl. Orn. W.Afr. p. 14.

Astur sphenurus, Sharpe, Cat. B. Brit. Mus. i. p. 112.

a. ♀, Shonga: iris fiery orange-red, yellower round pupil; cere yellow; bill black, bluish at the base; legs dull orange-yellow.

This example is fully adult, and agrees perfectly with a specimen in my own collection from Bogos (*Esler*).

97. Ardea alba.

Ardea alba, Linn. S. N. i. 1766, p. 239; B. O. U. List Brit. B. 1883, p. 108.

Ardea flavirostris, Hartl. Orn. W.Afr. p. 220.

a, Rabba: "beak yellow" (*Greenshields*).

98. Ardea bubulcus.

Ardea bubulcus, Audouin, Expl. Somm. Pl. Ois. de l'E i. 1825, p. 298; Hartl. Orn. W.Afr. p. 222; B. O. U Brit. B. 1883, p. 109.

a. ♂, Shonga: iris bright yellow; bill and nu chrome-yellow; legs black.

99. Treron calva.

Columba calva, Temm. & Knip, Pig, i. 1808–11, pl. 7.

Treron crassirostris, calva et *nudirostris*, Hartl. Orn Afr. p. 192.

a. ♀, Shonga: iris cobalt; bill and fleshy cere verm nail of bill pearl-grey; legs orange-yellow; claws grey.

100. Turtur senegalensis.

Columba senegalensis, Linn. S. N. i. 1766, p. 195.

Turtur senegalensis, Hartl. Orn. W.Afr. p. 195.

a, not labelled.

101. Francolinus bicalcaratus.

Tetrao bicalcaratus, Linn. S. N. i. 1766, p. 277.

Francolinus bicalcaratus, Hartl. Orn. W.Afr. p. 201.

a. ♂, Shonga: iris brown; bill yellow, greenish at base; culmen dark; legs dull greenish yellow.

102. Pluvianus ægyptius.

Charadrius ægyptius, Linn. S. N. i. 1766, p. 254.

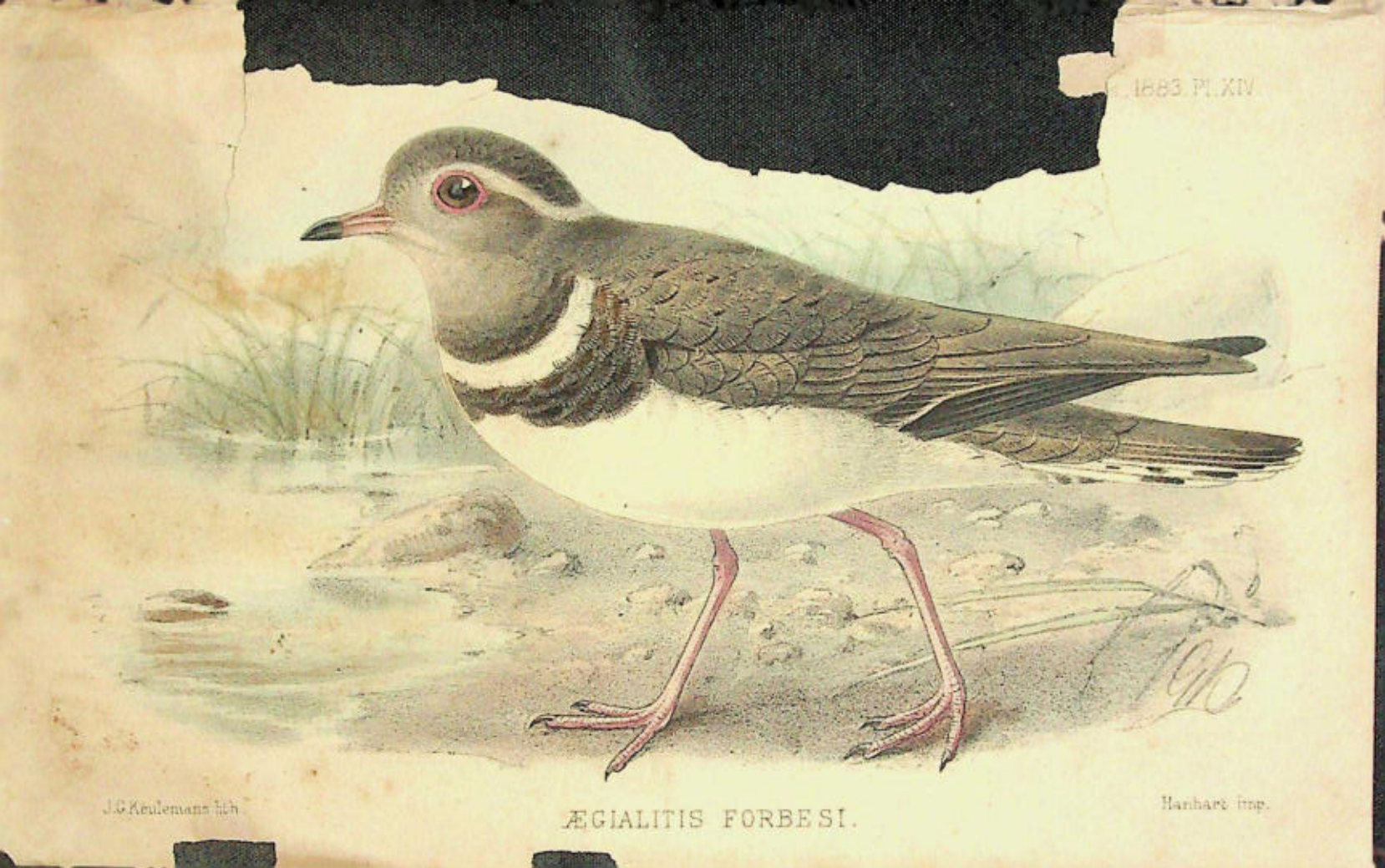
Pluvianus ægyptius, Hartl. Orn. W. Afr. p. 209.

a. ♀, Shonga.

103. Ægialitis forbesi, sp. nov. (Plate XIV.)

? *Pluvialis minima indica*, Briss. Orn. ii. 1763, p. 234.

Charadrius indicus, Lath. Ind. Orn. ii. 1790, p. 750 (ex Briss.), apud Hodgson.



J.G.Keulemans lith.

ÆGIALITIS FORBESI.

Hanhart imp.

tricollaris, Hartl. (nec Vieill.) Orn. W.Afr. p.

indicus, Shelley & Buckley, Ibis, 1872, p. 293.

a ... Bonga, November: iris grey brown; a broad ... eyelid; bill black, with the base pink; legs very pale ... The ... their ... Hartert has examined the type of Mr. Hodgson's *C. indicus*, which I presume to be the true *C. indicus*, ... Sidd... of ... West-African, and apparently confined to that ... the name *indicus* is not applicable, so I propose to ... *Eupetes forbesi*, as an appropriate acknowledgment ... memory of the late Mr. W. A. Forbes.

I give a comparative description of this species from ... and two in my own collection from the Gold ... with the South-African *Æ. tricollaris*, its nearest ally. *Forbesi* ... from *Æ. tricollaris* as follows:—It is ... forehead ashy brown, slightly paler than the crown; ... whitish-buff eyebrow extends backwards from over the eye ... and the nape; the two pairs of outer tail-feathers are white, ... outer pair with three or four imperfect brownish-black ... bars, the next pair with four or five somewhat similar bars; ... remainder of the head and neck ashy brown, fading almost into white on the chin and centre of the upper throat, and into dark brown towards the crop; beneath this is a white collar, followed by a broader dark brown one across the upper chest. Total length 8·2 inches, culmen 0·7, wing 5, tail 3, tarsus 1·25.

Æ. tricollaris has a broad white forehead connected with a ... clear white eyebrow, which extends backwards round the nape; the underparts are white, with two rather sharply defined black collars, the front one very narrow; the two outer pairs of tail-feathers are white, with a single subterminal blackish-brown bar. The eyelids are scarlet, and not so thick; bill blackish, with the base of the lower mandible deep ... red; legs fleshy brown. Total length 6·5 inches, culmen ... wing 4·3, tail 2·5, tarsus 0·95.

104. TRINGOIDES HYPOLEUCUS.
Tringa hypoleucos, Linn. S. N. i. 1766, p. 250.
Actitis hypoleucus, Hartl. Orn. W.Afr. p. 235.
Tringoides hypoleucus, B. O. U. List B. Birds, 1883, p. 173.
a, Egga: legs yellowish green.

105. STERNA CASPIA.
Sterna caspia, Pall. Nov. Comm. Petrop. xiv. 1769, Hartl. Orn. W.Afr. p. 253.
a. ♂, Bonny river.

XLI.—*Notices of recent Ornithological Publicatio* 1857,

(Continued from p. 384.)

102. *Blakiston on the Geographical Distribution of the of Japan.*

["Zoological Indications of ancient connections of the Japan with the Continent." Transactions of the Asiatic Society of Japan, p. 126.]

A very interesting paper on the difference between t fauna of the north island of Japan and that of the southern island, showing that the former is essentially Siberian and the latter Chinese.

103. *Blakiston's Ornithological Notes.* Nos. I.–III.

[Ornithological Notes.—I. Birds observed on the South-east Coast of Yezo in May. By T. W. Blakiston. The Chrysanthemum, vol. ii. pp. 424, 471, 521. II. Autumn collecting at Sapporo, Yezo. *Ibid.* vol. iii. p. 26. III. Messrs. Jouy and Smith's late collections. *Ibid.* vol. iii. p. 76.]

These papers, published in the new Japanese periodical called 'Chrysanthemum,' are specially valuable for their information respecting the birds which breed on the north island of Japan and those which only pass through on migration. The second series of Notes is an important paper on the birds of the north island of Japan. In the third, among many interesting notes on the birds collected on the m island of Japan, Mr. Blakiston clearly distinguishes betw

Cettia cantans and *C. cantillans*. Mr. Seebohm, who united these species in vol. v. of the 'Catalogue of Birds in the British Museum,' informs us that he had already separated them in his collection. The existence of two forms, apparently differing only in size and having the same geographical distribution, is worth of remark.

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Blasius on Birds from the South-east of Borneo.

von Borneo, im Südosten der Insel gesammelt von Herrn F. J. Grabowsky Verzeichnet und mit Bezugnahme auf die gesammte Vogel-67. der Insel besprochen von Wilhelm Blasius. Verh. k.-k. zool.-bot. Ges. Wien, 1883, pp. 3–92.]

Emer
Vidu
a, by
68. Dr. Blasius proceeds to consider the 69 species of birds
Sp collected by Herr Grabowsky in the south-east of that great
Bo island. None of them are absolutely new to science; but
there appears to be a constant variety of *Chotorea versicolor*
peculiar to Borneo, which may subsequently receive specific
distinction. Three species in this collection (*Prionochilus*
percussus, *Lanius magnirostris*, and *Hydrochelidon leucoptera*)
had not previously been recorded as occurring in the island,
and about seven others had hitherto been found only in the
northern district.

105. *Blasius on Birds from Ceram.*

[On a Collection of Birds from the Isle of Ceram, made by Dr. Platen in November and December 1881. By Dr. Wilhelm Blasius, C.M.Z.S., P. Z. S. 1882, p. 697.]

This collection, made during a stay of nearly four weeks at Lokki, contains only forty-nine specimens belonging to twenty-one species; but amongst them are two examples, male and female, of *Monarcha inornatus*, which is new to Ceram, whilst several others call forth interesting observations. As in the case of Dr. Platen's former collections from Borneo, full details are given respecting dates, localities, and colours of soft parts.

106. *Boucard on a new* Pseudocolaptes.

[Description d'une espèce nouvelle de *Pseudocolaptes*, provenant de Costa-Rica. Par A. Boucard. (Extr. du Bull. de la Soc. Zool. de France pour l'année 1881. Séance du 14 déc. 1880.)]

M. Boucard is too late, we fear, with his description of *Pseudocolaptes costaricensis*, which has already been [illegible]ecies; by Mr. Ridgway (Proc. U. S. Nat. Mus. 1878, i. p. [illegible]ashed *lawrencii*.

[illegible]ections,

107. *Brusina on Anomalies in some Croatian Birds.*

[Anomalien der Ornis Croatica. Aus der Sammlung des zool. genus National-Museums in Agram, von Spiridion Brusina. Mitth. rump, Ver. in Wien, 1883, no. 4.] under

The author commences with a sketch of the condit white the national collection at Agram, which contains 266 sp and proceeds to consider varieties in colour, princ albinisms, malformations of bill and of feet, and hy icta. (domestic fowls). He also notes the recent occurrence [illegible] *Stercorarius pomatorhinus* and *S. parasiticus* in Croatia.

108. '*Bulletin of the Nuttall Ornithological Club.*'

[Bulletin of the Nuttall Ornithological Club: a Quarterly Journal o Ornithology. Vol. viii. nos. 2 & 3, 1883. Cambridge, Mass.]

Amongst many papers of interest in these two numbers of our contemporary, we may call special attention to Mr. Cory's descriptions of new birds from San Domingo (*Contopus frazari, Sayornis dominicensis, Myiarchus ruficaudatus*, and *Strix dominicensis*). Mr. Cory would have done well to state to what known species his new *Strix* is most nearly allied.

Mr. Walter B. Barrows gives us the two first parts of an excellent series of life-notes on the birds of the Lower Uruguay, principally made at Concepcion, about 200 miles north of Buenos Ayres. The specimens obtained are in most cases referable to well-known Buenos-Ayrean species; but a Finch (*Spermophila palustris*) is described as new.

109. *Dalgleish on* Passer montanus.

[Note on the Occurrence of the Tree-Sparrow in Argyllshire, and its

Distribution in Scotland. By John James Dalgleish. Proc. R. Physical Soc. Edin. vol. vii. p. 196.]

Although of wide distribution, the Tree-Sparrow is sometimes unaccountably local, not only in the British Islands, but in other countries comprised within its range. In England it is seldom seen in towns, except at Berwick-on-Tweed, where it nests freely; nor is it to be considered a city-bird on the continent; yet it is abundant in the Jardin des Plantes at Paris. Mr. Dalgleish has collected some new and interesting facts respecting its distribution in Scotland, where it has only been observed in comparatively recent years.

This

first tir

Dollo on the Existence and Use of the "Third Trochanter" in Birds.

74. [illegible] sur la présence chez les Oiseaux du "Troisième Trochanter" [illegible]inosauriens et sur [illegible] fonction de celui-ci. Par M. L. Dollo. Bull. [illegible] R. d'Hist. Nat. Belgique, t. ii. p. 13.]

The author [illegible] the femur in Crocodiles, Dinosaurs, and Birds with a view to determining the homologies of the Dinosaurian third trochanter. In Crocodiles the "neck" of the femur is obsolete, the "head" not being separated from the body of the bone by any constriction. There is no "great trochanter." In Birds and Dinosaurs, on the other hand, the head of the femur is spherical and is supported by a distinct "neck." The great trochanter is large, forming a strong ridge on the outer edge of the preaxial surface of the bone. The condyles of the femur in the Crocodile also differ remarkably from those of the other two groups, in both of which the arrangement of these parts is identical. The only part of the Dinosaurian femur not yet recognized in Birds is the "third trochanter." M. Dollo finds, however, in those birds which possess the *femoro-caudal* and *accessory femoro-caudal* muscles, a ridge, situated near the middle of the bone on the inner edge of its postaxial surface, which gives attachment to these muscles, and which corresponds in position with the "third trochanter" of *Iguanodon* &c. A similar ridge has been found in *Hesperornis*.

The conclusion drawn from these observations is that the

femur and some at least of the femoral muscles of the New
sauria are distinctly avian and not reptilian in char
The third trochanter of mammals, standing in relatio
into
gluteal muscles only, is not homologous with
strut de-
so called in the animals under consideration.

111. *Dubois on the Existing Species of Pelicans.*

[Remarques sur les Oiseaux du genre Pélican (*Pelecanus*). p
Alphonse Dubois. Bull. Mus. R. d'Hist. Nat. Belgique, t. ii. p.

After considering the monographical papers on this
by Messrs Schlegel and Elliot, and the various contrib
by Sclater, Barboza du Bocage, Heuglin, Brehm, Ou
and others, the author endeavours to show that ther
only six valid species. These he states as follows:—
onocratalus and vars. *minor* and *sharpei*; 2. *P. cri*
3. *P. philippensis* and var. *rufescens*; 4. *P. erythrorhync*
5. *P. conspicillatus*; 6. *P. fuscus* and var. *molinæ*. The
rectness of this view of the subject may be open to questio
but there can be no doubt that this paper contains a care-
fully drawn-up revision of the group.

112. *Durnford on the Birds of Walney Island.*

[List of Birds found in the Neighbourhood of Walney Island, with
notes. By W. A. Durnford. 8vo. Barnsley: 1883.]

The long, narrow, low-lying island of Walney extends for
about eleven miles along the coast of Lancashire; and the
two extremities being little frequented are favourable to the
breeding of many birds, especially aquatic species. This
list is not, however, limited to the birds observed on the
island itself, but comprises those which occur in a large
portion of the Lake District, including parts of West Cum-
berland, Westmoreland, and North Lancashire. Species
which might be expected to occur within these limits, but
which are not yet recorded, are the Hawfinch, Turtle-Dove,
Green Sandpiper, and Ruff.

113. *Dybowski on the Puffins of Kamtschatka.*

[Observations sur les Oiseaux de la Famille des Mormonidés. Par le
Dr. B. Dybowski. Bull. Soc. Zool. de France, 1882, p. 290.]

anticipation of a monograph of the *Mormonidæ* (as Dr. wski calls the family to which we should apply the name *rculidæ*, and which we are inclined to agree with him in dering distinct from the *Alcidæ*), the author of this in- ng paper gives us the result of his observations on six the seven species which inhabit the North Pacific. The member of the family (*Fratercula arctica*) is confined e North Atlantic. The breeding-places and habits scribed; some statements of Dr. Bureau relative to the lt" of the bill are controverted; and *Lunda cirrhata*, *ula corniculata*, *Ombria psittacula*, and *Simorhynchus chaticus* are redescribed.

4. *Gadow's Catalogue of the Paridæ, Laniidæ, and Certhio- hæ.*

atalogue of the Passeriformes or Perching Birds in the Collection of British Museum. Cichlomorphæ: Part V., containing the Families æ and Laniidæ, and Certhiomorphæ. By Hans Gadow, Ph.D. don. Vol. viii. Printed by order of the Trustees, 1883.]

Dr. Gadow's new volume of the British Museum Catalogue is not quite so bulky as Mr. Sharpe's (see below, p. 572), for it contains only 386 pages and 9 plates; but the Cinnyrimorphæ (prepared by the same author) are retained for another volume. In the present (eighth of the series) are contained the three families, Paridæ, Laniidæ, and Certhiidæ. These are all much more natural groups than the unfortunate Timeliidæ, though, as Dr. Gadow himself complains (see pp. vii and 88), certain genera not properly apportioned to them have been forced in and others forced out by circumstances over which he had no control. No new genera and but two new species (*Lanius seebohmi*, from Amoorland, and *Pachycephale fortis*, from New Guinea) are described. We propose to make some small criticisms, while fully acknowledging the value of Dr. Gadow's work.

Xenopirostris pachycephaloides (!) is, we venture to say, no *Xenopirostris* at all, but in all respects a *Myiolestes*, and should have been put in (or near) that genus. It would be indeed

strange to find such a peculiar Madagascar form in
Caledonia.

It is not necessary to correct "*xanthetræa*" of Foster
"*xantherythræa*"! (p. 207), the word in question bein
rived from ἦτρον=*inus venter*.

While we quite agree with Dr. Gadow in not recog
the multitudinous divisions which some recent author
made in such genera as *Parus* and *Lanius*, it would, we
have been more convenient to have divided these large
into sections, either using the subordinate points of str
for this purpose, or styles of colour, or even arrangin
species according to their *patriæ*. In a group of 50 s
it is difficult to find the place of any particular one u
some such method is employed.

115. *Gould's 'Birds of New Guinea.'*

[The Birds of New Guinea and the adjacent Papuan Islands, inclu
any new species that may be discovered in Australia. By [the late]
Gould, F.R.S. &c. Part xiv. Folio. London: 1883.]

The fourteenth part of this work contains illustrations o
the following species:—

Dasyptilus pesqueti.
Chalcopsittacus scintillatus.
Trichoglossus goldiei.
Graucalus axillaris.
Grallina bruijni.
Monarcha periophthalmicus.
Munia grandis.
Melilestes poliopterus.
Ptilotis marmorata.
Eupetes castanonotus.
Pachycephala brunnea.
—— hyperythra.
Zosterops delicatula.

Mr. Sharpe, who is responsible for the text, has made an
error in stating that *Dasyptilus pesqueti* was received alive by
the Zoological Society of London. The bird alluded to did
not reach the Gardens alive, or even in the flesh, and never
became the property of the Society. He has likewise omitted
to give the locality of *Monarcha periophthalmicus*, which,
however, like most of the birds figured in the present
number, is one of Mr. Goldie's discoveries in South-eastern
New Guinea.

116. *Hartlaub on Birds from Alaska.*

[Beitrag zur Ornithologie von Alaska. Nach Sammlungen und Noten von Dr. Arthur Krause und Dr. Aurel Krause. Von Dr. G. Hartlaub. Separatabdr. aus Cab. Journ. f. Orn. 1883, Juli-Heft.]

Hartlaub gives us an account of the collection of birds in the Chilcat district of S.E. Alaska in 1882 by the rs Krause, who contribute some excellent prefatory ks on the general aspect of the country, and field-notes e birds. Eighty-three species were in the collection, st which are *Selasphorus rufus*, *Lagopus leucurus*, and *a ptilocnemis*. The *Selasphorus* arrives to breed on 20th, and disappears at the end of August.

r. Hartlaub (somewhat unwillingly) has given way to American practice of using trinomials in some cases: instance *Parus atricapillus occidentalis*.

17. *Homeyer and Tancré's Birds of the Altai.*

Beiträge zur Kenntniss der Ornithologie Westsibiriens, namentlich r Altai-Gegend. Von E. F. von Homeyer und C. A. Tancré. Mittheilungen des ornithologischen Vereines in Wien. Mai 1883.]

Many readers of 'The Ibis' are aware that Herr Tancré has had a collector in the Altai Mountains for the last two years. The result of his labours, collated with those of Drs. Finsch and Brehm, are given in detail by the above-mentioned writers, with the exception of the Waders and Waterbirds, which are to follow in a future number. Amongst the most interesting species may be mentioned *Buteo desertorum*, *Milvus govinda*, *Falco vespertinus* (not *F. amurensis*), *Hirundo urbica* (not *H. lagopoda*), *Budytes melanocervix* (nov. sp., differing from *B. melanocephala* in being slightly smaller, less brilliantly yellow, and in having a more or less distinct white eye-stripe), *Fringillauda sordida*, *Perdix robusta* (nov. sp., differing from our Partridge in being larger, paler, and greyer: wing 160 to 170 millim.). The paper is a very valuable contribution to our knowledge of the geographical distribution of Siberian birds.

118. *Krukenberg on the Colouring-matters of Birds' Eggs.*

[Die Farbstoffe der Vogeleierschalen, von C. F. W. Krukenberg. Verhandl d. phys.-med. Gesellsch. zu Würzburg, N. F. xvii. Bd., Nr. 8.]

This paper contains the results of a careful re-exami
of the spectra of the various colouring-matters in
eggs.

Oorhodein was discovered by Wicke, but first isolat
Sorby (*cf.* Proc. Zool. Soc. 1875). It is soluble in acid
water or alcohol, in ether, chloroform, turpentine, &c.,
a green solution with strong red fluorescence. The so
in water acidulated with HCl gives (1) a shortening of
ends of the spectrum as far as the B and *g* lines; and
pair of bands, one a little to the red side of D, the o
(broader) about midway between D and E. The third b
passing through the D line, which was described by So
was seen neither by the author nor by Liebermann.
diminishing the acidity of the solution both the above ba
are shifted towards the red; and on complete neutralizati
two more bands appear, one just on the red side of E, th
other on the violet side of *b*. A line occasionally seen
between B and C is probably due to some other colouring-
matter at present unknown.

Oorhodein differs from biliverdin in the character of the spectrum obtained by treatment with sulphuric acid. It closely resembles acid hæmatin. No traces of it have been found in any part of the body except in the oviduct.

The oocyan and banded oocyan of Sorby are identified with biliverdin (1) by Gmelin's reaction, and (2) by the behaviour of their spectra on treatment with yellow nitric acid.

Oochlorin and ooxanthin (yellow and rufous ooxanthin of Sorby) are two pigments forming brownish-yellow solutions, which do not give Gmelin's reaction, and show no spectral change on treatment with nitric acid. Two modifications seem to exist: one, found in eggs of *Casuarius* and *Crypturi*
soluble in alcohol; the other, found in the egg of the common fowl, insoluble.

Nothing of the nature of Sorby's lichnoxanthin was found in any shell.

All flesh-coloured, olive, leather-coloured eggs, and all which are spotted with red, brown, black, or grey, contain oorhodein, ...ly, however, with traces of oocyan. It is therefore ...ly nearly universal, except among certain *Crypturi*. In ...ell, oorhodein is generally in the deeper, oocyan in the ... superficial layers.

... *Kutter on Philippine Birds.*

[...rag zur Ornis der Philippinen. Von Dr. Kutter. Separatabdr. aus ... f. Orn. 1883.]

... Kutter's contribution to Philippine ornithology is ... upon a collection made by Herr O. Koch and Dr. A. ...ulenberg in the vicinity of Sibulan, in South-eastern Min... Fifty species are represented in the series, whereof ... (previously described in Orn. Centralbl. 1882, p. 183, as *...aucalus kochii*) is new to science and seven are hitherto un...corded in Mindanao. Many interesting notices both by collectors and the author are given.

120. *Lawrence on new Birds from Tropical America.*

[Descriptions of new Species of Birds of the Genera *Chrysotis*, *Formicivora*, and *Spermophila*. By George N. Lawrence. Annals N. Y. Acad. Sc. vol. ii. p. 381.]

The island of Aruba, West Indies, has yielded a new species of Parrot (*Chrysotis canifrons*), the distinguishing character of which is the ashy front and throat. Unfortunately the skin of the example, which was brought home alive, has not been preserved. *Formicivora griseigula*, from British Guiana, is a second new species; and the third is *Spermophila parva*, from Tehuantepec, Mexico.

121. *Ridgway on a new Petrel from Alaska.*

[Description of a new Petrel from Alaska. By Robert Ridgway. Proc. U.S. Nat. Mus. 1882, p. 656.]

This "elegant Petrel" belongs to the "delicately formed

slender-billed group which includes *Æstrelata cooki*, *Æ. desolata*, and *Æ. defilippiana*," and is apparently most nearly allied to the last named. The single specimen was obtained at Kodiak Island, Alaska, by Mr. W. J. Fisher, and is named *Æ. fischeri* after its discoverer.

122. *Sharpe's Catalogue of the Timeliidæ.*

[Catalogue of the Passeriformes or Perching Birds in the Colle the British Museum. Cichlomorphæ: Part IV., containing t cluding portion of the Family *Timeliidæ* (Babbling Thrushes). Bowdler Sharpe. London. Vol. vii. Printed by order of the T 1883.]

Every ornithologist must admire the untiring industry which Mr. Sharpe has continued to work at the catalog Birds of the British Museum, even at an epoch when transfer of the National Collection and its rearrange at South Kensington might well be supposed to absor his time and attention. The thick volume (containing pages and 15 plates) now before us shows that whatever oth calls may be upon him, the great work on which he has alread expended so much time and toil will not be allowed to stand still, so far as he is concerned.

As it is confessed in the preface that the Timeliidæ, as here treated of, are not supposed to be a natural group, we need say little upon this question; but it would in our opinion have been a much better plan to have simply followed such a system as Sundevall's 'Tentamen,' or even G. R. Gray's Hand-list, than to make a new arrangement which is confessedly erroneous. The *Thamnobiæ*, for instance, of the present volume (or at any rate the greater part of them) are quite unnaturally divorced from their fellows, which are partly mixed up in Mr. Sharpe's Muscicapidæ and partly in Mr. Seebohm's Turdidæ. Nor can we understand what *Accentor* has to do with the Timeliidæ.

The new genera proposed in the present volume are twenty in number, namely:—

	page	Type.
us	22	Cossypha sharpii, *Gray.*
.....	69	Cossypha signata, *Sund.*
.....	102	Drymœca rodericana, *Newt.*
.....	116	Drymœca subcinnamomea, *Smith.*
mocichla	131	Calamoherpe newtoni, *Hartl.*
monastes	133	Drymoica fasciolata, *Sund.*
llergates	229	Orthotomus cucullatus, *Temm.*
drocichla	318	Henicurus ruficapillus, *Temm.*
ierocichla	322	Henicurus scouleri, *Vig.*
ctocichla	449	Garrulax merulinus, *Blyth.*
lanocichla	451	Ianthocichla lugubris, *S. Müll.*
inocichla	452	Timalia mitrata, *S. Müll.*
vonastes	454	Ianthocichla ruficollis, *Jard. et Selb.*
otocichla	522	Drymocataphus fusciocapillus, *Blyth.*
rythrocichla	551	Brachypteryx bicolor, *Lesson.*
ilopyga	585	Malacocichla rufiventris, *Salvad.*
uropsis	588	Brachypteryx malaccensis, *Hartl.*
raterosœlis	591	Myiothera murina, *Temm.*
Corythocichla	592	Turdinus brevicaudatus, *Blyth.*
Strachyridopsis	597	Stachyris ruficeps, *Blyth.*

The following species and subspecies are described as new: *ossypha periculosa* from Gaboon, *C. leucosticta* from West Africa, *Eroessa viridis* from Madagascar, *Eremomela polioxantha* from S.E. Africa, *Garrulax mouhoti* from Cambodia, *Malacopteron erythrote* from Borneo, *Accentor orientalis* from the shores of the Black Sea, and *A. fervidus* from Japan. *Ruticilla moussieri*, well known to many of us, is assigned to the genus *Pinarochroa* along with *Saxicola sordida* of Rüppell; but is it not better placed in *Ruticilla*, or, if not, why not?

123. *Stearns and Coues's 'New-England Bird-Life.'*

[New-England Bird-Life: being a Manual of New-England Ornithology. Revised and edited from the Manuscript of Wilfrid A. Stearns by Elliott Coues. Part II. Non-oscine Passeres, Birds of Prey, Game, and Water Birds. 8vo. Boston: 1883.]

The delay in the issue of Part ii. of this work (Part i. of which we noticed last year, *cf.* 'Ibis,' 1882, p. 343) is owing to the fact of the editor having been sent off to perform the duties of a medical officer of the United States army in

Arizona. Mr. H. A. Purdie of Boston has
assistance to its elaboration; and the work
forms a useful compendium of the latest in
the ornithology of a district which is undoubte
most carefully investigated portions of North Ameri

124. *Stevenson on the Dusky Shearwater in Norfol*

[On the Occurrence of the Dusky Petrel or Shearwater (
obscurus) in Norfolk in 1858; its first known appearance in
By Henry Stevenson. Trans. Norfolk and Norwich Nat. Soc.
p. 467.]

Although the occurrence of this species was reco
Mr. Stevenson in 'The Zoologist' for 1858 (p. 609
specimen had been lost sight of for thirteen years, and,
been traced by Mr. J. H. Gurney, jun., to its resting-p
Earsham Hall, and identified by a slight mutilation not
Mr. Stevenson when first he examined it, was exhibit
the Zoological Society's meeting of 16th May, 1882.
is really the only authenticated occurrence of this occ
species *in* the British Islands; for the supposed Irish specim
was obtained at sea at some unknown distance off the island
of Valentia in the south-west of Ireland. It would be interesting to know whether the latter is still in existence.

125. *Taczanowski on the European Nuthatches.*

[Notice sur la Sittelle d'Europe (*Sitta europæa*, Linn.). Par M. L. Taczanowski. Bull. Soc. Zool. de France, 1882, p. 425.]

Premising that the only alleged specific difference between *Sitta europæa*, Linn., and *S. cæsia*, Meyer and Wolf, consists in the coloration of the underparts, the author gives the result of an examination of upwards of 70 examples from carefully-chosen localities. He is convinced that the two forms only constitute one species, a perfect gradation existing between the pure white of the northern form and the ochre-colour of the birds of central and southern Europe. The inexplicable point is that the pure white form of St. Petersburg is cut off from that of Podolia by the less white forms found in Volhynia, Lithuania, and Moscow.

126. *Taczanowski on the Birds of Kamtschatka.*

[Liste des Oiseaux recueillies par le Dr. Dybowski au Kamtschatka et dans les îles Comandores. *Tom. cit.* p. 419.]

Out of [illegible]se collections sent by Dr. Dybowski, only two, co[illegible]ng the smaller birds, have arrived, the birds of prey [illegible]sea-birds having been more than a year on their way; [illegible] this Catalogue is issued subject to revision. The [illegible]ula of Kamtschatka is stated to be very poor in land-[illegible]both as regards species and numbers; and although not [illegible]ted they are remarkably shy. The list contains 67 [illegible] *Sitta albifrons* being described as new, and charac-[illegible] by its long bill and white edge to the wing-coverts. [illegible]a few species appear to have been obtained on the [illegible]dores, one of them being *Corydalla gustavi*, Swinh., [illegible] nests there.

[illegible]*7. Tschusi zu Schmidhofen and E. F. von Homeyer on [illegible]—Hungarian Birds.*

[illegible]Verzeichniss der bisher in Oesterreich und Ungarn beobachteten Vögel. [illegible]on Victor Ritter von Tschusi zu Schmidhofen in Verbindung mit Eug. [illegible]erd. von Homeyer.]

A list of the 394 species of birds found in Austria and Hungary, drawn up in six columns, with the Latin and German, Hungarian, Bohemian, Polish, Croatian, and Italian vernacular names (where such exist) for each. Up to a certain point this polyglot version may be useful to ornithologists in coming to an understanding with the people of the country.

XLII.—*Letters, Announcements, &c.*

Ordnance Office, Dublin,
20th August, 1883.

Sirs,—Understanding that much interest is felt in the breeding-habits of the Rose-coloured Starling (*Pastor roseus*), more commonly called the Locust-bird in the East, I have the pleasure of sending you a few notes on that subject.

I had frequently seen the Locust-bird, or Russet Starling (called by the Moslems "Ala Segherjik"), in Asia Minor; but I came across one of their breeding-places, for the first time, on the 26th May, 1881, when visiting the large [illegible]rries from which the celebrated Synnadic or Docimian marble [illegible] obtained. These quarries are about two miles fro[illegible] Kara-hissar (Docimian), shown on Kiepert's map as Esk[illegible] hissar, to the north-east of Afium Kara-hissar. The [illegible] and slopes of the quarries are covered with loose st[illegible] all sizes, the débris left by the quarrymen; and it wa[illegible] these stones that the birds had made their nests. Th[illegible] consisted in some cases of a few dried blades of gr[illegible] ranged in a shallow hollow in the rubbish; but, as [illegible] the eggs appeared to have been laid on any spot whe[illegible] ground offered a fairly smooth surface. Each nest con[illegible] six eggs of a pure, or slightly bluish, white; I tried to [illegible] some of the eggs, but in each case found the chick [illegible] formed and nearly ready to hatch. The whole quar[illegible] alive with birds; at each step a flight started up from [illegible] débris, and the chattering noise they made was quite deafe[illegible] ing; their habits reminded me in many ways of those of th[illegible] English Starling. A few Jackdaws and the Common Star[illegible] ling were also breeding in the quarries. The people of Ichjé Kara-hissar told me that the birds had suddenly appeared two years previously and taken possession of the quarries as if they had always bred there.

On the 3rd June, 1881, shortly before reaching Sivri-hissar, my attention was attracted by the number of Locust-birds in the air, and, on looking closer, I found that they formed two streams, one above the other, coming from and returning to the high volcanic rocks behind the town; the birds in the upper stream were going to an army of young locusts, and those in the lower were returning, each with as many locusts as it could carry. I heard afterwards that the birds were breeding in the rocks, but did not visit the place: judging from the fact that the old birds were carrying locusts home to their nests, the young must have been hatched.

On the 7th June, 1881, I found another breeding-place of

the Locust-bird at Bulkuyunjuk, a village near Angora. It was a most curious and interesting sight; the birds had arrived four days previously and literally taken possession of the village, the houses and garden-walls of which are built of loose stones. The birds were running in and out of the loose stones, their nests, and the walls of the mosque, houses, and were full of them; numbers, too, were taking a bath spring and stream or sunning themselves after it; were very tame, and seemed to be on excellent terms people, who were only too glad to have them, as the round was covered with locusts. The noise was greater than at the quarries of Ichjé Kara-hissar. quickness with which the Russet Starling seizes the s, both on the ground and in the air, is very striking, I know of few prettier sights than that of a flock of st-birds attacking an army of locusts on the wing; the s dash through the air with almost inconceivable rapidity, ning to the natives as if they were possessed by some ne fury, and strike the locusts as they pass on the nape the neck, sometimes almost severing the head from the body. In the younger stages of the locusts the birds feed upon them; but when the locusts reach the size of a large grasshopper and afterwards the flying stage, the Starlings appear to kill them for mere amusement or in obedience to some unknown instinct. The Russet Starling is a very voracious and almost omnivorous bird, and it is almost as much dreaded for the damage which it does to the fruit as welcomed for its enmity to the locust; I had a good example of this on one occasion when I found flocks of young birds stripping the fruit-trees between Tocat and Amasia. I have never seen the Locust-bird in winter, and believe it is migratory in Asia Minor; the natives always told me that the birds appeared suddenly in dense flocks, and that they were rarely known to remain more than three consecutive summers in the same place. I am unable to explain why the birds were so much later in arriving at Bulkuyunjuk, as the altitude and climate are much the same as at the other two breeding-places.

C. W. Wilson, R.E., F.R.S.

Tudor House, Champion Hill, S.E.
August 17, 1883.

Sirs,—As I find that you have referred in 'The Ibis' to what I told Dr. Pechuel Loesche at Banana respecting the presence of *Balæniceps rex* on the Cunéné, I beg leave to send you the following extract from my diary respecting the bird:—"River Cunéné, near Humbi (lat. 16° 50' S.), [illegible] 16th 1882. There are here many acres of dried-up mud and occasional lagoons shaded with fine trees. On the reaches of still water innumerable wading birds are seen, have a boldness of demeanour only accountable for by the supposition that man rarely comes here. Pelicans, Shoe-billed and Marabou Storks, *Balæniceps rex*, and Crowned Cranes are to be distinctly seen amid the short grass and scattered pools," &c., &c. And further on: "On these sand-banks, amid the sleeping crocodiles, and apparently in no fear of them, were standing one or two *whale-headed* Storks and Spur-winged Geese." On my return from the Cunéné to Lord Mayo's hunting-veldt, about 40 miles off, I mentioned *Balæniceps* to him among the birds I had observed, and I believe he subsequently saw it there himself.

I am, Yours &c.
H. H. Johnston.

Smithsonian Institution, Washington,
August 18, 1883.

Sirs,—On page 350 of the July number of 'The Ibis' Mr. Saunders refers to a specimen of the Cinereous Shearwater (*Puffinus kuhli*) in one of the mounted groups of the American section at the International Fisheries Exhibition, and, with reference to the locality of the specimen in question (Beyrout, Syria), suggests that "probably there has been a mistake in sorting the specimens." Having been charged with the selection and preparation of the National Museum exhibit of North-American aquatic and fish-eating birds, an explanation may be expected from me as to why this foreign specimen is included.

As may be seen upon reference to the official catalogue

which accompanies the collection, there are not a few instances where it was found necessary to represent an American species by foreign specimens, the alternative being to leave them out altogether, and it was the principal aim to exhibit as [illegible]plete a collection of our water-birds as possible. In [illegible]stances we possess native specimens; but they are [illegible]nique in the collection, and therefore not to be taken [illegible] else not sufficiently perfect for exhibition. In the [illegible] *Puffinus kuhli*, which has long been considered an [illegible]n species (though, I now believe, incorrectly—our [illegible]ing the larger, but otherwise similar, *P. borealis*, Cory), [illegible]ational Museum did not possess a specimen from the [illegible]n side of the Atlantic, and consequently the one above [illegible]oned had to be taken. It is true that a specimen of [illegible]*ealis*, as a distinctively American species, would have [illegible]red the purpose better; but of the latter we have only [illegible]xample, and unique specimens were ineligible.

[illegible]this connexion some further remarks respecting the [illegible]ional-Museum collection may not be without interest to [illegible]e readers of 'The Ibis.'

The collection was got together on very short notice, it having been decided only at the last moment to make such an exhibit; otherwise several species not represented would have been obtained for the purpose by exchange or purchase. It should also have been stated in the catalogue that the mounted groups were put up by Mr. Henry Marshall, the taxidermist of the bird department of the U.S. National Museum, and Mr. Frederick S. Webster, of Professor Ward's establishment, in Rochester, N. Y.,—groups A, B, I, J, K, and L being the work of Mr. Marshall, and groups C to H that of Mr. Webster. The bills and feet of all the mounted specimens, however, were painted by me, from field-notes or colour-sketches made from the living or freshly killed birds, in many cases by myself, and in all cases by careful and responsible collectors. Thus, the brilliant colours of the pouch and other naked parts of the White Pelican (*P. erythrorhynchus*) are exactly those of specimens killed by me during the breeding-season at Pyramid Lake, Nevada (see Orn. 40th Parallel Exp.

pp. 634, 635), and will explain why I prefer Gmelin's name *erythrorhynchus* for this species to Latham's later one of *trachyrhynchus*. It is true that the bill [illegible] pouch are reddish only during the breeding-season, but it is equally true that the horny maxillary crest is dr[illegible]ore the colours begin to fade! The colours of the spe[illegible] the Brown Pelican (*P. fuscus*) are those of the san[illegible] vidual when freshly killed, as recorded by the collect[illegible] L. Belding. These colours are materially differen[illegible] those given by Audubon for the Atlantic bird, and [illegible] connexion with the black instead of rich seal-brown[illegible] indicate the specific or subspecific diversity of the l[illegible] coast representative.

In conclusion, I may be pardoned for adding that, [illegible] official catalogue of the International Exhibition, the Na[illegible] Museum collection of aquatic and fish-eating birds [illegible] some incomprehensible error, credited to "Mr. W. T. H[illegible] aday, Washington, D.C." The gentleman named, how[illegible] had nothing to do with the collection in question except [illegible] mounting of a single specimen, the fine example of the Ba[illegible] Eagle (*Haliaetus leucocephalus*), the entire exhibit having been got up by myself, with the professional assistance of Mr. Marshall and Mr. Webster, as mentioned above.

Yours &c.,

ROBERT RIDGWAY,
Curator Department of Birds,
U.S. National Museum.

Smithsonian Institution, Washington, D.C.,
August 25, 1883.

SIRS,—I beg to call your attention to the enclosed circular invitation, addressed to a large number of American ornithologists. The responses received thus far have been prompt, cordial, and unanimously favourable to the proposition; and there is every prospect of the successful establishment of the organization, the character and purposes of which are so fully set forth in the invitation that I need not say more. May we not look for recognition and encourage-

older organization of similar character in

Yours &c.,
ELLIOTT COUES.

(*Enclosure.*)

"A. O. U.

"Cambridge and Washington,
August 1, 1883.

DEAR SIR:—

"You are cordially invited to attend a convention *merican Ornithologists*, to be held in New York City, nning on September 26, 1883, for the purpose of found- an AMERICAN ORNITHOLOGISTS' UNION, upon a basis lar to that of the 'British Ornithologists' Union.' The e of meeting will be announced hereafter.

"The object of the Union will be the promotion of social nd scientific intercourse between American Ornithologists, and their cooperation in whatever may tend to the advancement of ornithology in North America. A special object, which it is expected will at once engage the attention of the Union, will be the revision of the current lists of North-American birds, to the end of adopting a uniform system of classification and nomenclature, based on the views of a majority of the Union, and carrying the authority of the Union. Other important matters will be doubtless presented for consideration at the first meeting.

"It is proposed to hold meetings at least once annually, at such times and places as may be hereafter determined, for the reading of papers, the discussion of such matters as may be brought before the Union, and the transaction of the usual business of a scientific society.

"Those who attend the first meeting will be considered *ipso facto* Founders of the American Ornithologists' Union. Active and Corresponding Members may be elected in due course after organization of the Union, under such rules as

may be established for increase of members
organization will be considered at the first me

"Should you favour this proposition, and p
the first meeting, please so signify to any one o
signed.

"J. A. Allen,
Cambridge, Mass.,
Editor of the Nuttall B

"Elliott Coues,
Washington, D.C.,
Assoc. Editor of the Nuttall

"William Brewster,
Cambridge, Mass.,
President of the Nuttall Cl

[On the part of the Members of the B. O. U. we
hardly say that we tender to the A. O. U. our most co
good wishes for their success.—Edd.]

Birds of Bering Island.—The recently issued sheets of
'Proceedings of the U.S. National Museum' contain so
very interesting letters from Mr. L. Stejneger, with an accou
of his expedition to Bering Island, well known as the former
home of the extinct *Rhytina stelleri*. Mr. Stejneger arrived
at Gavan, the harbour of Bering Island, on the 7th of May
last year (*viâ* San Francisco), and after a short visit to Petro-
paulovski (where he met with Dr. B. Dybowski) returned to
Bering Island, and made an excursion round its shores,
where in one locality *Rissa brevirostris* was found in large
flocks. The general *facies* of the land-fauna is pronounced
to be Palæarctic. The total number of species recognized up
to the date of the letter amounted to sixty-one, without
counting those collected in Petropaulovski; and besides these
Mr. Stejneger had observed about ten species of which no
specimens had been secured. Among the latter were *Sterna
longipennis*, Temm., of which only four pairs had bred on the
island; but *Sterna aleutica* was looked for in vain. Upon
the whole the poverty of representatives of the subfamilies
Sterninæ and Larinæ was very noticeable.

The correct Name of the American Cow-bird.—The name for the Cow-bird now proposed to be used by the American ornithologists is "*Molothrus ater* (Bodd.), Gray" (see Coues's Check-list, ed. 2, p. 63, 1882, and Ridgw. P. U. S. N. M. iii. p. [illegible]; but I believe it should remain *M. pecoris* (Gm.), as [illegible]re generally written. On reference to Boddaert's [illegible].37, it will be observed that he does not propose to give [illegible]*ame*, "*Oriolus ater*," to Daubenton's "*Troupiale de la* [illegible]*e*" (Pl. Enl. 606. fig. 1), but merely quotes (as a syno- [illegible] Daubenton's figure) "*Oriolus ater*, Black Oriole, Lath. [illegible]i. p. 445. n. 337." But the synonym is incorrect, for [illegible]m's "Black Oriole" is quite another bird. Moreover, [illegible] Boddaert intends to make an original name he usually [illegible]after it the word "mihi." Therefore I contend that it [illegible] all events, *doubtful* whether Boddaert intended to give [illegible]y name in this case, and that the scientific name of the [illegible]bird should remain *Molothrus pecoris*.—*P. L. Sclater.*

[illegible] *from Emin Bey*.—Dr. Hartlaub writes [illegible]t he has just received from Emin Bey, the governor of [illegible]he Egyptian equatorial provinces, a new collection of birds, made in the country east of the Bahr el Djebel. Amongst other novelties there are examples in it of a fine new species of Wryneck (*Iynx*) and of the rare Certhiine form *Hylypsornis salvadorii*, originally discovered in Benguela, the occurrence of which in Central Africa (as being so nearly akin to the Himalayan *Salpornis*) might have been anticipated.

Discoveries in East-African Ornithology.—Dr. Fischer, who started on an expedition into the interior from Mombas early this year, is stated to have returned to the coast, after penetrating far into the unknown district to the west and north-west of Kilimandjaro. He is said to have remained some weeks at Lake Naivash (a sheet of water hitherto unvisited by Europeans), and to have obtained a large series of birds, of which the German ornithologists will no doubt give us a good account.

News of Zoological Travellers.—Mr. H. O. Forbes, who made such a successful expedition to Timor Laut, has

returned to England for a few months, but only to make preparations for another trip to the Moluccas and the adjacent Papuan Islands, which offer so vast a field for the energetic explorer.—Dr. O. Finsch is at present resident at Bremen, hard at work on the materials accumulated during his four years' travel in the Pacific; but he has promised us in London in the course of the winter and show wonderful series of sketches of wild life and savage custo Mr. H. H. Johnston, whose letter on the *Balæniceps* is above, is also engaged on the results of his successful e tion to S.W. Africa. His birds, among which are so great interest, have been placed in Capt. Shelley's han determination.—Our friend Major C. H. T. Marshall, resident in the little Hill-State of Chumba, adjacent to mere, has discovered a new Monaul (*Lophophorus*), of w we shall give a figure in our next number. He also pro us an early article upon the birds of Chumba.

Obituary.—Adrian Luis Jean Francis[illegible] an able naturalist and collector, well known to the scienti world, died on the 26th of September, 1882, after a short illness, and in the fifty-fourth year of his age, at Tonala (Chiapas), Mexico.

Professor Sumichrast, although for thirty years a resident in Mexico, to the study of the natural history and antiquities of which country he devoted much of his attention, was a European by birth, having been born on the 15th of October, 1828, at Yvorne (Canton du Vaud), Switzerland. He was a member of the Société des Sciences Naturelles du Canton du Vaud, of La Sociedad Mexicana de Geografia, of the Société Zoologique de France, of the Entomological Society of Philadelphia, &c., and a valued and active correspondent of the Smithsonian Institution, of the Cambridge Museum of Comparative Zoology, and of several other noted scientific institutions ('American Naturalist,' vol. xvii. p. 904). Prof. Sumichrast is well known to ornithologists as the author of an excellent memoir on the geographical distribution of the native birds of the department of Vera Cruz, published in the Memoirs of the Boston Society of Natural History, vol. i. pp. 542–563 (1869).

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