CATALOGUE

OF THE

BIRDS

IN THE

BRITISH MUSEUM.

ZOOLOGICAL GARDENS
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CATALOGUE

OF THE

ACCIPITRES,

OR

DIURNAL BIRDS OF PREY,

IN THE

COLLECTION

OF THE

BRITISH MUSEUM.

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BY

R. BOWDLER SHARPE.

LONDON:
PRINTED BY ORDER OF THE TRUSTEES.
1874.



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PREFACE.

This volume contains a complete account of all the species of Diurnal Birds of Prey known at present, 377 in number, of which only about twenty-five are desiderata in the Collection of the British Museum. In the year 1848, when the Catalogue of *Accipitres* prepared by the late Mr. George Robert Gray was published by order of the Trustees, 198 species were contained in the Museum.

This Catalogue has been prepared by Mr. R. B. Sharpe, one of the Senior Assistants in the Department of Zoology.

J. E. GRAY.

British Museum,
June 1, 1874.

INTRODUCTION.

The total number of species of Diurnal Birds of Prey at present known amounts to 377. Of these, about 23 are doubtful or problematical; and of the remaining 354, 326 are represented in the collection of the British Museum.

The total number of specimens enumerated in this volume amounts to 2466. Of the numerous acquisitions by which the collection has recently been enriched, the following are the most important:—

1. The complete collection of Mr. Wallace, which was secured last year by the Trustees, and supplied a considerable number of desiderata, besides completing the series of many Moluccan species.

2. The collection of Birds of Prey of John Gould, Esq., F.R.S., including the series of Falcons described and figured by him in the 'Birds of Great Britain.'

3. The entire collection of birds formed by Major J. Hayes Lloyd in Kattiawar, and presented by him to the Museum.

4. A large collection of South-African birds, presented by John Rocke, Esq.

5. A series of many fine specimens of some of the rarer European Birds of Prey, presented by Baron A. von Hügel.

6. The collection of Eagles made by Dr. Strader in the district of the Southern Ural and adjacent parts.

The list of desiderata has also been considerably decreased by presents from the following gentlemen:—Professor Schlegel, Dr. Westerman, Captain Shelley, Mr. W. Wilson Saunders, Viscount Walden, Messrs. Henry Ansell, A. Bouvier, Howard Saunders, W. T. Blanford, J. H. Gurney, Captain Unwin, Professor Newton, and the Rev. Chancellor Augustus Morgan.

The special thanks of the Author for valuable assistance and loan of specimens are due to the Marquis of Huntly, Prof. Peters, Dr. Otto Finsch, Dr. Cabanis, Prof. Barboza du Bocage, Dr. Dubois, Count Salvadori, Messrs. Salvin and Godman, G. Gillett, H. E. Dresser, Basil Brooke, and Canon Tristram.

It remains only to explain the affixes to the names of the persons from whom the specimens were obtained. "[P.]" means "Presented by;" "[C.]"="Collected by;" "[E.]"="Obtained by exchange."

R. B. SHARPE.

British Museum,
June 1, 1874.

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CATALOGUE

OF

BIRDS



Order I. ACCIPITRES.

Bill short, strong, stout at the base, the culmen strongly curved, the direction of the tip perpendicular. Feet strong, armed with powerful talons of an elongated conical shape, curved, sharp, and rather smooth. Talons capable of being bent under the feet, the inner one stronger than the others and more curved.

Cf. Sundevall, Av. Tent. p. 102 (1873).

Synopsis of Suborders.

a. With no facial disk; plumage compact; nostrils generally not concealed by bristles.
  a'. Outer toe not reversible ..... **FALCONES.**
  b'. Outer toe reversible ..... **PANDIONES.**
b. With a facial disk; plumage soft and fluffy; nostrils usually hidden by stiff bristles ..... **STRIGES.**

Suborder FALCONES.

Outer toe not reversible; toes devoid of feathers; eyes placed laterally in the head; cere, as a rule, not hidden by bristles, generally soft and fleshy, but often horny.

Synopsis of Families.

a. Head naked, or clothed with down; no *true feathers on crown* of head ..... **Vulturidæ**, p. 2.
b. Head covered with feathers; *true feathers always* present *on crown* of head ..... **Falconidæ**, p. 30.

Family VULTURIDÆ.

Head and neck more or less bare, or only clothed with short stubby down; never any true feathers on crown of head.

a. Nostrils not perforated.... *Subfam. VULTURINÆ*, p. 2.
b. Nostrils without bony septum, perforated.
Subfam. SARCORHAMPHINÆ, p. 20.

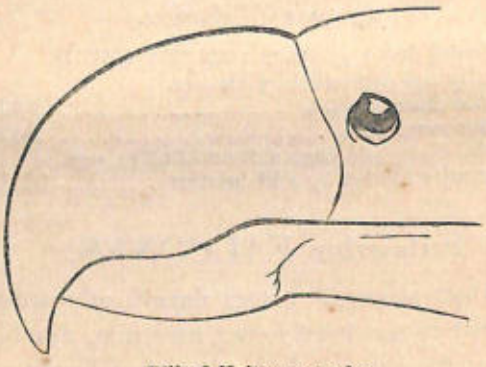
Subfam. I. VULTURINÆ (OLD-WORLD VULTURES).

Key to the Genera.

a. Nostrils rounded ..... 1. VULTUR, p. 2.
b. Nostrils perpendicular, rather oval in shape.
a''. Tarsus shorter than middle toe*.
a'''. Fourteen tail-feathers ..... 2. GYPS, p. 4.
b'''. Twelve tail-feathers ..... 3. PSEUDOGYPS, p. 11.
b''. Tarsus longer than middle toe.
c'''. Head bare, with fleshy folds and a neck-lappet ..... 4. OTOGYPS, p. 13.
d'''. Head covered with down, forming an occipital ridge; no neck-lappet.... 5. LOPHOGYPS, p. 15.
c. Nostrils horizontal ..... 6. NEOPHRON, p. 16.

1. VULTUR.

	Type.
Vultur, *Briss. Orn.* i. p. 453 (1760)	V. monachus.
Ægypius, *Savigny, Syst. Ois. d'Egypte*, p. 236 (1808)..	V. monachus.
Polypteryx, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844)	V. monachus.



Bill of *Vultur monachus*.

Range. All countries bordering the Mediterranean; eastwards to India and China.

* The unwieldy scutellation of the foot in Vultures rendering it almost impossible to obtain precise measurements, the generic characters have been drawn from the skeleton.

1. Vultur monachus.

e Crested or Coped Black Vulture, *Edwards, Glean.* ii. p. 171, pl. 290 (1760).
Le Vautour, *Briss. Orn.* i. p. 453 (1760); *Buff. Pl. Enl.* i. pl. 425.
Le Vautour noir, *Briss. tom. cit.* p. 457 (1760).
Le Vautour d'Arabie, *Briss. tom. cit. Suppl.* p. 29 (1760).
Vultur monachus, *Linn. S. N.* i. p. 122 (1766, *ex Edw.*); *Shaw, Gen. Zool.* vii. pt. 1, p. 23, pls. 7, 8, 9 (1809); *Gray, Gen. of B.* i. p. 5 (1844); *Cass. Cat. Vult. Phil. Mus.* p. 1 (1849); *Bp. Consp.* i. p. 11 (1850); *Strickl. Orn. Syn.* p. 7 (1855); *Jerd. B. of Ind.* i. p. 6 (1862); *Schl. Mus. P.-B.* Vult. p. 9 (1862); *Gurney, Cat. Rapt. B.* p. 67 (1864); *Degl. & Gerbe, Orn. Eur.* i. p. 5 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 11 (1869); *Hume, Rough Notes,* i. p. 1 (1869); *Gray, Hand-l. of B.* i. p. 2 (1869); *Salvad. Faun. d'Ital. Ucc.* p. 1 (1871); *Swinh. P. Z. S.* 1871, p. 338; *Shelley, B. of Egypt,* p. 209 (1872); *Dresser, B. of Eur.* pt. xiii. (1872).
Arabian Vulture, *Lath. Gen. Syn.* i. p. 8 (1781).
Cinereous Vulture, *Lath. Gen. Syn.* i. p. 14 (1781).
Black Vulture, *Lath. Gen. Syn.* i. p. 16 (1781).
Vultur cinereus, *Gm. S. N.* i. p. 247 (1788); *Meyer u. Wolf, Taschenb.* i. p. 4, pl. 2 (1810); *Temm. Man. d'Orn.* i. p. 4 (1820); *Naum. Vög. Deutschl.* i. p. 155, pl. 1 (1822); *Werner, Atlas,* Rapaces, pl. 2 (1827); *Brehm, Vög. Deutschl.* p. 8, pl. 2. fig. 1 (1831); *Gould, B. of Eur.* i. pl. 2 (1837); *Strickl. Orn. Syn.* p. 6 (1855); *Jaub. & Barth. Rich. Orn.* p. 20, pl. 1 (1859); *Pelz. Verh. z.-b. Wien,* 1862, p. 126; *Bree, B. of Eur.* i. p. 7 (1863).
Le Chincou, *Levaill. Ois. d'Afr.* i. pl. 12 (1799).
Vultur chincou, *Daud. Traité,* ii. p. 12 (1800, *ex Levaill.*).
Vultur vulgaris, *Daud. tom. cit.* p. 17 (1800).
Vultur arrianus, *Daud. tom. cit.* p. 18 (1800).
Vultur niger, *Daud. tom. cit.* p. 17 (1800); *Licht. Verz. Doubl.* p. 62 (1823); *Vieill. et Oudart, Gal. Ois.* i. p. 4, pl. 1 (1825); *Brehm, Vög. Deutschl.* p. 9 (1831).
Ægypius niger, *Savigny, Syst. Ois. d'Egypte,* p. 237 (1809).
Gyps cinereus, *Bp. Comp. List B. Eur. & N. Am.* p. 2 (1838); *Keys. & Blas. Wirb. Eur.* p. 133 (1840).
Ægypius cinereus, *Bp. Cat. Met. Ucc. Europ.* p. 17 (1842).
Polypteryx cinereus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844); *Blyth, Ann. N. H.* xiii. p. 115 (1844).

Adult. Entirely black, with chocolate-brown reflections; crop-patch black; head covered with thick velvety down, collecting towards the occiput and forming there a conspicuous patch; down on sides of face more bristly, especially on the lores; above the eye and on the cheeks the down is rather more silky, and produced in a couple of elongated tufts; all the rest of the head and neck, both behind and laterally, is bare, of a livid flesh-colour in life; chin covered with bristly down, becoming scantier on the throat, on the lower part of which is a small projecting tuft of feathers; bill black; feet yellowish; iris dark brown*. Total length about 42 inches, culmen 3·3, wing about 30, tarsus 4.

* I have endeavoured to draw the descriptions of the soft parts from the best authorities, to whom, however, it is impossible to refer in detail. I may mention my indebtedness to the following ornithologists in regard to this portion of the

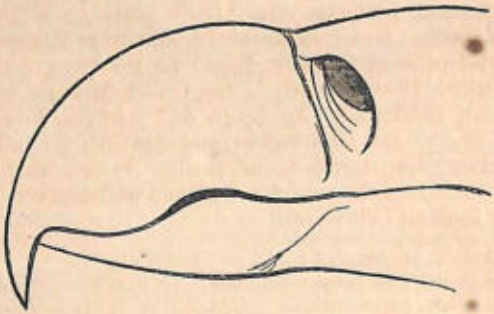
Very old. Much paler than the foregoing, of a light brown colour; breast-feathers and those of the ruff fulvescent at their tips, giving a somewhat streaked appearance; beak much mixed with yellowish, the lower mandible especially *.

Hab. The same as that of the genus.

a. Ad. sk.	Seville, Spain.	R. B. Sharpe, Esq. [P.]. Specimen figured in Dresser's 'Birds of Europe.'
b. Ad. st.	Xanthus.	Sir C. Fellowes [P.].
c. Ad. st.	N.E. Africa.	Frankfort Museum.
d, *e*. Ad. st.	Nepal.	B. H. Hodgson, Esq. [P.]
f. Juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
g. Ad. sk.	Ningpo, China.	R. Swinhoe, Esq. [C.].
h. Ad. st.		Purchased.

2. GYPS.

Type.
Gyps, *Savigny, Syst. Ois. d'Egypte*, p. 231 (1809) ..... G. fulvus.



Bill of *Gyps fulvus*.

Range. The whole of Africa, except the forest regions of the west coast; all the countries bordering the Mediterranean; E. Europe as high as 59°; eastwards through Persia to India, and thence into Siam and down the Malayan peninsula.

Key to the Species.

a. Height of bill along anterior margin of cere equal to cere itself.
  a'. Feathers of lower back and rump centred with a pale shaft-stripe.
    a''. Under wing-coverts ashy or tawny rufous.. *fulvus*, p. 5.
    b''. Under wing-coverts white.
      a'''. Largest; under surface nearly white, the shaft-streaks obsoletely indicated.... *himalayensis*, p. 8.

work:—Mr. J. H. Gurney, Prof. Newton, Messrs. Blanford, Jesse, Heuglin, Ayres, Jerdon, Swinhoe, Dresser, Cassin, Coues, Andersson, and others, but perhaps more especially to the recent works of Mr. A. O. Hume, where this very important feature of ornithology is treated in the most complete manner possible.

* This stage, which was erroneously described as the young in Dresser's 'Birds of Europe,' is really the plumage of a very old bird, as I am informed by Major Irby, who has studied the living birds in their wild state.

b'''. Smallest; under surface entirely creamy white ..... *kolbi*, p. 8.
b'. Feathers of lower back and rump not paler-centred, brown with broad fulvous tips .... *rueppelli*, p. 9.
b. Cere exceeding in length the height of bill; lower back and rump whitish, with a faint margin of pale brown on each feather ..... *indicus*, p. 10.

After a lengthened study of the Griffon Vultures I have come to the conclusion that there are only five distinguishable species. *G. indicus* is at once separated by its unusually bare head and thin bill; but the remaining species are more difficult to define. *G. rueppelli* when fully adult is unmistakable, but when young more nearly resembles the other Griffons. *G. kolbi* is characterized by its light and almost uniform coloration, and looks much more distinct when seen alive side by side with the true *G. fulvus*; and *G. himalayensis* is a large edition of *G. kolbi*, but is further remarkable for its brown-coloured young. The true *G. fulvus* (that is to say, the bird best agreeing with Albin's plate on which Gmelin founded his species) seems to be the Vulture from Eastern Europe, extending westwards as far as Sardinia; for the types of *G. occidentalis*, Schl., which I saw recently in the Leiden Museum, agree with the Dalmatian specimens. In Spain and Algeria, however, the Griffons are smaller and more rufous, and approach the Indian birds which Mr. Hume has named *G. fulvescens*. Taking, therefore, the three birds mentioned as subspecies of one well-marked form, we can separate them as follows.—

a. Crop-patch dark brown.
a'. General colour pale ashy ..... *fulvus*.
b'. General colour rufescent..... *fulvescens*.
b. Crop-patch tawny, like rest of plumage ..... *hispaniolensis*.

Amidst the variations of plumage, however, it appears to me to be difficult to draw an exact line between these three subspecies.

1. Gyps fulvus.

The Vulture, *Albin, N. H. Birds*, iii. p. 1, pl. 1 (1740).
Le Vautour fauve, *Briss. Orn.* i. p. 462 (1760).
Le Percnoptère, *Buff. Pl. Enl.* i. pl. 426 (1770).
Le Griffon, *Buff. Hist. Nat. Ois.* i. p. 158, pl. v. (1770)
Le Vautour, *Buff. Hist. Nat. Ois.* i. pl. v. (1770, plate only).
Fulvous Vulture, *Lath. Gen. Syn.* i. pt. 1, p. 17 (1781).
Vultur fulvus, *Gm. S. N.* i. p. 249 (1788, *ex Lath.*); *Temm. Man.* i. p. 7 (1820); *Gould, B. Eur.* i. pl. 1 (1837); *Schl. u. Susem. Vög. Eur.* p. 12, pls. 3, 3*a* (1839); *Naum. Vög. Deutschl.* xiii. Taf. 338 (1860); *Finsch, Tr. Z. S.* vii. p. 199 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 31 (1870).
Vultur percnopterus, *Shaw & Nodder, Nat. Misc.* iv. pl. 141 (1793).
Vultur trencalos, *Bechst. Naturg. Deutschl.* ii. p. 491 (1805).
Gyps vulgaris, *Sav. Syst. Ois. d'Egypte*, p. 232 (1809).
Vultur leucocephalus, *Meyer u. Wolf, Taschenb.* i. p. 7 (1810).
Vultur persicus, *Pall. Zoogr. Rosso-As.* i. p. 377 (1811).
Vultur vulgaris, *Bonn. et Vieill. Enc. Méth.* iii. p. 1170 (1823).

Vultur albicollis, *Lindermayer, Isis*, 1843, p. 326 (*ex Brehm*).
Gyps fulvus, *Gray, Gen. of B.* i. p. 6 (1844); *Cass. Cat. Vult. Phil. Mus.* p. 2 (1849); *Bp. Consp.* i. p. 10 (1850); *Fritsch, Vög. Eur.* p. 2, Taf. 1. fig. 3 (1858); *Pelz. Verh. z.-b. Wien*, 1862, p. 129; *De Filippi, Viagg. Pers.* p. 345 (1865); *Gray, Hand-l. of B.* i. p. 2 (1869); *Salvad. Faun. d'Ital. Ucc.* p. 2 (1871); *Newton, ed. Yarrell's Brit. B.* p. 1 (1871); *Shelley, B. of Egypt*, p. 210 (1872); *Harting, Handb. Brit. B.* p. 83 (1872).
Vultur fulvus occidentalis, *Schl. Rev. Crit.* p. xii (1844); *id. Mus. P.-B.* Vult. p. 6 (1862).
Gyps occidentalis, *Bp. Consp.* i. p. 10 (1850); *Salvad. Ucc. Sardegn.* p. 14 (1864); *Degl. & Gerbe, Orn. Eur.* p. 11 (1867); *Fritsch, Vög. Eur.* p. 3 (1870).
Gyps albicollis, *Brehm, Naum.* i. Heft iii. p. 23 (1851).
Vultur ægyptius, *Licht. Nomencl. Av.* p. 1 (1854).
Vultur kolbii, *Erhard, Naum.* 1858, p. 16.
Vultur fulvus orientalis, *Schl. Mus. P.-B.* Vult. p. 6 (1862).

Adult. Ruff white; upper parts ashy fulvous, the interscapulars with obsolete whitish shaft-stripes, some of them darker brown, giving a mottled appearance, others shaded with grey; wing-coverts a little paler than the back, shaded with ashy, greater series dark brown at base, edged and broadly tipped with creamy white; lower back and rump dark brown, the feathers centred with fulvous; upper tail-coverts pale ochraceous buff; quills and tail black, with a slight brownish shade, the outer secondaries broadly edged with ashy, the inner ones tipped with ochraceous buff; crop-patch brown; under surface of body pale creamy brown, with very narrow whitish shaft-stripes; cere bluish black; bill yellowish white horn-colour; feet lead-colour; iris reddish orange. Total length about 40 inches, culmen 3·7, wing about 29, tail 12, tarsus (in skeleton) 4·4, middle toe 4·9.

Hab. Eastern Europe, from below 59° N. lat. in the Ural as far westward as Sardinia, sometimes ranging into the central portions; accidental in the British Islands; (?) N.E. Africa.

a. Ad. sk.	South Hungary.	Baron A. von Hügel [P.].
b. Ad. st.	Dalmatia.	Purchased.
c. Ad. st.	Athens.	C. W. L. Merlin, Esq. [P.].
d. Ad. st.	[South Africa?]	Purchased.
e. Skeleton.		Zoological Society.

Subsp. *a.* **Gyps hispaniolensis**, nob.

Vultur fulvus, *Naum. Vög. Deutschl.* i. p. 162, Taf. 2 (1822); *Werner, Atlas*, Rapaces, pl. 2 (1827); *Schl. u. Susem. Vög. Eur.* p. 12, pl. 2 (1839); *Dubois, Ois. d'Eur.* pls. 2, 3 (1862).
Vultur chassefiente, *Rüpp. N. W. Vög.* p. 47 (1835).
Vultur kolbii, *Carst. Naum.* ii. Heft i. p. 76 (1852).
? Vultur fulvus occidentalis, *Heugl. Orn. N.O.-Afr.* i. p. 1 (1869).

Adult. Above ashy fawn-colour, with a slight greyish shade near the base of the feathers, the median wing-coverts paler and more fulvescent towards the tips, greater series dark brown, shading into ashy and thence into fulvous at the tips; rump and upper tail-

coverts rufous fawn-colour, with whitish shaft-stripes; quills and tail black, the latter as well as the secondaries somewhat shaded with brown; ruff of lanceolate feathers, whitish, with fawn-coloured margins; crop-patch rufous fawn-colour, as also the rest of the under surface, each feather plainly streaked down the centre with whitish. Total length about 37 inches, culmen 3·5, wing 27, tail 12·5, tarsus (in skin) about 4·3, middle toe about 4·8.

Hab. Spain and Northern Africa, ranging far into the interior; (?) N.E. Africa.

Obs. The Griffon Vulture of N.E. Africa still requires identification; and I have not been able to examine specimens. The bird procured by Major Denham in Central Africa, and still preserved in the Museum, appears to me to belong to the rufous race of Algeria and Spain; on the other hand Mr. E. C. Taylor tells me that he never saw the slightest difference between the *Gyps* of Egypt and the ordinary Griffon of the other countries of S.E. Europe; but he collected no specimens. If Dr. von Heuglin's identification be correct, the bird from N.E. Africa may be the true *G. fulvus*; or, again, both races may occur there, the one coming from the north, the other from the west. On this subject see Von Heuglin's recent remarks (Nachtr. Orn. W.-Afr. p. 1).

a. Ad. sk.	Southern Spain.	R. B. Sharpe, Esq. [P.].
b. Ad. st.	Europe.	Purchased.
c. Ad. st.	Central Africa.	Major Denham [P.].
d. Sternum.		Purchased.

Subsp. β. Gyps fulvescens.

Gyps fulvus, *Jerdon, B. Ind.* i. p. 8 (1862).
Gyps fulvescens, *Hume, Ibis*, 1869, p. 356; *id. Rough Notes*, i. p. 15 (1869); *Blyth, Ibis*, 1870, p. 158; *Jerdon, Ibis*, 1871, p. 235; *Hume, Str. F.* i. p. 149.

Adult. Above rufous ashy, the interscapulary region rather darker and browner, the wing-coverts paler and more decidedly washed with ash-colour; lower back and rump brown, with distinct central streaks of fulvous white, the upper tail-coverts more clearly rufescent; quills brownish black, the primaries distinctly shaded with ashy grey, the secondaries externally washed and tipped with rufous ashy; tail black, the feathers shaded with brown on their margins; head rather thickly clothed with yellowish-white down, a little more scanty on the neck, round the hinder part of which is a thick ruff of white feathers; crop-patch dark brown; rest of under surface fulvous brown, with distinct whitish central stripes, the under wing-coverts somewhat darker. Total length about 40 inches, culmen 3·7, wing 30, tail 12·5, tarsus 5·2.

Young. Ruff composed of lanceolate feathers, brown, mesially streaked with whitish; plumage paler than in the adults, all the feathers plainly streaked with fulvous, the under surface very distinctly striped.

Hab. Sindh, N.W. Provinces, and Himalayas in India.

a. Juv. st.	India.	J. R. Reeves, Esq. [P.].
b, *c*. Ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
d. Skeleton.		B. H. Hodgson, Esq. [P.].
e, *f*. Skulls.		B. H. Hodgson, Esq. [P.].
g. Sternum.		B. H. Hodgson, Esq. [P.].

2. Gyps himalayensis.

Vultur indicus, *Temm. Pl. Col.* i. pl. 26 (1824); *Gray, Cat. Accipitr.* 1844, p. 3.
Gyps indicus, *Adams, P. Z. S.* 1858, p. 468.
Vultur fulvus indicus, *Schl. Mus. P.-B.* Vult. p. 7 (1862).
Otogyps fulvus, *Tytler, Ibis*, 1868, p. 194.
Gyps himalayensis, *Hume, Rough Notes*, i. p. 14 (1869); *Jerdon, Ibis*, 1871, p. 235.
Gyps nivicola, *Severtzow, Turkest. Jevotn.* p. 111, pl. vii. (1873).

Adult. General colour pale creamy whitish, with a little browner shade on the interscapulary region; lower back white, shading into pale creamy fawn-colour on the rump and upper tail-coverts; wing-coverts a little paler and more creamy than the back, greater series dark brown, externally washed with ashy and tipped with fulvous; quills black, the secondaries brownish, the innermost inclining to fulvous towards the tip; tail black, with a brownish shade; ruff round the neck whitish, the feathers rather filamentous; under surface pale creamy white, the flank-feathers and under tail-coverts washed with pale fawn-colour, giving the appearance of very pale whitish streaks, these, however, being nearly obsolete on the under surface; crop-patch whitish fawn-colour; cere pale brown; bill very pale horny green, dusky at tip; legs dingy greenish grey or white. Total length about 42 inches, culmen 3·6; wing 31, tail 15, tarsus 4·8, middle toe 5·4.

Young. Totally different from the adult, and resembling that of *G. indicus* or *Ps. bengalensis*. Entire plumage dark chocolate-brown, with central streaks of paler brown, those on the ruff and under surface being lighter, more fulvescent, and consequently more distinct.

Hab. Himalayas from Cabool to Bootan; Turkestan.

a. Juv. st.	India.	Zoological Society.
b. Ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
c, *d*. Imm. sk.	Nepal.	B. H. Hodgson, Esq. [P.].

3. Gyps kolbi. (Plate I.)

Le Chasse-fiente, *Levaill. Ois. d'Afr.* i. p. 44, pl. 10 (1799).
Vultur kolbii, *Daud. Traité*, ii. p. 15 (1800, *ex Levaill.*); *Lath. Ind. Orn. Suppl.* ii. p. 1 (1801).
Vultur fulvus, *Smith, S. Afr. Q. Journ.* i. p. 11 (1830).
Vultur indicus, *Cass. Cat. Vult. Phil. Mus.* p. 2 (1849).
Gyps kolbii, *Bp. Consp.* i. p. 10 (1850); *Pelz. Verh. z.-b. Wien*, 1862, p. 129; *Gray, Hand-l. of B.* i. p. 2 (1869); *Souza, Cat. Lisb. Mus.* p. 30 (1869); *Gurney in Anderss. B. Dam. L.* p. 5 (1871).
Gyps fulvus, *Gurney, Ibis*, 1859, pp. 235, 236; *Layard, B. of S. Afr.* p. 6 (1867); *Gurney, Ibis*, 1868, p. 463; *Ayres, Ibis*, 1869, p. 286; *Layard, Ibis*, 1869, p. 68.
Vultur fulvus kolbei, *Schl. Mus. P.-B.* Vult. p. 7 (1862).



Keulemans del.

Mintern Bros. Lith.

Gyps kolbi.

Adult. Down on head and neck more scanty than in *G. fulvus*; upper parts pale fulvous, some of the interscapulars dark brown, giving a mottled appearance, others shaded with grey; wing-coverts pale fulvous, shaded with ashy, greater series dark brown at base, edged and broadly tipped with creamy buff; lower back and rump dark brown on the margins of the feathers, the centre fulvous; upper tail-coverts clear fulvous; quills and tail black, with a slight brownish shade, inner secondaries broadly edged and tipped with ashy buff; crop-patch pale brown; rest of under surface of body pale creamy white, without any shaft-stripes; cere livid; bill horn-colour, paler on the culmen; legs and feet livid blue, with shades of dirty green; claws black; iris light brown or reddish hazel. Total length about 36 inches, culmen 3·5, wing 2·7, tail 10, tarsus about 4·2, middle toe 4·8.

Young. Head and neck with even less down on it than the adult: upper surface a little more tawny, and more mottled with dark brown; under surface pale creamy white, with pale brownish margins to the breast-feathers, scarcely, however, producing a striped appearance.

Hab. South Africa, to the Zambesi on the east, and to Damara Land on the west coast, but more sparingly in the latter country.

a. Ad. st.	Orange River, S. Africa.	M. Verreaux [C.].
b. Juv. st.	Cape of Good Hope.	South-African Museum.

4. Gyps rueppelli.

Vultur kolbii, *Cretzschm. Atlas Rüpp. Vög.* p. 47, t. 32 (1826, *nec Daud.*).

Gyps fulvus, *Rüpp. Syst. Uebers.* p. 9 (1845).

Gyps vulgaris, *Bp. Consp.* i. p. 10 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. C.* p. 4 (1854); *Layard, B. S. Afr.* p. 7 (1867, *nec Sav.*).

Vultur rüppellii, *Brehm, Naum.* 1852, Heft 3, p. 44 (*descr. orig.*); *Heugl. Orn. N.O.-Afr.* i. p. 5 (1869); *Finsch u. Hartl. Vög. Ost-afr.* p. 33, note (1870).

Gyps magnificus, *Müll. Beitr. Orn. Afr.* t. 5 (1854); *id. J. f. O.* 1854, p. 386.

Gyps rüppellii, *Bonap. Rev. et Mag. de Zool.* 1854, p. 530; *Pelz. Verh. z.-b. Wien*, 1862, p. 130; *Brehm, Reis. Habesch*, p. 240 (1863); *Antin. Cat. Ucc.* p. 3 (1865); *Gray, Hand-l. of B.* i. p. 2 (1869); *Blanf. Geol. & Zool. Abyss.* p. 285 (1870); *Gurney in Anderss. B. Dam. L.* p. 5 (1871).

Vultur fulvus rüppelli, *Schl. Mus. P.-B.* Vult. p. 7 (1862).

Nearly adult. Down on head golden yellow; ruff yellowish white; interscapular and scapular feathers dark brown, with a conspicuous crescentic edging of fulvous white; wing-coverts creamy white, the brown bases showing plainly on the median and greater series, the latter conspicuously tipped with creamy white, as also are the inner secondaries; quills black, primaries washed with chocolate-brown; lower back and rump dark brown, narrowly edged with creamy white, the upper tail-coverts more broadly; tail black, slightly shaded with chocolate-brown; crop-patch deep chocolate-brown; under surface dull creamy buff, some of the flank-feathers showing the brown bases; under wing-coverts dark brown, with cream-

coloured tips; bill deep orange, inclining to greenish horn-colour on edge of upper and on the whole of lower mandible; cere black; feet black; iris nearly black. Total length about 40 inches, culmen 3·8, wing 25·5, tail 11, tarsus about 4·7, middle toe 5·3.

Hab. N.E. Africa generally; S. Africa, Natal on the east and Ovampo Land on the west coast.

a. ♀ st.	Angollála, Shoa, Oct. 1842 (*Harris*).	Secretary of State for India [P.].
b. ♂ sk.	Angollála, Shoa, Oct. 1842 (*Harris*).	Secretary of State for India [P.].
c. ♂ sk.	Angollála, Shoa, Oct. 1842 (*Harris*).	Hon. E. I. Co. [P.].

5. Gyps indicus.

Le Grand Vautour des Indes, *Sonn. Voy. Ind. Or.* ii. p. 183, pl. 105 (1782).
Vultur indicus, *Scop. Del. Faun. et Flor. Insubr.* ii. p. 85 (1786, *ex Sonn.*).
Indian Vulture, *Lath. Gen. Syn. Suppl.* p. 6 (1787).
Vultur tenuiceps, *Hodgs. in J. E. Gray's Zool. Misc.* p. 81 (1844).
Gyps tenuirostris, *G. R. Gray, Gen. of B.* i. p. 6, pl. 3 (1844, *ex Hodgs. Icon.*); *id. Cat. Accipitr.* 1844, p. 4; *J. E. Gray, Cat. Mamm. & Birds Hodgs.* p. 38 (1846); *Cass. Cat. Vult. Phil. Mus.* p. 2 (1849); *Gray, Cat. Mamm. &c. Hodgs.* p. 16 (1863).
Gyps indicus, *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 33 (1849); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 4 (1854); *Strickl. Orn. Syn.* p. 10 (1855); *Jerd. B. of Ind.* i. p. 9 (1862); *Gray, Cat. Mamm. &c. Hodgs.* p. 16 (1863); *Gurney, Cat. Rapt. B. Norw. Mus.* p. 74 (1864); *Gray, Hand-l. of B.* i. p. 2 (1869).

Nearly adult. Head bare, long and slender; ruff dark brown, the feathers mesially streaked with fulvous; upper surface of body dark brown, all the feathers streaked down the centre with fulvous, the wing-coverts a little paler with more distinct streaks; lower back and rump creamy white, the feathers washed with brown on their edges; quills and tail black, the latter as well as the secondaries slightly washed with brown; crop-patch brown; under surface light brown, the feathers broadly streaked with creamy white, the thighs, abdomen, and under tail-coverts decidedly paler; under wing-coverts whitish, the small marginal ones dark brown with creamy-white shaft-stripes; bill dark horn-brown, yellowish on culmen and towards the tip; feet dusky cinereous; irides brown. Total length about 36 inches, culmen 3·75, wing 24, tail 11, tarsus about 4·5, middle toe 5·5.

Young. Head with scattered white down; upper surface, including lower back and rump, with distinct fulvous edgings and more or less distinct shaft-stripes; entire under surface dark brown with very broad cream-coloured median streaks to the feathers.

Cf. Hume, Rough Notes, i. p. 25.

Hab. Indian peninsula, Burmah, Siam, and Malayan peninsula.

a, b. Juv. st.	India.	
c. Ad. st.	Nepal.	B. H. Hodgson, Esq. [P.]. Type of *G. tenuiceps* and *G. tenuirostris*.
d. Ad. sk.	India.	Colonel Cobbe [C.].

I have not had an opportunity of examining the following species :—

6. Gyps pallescens.

Gyps indicus, *Hume, Rough Notes*, i. p. 21 (1869).
Gyps pallescens, *Hume, Str. F.* i. p. 150 (1873).

"I have some reasons for believing that the Subhimalayan Thin-billed Vulture, which seems always to breed on trees (Hodgson's *G. tenuiceps*, as his drawings clearly prove), at all times apparently a darker bird, is distinct from our 'plains' species, which always breeds on cliffs, the adult of which is very pale. If this be so, then it remains to make certain whether Scopoli's name of *indicus* really applies to our bird, which is apparently doubtful. If not, the bird described by me will need a name, and may perhaps stand as *G. pallescens*, nobis." (Hume, *l. c.*)

If the difference between these Thin-billed Vultures should turn out to be of specific value, the bird here described by Mr. Hume must surely be the true *Vultur indicus*, as far as Sonnerat's description and figure will allow us to determine, and the Himalayan bird will stand as *G. tenuirostris*, Hodgs.

3. PSEUDOGYPS.

Pseudogyps, *Sharpe, Ann. N. H.* (4) xi. p. 133 (1873). Type. Ps. bengalensis.

Range. Indian peninsula and Malacca; N.E. Africa, Senegal.

Key to the Species.

Black: crop-patch black ..... *bengalensis*, p. 11.
Browner: crop-patch brown ..... *africanus*, p. 12.

1. Pseudogyps bengalensis.

Bengal Vulture, *Lath. Gen. Syn.* i. pt. 1, p. 19, pl. 1 (1781).
Vultur bengalensis, *Gm. Syst. Nat.* i. p. 245 (1788); *J. E. Gray, Ill. Ind. Zool.* pl. 15. fig. 1 (1830); *Schl. Mus. P.-B.* Vult. p. 8 (1862).
Vultur leucocephalus, var. β, *Lath. Ind. Orn.* i. p. 3 (1790).
Le Changoun, *Levaill. Ois. d'Afr.* i. p. 50, pl. 11 (1799).
Vultur changoun, *Daud. Traité*, ii. p. 14 (1800, *ex Levaill.*).
Changoun Vulture, *Lath. Gen. Syn. Suppl.* ii. p. 13 (1801).
Vultur leuconotus, *J. E. Gray, Ill. Ind. Zool.* i. pl. 14 (1830); *Blyth, Ann. N. H.* xiii. p. 115 (1844).
Vultur indus, *Less. in Bélang. Voy. Zool.* p. 211 (1834).
Gyps bengalensis, *G. R. Gray, Gen. of B.* i. p. 6 (1844); *Cass. Cat. Vult. Phil. Mus.* p. 2 (1849); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 33 (1849); *Bp. Consp.* i. p. 11 (1850); *Gould, B. of Asia*, pt. 3 (1851); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 4 (1854); *Strickl. Orn. Syn.* p. 11 (1855); *Pelz. Verh. z.-b. Wien*, 1862, p. 130; *Jerd. B. of Ind.* i. p. 90 (1862); *Gray, Hand-l. of B.* i. p. 2 (1869).
Pseudogyps bengalensis, *Sharpe, Ann. N. H.* (4) xi. p. 133 (1873).

Adult. Head and neck bare, with a few dull brown bristles on crown and nape; ruff white, rather scanty; upper surface of body black, the wing-coverts somewhat tinged with brown; lower back and rump white; upper tail-coverts black, some of them white externally; quills and tail black, the secondaries externally washed with greyish brown; crop-patch black; under surface of body deep chocolate-brown, almost black, streaked with narrow shaft-stripes of fulvous; under wing-coverts white, those adjoining the carpal margin black; cere horny black; upper mandible greyish white, bluish grey at tip; lower mandible dusky, inclining to dull lead-colour at the base. Total length about 30 inches, culmen 3·1, wing 23·5, tail 11, tarsus 4·2, middle toe 4·7.

Young. General colour above chocolate-brown, some of the feathers slightly paler-margined, especially on the wing-coverts; lower back, rump, and upper tail-coverts rather paler, with fulvous shaft-stripes; wings and tail as in adult, but the grey shade on secondaries more dingy; head and neck covered with white stubby down, more scanty on sides of face, which are for the most part bare; crop-patch deep fulvous brown; ruff composed of lanceolate feathers, white with fulvous-brown margins; under surface of body pale russet, with obsolete narrow whitish shaft-stripes, with here and there a feather of darker brown showing; under wing-coverts darker brown, striped like the breast.

Hab. Indian peninsula, eastward to Assam and Burmah; Malayan peninsula to Penang.

a. Ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
b, c, d. Juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
e. Ad. st.	India.	Dr. Royle [P.].
f. Ad. st.	India.	
g. Juv. st.	India.	South-African Museum.
h. Skeleton.		Zoological Society.

2. Pseudogyps africanus.

Gyps bengalensis, *Rüpp. Syst. Uebers.* p. 9 (1845).
Vultur bengalensis, *Brehm, J. f. O.* 1855, p. 486; *Heugl. J. f. O.* 1864, p. 241.
Vultur moschatus, *Württ. Naum.* 1857, p. 432 (*descr. nullâ*); *Heugl. J. f. O.* 1867, p. 290.
Gyps indicus, *Hartl. J. f. O.* 1861, p. 97.
Gyps tenuirostris, *Antin. Cat. Descr. Ucc.* p. 5 (1865); *id. J. f. O.* 1866, p. 116.
Gyps africanus, *Salvad. Not. Stor. R. Accad. Torin.* 7 May, 1865, p. 133; *Heugl. J. f. O.* 1867, p. 199; *Hume, Rough Notes*, i. p. 31 (1869); *Jerd. Ibis*, 1871, p. 236.
Gyps moschatus, *Salvad. ut suprà.*
Vultur leuconotus africanus, *Heugl. Orn. N.O.-Afr.* i. p. 6 (1869); *id. Nachtr.* p. iii.
Pseudogyps moschatus, *Sharpe, Ann. N. H.* (4) xi. p. 133 (1873).

Adult. General colour deep brown, some of the feathers on the back and wing-coverts blackish brown; lower back and rump pure white; upper tail-coverts brown, some inclining to blackish; quills

and tail black, the secondaries with an external ashy-grey shade; ruff white, rather scanty; crop-patch brown; rest of under surface pale brown with very narrow yellowish-white shaft-lines; bill horn-black, the culmen yellowish; feet dusky plumbeous; iris umber-brown. Total length about 30 inches, culmen 3·2, wing about 22, tail 9, tarsus about 4·5, middle toe 5.

Immature female. Fulvous brown, the secondaries lighter and more ashy; quills and tail blackish brown, the former externally shaded with greyish; lower back and rump white; upper tail-coverts brown, terminally washed with fulvous white; crop-patch brown; rest of under surface brown, paler and more fulvescent in centre of body, the feathers with pale fulvous-white central streaks, very indistinct. Total length 34 inches, culmen 3·15, wing 24·5, tail 11·5, tarsus 3·5.

Hab. North-eastern Africa, from Khartoum southwards to Abyssinia and upper White-Nile district; Senegambia on the west coast.

a.	♂ ad. st.	Africa.	Dr. Lidth de Jeude.
b.	♀ jun. sk.	Senegal (*Marche*).	M. Bouvier [E.].

4. OTOGYPS.

	Type.
Otogyps, *Gray, List of Genera of B.* 1841, p. 2	O. auricularis.
Hemigyps, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844)..	O. calvus.

Range. Southern and North-eastern Africa, apparently absent on the west coast. India generally and Siam.

Key to the Species.

a. Larger: brown; inner face of thighs feathered.... *auricularis*, p. 13.
b. Smaller: black; inner face of thighs bare ..... *calvus*, p. 14.

1. Otogyps auricularis *.

L'Oricou, *Levaillant, Ois. d'Afr.* i. p. 36, pl. 9 (1799).
Vultur auricularis, *Daud. Traité*, ii. p. 10 (1800, *ex Levaill.*); *Smith, S. Afr. Q. Journ.* i. p. 13 (1829); *Less. Traité*, p. 22 (1831); *Bp. Consp.* i. p. 10 (1850); *Pelz. Verh. z.-b. Wien*, 1862, p. 126; *Schl. Mus. P.-B.* Vult. p. 9 (1862); *Gurney, Cat. Rapt. B.* p. 57 (1864); *Sclater, P. Z. S.* 1865, p. 675; *Antin. Cat. Descr. Ucc.* p. 6 (1865); *Heugl. Orn. N.O.-Afr.* i. p. 8 (1869.)
Vultur auriculatus, *Shaw, Gen. Zool.* vii. p. 24, pl. 10 (1809).
Vultur tracheliotus, *Wolf, Abbild. naturg. Gegenst.* pl. 5 (1816).
Vultur ægypius, *Temm. Pl. Col.* i. pl. 407 (1826, *plate only*); *Rüpp. N. Wirb. Vög.* p. 47 (1835).
Vultur imperialis, *Temm. Pl. Col.* i. pl. 426 (1827).
Vultur nubicus, *H. Smith in Griffith's An. Kingd.* i. p. 164, pl. — (1829); *Bp. Consp.* i. p. 10 (1850).
Otogyps auricularis, *G. R. Gray, Gen. of B.* i. p. 6 (1844); *Cass. Cat. Vult. Phil. Mus.* p. 1 (1849); *Horsf. & Moore, Cat. B. Mus.*

* The N.E.-African bird has not such large wattles, and is considered by some to be a distinct species.

E. I. Co. i. p. 3 (1854); *Strickl. Orn. Syn.* p. 8 (1855); *Jaub. & Barth. Rich. Orn.* i. p. 21 (1859); *Pelz. Verh. z.-b. Wien*, 1862, p. 127; *Brehm, Reise n. Habesch*, p. 246 (1863); *Layard, B. S. Afr.* p. 5 (1867); *Gray, Hand-l. of B.* i. p. 2 (1869); *Blanf. Geol. & Zool. of Abyss.* p. 286 (1870); *Gurney in Anderss. B. Dam. Ld.* p. 2 (1872); *Shelley, B. of Egypt*, p. 210 (1872).

Adult. Above brown, a little paler on the margins of the feathers; quills and tail blackish; secondaries washed with chocolate-brown, the inner ones paler, margined like the back; crop-patch brown; under surface of body thickly clothed with white down, the feathers lanceolate, brown with paler edgings; under wing- and tail-coverts brown, the latter somewhat more rounded in shape; head and neck entirely bare, with folds on the hinder neck; above the eye and on the throat a few hair-like bristles, and a few downy bristles round the ear-orifice; on the lower part of neck some short downy brown feathers, below which a ruff of brown plumes encircles the hinder neck, the lateral ones somewhat elongated and pendent, but not joining underneath; cere lavender-grey; bill deep yellow, brownish near the base; feet lavender-grey; iris deep brown. Total length 45 inches, culmen 5, wing 30, tail 14, tarsus 5·3, and middle toe 4·9 in skeleton.

Young. Similar to the adult, but the margins to the feathers rather paler and more distinct; a little more down on the head, and the down clothing the lower surface of the body inclining to fulvous.

Hab. Southern and North-eastern Africa into Egypt; occasional in Southern Europe.

a. Ad. sk.	Egypt.	J. Burton, Esq. [P.].
b. Juv. st.	Shoa (*Harris*).	Hon. E. I. Company [P.].
c, d. Sk.	Abyssinia (*Harris*)	Secretary of State for India [P.].
e. Ad. st.	Africa.	Dr. Lidth de Jeude.
f. Juv. st.	South Africa.	South-African Museum.

2. Otogyps calvus.

Vautour royal de Pondicherry, *Sonn. Voy. Ind. Or.* ii. p. 182, pl. 104 (1782).

Vultur calvus, *Scop. Del. Faun. et Flor. Insubr.* ii. p. 85 (1786, *ex Sonn.*); *Schl. Mus. P.-B.* Vult. p. 8 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 128; *Gurney, Cat. Rapt. B.* p. 56 (1864); *Hume, Rough Notes*, i. p. 8 (1869).

Vultur pondicerianus, *Lath. Ind. Orn.* i. p. 7 (1790); *Daud. Ann. Mus.* i. p. 286, pl. xx. (1802); *Temm. Pl. Col.* i. pl. 2 (1820); *Gray, Ill. Ind. Zool.* i. pl. 15. fig. 2 (1830); *Less. Traité*, p. 23 (1831).

Otogyps calvus, *G. R. Gray, Gen. of B.* i. p. 4 (1844); *J. E. Gray, Cat. Mamm. & B. Nep. Hodgs.* p. 38 (1846); *Cass. Cat. Vult. Phil. Mus.* p. 1 (1849); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 32 (1849); *Bp. Consp.* i. p. 10 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 2 (1854); *Bp. Rev. et Mag. de Zool.* 1854, p. 531; *Strickl. Orn. Syn.* p. 8 (1855); *Gould, B. of Asia*, pt. xii. (1860); *Jerd. B. of Ind.* i. p. 7 (1862); *Gray, Cat. Mamm. &c. Nep. Hodgs.* p. 16 (1863).

Otogyps pondicerianus, *Blyth, Ann. N. H.* xiii. p. 115 (1844).

Hemigyps pondicerianus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).

Gyps calvus, *Blyth, Ibis*, 1866, p. 233; *Horne, Ibis*, 1871, p. 112.

Adult. Glossy black, inclining to brown on lower back and rump, some of the scapulars also washed with brown; quills black with white shafts, shading into brownish towards the tips; the primaries washed with grey near the base, the secondaries whity brown, blackish towards their tips; tail black, shaded with brown, the shafts brownish; crop-patch black; a conspicuous circlet of white down across the breast, and a patch just above the thigh-joint; under surface of body deep black; inner face of thighs bare; round the neck a small ruff of black plumes, somewhat impending on each side of the breast, so as to overshadow the two bare patches which are conspicuous on each side of the chest; bill horn-black; feet dull red; iris reddish brown. Total length about 31 inches, culmen 2·5, wing 24·5, tail 11, tarsus 4·1, middle toe 3·8 (in skeleton).

Young. Pale brown, without any indication of grey on any part of the wings; under surface also pale brown, the white downy pectoral ruff not developed to any extent; head covered with whitish down above, becoming brown towards the nape and round the ear-orifice; neck-lappet almost as much developed as in the adults.

Hab. India generally, eastwards to Siam.

a. Ad. sk.	India.	Colonel Cobbe [C.].
b. Juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
c. Ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
d. Ad. st.	India.	

5. LOPHOGYPS.

Type.

Lophogyps, *Bp. Rev. et Mag. de Zool.* 1854, p. 531.... L. occipitalis.

Range. North-eastern Africa and Southern Africa; probably the whole of the eastern side of the continent; on the western side only occurring in Senegal.

1. Lophogyps occipitalis.

Abyssinian Vulture, *Lath. Gen. Hist. B.* i. p. 31 (1821).

Vultur occipitalis, *Burch. Trav.* ii. p. 329 (1824, *descr. orig.*); *Temm. Pl. Col.* i. pl. 13 (1824); *Cretzschm. in Rüpp. Atl.* p. 35, t. 22 (1826); *Smith, S. Afr. Q. Journ.* i. p. 15 (1829); *Rüpp. N. W. Vög.* p. 43 (1835); *Gray, Gen. of B.* i. p. 5 (1844); *Cass. Cat. Vult. Phil. Mus.* p. 1 (1849); *Bp. Consp.* i. p. 11 (1850); *Schl. Mus. P.-B.* Vult. p. 8 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 126; *Brehm, Reis. Habesch*, p. 243 (1863); *Gurney, Cat. Rapt. B.* p. 65 (1864); *Layard, B. S. Afr.* p. 5 (1867); *Finsch u. Hartl. Vög. Ostafr.* p. 33 (1870); *Gurney in Anderss. B. of Dam. Ld.* p. 4 (1872).

Vultur galericulatus, *Less. Traité*, p. 23 (1831); *Pucher. Rev. et Mag. de Zool.* 1850, p. 208.

Vultur eulophus, *Ehr. in Mus. Berol.*; *Licht. Nomencl. Av. Mus. Berol.* p. 1 (1854).

Lophogyps occipitalis, *Bp. Rev. et Mag. de Zool.* 1854, p. 531.

Vultur chincou (*nec Daud.*), *Strickl. Orn. Syn.* p. 7 (1855); *Gray, Hand-l. of B.* i. p. 2 (1869); *Sharpe, Ibis*, 1870, pp. 422, 588.

Adult. Crown of head covered with dense white down, collecting into a ridge on the occiput, more thinly distributed on the hinder

neck; sides of face more or less bare, with thin downy white hair or white down on the sides of face and throat; lower neck bare all round; ruff dark brown, not meeting underneath or impending on the breast; general plumage above and below blackish brown, the lower back and rump much paler brown; median and greater wing-coverts margined more or less with whitish, more conspicuous on the former; quills and tail black, the latter glossed with brown, the secondaries greyish brown on the outer webs, whitish on the inner ones, the inner secondaries pure white, those adjoining the back of the same colour as the latter; crop-patch white; abdomen, thighs, and under tail-coverts pure white; under wing-coverts brown, the lower ones white at the tip; bill blood-red, black at tip, blue at base; feet flesh-colour; iris umber-brown. Total length 32 inches, culmen 3·55, wing 26·5, tail 12·2, tarsus 4·9, middle toe 4·4.

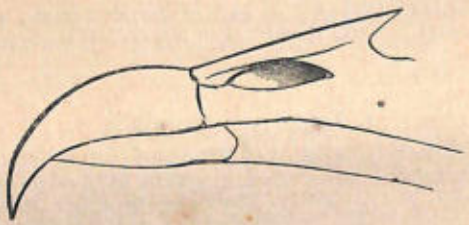
Young. Paler brown, with dark brown feathers everywhere appearing; the down on the head, crop-patch, white wing-feathers, and abdomen tinged here and there with brownish.

Hab. The same as that of the genus.

a. Imm. sk.	Abyssinia.	Frankfort Museum.
b. Ad. st.	Kurrichaine, S. Africa.	M. Verreaux.

6. NEOPHRON.

	Type.
Neophron, *Savigny, Syst. Ois. d'Egypte*, p. 238 (1808)	N. percnopterus.
Percnopterus, *Rafinesque, Analyse*, p. 69	N. percnopterus.
Necrosyrtes, *Gloger, Handb. Naturg.* p. 236 (1842).	N. monachus.
Gypiscus, *Sundev. Av. Tent.* p. 110 (1873).....	N. pileatus.



Bill of *Neophron percnopterus.*

Range. Occasionally in Northern Europe. Found in all the countries bordering the Mediterranean and Red Seas, and occurs also in Southern Africa, extending to Persia and the countries fringing the Persian Gulf to the peninsula of India, over the whole of which it is distributed.

Key to the Species.

a. White; forepart of chest bare.
  a'. Larger; bill horn-brown; wings reaching to tail ..... *percnopterus*, p. 17.
  b'. Smaller; bill yellow; wings not reaching to tail ..... *ginginianus*, p. 18.
b. Chocolate-brown; a fur-like chest-patch.

c'. Larger; neck-hackles evenly encircling the neck ..... *pileatus*, p. 18.
d'. Smaller; neck-hackles somewhat ascending towards the nape..... *monachus*, p. 19.

1. Neophron percnopterus.

Le Vautour brun, *Briss. Orn.* i. p. 455 (1760); *Buff. H. N. Ois.* i. p. 167 (1770).
Le Vautour d'Egypte, *Briss. Orn.* i. p. 457 (1760).
Le Vautour à teste blanche, *Briss. Orn.* i. p. 466 (1760).
Vultur percnopterus, *Linn. S. N.* i. p. 123 (1766); *Yarr. Hist. Brit. B.* i. p. 1 (1843).
Le Petit Vautour, *Buff. H. N. Ois.* i. p. 164 (1770).
Vautour de Norwége, *Buff. Pl. Enl.* i. pl. 429 (1770).
Vautour de Malthe, *Buff. Pl. Enl.* i. p. 142, pl. 427 (1770).
Ash-coloured Vulture, *Lath. Gen. Syn.* i. p. 13 (1781).
Maltese Vulture, *Lath. tom. cit.* p. 15 (1781).
Egyptian Vulture, *Lath. tom. cit.* p. 31 (1781).
Vultur fuscus, *Bodd. Tabl. Pl. Enl.* p. 25 (1783).
Vultur leucocephalus, *Gm. S. N.* i. p. 248 (1788).
Vultur fuscus, *Gm. S. N.* i. p. 248 (1788).
Rachamah, *Bruce, Trav.* v. *App.* p. 163, pl. (1790).
Vultur stercorarius, *La Peyr. N. Schw. Abh.* iii. p.
Vultur percnopterus, var. γ. capensis, *Licht. Cat. Rer. Nat. Hamb.* p. 2 (1793).
L'Ouri-gourap, *Levaill. Ois. d'Afr.* i. p. 62, pl. 14 (1799).
Vultur albus, *Daud. Traité*, ii. p. 21 (1800).
Neophron percnopterus, *Sav. Ois. d'Egypte*, p. 239 (1809); *Vieill. et Oudart, Gal. Ois.* i. p. 7, pl. ii. (1825); *Jard. & Selby, Ill. Orn.* i. pl. 33 (c. 1835); *Gould, B. of Eur.* i. pl. 3 (1837); *Gray, Gen. of B.* i. p. 3 (1844); *Cass. Cat. Vult. Phil. Mus.* p. 3 (1849); *Bp. Consp.* i. p. 11 (1850); *Strickl. Orn. Syn.* p. 12 (1855); *Schl. Mus. P.-B.* Vult. p. 5 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 133; *Gurney, Cat. Rapt. B.* p. 53 (1864); *Layard, B. S. Afr.* p. 3 (1867); *Degl. & Gerbe, Orn. Eur.* i. p. 12 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 13 (1869); *Blanf. Geol. & Zool. Abyss.* p. 287 (1870); *Finsch u. Hartl. Vög. Ostafr.* p. 33 (1870); *Newton, ed. Yarr. Brit. B.* i. p. 6 (1871); *Salvad. Faun. d'Ital. Ucc.* p. 3 (1871); *Shelley, B. of Egypt*, p. 211 (1872); *Gurney in Anderss. B. Dam. Ld.* p. 1 (1872).
Vultur meleagris, *Pall. Zoogr. Rosso-Asiat.* i. p. 377 (1811).
Cathartes percnopterus, *Temm. Man. d'Orn.* i. p. 8 (1820); *Naum. V. D.* i. p. 5, Taf. 1. fig. 1 (1822); *Brehm, V. D.* p. 5, Taf. 1. fig. 1 (1831).
Cathartes meleagrides, *Temm. Pl. Col.* i. genre Catharte (1824); *Less. Man.* i. p. 74 (1828).
Percnopterus ægyptiacus, *Steph. Gen. Zool.* xiii. pt. 2, p. 7 (1826).
Neophron ægyptiacus, *Smith, S. Afr. Q. Journ.* i. p. 16 (1829).
Cathartes europæus, *Brehm, Isis*, 1840, p. 599.
Cathartes capensis, *Brehm, ut suprà.*

Adult. General plumage white, the neck-hackles, which extend nearly to the occiput, somewhat tinged with rusty; primaries black, externally ashy white at the base; secondaries dark brown, externally ashy white, shading into dark brown again towards the tips of the feathers; head bare, with a little scanty down on the throat and

a few whitish feathers in front of the eye; chest bare; bill pale horny brown; feet and legs yellowish white; irides red or reddish brown. Total length 25 inches, culmen 2·8, wing 19·2, tail 10, tarsus 3·5.

Young. Blackish brown, the feathers tipped with fulvous. As the bird progresses in age the interscapulars and wing-coverts become more or less of an ochre colour, thence changing into the white of the adult.

Hab. The same as that of the genus, occurring probably in N.W. India, but its eastern range undetermined.

a. Ad. st.	Arles.	Baron Laugier de Chartrouse.
b, c. Juv. st.	Arles.	Baron Laugier de Chartrouse.
d. Juv. sk.	France.	Baron Laugier de Chartrouse.
e. ♂ ad. sk.	Gennesareth.	Canon Tristram [C.].
f. Juv. st.	Africa.	
g. Ad. st.	Egypt.	
h. ♀ ad. sk.	Zoulla, Jan. 20, 1868.	W. T. Blanford, Esq. [C.].
i. ♀ imm. sk.	Senafe, June 13, 1868.	W. T. Blanford, Esq. [C.]. [*Cf.* Blanford, *l. c.*]
j. ♀ st.	Angollála, Shoa.	Sir W. C. Harris [C.].
k. ♂ ad. sk.	Angollála, Shoa.	Sir W. C. Harris [C.]. [*Cf.* Horsf. & Moore, *l. c.*]
l, m. Skeleton.		Purchased.
n. Skeleton.		Zoological Society.
o. Skeleton.		
p. Sternum.		W. T. Blanford, Esq. [C.].

2. Neophron ginginianus.

Vautour de Gingi, *Sonn. Voy. Ind. Or.* ii. p. 184 (1782).
Gingi Vulture, *Lath. Gen. Syn. Suppl.* p. 7 (1787); *id. Gen. Hist. B.* i. p. 27, pl. 5 (1821).
Vultur ginginianus, *Lath. Ind. Orn.* i. p. 7 (1790); *Daud. Traité*, ii. p. 20 (1800); *Bonn. et Vieill. Enc. Méth.* iii. p. 1169 (1823).
Neophron percnopterus, *Blyth, Ann. N. H.* xiii. p. 115 (1844); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 6 (1854); *Jerd. B. of Ind.* i. p. 12 (1862); *Brooks, Ibis*, 1869, p. 43; *Jerd. Ibis*, 1871, p. 236.
Neophron ginginianus, *Blyth, Ibis*, 1866, p. 233; *Tytler, Ibis*, 1866, p. 194; *Gray, Hand-l. of B.* i. p. 4 (1869); *Hume, Rough Notes*, i. p. 31 (1869).

Exactly similar to the foregoing, but smaller; bill yellow; wings not reaching to the tail. Total length about 21 inches, culmen 2·9, wing 15·5, tail 9·5, tarsus 3·4.

Hab. Indian peninsula; probably coexistent with *N. percnopterus* in N.W. India.

a. Ad. st.	India.	Major-General T. Hardwicke [P.].
b. Imm. st.	Nepal.	B. H. Hodgson, Esq. [C.]

3. Neophron pileatus.

Vultur pileatus, *Burchell, Trav.* ii. p. 195 (1824).
Neophron carunculatus, *Smith, S. Afr. Q. Journ.* i. p. 17 (1829).
Neophron pileatus, *Gray, Gen. of B.* i. p. 3 (1844); *Cass. Cat. Vult. Phil. Mus.* p. 3 (1849); *Bp. Consp.* i. p. 11 (1850); *Schl. Mus. P.-*

B. Vult. p. 5 (1862); *Gurney, Cat. Rapt. B.* p. 53 (1864, pt.); *Layard, B. S. Afr.* p. 4 (1867); *Gray, Hand-l. of B.* i. p. 4 (1869); *Finsch u. Hartl. Vög. Ostafr.* p. 35 (1870); *Gurney in Anderss. B. Dam. Ld.* p. 2 (1872).

Adult. Chocolate-brown; quills and tail black; crown of head, sides of face, throat, and fore neck bare, of a purple colour in life; eyelashes and bristles on the lores black; whole of hind neck up to the occiput covered with thick fluffy down, of a whitish colour tinged with brown; a patch on the lower throat and the neck-hackles dark brown; crop-patch pale creamy brown, encircled on the upper and lower margins by conspicuous patches of white down; inner face of thighs also covered with white down; bill greenish black towards the base, dark horn-colour near the tip; feet greenish blue, claws black; iris dark brown. Total length about 26 inches, culmen 2·7, wing 20, tail 10·5, tarsus about 3·7.

Young. Very similar to adult, but having the down on the hind neck entirely dark brown and extending more on to the crown of the head; crop-patch and inner face of thighs dark brown, the white down so conspicuous in the adults being absent; head sparsely sprinkled with black down, collecting towards the nape.

Hab. South Africa.

a. Ad. st.	South Africa.	South-African Museum.
b. Juv. st.	South Africa.	South-African Museum.
c. Pull. st.	South Africa.	South-African Museum.

4. Neophron monachus.

Cathartes monachus, *Temm. Pl. Col.* i. pl. 222 (1823); *Hartl. J. f. O.* 1855, p. 360.
Percnopterus monachus, *Steph. Gen. Zool.* xiii. pt. 2, p. 7 (1826).
Percnopterus niger, *Less. Traité*, p. 29 (1831).
Neophron monachus, *Jard. & Selby, Ill. Orn.* i., text to pl. 33 (c. 1835).
Necrosyrtes monachus, *Gloger, Handb. Naturg.* p. 236 (1842).
Neophron pileatus, *Hartl. Beitr. Orn. W. Afr.* p. 14 (1852); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 8 (1854); *Hartl. Orn. W. Afr.* pp. 1, 269 (1857); *Pelz. Verh. z.-b. Wien*, 1862, p. 133; *Schl. Mus. P.-B.* Vult. p. 5 (1862); *Brehm, Reise n. Habesch*, p. 234 (1863); *Heugl. Orn. N.O.-Afr.* i. p. 15 (1869); *Blanf. Geol. & Zool. Abyss.* p. 287 (1870); *Finsch, Tr. Z. S.* vii. p. 200 (1870).

Adult. Similar to *N. pileatus*, but smaller, with a longer and more attenuated bill; the feathers of the neck ascending somewhat towards the nape. Total length 24 inches, culmen 3, wing 18·5, tail 10, tarsus about 3·3.

Young. Differs from adult exactly as in *N. pileatus*.

Hab. North-eastern and Western Africa.

a. Ad. st.	West Africa.	J. G. Children, Esq. [P.].
b. Juv. sk.	River Niger.	Dr. Baikie [C.].
c. ♂ st.	Ankober.	Sir W. C. Harris [C.].
d. ♂ juv. sk.	Efat, April 1842.	Sir W. C. Harris [C.].
e. ♀ sk.	Zoulla.	W. T. Blanford, Esq. [C.]. [*Cf.* Blanf. *l. c.*]
f. Skeleton.		

Subfamily II. SARCORHAMPHINÆ (NEW-WORLD VULTURES).

Key to the Genera.

a. Head with an erect fleshy caruncle; wings more than twice length of tail, rounded, the secondaries and primaries about equal.
  a'. Outer toe (3·2) about equal to inner toe — 7. SARCORHAMPHUS, p. 20.
  b'. Outer toe (3·0) longer than inner toe (2·5) — 8. CATHARTES, p. 22.
b. Head naked, with no erect caruncle; tail more than half the length of wings, which are pointed, the primaries always exceeding the secondaries in length.
  c'. Tail square; distance between tips of secondaries and tips of primaries less than tarsus — 9. CATHARISTES, p. 23.
  d'. Tail rounded; distance between tips of secondaries and tips of primaries more than tarsus — 10. ŒNOES, p. 25.

7. SARCORHAMPHUS.

	Type.
Sarcoramphus, *Duméril, Zool. Anal.* p. 32 (1806)	S. gryphus.
Gryphus, *Bonap. Rev. et Mag. de Zool.* 1854, p. 530	S. gryphus.

Range. The western coast of South America and the eastern coast to 41° S. lat.

Key to the Species.

a. Larger; black, with grey on the wings; bill with a white apex — *gryphus*, p. 20.
b. Smaller; all brown; bill brownish black — *æquatorialis*, p. 21.

1. Sarcorhamphus gryphus*.

Le Condor, *Briss. Orn.* i. p. 473 (1760).
Vultur gryphus, *Linn. S. N.* i. p. 121 (1766); *Humb. & Bonpl. Obs. Zool.* p. 26, pl. viii. (1811).
Vultur magellanicus, *Shaw, Mus. Lever.* i. p. 1, pl. 1 (1792).
Vultur condor, *Shaw, Gen. Zool.* i. p. 2, pls. 2, 3, 4 (1809).
Gypagus gryffus, *Vieill. N. Dict. d'Hist. Nat.* xxxvi. p. 450 (1819).
Cathartes gryphus, *Temm. Pl. Col.* i. pls. 133, 408, 494 (1823); *Bonap. Am. Orn.* iv. p. 1, pl. xxii. (1833); *Nitzsch, Pteryl.* p. 71 (1840); *Schl. Mus. P.-B.* Vult. p. 1 (1862).
Gypagus condor, *Vieill. Gal. Ois.* i. p. 11 (1825).

* The Condor from Chili and the Straits of Magellan is always a much finer bird, with more distinct and larger wattles. When we know more of these birds, it may prove to be a distinct species, in which case it must be called *Sarcorhamphus magellanicus*.

Sarcoramphus gryphus, *Steph. Gen. Zool.* xiii. p. 6 (1826); *Darw. Voy. Beagle*, p. 1 (1841); *Gray, Gen. of B.* i. p. 4 (1844); *Cass. Cat. Vult. Mus. Philad.* p. 4 (1849); *Bp. Consp.* i. p. 9 (1850); *Bibra, Denkschr. Ak. Wien*, v. (2) p. 128 (1853); *Strickl. Orn. Syn.* p. 4 (1855); *Cass. U. S. Astr. Exp.* p. 172 (1855); *id. B. Calif.* p. 60 (1856); *Burm. Reis. La Plata*, ii. p. 433 (1861); *Gurney, Cat. Rapt. B. Norw. Mus.* p. 37 (1864).

Sarcoramphus condor, *Less. Traité*, p. 25 (1831); *Tschudi & Cab. F. P.* Aves, p. 59 (1845); *Gay, Faun. Chil. Zool.* i. p. 194, pl. 1 (1847).

Gryphus cuntur, *Bp. Rev. et Mag. de Zool.* 1854, p. 530.

Sarcoramphus papa, *Cunningham, Str. Magell.* pp. 114, 303 (1871).

Adult male. Glossy black; median and greater wing-coverts, as well as the inner primaries and all the secondaries, externally margined with ashy white, the latter more broadly, so that the whole of the outer web and the greater part of the inner one is entirely ashy white with a narrow black edging at the tip; round the neck a ruff of soft white down; head and neck all round as well as the centre of the chest bare, the former sparsely covered with brownish down of a tolerably stiff character; head wattled, with a large caruncle; neck crinkled; throat with a wattled appendage; chest with a pendent wattle; bill horn-brown at base, apical half ivory-white; feet black, slightly tinged with grey; iris pale brown. Total length about 38 inches, culmen from anterior point of caruncle 2·7, wing about 29, tail about 14, tarsus in skeleton 4·5, middle toe in skeleton 5·5.

Adult female. Smaller than the male, with no caruncles on the head or neck; iris carbuncle-red.

Hab. S. America; Chilian Andes, ranging on the east coast to the Rio Negro (*Darwin*), and on the west coast to Ecuador (*Orton*).

a. ♂ ad. st.	S. America.	J. Gould, Esq.
b. ♀ ad. st.	S. America.	
c. ♀ ad. sk.	S. America.	G. R. Waterhouse, Esq. [P.].
d. Pull. st.		Hatched in Zool. Gardens (*cf.* P. Z. S. 1846, p. 44).
e. Skeleton.		

2. Sarcorhamphus æquatorialis.

Vultur griphus, *Eydoux & Souleyet, Voy. Bonite, Zool.* p. 75; *Atlas, Ois.* pl. 2 (1841).

Sarcorhamphus gryphus, *Orton, Ann. N. H.* (4) viii. p. 185 (1871).

Smaller than *S. gryphus*; entirely brown in plumage; bill blackish.

Hab. Ecuador; Quito (*Orton*); ? Columbia (*Wyatt*).

The paper by Professor Orton (*l. c.*) gives additional weight to the opinion that there is a second species of Condor. The specimen figured by Eydoux and Souleyet seems to belong to the smaller species, which is distinctly stated, in the paper above referred to, to be *not* the young of *S. gryphus*. A specimen was living in the spring of 1873 in the Zoological Gardens at Amsterdam, apparently fully adult, with a perfectly formed erect wattle, but brown in colour all over.

8. CATHARTES.

Type.
Cathartes, *Illiger, Prodr. Syst. Mamm. et Av.* p. 236 (1811) . . C. papa.
Gypagus, *Vieill. Analyse*, p. 21 (1816) . . . . . C. papa.
Gyparchus, *Gloger, Handb. Naturg.* p. 235 (1842) . . . . . C. papa.

Range. S. America, from Brazil (a little below 20° S. lat.), northwards to Mexico; Trinidad.

1. Cathartes papa*.

The King of the Vultures, *Edw. N. H. Birds*, i. p. 2 (1743).
Le Roi des Vautours, *Briss. Orn.* i. p. 470, pl. xxxvi. (1760).
Vultur papa, *Linn. S. N.* i. p. 122 (1766); *Daud. Traité*, ii. p. 9, pl. I (1800).
L'Urubu, ou Roi des Vautours de Cayenne, *Buff. Pl. Enl.* i. pl. 428 (1770).
Le Roi des Vautours varié, *Levaill. Ois. d'Afr.* i. p. 59, pl. 13 (1799).
Cathartes papa, *Illiger, Prodr.* p. 236 (1811); *Spix, Av. Bras.* p. 1, tab. 1 (1824); *Max. Beitr.* iii. p. 56 (1830); *Nutt. Man.* i. p. 39 (1840); *Nitzsch, Pteryl.* p. 72 (1840); *Schl. Mus. P.-B.* Vult. p. 1 (1862).
Gypagus papa, *Vieill. N. Dict.* xxxvi. p. 456 (1819); *Vieill. et Oudart, Gal. des Ois.* i. p. 11, pl. 3 (1825).
Sarcorhamphus papa, *Gray, Gen. of B.* i. p. 4 (1844); *Cass. Cat. Vult. Phil. Mus.* p. 4 (1849); *Bp. Consp.* i. p. 9 (1850); *Burm. Th. Bras.* ii. p. 28 (1855); *Cass. B. Calif.* p. 61 (1855); *Léot. Ois. Trinid.* p. 1 (1866); *Coues, Pr. Phil. Acad.* 1866, p. 49; *Pelz. Orn. Bras.* p. 1 (1871).
Gyparchus papa, *Scl. & Salv. Ibis*, 1859, p. 214; *Gurney, Cat. Rapt. B. Norw. Mus.* p. 35 (1864).

Adult male. Head and neck bare, the sides of the face, and especially the region of the ear, much crinkled; in front of the nostril an erect fleshy caruncle; fore part of head covered with greyish black hairy bristles; on each side of the lower mandible and under the eye a profusion of black hair-like bristles running into a line below the auricular region; another broad line of black bristles running from the hinder part of each eye, uniting on the occiput, and there separating on each side of the nuchal caruncle; no distinct ruff; round the neck the feathers deep slaty grey, meeting on the fore neck, inclining to black on the hind neck; interscapulary region, scapulars, lesser and median wing-coverts cream-colour, almost amounting to pale fawn; greater wing-coverts black, rather broadly margined externally with ashy brown; inner secondaries quite black, with somewhat of a greenish tinge; lower back and rump, upper

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* CATHARTES SACER.

Vultur sacra, *Bartr. Trav. N. & S. Carol. &c.* p. 150 (1791).
Sarcoramphus sacer, *Cass. B. Calif.* p. 59 (1855).

This species, not met with since Bartram's time, still remains undiscovered. It is closely allied to *C. papa*, from which it appears to differ chiefly in its *white* tail. No bird answering to Bartram's description has been found in the locality. (*Cf.* Allen, Bull. Harv. Coll. ii. p. 313, 1871.)

tail-coverts, and entire tail black; chest bare; rest of the under surface white, more or less tinged with cream-colour; bill yellowish horn-colour, dark brown at base; feet black, tinged with grey; iris pure white. Total length 27 inches, culmen from anterior edge of caruncle 2·1, wing 19·5, tail 10, tarsus in skeleton 3·65, middle toe in skeleton 3·8.

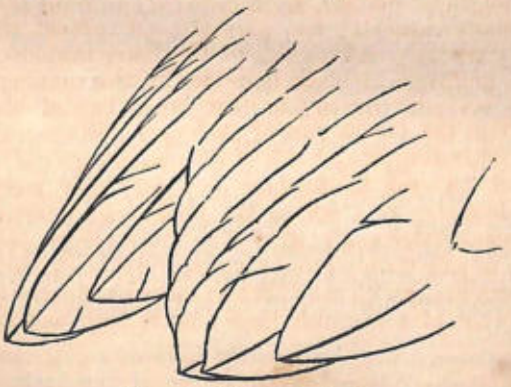
Young female. Black, with obsolete brownish margins to the feathers, more distinct on the wing-coverts; plumes round the neck also black; under surface of the body white; upper neck bare all round, as also the centre of the throat; no folds of skin on side of face; crown (except a bare patch on the hinder part) and sides of the face, as well as a line running down the nape, covered with bristly hair, greyish in colour, but black on the latter; over the nostril a small single upright caruncle; iris yellowish grey.

Hab. The same as that of the genus.

a. ♂ ad. sk.	S. America.	The Earl of Derby [P.].
b. ♂ ad. st.	Mexico.	Purchased.
c. ♀ imm. st.	British Guiana.	Sir R. Schomburgk [P.].
d. Head.	R. Amazon.	A. R. Wallace, Esq. [C.].
e. Skeleton.		Purchased.
f. Skeleton.		Zool. Society of London.
g. Skull.		
h. Sternum.		Admiral Sir E. Belcher [P.].

9. CATHARISTES.

	Type.
Catharista, *Vieill. Analyse*, p. 21 (1816)	C. atratus.
Cathartes, *Gray, Gen. of B.* i. p. 4 (1844, *nec Illig.*), *et auct. recent.*	
Coragyps, *Bp. Rev. et Mag. de Zool.* 1854, p. 530	C. atratus.



Wing of *Catharistes atratus*.

Range. The whole of South America as far as 40° S. lat., scarcely so far on the western coast; the whole of Central America, extending through the southern and eastern United States nearly up to the 40th parallel, but not seen on the Pacific coast.

1. Catharistes atratus *.

Vautour du Brésil, *Buff. Pl. Enl.* i. pl. 187 (1770).
Vultur atratus, *Bartram, Trav. N. & S. Carol. &c.* p. 289 (1791); *Wils. Am. Orn.* ix. p. 104, pl. lxxv. fig. 2 (1814).
Vultur aura, *Daud. Traité*, ii. p. 19 (1800, *nec L.*).
Iribú, *Azara, Apunt.* i. p. 19 (1802).
Vultur urubu, *Vieill. Ois. d'Am. Sept.* pl. 11 (1807).
Catharista urubu, *Vieill. N. Dict.* xii. p. 401 (1817).
Cathartes fœtens, *Licht. Verz. Doubl.* p. 63 (1823, *ex Illiger, Mus. Berol.*); *Wied, Beitr. Naturg. Bras.* iii. Abth. i. p. 58 (1830); *Gray, Gen. of B.* i. p. 4 (1844); *Tschudi & Cab. F. P. Vög.* p. 15 (1845); *Cab. in Schomb. Reis.* iii. p. 742 (1848); *Pelz. Verh. z.-b. Wien*, 1862, p. 131; *id. Reise Nov. Vög.* p. 3 (1865); *id. Orn. Bras.* p. 1 (1867); *Léot. Ois. Trinid.* p. 2 (1866).
Cathartes aura, *Spix, Av. Bras.* i. p. 2 (1824, *nec L.*).
Percnopterus urubu, *Steph. Gen. Zool.* xiii. pt. 2, p. 7 (1826).
Cathartes urubu, *Less. Traité*, p. 27 (1831); *D'Orb. Voy. Am. Mér.* p. 31, pl. 1. figs. 1, 2 (1835); *Gay, Faun. Chil. Zool.* p. 200 (1847); *Burm. Th. Bras.* ii. p. 32 (1855).
Cathartes atratus, *Sw. & Rich. Faun. B.-A. Birds*, p. 6 (1831); *Aud. B. Am.* fol. pl. cvi. et ed. 8vo, i. p. 17, pl. 3 (1839); *Bp. Consp.* i. p. 9 (1850); *Bibra, Denkschr. Ak. Wien*, v. p. 128 (1853); *Cass. U. S. Astr. Exp.* p. 173 (1855); *Strickl. Orn. Syn.* p. 2 (1855); *Cass. B. Calif.* p. 58 (1855); *id. U. S. Expl. Exp.* p. 85 (1858); *Scl. & Salv. Ibis*, 1859, p. 213; *Cass. B. N. Am.* p. 5 (1860); *Schl. Mus. P.-B.* Vult. p. 2 (1862); *Gurney, Cat. Rapt. B.* p. 47 (1864); *Baird, Ibis*, 1868, p. 274; *Cunningh. Str. Magell.* p. 248 (1871); *Allen, Bull. Harv. Coll.* ii. p. 313 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 123 (1873).
Vultur iota, *Jardine, ed. Wils. Am. Orn.* iii. p. 236 (1832).
Cathartes iota, *Nutt. Man.* i. p. 47 (1840); *Cass. Cat. Vult. Phil. Mus.* p. 4 (1849).
Cathartes brasiliensis, *Bp. Consp.* i. p. 9 (1850); *Cass. U. S. Expl. Exp.* p. 86 (1858).
Coragyps atratus, *Bp. Rev. et Mag. de Zool.* 1854, p. 530.
Coragyps brasiliensis, *Bp. ut suprà.*
Cathartes atratus brasiliensis, *Schl. Mus. P.-B.* Vult. p. 3 (1862).
Catharista atrata, *Gray, Hand-l. of B.* i. p. 3 (1869).

Adult. Black, with a slight brownish shade on the inner secondaries; the feathers of the neck ascending triangularly to the nape; shafts of primaries white above and below; tail square, not perceptibly paler below, shafts of feathers brown above, white below; head bare, with black bristly down, black with caruncles of the same colour; bill and feet bluish; iris dark brown. Total length about 25 inches, culmen 2·85, wing 17·5, tail 8·5, tarsus about 3·35, middle toe about 3·9.

Nestling. Covered with long woolly down of a dull tawny colour, inclining to dusky fulvous on the centre of the back, neck, and abdomen.

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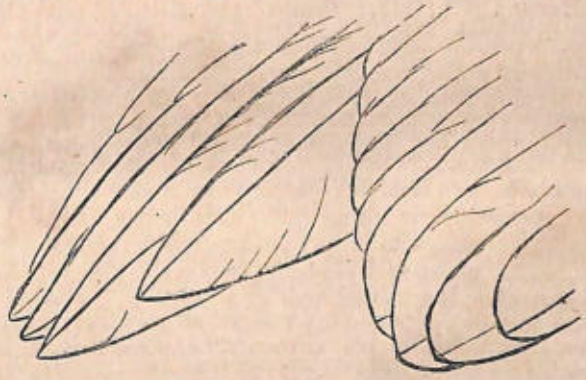
* I have not for the present separated *C. brasiliensis* as a species, the only difference being apparently its slightly smaller size (*cf.* Allen, Bull. Harv. Coll. ii. p. 313). A Chilian specimen measures—total length about 25 inches, culmen 2·35, wing 16·3, tail 8, tarsus 3·1.

Hab. The same as that of the genus.

a, b. Ad. st.	N. America.	J. J. Audubon, Esq. [P.].
c. Pull. st.	Costa Rica.	O. Salvin, Esq. [P.].
d. ♂ ad. sk.	Chili.	E. C. Reed, Esq. [C.].
e. Ad. sk.	Buenos Ayres.	Purchased.
f. Skeleton.		Zool. Society of London.

10. ŒNOPS*.

Catharista *et* Cathartes, *auct. recent.*



Wing of *Œnops aura.*

Range. The whole of S. America and the Falkland Islands, Central America and the whole of N. America as far as 49° N. lat., not reaching quite as high on the eastern side; Cuba and Jamaica, but not in S. Domingo or Porto Rico.

Key to the Species.

a. Smaller; wing not exceeding 25 inches in length.
  a'. Shafts of primaries brown above.
    a''. Plumage black, wings washed with brown; head red ..... *aura*, p. 25.
    b''. Plumage all black; head yellow ..... *pernigra*, p. 26.
    c''. Plumage black, wings washed externally with ashy grey; head pink ..... *falklandica*, p. 27.
  b'. Shafts of primaries white above and below; head orange ..... *urubitinga*, p. 28.
b. Larger; wing 30–31 inches long ..... *californiana*, p. 28.

1. Œnops aura†.

The Turkey Buzzard, *Catesby, N. H. Carol.* i. p. 6, pl. 6 (1731).
Vultur aura, *Linn. S. N.* i. p. 122 (1766); *Vieill. Ois. Am. Sept.* pl. 2 bis (1807); *Wils. Am. Orn.* ix. p. 96, pl. lxxv. fig. 2 (1814).
Vultur iota, *Molina, Saggio St. N. Chili*, p. 235 (1786).

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* οἶνος, vinum; ὤψ, facies.

† What the Turkey Vulture of Trinidad (Léot. Ois. Trinid. p. 2, 1866) may be I do not know; but it is not improbably the true *Œ. aura*, which may range

Catharista aura, *Vieill. Analyse*, p. 22 (1816); *id. et Oud. Gal. Ois.* i. p. 16, pl. 4 (1825); *Gray, Hand-l. B.* i. p. 3 (1869).
Cathartes aura, *Illig. Prodr.* p. 236 (1811); *Vig. Zool. Journ.* ii. p. 284 (1826); *Sw. & Rich. F. Bor.-Am.* p. 4 (1831); *Aud. B. Am.* fol. pl. cli. et ed. 8vo, i. p. 15, pl. 2 (1839); *Gray, Gen. B.* i. p. 4 (1844); *Gosse, B. Jam.* p. 9 (1847); *Cass. Cat. Vult. Phil. Mus.* p. 5 (1849); *Bp. Consp.* i. p. 9 (1850); *Strickl. Orn. Syn.* p. 1 (1855); *Cass. B. Calif.* p. 57 (1855); *Max. J. f. O.* 1856, p. 119; *Cass. in Baird's B. N. Am.* p. 4 (1860); *Schl. Mus. P.-B.* Vult. p. 3 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 132; *Gurney, Cat. Rapt. B. Norw. Mus.* p. 42 (1864); *Herr. Nat. Mex.* i. p. 17 (1870); *Allen, Bull. Harv. Coll.* ii. p. 310 (1871).
Cathartes ruficollis, *Spix, Av. Bras.* i. p. 2 (1824).
Percnopterus aura, *Steph. Gen. Zool.* xiii. pt. 2, p. 7 (1826).
Cathartes urbicola, *Des Murs, Rev. et Mag. de Zool.* 1853, p. 153.
Cathartes ricordi, *Des Murs, ut suprà.*
Cathartes septentrionalis, *Wied, J. f. O.* 1856, p. 119.
Catharista burroviana, *Sharpe, Ann. N. H.* (4) xi. p. 133 (1873, *err.*).

Adult. Black, with a bluish-purple gloss, the feathers more or ess brown towards their edges; quills dark brown, the secondaries paler, shafts of primaries brown above, white underneath; tail brownish black; under surface of the body a little darker than the upper; crop-patch bare; head and neck bare, in life bright red; bill very pale yellow; legs and feet pale yellowish white; iris brown. Total length about 30 inches, culmen 2·55, wing 21·7, tail 11·5, tarsus 2·9.

Hab. North America from about 49° N. lat. on the west coast, and New Brunswick on the east; southwards to Honduras; S. America; Chili; ? Brazil.

a, b. Ad. st.	N. America.	J. J. Audubon, Esq.
c. Ad. st.	N. America.	E. Doubleday, Esq. [P.].
d. Ad. sk.	N. America.	Lord Odo Russell [P.].
e. ♀ juv. sk.	Salt-Spring Island, Vancouver Island.	Dr. Lyall [P.].
f. Sk.	West side of Rocky Mountains.	J. K. Lord, Esq. [P.].
g. Var. st.	Jamaica.	P. H. Gosse, Esq. (*C. burroviana*, Sharpe, *l. c.* err.).
h, i. Juv. sk.	Mexico.	Purchased.
k. ♂ ad. sk.	Santiago, Chili.	R. B. Sharpe, Esq. [P.].
l, m. ♀ ad. sk.	Andes of Chili.	E. C. Reed, Esq. [C.].
n. Sternum of sp. g.		P. H. Gosse, Esq.
o. Skeleton.		Zoological Society.
p. Skeleton.		Purchased.

2. Œnops pernigra*.

Cathartes aura, ? *Wied, Beitr. Naturg. Brasil.* iii. Abth. 1, p. 64 (1830); *D'Orb. Voy. Am. Mér. Zool.* p. 38, pl. 1. figs. 3, 4 (1835); *Tschudi & Cab. F. P., Vög.* p. 16 (1845); *Burm. Th. Bras.* ii. p. 30 (1855);

into Venezuela and Guiana, in the same way that *Polyborus cheriway* does, being replaced from Amazonia southwards as a resident by *Œ. pernigra.*

* Excellent critical notes on the Turkey Vultures will be found from the pen of Mr. J. A. Allen (Bull. Harv. Coll. ii. p. 311), in which he points out that



Keulemans del. Mintern Bros. lith.

1. Œnops falklandica.
2. ——— urubitinga.

Pelz. Orn. Bras. p. 1 (1867); *Scl. & Salv. P. Z. S.* 1867, p. 988; *iid. Nomencl. Av. Neotr.* p. 123 (1873).
Cathartes iota, *Cass. U. S. Expl. Exp.* p. 83, pl. 1 (1858).
Cathartes urubitinga, *Scl. & Salv. P. Z. S.* 1867, p. 589.

Adult. Entirely black, with purplish reflections; shafts of quills and tail-feathers brown above, white below, the lower surface of both ashy brown, much paler than the upper; head *yellow*; iris *white*. Total length 25 inches, culmen 2·75, wing 19·75, tail 11, tarsus 2·5.

Hab. Guiana, Amazonia, and Peru.

a. Ad. sk.	North side of River Amazon.	A. R. Wallace, Esq. [C.].
b. Juv. sk.	Arequipa, Peru, July 30, 1867.	H. Whitely, Esq. [C.].

3. Œnops falklandica. (Plate II. fig. 1.)

Cathartes aura, *Abbott, Ibis*, 1861, p. 149; *Cunningh. Ibis*, 1868, p. 494; *Scl. & Salv. Ibis*, 1869, p. 284; *Cunningh. Str. of Magell.* p. 355 (1871).
Catharista falklandica, *Sharpe, Ann. N. H.* (4) xi. p. 133 (1873).

Adult. Black, with a blue gloss, some of the wing-coverts and inner secondaries inclining to brownish; median wing-coverts and secondaries very distinctly shaded with whitish ashy; quills brown, slightly paler externally, shafts brown above, white beneath; tail brown, with a slight greenish gloss near the base, the under surface paler and inclining to ashy white; crop-patch bare; under surface of body black, with a slight greenish gloss; head and neck bare, pink in life; no distinct ruff, but the feathers of the neck slightly impending on the crop; iris brown; feet pink. Total length about 29 inches, culmen 3·1, wing about 19·2, tail 10·8, tarsus 2·6*.

Hab. Falkland Islands.

a. Ad. st.	Berkeley Sound, F. I.	Antarctic Expedition.	Type of species.
b. Ad. sk.	Falkland Islands.	Antarctic Expedition.	

Cassin described *Œnops iota* at one time as smaller, and at another as larger than *Œ. aura*. The specimen figured by Cassin as *Œ. iota* (Molina) is the small black species of Amazonia and Peru, here named *Œ. pernigra*. He does not mention that a Chilian specimen is figured; and as Turkey Vultures were collected in many localities by the expedition, it is probable that the bird figured was not from Chili. All the specimens I have seen from the latter country seem identical with *C. aura* of N. America; but D'Orbigny's coloured plate illustrates a bird distinct from that species, and doubtless my *Œnops pernigra*. The ordinary Vulture of Western Brazil still remains unidentified by me; but should it be the same as the Amazonian bird, the species may have to be called *Œnops ruficollis* (Spix). My birds' heads, however, are so distinctly yellow that I cannot believe in their identity with Spix's species. They are also rather smaller than the Turkey Vulture of N. America, and always of a deeper black colour, as is shown by Cassin's excellent figure (*l. c.*). Mr. Allen, moreover, states that the Brazilian bird is identical with the Chilian. I examined a bird from Surinam in the Leiden Museum, and believe it to be identical with *Œ. pernigra*, and not with *Œ. aura*. It measured 26 inches in length, and had the wing 21. Another from Brazil (No. 5 of Schlegel's Cat.) was 24·5 inches long, and measured 20·5 in the wing.

* There can be little doubt that this species is quite distinct from *Œ. aura*, which it resembles much in plumage, but is distinguished by the grey on the

4. Œnops urubitinga*. (Plate II. fig. 2.)

Yellow-necked Carrion-Crow, *Bonyan, P. Z. S.* 1851, p. 54.
Cathartes urubitinga, *Pelz. Sitz. Akad. Wien*, xliv. p. 7. (1861, *ex Natt. MS.*); *id. Verh. z.-b. Wien*, 1862, p. 133; *Schl. Mus. P.-B.* Vult. p. 4 (1862); *Scl. P. Z. S.* 1863, p. 225; *Gurney, Cat. Rapt. B. Norw. Mus.* p. 46 (1864); *Pelz. Orn. Bras.* p. 1 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 123 (1873).
Cathartes aura, *Scl. & Salv. P. Z. S.* 1867, p. 753, et 1873, p. 301.
Catharista urubitinga, *Gray, Hand-l. B.* i. p. 3 (1869).

Adult. Black, the feathers of the neck ascending to the nape triangularly; shafts to primaries above and below white; head orange in life. Total length about 25 inches, culmen 2·75, wing 19, tail 10, tarsus 2·7†.

Hab. S. America, from Brazil northwards to Surinam and British Guiana.

a. Ad. st.	Surinam.	Soc. "Natura Artis Magistra," Amsterdam [P.].
b. Ad. sk.	Chyavetas, E. Peru.	E. Bartlett, Esq. [C.].

5. Œnops californiana.

Vultur californianus, *Shaw & Nodder, Nat. Misc.* ix. p. 1, pl. 301 (1797); *Vieill. N. Dict.* xxxvi. p. 450 (1819).
Vultur columbianus, *Ord, in Guthrie's Geogr.* ii. p. 315 (1815).
Cathartes californianus, *Ranz. Elem. Orn.* vii. p. 23 (1823); *Aud. B.*

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wings. It is about the size of that species, the largest specimen of true *Œ. aura* in the collection being one from North America, presented by Lord Odo Russell, and measuring as follows—total length about 29 inches, wing 19·8, tail 11·3, tarsus 2·7; with this the above measurements should be compared.

* In the 'Annals' for February 1873, I was inclined to unite this species with *Œnops burroviana* of Cassin, and suggested that a specimen in the national collection from Jamaica might be that species; but Mr. Elliot, who has described and figured the type (*l. c.*), and who thus knows the species, assures me that the Jamaican bird can be nothing but *Œ. aura*. Dr. Sclater also tells me that he examined the type specimen in Philadelphia, and believes that *Œ. burroviana* is only a small *Œ. aura*; and Mr. Elliot does not give much credit to it as a species. The latter gentleman makes no mention of the shafts of the quills in his description; and as this is (with the orange head) the character of *Œ. urubitinga*, it seems best to keep the two species separate until such time as a comparison of actual specimens shall dissipate the uncertainty. Mr. Allen (Bull. Harv. Coll. ii. p. 312) also regards the species as based upon an "unusually small specimen" of *Œ. aura*. The synonymy is as follows:—

ŒNOPS BURROVIANA.

Cathartes burrovianus, *Cass. Pr. Phil. Acad.* ii. p. 212 (1845); *id. Cat. Vult. Philad. Mus.* p. 5 (1849); *id. B. Calif.* p. 59 (1855); *id. U.S. Expl. Exp.* p. 84 (1858); *id. in Baird's B. N. Am.* p. 6 (1860); *Scl. P. Z. S.* 1857, p. 3; *Scl. & Salv. Ibis*, 1859, p. 213; *Dresser, Ibis*, 1865, p. 322; *Elliot, B. N. Am.* ii. pl. xxvi. (1866).
Catharista burroviana, *Gray, Hand-l. B.* i. p. 3 (1869); *Sharpe, Ann. N. H.* (4) xi. p. 133 (1873).

† Measurements of a pair in the Leiden Museum:—
♂. Total length 22·5 inches, culm. 2·3, wing 20, tail 10·2, tarsus 2·45.
♀. Total length 22 inches, wing 20, tarsus 2·4.

Am. fol. iv. pl. 426, et 8vo ed. i. p. 12, pl. 1 (1839); *Gray & Mitch. Gen. of B.* i. p. 4, pl. 2 (1844); *Cass. Cat. Vult. Phil. Mus.* p. 4 (1849); *Bonap. Consp. Gen. Av.* p. 9 (1850); *A. S. Taylor, Zool.* 1855, p. 4632; *Strickl. Orn. Syn.* p. 3 (1855); *Cass. B. Calif.* p. 58 (1855); *Schl. Handl. Dierk.* i. p. 170, *Vög.* pl. 1. fig. 8 (1857); *Cass. B. N. Am.* i. p. 5 (1860); *Scl. Ibis*, 1860, p. 278, pls. 8, 9; *Schl. Mus. Pays-Bas*, Vultures, p. 2 (1862); *Gurney, Cat. Rapt. B. Norw. Mus.* p. 39 (1864); *Scl. P. Z. S.* 1866, p. 366; *Cooper, B. Calif. ed. Baird*, p. 496 (1870).

Cathartes vulturinus, *Temm. Pl. Col.* i. pl. 31 (1824).

Sarcorhamphus californianus, *Steph. Gen. Zool.* xiii. pt. 2, p. 6 (1826); *Sw. & Rich. F. Bor.-Am.* p. 1 (1831); *Licht. Abh. Berlin Akad.* 1838, tab. 1.

Catharista californiana, *Gray, Hand-l. of B.* i. p. 3 (1869).

Adult. Entire head and neck bare, in life orange-yellow and red, excepting a few bristles on the forehead, extending to the base of the beak and in front of the eye; general colour black, all the feathers margined with brown, the rump less distinctly; a few interscapulary plumes shaded with ashy grey; inner greater wing-coverts and secondaries broadly margined externally with buffy white; outer secondaries shaded with grey; quills and tail black; round the neck a ruff of lanceolate feathers; a bare patch on the breast; under surface of body brownish black; the breast-feathers lanceolate like those of the ruff; bill yellowish; feet bluish black; iris carmine. Total length about 40 inches, culmen from anterior point of nostril 3·4, wing about 30, tail 15·5, tarsus 4·3, middle toe 5·3.

Young. Similar to adult, but the brown edgings to the upper plumage a little paler and more conspicuous; the grey shade on secondaries very indistinct, and whitish wing-bar absent; head and neck sparsely covered with woolly brown down; feathers of the ruff and breast not so distinctly lanceolate; bill entirely horn-brown, inclining to whitish towards the tips; iris hazel.

Hab. Western side of North America; California and Oregon; seldom north of the river Columbia.

a. Ad. sk.	California.	A. Menzies, Esq. [P.]. Type of the species figured by Shaw and Temminck.
b. Ad. st.	Monterey, Cal. (*Taylor*).	J. H. Gurney, Esq. [E.].
c. Juv. st.	Monterey, Cal. (*Taylor*).	J. H. Gurney, Esq. [E.].
d. Skeleton.		Zoological Society.

Family FALCONIDÆ.

Crown of head always clothed with feathers, though the sides of the face are often more or less bare.

a. Both outer and inner toe connected to middle toe by basal interdigital membrane .. *POLYBORINÆ*, p. 30.
b. Outer toe only connected to middle toe by interdigital membrane.
a'. Tibia and tarsus to all intents equal in length, the difference between them not so great as length of hind claw. *ACCIPITRINÆ*, p. 46.
b'. Tibia much longer than tarsus, always exceeding it by more than length of hind claw.
a''. Hinder aspect of tarsus scaled..... *BUTEONINÆ*, p. 158.
b''. Hinder aspect of tarsus reticulate.
a'''. Commissure of bill simply festooned ..... *AQUILINÆ*, p. 225.
b'''. Commissure of bill distinctly toothed..... ..... *FALCONINÆ*, p. 350.

Subfamily III. POLYBORINÆ.

All the toes connected near the base by interdigital membrane; sides of face for the most part bare.

The members of this subfamily are chiefly American, and are rather Gallinaceous in their habits, thus approaching the Turkey Vultures, with which they are closely associated by Professor Sundevall (Av. Tent. pp. 109–111). Several subgenera are included within the genus *Ibycter*, but are treated here as of subordinate rank in the face of the instability of the characters and the gradual gradation of one form towards another. The same idea was once entertained by Dr. Kaup (Arch. f. Naturg. vol. xvii. 1850, p. 41) before he had "given up subgenera, and had raised all subgenera established by him to the dignity of genera" (P. Z. S. 1867, p. 169).

Key to the Genera.

a. Middle tail-feathers not elongated.
a'. Nostrils oval ..... 11. POLYBORUS, p. 31.
b'. Nostrils round ..... 12. IBYCTER, p. 34.
b. Middle tail-feathers extremely elongated; head with elongated plumes.
a'. Nostrils vertical ovals; forehead with erect crest..... 13. CARIAMA, p. 42.
b'. Nostrils perpendicular ovals; forehead not crested ..... 14. SERPENTARIUS, p. 44.

11. POLYBORUS.

	Type.
Polyborus, *Vieill. Analyse*, p. 22 (1816)	P. tharus.
Caracara, *Less. Traité*, p. 34 (1831).....	P. tharus.



Bill of *Polyborus tharus*.

Range. The whole of Southern and Central America, extending into the southern provinces of North America.

Key to the Species.

a. Lower back and rump brown, barred with white.... *tharus*, p. 31.
b. Lower back and rump uniform dark brown ..... *cheriway*, p. 33.

1. Polyborus tharus*.

Le Busard du Brésil, *Briss. Orn.* i. p. 405 (1760).
Falco tharus, *Molina, Saggio St. Nat. Chil.* p. 264 (1782).
Falco plancus, *Gm. S. N.* i. p. 257 (1788).
Falco brasiliensis, *Gm. S. N.* i. p. 262 (1788); *Max. Beitr.* iii. p. 190 (1830).
Vultur cheriway, *Lath. Ind. Orn.* i. p. 8 (1790).
Vultur plancus, *Lath. Ind. Orn.* i. p. 8 (1790).
Falco cheriway, *Licht. Verz. Doubl.* p. 60 (1823).
Polyborus brasiliensis, *Vig. Zool. Journ.* i. p. 320 (1824); *Swains. Zool. Illustr.* ser. 2, pl. 2 (1832); *Bp. Consp.* i. p. 13 (1850); *Pelz. Verh. z.-b. Wien*, 1862, p. 137; *Schl. Mus. P.-B.* Polybori, p. 2 (1862, pt.); *Pelz. Orn. Bras.* p. 393 (1871).
Polyborus vulgaris, *Spix, Av. Bras.* i. p. 3, pl. 1 (1824); *Vieill. Gal. Ois.* i. p. 23, pl. 7 (1825); *Less. Traité*, p. 34 (1831); *D'Orb. Voy. Am. Mérid., Zool.* p. 55 (1835); *Tschudi, Faun. Peruana*, p. 77 (1845); *Burm. Th. Bras.* ii. p. 41 (1856).
Circaetus brasiliensis, *Cuv. Règne An.* i. p. 328 (1829).
Pandion caracara, *G. R. Gray, in Griff. ed. Cuv. An. Kingd.* vi. p. 235 (1829).

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* Brown's "Tawny Vulture" has been considered by some ornithologists to be a *Polyborus*. The figure is not recognizable; but if the locality, "Falkland Islands," is correct, it is probably the young of *Ibycter australis*, as *Polyborus* does not occur there. The synonymy is as follows:—

Tawny Vulture, *Brown, Ill. Zool.* pl. 1 (1766).
Falco ambustus, *Gm. S. N.* i. p. 252 (1788, *ex Brown*).
Vultur ambustus, *Lath. Ind. Orn.* i. p. 8 (1790).
Gypaetus ambustus, *Daud. Traité*, ii. p. 26 (1800).
Spizaetus ambustus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1254 (1823).
Polyborus ambustus, *Strickl. Orn. Syn.* p. 19 (1855).

Caracara vulgaris, *Less. Traité*, p. 34 (1831).
Aquila cheriway, *Meyen, Beitr.* p. 66 (1834).
Polyborus tharus, *Strickl. Orn. Syn.* p. 18 (1855); *Gurney, Cat. Rapt. B. Norw. Mus.* p. 17 (1864); *Gray, Hand-l.* i. p. 17 (1864); *Scl. & Salv. Nomencl. Av. Neotr.* p. 123 (1873).

Nestling. Covered with down of a dull white colour, through which the feathers which are appearing are of a sepia-brown colour, with pale rufous margins.

Young. Crown of head dark brown, with dull rufous tips to some of the feathers; sides of face tawny buff, with slight indications of black bristles on the lores, cheeks, and under the eye; upper surface of body light brown, the feathers streaked down the centre with yellowish white, widening out towards the apex of the feather, the rump-feathers irregularly streaked and barred with the same, the stripes on the sides of the neck inclining to tawny; primaries dark brown; secondaries lighter brown, like the back, tipped with yellowish white; primaries whitish for two thirds of their length, freckled and vermiculated with brown above, uniform yellowish white underneath, the shafts whitish; tail yellowish white, with about fourteen conspicuous cross bands, and having a very broad subterminal bar of brown, somewhat tinged with rufous; under surface of body dusky brown, with distinct central streaks of yellowish white to all the feathers, broader on the breast, and narrower on the throat and flanks; thighs and vent-feathers dull rufous brown, with scarcely any indication of central stripes; under tail-coverts dull whitish; under wing-coverts brown, the outer ones somewhat washed with rufous. Total length 26 inches, culmen 2·1, wing 17·9, tail 11·3, tarsus 3·8.

Adult. Above blackish brown, the secondaries more inclining to brown, with paler edges; crown of head crested, blackish brown in colour; sides of face and neck all round buffy white, with more or less distinct black bars; entire back, including rump and upper tail-coverts, dark brown, with narrow whitish cross bars; tail buffy white, with a very broad blackish-brown band at the tip, and more or less distinct brown bars across the lower part of the tail, more pronounced on outer feathers; quills as described in young bird, but the whitish colour not so extended on primaries; throat pure buffy white, like sides of face; fore neck and breast white, with distinct blackish cross bars; under surface of body blackish brown, the feathers of the lower breast with narrow whitish margins; under wing-coverts and thigh-feathers nearly uniform dark brown; under tail-coverts buffy white, with narrow brown cross bars; bare crop-patch yellow; cere and bare space round eye carmine-red, tinged with yellow; bill dark horn-blue; feet yellow; iris brown. Total length 22 inches, culmen 2·05, wing 15·5, tail 9·5, tarsus 3·8.

Hab. The whole of South America, from Tierra del Fuego and Patagonia as far north as 20° S. lat. on the west, and the Amazon on the eastern side.

a. Juv. st.	South America.	
b. Juv. st.	South America.	Sir W. Burnett and Admiral Fitzroy [P.].
c. Pull. st.	South America.	Sir W. Burnett and Admiral Fitzroy [P.].
d. Juv. sk.	South America.	Sir W. Burnett and Admiral Fitzroy [P.].
e. Ad. sk.	Hermit Island.	The Admiralty [P.].
f. Ad. sk.	Straits of Magellan.	The Admiralty [P.].
g. Ad. sk.	Island of Mexiana.	A. R. Wallace, Esq. [C.].
h. Juv. sk.	Island of Mexiana.	A. R. Wallace, Esq. [C.].
i. Ad. sk.	Rio de Janeiro.	Dr. Wucherer [C.].
k. Skeleton.		Purchased.
l. Skeleton.		Zoological Society.

2. Polyborus cheriway.

Falco cheriway, *Jacq. Beitr.* p. 17, tab. 4 (1784).
Polyborus brasiliensis, *Audub. B. Am.* fol. pl. 161 et ed. 8vo, i. p. 21, pl. 4 (1839); *Allen, Bull. Harv. Coll.* ii. p. 337 (1871).
Polyborus cheriway, *Cab. in Schomb. Reis. Guian.* iii. p. 741 (1848).
Polyborus tharus, *Cass. B. Calif.* p. 113 (1855); *id. in Baird's B. N. Am.* p. 45 (1860).
Polyborus auduboni, *Cass. Pr. Phil. Acad.* 1865, p. 2; *Baird in Cooper, B. Calif.* i. p. 492 (1871); *Gundl. J. f. O.* 1871, p. 357; *Scl. & Salv. Nomencl. Av. Neotr.* p. 123 (1873).
Polyborus tharus, var. auduboni, *Coues, Key*, p. 220 (1872).

Adult female. Upper surface black, the lower back and rump included; the upper tail-coverts white with remains of a few narrow blackish cross bars; hind neck and interscapulary region crossed with creamy buff bars, giving a very distinctly waved appearance; wings black, the greater coverts and outer margin of secondaries somewhat shaded with brownish; primaries white at base, freckled and barred with dusky brown for the greater part of their extent, the inner web whitish below, with faint indications of dusky cross bars; tail creamy buff, crossed with thirteen or fourteen cross bars of dusky black, the terminal third entirely black, forming a very broad band across the end of the feather; ear-coverts, sides of neck, and fore neck uniform creamy buff, the upper breast crossed with black bars; remainder of breast and thighs black; the abdomen and under tail-coverts creamy buff, a few bars of this colour extending up on to the black of the lower breast; under wing-coverts black; cere, loral spaces, and cheeks bright red; bill pale bluish, edged with yellow; feet yellow; iris dark brown. Total length 23 inches, culmen 2·25, wing 16·5, tail 9·5, tarsus 3·4.

Adult male. Similar to, but a little smaller than, the female. Total length 23 inches, wing 15·8, tail 9, tarsus 3·4.

Young. Above dark brown washed with paler brown, the lower back and rump uniform with rest of back; upper tail-coverts white, very slightly mottled with brown; tail marked as in adult, but the bars brown instead of black; feathers of interscapulary region broadly margined and streaked along the shaft with buffy white; wings brown, the innermost secondaries and a few of the greater coverts tipped with buffy white, primaries white mottled with brown bars near the base; sides of face, throat, fore neck, abdomen, and

under tail-coverts creamy white; rest of under surface brown, with buffy white margins to the feathers; the upper breast-feathers broadly streaked with buffy white down the centre.

Hab. The extreme southern States of North America, adjoining the Gulf of Mexico, and including California and Florida, thence throughout Central America into Southern America, through Columbia to Ecuador on the west, and into Guiana on the east coast; Cuba, Trinidad.

a. Ad. st.	British Guiana.	Sir R. Schomburgk [P.].
b. Ad. st.	Island of Puna.	G. Barclay, Esq. [P.].
c. Juv. sk.	?	
d. Ad. sk.	Valencia, Venezuela.	A. Goering, Esq. [C.].

12. IBYCTER*.

	Type.
Ibycter, *Vieill. Analyse*, p. 22 (1816)	I. americanus.
Daptrius, *Vieill. Analyse*, p. 22 (1816)	I. ater.
Gymnops, *Spix, Av. Bras.* i. p. 11 (1824)	I. ater.
Milvago, *Spix, Av. Bras.* i. p. 12 (1824)	I. chimachima.
Phalcobænus, *Lafr. in D'Orb. Dict.* iii. p. 151 (1843)	I. megalopterus.
Senex, *J. E. Gray in Jard. & Selby, Ill. Orn.* n. s. pl. 24 (1839)	I. australis.
Aetriorchis, *Kaup, Classif. Säug. u. Vög.* p. 124 (1844)	I. australis.
Helotriorchis, *Reich. Av. Syst. Nat.* pl. xcviii. (1850)	I. australis.



Bill of *Ibycter ater*.

Range. The entire continent of South America with Tierra del

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* Ibycter gymnocephalus.

Ibycter gymnocephalus, *D'Orbigny, Voy. Am. Mérid. Zool.* p. 50 (1835); *Strickl. Orn. Syn.* p. 24 (1855); *Gray, Hand-l.* i. p. 5 (1869).

Hab. Cochabamba, Bolivia.

A species of which examples were only seen but never procured by D'Orbigny; so that no type is in existence.

Ibycter fasciatus.

Gymnops fasciatus, *Spix, Av. Bras.* i. p. 10, pl. 4 (1824).
Circaetus fasciatus, *Cuv. Règne An.* i. p. 338 (1828).
Pandion fasciatus, *Gray in Griffith ed. Cuv. Birds*, i. p. 41 (1829).
Pandion strigilatus, *Gray, tom. cit.* p. 42 (1829).
Caracara fasciatus, *Less. Traité*, p. 35 (1831).
Ibycter fasciatus, *Gray, Gen. B.* i. p. 9 (1844); *Strickl. Orn. Syn.* p. 23 (1855); *Gray, Hand-l.* i. p. 5 (1869).

Hab. Jurua river, Brazil (*Spix*).

Unrecognized since Spix's time. If distinct, it must be closely allied to *I. ater*, but has the base of the tail much more extensively white with broad black bars.

Fuego and the Falkland Islands, extending into Central America as far north as Guatemala and Honduras.

Key to the Species.

a. Thighs black ..... *ater*, p. 35.
b. Thighs white.
  a'. Tail black ..... *americanus*, p. 35.
  b'. Tail tipped with white.
    a''. Throat and chest black ..... *megalopterus*, p. 36.
    b''. Throat and chest white ..... *albigularis*, p. 37.
    c''. Throat and chest white, spotted with black . *caruncula tus*, p. 38.
c. Thighs bright tawny rufous ..... *australis*, p. 38.
d. Thighs ochraceous buff.
  c'. Under surface of body, including under wing-coverts, ochraceous buff ..... *chimachima*, p. 39.
  d'. Under surface of body brownish ochre, with dark brown shaft-stripes; under wing-coverts dark rufous brown ..... *chimango*, p. 41.

1. Ibycter ater.

Daptrius ater, *Vieill. Analyse*, p. 22 (1816); *Vig. Zool. Journ.* i. p. 336 (1824); *Vieill. & Oud. Gal. Ois.* pl. 5 (1825); *Cab. in Schomb. Reis. Guian.* iii. p. 742 (1848).
Falco aterrimus, *Temm. Pl. Col.* i. pls. 37, 342 (1823).
Gymnops aterrimus, *Spix, Av. Bras.* i. p. 11 (1824).
Circaetus aterrimus, *Cuv. Règne An.* i. p. 328 (1828).
Daptrius aterrimus, *Less. Man. d'Orn.* i. p. 75 (1828).
Ibycter ater, *Sw. Classif. B.* ii. p. 209 (1837); *Gray, Gen. B.* i. p. 9, pl. 5. fig. 1 (1844); *Bp. Consp.* i. p. 12 (1850); *Strickl. Orn. Sym.* p. 23 (1855); *Pelz. Verh. z.-b. Wien*, 1862, p. 135; *Schl. Mus. P.-B.* Polybori, p. 7 (1862); *Gurney, Cat. Rapt. B. Norw. Mus.* p. 29 (1864); *Pelz. Orn. Bras.* pp. 2, 392 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 122 (1873).
Milvago aterrimus, *Burm. Th. Bras.* ii. p. 39 (1856).

Adult. Entirely black with greenish reflections, excepting a white band across the base of the tail; cere and sides of face bare and of a red colour. Total length 16·5 inches, culmen 1·45, wing 12·7, tail 8, tarsus 2·05.

Hab. The whole of the Amazon district, reaching into Ecuador on the west, into British Guiana on the north, and extending along Eastern Brazil as far as 30° S. lat.

a. Ad. st.	S. America.	Mr. Leadbeater.
b. Ad. st.	S. America.	
c. Ad. sk.	Para.	A. R. Wallace, Esq. [C.].
d. Skeleton.		Purchased.
e. Sternum.		Zoological Society.

2. Ibycter americanus.

Aigle d'Amérique, *Buff. Pl. Enl.* i. pl. 417.
Red-throated Falcon, *Lath. Gen. Syn.* i. p. 97 (1781).
Falco americanus, *Bodd. Tabl. Pl. Enl.* p. 25 (1783).
Falco aquilinus, *Gm. S. N.* i. p. 280 (1788).

Falco formosus, *Lath. Ind. Orn.* i. p. 38 (1790).
Falco nudicollis, *Daud. Traité*, ii. p. 79 (1800).
Circaetus aquilinus, *Cuv. Règne An.* i. p. 317 (1817).
Gymnops aquilinus, *Spix, Av. Bras.* i. p. 11 (1824).
Ibycter aquilinus, *Vig. Zool. Journ.* i. p. 336 (1824); *Gray, Gen. B.* i. p. 9 (1844); *Cab. in Schomb. Reis. Guian.* iii. p. 742 (1848); *Bp. Consp.* i. p. 12 (1850).
Polyborus aquilinus, *Less. Man. d'Orn.* i. p. 88 (1828).
Ibycter americanus, *Gray, Gen. B. App.* p. 1 (1849); *Strickl. Orn. Syn.* p. 22 (1855); *Schl. Mus. P.-B.* Polybori, p. 9 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 134; *id. Orn. Bras.* pp. 2, 392 (1871); *Gurney, Cat. Rapt. B. Norw. Mus.* p. 29 (1864); *Scl. & Salv. Nomencl. Av. Neotr.* p. 122 (1873).
Milvago nudicollis, *Burm. Th. Bras.* ii. p. 37 (1856).
Ibycter formosus, *Pelz. Verh. z.-b. Wien*, 1862, p. 134; *id. Orn. Bras.* pp. 2, 392 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 122 (1873).

Adult male. Black, with steel-green reflections and sometimes slightly shaded with ashy grey; ear-coverts decidedly shaded with ashy grey; entire abdomen, thighs, and under tail-coverts white; bare space before the eye and throat deep red; cere blue; mandibles yellow; iris deep red. Total length 19·5 inches, culmen 1·6, wing 13·6, tail 9·2, tarsus 2.

Female. Similar to the male, but larger. Total length 24 inches, wing 15·5, tarsus 2·3 *.

Hab. The whole of Amazonia, Ecuador, and Columbia, reaching to the southward along eastern Brazil as far south as the Tropic of Capricorn, and ranging along the western coast of Central America to Guatemala and Honduras.

a. ♂ ad. st.	S. America.	Purchased.
b. ♀ ad. st.	S. America.	Purchased.
c. ♂ ad. sk.	Guayaquil.	G. Barclay, Esq. [P.].
d. ♂ ad. sk.	Para.	A. R. Wallace, Esq. [C.].
e. ♀ ad. sk.	Veragua.	M. E. Arcé [C.].

3. Ibycter megalopterus.

Aquila megaloptera, *Meyen, Beitr.* p. 64, pl. 7 (1834).
Phalcobænus montanus, *D'Orb. Voy. Am. Mérid. Ois.* p. 51, pl. 2 (1835).
Milvago montanus, *Darw. Voy. Beagle, Birds*, p. 13 (1841); *Pelz. Verh. z.-b. Wien*, 1862, p. 135.
Milvago megalopterus, *Darwin, Voy. Beagle, Birds*, p. 13 (1841); *Gray, Cat. Accipitr.* 1848, p. 30; *Strickl. Orn. Syn.* p. 21 (1855); *Gray, Hand-l. B.* i. p. 5 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 122 (1873).
Polyborus megalopterus, *Cab. & Tschudi, Faun. Peruana*, pp. 16, 78 (1845); *Schl. Mus. P.-B.* Polybori, p. 4 (1872).
Phalcobænus megalopterus, *Bp. Consp.* i. p. 13 (1850); *Gurney, Cat. Rapt. B. Norw. Mus.* p. 24 (1864).

* Von Pelzeln's *I. formosus* (ex Lath.) is surely nothing but the female of *I. americanus*, witness sexed specimens in the collection of Messrs. Salvin and Godman.

Milvago crassirostris, *Pelz. Sitz. Akad. Wien*, xliv. p. 7 (1861); *id. Verh. z.-b. Wien*, 1862, p. 136.

Young. Above rufous brown, with distinct ochraceous-buff tips to most of the feathers of the upper surface, a little less distinct on the wing-coverts; head more decidedly rufous, with longitudinal fulvous tips; under surface of body uniform dull rufous brown, the lower abdomen and thighs broadly mottled with pale fulvous, the under tail-coverts almost entirely of the latter colour; quills dark brown, inclining to greyish on the outer margin of the primaries, the primary coverts and primaries conspicuously white on the inner web and less so on the outer, the latter margined and the former spotted with brown; upper tail-coverts very long, creamy white, barred with brown on inner web; tail dull rufous brown, dull ochre on the inner web, inclining to white towards the tips of the feathers, many of the feathers mottled with rufous brown near the base; under wing-coverts rufous brown, tipped with fulvous, the greater ones dull ochre margined with brown. Total length 22 inches, culmen 1·65, wing 15·1, tail 8·5, tarsus 3·05.

Adult. Head crested, the feathers of the crown recurved; upper surface glossy black, with greenish reflections; primaries black; secondaries shaded with chocolate-brown; all the quills tipped with ashy white; upper tail-coverts white; tail black, white at base, and broadly tipped with the same; sides of face and neck and underparts as far as the lower breast black; abdomen, thighs, and under tail-coverts white, the flanks somewhat mixed with black, which extends some way from the breast; under wing-coverts white, as also the small plumes along the bend of the wing; cere and lores bare and yellow; bill yellow, horn-blue at base of both mandibles; cere and bare space round eye bright orange; feet orange-yellow; iris brown. Total length 21 inches, culmen 1·5, wing 14·6, tail 8·5, tarsus 1·6.

Hab. Pacific side of the Andes in Chili, Bolivia, and Peru.

a.	Ad. sk.	Cordillera of Chili.	Hugh Cuming, Esq. [C.].
b.	Juv. sk.	Chili.	Mr. P. Brydges [C.].
c.	Juv. sk.	Chili.	C. Crawley, Esq. [P.].
d.	Ad. st.	Chili.	Zoological Society.
e.	Juv. st.	Chili.	Zoological Society.
f.	Juv. sk.	Arequipa, July 11, 1867.	Henry Whitely, Esq., Jun. [C.].
g.	Ad. sk.	Tinta, July 27, 1868.	Henry Whitely, Esq., Jun. [P.].
h.	♂ ad. sk.	Tinta, June 28, 1869.	Henry Whitely, Esq., Jun. [P.].
i.	♂ juv. sk.	Tinta, June 28, 1869.	Henry Whitely, Esq., Jun. [P.].
k.	Skeleton.		

4. Ibycter albigularis.

Polyborus albogularis, *Gould, P. Z. S.* 1837, p. 9.
Milvago albogularis, *Darwin, Voy. Beagle, Birds*, p. 13, pl. 1 (1841); *Strickl. Orn. Syn.* p. 22 (1855); *Scl. Ibis*, 1861, p. 23; *Gray, Hand-l.* i. p. 5 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 122 (1873).

Not quite adult (type). Above brownish black, with several rufous-

brown feathers on the sides of the neck (the remains of young plumage); feathers of crown slightly recurved; all the quills tipped with white; upper tail-coverts white; tail brown, white at base and at tip; under surface of body entirely white, with one black plume on the throat, and the sides of the body irregularly marked with black, which occupies the most part of the inner and a great deal of the outer web of the feathers; under wing-coverts white; primaries white at immediate base, with broad black bars. Total length 21 inches, culmen 1·65, wing 15·6, tail 9·3, tarsus 3·1.

Hab. Patagonia.

a. ♀ st. Santa Cruz, Patagonia. C. Darwin, Esq. [C.]. Type of species.

5. Ibycter carunculatus.

Phalcobænus carunculatus, *Des Murs, Rev. et Mag. de Zool.* 1853, p. 154; *Gurney, Cat. Rapt. B. Norw. Mus.* p. 25 (1864).
Milvago megalopterus, *Scl. P. Z. S.* 1858, p. 555 (*nec Meyen*).
Milvago carunculatus, *Scl. P. Z. S.* 1860, p. 81; *id. Ibis*, 1861, p. 19, pl. 1; *Gray, Hand-l.* i. p. 5 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 122 (1873).

Adult. Above glossy black, the feathers of the head recurved; rump and upper tail-coverts pure white; quills black; both primaries and secondaries broadly tipped with white; tail black, with a broad terminal band of white; entire breast black, each feather with a large tear-shaped drop of white along the centre; under tail-coverts, vent, and thighs pure white, as also are the under wing-coverts and axillaries; bare skin of face and throat wrinkled and deep orange-colour, as also the cere; irides hazel. Total length 19·5 inches, culmen 2, wing 15·5, tail 8·8, tarsus 3·2.

Hab. Highlands of Ecuador and New Granada.

a. Ad. sk. Ecuador. R. B. Sharpe, Esq. [P.]

6. Ibycter australis.

Statenland Eagle, *Lath. Gen. Syn.* i. p. 40 (1781).
Falco australis, *Gm. S. N.* i. p. 259 (1788).
Morphnus novæ zealandiæ, *Cuv. Règne An.* i. p. 318 (1817).
Falco novæ zealandiæ, *Temm. Pl. Col.* i. pls. 192, 224 (1823).
Polyborus novæ zealandiæ, *Vig. Zool. Journ.* i. p. 336 (1824); *Darwin, Journ. Voy. Adv. & Beagle*, p. 66 (1839).
Circaetus novæ zealandiæ, *Cuv. Règne An.* i. p. 328 (1829).
Circaetus antarcticus, *Less. Traité*, p. 49 (1831).
Polyborus brasiliensis, *King, Voy. Beagle*, i. p. 532 (1839).
Senex australis, *J. E. Gray in Jardine & Selby, Ill. Orn.* n. s. pl. 24 (1839); *Gurney, Cat. Rapt. B. Norw. Mus.* p. 20 (1864).
Milvago leucurus, *Darwin, Voy. Beagle, Birds*, p. 15 (1841, *ex Forst.*); *Gray, Hand-l. B.* i. p. 5 (1869).
Vultur plancus, *Forst. Descr. Anim.* p. 321 (1844).
Aetriorchis novæ zealandiæ, *Kaup, Classif. Säugeth. u. Vög.* p. 124 (1844).
Milvago australis, *Gray, Cat. Accipitr.* 1848, p. 30; *Strickl. Orn. Syn.* p. 21 (1855); *Abbott, Ibis*, 1861, p. 150; *Pelz. Verh. z.-b. Wien*, 1862, p. 136; *Scl. & Salv. Nomencl. Av. Neotr.* p. 122 (1873).

Ibycter australis, *Kaup, Arch. f. Naturg.* xvi. p. 41 (1850).
Polyborus australis, *Bp. Consp.* i. p. 13 (1850); *Schl. Mus. P.-B.* Polybori, p. 3 (1862).
Aetriorchis australis, *Bp. Rev. et Mag. de Zool.* 1854, p. 11.

Adult. Above black; the nape and hind neck covered with lanceolate streaks of white, as also a few of the outer upper tail-coverts; quills dark brown, very slightly tipped with whitish; tail black, broadly tipped with white; under surface of body black, with very distinct lanceolate white streaks on the throat and breast, reduced to tiny white apical spots on the feathers of the abdomen; inner face of thighs and vent-feathers tawny; under tail-coverts black, with whitish margins; under wing-coverts black, the outer ones externally tawny; crop-patch lemon-yellow; bill yellowish, bluish horn-colour at base; cere and feet of a bright lemon-yellow; iris dark brown. Total length 25 inches, culmen 1·9, wing 16·7, tail 11, tarsus 3·35.

Young. Above smoky brown, clearer on the wings; head and neck blackish, the sides of the latter rufous ochre, with brownish margins to the feathers; the feathers of the crown and nape with narrow and indistinct fulvous tips; quills brown, primaries clear ochre at base; upper tail-coverts and tail ochraceous brown, deeper brown on the external margins; under surface of body smoky brown, with rufous-brown centres to the breast-feathers, not very distinct; bill horn-brown, yellowish at tip of lower mandible; cere and feet slate-colour. Total length 24·5 inches, culmen 1·25, wing 16·5, tail 10·5, tarsus 3.

Hab. Falkland Islands.

a, b. Ad. st.	S. America [?].	Purchased.
c. Juv. st.	Straits of Magellan [?].	The Admiralty [P.].
d. Juv. sk.	Berkeley Sound.	The Admiralty [P.].
e. Ad. st.	S. Salvador Bay, E. Falkland.	Antarctic Expedition.
f. Ad. sk.	Falkland Islands.	Antarctic Expedition.
g. Juv. sk.	Falkland Islands.	Sir W. Burnett and Adm. Fitzroy [P.].

7. Ibycter chimachima.

Chimachima, *Azara, Apunt.* i. p. 50 (1802).
Polyborus chimachima, *Vieill. N. Dict.* v. p. 259 (1816); *D'Orb. Voy. Am. Mér.* p. 63 (1835); *Schl. Mus. P.-B.* Polybori, p. 5 (1862).
Falco crotophagus, *Max. Reis. Bras.* i. p. 297 (1820).
Falco degener, *Licht. Verz. Doubl.* p. 61 (1823).
Milvago ochrocephalus, *Spix, Av. Bras.* i. p. 12, pl. 5 (1824); *Burm. Th. Bras.* ii. p. 36 (1856).
Gymnops strigilatus, *Spix, Av. Bras.* i. p. 10, pl. 4 (1824).
Polyborus degener, *Vig. Zool. Journ.* i. p. 336 (1824).
Haliaetus ochrocephala, *Cuv. Règne An.* i. p. 327 (1829).
Haliaetus chimachima, *Less. Traité*, p. 43 (1831).
Milvago chimachima, *Gray, List Gen. B.* p. 2 (1841); *Cab. in Schomb. Reis. Guian.* iii. p. 741 (1848); *Bp. Consp.* i. p. 12 (1850); *Strickl. Orn. Syn.* p. 20 (1855); *Pelz. Verh. z.-b. Wien.* 1862, p. 137; *Gurney. Cat. Rapt. B. Norw. Mus.* p. 27 (1864); *Gray, Hand-l. B.* i. p. 5

(1869); *Pelz. Orn. Bras.* pp. 2, 392 (1871); *Sel. & Salv. Nomencl. Av. Neotr.* p. 122 (1873).
Ibycter chimachima, *Kaup, Arch. f. Naturg.* vol. xvi. p. 41 (1850).

Young. Above rather rufous brown, with distinct straw-coloured margins to most of the feathers of the back; the head minutely spotted with straw-colour, and streaked more distinctly with the same on the sides of the crown, especially over the eye, where a distinct eyebrow is formed; the hind neck more distinctly streaked with straw-colour, the sides of the neck being entirely of the latter colour, some of the feathers with brown margins; feathers behind the eye and ear-coverts uniform brown, the latter with somewhat of a rufous tint; fore part of cheeks and chin almost uniform yellowish white; rest of under surface deep straw-yellow or ochre, the feathers margined with brown on the chest, causing a striped appearance; the flanks and thigh-feathers spotted on both webs or barred across with brown; the under tail-coverts uniform straw-yellow; quills dark brown; primaries externally whitish at base, freckled with brown; all the quills white at base of inner web, shading into rufous, barred with dark brown, the bars on the primaries narrower; under wing-coverts rufous-ochre, thickly barred with dark brown; upper tail-coverts pale buffy cream-colour, with indistinct remains of brown bars; tail-feathers also cream-coloured, crossed with seven bars of dark brown somewhat washed with rufous; the tips whitish, preceded by a very broad subterminal band of dark brown. Total length 16 inches, wing 11·2, tarsus 2·05.

The progress from the young to the adult stage seems to be effected by a gradual change of the feather, the brown on the head, neck, and under parts gradually disappearing, and the cream-coloured centres widening out until they occupy the whole of the feather. The brown bars on the lower part of the tail also diminish in extent and grow narrower.

Adult. Above brown, with pale ashy brown margins to the feathers of the back, scapulars, and wing-coverts; quills dark sepia-brown; secondaries of the same colour as the back, all tipped with whity brown; primaries white at base of both webs; head and neck all round (excepting a little streak of brown behind the eye) and entire underparts, including the under wing- and tail-coverts, white; upper tail-coverts and tail for two thirds of its length white, the latter barred with brown, the middle feathers also somewhat freckled with brown; the terminal third of the tail blackish brown, forming a broad dark band slightly tipped with white; feet pale yellow; bare space round eye tinged with rose-colour; iris whitish. Total length 16 inches, culmen 1·35, wing 10·5, tail 7·2, tarsus 2.

Hab. The whole of Brazil north of the Tropic of Capricorn, along the frontiers of Paraguay, not south of 28° S. lat. All Amazonia, extending through Columbia into Panama.

a. Ad. sk.	S. America.		
b. Juv. st.	S. America.		
c. Ad. st.	Bahia.	Sudbury Museum.	

d. ♀ juv. sk.	Island of Mexiana.	A. R. Wallace, Esq. [C.].
e. Ad. sk.	Island of Mexiana.	A. R. Wallace, Esq. [C.].
f. ♀ juv. sk.	Barra, Rio Negro.	A. R. Wallace, Esq. [C.].
g. Ad. sk.	Bogotá.	R. B. Sharpe, Esq. [P.].
h. Ad. sk.	Bay of Panama.	Capt. Kellett and Lieut. Wood [P.].

8. Ibycter chimango.

Chimango, *Azara, Apunt.* i. p. 47 (1802).
Polyborus chimango, *Vieill. N. Dict.* v. p. 260 (1816); *Cab. & Tsch. Faun. Peruan.* p. 79 (1845); *D'Orb. Voy. Am. Mérid. Ois.* p. 60 (1835); *Schl. Mus. P.-B.* Polybori, p. 6 (1862).
Haliaetus chimango, *Less. Traité*, p. 43 (1831).
Aquila pezopora, *Meyen, Beitr.* p. 62, pl. 6 (1834).
Milvago chimango, *Darw. Voy. Beagle, Birds*, p. 14 (1841); *Gray & Mitch. Gen. B.* i. pl. 5 (1844); *Bp. Consp.* i. p. 13 (1850); *Strickl. Orn. Syn.* p. 20 (1855); *Pelz. Verh. z.-b. Wien*, 1862, p. 136; *Gurney, Cat. Rapt. B. Norw. Mus.* p. 26 (1864); *Gray, Hand-l. B.* i. p. 5 (1869); *Pelz. Orn. Bras.* p. 392 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 122 (1873).
Milvago pezoporus, *Darwin, Voy. Beagle, Birds*, p. 13 (1841); *Strickl. Orn. Syn.* p. 20 (1855).
Ibycter chimango, *Kaup, Arch. f. Naturg.* xvi. p. 41 (1850).

Adult. Above rufous brown, with ashy-brown margins to the feathers, not very distinctly indicated; head and neck more decidedly rufous, with longitudinal black centres to the feathers, giving a somewhat striped appearance; wing-coverts coloured like the back; primary coverts whitish, freckled minutely with greyish brown, with three very indistinct narrow cross lines of brown; quills deep brown, with white shafts, and externally shaded with ashy grey; secondaries coloured like back; primaries whitish at base, externally freckled with greyish brown like the primary coverts; inner face of quills at base buff, more rufous towards the inner ones, which are also slightly barred; upper tail-coverts dull white; tail ashy grey, whitish at base, minutely freckled with greyish brown and crossed with a broad subterminal band of dark brown, the tip whity brown; frontal feathers and a narrow superciliary line terminating above the ear black; sides of face and of neck brownish ochre; the cheeks slightly streaked with black; under surface of body brownish ochre, with distinct shaft-stripes of dark brown, and the feathers inclining to whitish ashy at tip, causing a somewhat mottled appearance; thighs and under tail-coverts paler ochre, the latter inclining to whitish; under wing-coverts rufous brown, barred with ochre, the greater ones entirely of the latter colour, with narrow brown cross bars; cere dull pink; feet bright yellow; iris hazel-brown. Total length 15·7 inches, culmen 1·1, wing 11·5, tail 6·7, tarsus 2·55.

Young. Very similar to adult, but more rufous; the feathers of the upper surface tipped with whitish, and the under surface also more distinctly mottled with the latter colour; thighs deep rufous ochre; quills much as in adult, but the base of primaries and the primary coverts more coarsely vermiculated and washed with rufous; tail creamy buff at base, shading into rufous at tip, all very coarsely

freckled with dark brown, except the extremities of the feathers, which do not, however, show a very distinct band.

The type of Mr. Gould's *M. hyperstictus* is in the Museum, and is, I believe, the very old bird of this species in bleached plumage. At the same time it presents many differences from the bird which I have considered to be the adult, viz. in the breadth and purity of the white margins of the back-feathers, in the pure white primary coverts which are not freckled, but show five narrow brown cross bars, and especially in the total absence of any subterminal bar on the tail-feathers. The latter are ochraceous buff, with narrow greyish brown bars on the inner webs, broader and more vermiculated on the outer; the two centre feathers entirely covered with ashy-brown frecklings.

Hab. The southern portion of the South-American continent and Tierra del Fuego, ranging on the west coast as high as 20° S. lat.; but in the central portions not higher than the Tropic of Capricorn, and only extending in Eastern Brazil to the districts north of Rio.

a.	Ad. st.	S. America.	
b.	Juv. sk.	S. America.	Antarctic Expedition [C.].
c.	Ad. st.	Maldonado.	Chas. Darwin, Esq. [C.]
d.	Ad. st.	Port Desire.	Chas. Darwin, Esq. [C.]. Type of *P. hyperstictus*, Gould.
e.	♂ ad. sk.	Chili.	R. B. Sharpe, Esq. [P.].

13. CARIAMA.

	Type.
Cariama, *Briss. Orn.* v. p. 516	C. cristata.
Microdactylus, *Geoffr. Ann. du Mus.* xiii. p. 370 (1809)	C. cristata.
Dicholophus, *Illiger, Prodr. Syst.* p. 253 (1811)	C. cristata.
Lophorhynchus, *Vieill. Analyse*, p. 59 (1816)	C. cristata.
Sariama, *Bp. Consp.* ii. p. 103 (1857)	C. cristata.
Chunga, *Reich. Naturg. Tauben*, p. 159 (1860)	C. burmeisteri.
Chunnia, *Burm. La-Plata Reis.* ii. p. 508 (1861)	C. burmeisteri.

Cf. *Sundev. Av. Tent.* p. 111; *Parker, Micr. Journ.* 1872, p. 45.

Range. South America: campos of Brazil and western provinces of Argentine Republic.

Key to the Species.

a. Larger; sandy brown; frontal plumes 3 inches in length; no superciliary streak; tail tipped with white ..... *cristata*, p. 42.

b. Smaller; ashy grey; frontal plumes 1 inch in length; a distinct white superciliary streak; tail tipped with ashy grey ..... *burmeisteri*, p. 43.

1. Cariama cristata.

Palamedea cristata, *Linn. S. N.* i. p. 232 (1766).
Le Cariama, *Buff. H. N. Ois.* viii. p. 172 (1783).
Saria, *Azara, Apunt.* iii. p. 101 (1805).

Microdactylus marcgravii, *Geoffr. Ann. du Mus.* xiii. p. 370, pl. xxvi. (1809).
Dicholophus cristatus, *Illiger, Prodr.* p. 253 (1811); *Temm. Pl. Col.* i. pl. 237 (1823); *Max. Abbild. Naturg. Bras. Vög.* pl. 4 (c. 1825); *id. Beitr.* iv. pt. 2, p. 570 (1833); *Burm. Th. Bras.* iii. p. 401 (1856); *Pelz. Orn. Bras.* pp. 299, 455 (1871).
Cariama saurophaga, *Vieill. et Oud. Gal. Ois.* ii. p. 148, pl. cclix. (1834).
Cariama cristata, *Gray, Cat. Gralla*, p. 73 (1844); *id. Hand-l. B.* iii. p. 23 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 141 (1873).
Sariama cristata, *Bp. Consp.* ii. p. 103 (1857).

Adult. Above sandy brown, minutely and indistinctly vermiculated with fulvous; wing-coverts paler and more ashy grey, somewhat tinged here and there with rufous, and vermiculated with numerous cross lines of ashy brown; quills dark brown, shaded externally with ashy grey, the secondaries also washed with rufous and vermiculated on the outer web with ashy brown, the inner web tipped and crossed with four or five bars of buffy white, slightly mottled with brown; lower back and rump dull brown, the outer upper tail-coverts ashy fulvous, vermiculated with brown; tail black, the two centre feathers browner, all the rest broadly tipped with white, and having buffy white bases mottled with dark brown; head and neck ashy fulvous, numerously vermiculated with blackish cross lines and tinged with rufous; all the shaft-feathers whitish along the shafts, causing a distinctly streaked appearance; the head ornamented with a tuft of erect plumes on the forehead, with a full and pendent crest hanging down the hinder neck; lores whitish; under surface of body sandy buff, the vermiculations small, and the light central streaks down each feather very apparent on the throat and breast; the streaks much wider on the flanks and thighs, spreading over nearly the whole feather, which has only a few brown vermiculations on the margin; lower abdomen and under tail-coverts uniform fulvous; under wing-coverts ashy, with narrow brown vermiculations, the greater ones fulvous, with broad transverse bars of brown; bill cinnabar-red, paler in the young bird; lores greyish flesh-colour; the bare orbit bluish; iris dark yellow, paler in the old bird. Total length 36 inches, culmen 2·6, wing 14·8, tail 13, tarsus 7·5.

Hab. Campos of Brazil and Northern Paraguay.

a. Ad. st. Brazil.
b. Ad. st. Brazil.
c. Ad. st. Deformed [*cf.* Günther, Ann. N. H. (4) x. p. 67 (1872)].
d. Skeleton. Mr. Tyler [P.].

2. Cariama burmeisteri.

Dicholophus burmeisteri, *Hartl. P. Z. S.* 1860, p. 335; *Sund. Av. Tent.* p. 111 (1873).
Chunga burmeisteri, *Reich. Naturg. Tauben*, p. 160 (1860); *Scl. P. Z. S.* 1870, p. 666, pl. xxxvi.; *Scl. & Salv. Nomencl. Av. Neotr.* p. 141 (1873).
Chunnia burmeisteri, *Burm. La-Plata Reis.* ii. p. 508 (1861).
Cariama burmeisteri, *Gray, Hand-l. B.* iii. p. 23 (1871).

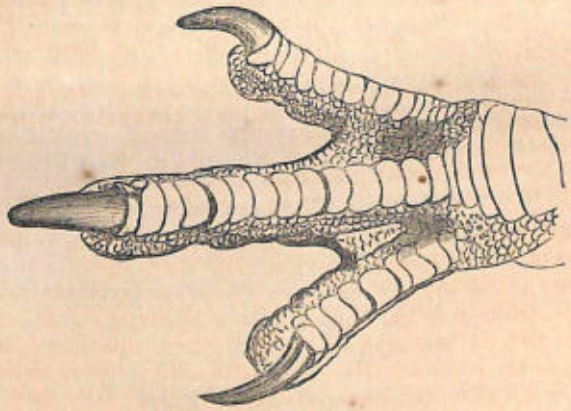
Adult. General plumage ashy grey, a little browner on the back, and everywhere minutely vermiculated with dusky brown, the lower back and rump less plainly irrorated; head with a frontal and nuchal crest, but not nearly so much developed as in *C. cristata*; lores and a distinct eyebrow white; head, neck, and breast greyer than the rest of the body, the two former more coarsely vermiculated; abdomen, thighs, and under tail-coverts pure white; under wing-coverts greyish like breast, and vermiculated in the same way, the lower ones barred alternately with black and white; quills black, externally shaded with ashy grey, the inner secondaries rather browner, and vermiculated on the outer margin with brown, the inner webs marked with seven or eight white bars, on which appear slight remains of vermiculations; upper tail-coverts and two centre tail-feathers ashy grey, with minute vermiculations, the others more coarsely mottled, and crossed towards the tip with two black bars, the subterminal one the broadest; bill black; feet brown; iris reddish brown. Total length 31 inches; culmen 2·25, wing 12·8, tail 13·5, tarsus 5·8.

Hab. Provinces of Catamarca and Tucuman, in the Argentine Republic.

a. Ad. st.	Argentine Republic.	Prof. Burmeister [P.].
b. Skeleton.		

14. SERPENTARIUS*.

	Type.
Serpentarius, *Cuv. Tabl. Elém. d'Hist. Nat.* p. 254 (1798)	S. secretarius.
Secretarius, *Daud. Traité*, ii. p. 29 (1800)	S. secretarius.
Gypogeranus, *Illiger, Prodr.* p. 234 (1811)	S. secretarius.
Ophiotheres, *Vieill. Analyse*, p. 59 (1816)	S. secretarius.



Foot of *Serpentarius secretarius*.

* By Strickland and others the generic name of *Sagittarius* has been used from Vosmaer's 'Besch. Afrik. Roofvogel' (1769); but a reference to the work shows that Vosmaer never used the word in a generic sense at all.

Range. The whole of Southern Africa, from Benguela on the west to the Zambesi on the east coast; N.E. Africa, from below Khartoom southwards to the Upper White Nile, and through the whole of Abyssinia; W. Africa, Senegambia.

1. Serpentarius secretarius.

Sagittarius, *Vosm. Beschr. Afrik. Roofv.* p. 1 (1769).
Le Secrétaire, *Sonn. Voy. N. Guin.* pl. 50 (1776).
Le Message du Cap de Bonne-Espérance, *Buff. Pl. Enl.* viii. pl. 721 (1783).
Falco serpentarius, *Miller, Various Subj. N. H.* pl. 18 A, B (1785); *Gm. S. N.* i. p. 250 (1788).
Otis secretarius, *Scop. Del. Faun. et Flor. Insubr.* ii. p. 93 (1786).
Vultur serpentarius, *Lath. Ind. Orn.* i. p. 8 (1790).
Vultur secretarius, *Shaw, Cim. Phys.* pl. 28 (1796).
Le Mangeur de Serpens, *Levaill. Ois. d'Afr.* i. pl. 25 (1799); *Sund. Crit. om Levaill.* p. 26 (1857).
Secretarius reptilivorus, *Daud. Traité*, ii. p. 29, pl. xi. (1806).
Serpentarius africanus, *Shaw, Gen. Zool.* vii. p. 46, pl. 14 (1809).
Gypogeranus serpentarius, *Illiger, Prodr.* p. 234 (1811); *Bp. Consp.* i. p. 12 (1850); *Hartl. Orn. W. Afr.* p. 17 (1857); *Heugl. Orn. N.O.-Afr.* i. p. 78 (1869).
Ophiotheres cristatus, *Vieill. N. Dict.* xxx. p. 468 (1819); *id. et Oud. Gal. Ois.* ii. p. 151, pl. 200 (1834).
Gypogeranus reptilivorus, *Ranz. Elem. Zool.* iii. p. 50 (1823).
Gypogeranus africanus, *Steph. Gen. Zool.* xiii. p. 4 (1826); *Dubois, Orn. Gal.* pl. 55 (1839).
Serpentarius cristatus, *Less. Traité*, p. 16, pl. 3. fig. 2 (1831).
Gypogeranus capensis, *Ogilby, P. Z. S.* 1835, p. 104.
Gypogeranus philippensis, *Ogilby, P. Z. S.* 1835, p. 105.
Gypogeranus gambiensis, *id. ut suprà.*
Serpentarius reptilivorus, *Gray, List Gen. B.* p. 6 (1840); *Verr. P. Z. S.* 1856, p. 348; *Gurney, Cat. Rapt. B. Norw. Mus.* p. 8 (1864); *Layard, B. S. Afr.* p. 33 (1867); *Gray, Hand-l. B.* i. p. 38 (1869).
Serpentarius secretarius, *Gray, Cat. Accipitr. Brit. Mus.* p. 77 (1848).
Sagittarius secretarius, *Strickl. Orn. Syn.* p. 144 (1855); *Gurney in Anderss. B. Dam. Ld.* p. 34 (1872).
Serpentarius orientalis, *Verr. P. Z. S.* 1856, p. 352.
Astur secretarius, *Schl. Mus. P.-B.* Astures, p. 28 (1862).
Sagittarius serpentarius, *Finsch u. Hartl. Vög. Ostafr.* p. 93 (1870).

Adult. General colour delicate ashy grey, the feathers of the throat and sides of face with narrow central white shaft-streaks; an elegant tuft of long and slightly spatulate plumes springing from occiput and nape, entirely black, or grey with a black tip; quills entirely black, as also the primary coverts; lower back and rump black, the feathers of the latter slightly barred with white; upper tail-coverts white; two centre tail-feathers elongated, clear ashy grey tipped with white, before which a black band, the remainder duller ashy grey, inclining more or less to whitish on inner web, tipped with white, and crossed with two bands of black, the subterminal one much the broadest; breast and under wing-coverts white, slightly

shaded with ashy; thighs and abdomen black; under tail-coverts white; cere yellow; bare space round eye orange-yellow; feet dull flesh-colour; iris hazel. Total length 50 inches, culmen 3, wing 25·5, tail 23, tarsus 13·5.

Young. Coloured like the adult, but duller; head distinctly crested; upper wing- and upper and under tail-coverts marked with subterminal spots of dusky brown; the black thighs and abdomen with cross lines of dusky brown; iris grey.

Hab. The same as that of the genus.

a.	Ad. st.	Cape of Good Hope.	Major-Gen. T. Hardwicke [P.]
b.	Ad. st.	Cape of Good Hope.	
c.	♂ juv. st.	S. Africa.	Sir A. Smith [C.].
d.	Ad. sk.	Lake Ashangi, April 29, 1868.	W. T. Blanford, Esq. [C.].
e.	Skeleton.		
f.	Sternum.		W. T. Blanford, Esq. [C.].

Subfamily IV. ACCIPITRINÆ.

Outer toe connected to middle toe by an interdigital membrane; tibia and tarsus to all intents equal in length, the difference between them not so great as the length of hind claw.

Key to the Genera.

a. Lores entirely bare, as well as the sides of the face and region of the mouth, extending above the eye and over the ear-coverts ..... 15. POLYBOROIDES, p. 47.

b. Sides of face feathered, the lores always furnished with bristles.

a'. Hinder aspect of tarsus reticulate.

a''. Nostrils oval, with no bony excrescence ..... 16. CIRCUS, p. 50.

b''. Nostrils round, with a bony excrescence ..... 17. MICRASTUR, p. 74.

b'. Hinder aspect of tarsus scaled.

c''. Ridge of bill measured from margin of cere greater than half length of middle toe without claw.

c'''. Commissure slightly festooned.

c''''. Outer toe very short, equal to two thirds of length of inner toe (without claw); thigh-feathers close-set, having no overhanging tuft of feathers ..... 18. GERANOSPIZIAS, p. 80.

d''''. Outer toe longer than inner toe without claw; thighs with overhanging tuft of plumes; *tail longer than wing* ..... 19. UROTRIORCHIS, p. 83.

e''''. Outer toe about equal to inner toe without claw; thighs with overhanging tuft of feathers.
aa. Nostrils with bony tubercle near upper margin.
aa'. Feathering of tarsus extending further down than length of middle toe (without claw); tarsus scaled right across, only the hinder margin of outer aspect reticulate ..... 20. ERYTHROCNEMA, p. 84.
bb'. Feathering of tarsus not extending so far down as length of middle toe; tarsus scaled in front, reticulate on outer aspect ..... 21. MELIERAX, p. 86.
bb. Nostrils oval, with no bony tubercle ..... 22. ASTUR, p. 92.
d'''. Commissure perfectly straight .... 23. NISOIDES, p. 129.
d''. Ridge of bill, measured from anterior margin of cere, less than half middle toe without claw ..... 24. ACCIPITER, p. 130.

15. POLYBOROIDES.

	Type.
Polyboroides, *Smith, S. Afr. Q. Journ.* i. p. 106 (1830)..	P. typicus.
Gymnogenys, *Less. Traité*, p. 64 (1831)	P. radiatus.



Bill of *Polyboroides typicus*.

Range. Africa generally and Madagascar.

Key to the Species.

a. Silver-grey, thinly barred with black below ..... *radiatus*, p. 48.
b. Dark grey, thickly barred with black below ..... *typicus*, p. 48.

1. Polyboroides radiatus.

L'Autour gris à ventre rayé de Madagascar, *Sonn. Voy. Ind.* p. 181, pl. 183 (1782).
Vultur radiatus, *Scop. Del. Faun. et Flor. Insubr.* i. p. 85 (1786).
Madagascar Falcon, *Lath. Gen. Syn. Suppl.* p. 32 (1787).
Falco madagascariensis, *Daud. Traité*, ii. p. 75 (1800).
Sparvius madagascariensis, *Vieill. N. Dict.* x. p. 339 (1817).
Falco gymnogenys, *Temm. Pl. Col.* i. pl. 307 (1820).
Nisus gymnogenys, *Cuv. Règn. An.* i. p. 334 (1829).
Gymnogenys madagascariensis, *Less. Traité*, p. 64 (1831).
Polyboroides radiatus, *Gray, List Gen. B.* p. 5 (1840); *id. Gen. B.* i. p. 31, pl. 11. fig. 2 (1845); *Bp. Consp.* i. p. 12 (1850); *Hartl. Faun. Madag.* p. 21 (1861); *Scl. P. Z. S.* 1863, p. 161; *Grand. Rev. et Mag. de Zool.* 1867, p. 321.
Gymnogenys radiatus, *Kaup, Mus. Senck.* iii. p. 260 (1845).
Circaetus radiatus, *Kaup, Isis*, 1847, p. 262.
Polyboroides madagascariensis, *Roch & E. Newt. Ibis*, 1862, p. 269.
Nisus radiatus, *Schl. Mus. P.-B. Revue Accipitr.* p. 100 (1873).

Adult male. Above silvery grey, with a few indistinct whitish edgings to the scapulars; quills black, with a distinct white margin at the tip, the basal portion of the inner web greyish white mottled with black, occupying more than half of the inner secondaries, so that the black forms a broad subterminal bar; lower back and rump ashy white, barred with black; upper tail-coverts black, broadly tipped and irregularly barred with white; tail black, slightly mottled with white at immediate base, tipped with white and crossed with a broad white band across the middle; throat and chest silvery grey, like back; rest of under surface white, narrowly but regularly barred across with black, the under wing-and tail-coverts uniform with breast; cere and bare skin round eye flesh-colour; feet yellow; iris black *. Total length 23·5 inches, culmen 1·7, wing 15·5, tail 12, tarsus 3·5.

Adult female. Total length 21 inches, culmen 1·8, wing 16, tail 12, tarsus 4·15, middle toe 1·6 (*Mus. Lugd.*).

Hab. Madagascar.

a. ♂ ad. sk.	Madagascar.		Purchased.

2. Polyboroides typicus.

Polyboroides typicus, *Smith, S. Afr. Q. J.* i. p. 107 (1830); *id. Ill. Zool. S. Afr.* pls. 81, 82 (1849); *Hartl. Orn. W. Afr.* pp. 2, 269 (1857); *Cass. Proc. Phil. Acad.* 1859, p. 30; *Scl. P. Z. S.* 1863, p. 162; *Layard, B. S. Afr.* p. 32 (1867); *Gurn. Ibis*, 1868, p. 146; *Sharpe, Ibis*, 1869, p. 194; *Finsch u. Hartl. Vög. Ostafr.* p. 95 (1870); *Bocage, Jorn. Lisb.* 1873, p. 3.
Serpentarius typicus, *Guer. et Lafr. in Ferret et Gal. Voy. Abyss. Zool.* iii. p. 181 (1847).
Gymnogenys melanostictus, *Licht. Nomencl.* p. 5 (1854).
Polyboroides radiatus, *Strickl. Orn. Syn.* p. 143 (1855); *Gurney, Ibis*, 1859, p. 153; *id. Cat. Rapt. B. Norw. Mus.* p. 12 (1864); *Heugl. Orn. N.O.-Afr.* p. 76 (1869).

* These soft parts are taken from Grandidier, and if correctly given would form a specific difference, as the African species has the bare part of the face yellow. Mr. E. Newton, however, gives that of the Madagascar bird as yellow. *Cf.* the accurate remarks in Mr. Gurney's 'Catalogue' (p. 15).

Gymnogenys malzacii, *J. & E. Verr. Rev. et Mag. de Zool.* 1855, p. 349, pl. 13.
Nisus radiatus, *Schl. Mus. P.-B.* Astures, p. 54 (1862).
Gymnogenys africanus, *Heugl. J. f. O.* 1867, p. 292.

Young. General colour brown, with rather paler margins to the feathers, which are whitish at base; quills blackish brown; the secondaries paler brown, like the back, the latter much mottled with white near the base; all the quills barred across with dark brown; tail brown, tipped with fulvous, and crossed with five bars of darker brown; head much crested, all the feathers fulvous at their base and on their margins, brown in the centre, somewhat tinged with rufous, especially on the sides of the crown and of the neck; forehead whitish, slightly streaked with dark brown; a few feathers under the eye and on fore part of cheeks black; throat and breast buffy white, the feathers mesially streaked with dark brown and washed with sandy rufous; the lower breast sandy rufous, with fulvous tips; the abdomen, thighs, and under tail-coverts barred with fulvous and sandy rufous, the latter with dark brown; under wing-coverts fulvous, mottled with rufous or rufous brown; the lower ones brown at tips, like under surface of wing.

Adult. Above dark grey, extending all round the neck and occupying the entire throat and chest; rest of the under surface, including the under wing- and tail-coverts, crossed with rather broad alternate bars of black and white; primaries and their coverts black, tipped with white, and inclining to ashy grey at base, more especially on the inner web, which is also somewhat freckled with brown; secondaries grey, tipped with white, before which is a broad black bar, sometimes represented by a spot of more or less extent on the adjoining scapulars; tail black, tipped with white, with a distinct broad bar of dull white, mottled with black about a third of its length from the tip, and indications of a second bar about the same distance from the base; upper tail-coverts grey; the lower ones black, tipped with white, and crossed with other bars of white near the base; cere and bare skin round the eye light yellow; feet bright yellow; iris very dark brown. Total length 24·5 inches, culmen 1·45, wing 16·6, tail 11·5, tarsus 4.

Adult female. Slightly larger than the male. Total length 27·5 inches, wing 19, tail 12, tarsus 4·15.

Hab. W. Africa, from Senegambia to Gaboon; S.W. Africa, Benguela; S. Africa, from the Cape Colony through Natal to the Zambesi; N.E. Africa, from Senaar into Abyssinia and along the White Nile nearly to the Equator.

a. ♀ ad. st.	South Africa.	S.-African Museum.	Type of species.
b. Juv. st.	South Africa.	S.-African Museum.	
c. Ad. st.	South Africa.	Sir Henry Ellis [P.].	
d. Ad. sk.	South Africa.	John Rocke, Esq. [P.].	
e, f. Ad. st.	West Africa.		
g. Ad. sk.	Ashantee.	John Gould, Esq.	
h. Ad. sk.	Fantee.	Captain Shelley [P.].	
i. Juv. sk.	Gaboon.	H. T. Ansell, Esq. [P.].	

16. CIRCUS.

	Type.
Circus, *Lacép. Mém. de l'Inst.* iii. p. 506 (1806)	C. cyaneus.
Pygargus, *Koch, Syst. Baier. Zool.* p. 127 (1816) ..	C. cyaneus.
Strigiceps, *Bp. Saggio Distr. Met. Anim. Vertebr.* p. 37 (1831)	C. cyaneus.
Glaucopteryx, *Kaup, Class. Säug. u. Vög.* p. 113 (1844)	C. cineraceus.
Spizacercus, *Kaup, Mus. Senckenb.* iii. p. 258 (1845)	C. maculosus.
Spilocircus, *Kaup, Isis*, 1847, p. 89	C. assimilis.
Pterocircus, *Kaup, Arch. f. Naturg.* xvi. p. 32 (1850)	C. pygargus.

Cf. *Saunders, Ibis*, 1873, p. 232.



Head of *Circus cyaneus*.

Range. The greater part of the Old and New Worlds, excepting the following localities, from which no Harrier has yet been recorded :— Russia and Siberia, north of 60° N. lat.; Arctic America north of the Tropic of Cancer; Persia and Arabia; East Africa; West Africa (except the Gambia and Accra district); S. Madagascar; the southern part of the Indo-Chinese subregion; Indo-Malayan and Austro-Malayan subregions (excepting Celebes); western and northern Australia west of 140° E. long.; Oceania (except Vanua Levu and Viti Levu); S. America, Columbia, Amazonia, and north-eastern Brazil.

Key to the Species.

Adults :—

a. Thighs uniform white.
  a'. Middle tail-feathers plain ashy grey.
    a''. Throat and chest bluish ashy.
      a'''. Upper tail-coverts white.
        a''''. Above pure bluish ashy, the throat similar ..... *cyaneus* ♂, p. 52.
        b''''. Above greyish, the back brownish ash-colour; the throat strongly mixed with the same colour ..... *hudsonius* ♂, p. 55.
      b'''. Upper tail-coverts white, banded with ashy grey..... *macrurus* ♂, p. 67.
    b''. Throat and chest white, streaked with black.
      c'''. Primaries banded underneath .... *spilonotus* ♂, p. 58.
      d'''. Primaries uniform below..... *maillardi*, p. 59.
    c''. Throat and chest entirely black ..... *melanoleucus* ♂ ♀, p. 61.
  b'. Middle tail-feathers barred ..... *maculosus* ♂, p. 62.
b. Thighs white, distinctly barred across with orange rufous ..... *cinereus* ♂, p. 56.

c. Thighs white, with rufous streaks or spots.
a'. Throat and chest ashy grey ..... *pygargus* ♂, p. 64.
b'. Throat and breast streaked with brown.
a''. Under wing-coverts and central tail-feathers uniform ..... *gouldi* ad., p. 72.
b''. Under wing-coverts fulvous, more or less streaked or spotted with brown; tail-feathers banded.
a'''. Fifth primary escalloped on outer web.
a''''. Tarsus 3·5 inches in length .... *hudsonius* ♀ ad., p. 55.
b''''. Tarsus 3·1–3·15 inches..... *spilonotus* ♀ ad., p. 58. / *cyaneus* ♀ ad., p. 52.
c''''. Tarsus 4 inches ..... *gouldi* ♀ ad., p. 72.
b'''. Outer margin of fifth primary entire.
d''''. Notch in second primary an inch or more distant from tip of coverts ..... *pygargus* ♀ ad., p. 64.
e''''. Notch in second primary nearly or quite hidden by coverts ..... *macrurus* ♀ ad., p. 67.
d. Thighs rufous, generally uniform or spotted or margined with white.
a'. Tail uniform grey ..... *æruginosus* ♂ ♀ ad., p. 69.
b'. Tail distinctly banded.
a''. Under wing-coverts white, mesially streaked with pale rufous; breast light brown, with white margins, producing a streaked appearance .. *ranivorus* ♂ ♀ ad., p. 71.
b''. Under wing-coverts and breast rufous, numerously spotted with white, giving a somewhat barred appearance ..... *assimilis* ♂ ♀ ad., p. 63.
c''. Under wing-coverts black, spotted with white; breast black, streaked with white..... ..... *maculosus* ♀, p. 62.
e. Thighs black.
c'. Tail banded.
a''. Upper tail-coverts white..... *maurus*, p. 60.
b''. Upper tail-coverts black ..... *pygargus*, var., p. 64.
d'. Tail uniform grey ..... *æruginosus*, var., p. 69.

Young :—

a. Outer web of fifth primary notched.
a'. Chest perfectly uniform, with no streaks.
a''. Chin or throat and centre of breast creamy buff.
a'''. Inner web of primaries uniform.... *æruginosus*, p. 69.
b'''. Inner web of primaries barred or mottled with brown ..... *ranivorus*, p. 71.
b''. Chin and throat uniform with breast and back..... *gouldi*, p. 72.
b'. Chest light or dark, but always distinctly streaked.
c''. Outer tail-feather uniform below.
c'''. Head whitish, with narrow black streaks ..... *æruginosus*, p. 69.

d'''. Head uniform dark brown, with slight fulvous streaks ..... *gouldi*, p. 72.
d''. Outer tail-feather always distinctly barred below.
e'''. Quills uniform below, light-coloured at base of inner web, but not barred.
e''''. Upper tail-coverts white, with narrow brown centres..... *cyaneus*, p. 52.
f''''. Upper tail-coverts brown, tipped with white ..... *assimilis*, p. 63.
f'''. Quills barred below.
g''''. Under wing-coverts buff or tawny with brown streaks.
aa. Interspaces of quills and tail-feathers below white, the black bars contrasting strongly *maurus*, p. 60.
bb. Interspaces below fulvous, with brown cross bars.
aa'. Breast uniform tawny..... *hudsonius*, p. 55.
bb'. Breast fulvous, with brown streaks.
aa''. Larger; wing 13·5–15 .. *cyaneus*, p. 52.
bb''. Smaller; wing 12·2 .... *cinereus*, p. 56.
h''''. Under wing-coverts black .... *maculosus*, p. 62.
b. Outer edge of fifth primary entire.
a'. Notch in second primary an inch or more distant from the coverts ..... *pygargus*, p. 64.
b'. Notch in second primary nearly or quite hidden by the coverts ..... *macrurus*, p. 67.

1. Circus cyaneus.

The Blue Hawk, *Edw. Glean.* i. p. 33, pl. 225 (1758).
Le Faucon à collier (♀), *Briss. Orn.* i. p. 345 (1760).
Le Faucon de Montagne cendré, *Briss. Orn.* i. p. 355 (1760).
Falco cyaneus, *Linn. S. N.* i. p. 126 (1766, *ex Edw.*); *Montag. Trans. Linn. Soc.* ix. p. 182 (1808); *Temm. Man. d'Orn.* i. p. 72 (1820); *Werner, Atlas, Rapaces*, pl. 28 (1827); *Schl. & Susem. Vög. Eur.* Taf. 37 (1839); *Nordm. in Démid. Voy. Russ. Mér.* iii. p. 107 (1840); *Yarr. Brit. B.* i. p. 94 (1843).
Soubuse, *Buff. Pl. Enl.* i. pls. 443, 480 (1783).
Oiseau St. Martin, *Buff. Pl. Enl.* i. pl. 459 (1783).
Falco griseus, *Gm. S. N.* i. p. 275 (1788, *ex Lath.*).
Circus gallinarius, *Savign. Ois. d'Egypte*, p. 264 (1810); *Less. Traité*, p. 84 (1831).
Accipiter variabilis, *Pall. Zoogr. Rosso-As.* i. p. 364 (1811).
Circus variegatus, *Vieill. N. Dict.* iv. p. 466 (1816).
Pygargus dispar, *Koch, Syst. Baier. Zool.* p. 127 (1816).
Circus ægithus, *Leach, Syst. Cat. Mamm. &c. Brit. Mus.* pp. 9, 10 (1816).
Falco strigiceps, *Nilss. Orn. Suec.* i. p. 21 (1817).
Falco pygargus, *Naum. Vög. Deutschl.* i. p. 391, pl. 38. figs. 2, 39 (1822).
Circus cyaneus, *Boie, Isis*, 1822, p. 549; *Selby, Brit. B.* i. p. 68, pl. x. (1833); *Gould, B. Eur.* i. pl. 33 (1837); *Macgill, Hist. Brit. B.* iii. p. 366 (1840); *Gray, Gen. B.* i. p. 32, pl. 11. fig. 1 (1845); *Schl.*

g. Nederl. pls. 15–17 (1854); *Strickl. Orn. Syn.* p. 147 (1855); *Hewits. Eggs Brit. B.* i. p. 47 (1856); *Sund. Sv. Fogl.* pl. xxviii. figs. 1, 2 (1859); *Schl. Mus. P.-B.* Circi, p. 1 (1862); *Jerd. B. Ind.* i. p. 95 (1862); *Radde, Reisen im Süd. v. Ost-Sibir. Zool.* ii. p. 119 (1863); *Newt. Ooth. Wolley.* p. 145 (1864); *Gould, B. Gt. Br.* pt. xii. (1867); *Degl. & Gerbe, Orn. Eur.* i. p. 107 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 104 (1869); *Gray, Hand-l. B.* i. p. 37 (1869); *Hume, Rough Notes*, ii. p. 293 (1870); *Newt. ed. Yarr. Brit. B.* i. p. 132 (1871); *Salvad. Faun. Ital. Ucc.* p. 24 (1871); *Swinh. P. Z. S.* 1871, p. 342; *Shelley, B. Egypt*, p. 182 (1872); *Schl. Mus. P.-B. Revue Accipitr.* p. 39 (1873).

Circus pygargus, *Steph. Gen. Zool.* xiii. p. 41 (1826).

Circus cinereus, *Brehm, Vög. Deutschl.* p. 94 (1831).

Buteo cyaneus, *Jenyns, Man. Brit. Vertebr.* p. 89 (1835).

Strigiceps pygargus, *Bp. Comp. List B. Eur. & N. Am.* p. 5 (1838).

Strigiceps cyaneus, *Bp. Consp.* i. p. 35 (1850); *Fritsch, Vög. Eur.* Taf. 9. fig. 6, Taf. 10. fig. 8 (1858); *Loche, Expl. Alg. Ois.* i. p. 90 (1867).

Strigiceps nigripennis, *Brehm, Naum.* 1855, p. 269.

Strigiceps pallens, *Brehm, tom. cit.* p. 269.

Strigiceps cinereus, *Brehm, tom. cit.* p. 269.

Young male. Distinguished from the adult female by the length of the wing, which does not reach 14 inches in length. Brown, like the latter, but always more rufous, especially underneath and about the head and neck; facial ruff clear fulvous, streaked with dark brown; feathers above, around, and below the eye pure white, forming a very conspicuous facial patch; under surface of body tawny rufous, with dark brown streaks, narrower towards the abdomen; upper tail-coverts white, with mesial streaks of rufous brown; tail tawny rufous, fulvous at tip, with four broad cross bands of black; the interspaces ashy on the two central feathers only.

Adult male. Above clear bluish ash-colour, paler and more silvery grey on greater wing-coverts, which are also slightly margined with whitish; below clear bluish ashy as far as the lower breast; the rest of the under surface pure white, including the under wing-coverts and axillary plumes; frontal plumes and lores whitish, the facial ruff also slightly mottled with white; secondary quills silvery grey with black shafts and an indistinct blackish subterminal band, much more distinct below; the primaries blackish both above and below, white at base of inner web; upper tail-coverts white; tail ashy grey, tipped with white; the four centre feathers entirely uniform, with white shafts, the others more and more white on inner web, and having more or less remains of ashy bars; cere yellow; bill bluish black; feet yellow; claws black; iris yellow. Total length 22 inches, culmen 1·15, wing 13·6–13·8, tail 8·5–9·0; tarsus 2·9.

Adult female. Above brown; the feathers of the crown slightly washed with rufous, with which colour the feathers are margined; the nape and hind neck pale tawny fulvous, broadly streaked with dark brown; scapulars and wing-coverts spotted with large oval marks of pale tawny buff; quills brown, tipped with whitish; the secondaries externally washed with ashy grey, barred with blackish

brown, showing more plainly on under surface, which is ashy white, washed with rufous on inner web; upper tail-coverts white; tail greyish brown, tipped with whitish, crossed with five bands of darker brown, the subterminal one much broader; the interspaces on the outer feathers pale creamy buff, more or less shaded with ashy on outer web; frontal feathers and plumes above and below the eye whitish; ear-coverts and cheeks rufous, streaked with dark brown; facial ruff buffy white, streaked with brown; sides of neck and under surface of body pale tawny buff, inclining to whitish on lower breast and abdomen, broadly streaked with brown, rather more narrowly on abdomen and thighs, where the streaks are washed with rufous; under wing-coverts coloured like the back; flanks and axillaries dark brown, spotted on both webs with rounded spots of creamy buff; cere greenish yellow; bill blackish; feet yellow; iris reddish brown. Total length 21·5 inches, wing 15·0–15·6, tail 10·5–11·0, tarsus 3·15.

Obs. By the rufous bars on the tail a young female can be distinguished from an old bird. In both sexes the streaks on the breast become narrower with age, though the females of English birds are more broadly streaked below, and are darker than those from Europe or India. The males are supposed to breed in the brown plumage, and do not get the blue dress till the second autumn, when it is assumed by a moult.

Hab. Throughout Europe and Siberia, extending a little above the line of 60° N. lat., and ascending westwards from about 50° E. long. northwards to the top of Norway. Found in all countries bordering the Mediterranean, and extending in winter to N.E. Africa, N. India, and China.

a. ♀ juv. st.	Great Britain.	
b. ♂ ad. st.	Devonshire.	Colonel Montagu [P.].
c, d. ♂ juv. st.	Devonshire.	Colonel Montagu [P.].
e. ♀ ad. st.	Norfolk.	J. Scales, Esq. [P.].
f, g. ♂ ♀ juv. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
h. ♀ ad. sk.	R. Wolga.	R. B. Sharpe, Esq. [P.].
i, k. ♂ juv. st.	Archangel.	R. B. Sharpe, Esq. [P.].
l, m. ♀ juv. st.	Archangel.	R. B. Sharpe, Esq. [P.].
n. ♂ ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
o, p. ♂ juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
q, r. ♀ juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
s. ♀ ad. sk.	China.	J. R. Reeves, Esq. [P.].
t. ♂ juv. sk.	Shanghai.	— Webb, Esq. [P.].
u. ♀ ad. sk.	Fokien.	J. Gould, Esq. [P.].
v. ♂ ad. sk.	Kultuk, May 18, 1871.	Dr. Dybowski [C.].
w. Skeleton.		Purchased.
x, y. Sternum.		
z. Sternum.		J. Ray, Esq. [P.].
a'. Sternum.		Purchased.
b'. Sternum.		B. H. Hodgson, Esq. [P.].

2. Circus hudsonius.

The Ring-tailed Hawk, *Edwards, Birds*, iii. pl. 107 (1750).
The Marsh Hawk, *Edw. Glean.* ii. pl. 291. fig. 1 (1760).
L'Epervier de la Baye de Hudson, *Briss. Orn. Suppl.* p. 18 (1760, *ex Edw.*).
Falco hudsonius, *Linn. S. N.* i. p. 128 (1766, *ex Edw.*).
Falco fuliginosus, *Gm. S. N.* i. p. 278 (1788); *Wils. Am. Orn.* vi. p. 67, pl. 51. fig. 2 (1812).
Falco europogistus, *Daud. Traité*, ii. p. 110 (1800).
Circus europogistus, *Vieill. Ois. Am. Sept.* pl. 8 (1807).
Circus hudsonius, *Vieill. Ois. Am. Sept.* pl. 9 (1807); *Cass. B. Calif.* p. 108 (1855); *Strickl. Orn. Syn.* p. 150 (1855); *Cass. in Baird, B. N. Am.* p. 38 (1860); *Gray, Hand-l. B.* i. p. 37 (1869); *Cooper, B. Calif.* p. 490 (1871); *Ross, B. Canad.* p. 6 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 118 (1873).
Circus variegatus, *Vieill. Ois. Am. Sept.* p. 37 (1807).
Circus uliginosus, *Vieill. tom. cit.* p. 37 (1807).
Falco cyaneus, *Audub. B. Am.* pl. 356 (c. 1826); *Bp. Am. Orn.* ii. pl. 2 (1828).
Circus cyaneus, *Bp. Ann. Lyc. N. Y.* ii. p. 33 (1828); *Audub. B. N. Am.* i. p. 105, pl. xxiv. (1839); *Allen, Bull. Harv. Coll.* ii. p. 331 (1871).
Buteo cyaneus, var. americanus, *Sw. & Rich. Faun. Bor.-Am.* p. 55, pl. 29 (1831).
Strigiceps uliginosus, *Bp. Comp. List B. Eur. & N. Am.* p. 5 (1838).
Strigiceps hudsonius, *Bp. Consp.* i. p. 35 (1850).
Circus cyaneus hudsonicus, *Schl. Mus. P.-B.* Circi, p. 2 (1862); *id. Revue*, p. 48 (1873).

Young. Above ashy brown with rufous margins to the feathers, especially distinct on head and hind neck, causing a streaked appearance; the wing-coverts conspicuously margined, and marked on both webs with large spots of tawny fulvous; quills dark brown, tipped with whitish, the primaries shaded externally with ashy grey and barred on both webs with darker brown, more distinct below, especially on the inner web, which is whitish washed with rufous near the base; upper tail-coverts pure white, with remains of narrow brown streaks on a few of the feathers; middle tail-feathers tawny fulvous tipped with whitish and crossed with four black bars, except the central feathers, which are ashy grey with five blackish cross bars, the subterminal one always broadest; sides of face, facial ruff, throat, and chest deep tawny rufous with dark brown centres to the feathers, especially broad and distinct on the latter; rest of under surface rich tawny buff with minute mesial spots of rufous, except on the flanks and sides of body, where they form conspicuous mottlings; axillaries ashy brown with large spots of creamy buff on both webs; under wing-coverts tawny buff, with small dark-brown spots and streaks.

Adult male. Above dull bluish grey, darker and inclining to brownish on the head, back, and scapulars; the nape somewhat mottled with buffy white; upper tail-coverts white; lores, eyebrow, and feathers under the eye white, the ear-coverts and facial ruff ashy grey, the latter slightly tinged with brownish; chin whitish;

throat, sides of neck, and breast dull ashy grey, the latter with a slight shade of ashy brown on the lower part; rest of under surface white with a few very small dart-shaped rufous specks; under wing-coverts white, the inner ones with narrow longitudinal shaft-lines; primaries dark brown, externally shaded with ashy grey, the secondaries entirely ashy grey with a broad subterminal bar before the tip, which is narrowly white; inner lining of wing white; tail dull ashy grey, externally shaded with brownish, the central feathers uniform, the outer ones with five or six blackish bars; bill horn-blue; feet yellow; iris yellow. Total length 19 inches, culmen 1·2, wing 14, tail 9, tarsus 3.

Adult female. Above brown, somewhat mottled on scapulars and wing-coverts with partially concealed spots of tawny buff, with which the latter are also margined; head streaked with rufous, the hind neck with white; lores and feathers under the eye whitish; the cheeks and ear-coverts dark brown very slightly streaked with whitish; facial ruff buffy white, streaked with dark brown; quills brown slightly tipped with whitish, barred with dark brown, showing more plainly underneath, where the inner web is white, primaries externally shaded with ashy grey; upper tail-coverts white with a few streaks of rufous on the outermost; tail ashy grey with five bars of dark brown, the interspaces inclining more or less to rufous or rufous white on the outer feathers; under surface of body buffy white with broad streaks of brown on the breast, narrower and more tinged with tawny rufous on lower breast, thighs, and abdomen; under tail-coverts with a few diamond-shaped spots of pale rufous; under wing-coverts coloured and streaked like the breast. Total length 20 inches, wing 15, tail 10·5, tarsus 3·5.

Hab. The whole of N. America below the Tropic of Cancer to Panama.

a. ♀ ad. st.	Repulse Bay.	John Rae, Esq. [P.].
b. ♂ juv. sk.	N. America.	Dr. Ridgeway [P.].
c. ♀ juv. sk.	N. America.	E. Doubleday, Esq. [P.].
d, *e*. ♂ ad. sk.	British Columbia.	J. K. Lord, Esq. [C.].
f, *g*, *h*, *i*. Juv. sk.	British Columbia.	J. K. Lord, Esq. [C.].
k, *l*. Juv. sk.	Vancouver Island.	J. K. Lord, Esq. [C.].
m. Juv. sk.	Rio Sacramento, Cal.	G. Barclay, Esq. [P.].

3. Circus cinereus.

Ceniciento, *Azara*, *Apunt.* i. p. 145 (1802); *Hartl. Ind. Azara*, p. 3 (1847).

Circus cinereus, *Vieill. N. Dict.* iv. p. 454 (1816); *D'Orb. Voy. Am. Mér. Zool.* p. 110 (1835); *Darw. Voy. Beagle, Birds*, p. 30 (1841); *Gray, Gen. B.* i. p. 32 (1845); *Strickl. Orn. Syn.* p. 156 (1855); *Burm. Th. Bras.* ii. p. 117 (1856); *id. La Pl. Reis.* ii. p. 439 (1861); *Abbott, Ibis*, 1861, p. 152; *Schl. Mus. P.-B.* Circi, p. 5 (1862); *Pelz. Orn. Bras.* p. 399 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 118 (1873).

Circus campestris, *Bonn. et Vieill. Enc. Méth.* iii. p. 1213 (1823, *ex Azara*).

Falco histrionicus, *Quoy et Gaim. Voy. Uranie*, p. 93, pls. 15, 16 (1824).

Circus histrionicus, *King, Zool. Journ.* iii. p. 425 (1827).
Circus poliopterus, *Cab. & Tsch. F. P.* Aves, p. 113, Taf. 3 (1845); *Schl. Mus. P.-B.* Circi, p. 6 (1862).
Strigiceps histrionicus, *Bp. Consp.* i. p. 35 (1850).
Spiziacircus histrionicus, *Kaup, Contr. Orn.* 1850, p. 59.

Young. Above dark brown, the head and neck streaked and the wing-coverts broadly margined with tawny buff, the scapulars and greater coverts having concealed spots of the same; upper tail-coverts white, some of them slightly washed with pale rufous near the tip; quills dark brown tipped with fulvous, the primaries externally shaded with ashy grey, barred on both webs with darker brown, more distinctly underneath, where the feathers are whitish tinged with rufous on inner web; tail pale tawny tipped with buff, excepting the two centre feathers, which are ashy grey, the latter with five, and the rest with four black bands, the subterminal one being the broadest; lores whitish; cheeks and ear-coverts deep rufous, slightly streaked with dark brown; facial ruff fulvous with narrow dark brown streaks; rest of under surface pale tawny fulvous, inclining to creamy buff on abdomen, the chest broadly, the rest of the body narrowly streaked with dark brown; under wing-coverts buff, streaked with deep rufous; axillaries rufous brown, with large spots of creamy buff on both webs.

Adult male. Entire upper surface, including the sides of the face and of the neck as well as the throat and fore neck, bluish ash-colour, the wing-coverts with obsolete white margins, and the fore neck crossed with a few broad white bars; primaries blackish, externally washed with ashy grey; the secondaries entirely ashy grey, like the back, with narrow white tips to the feathers, before which runs a distinct subterminal bar of blackish brown; upper tail-coverts white; tail ashy grey tipped with white, before which is a broad subterminal bar of dark ash-colour, all the feathers but the two central ones shaded with brownish, and inclining to white on the inner web, and marked with two or three ill-defined blackish bars washed with rufous on the outermost feather; under surface of body numerously crossed with distinct bars of orange tawny and white; under wing-coverts white, as also the inner lining of the quills; under surface of tail pure white, with faint indications of bars on the inner web, the subterminal one alone being very distinct. Total length 18 inches, culmen 1·2, wing 12·2, tail 8·25, tarsus 2·8.

Adult female. Larger than male, and somewhat differently coloured. Above brown, the feathers of the crown slightly streaked with rufous, the hind neck with white, outer wing-coverts tipped with white, the smallest with fulvous; scapulars, wing-coverts, and quills ashy grey barred across with brown, the subterminal bar very broad and distinct, showing more clearly on the primaries, which are of a clearer ash-colour; upper tail-coverts white, with pale reddish bars and subterminal spots; centre tail-feathers ashy grey tipped with whity brown, and having five blackish cross bands; the rest of the feathers buffy, more or less shaded with ashy, externally

white, with four blackish cross bands changing to rufous on outermost feathers; lores, eyebrow, and sides of face dull whitish, streaked with dark brown; facial ruff brown, strongly mottled with white; sides of neck and breast brown, the latter conspicuously ocellated with white spots; rest of under surface of body barred with orange-tawny and white, the latter in the form of large spots on both webs. Total length 20 inches, wing 14·25, tail 10, tarsus 3.

Hab. South America to about 25° S. lat. on the west, and about 32° S. lat. on the east coast.

a, *b*. ♂ juv. sk.	Falkland Islands.	Antarctic Expedition.
c. ♂ ad. st.	Falkland Islands.	Sir W. Burnett and Admiral Fitzroy [P.].
d. ♂ ad. sk.	Straits of Magellan.	The Admiralty [P.].
e. ♀ ad. st.	Chili.	Mr. Brydges [C.].
f. ♂ juv. sk.	Chili.	Mr. Brydges [C.].
g, *h*. ♂ ♀ ad. sk.	Chili.	E. C. Reed, Esq. [C.].
i. ♂ juv. sk.	Chili.	E. C. Reed, Esq. [C.].
k. Skeleton.		Purchased.

4. Circus spilonotus.

Circus spilonotus, *Kaup, Contr. Orn.* 1850, p. 59; *Strickl. Orn. Syn.* p. 157 (1855); *Swinhoe, Ibis*, 1863, p. 213, pl. v., 1865, p. 230, et 1870, p. 87; *Gray, Hand-l. B.* i. p. 36 (1869); *Swinh. P. Z. S.* 1871, p. 342; *Taczan. J. f. O.* 1872, p. 349.

Adult male. Above blackish, the nape and hind neck streaked with white, the neck more broadly; scapulars and wing-coverts tipped and spotted with ashy white, the least wing-coverts along the edge of the wing entirely white narrowly streaked with blackish; upper tail-coverts white, with remains of ashy-brown bars; the feathers of the lower rump blackish, spotted and barred on both webs with white; tail silvery ash-colour, whitish at the tips and on the inner webs; outer cubital coverts, primary coverts, and outer secondaries silvery ashy tipped with white; the innermost secondaries brown or ashy grey barred with brown; primaries blackish, more or less washed with ashy grey, especially on the outer web; the secondaries white underneath, the primaries white at base of inner web; sides of face and ear-coverts blackish; sides of neck and facial ruff blackish, streaked with white; under surface of body white, including the under wing- and tail-coverts; the throat and breast streaked longitudinally with black, the latter more narrowly; legs rich chrome-yellow, ochreous on the tarsi. Total length 20 inches, culmen 1·6, wing 15·5, tail 9·5, tarsus 3·8.

Adult female. Above brown slightly shaded with ashy, the dorsal feathers obsoletely margined with dull rufous; the crown and hind neck tawny buff, paler on the neck, all the feathers mesially streaked with brown; the scapulars and wing-coverts margined and barred with tawny or fulvous, the least wing-coverts more conspicuously margined with rufous; quills brown, narrowly tipped with whitish, externally shaded with ashy grey, the secondaries less distinctly,

and all barred across with darker brown; under surface of wing white, the dark bars showing very distinctly; lower back and rump brown, the feathers distinctly tipped with pale rufous; upper tail-coverts pure white; tail ashy grey, tipped with fulvous and crossed with five blackish bands, the subterminal one much the broadest, the ashy grey interspaces inclining to or replaced by pale tawny on the outer feathers; lores as well as a distinct eyebrow and ear-coverts buffy white; sides of face and of neck, as well as the facial ruff, rufous buff streaked with dark brown; under surface of body creamy buff, with central pointed marks of rufous brown to the feathers, more distinct on the fore neck and under wing- and tail-coverts; flank-feathers and axillaries rufous brown, with large rounded spots of creamy buff on both webs; under wing-coverts and thighs creamy buff, with irregular central streaks of rufous brown occupying the major part of the greater under wing-coverts. Total length 23 inches, wing 15·5, tail 11, tarsus 3·1.

Hab. Dauria southwards through Eastern China to the Malayan peninsula and the Philippines.

a. ♂ ad. sk.	Philippine Islands.	Hugh Cuming, Esq. [C.]. Type of species.
b. ♂ ad. sk.	Philippine Islands.	Zoological Society.
c. ♂ juv. sk.	Fokien, China.	J. Gould, Esq. [P.].
d. ♀ ad. sk.	Fokien, China.	J. Gould, Esq. [P.].
e. ♂ juv. sk.	Dauria, May 22, 1873.	Dr. Dybowski [C.].

5. Circus maillardi.

Circus melanoleucus, *Hartl. Faun. Madag.* p. 21 (1861).
Circus maillardi, *Verr. in Maill. l'Ile de la Réun.* ii. p. 12 (1863); *Scl. Ibis*, 1863, p. 163, pl. 4, et 1864, p. 298; *Schl. & Poll. Faun. Madag. Ois.* p. 40 (1868); *Gurney, Ibis*, 1869, p. 450; *Gray, Hand-l. B.* i. p. 36 (1869); *Schl. Mus. P.-B. Revue Accipitr.* p. 51 (1873).

Young. Above deep chocolate-brown, with pale rufous edges to the feathers of the crown and wing-coverts; nape and hind neck rufous buff, streaked with dark brown; sides of face and of neck, as well as entire underparts, dark brown, with rufous margins to the feathers, the chin paler and more fulvous and streaked with dark brown; thighs and under tail-coverts deep rufous, the latter brown in the centre; upper tail-coverts rufous, the outer ones more inclining to fulvous, with dark brown centres; tail chocolate-brown, inclining to blackish towards the tip, which is rufous ochre; quills black, the secondaries tipped with ashy brown, lighter and more ashy below, the primaries whitish at immediate base. Total length 20 inches, wing 13·9, tarsus 3·05. (*Mus. Lugd.*)

Adult. Above black, the nape and hind neck streaked with white; the least wing-coverts running along the bend of wing margined with white, the outer median ones with grey; the greater coverts clear ashy grey, with a large subterminal black mark, giving the appearance of an irregular bar; primaries black; secondaries ashy grey, tipped with white, and subterminally marked with black, the

innermost uniform with the back; the under surface of the wings blackish, with a good deal of white on inner webs of the quills, especially the median ones, but no bars; rump blackish, with white tips to the feathers; upper tail-coverts white; tail silvery ash-colour, with remains of a black subterminal band and a few spots of the same on the outer feathers, the under surface of the tail whiter, especially on the inner webs; sides of face and of neck entirely black, the latter streaked with white; lower surface of body pure white, including the under wing-coverts and axillaries; the throat and breast broadly streaked with black, diminishing to narrow shaft-lines on lower breast. Total length 20 inches, culmen 1·45, wing 14·1, tail 9·3, tarsus 3·35, middle toe 1·75 (*Mus. Lugd.*).

Hab. Réunion and Joanna Island.

a. Pull. sk. Réunion. R. B. Sharpe, Esq. [P.].

6. Circus maurus.

Falco maurus, *Temm. Pl. Col.* i. pl. 461 (1828).
Circus lalandii, *Smith, S. Afr. Q. Journ.* i. p. 383 (1830).
Circus maurus, *Less. Traité*, p. 87 (1831); *Gray, Gen. B.* i. p. 32 (1845); *Smith, Ill. Zool. S. Afr.* Aves, pl. 58 (1841); *Strickl. Orn. Syn.* p. 153 (1855); *Grill, Zool. Anteckn.* p. 48 (1858); *Layard, B. S. Afr.* p. 35 (1867); *Gurney, in Anderss. B. Dam. Ld.* p. 33 (1872).
Strigiceps maurus, *Kaup, Mus. Senck.* iii. p. 258 (1845).
Circus ater, *Gray, Cat. Accipitr.* p. 80 (1848).
Strigiceps ater, *Bp. Consp.* i. p. 35 (1850).

Young. Above deep chocolate-brown, with broad margins of rufous buff to the feathers; the head deep brown, the hinder part with broad rufous margins to the feathers; nape varied with white; a distinct eyebrow, and the sides of the face buffy white, the hinder ear-coverts tinged with rufous and (as well as the cheeks) narrowly lined with brown; behind the ear a facial ruff of brown feathers; sides of neck and under surface of body deep ochraceous buff, the breast-feathers marked at the base with dark brown, taking the form of stripes on the flanks; under wing-coverts coloured and marked with brown like the breast; axillaries dark brown, with large spots of white on both webs; primaries ashy grey, tipped with fulvous, barred across with brown, more particularly on the inner web, these bars plainer underneath where the inner web is white; the secondaries coloured like the back, the lower surface brown, with distinct bars of ashy grey; upper tail-coverts white, the lower ones slightly marked with brown; tail black, broadly tipped with buffy white and crossed with four bars of ashy grey, the base of the tail white.

Adult. General colour brownish black, decidedly browner below; the under wing- and tail-coverts blackish like rest of under surface; upper tail-coverts white, the lower ones subterminally spotted with black; primary coverts blackish, barred across with ashy grey; primaries externally ashy grey, brown at tips; the longer primaries brown, externally silvery grey; the secondaries brownish black like

the back, very slightly shaded with grey externally; inner webs of all the quills below white, with a broad terminal band of brown on the secondaries, which have also remains of other bars; tail black, tipped with dull white, and crossed with three bars of ashy grey, the immediate base of the tail white, as also are all the cross bars underneath. Total length 17 inches, culmen 1·3, wing 13·5, tail 9·7, tarsus 2·75.

Adult female. Larger than the male. Total length 22 inches, wing 15, tail 10·5, tarsus 3·1.

Hab. South Africa.

a.	Pull. sk.	Cape Colony.	J. Verreaux [C.].
b.	Ad. sk.	Cape Colony.	S. African Museum.
c, d.	Juv. sk.	Cape Colony.	S. African Museum.
e.	Ad. sk.	South Africa.	J. Gould, Esq. [P.].

7. Circus melanoleucus.

Falco melanoleucus, *Forst. Indisch. Zool.* p. 12, pl. 11 (1781).
Faucon à collier des Indes, *Sonn. Voy. Ind.* ii. p. 182 (1782).
Black-and-White Falcon, *Penn. Ind. Zool.* p. 33, pl. 2 (1790).
Tchoug, *Levaill. Ois. d'Afr.* i. p. 133, pl. 32 (1799); *Sund. Crit. om Levaill.* p. 27 (1857).
Circus melanoleucus, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 465 (1816); *Less. Traité*, p. 87 (1831); *Gray, Gen. B.* i. p. 32 (1845); *Strickl. Orn. Syn.* p. 154 (1855); *Jerd. B. Ind.* i. p. 98 (1862); *Schl. Mus. P.-B.* Circi, p. 8 (1862); *Gray, Hand-l. B.* i. p. 37 (1869); *Hume, Rough Notes*, ii. p. 307 (1870); *Swinh. P. Z. S.* 1871, p. 34; *Holdsw. P. Z. S.* 1872, p. 414.
Strigiceps melanoleucus, *Kaup, Mus. Senck.* iii. p. 258 (1845); *Bp. Consp.* i. p. 35 (1850).

Adult male. Upper parts glossy black, the rump and upper tail-coverts white, the latter with two or three broad cross bars of black or ashy grey, the former also shaded with grey; wing-coverts silvery grey, margined with white, with a broad band of black feathers extending from the bend of the wing parallel with its margin and joining the median coverts, which are also black; primaries black, the primary coverts and secondaries silvery grey, except the innermost, which are also black; tail entirely silvery grey, tipped with white, below and on the inner webs white; sides of face and neck, throat, and chest glossy black; rest of under surface, including the under wing- and tail-coverts, pure white; bill and cere black; feet yellow; iris yellow. Total length 18 inches, culmen 1, wing 14, tail 8·5, tarsus 3.

Adult female. Larger than the male, and washed on the back with slaty grey. Total length 2 inches, wing 15·4, tail 10, tarsus 3·3.

Hab. Eastern Asia; eastern side of Indian peninsula and Burmah; northwards to Mongolia, Amoor Land, and Northern China.

a.	♂ ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
b.	♀ ad. sk.	Assam.	J. Gould, Esq. [P.].
c.	♂ ad. sk.	India.	J. Gould, Esq. [P.].
d.	♂ ad. sk.	India.	
e.	♂ ad. sk.	River Ussouri.	Purchased.

8. Circus maculosus.

Alilargo, *Azara, Apunt.* p. 136 (1802); *Hartl. Ind. Azara*, p. 3 (1847).
Aquila maculosa, *Vieill. Ois. Am. Sept.* pl. 3 bis (1807).
Circus macropterus, *Vieill. N. Dict.* iv. p. 458 (1816); *Gray, Gen. B.* i. p. 32 (1845); *Bp. Consp.* i. p. 34 (1850); *Schl. Mus. P.-B.* Circi, p. 8 (1862); *Léot. Ois. Trinid.* p. 49 (1866); *Pelz. Orn. Bras.* pp. 8, 399 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 118 (1873).
Circus albicollis, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 456 (1816).
Circus leucophrys, *Vieill. N. Dict.* iv. p. 464 (1816).
Morphnus maculosus, *Cuv. Règne An.* i. p. 319 (1817).
Salvador Falcon, *Lath. Gen. Hist.* i. p. 276 (1821).
Falco palustris, *Temm. Pl. Col.* i. pl. 22 (1824); *Max. Beitr.* i. p. 224 (1830).
Circus palustris, *Less. Man. d'Orn.* i. p. 105 (1828).
Circus superciliosus, *Less. Traité*, p. 87, pl. 3. fig. 1 (1831); *Burm. Th. Bras.* ii. p. 116 (1856).
Buteo macropterus, *D'Orb. Voy. Am. Mér. Zool.* p. 112 (1835–41).
Harpyia maculosa, *Sw. Classif. B.* ii. p. 208 (1837).
Circus megaspilus, *Gould, P. Z. S.* 1837, p. 10; *Darw. Voy. Beagle, Birds*, p. 29 (1841); *Gray, Gen. B.* i. p. 32, pl. 11 (1845); *Strickl. Orn. Syn.* p. 156 (1855).
Spizocircus macropterus, *Kaup, Mus. Senckenb.* iii. p. 258 (1845).
Circus maculosa, *Strickl. Orn. Syn.* p. 155 (1855).

Young. Above brown, the feathers tipped with tawny rufous, deeper and more distinct on the crown; nape varied with buff; forehead, fore part of cheeks, and throat whitish; ear-coverts dark brown; facial ruff fulvous, slightly streaked with dark brown; primary coverts brown, like the rest of the wing-coverts, and tipped with tawny in the same manner; quills ashy grey, barred with blackish brown, all the feathers dark brown towards the tips, which are narrowly margined with fulvous, inner secondaries uniform with back; upper tail-coverts white, barred with brown or rufous brown; tail ashy grey, with four black bands; under surface of body dark brown, the feathers narrowly margined with fulvous, producing a streaked appearance; the thighs and under tail-coverts deep chestnut, the latter spotted with buff.

Adult. Above black, with a slaty blue gloss; a narrow frontal band, extending backwards and forming an eyebrow, white, as also the fore part of cheeks; rest of sides of face black like head, the facial ruff slightly spotted with white; greater wing-coverts, primary coverts, and quills bluish grey, banded with blackish brown, the primaries sepia-brown towards the tips, with bands of darker brown; inner secondaries blackish, like back; the under surface of the wing ashy grey; the inner web of the primaries tinged with rufous near the base; lower back and rump uniform blackish; the upper tail-coverts white, with more or less distinct remains of rufous-brown cross bars; tail ashy grey, tipped with whitish, and crossed with six bars of black, the subterminal one broadest; the inner webs of the feathers white, the black bars on the outer rectrices washed more or less distinctly with rufous; chin whitish; throat and fore neck

black, the ruff plainly varied with white; under surface of body white, the breast with a few narrow spots or streaks of black, the flanks and axillaries barred across with rufous brown; the vent and thighs almost destitute of marks, and the under tail-coverts with only a few rufous bars; under wing-coverts and axillaries white, plentifully barred across with black; bill black; cere bluish; feet yellow; iris yellow. Total length 20 inches, culmen 1·45, wing 17, tail 10, tarsus 3·2.

Hab. The eastern side of S. America, from the Straits of Magellan to Venezuela, Trinidad, and British Guiana, though not yet absolutely recorded from Amazonia or Northern Brazil.

a. Juv. sk. Maldonado. C. Darwin, Esq. [C.]. Type of *C. megaspilus*.
b. Ad. st. S. America. Purchased.
c. Ad. st. S. America. Purchased.
d. Juv. st. Cayenne. Purchased.

9. Circus assimilis.

Circus assimilis, *Jard. & Selby, Ill. Orn.* ser. 1, pl. 51 (1826); *Schl. Mus. P.-B.* Circi, p. 9 (1862); *id. Vog. Nederl. Ind. Valkv.* pp. 29, 67, pl. 20. figs. 2, 3 (1866); *Wall. Ibis*, 1868, p. 19; *Wald. Tr. Z. S.* viii. p. 38 (1871).

Circus jardinii, *Gould, P. Z. S.* 1837, p. 141; *id. Syn. B. Austr.* part 3 (1838); *Gray, Gen. B.* i. p. 32 (1845); *Gould, B. Austr.* i. pl. 27 (1848); *Sturt, Exp. C. Austr.* ii. *App.* p. 16 (1849); *Strickl. Orn. Syn.* p. 154 (1855); *Gould, Handb.* i. p. 60 (1865); *Gray, Hand-l. B.* i. p. 37 (1869); *Schl. Mus. P.-B. Revue Accipitr.* p. 50 (1873).

Spilocircus jardinii, *Kaup, Isis*, 1847, p. 102.

Strigiceps jardinii, *Bp. Consp.* i. p. 34 (1850).

Young. Above ashy brown, the feathers broadly margined with pale tawny buff; the head and least wing-coverts deep rusty, with a few central streaks of dark brown; sides of face and of neck, as well as facial ruff, similarly coloured, but with rather broader streaks of brown; primaries black, secondaries browner, with tawny buff tips; all the quills pale ashy below on inner web, washed with rufous and mottled with ashy brown near base of primaries, barred with the same colour on the secondaries, the primaries coppery brown underneath towards their tips; upper tail-coverts white, washed with rufous, and having dark brown centres; tail sepia-brown, tipped with tawny buff and crossed with six bands of black, the subterminal one being the broadest; under surface of body pale tawny buff, inclining to white on abdomen and thighs, narrowly streaked with dark brown on the breast; the under wing-coverts coloured like the latter, but with rather broader streaks, the lower ones barred with ashy brown and pale tawny buff; axillaries brown, margined and notched with pale tawny.

Adult male. Above pale bluish slate-colour, the dorsal feathers, scapulars, and wing-coverts with margins or terminal spots of white, and having also large concealed white spots on the body of the feather; crown of head, cheeks, and ear-coverts, as well as the least

wing-coverts, bright brick-red; facial ruff pale bluish grey; quills bluish grey, the primaries browner at tip and on inner web, the secondaries barred with brown and tipped with white, the subterminal bar broadest; lower surface of wing pale ash-colour, the bars more distinct on inner web, which is washed with pale rufous on the primaries; upper tail-coverts deep ashy brown, tipped and spotted on both webs with white, sometimes forming bars across, the outer ones barred with rufous and white; tail bluish ashy, tipped with white, and crossed with seven bands of black; under surface of body rufous, sprinkled all over with rounded white spots, the under wing-coverts and axillaries similarly coloured; the breast less plentifully spotted and inclining more or less to ashy grey, the spots on the under tail-coverts larger and taking the form of bars, the thighs also narrowly barred with white; cere olive-yellow; bill blue at base, black on culmen and at tip; legs yellow; iris yellow. Total length 22 inches, culmen 1·25, wing 15·9, tail 10·8, tarsus 3·5.

Adult female. Larger than the male. Total length 24·5 inches, wing 18, tail 11·5, tarsus 4·2.

Obs. Examples vary somewhat in colouring, especially in the size and number of white spots below. The Cape-York bird (*vide infrà*) has more grey on the crown than the others, and the facial ruff below the throat is spotted with white. The breast has less ashy grey than usual; and the white spots are of large size, and continued all over the chest. The bars on the tail vary, probably with age, some specimens not having more than six.

Hab. Eastern Australia, from New South Wales to Cape York; Celebes.

a.	Ad. sk.	Australia.	Purchased.
b.	Ad. sk.	Australia.	Major-Gen. Hardwicke [P.].
c.	Juv. sk.	Australia.	Lady Carington [P.].
d.	Juv. sk.	Woody Wallis's Island.	Earl of Derby [P.].
e.	Ad. st.	Liverpool Plains, N.S.W.	J. Gould, Esq.
f.	Ad. sk.	Cape York.	J. Gould, Esq. [P.].
g.	Juv. sk.	Cape York.	J. Gould, Esq.
h.	Ad. sk.	N.E. Australia.	Sir T. Mitchell [P.].
i.	Ad. sk.	Celebes.	A. R. Wallace, Esq. [C.].
k.	♂ ad. sk.	Makassar.	A. R. Wallace, Esq. [C.].

10. Circus pygargus.

The Ring-tail, *Albin, Birds*, ii. pl. 5 (1738)*.
Falco pygargus, *Linn. S. N.* i. p. 148 (1766, *ex Albin*).
Falco cinerarius, *Mont. Trans. Linn. Soc.* ix. p. 188 (1808).
Falco hyemalis, *Penn. Brit. Zool.* i. p. 243 (1812); *Yarr. Brit. B.* i. p. 100 (1843).
Circus cinerarius, *Leach, Syst. Cat. Mam. &c. Brit. Mus.* p. 9 (1816);

* Albin's description of the hen Ring-tail is scarcely clear enough to indicate the species; but the description of the male and the figure clearly refer to *Circus cinerarius* of Montagu. I am also unable to identify his "Cock Ring-tail or Hen Harrier" (iii. pl. 3, 1740). This is possibly *C. cyaneus*, to which it has always been referred.

Strickl. Orn. Syn. p. 152 (1855); *Gurney in Anderss. B. Dam. Ld.* p. 33 (1872).
Circus ater, *Vieill. N. Dict.* iv. p. 459 (1816); *Pucher. Rev. et Mag. de Zool.* 1850, p. 82.
Circus montagui, *Vieill. N. Dict.* xxxi. p. 411 (1819); *id. et Oud. Gal. Ois.* i. pl. 13 (1825); *Less. Traité*, p. 84 (1831).
Falco cineraceus, *Temm. Man.* i. p. 76 (1820); *Naum. Vög. Deutschl.* i. p. 402, pl. 40 (1822); *Werner, Atlas*, Rapaces, pl. 29 (1827); *Schl. & Susem. Vög. Eur.* Taf. 38, 38*a* (1839).
Circus cinerascens, *Steph. Gen. Zool.* xiii. p. 41 (1825); *Gray, Gen. B.* i. p. 32 (1845); *Schl. Vog. Nederl.* pls. 18, 19 (1854); *id. Mus. P.-B.* Circi, p. 3 (1862); *Layard, B. S. Afr.* p. 34 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 105 (1869); *Schl. Mus. P.-B. Revue Accipitr.* p. 49 (1873).
Buteo cineraceus, *Flem. Brit. An.* p. 55 (1828).
Circus cineraceus, *Cuv. Règne An.* i. p. 338 (1829); *Gould, B. Eur.* i. pl. 35 (1837); *Macgill. Hist. Brit. B.* iii. p. 378 (1840); *Hewits. Eggs Brit. B.* i. p. 49, pl. xvi. fig. 2 (1856); *Jerd. B. Ind.* i. p. 97 (1862); *Newt. Ooth. Wolley.* p. 148 (1864); *Montess. Rev. et Mag.* 1865, p. 369, pls. 25, 26; *Sundev. Sv. Fogl.* p. 225, pl. lxxii. figs. 2, 3 (1866); *Gould, B. Gt. Br.* pt. xii. (1867); *Degl. et Gerbe, Orn. Europ.* i. p. 109 (1867); *Gray, Hand-l. B.* i. p. 37 (1869); *Hume, Rough Notes*, ii. p. 303 (1870); *Blanf. Geol. & Zool. Abyss.* p. 301 (1870); *Newt. ed. Yarr. Brit. B.* i. p. 138 (1871); *Salvad. Faun. Ital. Ucc.* p. 26 (1871); *Swinh. P. Z. S.* 1871, p. 342; *Holdsw. P. Z. S.* 1872, p. 413; *Shelley, B. Egypt*, p. 184 (1872).
Circus pratorum, *Brehm, Vög. Deutschl.* p. 95 (1831).
Falco cinerascens, *Barb. Rev. Zool.* 1838, p. 121.
Strigiceps cineraceus, *Bp. Comp. List B. Eur. & N. Am.* p. 5 (1838); *id. Consp.* i. p. 35 (1850); *Loche, Expl. Sci. Algér. Ois.* i. p. 85 (1867).
Circus nipalensis, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Glaucopteryx cinerascens, *Kaup, Contr. Orn.* 1850, p. 58.
Strigiceps pratorum, *Brehm, Naum.* 1855, p. 269.
Strigiceps elegans, *id. tom. cit.* p. 269.
Strigiceps cinerascens, *Fritsch, Vög. Eur.* tab. 9. fig. 7, tab. 10. fig. 3 (1858).

Young. Above brown, all the feathers narrowly margined with pale tawny excepting the upper tail-coverts, which are very broadly and conspicuously margined; head and neck rich tawny, with brown centres to the feathers, producing a mottled appearance; lores, a distinct eyebrow, and the fore part of the ear-coverts pure white, the cheeks and hinder part of ear-coverts dark brown, the latter washed with rufous; quills entirely blackish brown, with narrow white tips, the primaries externally shaded with ashy and barred across with blackish—these bars more distinct underneath, where the lining of the quills is ashy white, inclining to rufous near base of inner web; upper tail-coverts white, with narrow shaft-lines of dark brown, the higher ones washed with tawny; tail deep tawny, inclining to buff at tip, and crossed with four or five blackish bands, the central feathers uniform ashy brown with five distinct cross bands of black; throat whitish; facial ruff and entire under surface of body clear tawny, with a few central streaks of reddish brown on the upper breast, flanks, and upper wing-coverts.

Adult male. Above bluish grey, the wing-coverts a little darker and slightly mottled, with a terminal spot of dark ash-colour; primary coverts and secondaries silvery grey, narrowly tipped with white, and crossed with two bands of black, the lower one concealed by the greater wing-coverts, but plain enough on under surface, which is whitish ashy; primaries black, the inner ones shaded with grey towards tips and on the inner web; upper tail-coverts white, shading into ashy grey at the tips, which are subterminally deep ash-colour, sometimes two bands of ashy grey on the feathers; tail cindery grey, the two central feathers uniform, the rest banded across with five broad bars of ashy black, inclining gradually to and becoming tawny rufous on the outer feathers, the interspaces on these being white; lores whitish; facial ruff cindery grey like head; throat and entire breast pale bluish grey; abdomen, flanks, thighs, and under wing- and tail-coverts white, with distinct longitudinal streaks of rufous fawn; the axillaries with large diamond-shaped cross markings of the same colour; cere greenish yellow; bill blackish; feet yellow; iris yellow. Total length 18 inches, culmen 1·1, wing 15, tail 9·5, tarsus 2·3*.

Adult female. Above nearly uniform brown, with very slight remains of fulvous margins to the feathers, more distinct on the innermost wing-coverts; head and hind neck streaked with pale rufous, as also the facial ruff and sides of the neck; ear-coverts nearly uniform brown, feathers under the eye whitish; quills dark brown, the primary coverts and primaries shaded with grey externally, barred with darker brown, more distinct underneath, where the quills are fulvous white on inner web, the inner secondaries brown like the back; upper tail-coverts white; tail brown, tipped with paler brown, and crossed with five bands of darker brown, the interspaces paler and more rufescent on outer rectrices, inclining to whitish on inner web; under surface of body buffy white, with rufous centres to the feathers, giving a distinctly striped appearance; cere dull yellow; bill black; feet yellow; iris hazel. Total length 19 inches, wing 15·3, tail 8·7, tarsus 1·4.

Hab. Europe generally to the south of 60° N. lat.; ranging in winter through Palestine and along the Nile to Abyssinia and South Africa; all over India and Ceylon, and to the river Yangtze in China.

a. ♂ ad. st.	Devonshire.	Col. Montagu [P.]. Type of *Falco cinerarius.*
b. ♂ juv. st.	Devonshire.	Col. Montagu [P.].
c. ♂ ad. st.	Wiltshire.	Col. Montagu [P.].
d. ♂ ad. st.	Oxfordshire.	Miss Moreland [P.].
e. ♀ ad. st.	Great Britain.	Sir A. Molesworth [P.].
f. ♂ ad. st.	Europe.	Purchased.

* Supposing that all the grey-plumaged birds are males, as is always stated, the wing varies from 13·5 to 15·5, which is the length of the brown-plumaged female. It seems to me by no means improbable that the old female may resemble the old male, though taking perhaps a longer time to gain the adult plumage.

g.	♂ var. st.	Europe.	Purchased.
h.	♂ ad. sk.	Madras.	Dr. Jerdon [P.].
i.	♂ juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
k.	♂ juv. sk.	Ceylon.	E. L. Layard, Esq. [C.].
l.	♂ juv. sk.	Bogos Land.	Herr Esler [C.].
m.	♂ ad. sk.	Eikhullut, March 27, 1868.	W. T. Blanford, Esq. [C.].
n.	♂ ad. sk.	Eikhullut, March 27, 1868.	W. T. Blanford, Esq. [C.].
o.	♂ juv. sk.	Amba, Samhar, Aug. 18, 1868.	W. T. Blanford, Esq. [C.].
p.	♀ ad. sk.		
q.	♂ ad. st.	Cape of Good Hope.	
r.	Skeleton.		Purchased.
s.	Skeleton.		Zoological Society.
t.	Sternum.		J. Rae, Esq. [P.].
u.	Sternum.		B. H. Hodgson, Esq. [P.].

11. Circus macrurus.

Accipiter macrourus, *S. G. Gmel. N. Comm. Petrop.* xv. p. 439, pls. viii. & ix. (1771).
Falco macrurus, *Gm. S. N.* i. p. 269 (1788).
Circus swainsonii, *Smith, S. Afr. Q. Journ.* i. p. 384 (1830); *Gray, Gen. B.* i. p. 32 (1845); *Smith, Ill. S. Afr. Zool.* pls. 43, 44 (1849); *Bp. Consp.* i. p. 35 (1850); *Strickl. Orn. Syn.* p. 151 (1855); *Hartl. Orn. W. Afr.* p. 16 (1857); *Schl. Mus. P.-B.* Circi, p. 4 (1862); *Jerd. B. Ind.* i. p. 96 (1862); *Degl. u. Gerbe, Orn. Eur.* i. p. 111 (1867); *Layard, B. S. Afr.* p. 34 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 105 (1869); *Blanf. Geol. &c. Abyss.* p. 301 (1870); *Hume, Rough Notes*, ii. p. 298 (1870); *Salvad. Faun. Ital. Ucc.* p. 25 (1871); *Gurney in Anderss. B. Dam. Ld.* p. 32 (1872).
Circus superciliaris*, *Smith, S. Afr. Q. Journ.* i. p. 385 (1830).
Circus cyaneus, *Frankl. P. Z. S.* 1830, p. 115.
Circus albescens, *Less. Traité*, p. 85 (1831).
Circus pallidus, *Sykes, P. Z. S.* 1832, p. 80; *Gould, B. Eur.* i. pl. 34 (1837); *Sund. Sv. Fogl.* p. 224, pl. lxxii. f. 4 (1866); *Gray, Hand-l. B.* i. p. 37 (1869); *Finsch, Tr. Z. S.* vii. p. 208 (1870); *Swinh. P. Z. S.* 1871, p. 342; *Shelley, B. Egypt*, p. 183 (1872); *Hume, Str. F.* i. p. 160 (1873).
Circus dalmatinus, *Rüpp. Mus. Senckenb.* ii. p. 177, pl. 11 (1837).
Strigiceps pallidus, *Bp. Comp. List B. Eur. & N. Am.* p. 5 (1838).
Falco pallidus, *Schl. u. Susem. Vög. Eur.* Taf. 30 (1839); *Temm. Man. d'Orn.* iv. p. 594 (1840).
Circus æquipar, *Pucher. Rev. Zool.* 1850, p. 14; *Cromm. Nederl. Tijds.* ii. p. 66 (1867).
Glaucopteryx pallidus, *Kaup, Contr. Orn.* 1850, p. 58.
Strigiceps swainsoni, *Bp. Rev. Crit. Ois. d'Eur.* p. 133 (1850); *Fritsch, Vög. Eur.* tab. 9. fig. 8, tab. 10. fig. 2 (1858); *Loche, Expl. Sci. Algér. Ois.* i. p. 88 (1867).
Strigiceps desertorum, *Brehm, Naum.* 1855, p. 269.

Adult male. Above pale bluish grey, the crown and interscapulary region very slightly darker; lores, a distinct eyebrow and sides of face white, the ear-coverts slightly streaked with ashy; under surface of body white with a slight greyish shade on the facial ruff, on

* Printed *superaliaris*, but doubtless a misprint for *superciliaris*, a title justified by the type specimen.

the sides of the breast, and on the greater under wing-coverts; quills blackish brown, primaries externally washed with ashy grey, the secondaries entirely of the latter colour and tipped with white; primaries white at base of inner web, the rest of the quills entirely white underneath, the secondaries with a nearly obsolete greyish subterminal band; upper tail-coverts white, barred across with ashy grey; middle tail-feathers uniform ashy grey, the rest white with seven or eight bars of ashy grey, all tipped with white, under surface of tail entirely white, the bars less distinct. Bill black; feet yellow; iris yellow. Total length 17·5 inches, culmen 1·15, wing 13·2, tail 8·8, tarsus 2·65.

Adult female. Above brown, the head and hind neck streaked with tawny fulvous, with which most of the feathers of the upper surface are margined and tipped, the small wing-coverts especially broadly; frontal feathers, a superciliary line as well as a spot below the eye white; cheeks and ear-coverts dark brown, very slightly streaked with tawny; facial ruff dark brown, plainly streaked with creamy buff; wings nearly uniform sepia-brown, tipped with buffy white, primaries externally shaded with ashy grey; primaries plainly, secondaries obsoletely barred with darker brown, plainer underneath, where the inner webs are creamy buff; upper tail-coverts white, barred across or diamond-spotted with dark brown; tail pale tawny, crossed with four broad blackish bars, the interspaces inclining to white on the outer feathers, the black bars replaced by rufous on external rectrix, the two centre feathers ashy brown, with six blackish brown cross bars, the subterminal one broadest; under surface of body creamy white, with broad longitudinal streaks of brown on chest, becoming narrower and more rufous on lower breast and abdomen; under tail-coverts clearly rufescent; under wing-coverts creamy buff, with diamond-shaped spots and streaks of brown, the lower series barred across with blackish; axillaries brown, inclining to rufous, with large oval spots of fulvous on both webs; cere greenish yellow; bill horny black, gape dull greenish; feet yellow; iris dark hazel. Total length 20·5 inches, wing 14·7, tail 10·5, tarsus 2·9.

Young. Brown, like the old female, but not so much variegated above, with tawny margins to the feathers; under surface entirely pale fawn-colour, the facial ruff of this same colour, and therefore contrasting in marked prominence with the dark brown cheeks and ear-coverts, the flank-feathers and axillaries with indistinct brown central streaks; frontal feathers, superciliary streak, and spot under the eye whitish; upper tail-coverts white, spotted with pale rufous; tail much as in old female, but the dark bars only five in number.

Hab. Europe generally, as far north as 60° N. lat., and about 8° E. long.: in winter in Africa, except the forest-region of the west coast; all India and Ceylon, Burmah, and to the river Yangtze in China.

a. ♂ ad. sk.	Athens.	C. W. L. Merlin, Esq. [P.].
b. ♂ ad. sk.	Southern Ural.	Dr. Strader [C.].
c. ♂ ad. sk.	Mesopotamia.	Euphrates Expedition [C.].
d. ♀ ad. sk.	Rajkote, Kattiawar, Nov. 10, 1871.	Capt. J. Hayes Lloyd [P.].

e. ♀ juv. sk.	Rajkote, Kattiawar, Nov. 10, 1871.	Capt. J. Hayes Lloyd [P.].
f, g. ♂ ad. sk.	Punjaub.	Major-Gen. Sir F. Hearsey [C.].
h. ♂ ad. sk.	Deccan (*Burgess*).	J. Gould, Esq. [P.].
i. ♂ ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
k. ♂ juv. sk.	Behar.	B. H. Hodgson, Esq. [P.].
l. ♂ juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
m. ♂ ad. sk.	Zoulla, Annesley Bay, Feb. 19, 1868.	W. T. Blanford, Esq. [C.].
n. ♀ ad. sk.	Bissao.	R. B. Sharpe, Esq. [P.].
o. ♀ ad. sk.	Transvaal.	A. Foresman, Esq. [P.].
p. ♂ ad. sk.	Cape Colony.	
q. ♀ juv. st.	Cape Colony.	Sir A. Smith [C.]. Type of *C. superciliaris*.

12. Circus æruginosus.

The Moor-Buzzard, *Albin, Birds*, i. pl. 3 (1731).
Le Busard de Marais, *Briss. Orn.* i. p. 401 (1760).
Le Busard roux, *Briss. Orn.* i. p. 404 (1760).
Falco æruginosus, *Linn. S. N.* i. p. 130 (1766); *Buff. Pl. Enl.* i. p. 424 (1783).
La Harpaye, *Buff. Pl. Enl.* i. pl. 400 (1783).
Falco rufus, *Gm. S. N.* i. p. 266 (1788, *ex Buff.*); *Temm. Man.* i. p. 69 (1820); *Naum. Vög. Deutschl.* i. p. 378, Taf. 37, 38. fig. 1 (1822); *Werner, Atlas*, Rapaces, p. 27 (1827); *Schl. u. Susem. Vög. Eur.* Taf. 36 (1839); *Yarr. Brit. B.* i. p. 90 (1840).
Falco arundinaceus, *Bechst. Orn. Taschenb.* p. 23 (1802).
Circus æruginosus, *Savign. Syst. Ois. Egypte*, p. 90 (1809); *Less. Traité*, p. 86 (1831); *Macgill. Brit. B.* iii. p. 382 (1840); *Gray, Gen. B.* i. p. 32 (1845); *Bp. Consp.* i. p. 34 (1850); *Schl. Vog. Nederl.* pls. 20–22 (1854); *Strickl. Orn. Syn.* p. 146 (1855); *Hewits. Eggs Brit. B.* i. p. 44 (1856); *Fritsch, Vög. Eur.* tab. 9. fig. 5, tab. 10. figs. 5–7 (1858); *Schl. Mus. P.-B.* Circi, p. 11 (1862); *Jerd. B. Ind.* i. p. 99 (1862); *Newt. Ooth. Wolley.* p. 143 (1864); *Bettoni, Ucc. Lomb.* i. pls. 31, 31*a* (1865); *Sundev. Sv. Fogl.* p. 222, pl. xxviii. figs. 4, 5 (1866); *Loche, Expl. Sci. Algér. Ois.* p. 82 (1867); *Degl. & Gerbe, Orn. Europ.* i. p. 105 (1867); *Gould, B. Gt. Br.* pt. xiii. (1868); *Gray, Hand-l. B.* i. p. 36 (1869); *Heugl. Orn. N.O.-Afr.* p. 103 (1869); *Blanf. Geol. & Zool. Abyss.* p. 301 (1870); *Hume, Rough Notes*, ii. p. 314 (1870); *Ayres, Ibis*, 1871, p. 147; *Salvad. Faun. Ital. Ucc.* p. 24 (1871); *Newt. ed. Yarr. Brit. B.* i. p. 127 (1871); *Shelley, B. Egypt*, p. 181 (1872); *Bocage, Jorn. Lisb.* 1872, p. 1; *Hume, Stray F.* i. p. 160 (1873); *Schl. Mus. P.-B. Revue Accipitr.* p. 50 (1873).
Circus rufus, *Savign. Syst. Ois. Egypte*, p. 91 (1809); *Less. Traité*, p. 86 (1831); *Gould, B. Eur.* pl. 37 (1837).
Accipiter circus, *Pall. Zoogr. Rosso-As.* i. p. 362 (1811).
Pygargus rufus, *Koch, Syst. Baier. Zool.* i. p. 119 (1816).
Buteo æruginosus, *Flem. Brit. An.* p. 55 (1828).
Circus variegatus, *Sykes, P. Z. S.* 1830, p. 81.
Circus arundinaceus, *Brehm, Vög. Deutschl.* p. 91 (1831).
Circus aquaticus, *Brehm, Isis*, 1832, p. 836.
Circus sykesii, *Less. Compl. Buff.* vii. p. 161 (1836).
Buteo rufus, *Couch, Corn. Faun.* p. 11 (1838).

Young. Nearly uniform chocolate-brown, the feathers of the upper

surface washed with rufous on their margins; the upper tail-coverts and under surface more decidedly rufous brown; crown of head, throat, and cheeks creamy buff, the feathers of the hinder neck, wing-coverts, and centre of breast often showing margins of this colour, giving a streaked appearance and indicating approaching adolescence; wings brown, the primaries much darker; tail uniform brown, very slightly mottled with rufous.

Obs. Both sexes appear to be alike when young, and to pass through the same changes till the adult stage is reached. The latter may be known by the bluish-grey wings and tail.

Adult male. Above dark brown, with slight remains of rufous margins to the feathers of the upper surface, the least wing-coverts buffy white with dark brown centres; outer greater coverts, primary coverts, and secondaries bluish ashy, with very slight white tips; the innermost secondaries brown, more or less washed with ashy grey; primaries blackish brown, much paler at the tips, creamy white at base of inner web, increasing in extent towards the secondaries, which are entirely light ashy below; upper tail-coverts white, somewhat washed with grey and tinged with rufous; tail uniform bluish ash-colour, paler and a little more fulvescent beneath; entire head and neck creamy buff, streaked with dark brown, the interscapulary region also slightly streaked; facial ruff indistinct, being coloured like the rest of the head and neck; sides of face and throat white with narrow streaks of dark brown, the hinder margin of ear-coverts nearly uniform brown; under surface of body creamy buff, the breast longitudinally streaked with brown; the abdomen and thighs more decidedly rufescent, but appearing partially streaked by reason of the fulvous margins to the feathers; under wing-coverts and axillaries uniform buffy white, the latter with a narrow longitudinal shaft-line of brown; cere greenish yellow; bill blackish; feet yellow, claws black; iris bright yellow. Total length 22·5 inches, culmen 1·55, wing 16, tail 10, tarsus 3·4.

Adult female. Slightly larger than male. Total length 23 inches, wing 17, tail 11, tarsus 3·8.

Hab. Europe generally, seldom north of 60° N. lat., rare in Siberia, but occurring in China, Japan, and the Philippines in winter, as well as the whole of India and N.E. Africa, occurring at that season in S. Africa also.

a. ♀ juv. st.	Carmarthenshire.	Col. Montagu [P.].
b. Juv. var. st.	Norfolk.	J. Scales, Esq. [P.].
c. ♂ juv. st.	Cambridgeshire.	Mr. J. Baker [C.].
d. ♂ ad. st.	Cambridgeshire.	Mr. J. Baker [C.].
e. ♀ juv. st.	Cambridgeshire.	Mr. J. Baker [C.].
f. Ad. var. st.	Great Britain.	J. Gould, Esq.
g. ♂ ad. st.	Europe.	D. W. Mitchell, Esq. [P.].
h. ♂ juv. sk.	Near Bremen.	R. B. Sharpe, Esq. [P.].
i. ♀ ad. st.	Athens.	C. W. L. Merlin, Esq. [P.].
j. ♂ ad. sk.	Gennesareth.	Canon Tristram [C.].
k. ♂ juv. sk.	Gennesareth.	Canon Tristram [C.].
l. ♂ ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
m, *m'*, *m''*. Juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].

n. ♂ ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
o. ♂ juv. sk.	Behar.	B. H. Hodgson, Esq. [P.].
p. ♂ juv. sk.	Moorshedabad.	Colonel Cobbe [C.].
q. ♀ juv. sk.	Darjiling.	R. B. Sharpe, Esq. [P.].
r. ♂ ad. sk.	China.	J. R. Reeves, Esq. [P.].
s. ♂ juv. sk.	China.	J. R. Reeves, Esq. [P.].
t. Juv. sk.	Formosa.	R. Swinhoe, Esq. [C.].
u. ♀ juv. st.	Philippine Islands.	Hugh Cuming, Esq. [C.].
v. Juv. sk.		Major-Gen. Hardwicke [P.].
w, *x.* Skeleton.		Purchased.
y. Sternum.		B. H. Hodgson, Esq. [P.].
z. Sternum.		J. Rae, Esq. [P.].

13. Circus ranivorus.

Le Grenouillard, *Levaill. Ois. d'Afr.* i. pl. 23 (1799); *Sund. Crit. on Levaill.* p. 25 (1857).
Falco ranivorus, *Daud. Traité*, ii. p. 170 (1800).
Circus ranivorus, *Cuv. Règne An.* i. p. 358 (1829); *Less. Traité*, p. 86 (1831); *Gray, Gen. B.* i. p. 32 (1845); *Strickl. Orn. Syn.* p. 151 (1855); *Grill, Zool. Anteckn.* p. 48 (1858); *Gurn. Ibis*, 1859, p. 242; *Schl. Mus. P.-B.* Circi, p. 11 (1862); *Layard, B. S. Afr.* p. 35 (1867); *Bocage, Jorn. Lisb.* 1868, p. 47; *Gray, Hand-l.* B. i. p. 36 (1869); *Finsch u. Hartl. Vög. Ostafr.* p. 97 (1870); *Gurney in Anderss. B. Dam. Ld.* p. 34 (1872).
Circus levaillantii, *Smith, S. Afr. Q. Journ.* i. p. 387 (1830).
Falco pygargus, *Kaup, Thierr.* ii. p. 254 (1836).
Pygargus ranivorus, *Kaup, Classif. Säug. u. Vög.* p. 113 (1844).

Young. Above brown, with a chocolate gloss, the feathers margined with dull rufous, very distinct on the least wing-coverts and head; quills dark brown, tipped with paler brown, the inner webs lighter and mottled with rufous, especially near base; rump dark brown, the lower feathers tipped with rufous; the upper tail-coverts entirely rufous, tipped with fulvous; tail ashy brown, tipped with fulvous, crossed with six bars of dark brown, the interspaces on the outer feathers more or less inclining to rufous; sides of face brown, the feathers over and under the eye whitish; facial ruff dark brown, with very slight streaks of fulvous; under surface of body chocolate-brown, gradually inclining to deep rufous on the abdomen and thighs, the under wing-coverts rather brighter rufous, the centre of the breast slightly varied with fulvous streaks.

Adult male. Above brown, the feathers margined on both sides with fulvous, those of the hind neck with white, causing a distinctly streaked appearance; upper wing-coverts orange-rufous, distinctly spotted on both webs and tipped with white; greater coverts brown, tipped with white, the outermost externally shaded with ashy grey; primary coverts and quills dull ashy grey, barred with blackish brown, the subterminal bar being the broadest; the secondaries browner, tipped with white, the cross bars almost imperceptible above, but plainer underneath; the inner web for the most part white; rump ashy brown, the feathers tipped with orange-rufous; upper tail-coverts clear orange-rufous, slightly shaded with brownish and tipped with white; tail dull ashy grey, tipped with whitish and crossed

with eight bands of sepia-brown; the outer feathers for the most part orange-rufous; the ashy-grey bars distinct only towards the tips, the basal bars mixed with or entirely obscured by rufous; head and sides of face brown, slightly washed with rufous and streaked with darker brown; frontal feathers and those round the eye whitish; facial ruff rather distinct brown, streaked with pure white; under surface of body dull brown on the breast, shading into orange-rufous on the abdomen, thighs, and under tail-coverts, the feathers distinctly margined with white, causing a streaked appearance; under wing-coverts white, with arrow-shaped central spots of clear orange-rufous; feet light yellow; iris yellow. Total length 20·5 inches, culmen 1·35, wing 15·1, tail 9·5, tarsus 3·2.

Adult female. Very similar to the male, but more distinctly streaked on the abdomen and thighs, which are not so bright rufous and have very broad white margins; tail banded with brown and dull rufous, with no ashy-grey shade. Total length 21·5 inches, wing 15·6, tail 9·5, tarsus 3·2.

Hab. South Africa, below 10° S. lat.

a. Pull st.	Blauw Berg, S. Africa.	M. J. Verreaux [C.].
b. ♀ juv. sk.	Latakoo.	M. J. Verreaux [C.].
c, d. Juv. sk.	South Africa.	Sir A. Smith [C.].
e, f. ♂ ♀ ad. st.	South Africa.	S. African Museum.
g. ♂ ad. st.	South Africa.	J. Gould, Esq. [P.].
h. Ad. sk.	South Africa.	John Rocke, Esq. [P].

14. Circus gouldi.

Circus assimilis, *Gould, B. Austr.* i. pl. 26 (1848); *Strickl. Orn. Syn.* p. 155 (1855); *Cass. U. S. Expl. Exp.* p. 101 (1858); *Gould, Handb. B. Austr.* i. p. 58 (1865); *Finsch u. Hartl. Faun. Centr. Polyn. Orn.* p. 7 (1867); *Gray, Hand-l. B.* i. p. 36 (1869); *Hutton, Ibis*, 1870, p. 392; *Schl. Mus. P.-B. Revue Accipitr.* p. 51 (1873).
Circus approximans, *Peale, U. S. Expl. Exp.* p. 64 (1848).
Circus gouldi, *Bp. Consp.* i. p. 34 (1850); *id. Rev. Zool.* 1850, p. 491; *Gray, Ibis*, 1862, p. 215; *Buller, B. N. Zeal.* part 1 (1872).
Circus wolfi, *Gurney, P. Z. S.* 1865, p. 823, pl. xliv.

Young. Above uniform sooty brown; the nape and hind neck streaked with rich fulvous; the upper tail-coverts tawny rufous, shaded mesially with brown; wings brown, like back; the primaries blacker; the secondaries narrowly margined with fulvous towards the tips; the inner web fulvous, washed with rufous near the base; under the eye a patch of fulvous feathers; under surface of body chocolate-brown, gradually becoming deep chestnut on abdomen, thighs, and under tail-coverts; tail nearly uniform brown, tipped with pale tawny buff; the outer feathers more or less tawny rufous near the base, mottled with brown, remains of obsolete dark brown bars being apparent on the centre feathers in certain lights.

Adult. Above earthy brown; the nape and hind neck slightly streaked with buff; most of the dorsal feathers with central markings of darker brown; quills brown, shaded externally with ashy grey; the secondaries narrowly tipped with fulvous, all with more or less

distinct remains of blackish, forming on some of the secondaries a distinct subterminal spot; upper tail-coverts white, on some of them a slight spot of pale rufous; tail ashy grey, tipped with white; the central feathers entirely grey, the exterior ones gradually becoming more and more tawny rufous near the base, with a few dark brown mottlings; frontal and superciliary feathers dull whitish, not very distinct; sides of face and of neck dull rufous brown, streaked with dark brown; facial ruff rufous buff, streaked with blackish, and mottled with white; under surface of body creamy white, with distinct streaks of pale rufous brown along the centre of the feathers, broader on the under wing-coverts, and very narrow on the thighs and under tail-coverts; culmen pale greenish yellow; bill dark brown, bluish at base; tarsi greenish white; feet yellowish buff; iris yellow. Total length 21·5 inches, culmen 1·5, wing 16·25, tail 9·8, tarsus 3·9.

Hab. Southern and Eastern Australia, as high as 20° N. lat.; New Zealand, New Caledonia*, and the Fiji Islands.

a. Ad. st.	Australia.	Sir D. Cooper, Bart. [P.].
b. Juv. st.	S. Australia.	Sir G. Grey [P.].
c. Juv. sk.	S. Australia.	Sir G. Grey [P.].
d. Juv. sk.	Wallis Island.	Earl of Derby [P.].
e. Ad. sk.	Reed Beds, S. Australia.	J. Gould, Esq. [P.].
f. Juv. sk.	Reed Beds, S. Australia.	J. Gould, Esq. [P.].
g. ♀ ad. sk.	Banks's Peninsula, N. Z.	R. B. Sharpe, Esq. [P].
h, i. Juv. sk.	New Zealand.	Antarctic Expedition.
j. Juv. sk.	New Zealand.	Sir George Grey [P.].
k, l, m. Juv. sk.	New Zealand.	Sir Everard Home, Bart. [P.].
n. Var. st.	New Zealand.	Sir Everard Home, Bart. [P.].
o. Ad. st.	New Zealand.	Sir Everard Home, Bart. [P.].
p. Juv. sk.	New Zealand.	Purchased.

I have not had an opportunity of examining the following species:—

15. Circus macroscelis.

Circus macrosceles, *A. Newton, P. Z. S.* 1863, p. 180; *E. Newt. Ibis*, 1863, p. 337; *Gurney, Ibis*, 1869, p. 451; *Gray, Hand-l. B.* i. p. 36 (1869).

Immature male. Of the general appearance of *Circus cyaneus*, but of a much larger size. In colour exactly resembling examples of *Circus cyaneus* of the same age, but having the central stripes to the feathers of the belly longer, the tail-coverts broader, and the cross bars of the wings more narrow and more brightly marked; cere yellow; bill horn-colour, black at tip; feet yellow, claws black; iris yellow (*Newton*). Total length 22·75 inches, culmen 2, wing a little over 15, tail 10, tarsus 4, middle toe with claw 2·75.

Hab. Madagascar.

Obs. Professor Schlegel, in his lately published 'Revue' (p. 50), doubtfully refers this bird to *C. assimilis* of Australia. The latter is the only species which approaches it in length of tarsus; but at the

* The Harrier from this locality, the true *C. wolfi*, may turn out to be distinct.

same time it is a Marsh-Harrier, while Professor Newton allies his species to the Hen-Harrier.

17. MICRASTUR.

	Type.
Brachypterus, *Less. Compl. Buff.* vii. p. 113 (1836, *nec Kugel*)	M. semitorquatus.
Carnifex, *Less. Rev. Zool.* 1842, p. 378 (*nec Sundev.*)	M. semitorquatus.
Micrastur, *Gray, List Gen. B.* p. 6 (1841)	M. semitorquatus.
Climacocercus, *Cab. in Tschudi, Faun. Peruan. Vög.* p. 98 (1845)	M. gilvicollis.
Rhynchomegus, *Bp. Rev. et Mag. de Zool.* 1854, p. 537	M. semitorquatus.

Cf. *Scl. & Salv. P. Z. S.* 1869, p. 364.



Bill of *Micrastur*.

Range. From Southern Mexico throughout the whole of Columbia, Amazonia, Guiana, and Brazil, extending into Bolivia and Peru on the western side of the continent and to Rio on the eastern coast.

Key to the Species.

a. Larger: underneath entirely uniform, not barred.
  a'. With a white or creamy-buff collar round hind neck ..... *semitorquatus*, p. 75.
  b'. With no collar ..... *mirandollei*, p. 76.
b. Smaller: underneath barred in a most regular manner.
  c'. Flanks white, barred with greyish black.
    c''. Above uniform slate-colour, brown, or blackish grey.
      c'''. Fore neck more or less tinged with orange-rufous ..... *ruficollis* ♂, p. 76.
      d'''. Fore neck barred with white and black.
        c''''. Lower abdomen and vent white .. *gilvicollis* ♂ ♀, p. 78.
        d''''. Lower abdomen and vent distinctly barred like rest of under surface ..... *guerilla* ♂, p. 79.
    d''. Back rufous or rufous brown; head ashy grey or greyish black, in evident contrast.
      c'''. Chest orange-rufous ..... *ruficollis* ♀, p. 76.

f'''. Chest white, barred with greyish black.
e''''. Head and sides of neck ashy grey . *guerilla* ♀, p. 79.
f''''. Head and sides of neck greyish black, the latter slightly washed with rufous ..... *zonothorax* ♀, p. 79.
d'. Flanks uniform bright chestnut..... *castanilius*, p. 80.

1. Micrastur semitorquatus.

Negriblanco, *Azara, Apunt.* i. p. 124 (1802).
Faxado, *Azara, Apunt.* i. p. 126 (1802).
Sparvius semitorquatus, *Vieill. N. Dict. d'Hist. Nat.* p. 322 (1817).
Falco leucomelas, *Licht. Verz. Doubl.* p. 62 (1823, *ex Illiger, MS.*).
Falco brachypterus, *Temm. Pl. Col.* i. pls. 116, 141 (1824).
Astur brachypterus, *Spix, Av. Bras.* i. p. 9 (1824).
Nisus brachypterus, *Less. Man. d'Orn.* i. p. 98 (1828); *Schl. Mus. P.-B.* Astures, p. 52 (1862).
Carnifex naso, *Less. Rev. Zool.* 1842, p. 379.
Micrastur brachypterus, *Gray, List Gen. B.* p. 6 (1841); *id. Gen. B.* i. p. 28, pl. 10. fig. 1 (1849); *Bp. Consp.* i. p. 30 (1850); *Pelz. Reis. Nov. Vög.* p. 12 (1865); *Gray, Hand-l. B.* i. p. 31 (1869); *Pelz. Orn. Bras.* pp. 7, 398 (1871).
Falco percontator, *Cabot, Bost. Journ. N. H.* iv. p. 462 (1844).
Herpetotheres brachypterus, *Kaup, Contr. Orn.* 1850, p. 71.
Rhynchomegus brachypterus, *Bp. Rev. et Mag. de Zool.* 1854, p. 537.
Micrastur semitorquatus, *Strickl. Orn. Syn.* p. 122 (1855); *Scl. & Salv. P. Z. S.* 1869, p. 365.
Climacocercus semitorquatus, *Cab. J. f. O.* 1865, p. 407.

Young. Above dull chocolate-brown; the crown and sides of face uniform; the ear-coverts slightly fulvescent near the base; back and wing-coverts barred and slightly tipped with pale tawny rufous; collar round neck rufous buff, mottled with dark brown; quills brown, like back, and barred with rufous in same manner; upper tail-coverts brown, barred across with rufous white; tail brown, narrowly tipped with white and crossed with six bands of white washed with rufous; under surface of body white; the throat unspotted; the breast thickly barred with brown strongly washed with rufous, becoming broader and blacker on the flanks, thighs, and under tail-coverts; under wing-coverts white, spotted and barred with dark brown like the breast.

Adult. Head and upper surface of body blackish, as well as a line drawn down the side of the face along the hinder margin of the ear-coverts; sides of face, a collar round the hind neck, and entire under parts pale ochreous fawn, including the under wing- and tail-coverts; the hind neck with a few blackish cross markings; quills uniform with back, the primaries a little browner externally, all barred with white on the inner web; upper tail-coverts blackish, barred and tipped with white; tail blackish, tipped with white and crossed with three bands of white, not strictly conterminous on outer feathers. Total length 20 inches, culmen 1·4, wing 10·4, tail 10·3, tarsus 3·25.

Obs. Very old birds appear to become quite white below and to have a white collar.

Hab. Sparingly distributed through central America from Southern Mexico and Yucatan, throughout New Granada and the countries south of the Orinoco, and all Brazil to Paraguay and Rio, not occurring in Western Amazonia.

a. Ad. st.	Bahia.	Sudbury Museum.
b. Juv. st.	Bahia.	Sudbury Museum.
c. Juv. st.	Brazil.	Purchased.
d. Ad. st.	New Granada.	Purchased.
e. Ad. st.	Mexico.	Purchased.
f. Juv. st.	S. America.	Zoological Society.

2. Micrastur mirandollei.

Astur mirandollei, *Schl. Nederl. Tijdschr.* i. p. 131 (1863); *id. Mus. P.-B.* Astures, p. 27 (1862).
Micrastur macrorhynchus, *Pelz. Reis. Nov. Vög.* p. 11 (1865, *ex Natt. MS.*); *id. Orn. Bras.* p. 7 (1871).
Micrastur mirandollei, *Scl. & Salv. P. Z. S.* 1869, p. 365; *Gray, Hand-l. B.* i. p. 31 (1869).

Adult female (type of species). Above uniform clear slate-colour, the fore part of the ear-coverts inclining to whitish at the base of the plumes; head darker slate-colour than the back; quills brown, barred above with ashy brown and below with ashy white; tail black, tipped with ashy and crossed with three bands of ashy brown above, whitish below, with an ill-defined line of white visible even on upper surface; entire under surface of body silky white, with a very faint greyish lustre on the throat, and a few obsolete greyish bars on the sides of the breast; some of the flank-feathers with a black shaft-stripe fading into white towards the tip; under wing-coverts white, the lower ones as well as the bases of the quills broadly barred with black; bill horn-black, yellow at base of both mandibles; feet yellowish. Total length 17·5 inches, culmen 1·25, wing 9·8, tail 8·2, tarsus 2·9. (*Mus. Lugd.*)

Hab. Amazonia and Guiana.

3. Micrastur ruficollis.

Sparvius ruficollis, *Vieill. N. Dict. d'Hist. Nat.* x. p. 322 (1817); *Pucher. Rev. et Mag. de Zool.* 1850, p. 91.
Falco leucauchen, *Temm. Pl. Col.* i. pl. 36 (1823).
Falco xanthothorax, *Temm. Pl. Col.* i. pl. 92 (1824); *Spix, Av. Bras.* i. p. 19 (1824).
Astur xanthothorax, *Vig. Zool. Journ.* i. p. 338 (1824).
Nisus xanthothorax, *Less. Man. d'Orn.* i. p. 96 (1828); *Schl. Mus. P.-B.* Astures, p. 50 (1862).
Astur leucauchen, *Less. Man. d'Orn.* i. p. 94 (1828).
Nisus leucauchen, *Less. Traité*, p. 60 (1831).
Micrastur xanthothorax, *Gray, Cat. Accipitr.* p. 69 (1848); *Cass. Proc. Phil. Ac.* 1848, p. 88; *Gray, Gen. B.* i. p. 28 (1849); *Bp. Consp.* i. p. 30 (1850); *Strickl. Orn. Syn.* p. 122 (1855); *Gray, Hand-l. B.* i. p. 31 (1869); *Scl. & Salv. P. Z. S.* 1869, p. 366.
Micrastur leucauchen, *Gray, Cat. Accipitr.* 1848, p. 69; *Cass. Pr. Phil. Acad.* 1848, p. 88; *Strickl. Orn. Syn.* p. 123 (1855); *Gray, Hand-l. B.* i. p. 31 (1869); *Scl. & Salv. P. Z. S.* 1869, p. 367.

Herpetotheres xanthothorax, *Kaup, Contr. Orn.* 1850, p. 71.
Climacocercus xanthothorax, *Burm. Th. Bras.* ii. p. 85 (1855).
Climacocercus ruficollis, *Cab. J. f. O.* 1865, p. 40.
Micrastur gilvicollis (ad.), *Pelz. Reis. Nov. Vög.* p. 10 (1865, *teste Scl. & Salv.*).
Nisus ruficollis, *Schl. Mus. P.-B. Revue Accipitr.* p. 98 (1873).

Young. Head uniform dull brown, a distinct eyebrow and sides of face whitish; the hinder margin of ear-coverts distinctly brown, below which a circular line of whitish feathers forming an imperfect ruff; sides of neck dull rufous brown, the nape much mottled with white; upper surface of body dull rufous brown, with numerous spots and half bars of white or rufous white, more distinct on the wing-coverts, and very large on the upper tail-coverts; quills brown, barred on both webs with dull rufous, inclining to white on innermost secondaries; under surface of quills with broad white bars on inner webs, tinged with rufous on the primaries; tail black, tipped with white and crossed with four irregular but distinct bars of white; under surface of body buffy white, crossed with numerous wavy lines of brown, gradually disappearing towards the abdomen, a little broader on upper breast, where they are tinged with rufous; under wing-coverts uniform white.

Adult male (*M. leucauchen*). Above dull slate-colour, the sides of the face and neck also slaty grey, but a little paler than the upper surface; quills brown above, ashy brown below, barred with white on inner web; upper tail-coverts slate-colour, like back; tail blackish, tipped with buffy white, and crossed with three whitish bands, these shaded with ashy on the external feathers; under surface of body greyish white, the throat unbarred; but all the rest, excepting the fore neck, which is dull orange-rufous, with numerous bars of greyish black, becoming narrower on thighs and abdomen. Total length 13 inches, wing 6·9, tail 6·8, tarsus 2·45.

Adult female. Head uniform greyish brown, with a slight olive tinge on the forehead; rest of upper surface brownish rufous, brighter and more orange-coloured on the back and sides of neck, thence extending across the chest; sides of face dull rufous, the cheeks brownish, the ear-coverts whitish at base and washed with grey along their upper margin; an imperfect ruff of circular feathers dull rufous also; throat whitish, washed with rufous; rest of under surface, including under wing- and tail-coverts, white, numerously barred with greyish black, the bars on the upper breast broader and tinged with rufous; quills brown, with rufous shafts, and externally washed with rufous, and broadly barred on the inner web with white; tail dark brown, washed with rufous near the base, tipped with white and crossed with four narrow and not strictly conterminous white bars. Total length 13·5 inches, culmen 0·9, wing 7·65, tail 7·4, tarsus 2·6.

Hab. Eastern South America; Venezuela and Guiana; Central Brazil as far as Rio, between about 10° S. lat. and the Tropic of Capricorn.

a. ♀ ad. sk.	S. America.	
b. Juv. st.	S. America.	J. Gould, Esq. [P.].
c. Ad. st.	S. America.	Zoological Society.
d. Ad. st.	Brazil.	Purchased.
e. Ad. sk.	Brazil.	R. B. Sharpe, Esq. [P.].
f. Juv. sk.	Bahia.	Purchased.
g, *h*. ♂ ad. sk.	Bahia.	Dr. Wucherer [C.].
i. ♀ ad. sk.	Bahia.	Dr. Wucherer [C.].

4. Micrastur gilvicollis.

Sparvius gilvicollis, *Vieill. N. Dict. d'Hist. Nat.* x. p. 323 (1817); *Pucher. Rev. et Mag. de Zool.* 1850, p. 91.
Nisus concentricus, *Less. Traité*, p. 60 (1831, *ex Illiger, MS.*); *Schl. Mus. P.-B.* Astures, p. 51 (1862).
Climacocercus concentricus, *Cab. in Tsch. Faun. Peruan. Vög.* p. 98 (1844); *id. in Schomb. Reis. Guian.* p. 738 (1848); *Burm. Th. Bras.* ii. p. 86 (1855).
Micrastur concentricus, *Gray, Gen. B.* p. 28 (1849); *Bp. Consp.* i. p. 30 (1850); *Strickl. Orn. Syn.* p. 123 (1850); *Pelz. Orn. Bras.* pp. 7, 399 (1871).
Herpetotheres concentricus, *Kaup, Contr. Orn.* 1850, p. 71.
Climacocercus gilvicollis, *Cab. J. f. O.* 1865, p. 407.
Micrastur gilvicollis, *Pelz. Reis. Nov. Vög.* p. 10 (1865); *Scl. & Salv. P. Z. S.* 1869, p. 368; *Gray, Hand-l. B.* i. p. 31 (1869); *Pelz. Orn. Bras.* pp. 7, 399 (1871).

Adult female. Above blackish, with a very slight shade of brown in some lights, the upper tail-coverts slightly spotted with white near the base; frontal feathers and cheeks whitish, the hinder margin of ear-coverts blackish, behind this an imperfect ruff, the feathers composing which have white bases; quills a little browner than the back, barred on inner web with white; tail black, tipped with white and crossed with four irregular white bars; under surface of body white, the throat unspotted, the remainder crossed with numerous wavy lines of blackish brown, with a faint fulvous tinge on upper breast, the bars gradually disappearing towards the abdomen and under tail-coverts, and very slightly indicated on under wing-coverts. Total length 14·5 inches, culmen 1, wing 7·15, tail 7·3, tarsus 2·45.

Adult male. Above dull ashy brown, clearer on the head and sides of the face; quills coloured like the back, a little browner externally, and barred with white on the inner web; tail blackish, very slightly tipped with white, and crossed with four white bands (three on central tail-feathers); under surface of body dull white, the throat entirely of this colour, the breast minutely barred with wavy lines of greyish black, the sides of the upper breast washed with ashy, and the bars gradually decreasing on the abdomen, thighs, and under wing- and tail-coverts. Total length 13·5 inches, wing 6·6, tail 6·5, tarsus 1·2.

Hab. S. America, from New Granada and the countries south of the Orinoco, throughout the whole of Amazonia to Peru, and through Brazil to a little below 20° S. lat.

a. ♀ ad. sk.	Capim River.	A. R. Wallace, Esq. [C.].
b. ♂ ad. sk.	Pará.	A. R. Wallace, Esq. [C.].
c. ♂ ad. sk.	Bogotá.	Purchased.
d. Juv. sk.	Bogotá.	Purchased.
e. ♀ ad. sk.	Trinidad.	Purchased.

5. Micrastur guerilla.

Micrastur guerilla, *Cass. Proc. Phil. Acad.* 1848, p. 87; *Gray, Gen. B.* i. p. 28 (1849); *Bp. Consp.* i. p. 30 (1850); *Cass. Journ. Phil. Acad.* i. pl. xl. (1850); *Strickl. Orn. Syn.* p. 123 (1855); *Gray, Hand-l. B.* i. p. 31 (1869); *Scl. & Salv. P. Z. S.* 1869, p. 368.
Micrastur concentricus, *Scl. P. Z. S.* 1856, p. 285.
Micrastur gilvicollis, *Scl. & Salv. Ibis*, 1859, p. 218.
Micrastur xanthothorax, *Scl. P. Z. S.* 1859, p. 358.

Young. Head blackish; back deep blackish brown, shaded with chocolate, especially on wing-coverts, crossed with small and nearly obsolete bars of dull rufous; feathers of nape and sides of neck white in their centres, forming a conspicuous ruff; sides of face blackish brown; cheeks white at base of feathers; throat and fore neck white; rest of under surface buffy white, crossed with brown bars, decreasing in extent towards thighs and abdomen, very minute on under wing-coverts, and absent on under tail-coverts; quills uniform with back and obsoletely barred with rufous in the same manner, broadly barred with white on inner web below; upper tail-coverts uniform with back, the lower ones spotted with white; tail blackish, tipped with white, and crossed with five irregular bands of white.

Adult male. Above uniform blackish slate-colour, the sides of the face uniform with the head, outermost greater wing-coverts washed with brown; primary coverts and quills dull brown, barred with white on inner web, the primaries only near the base; tail blackish, tipped with buffy white, and crossed with three irregular whitish bands; throat and cheeks pale grey; rest of under surface dull white, thickly barred with greyish black, the bars very close-set on the breast, and much wider apart on the abdomen, thighs, and under tail-coverts. Total length 14 inches, culmen 0·95, wing 6·95, tail 6·9, tarsus 2·4.

Adult female. Similar to male, but more broadly barred underneath; the back chocolate-brown like the wings, the blackish-grey head contrasting plainly. Total length 14 inches, wing 7·3, tail 7·25, tarsus 2·5.

Hab. The whole of Central America, from Southern Mexico to Panama, extending into Ecuador.

a. ♂ ad. st.	Mexico.	Purchased.
b. ♀ ad. sk.	Jalapa.	R. De Oca [C.].
c. ♂ juv. sk.	Jalapa.	R. De Oca [C.].

6. Micrastur zonothorax.

Climacocercus zonothorax, *Cab. J. f. O.* 1865, p. 406.
Micrastur zonothorax, *Scl. & Salv. P. Z. S.* 1869, p. 366; *Gray, Hand-l. B.* i. p. 31 (1869).

Adult (type of species). Above chocolate-brown, the head a little

more ashy; sides of face and of neck and entire throat ashy brown; wings uniform with the back; primaries a little darker brown, the secondaries barred with white on the inner web, as also are the primaries near the base; upper tail-coverts ashy brown with white cross bars; tail blackish, narrowly tipped with white and crossed with three narrow white bands; entire under surface of body thickly barred with black and white, including the under wing- and tail-coverts. Total length 16 inches, culmen 1·05, wing 7·1; tail 7·1, tarsus 2·35. (*Mus. Berol.*)

Hab. New Granada and Venezuela.

7. Micrastur castanilius.

Accipiter castanilius, *Bp. Rev. Zool.* 1853, p. 578; *Scl. P. Z. S.* 1866, p. 304; *Scl. & Salv. Ex. Orn.* pl. xviii. (1867).
Micrastur castanilius, *Gray, Hand-l. B.* i. p. 31 (1869).
Nisus castanilius, *Giebel, Thes. Orn.* p. 263 (1872).

Adult. Above slate-colour, the head lighter and more slaty blue, the ear-coverts and cheeks uniform with the crown; throat white, slightly varied with ashy cross bars; centre of the body banded alternately with white and bright chestnut, some of the bars of the latter also margined with ashy grey; entire sides of the body, including the flanks and thighs, bright chestnut; lower abdomen and under wing- and tail-coverts white, with a few indistinct bars of ashy; quills brown, barred above with darker brown, the under surface white near the base, ashy towards the tips, against which the cross bars show plainly; tail brown, obscurely crossed with three bands of blackish brown, tipped with white and largely spotted with white on the inner web, forming two ill-defined bars, a little more indistinct on the under surface, which is altogether lighter; bill black; feet yellow, claws horn-brown. Total length 11 inches, culmen 0·85, wing 6·1, tail 5·5, tarsus 2·1.

Hab. New Granada.

a. Ad. st. S. America. Purchased.

18. GERANOSPIZIAS.

	Type.
Ischnosceles, *Strickl. Ann. N. H.* xiii. p. 409 (1844, *nec Burm.*)	G. cærulescens.
Geranospiza, *Kaup, Isis*, 1847, p. 183	G. cærulescens.
Geranopus, *Kaup, Contr. Orn.* 1850, p. 65	G. cærulescens.
Geranospizias, *Sundev. Av. Tent.* p. 107 (1873)	G. cærulescens.

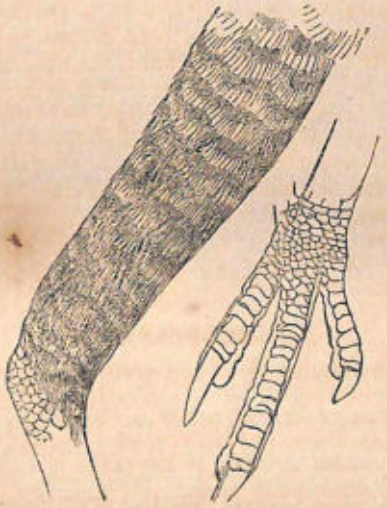
Range. Throughout Central America from Southern Mexico to Panama, and in South America occurring in Ecuador, Guiana, and Amazonia westwards to about 70° W. long., and throughout Southern Brazil into Bolivia.

Key to the Species.

a. General colour slaty blue, with a few white cross bars below ..... *cærulescens*, p. 81.
b. Slaty black, almost entirely uniform ..... *niger*, p. 82.

1. Geranospizias cærulescens.

Aplomado, *Azara*, *Apunt.* i. p. 101 (1802).
Sparvius cærulescens, *Vieill. N. Dict. d'Hist. Nat.* x. p. 318 (1817); *Pucher. Rev. Zool.* 1850, p. 90.
Falco hemidactylus, *Temm. Pl. Col.* i. pl. 3 (1820); *Max. Beitr.* iii. p. 97 (1830).
Falco gracilis, *Temm. Pl. Col.* i. pl. 91 (1824).
Astur hemidactylus, *Vig. Zool. Journ.* i. p. 338 (1824).
Astur gracilis, *Vig. Zool. Journ.* i. p. 338 (1824).
Nisus gracilis, *Less. Man. d'Orn.* i. p. 96 (1828); *Burm. Th. Bras.* ii. p. 124 (1855).
Nisus hemidactylus, *Less. Man.* i. p. 96 (1828); *D'Orb. Voy. Am. Mér.* p. 86 (1835); *Schl. Mus. P.-B.* Astures, p. 53 (1862).
Ischnosceles gracilis, *Strickl. Ann. N. H.* xiii. p. 409 (1844); *id. Orn. Syn.* p. 124 (1855).
Geranospiza gracilis, *Kaup, Isis*, 1847, p. 183; *Gray, Cat. Accipitr.* 1848, p. 68; *id. Gen. B.* p. 28 (1849); *Bp. Consp.* i. p. 30 (1850).
Ischnosceles hemidactylus, *Hartl. Ind. Azara*, p. 2; *Gray, Gen. B.* i. pl. 10. fig. 6 (1849).
Geranopus gracilis, *Kaup, Contr. Orn.* 1850, p. 65; *Pelz. Orn. Bras.* pp. 7, 398 (1871).
Ischnosceles cærulescens, *Strickl. Orn. Syn.* p. 124 (1855).
Geranopus hemidactylus, *Pelz. Orn. Bras.* pp. 7, 398 (1871).
Geranospizias hemidactylus, *Sund. Av. Tent.* p. 107 (1873).



Tibia and foot of *G. cærulescens*.

Adult male (type of *G. hemidactylus*). Above slaty blue, the nape slightly mottled with white, the upper tail-coverts also spotted with white on the outer web; sides of head and neck and entire under surface bluish grey like the back, with slight remains of whitish cross bars on the upper part of thighs and lower under tail-coverts, the rest of the latter white at base, shading into ochraceous, with an

indistinct subterminal bar of blackish; under wing-coverts slaty blue, with irregular white cross markings; quills black, the secondaries slaty blue like the back, the first five primaries with a large white spot on the inner web, becoming obsolete on the fifth; tail ochraceous, crossed with two broad bands of black, and mottled on outer web with greyish; on the middle tail-feather the interspaces white mottled with grey; bill bluish, the culmen black; legs and feet red; iris red. Total length 16·5 inches, culmen 0·8, wing 9·7, tail 8, tarsus 2·8. (*Mus. Lugd.*)

Female (not quite adult, fig. in Pl. Col. 91). Similar to male but barred with whitish on underparts; sides of face and throat whitish, streaked with slaty blue; tail ochre, with three black bands, the lower one imperfect, the middle feathers fresh moulted, and, as in the old male, having the interspaces white, mottled with ashy grey. Total length 20·5 inches, wing 12·9, tail 10·2, tarsus 3·8. (*Mus. Lugd.*)

Young. Upper surface pale bluish ash-colour, with remains of white transverse barring on the crown, sides of face, and lower back; upper surface of wing crossed with numerous white transverse bars, reduced to whitish vermiculations on the secondaries, which are also rather broadly tipped with white; quills black, with ashy grey cross bars, slightly mottled with white on inner web; lower surface of quills black, primaries barred and secondaries vermiculated with white on inner web; tail ochraceous fawn, tipped with ashy white and crossed with two broad bands of black, the centre feathers having remains of a third and basal band, the median band not continuous on the two outer feathers; throat whitish, mottled with ashy grey; rest of under surface ashy grey, transversely banded with white, the bars very broad on the flanks and narrower on the thighs.

Hab. The same as that of the genus as regards South America only.

a. ♂ ad. st.	Island of Puna.	G. Barclay, Esq. [P.].
b. Vix ad. st.	Buenos Ayres.	Purchased.
c. ♀ juv. st.	Bolivia.	Mr. Brydges [C.].
d. ♂ juv. st.	S. America.	Purchased.

2. Geranospizias niger.

Ischnosceles niger, *Du Bus, Bull. Acad. Roy. Brux.* xiv. p. 102 (1847); *id. Esq. Orn.* pl. 16 (1848); *Strickl. Orn. Syn.* p. 125 (1855).
Geranospiza nigra, *Gray, Gen. B.* p. 28 (1849); *Bp. Consp.* i. p. 30 (1850).
Ischnoscelis aterrimus, *Licht. Nomencl. Av.* p. 4 (1854).
Geranospiza gracilis, *Scl. P. Z. S.* 1856, p. 284.
Geranospiza cærulescens, *Scl. & Salv. Ibis*, 1859, p. 218.

Adult. Everywhere slaty black, the remains of narrow white bars visible only on the under wing-coverts and thigh-feathers; the under tail-coverts buff at the base and tips; quills slaty black, the white bar on the lower surface so conspicuous in the young stage reduced to a large spot of white on the seven outer primaries, diminishing gradually in size towards the innermost of these; tail buff, crossed with two broad bands of black, the buff-coloured median bar shaded

with brown on the outer feathers; cere black; bill black, with a yellow spot on lower mandible; legs blood-orange; iris burnt-sienna, the outer portion lighter-coloured. Total length 19 inches, culmen 1·4, wing 12·3, tail 9·8, tarsus 3·6.

Hab. Central America, from Southern Mexico to Panama.

a. Ad. st. Mexico. Purchased.

19. UROTRIORCHIS*.

Range. Western Africa, from the Gold Coast to Gaboon.

1. Urotriorchis macrurus.

Astur macrurus, *Hartl. J. f. O.* 1855, p. 353 (*ex Temm. MS. in Mus. Lugd.*); *Hartl. Orn. W.-Afr.* p. 11 (1857); *id. J. f. O.* 1861, p. 100; *Schl. Mus. P.-B.* Astures, p. 25 (1862); *id. Ned. Tijdschr.* ii. p. 155 (1864); *Gray, Hand-l. B.* i. p. 29 (1869); *Sharpe, Ibis*, 1870, p. 58, pl. iii.; *Schl. Revue Accipitr.* p. 66 (1873).

Micrastur macrurus, *Cass. Pr. Phil. Acad.* 1859, p. 33; *Du Chaillu, Eq. Afr.* p. 472 (1861).

Young (type of species). General colour clear sepia-brown, the nape, hind neck, and bases of scapulars varied with white, and the upper tail-coverts barred and broadly tipped with white; ear-coverts brown, tinged, as well as the eyebrows, with rufous; cheeks slightly streaked with white; quills brown, barred with darker brown, and narrowly tipped with ochraceous white, the secondaries slightly margined and tinged with pale ochre on inner web, the bars plainer on under surface of wing, where the quills are white at base, ashy white at tip; tail ashy brown, tipped with white and crossed with five bands of dark sepia-brown, each bar rufescent and whitish on lower margin; under surface of body white, the throat and chest with dark brown streaks, becoming oval spots on the breast and bars on the flanks and thighs; under wing- and tail-coverts white, with a large subterminal spot of black. Total length 23·5 inches, culmen 1·4, wing 12·4, tail 14·2, tarsus 3·4, middle toe 1·9. (*Mus. Lugd.*)

Adult female. Above slaty grey, much clearer on the head and upper back; upper tail-coverts white; tail very long, blackish tipped with white, and marked with four spots of white besides, scarcely amounting to incontinuous bars; quills dark brown above, imperceptibly banded with blackish, the under surface paler and more ashy white, against which the bars show more strongly; sides of face and of neck as well as the throat clear slaty grey, the chin whitish; rest of under surface deep vinous chestnut, the under tail-coverts white; bill leaden black; feet orange-yellow, claws black; iris orange. Total length 24 inches, culmen 1·5, wing 12·1, tail 14, tarsus 3·1.

Adult male. Above blue-grey, lighter on the head and nape; upper tail-coverts pure white, forming a conspicuous patch; quills externally deep brownish grey, with broad obscure black bands;

* οὐρά, *cauda*, τριόρχης, *avis accipitrina*.

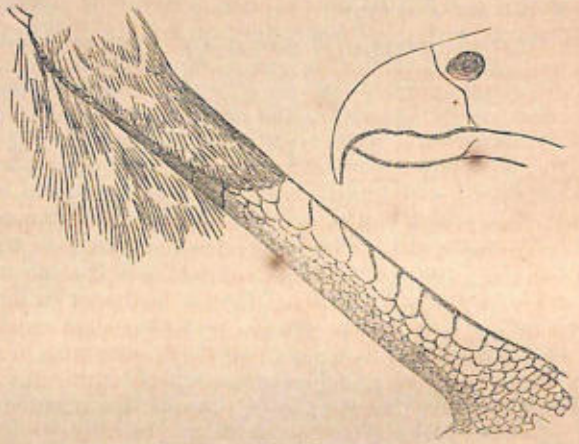
beneath a little paler grey, pure white at base, banded with brownish grey, these bands being very narrow at the base of the quill, and gradually getting broader towards the tip of the feather; tail very long and graduated, black above, paler blackish grey beneath, all the feathers irregularly banded and broadly tipped with white, the bands at the base of the middle feather slightly narrower; throat whitish; rest of under surface of body, with the under wing-coverts, dull leaden grey; vent and under tail-coverts white; feathers of leg dull grey; bill black; feet yellow, claws black. Total length 24 inches, culmen 1·4, wing 12, tail 13, tarsus 3, middle toe 1·8, hind toe 1.

Hab. The same as that of the genus.

a. ♀ ad. sk. Denkera (*Ussher*). Capt. G. E. Shelley [P.].

20. ERYTHROCNEMA*.

Urubitinga, *auct. recent. (ex Less. err.)*.
Craxirex, *Bp. et auct. Amer. passim (nec Gould)*.



Bill and tarsus of *Erythrocnema unicincta*.

Range. South America, from Chili on the western coast and the neighbourhood of Buenos Ayres on the eastern, throughout the entire continent and Central America into Texas, California, and Arizona in North America.

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* ἐρυθρὸς, *rufus*; κνήμη, *tibia*.

It is probably owing to the difficulty of consulting Lesson's portion of the 'Compléments de Buffon' that this bird has always been referred to a supposed genus *Urubitinga* of that author. On looking at vol. vii. (p. 64) it will be seen that he speaks of "Les Urubitinga," but by no means intends the word in a generic sense. *Craxirex* of Gould is founded on the Buzzard of the Galapagos, which is one of the large-billed *Buteones* of the *B. erythronotus* group (*vide infrà*). Although by most American authors placed along with the *Polybori*, the type of this new genus appears to me closer to *Astur*, and to replace *Melierax* in the New World.

1. Erythrocnema unicincta.

Gavilan mixto obscuro y canela, *Azara, Apunt.* i. p. 94 (1802); *Hartl. Ind. Azara*, p. 2 (1847).
Falco unicinctus, *Temm. Pl. Col.* i. pl. 313 (1824).
Morphnus unicinctus, *Less. Man.* i. p. 90 (1828).
Astur unicinctus, *Cuv. Règne An.* i. p. 332 (1829); *Gray, Gen. B.* i. p. 27 (1849); *Strickl. Orn. Syn.* p. 221 (1855).
Nisus unicinctus, *Less. Traité*, p. 61 (1831).
Falco harrisii, *Aud. B. N. Am.* pl. 392 (1831); *id. Orn. Biogr.* v. p. 30 (1849).
Buteo harrisii, *Bp. Comp. List B. Eur. & N. Am.* p. 3 (1838); *Audub. Syn. B. N. Am.* p. 5 (1839).
Buteo unicinctus, *Gray, Cat. Accipitr.* 1844, p. 18; *id. Hand-l.* i. p. 7 (1869).
Polyborus tæniurus, *Tschudi, Arch. f. Naturg.* 1844, p. 263; *id. Faun. Peruan.* pl. 1 (1844).
Hypomorphnus unicinctus, *Cab. Arch. f. Naturg.* 1844, p. 221; *Cab. & Tschudi, Faun. Peruan.* pp. 17, 85 (1844).
Spizageranus unicinctus, *Kaup, Mus. Senck.* iii. p. 260 (1845); *Scl. P. Z. S.* 1860, p. 288.
Craxirex unicinctus, *Bp. Rev. et Mag. de Zool.* 1854, p. 537.
Asturina unicincta, *Burm. Th. Bras.* ii. p. 82 (1855); *id. Reis. La Plata-St.* ii. p. 436 (1861); *Schl. Mus. P.-B.* Asturinæ, p. 2 (1862).
Urubitinga unicincta, *Scl. P. Z. S.* 1858, p. 150; *Pelz. Orn. Bras.* pp. 2, 394 (1871).
Craxirex harrisii, *Coues, Pr. Phil. Acad.* 1866, p. 49; *Cooper, B. Calif. ed. Baird*, p. 493 (1870).
Buteo unicinctus, var. harrisii, *Coues, Key N. A. Birds*, p. 215 (1872).

Young. Brown with rufous margins to the feathers, especially on the head, forming a distinct eyebrow; lores and feathers below the eye whitish; sides of face and neck behind, as well as on the sides, rufous ochre, with brown centres to the feathers; wing-coverts plainly margined with rufous, the greater and median series largely varied with rufous ochre spots and half bars; primaries brown, externally shaded with grey, the secondaries paler with rufescent tips, all barred with darker brown, plainer towards tips of inner webs on under surface, which is creamy shading into ashy white; upper tail-coverts ochraceous white, with a few small spots of brown; tail brown, rufescent on the inner web, tipped broadly with pale rufous shading into buffy white, and crossed with sixteen or seventeen bands of darker brown; under surface of body rich ochre, the throat sparsely streaked with dark brown, the breast with large oval drops, inclining to arrow-shaped marks on the flanks and nearly absent on the vent and under tail-coverts; thighs very narrowly crossed with zigzag bars of dark brown.

Adult. Above dusky black, deeper on head; lores whitish; sides of face black, slightly streaked with white; under surface of body dusky black; thighs bright rufous; vent and under tail-coverts white; under wing-coverts rufous, slightly barred with black; upper wing-coverts dusky brown with rufous margins, especially on the least wing-coverts, which are rufous with brown centres; pri-

maries black, externally shaded with ashy grey; the secondaries browner, like the back, and tipped with whitish, the inner web of the quills white with brown mottlings; upper tail-coverts conspicuously creamy white; tail blackish brown, with a tolerably broad terminal band of white, the lower surface of tail somewhat paler, whitish near the base. Total length 23 inches, culmen 1·8, wing 14·6, tail 9·5, tarsus 3·8.

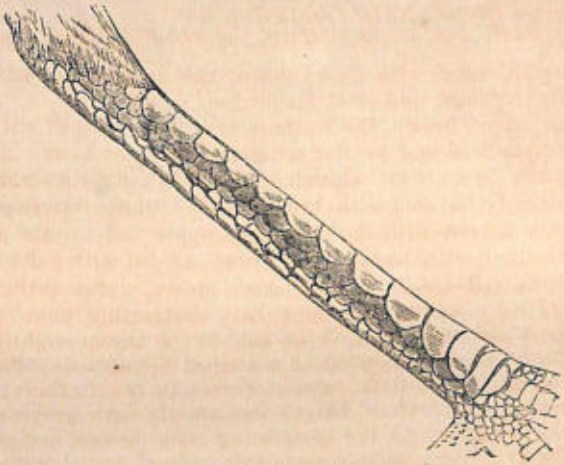
Hab. From the southernmost States of North America throughout Central and South America to Chili.

a. Ad. st.	Chili.	Mr. Bridges [C.].
b. ♂ ad. sk.	Santiago, Chili.	E. C. Reed, Esq. [C.].
c. ♀ juv. sk.	Santiago, Chili.	E. C. Reed, Esq. [C.].
d. Juv. st.	Valparaiso.	Sir W. Burnett and Admiral Fitzroy [P.].
e. Ad. st.	Buenos Ayres.	Purchased.
f. ♀ juv. sk.	Bahia.	Dr. Wucherer [C.].

21. MELIERAX.

Type.

Melierax, *Gray, List Gen. B.* i. p. 5 (1840) ..... M. canorus.



Tarsus of *Melierax polyzonus*.

Range. Over the whole of Africa, including the N.-African coast near Tangier, excepting the west coast between Senegambia and Angola.

Key to the Species.

a. Chest ashy grey; abdomen white, barred with greyish black.
a'. Middle tail-feathers not barred.
a''. Upper tail-coverts pure white.
a'''. Secondaries externally white ..... *canorus*, p. 87.

b'''. Secondaries ashy grey, tipped with white.. *poliopterus*, p. 88.
b''. Upper tail-coverts white, barred with slaty grey ..... *polyzonus* p. 88.
b'. Middle tail-feathers barred ..... *gabar*, p. 89.
b. Under surface entirely black ..... *niger*, p. 91.

1. Melierax canorus.

Falco canorus, *Rislach, in Thunb. Diss. Ac.* iii. p. 264 (1799).
Le Faucon chanteur, *Levaill. Ois. d'Afr.* i. p. 117, pl. 27 (1799); *Sundev. Crit.* p. 26 (1857).
Falco musicus, *Daud. Traité*, ii. p. 116 (1800).
Chanting Falcon, *Lath. Gen. Syn. Suppl.* ii. p. 40 (1802).
Nisus musicus, *Cuv. Règne, An.* i. p. 321 (1817).
Sparvius musicus, *Vieill. N. Dict. d'Hist. Nat.* x. p. 338 (1817).
Ierax musicus, *Cranch, App. Tuckey Exp. Congo*, p. 407 (1818).
Accipiter musicus, *Vig. Zool. Journ.* i. p. 338 (1824).
Nisus canorus, *Less. Traité*, p. 62 (1831).
Astur musicus, *Sw. Classif. B.* ii. p. 215 (1837); *Schl. Mus. P.-B.* Astures, p. 20 (1862).
Melierax musicus, *Gray, List Gen. B.* p. 5 (1840); *Bp. Consp.* i. p. 34 (1850); *Strickl. Orn. Syn.* p. 142 (1855); *Grill, Zool. Anteckn.* p. 49 (1858); *Layard, B. S. Afr.* p. 31 (1867); *Gray, Hand-l. B.* i. p. 36 (1869); *Anderss. B. Dam. Ld.* p. 26 (1872).
Melierax cantans, *Kaup, Isis*, 1847, p. 192.
Melierax canorus, *Finsch u. Hartl. Vög. Ostafr.* p. 92 (1870).

Nestling. Covered with dusky down, the head ornamented with extraordinarily long and erect filamentous down.

Young. Above brown, the feathers very faintly edged with paler brown, the median and greater wing-coverts paler brown than the back; quills dark brown, whitish at the base and for a considerable extent, slightly freckled with brown on the white interspaces, and indistinctly barred with dark brown; upper tail-coverts and tail white, mottled with brown; tail brown, tipped with paler and indistinctly barred across with blackish brown, under surface paler and more ashy white, the dark bars contrasting more plainly; hinder part and sides of neck as well as the throat slightly varied with white, giving somewhat of a striped appearance; chest pale brown, mottled with dark brown centres to the feathers; rest of under surface dull rufous, barred indistinctly with greyish brown and mottled with white, the spots being more distinct and ocellated on the flanks; under wing-coverts pale rufous, varied with white, the lower ones barred across with ashy grey; iris dark brown.

Adult. Above bluish ash-colour, darker on the head and sides of the face; the wing-coverts rather lighter, the greater ones whitish, more or less freckled or vermiculated with ashy grey; primaries black, inclining to ashy grey on the outer web; the secondaries white, more or less minutely freckled with ashy grey; the inner secondaries entirely grey, some of them washed with brown; upper tail-coverts and base of tail white, the latter somewhat freckled with ashy grey; tail greyish black above with a conspicuous white tip, the outer feather almost entirely white with remains of blackish bars, more especially on the outer web, the next feather white with

broad black bars, the white decreasing in extent towards the centre feathers; lores rufous, feathers in front of the eye black; throat and breast entirely bluish ash-colour; rest of the under surface white, thickly crossed with narrow wavy bars of greyish black; under wing- and tail-coverts almost entirely white, with only a few irregular wavy cross lines on the lower ones; cere bright brick-red; bill horn-colour, bright red at base; legs and feet vermilion-red; iris dark reddish brown. Total length 21 inches, culmen 1·55, wing 14·8, tail 11, tarsus 4·4.

Hab. South Africa, below 15° S. lat.

a. Juv. sk.	South Africa.	Sir A. Smith [C.].
b. Juv. sk.	South Africa.	J. Rocke, Esq. [P.].
c. Juv. st.	South Africa.	M. J. Verreaux [C.].
d. Ad. st.	Cape Colony.	Purchased.
e. Pull. st.	Karee River.	M. J. Verreaux [C.].
f. Ad. sk.	Damara Land.	Sir J. Alexander [C.].
g. Juv. sk.	Damara Land.	Sir J. Alexander [C.].

2. Melierax poliopterus.

Melierax poliopterus, *Cab. in Decken's Reis.* iii., *Vög.* p. 40 (1869); *Finsch u. Hartl. Vög. Ostafr.* p. 92 (1870).

Adult (type of species). Above dark slate-colour; hind neck, sides of face, entire throat and chest, and the whole of the wings light ashy grey; secondaries tipped with white; primaries black, externally shaded with ashy grey; upper tail-coverts white, the exterior basal ones narrowly barred with blackish; tail black, greyish at base of tail and tipped with white; lower surface of tail whitish; rest of under surface of body white, with narrow greyish black bars, the axillaries similar; lower under tail-coverts pure white; under wing-coverts white, with greyish black bars, somewhat narrower than on the breast. Total length 19 inches, culmen 1·6, wing 12·8, tail 9·2, tarsus 3·75. (*Mus. Berol.*)

Hab. Umba River, E. Africa.

3. Melierax polyzonus.

Astur musicus, *Vig. App. Denh. Trav.* p. 195 (1826).
Falco polyzonus, *Rüpp. N. Wirb.* p. 36, pl. 15 (1835).
Astur polyzonus, *Gray, Cat. Accipitr.* 1844, p. 31; *Schl. Mus. P.-B. Astures*, p. 21 (1862); *Heugl. Orn. N.O.-Afr.* p. 6 (1869).
Melierax polyzonus, *Rüpp. Syst. Uebers.* p. 12 (1845); *Bp. Consp.* i. p. 34 (1850); *Strickl. Orn. Syn.* p. 143 (1855); *Speke, Ibis*, 1860, p. 244; *Gray, Hand-l. B.* i. p. 36 (1869); *Finsch, Tr. Z. S.* vii. p. 208 (1870); *id. u. Hartl. Vög. Ostafr.* p. 90 (1870); *Blanf. Geol. & Zool. Abyss.* p. 291 (1870); *Gurney in Anderss. B. Dam. Ld.* p. 27 (1872).
Nisus polyzonus, *Ferr. et Gal. Voy. Abyss. Zool.* p. 179 (1847).
Melierax musicus, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 40 (1854); *Hartl. Orn. W.-Afr.* p. 12 (1857).

Young. Above pale earthy brown; the hind neck somewhat mottled and streaked with whitish; ear-coverts a little darker

brown; wing-coverts paler brown, with fulvous edgings to the feathers; quills brown, the primaries with a slight greyish shade externally, the secondaries paler and tipped with fulvous; the under surface of quills white for the greater part of their length, with zigzag bars of blackish, more pronounced below than above; tail brown above, banded with blackish brown; the feathers whitish on the inner web, increasing in extent towards the outer feathers, where it forms broad white bands; the under surface of the tail creamy white, with broad bands of brown; throat white, streaked with pale rufous; chest clouded with pale rufous, slightly mottled with whitish, the shafts of the feathers indicated by a dark brown line; rest of under surface whitish, crossed with numerous bars of pale rufous, narrower on the under wing- and tail-coverts.

Adult male. Above light bluish slate-colour, the sides of the face and region of the eye a little darker; lesser wing-coverts coloured like the back, the greater ones rather lighter and slightly freckled externally with white; primaries blackish, externally shaded with ashy grey; the secondaries pale greyish, freckled with white; the inner secondaries entirely grey, like the back, none of the quills barred; upper tail-coverts white, crossed with numerous bars of slaty grey; tail blackish, white at the immediate base and at the tips, the three outermost feathers plainly crossed with four white bands, the next more indistinctly, and the middle ones not at all barred; under surface of tail whitish, the bands very distinct; lores rufescent; throat and chest ashy grey; rest of the body white, minutely barred with ashy grey, scarcely less thickly on the under tail-coverts, but much fewer on the under wing-coverts, which are therefore purer white; cere vermilion; bill horn-black, vermilion at base; feet vermilion; iris pale umber-brown. Total length 20·5 inches, culmen 1·4, wing 12·5, tail 9, tarsus 3·5.

Adult female. A little larger than the male. Total length 21 inches, wing 13·4.

Hab. All N.E. Africa, extending right across the continent to Senegambia; once in Damara Land.

a. Ad. sk.	River Gambia.	Governor Rendall [C.].
b, c, d. Ad. sk.	Shoa.	Sir W. C. Harris [C.].
e. Ad. st.	Abyssinia.	
f. Juv. st.	Abyssinia.	Dr. E. Rüppell [C.].
g. Ad. st.	Abyssinia.	
h. Ad. sk.	Kordofan.	Consul Petherick [C.].
i. Juv. st.	White Nile.	F. Galton, Esq. [P.].
j, k. Ad. sk.	Bogos Land.	Herr Esler [C.].
l. Juv. sk.	Bogos Land.	Herr Esler [C.].
m. ♂ ad sk.	Amba, Samhar, Aug. 18, 1868.	W. T. Blanford, Esq. [C.].
n. Sternum.		W. T. Blanford, Esq. [P.].

4. Melierax gabar.

Le Gabar, *Levaill. Ois. d'Afr.* i. p. 136, pl. 33 (1799).
Falco gabar, *Daud. Traité*, ii. p. 87 (1800, *ex Levaill.*); *Bree, B. Eur.* i. p. 51 (1866).

Sparvius gabar, *Vieill. N. Dict. d'Hist. Nat.* x. p. 323 (1817).
Nisus gabar, *Cuv. Règne An.* i. p. 321 (1817); *Less. Traité*, p. 60 (1831); *Schl. Mus. P.-B.* Astures, p. 48 (1862); *Heugl. Orn. N.O.-Afr.* i. p. 73 (1869); *Finsch u. Hartl. Vög. Ostafr.* p. 86 (1870); *Finsch, Tr. Z. S.* vii. p. 207 (1870).
Sparvius leucorrhous, *Bonn. et Vieill. Enc. Méth.* iii. p. 1269 (1823).
Accipiter gabar, *Vig. Zool. Journ.* i. p. 338 (1824); *Smith, S.-Afr. Q. Journ.* i. p. 225 (1830); *Gray, Gen. B.* i. p. 29 (1849); *Strickl. & Scl. Contr. Orn.* 1852, p. 142; *Strickl. Orn. Syn.* p. 112 (1855); *Smith, Ibis*, 1868, p. 436; *Shelley, B. Egypt*, p. 186 (1872).
Accipiter erythrorhynchus, *Swains. B. W. Afr.* i. p. 121, *et Classif. B.* ii. p. 215 (1837).
Micronisus gabar, *Gray, List Gen. B.* p. 5 (1840); *Kaup, Classif. Säug. u. Vög.* p. 119 (1844), *et Contr. Orn.* 1850, p. 66; *Bp. Consp.* i. p. 33 (1850); *id. Rev. et Mag.* 1854, p. 538; *Grill, Zool. Anteckn.* p. 48 (1858); *Hartl. J. f. O.* 1861, p. 101; *Scl. Ibis*, 1864, p. 306; *Gray, Hand-l. B.* i. p. 35 (1869).
Astur gabar, *Schl. Rev. Crit.* p. v (1844); *Hartl. Orn. W.-Afr.* p. 13 (1857).
Micronisus niloticus, *Sundev. Œfv. K. Vet. Akad. Forh. Stockh.* 1850, p. 132.
Melierax gabar, *Hartl. Abhandl. Geb. Naturw. Hamb.* 1852, p. 15; *Layard, B. S. Afr.* p. 30 (1867); *Gurney, Ibis*, 1868, p. 145, *et* 1869, p. 288; *Anderss. B. Dam. Ld., ed. Gurney*, p. 28 (1872).
Accipiter sphenurus, *Strickl. P. Z. S.* 1853, p. 215 (*juv.*).
Micronisus gabarinus, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Astur micronisus, *Beaum. Naum.* 1856, p. 267.
Micronisus gabar, var. nilotica, *Heugl. Ibis*, 1861, p. 74.
Melierax niloticus, *Gurney, Ibis*, 1869, p. 289.
Nisus niloticus, *Blanf. Geol. & Zool. Abyss.* p. 292 (1870).

Adult male. Above ashy grey, a little darker on the sides of the face, inclining to blackish round the eye; wing-coverts and secondaries ashy grey like the back, the latter plainly tipped with white; the primaries brown, externally shaded with ashy grey, the inner ones tipped with white; all the quills barred with blackish, these bars being more distinct on the under surface of the wing, which is ashy white, shading into pure white at the base; rump blackish; upper tail-coverts white, forming a broad bar across the root of the tail; tail white at the immediate base, and tipped with the same colour, otherwise alternately banded with ashy brown and black, the black bars being four in number; the outer feathers paler, and the ashy cross bars more or less whitish; sides of face and neck, as well as the whole throat and chest, ashy grey; rest of the under surface white, transversely banded with ashy grey, the bars becoming thinner and more linear on the lower flanks and thigh-feathers; under tail-coverts white; under wing-coverts white, banded with ashy grey like the breast; cere reddish orange; bill dusky horn-colour, reddish at base; feet bright reddish orange; iris brilliant purple *. Total length 11·5 inches, culmen 0·85, wing 7·1, tail 5·9, tarsus 1·9.

Adult female. A little larger than the male. Total length 13·6 inches, wing 8·3, tarsus 2·1.

* According to Andersson. Von Heuglin gives it as scarlet.

Young. Brown, with rufous edgings to the feathers of the upper surface; quills and tail tipped with white, otherwise like the adult; crown of the head and neck much mottled with rufous; the nape slightly streaked with white; the ear-coverts rufous, slightly streaked with brown; throat and chest rufous, with very distinct streaks of dark brown down the centre of the feathers; rest of the under surface rufous white, narrowly banded with dark brown; the under tail-coverts buffy white, slightly marked with rufous; the under wing-coverts white, washed with rufous and mottled with brown; cere, base of bill, feet, and iris yellow.

*Hab.** Africa generally, except the west coast, from Sierra Leone to Angola. Said to occur sometimes in Southern Europe.

a. ♂ juv. st.	Latakoo, S. Africa.	M. J. Verreaux [C.].
b. ♀ ad. st.	Elephant River, S. Africa.	M. J. Verreaux [C.].
c. ♀ juv. st.	Sunday River, S.. Africa.	M. J. Verreaux [C.].
d. Juv. st.	South Africa.	S.-African Museum.
e. ♂ ad. st.	South Africa.	Zoological Society.
f. ♀ ad. sk.	South Africa.	
g, h. ♂ ad. sk.	Tete, Zambesi.	Dr. Livingstone [C.].
i. ♀ ad. sk.	Fifth Cataract of the Nile.	F. Galton, Esq. [C.].
j. ♀ juv. sk.	Kordofan, Aug. 20, 1848.	Consul Petherick [C.].
k. ♀ ad. sk.	Bogos Land.	Herr Esler [C.].
l. ♀ juv. sk.	Bogos Land.	Herr Esler [C.].
m. ♂ ad. sk.	Ailat, Samhar, June 29, 1868.	W. T. Blanford, Esq. [C.].
n. Sternum.		W. T. Blanford, Esq. [C.].

5. Melierax niger.

Sparvius niger, *Bonn. et Vieill. Enc. Méth.* iii. p. 1269 (1823); *Vieill. et Oud. Gal. des Ois.* i. pl. 22 (1825).

Nisus niger, *Cuv. Règne Anim.* i. p. 334 (1829); *Less. Traité*, p. 59 (1831); *Heugl. Orn. N.O.-Afr.* i. p. 74 (1869); *Blanf. Geol. & Zool. Abyss.* p. 293 (1870); *Finsch u. Hartl. Vög. Ostafr.* p. 89 (1870); *Finsch, Tr. Z. S.* vii. p. 207 (1870).

Accipiter niger, *Gould, Syn. B. Austr.* part 3 (1838); *Gray, Cat. Accipitr.* p. 37 (1844); *Strickl. Orn. Syn.* p. 113 (1855).

Falco carbonarius, *Licht. Verz. Vög. Kaffernl.* p. 11 (1842).

Circus maurus, *Rüpp. Syst. Uebers.* p. 12 (1845, *err.*).

Accipiter carbonarius, *Gray, Gen. of B.* i. p. 29 (1849); *Strickl. P. Z. S.* 1850, p. 215.

Micronisus niger, *Bp. Consp.* i. p. 33 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 538; *Heugl. Ibis*, 1861, p. 74; *Scl. Ibis*, 1864, p. 306; *Gray, Hand-l. B.* i. p. 35 (1869).

Astur niger, *Hartl. Orn. W.-Afr.* p. 14 (1857).

Micronisus miltopus, *Heugl. J. f. O.* 1861, p. 429.

Melierax niger, *Layard, B. S. Afr.* p. 31 (1867); *Anderss. B. Dam. Ld., ed. Gurney*, p. 29 (1872).

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* After careful comparison, I am not able to separate the northern and southern specimens of this bird specifically.

Adult male. Entirely black, the tail crossed with three, sometimes four, dusky irregular bars, brown above, whitish beneath; quills blackish brown, white beneath, with blackish cross bars more distinct below; cere cinnabar-red; bill black, the base cinnabar-red, as also the feet; iris scarlet. Total length 11·3 inches, culmen 0·75, wing 7·1, tail 5·4, tarsus 1·75.

Adult female. Similar to the male, but a little larger. Total length 13 inches, wing 8·1, tarsus 2·15.

Hab. The same as that of *M. gabar*.

a. Ad. st.	South Africa.	
b. Ad. st.	South Africa.	
c. Ad. sk.	South Africa.	South-African Museum.
d. Ad. sk.	Damara Land.	C. J. Andersson [C.].
e. ♂ ad. sk.	Kokai, Lebka, July 13, 1868.	W. T. Blanford, Esq. [C.].
f. Sternum.		W. T. Blanford, Esq. [C].

I have not had an opportunity of examining the following species:—

6. Melierax metabates.

Melierax metabates, *Heugl. Ibis*, 1861, p. 72.
Astur metabates, *Heugl. Orn. N.O.-Afr.* p. 63 (1869); *Gray, Hand-l. B.* i. p. 36 (1869).

Allied to *M. polyzonus*, but a little less, and differs in its more robust feet and bill, the former being yellow; the colour of the back darker; shoulder-feathers coloured like the back; the outer webs of the first tail-feather banded six or seven times; the tips of the lateral tail-feathers much more narrowly white; the moustachial region, as well as the region of the eye and the ear-coverts, uniform with the crown; cere and iris pale yellow. Total length of male scarcely 15 inches; bill from front 1·25, from gape 1·3, height of bill 8·5 (?1·5); wing 12; tail 7·5, middle toe and claw 2·4, hind toe and claw 1·7; tarsus 3·2 (French) inches. (*Von Heuglin.*)

Hab. White Nile.

This seems to me a very doubtful species, the characters brought forward by Dr. von Heuglin appearing to me to be characteristic of an old bird of *M. polyzonus*. The difference in the proportions of the two birds may ultimately turn out to be of importance; but I see no clearly distinguishing character at present.

22. ASTUR.

	Type.
Astur, *Lacép. Mém. de l'Inst.* iii. p. 505 (1801)	A. palumbarius.
Dædalion, *Sav. Descr. Egypte*, p. 267 (1809)	A. palumbarius.
Sparvius, *Vieill. Analyse*, p. 24 (1816)	A. palumbarius.
Tachyspiza, *Kaup, Class. Säug. u. Vög.* p. 116 (1844)	A. soloensis.
Lophospiza, *id. tom. cit.* p. 118 (1844)	A. trivirgatus.
Leucospiza, *id. tom. cit.* p. 119 (1844).....	A. novæ hollandiæ.
Scelospiza, *Kaup, Isis*, 1847, p. 173.....	A. franciscæ.



Head and foot of *A. palumbarius*.

Range. The whole of Europe, Asia, Africa, and Australia; Oceania as far as the Fiji Islands; all North America and the Brazilian sub-region of South America.

Key to the Species.

a. With a conspicuous line of white skirting the crown from above the hinder ear-coverts.
  a'. Underparts distinctly barred with greyish brown.
    a''. Larger: tarsus much shorter in proportion (♂ = 3·0, ♀ = 3·4) ..... *palumbarius*, 95.
    b''. Smaller: tarsus much longer in proportion (♂ = 3·15, ♀ = 3·7) ..... *hensti*, p. 97.
  b'. Underparts merely freckled with ashy, not barred *atricapillus*, p. 97.
b. Sides of crown uniform with crown itself.
  c'. No red nape-band.
    c''. Centre tail-feathers with large white spots on inner web.
      a'''. Underneath banded ..... *tachiro*, p. 99.
        α. Bars narrow; head slaty brown .. *tachiro*, p. 99.
        β. Bars broad; head bluish slaty; sides of body uniform rufous .... *macroscelides*, p. 100.
      b'''. Underneath uniform.
        *a*⁴. Thighs clear vinous ..... *toussenellii*, p. 101.
        *b*⁴. Thighs white ..... *trinotatus*, p. 101.
    d''. Central tail-feathers ashy grey or ashy brown, with no white spots on inner web.
      c'''. Axillaries and under surface rich vinous red, inclining to chestnut.
        *c*⁴. Larger: inner web of quills barred ..... *muelleri*, p. 102.
        *d*⁴. Smaller: inner web of quills nearly uniform *hiogaster*, p. 104.
      d'''. Axillaries pale salmon-rufous ..... *sylvestris*, p. 104.
      e'''. Axillaries pure white, buffy white, or white narrowly barred with rufous, greyish, or black.
        *e*⁴. Thighs white, barred with black; occipital crest distinct.

a^5. Uniform greyish above, chest rufous ..... *trivirgatus*, p. 105.
b^5. Above brown, head only grey; chest white, with blackish stripes ..... *griseiceps*, p. 106.
f^4. Thighs rufous buff, with narrow rufous bars.
c^5. Breast transversely barred ..... *brutus*, p. 107.
d^5. Breast uniform in centre, above uniform blackish ..... *tibialis*, p. 108.
g^4. Thighs uniform white, or at most only slightly barred with rufous.
e^5. Breast barred ..... *badius*, p. 109,
a^6. Much the largest; wing nearly 9 inches in length in ♂ .....*a. brevipes*, p. 111.
b^6. Smaller: wing in ♀ not exceeding 8·5 inches in either sex.
a^7. Delicate salmon-rufous below.
a^8. Larger (especially in ♀); dark bluish grey above; upper breast always barred .....*β. badius*, p. 109.
b^8. Smaller and much clearer bluish grey.
a^9. Upper breast becoming uniform with age....*γ. sphenurus*, p. 112.
b^9. Lower surface of body broadly barred with vinous red..*δ. poliopsis*, p. 110.
b^7. Dull rufous underneath, never so clear as in the other species..*ε. polyzonoides*, p. 113.
f^5. Breast entirely uniform (with a few faint irregular bars in *A. cinereus*).
c^6. Lower breast and upper abdomen rufescent.
c^7. Lower surface of body and thighs vinous chestnut; under wing-coverts whitish, with a distinct tinge of buff ..... *soloensis*, p. 114.
d^7. Lower surface of body pale rufous mixed with ashy; thighs white, slightly mottled with greyish; under wing-coverts pure white ..... *cuculoides*, p. 115.
d^6. Lower breast and abdomen pure white.
e^7. Ear-coverts ashy grey, or white washed with ashy grey.
c^8. Tail ashy grey.
c^9. Sides of chest entirely uniform.
a^{10}. Upper surface entirely uniform. *franciscæ*, p. 116.
b^{10}. Mantle and head delicate bluish grey, paler than back..... *poliocephalus*, p. 117.
d^9. Sides of chest with a few irregular wavy lines ..... *cinereus*, p. 117.
d^8. Tail uniform white ..... *novæ hollandiæ*, p. 118.
e^9. Larger: wing in ♂ 10·4 inches, in ♀ 12·6....*a. novæ hollandiæ*, p. 118.
f^9. Smaller: wing in ♂ 7·8 inches, *β. leucosomus*, p. 119.
f^7. Ear-coverts jet-black, like rest of head. [119.
e^8. Throat and chest black ..... *haplochrous*, p.
f^8. Throat and chest white ..... *albigularis*, p. 120.
f'''. Axillaries pure ashy grey, like the rest of the breast and thighs..... *poliogaster*, p. 120.

d'. With a distinct red band round the hind neck.
e''. Ear-coverts rufous like hind neck ..... *pectoralis*, p. 121.
f''. Ear-coverts grey.
g'''. Underneath pale vinous, with scarcely any indication of cross bands.
h^4. Under wing-coverts uniform white.. *rufitorques*, p. 121.
i^4. Under wing-coverts vinous, with scarcely any remains of cross bars. *griseigularis*, p. 122.
g^5. Larger: wing not exceeding 10·5 inches .. *a. griseigularis*, p. 122.
h^5. Smaller: wing not exceeding 9·75 inches. .*β. henicogrammus*, p. 124.
h'''. Underneath white, with pale vinous cross bars ..... *torquatus*, p. 125.
e'. Sides of neck rufous, forming an indistinct and interrupted nape-band.
g''. Thighs barred with white and rufous.
i'''. Underneath brown, with white cross bars *approximans*, p. 126.
k'''. Underneath white, with pale rufous cross bars ..... *cruentus*, p. 127.
h''. Thighs uniform vinous salmon-colour .. *wallacii*, p. 128.

1. Astur palumbarius.

The Goshawk, *Albin, N. H. Birds*, ii. p. 8, pl. 8 (1734); *Salvin & Brodr. Falconry*, p. 103, pls. xviii. xix. (1855).
L'Autour, *Briss. Orn.* i. p. 317 (1760); *Buff. Pl. Enl.* i. pl. 418 (1770); *Schl. & Verst. Traité Fauc.* pls. x. & xi. (1844).
Le Gros Busard, *Briss. Orn.* i. p. 398 (1760).
Le Busard varié, *Briss. Orn.* i. p. 400 (1760).
Falco palumbarius, *Linn. S. N.* i. p. 130 (1760); *Daud. Traité*, pls. 1, 2 (1800); *Temm. Man. d'Orn.* i. p. 55 (1820); *Naum. Vög. Deutschl.* i. p. 249, pls. 17, 18 (1822); *Werner, Atlas*, Rapaces, pl. 21 (1827); *Schl. u. Susem. Vög. Eur.* Taf. 28 (1839–45); *Yarr. Brit. B.* i. p. 57 (1843).
L'Autour sors, *Buff. Pl. Enl.* i. pl. 461 (1770).
Falco marginatus, *Lath. Ind. Orn.* i. p. 26 (1790).
Falco albescens, *Bodd. Tabl. Pl. Enl.* p. 25 (1783).
Falco dubius, *Sparrm. Mus. Carls.* pl. 26 (1787); *Sundev. Crit.* p. 6 (1858).
Falco gallinarius, *Gm. S. N.* i. p. 266 (1788).
Falco nævius, *Gm. S. N.* i. p. 266 (1788).
Falco incertus, *Lath. Ind. Orn.* i. p. 32 (1790).
Dædalion palumbarius, *Savigny, Hist. Nat. Ois. d'Egypte*, p. 267 (1808); *Less. Traité*, p. 65 (1831).
Accipiter astur, *Pall. Zoogr. Rosso-As.* i. p. 367 (1811).
Sparvius palumbarius, *Vieill. N. Dict. d'Hist. Nat.* x. p. 331 (1817); *Roux, Orn. Prov.* i. p. 65, pl. 15 (1825).
Astur palumbarius, *Cuv. Règne Anim.* i. p. 320 (1817); *Gould, B. Eur.* i. pl. 17 (1837); *Gray, Gen. B.* i. p. 27, pl. 10. fig. 1 (1849); *Kaup, Contr. Orn.* 1850, p. 66; *Kjærb. Orn. Dan. Aft.* iv. fig. 5 (1851); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 41 (1854); *Schl. Vog. Nederl.* pls. 11, 12 (1854–58); *Bp. Rev. et Mag. de Zool.* 1854, p. 538; *Strickl. Orn. Syn.* p. 116 (1855); *Hewits. Eggs Br. B.* i. p. 34, pl. xi. (1856); *Fritsch, Vög. Eur.* tab. i. (1858); *Schl. Dierk. Nederl. Vog.* pl. 1. figs. 9, 10, 10*a* (1861); *id. Mus. P.-B.* Astures, p. 16 (1862); *Jerd. B. Ind.* i. p. 45 (1862); *Newt. Ooth. Wolley.* p. 73 (1864); *Loche, Expl. Algér.* p. 70 (1867); *Degl. &*

Gerbe, Orn. Europ. i. p. 96 (1867); *Homey. J. f. O.* 1868, p. 253; *Heugl. Orn. N.O.-Afr.* i. p. 59 (1869); *Sundev. Sv. Fogl.* pl. xxvii. figs. 2, 3 (1869); *Hume, Rough Notes*, i. p. 112 (1869); *Gray, Hand-l. B.* i. p. 29 (1869); *Gould, B. Gt. Br.* part xv. (1869); *Salvad. Faun. Ital. Ucc.* p. 14 (1871); *Newt. ed. Yarr. Br. B.* i. p. 83 (1871); *Jerd. Ibis*, 1871, p. 243; *Swinh. P. Z. S.* 1871, p. 341; *Finsch, Nactr. Heugl.* p. xxiv (1871); *Shelley, B. Egypt*, p. 185 (1872).
Buteo palumbarius, *Flem. Brit. An.* i. p. 54 (1828).
Astur gallinarum, *Brehm, Vög. Deutschl.* p. 83 (1831).
Accipiter palumbarius, *Macgill. Brit. B.* iii. p. 340 (1840).
Astur indicus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Astur brachyrhynchus, *Brehm, Naum.* 1855, p. 269.
Astur paradoxus, *Brehm, Naum.* 1855, p. 269.

Young. Above brown, the scapulars and wing-coverts largely marked at their bases with white, all the feathers of the upper surface broadly margined with ochraceous buff; head and neck rufous ochre, the nape inclining to whitish, the crown broadly streaked with dark brown, the hind neck largely marked with spade-shaped spots of the same colour; forehead, eyebrow, and sides of the face whitish, narrowly streaked with dark brown; under surface of body ochraceous buff, inclining to white on the throat and under tail-coverts, the entire under surface streaked with dark brown, narrowly on the throat, thighs, and under tail-coverts, more broadly on the chest and breast, developing into large oval or spade-shaped spots on the flanks; under wing-coverts ochraceous buff, spotted or streaked with dark brown, the axillaries barred with the same colour; quills pale brown, barred with darker brown, and externally freckled or spotted as well as broadly tipped with ochraceous buff; tail light brown, crossed with five distinct bands of darker brown and broadly tipped with white, the pale brown interspaces minutely freckled with darker brown and shading into white on either margin, forming a white edging to the dark brown cross bands; feet yellowish brown, claws black; cere, bill, and iris as in adults.

Adult male. Above ashy brown; the quills brown, barred with darker brown, the lower surface of the wing ashy grey, inclining to white near the base, with dark brown cross bars becoming obsolete on the inner quills; tail ashy brown, tipped with white and crossed with four * broad bands of dark brown, the lower one concealed by the upper tail-coverts, the lowest of which are tipped with whitish; crown of head, ear-coverts, and sides of neck blackish, the hinder neck slightly mottled with white; lores, cheeks, and a line above the ear-coverts white, streaked with blackish; under surface white, the black shaft-streaks distinctly indicated on the throat and breast, all the lower parts thickly crossed with ashy brown bars, a little less distinct on the thighs, the under tail-coverts entirely white; cere yellow; bill bluish horn-colour; iris orange. Total length 19·5 inches, culmen 1·5, wing 12·2, tail 9, tarsus 3.

Adult female. Similar to the male, but a little larger. Total length 23 inches, wing 14, tarsus 3·4.

* A specimen in the collection has the bands quite obsolete.

Hab. Europe generally and Siberia to Kamtschatka, apparently reaching beyond 60° N. lat. only in Scandinavia, extending in winter to Algeria, Palestine, Egypt, the Himalayas, and Northern China.

a, b. ♂ ♀ ad. st.	Europe.	Purchased.
c. ♂ ad. st.	Europe.	
d. ♂ ad. st.	Europe.	
e. ♂ juv. st.	Great Britain.	
f, g. ♂ ♀ ad. st.	Norfolk.	
h. ♂ juv. sk.	Upsala, April 3, 1872.	Purchased.
i, k, l, m. ♂ ♀ juv. st.	Archangel.	R. B. Sharpe, Esq. [P.].
n, o. Pull. st.	Archangel.	R. B. Sharpe, Esq. [P.].
p. ♂ ad. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
q, r. ♂ ♀ ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
s, t. ♂ ♀ ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
u. ♀ juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
v. ♀ juv. st.	Nepal.	B. H. Hodgson, Esq. [P.].
w. ♀ juv. sk.	Corea.	
x. Sternum.		Purchased.
y. Sternum.		Purchased.
z, a'. Skull.		Dr. Günther.

2. Astur hensti.

Astur hensti, *Schl. Mus. P.-B. Revue Accipitr.* p. 62 (1873).

Adult female (Type of species). Above sepia-brown, the head and neck, as well as the interscapulary region, blackish slate-colour, with indications of whitish mottling over the eye and on the sides of the hinder crown; nape varied with white; ear-coverts blackish, like the crown; cheeks whitish, freckled with black; under surface of body white, everywhere thickly and broadly barred with slaty black, especially on the thighs, but the bars less distinct and less numerous on the under tail-coverts; under wing-coverts and axillaries exactly like the breast; quills sepia-brown like the back, with indistinct bars of darker brown, a little plainer, but very irregular underneath, where the interspaces are greyish white; tail sepia-brown, slightly tipped with white and crossed with six irregular and not conterminous bands of blackish brown, a little plainer and paler brown underneath, where the colour is ashy white; bill blackish horn-colour, the tooth on the upper and the base of the under mandible yellowish. Total length 23 inches, culmen 1·25, wing 13, tail 11·3, tarsus 3·7, middle toe (without claw) 2·35. (*Mus. Lugd.*)

Adult male. Similar to the female, but smaller. Total length 19 inches, wing 11·1, tarsus 3·15. (*Mus. Lugd.*)

Hab. Madagascar.

3. Astur atricapillus.

Falco atricapillus, *Wils. Am. Orn.* vi. pl. 52. fig. 3 (1812).
Sparvius atricapillus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1274 (1823).
Hierofalco atricapillus, *Cuv. Règne Anim.* i. p. 323 (1829).
Falco regalis, *Temm. Pl. Col.* i. pl. 495 (1830).
Astur atricapillus, *Bp. Oss. R. A. Cuv.* p. 33 (1830); *Jard. & Selby,*

Ill. Orn. iii. pl. cxxi. (c. 1835); *Gray, Gen. B.* i. p. 27 (1849); *Kaup, Contr. Orn.* 1850, p. 66; *Bp. Consp.* i. p. 31 (1850); *Cass. B. Calif.* p. 93 (1855); *Strickl. Orn. Syn.* p. 118 (1855); *Cass. in Baird, B. N. Am.* p. 15 (1860); *Schl. Mus. P.-B.* Astures, p. 17 (1862); *Gray, Hand-l. B.* i. p. 29 (1869); *Cooper, B. Calif. ed. Baird*, p. 467 (1870); *Newt. ed. Yarr. Brit. B.* i. p. 87 (1871).

Astur palumbarius (*nec Linn.*), *Sw. & Rich. Faun. Bor.-Am. Birds*, p. 39, pl. xxvi. (1831); *Audub. B. Am.* i. p. 95, pl. xxii. (1839).

Dædalion pictum, *Less. Traité*, p. 67 (1831); *Pucher. Rev. et Mag. de Zool.* 1850, p. 211.

Falco palumbarius, *Aud. B. N. Am.* fol. pl. 141, *et Orn. Biogr.* ii. p. 241 (1834).

Young. Above dark brown, the feathers edged and tipped with rufous; the head streaked with rufous, the nape mottled with white; the eyebrow and cheeks ochraceous buff, with narrow streaks of dark brown; quills brown, barred with darker brown, the secondaries slightly tipped with whitish; the under surface ashy white, yellowish at base, with dark brown bars, dissolving into freckles on the inner quills; tail ashy brown, tipped with whitish, and crossed with four bands of dark brown, the basal one concealed and nearly obsolete; under surface of body deep rufous ochre, narrowly streaked on the throat, and more broadly on the chest, with blackish brown, inclining to large heart-shaped spots on the flanks; under wing-coverts coloured like the breast; the axillaries barred with dark brown.

Adult. Above bluish ash-colour, the black shaft-stripes distinctly indicated, the lower upper tail-coverts tipped with white; quills brown, barred with darker brown, the secondaries washed with bluish ash-colour; tail brown, shaded with the same ashy colour as the back, crossed with four more or less obsolete bands of darker brown, and tipped with white; crown of head and ear-coverts jet-black, the nape somewhat varied with white; lores whitish; a line from behind the eye above the ear-coverts white, narrowly streaked with blackish; cheeks, sides of neck, and entire under surface greyish white, freckled and vermiculated with ashy brown, taking the form of irregular and ill-defined bars on the flanks, abdomen, and thighs, the black shaft-stripes very distinct on the chest; under tail-coverts white; under wing-coverts white, barred and freckled with ashy brown; cere yellow; bill bluish black; legs yellow; iris yellow. Total length 20·5 inches, culmen 1·4, wing 12·9, tail 9·5, tarsus 2·9.

Adult female. Similar to the male, but larger. Total length 24 inches, wing 13·9, tarsus 3·1.

Hab. The whole of North America, rarer in the Southern States; of accidental occurrence in Europe.

a. ♀ juv. st.	N. America.		
b. ♀ ad. st.	N. America.	J. Gould, Esq.	
c. ♀ ad. sk.	N. America.	Mr. J. Krider.	
d. ♀ juv. sk.	Repulse Bay.	John Rae, Esq.	[P.].
e. ♀ juv. sk.	British Columbia.	J. K. Lord, Esq.	[C.].
f. ♂ juv. sk.	West side of Rocky Mountains.	J. K. Lord, Esq.	[P.].
g. ♂ ad. st.	N.W. America.	Purchased.	

4. Astur tachiro.

Le Tachirò, *Levaill. Ois. d'Afr.* i. pl. 24 (1799).
Falco tachiro, *Daud. Traité*, ii. p. 90 (1800); *Temm. Pl. Col.* i. pls. 377, 420 (1827).
Buteo tachiro, *Vig. Zool. Journ.* i. p. 340 (1824).
Nisus tachiro, *Less. Man. d'Orn.* i. p. 98 (1828); *Kaup, Contr. Orn.* 1850, p. 64; *Bp. Rev. et Mag. de Zool.* 1854, p. 538; *Schl. Mus. P.-B.* Astures, p. 46 (1862); *Finsch u. Hartl. Vög. Ostafr.* p. 78 (1870); *Blanf. Geol. & Zool. Abyss.* p. 291 (1870); *Schl. Mus. P.-B. Revue Accipitr.* p. 96 (1873).
Nisus polyzonus, *Less. Traité*, p. 58 (1831); *Pucher. Rev. et Mag. de Zool.* 1850, p. 209.
Falco unduliventer, *Rüpp. Neue Wirb.* p. 40, Taf. 18. fig. 1 (1835).
Accipiter tachiro, *Gray, Cat. Accipitr.* 1844, p. 36; *id. Gen. B.* i. p. 29 (1849); *Bp. Consp.* i. p. 32 (1850); *Strickl. Orn. Syn.* p. 114 (1855); *Gurney, Ibis*, 1859, p. 241; *Scl. Ibis*, 1864, p. 306; *Layard, B. S. Afr.* p. 28 (1867); *Gurney in Anderss. B. Dam. Ld.* p. 29 (1872).
Nisus unduliventer, *Rüpp. Syst. Uebers.* p. 12 (1845); *Schl. N. T. D.* iii. p. 359 (1866); *Heugl. Orn. N.O.-Afr.* i. p. 67 (1869).
Accipiter polyzonus, *Des Murs, Icon. Orn.* pl. lxi. (1848).
Micronisus tachiro, *Grill, Zool. Anteckn.* p. 48 (1858).
Accipiter unduliventris, *Heugl. Ibis*, 1861, p. 75.
Accipiter polyzonoides, *Anderss. P. Z. S.* 1864, p. 4 (*lapsu*).
Micronisus zonarius, *Bocage, Jorn. Lisb.* 1870, p. 40.

Young female. Above brown, with distinct edgings of pale rufous to the feathers; the crown, nape, and sides of neck mottled with white, the two latter more distinctly washed with rufous; the scapulars and secondaries also with concealed spots of white; quills and tail light brown, margined with pale rufous and barred with darker brown, bars four in number on the tail-feathers, which are tipped with buffy white; the under surface of both wings and tail paler and more ashy grey in colour, the bars showing more distinctly; sides of face whitish, slightly streaked with brown, the upper margin of the ear-coverts entirely of the latter colour; under surface of body creamy white, the throat with a distinct central streak of dark brown and a faint moustachial line on each side, the chest streaked with broad brown spots of an oval shape, becoming rather more barred on the flanks and thighs, much smaller on the latter, the under tail-coverts scarcely marked at all; under wing-coverts creamy buff, with only a few scattered brown markings; cere dark green; bill black, blue at base; feet yellow; iris dark greenish brown. Total length 14·5 inches, wing 8·4, tarsus 2·6.

Adult female. Above dark brown, inclining to slate-colour on the head and sides of face, the nape slightly mottled with white; quills brown, barred with darker brown, more distinct underneath, where the lower surface of the quills is greyish white; tail brown, tipped with white and crossed with three broad bars of dark brown, the light-brown interspaces shading into white on the inner web, forming a conspicuous spot even on the two centre feathers; sides of face and neck uniform with the head; under surface of body whitish, crossed with numerous broad bars of pale rufous, each bar having

another conterminous one of dusky brown; the flanks and thighs bright rust-red, the former with slight remains of white cross bars; under tail-coverts white; under wing-coverts buffy white, with a few indistinct rufous cross markings, the axillaries entirely rufous; sides of the upper chest inclining to uniform ashy brown; cere olive-green; bill black, bluish at base; legs dingy chrome; iris orange. Total length 16 inches, culmen 1·05, wing 8·5, tail 7·5, tarsus 2·65.

Adult male. Similar to the old female, but a little smaller. Total length 13·5 inches, wing 8·5, tarsus 2·55.

Hab. Southern and North-eastern Africa.

a. ♂ ad. sk.	South Africa.	S.-African Museum.
b. ♀ juv. sk.	South Africa.	Sir A. Smith [C.].
c. Pull. st.	South Africa.	M. J. Verreaux [C.].
d. Juv. st.	South Africa.	M. J. Verreaux [C.].
e. Juv. st.	Shupanga, Zambesi.	Dr. J. Kirk [C.].
f. ♀ ad. st.	Shoa.	Sir W. C. Harris [C.].
g. Skeleton.		Zoological Society.

5. Subsp. *a.* **Astur macroscelides.*** (Plate III.)

Astur macroscelides, *Hartl. J. f. O.* 1855, pp. 354, 360 (*ex Temm. MS.*); *id. Orn. W.-Afr.* p. 12 (1857).
Accipiter zonarius, *Hartl. Orn. W.-Afr.* p. 15 (1857, *ex Temm. MS.*); *Gray, Hand-l. B.* i. p. 32 (1869); *Sharpe, Ibis*, 1870, p. 59.
Nisus zonarius, *Schl. Mus. P.-B.* Astures, p. 47 (1862).
Nisus unduliventer (pt.), *Schl. Mus. P.-B. Revue Accipitr.* p. 96 (1873).

Adult male (type of *A. zonarius*). Above bluish slate-colour, clearer on the head and hind neck; ear-coverts bluish like the head, the cheeks a little lighter and more ashy; wing-coverts darker than the back; quills brown, barred with blackish, the secondaries uniform with the back, the bars plainer underneath, the quills greyish white at base; tail black, tipped with dull white, and crossed with three bars of ashy brown by no means distinct, the corresponding bars below ashy white; middle tail-feathers with three large spots of white on the inner web; throat white, slightly mottled with bluish ash-colour; remainder of under surface white, crossed with numerous broad bars of clear rufous, decreasing in number towards the abdomen, the under tail-coverts pure white; sides of breast, flanks, and thighs uniform clear rufous; under wing-coverts pure white, with slight marks of brown on lower series. Total length 14 inches, culmen 1, wing 7·9, tail 6·7, tarsus 2·5, middle toe 1·1. (*Mus. Lugd.*)

Adult female. Similar to, but larger than, adult male. Total length 17 inches, wing 8·8, tail 8·3, tarsus 2·95, middle toe 1·3. (*Mus. Lugd.*)

Young (type of species). Above brown, with slight rufous edgings to the wing-coverts; head and nape slightly varied with white, as also a tolerably distinct eyebrow; ear-coverts uniform dark brown; cheeks white, streaked with brown, the throat white, with a central streak of blackish brown; remainder of under surface white, the



Keulemans del. Mintern Bros. lith.

Astur macroscelides.

centre of the body and under tail-coverts unspotted, the breast with large ovate blackish drops, the sides of the body broadly barred with the same colour; under wing-coverts uniform white, with a few large spots of blackish brown on the lower ones; quills brown, barred with darker brown, more distinctly below, where the feathers are white at the base of the inner web, shading into greyish towards the tips; tail brown above, tipped with ashy, greyish ash-colour below, crossed with five bars of blackish brown, some of the brown interspaces paler on the centre tail-feathers, but not exhibiting white spots, which seem peculiar to the adult. (*Mus. Lugd.*)

Hab. Gold Coast to Gaboon.

a, b. ♂ ♀ ad. sk.	River Danger, Gaboon.	H. T. Ansell, Esq. [P.].
c. ♂ juv. sk.	River Ogowe, Gaboon (*Marche et de Compiègne*).	M. Bouvier [E.].

Obs. Professor Schlegel, in his late 'Revue' (*l. c.*), separates *A. unduliventer* from *A. tachiro*, uniting to the former the West-African *A. zonarius* (vel *macroscelides*). I cannot separate the North-east-African bird from the true *A. tachiro*; but those from the Gold Coast are always much brighter blue above and more uniform rufous on the sides of the body, while those from Gaboon form a still more intensified race.

6. Astur toussenelii. (Plate VI. fig. 1.)

Nisus toussenelii, *Verr. Rev. et Mag.* 1854, p. 538; *J. & E. Verr. J. f. O.* 1855, p. 101; *Hartl. Orn. W.-Afr.* p. 15 (1857); *id. J. f. O.* 1861, p. 101.

Accipiter toussenellii, *Strickl. Orn. Syn.* p. 116 (1855); *Cass. Pr. Phil. Acad.* 1859, p. 31; *Duchaillu, Eq. Afr.* p. 472 (1861); *Gray, Hand-l. B.* i. p. 32 (1869).

Adult. Above blackish slate-colour, the head and neck clear slaty blue, paler on the sides of the face; throat white, the lower part washed slightly with vinous; rest of under surface, including the thighs, deep vinous salmon-colour, with slight remains of whitish cross bars on the breast; the lower abdomen, vent, inner face of thighs and under wing- and tail-coverts white; quills slaty black above, white at base of inner web, shading into ashy white towards the tips of the feathers, crossed with a few blackish bars; tail black, tipped with white, greyish below, crossed with two bands of white, which also appear irregularly on the upper surface of the middle feathers, where they occur on both webs. Total length 15 inches, culmen 1, wing 8, tail 7, tarsus 2·5.

Hab. Gaboon.

a. Ad. st.	Gaboon.	M. Verreaux.	Type of the species.

7. Astur trinotatus.

Accipiter trinotatus, *Bp. Consp.* i. p. 33 (1850, *ex Temm. MS. in Mus. Lugd.*); *Strickl. Orn. Syn.* p. 115 (1855); *Wall. Ibis*, 1868, p. 8; *Gray, Hand-l. B.* i. p. 34 (1869).

Astur trinotatus, *Bp. Rev. et Mag. de Zool.* 1850, p. 490.
Sparvius trinotatus, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Nisus trinotatus, *Schl. Mus. P.-B.* Astures, p. 45 (1862); *id. Vog. Nederl. Ind. Valkv.* pp. 27, 65, pl. 19. figs. 1–3 (1866); *id. Revue Accipitr.* p. 90 (1873).
Erythrospiza trinotata, *Kaup, P. Z. S.* 1867, p. 172; *Walden, Tr. Z. S.* viii. p. 33 (1872).

Young. Above bright ferruginous red, the head and hind neck streaked with blackish, the wings entirely rufous, the shafts of the quills above black, and the primaries barred with black on the inner web near the base; upper tail-coverts and tail black, the latter largely spotted with white, as in the adult, the two outer feathers more or less bright red, barred with black, which is overspreading the whole feather, showing that the change of colour in the tail is gradually assumed without a moult; sides of the face rufous brown, streaked with black, the lores buff; under surface of body buffy white, the throat narrowly, the breast more broadly streaked with dark brown, somewhat tinged with rufous; the abdomen, thighs, and under tail-coverts rich buff, unstriped; under wing-coverts yellowish buff, also extending over the base of the quills.

Another young specimen in Mr. Wallace's collection has the throat and breast thickly streaked with black, which also extends over the head, and gives a mottled appearance to the interscapulary region. This bird also shows the gradual spreading of the black on the red tail, a most anomalous change of plumage, as the tail-feathers are generally changed by a direct moult in the Birds of Prey.

Adult male. Above blackish slate-colour, inclining to clear bluish grey on the head and neck, and to pale cinereous on the sides of the face; throat white, washed with greyish; remainder of under surface clear vinous salmon-colour, the lower abdomen, thighs, and under wing- and tail-coverts pure white; quills slaty black, white at base of inner web, with some bars of blackish on the under surface; tail slaty black, slightly tipped with white, and crossed underneath with two bars of white, this being confined to the inner web; cere above the nostrils and bill black; orbits orange-yellow; feet deep orange-yellow; iris chrome-yellow. Total length 11·5 inches, culmen 0·8, wing 6·3, tail 5·5, tarsus 2.

Female. Similar to the male, but slightly larger. Total length 12 inches, culmen 0·9, wing 6·7, tail 5·8, tarsus 2.

Hab. Celebes.

a, b. ♂ ♀ ad. sk.	Menado, N. Celebes.	A. R. Wallace, Esq. [C.].
c. ♂ juv. sk.	Menado, N. Celebes.	A. R. Wallace, Esq. [C.].
d. Ad. st.	Menado, N. Celebes.	A. R. Wallace, Esq. [C.].
e. ♀ juv. st.	Menado, N. Celebes.	A. R. Wallace, Esq. [C.].
f. ♂ juv. sk.	Makassar, Celebes.	A. R. Wallace, Esq. [C.].
g, h. ♂ ♀ ad. sk.	Celebes.	J. Gould, Esq.

8. Astur muelleri.

Accipiter muelleri, *Wall. P. Z. S.* 1865, p. 475; *id. Ibis*, 1868, p. 9; *Gray, Hand-l. B.* i. p. 35 (1869).

Nisus cruentus, *Schl. Vog. Nederl. Ind. Valkv.* pl. 14. fig. 1 (1866).
Accipiter griseogularis (pt.), *Kaup, P. Z. S.* 1867, p. 175.
Nisus müllerí, *Giebel, Orn. Thes.* p. 264 (1872).
Nisus rufitorques (pt.), *Schl. Mus. P.-B. Revue Accipitr.* p. 80 (1873).

Young. Above brown, with pale rufous margins to the feathers, the nape and crown slaty brown, a great deal mottled with white; the scapulars also conspicuously white at their base; sides of face and neck, as also a distinct eyebrow, white, with distinct streaks of greyish brown; under surface of body creamy white, the throat with a narrow median line of greyish brown, the chest with larger and more oval drops, the breast with heart-shaped spots and bars, the abdomen with dart-shaped bars; thighs barred across with pale rufous; quills and tail above brown, with faintly indicated bars of darker brown, the under surface paler and more ashy, inclining to pale rufous towards the base of the inner web, the cross bars more distinctly indicated. Total length 18·5 inches, wing 10, tail 8·5, tarsus 2·4, middle toe (without claw) 1·4.

Adult female. Above deep slaty grey more or less washed with ashy grey, the nape slightly mottled with white; quills uniform with the back above, pale ashy below, white at the base, slightly washed with pale rufous and barred across with darker ash-colour; tail deep slate-colour, with eight or nine blackish bars on the inner webs, very indistinct above and scarcely plainer on the under surface, which is ashy white, the bars entirely absent on the outer feather; sides of the head and of the neck slaty grey like the head; throat slaty grey, much mottled with white and washed with rufous; rest of the under surface rich vinous chestnut, with a few whitish cross bars here and there, doubtless remains of immaturity; under wing- and tail-coverts coloured like the breast, but the white cross bars a little more distinct; cere bright yellow; bill black, bluish at base; feet bright yellow. Total length 19 inches, culmen 1·4, wing 10·1, tail 9·3, tarsus 2·8.

Adult male. Similar to the female, but smaller. Total length 13·5 inches, culmen 1·3, wing 8·85, tail 7·6, tarsus 2·7, middle toe 1·2.

Hab. Gilolo and Morty Island.

a. ♀ ad. sk.	Gilolo.	A. R. Wallace, Esq. [C.]. Type of species.
b. ♀ juv. sk.	Morty Island.	A. R. Wallace, Esq. [C.].
c. ♂ ad. sk.	Weda, Gilolo.	Leiden Museum [P.].

Obs. Mr. Wallace was quite right, in my opinion, to separate this bird, which is a large edition of *A. hiogaster*. It is, however, not strictly allied to that bird as regards its wings, which are distinctly barred on the under surface. Independently of its uniform appearance above, and the want of the rufous nape-band, it can always be told from *A. griseogularis* by its much shorter middle toe, which measures only 1·3–1·4 inch without the claw against 1·65–1·7 inch in the other species (females measured).

9. Astur hiogaster.

Falco hiogaster, *Müll. & Schl. Naturl. Gesch.* p. 110 (1839–1844); *Bp. Rev. et Mag. de Zool.* 1850, p. 490.
Accipiter hiogaster, *Bp. Consp.* i. p. 33 (1850); *Hombr. & Jacq. Voy. Pôle Sud, Zool.* p. 48, pl. 2. fig. 1 (1853); *Strickl. Orn. Syn.* p. 112 (1855); *Wall. Ibis*, 1868, p. 8; *Gray, Hand-l. B.* i. p. 34 (1869).
Sparvius hiogaster, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Astur hiogaster, *Gray, P. Z. S.* 1860, p. 343.
Nisus hiogaster, *Schl. Mus. P.-B.* Astures, p. 43 (1862); *id. Vog. Nederl. Ind. Valkv.* pp. 27, 65, pl. 19 (1866); *id. Revue Accipitr.* p. 89 (1873).
Erythrospiza hiogaster, *Kaup, P. Z. S.* 1867, p. 173.
Erythrospiza hiogastra, *Walden, Tr. Z. S.* viii. p. 34 (1872).

Young. Above brownish slate-colour, the feathers of the nape white at the base and slightly tinged with rufous, the wing-coverts and secondaries margined with rufous; quills and tail dark brown, paler at the tips, crossed with numerous bands of blackish, the inner webs of both pale rufous at the base, and having the under surface lighter, with the cross bars more plainly developed than on the upper surface; sides of the face deep slaty, like the head; entire under surface white, with a few spots and bars of brown on the lower breast, flanks, and thighs; the under wing-coverts pale fawn, spotted with brown, a few rufous feathers appearing on the chest. Total length 14 inches, wing 8·5, tarsus 2·25.

Adult female. Above deep bluish slate-colour, the wings and tail a little duller; primaries ashy underneath, pale rufous near the base; sides of the face and of the neck bluish slate-colour, like the rest of the head; entire under surface deep cinnamon rufous; the throat entirely uniform with the breast, as also are the under wing- and tail-coverts; cere, orbits, and feet orange, claws black; bill black, orange at base of under mandible; iris deep orange-yellow. Total length 15·8 inches, culmen 1·25, wing 2·5, tail 7, tarsus 2·25.

Adult male. Similar to the old female, but smaller. Total length 12·5 inches, wing 7·7, tarsus 2·1.

Hab. Ceram and Amboina.

a. ♀ ad. st.	Amboina.	Leiden Museum	[P.].
b. ♂ juv. st.	Amboina.	Leiden Museum	[P.].
c. ♀ ad. sk.	Amboina.	A. R. Wallace, Esq.	[C.].
d. ♂ ad. sk.	Amboina.	R. B. Sharpe, Esq.	[P.].
e. ♀ juv. sk.	Amboina.	R. B. Sharpe, Esq.	[P.].
f. Juv. sk.	Ceram.	A. R. Wallace, Esq.	[C.].

10. Astur sylvestris.

Accipiter sylvestris, *Wall. P. Z. S.* 1863, pp. 484, 487; *id. Ibis*, 1868, p. 10; *Gray, Hand-l. B.* i. p. 34 (1869).
Nisus torquatus, *Schl. Vog. Nederl. Ind. Valkv.* pl. 17. fig. 3 (1866).
Uraspiza torquata (pt.), *Kaup, P. Z. S.* 1867, p. 176.

Adult male (type of species). Above pale ashy grey, the crown delicate bluish grey, the hinder neck slightly washed with salmon-colour on the sides, not forming by any means a distinct nape-band;

sides of the face grey like the head, but paler; throat greyish white, washed with pale salmon-colour; underneath delicate salmon-colour, uniform on the breast, sides of the body and flanks exhibiting remains of whitish bars on lower breast; under tail-coverts pure white; under wing-coverts and axillaries very pale salmon-colour, the lower coverts whitish; quills and tail-feathers uniform slaty grey above, the inner webs white at the base, some of them exhibiting faint remains of greyish cross bars; bill black; feet and cere yellow. Total length 12 inches, culmen 1, wing 7·4, tail 5·8, tarsus 1·9.

Adult female. Similar to the male, but larger. Total length 14 inches, wing 8·1, tail 6·7, tarsus 2·1.

Hab. Flores.

a, b. ♂ ad. sk.	Flores.	A. R. Wallace, Esq. [C.]. Type of species.
c. ♀ ad. sk.	Flores.	A. R. Wallace, Esq. [C.].
d. ♂ juv. sk.	Flores.	A. R. Wallace, Esq. [C.].
e. Ad. st.	Flores.	A. R. Wallace, Esq. [C.].

11. Astur trivirgatus.

Falco trivirgatus, *Temm. Pl. Col.* i. pl. 303 (1824).
Nisus trivirgatus, *Less. Man. d'Orn.* i. p. 98 (1828).
Astur trivirgatus, *Cuv. Règne An.* i. p. 332 (1829); *Gray, Gen. B.* i. p. 27 (1849); *Bp. Consp.* i. p. 31 (1850); *Strickl. Orn. Syn.* p. 221 (1855); *Jerd. B. Ind.* i. p. 47 (1862); *Schl. Mus. P.-B.* Astures, p. 22 (1862); *id. Vog. Nederl. Ind. Valkv.* pp. 18, 57, pl. 10 (1866); *Wall. Ibis*, 1868, p. 6; *Gray, Hand-l.* i. p. 30 (1869); *Holdsw. P. Z. S.* 1872, p. 410; *Schl. Revue Accipitr.* p. 65 (1873).
Dædalion trivirgatum, *Less. Traité*, p. 66 (1831).
Spizaetus rufitinctus, *M'Clell. P. Z. S.* 1839, p. 153.
Astur palumbarius, *Jerd. Madr. Journ.* x. p. 85 (1839).
Astur cristatus, *Gray, Ann. N. H.* xi. p. 371 (1843).
Astur indicus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844); *Gray, Cat. Accipitr.* 1844, p. 33.
Lophospizia trivirgatus, *Kaup, Contr. Orn.* 1850, p. 65; *Gray, Cat. Hodgs. Coll.* 1863, p. 19; *Hume, Rough Notes*, i. p. 116 (1869); *Swinh. P. Z. S.* 1871, p. 341.

Young. Above brown, with a fully developed occipital crest, upper tail-coverts banded with darker brown and tipped with white; quills and tail much as in the adult, the latter with five cross bands of darker brown; under surface of body white, the throat with the three characteristic streaks like the adult, the breast broadly streaked with pale rufous, inclining to dark brown in the centre of the chest, the lower breast and abdomen barred with pale rufous, the bars narrower and darker on the thighs; under tail-coverts white, with a few narrow nearly obsolete cross bars; under wing-coverts buff, spotted and barred with dark brown.

Adult male. Above slaty grey, the upper tail-coverts blackish and tipped with white; head and neck clearer slaty grey, including a conspicuous occipital crest, the sides of the neck somewhat tinged with rufous; quills browner than the back, primaries with rufescent shafts, barred above with dark brown, much plainer underneath,

where the quills are white at the base of the inner web; tail ashy brown, paler at tip, crossed with four bands of dark brown; throat white, with a distinct black moustachial streak on each side and a broad median line; chest clear tawny rufous; rest of under surface white, broadly banded with pale rufous, each bar of this colour having a conterminous brown bar, the thighs thickly barred with ashy brown without any rufous tinge; under tail-coverts white; under wing-coverts white, spotted with brown or rufous brown, and the axillaries similarly barred; cere orange-yellow; bill black, lead-colour at base; cheeks and orbits orange; feet yellow; iris orange-yellow. Total length 14 inches, culmen 1·05, wing 7·8, tail 6·3, tarsus 2·2.

Adult female. Similar to the adult male, but much larger. Total length 18 inches, wing 9·7, tarsus 2·7.

Hab. The hilly parts of India and Ceylon, not extending into the North-west Provinces. Sumatra, Java, Southern Borneo, Philippine Islands, and Formosa; probably occurring in suitable localities throughout the Indo-Chinese region, but not yet known further eastward than Assam.

Obs. The specimens from Nepal are much larger, and may prove to be a distinct race, in which case they will bear the name of *Astur indicus*. Professor Schlegel has already drawn attention to this large form ('Astures,' p. 22, note), which he calls *A. trivirgatus indicus*. The Museum specimens are, unfortunately, not sexed, so that the exact comparison of the sexes cannot at present be instituted. They measure in the wing 10·6 inches. The Ceylonese bird appears to agree with the Malayan form; and Mr. Swinhoe says the same of the Formosan examples.

a. ♀ ad. sk.	E. Java.	A. R. Wallace, Esq. [C.].
b. ♂ juv. sk.	Mount Ophir, Malacca.	A. R. Wallace, Esq. [C.].
c. ♂ juv. st.	Borneo.	Rajah Brooke [P.].
d. ♂ juv. st.	Borneo.	
e. ♂ ad. st.	Ceylon.	Hugh Cuming, Esq. [C.].
f. ♂ ad. st.		Purchased.
g. Skeleton.		Purchased.

Large race (A. indicus).

a. Juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
b, c, d. Ad. juv. st.	Nepal.	B. H. Hodgson, Esq. [P.].
e. Sternum.		B. H. Hodgson, Esq. [P.].

12. Astur griseiceps.

Astur griseiceps, *Schl. Mus. P.-B.* Astures, p. 23 (1862); *Wall. Ibis*, 1864, p. 184, pl. 5; *Schl. Vog. Nederl. Ind. Valkv.* pp. 19, 58, pl. 11. figs. 1, 2 (1866); *Wall. Ibis*, 1868, p. 6; *Gray, Hand-l. B.* i. p. 30 (1869); *Schl. Revue Accipitr.* p. 67 (1873).
Lophospiza griseiceps, *Kaup, P. Z. S.* 1867, p. 178; *Walden, Tr. Z. S.* viii. p. 33 (1872).

Young. Above brown, the feathers with a purplish gloss and slightly tipped with fulvous, the bases to the wing-coverts and sca-

pulars conspicuously white, the head and hind neck also washed with rufous and much varied with white; quills dark brown, the secondaries paler, banded with blackish brown, a little more distinct on the under surface, where the feathers are white at their base, shading into ashy brown towards the tips; tail brown, barred with darker brown, tipped with whitish, the bars on the outer tail-feathers obsolete; under surface of tail whitish ashy, the cross bars very distinct, except on the outer feathers; sides of face rufous brown, darkest on upper margin of ear-coverts; under surface of body creamy white, the throat with a broad line of black down the centre and another running along the lower margin of each cheek, but not so distinct as the central one, the breast sparsely marked with oval spots of pale rufous, brown in the centre; the thighs scantily marked with tiny spots of brown; under wing- and tail-coverts white, the former with a wash of pale fawn.

Mature. Above brown, the head and a slight occipital crest of the same colour, the upper tail-coverts tipped with white; quills brown, banded with darker brown, the under surface whitish ashy, the bands showing more distinctly; tail pale brown above, whitish grey beneath, tipped with whitish, crossed with four bands of blackish brown; under surface of body white, with two moustachial and one central streak of blackish, as in the young bird, the breast streaked with broad oval drops of pale rufous, collecting on the sides of the breast and giving a clouded appearance to this part; the flanks and thighs barred with dull rufous brown; the under wing- and tail-coverts white, the former tinged with pale fawn.

Adult. General plumage brown, like the foregoing, but having the whole head slaty grey; the bars on the wings and tail not so broad or distinct, the basal one of the latter nearly obsolete; the gular and moustachial streaks slaty black; rest of under surface white, marked with broad streaks of brown, the thighs rather narrowly but distinctly barred with blackish; cere and orbits lead-colour, tinged with yellow; bill black, lead-colour at base; feet lemon yellow; iris golden orange. Total length 15·5 inches, culmen 1·2, wing 8·1, tail 6·8, tarsus 2·25.

Hab. Celebes.

a, b. ♂ ♀ juv. sk.	Celebes.	J. Gould, Esq.
c. ♀ ad. sk.	Tondano, Celebes.	A. R. Wallace, Esq. [C.].
d. ♀ ad st.	Menado, Celebes.	A. R. Wallace, Esq. [C.].
e. Juv. st.	Menado, Celebes.	A. R. Wallace, Esq. [C.].
f. ♂ ad. sk.	Makassar.	A. R. Wallace, Esq. [C.].

13. Astur brutus.

Nisus brutus, *Poll. Nederl. Tijdschr.* iii. p. 80 (1866); *Schl. & Poll. Faun. Madag. Ois.* p. 38, pl. 12. fig. 2 (1868); *Schl. Mus. P.-B. Revue Accipitr.* p. 95 (1873).
Micronisus brutus, *Gray, Hand-l. B.* i. p. 35 (1869).
Accipiter brutus, *Gurney, Ibis*, 1869, p. 448.

Adult male. Above brownish ash-colour, the nape varied with

white, the head tinged with dull vinous rufous, more distinct on the eyebrow, and occupying the whole of the sides of the face and neck; wing-coverts a little darker than the back; quills brown, barred with darker brown, the secondaries uniform with the back, the bars more distinct on the underside of the quills, where the inner web is ochraceous buff; tail-feathers brown, slightly rufescent on their margins, crossed with six bands of dark brown, the subterminal one rather broader; under surface of body white, slightly tinged with rufous, and having a narrow line of dark brown down the centre of the throat; remainder of under surface white, thickly barred with rufous, the bars becoming narrower on the flanks; thighs pale rufous buff, with narrow rufous bars; under tail-coverts white; under wing-coverts pale rufous buff, the axillaries whitish with remains of rufous cross bars. Total length 10·7 inches, culmen 0·75, wing 5·6, tail 4·8, tarsus 185. (*Mus. Lugd.*)

Adult female. Similar to the male, but having a more distinct rufous shade on the hind neck. Total length 12·5 inches, wing 6·45, tail 5·7, tarsus 1·9. (*Mus. Lugd.*)

Hab. Mayotte.

Obs. This species may easily be confounded with the young of *A. francescæ* in barred plumage; but the male of the latter, when it approaches the present species, has the remains of rufous edgings above, showing that it is a young bird. The full-grown female of *A. francescæ*, when it has a bared under surface and no remains of rufous margins above, can be distinguished from *A. brutus* by its grey cheeks and by the absence of any rufous shade on the neck. *A. brutus* may almost always be told by its rufescent thighs.

14. Astur tibialis.

Astur tibialis, *Verr. J. f. O.* 1861, p. 100; *Gray, Hand-l. B.* i. p. 29 (1869).

Accipiter hartlaubi, *Sharpe, P. Z. S.* 1871, p. 613 (*lapsu*).

Adult (?). Above dark blackish brown, with narrow and almost obsolete rufous edgings to the feathers; quills blackish brown, with the same obsolete rufous edgings; under surface of wing much lighter and inclining to pale rufous, with very distinct black cross bars and tips to the feathers; tail very dark brown, barred across with blackish brown and pale rufous, the outer feathers quite plain, and all the tail-feathers tipped with pale rufous; throat white; rest of under surface of body rust-colour, lighter and more inclining to white down the centre of the body, the flanks very distinctly marked with diamond-shaped spots of blackish brown; legs deep rust-colour, with indistinct black transverse bars; under wing-coverts pale rust-colour, with a few blackish spots on the lower feathers and axillary plumes; bill black, yellowish at gape and at base of lower mandible; legs deep yellow, claws black. Total length 13·7 inches, culmen 0·9, wing 7·5, tail 7·4, tarsus 2·3. (*Mus. G. E. Shelley.*)

Hab. W. Africa, from Senegambia to Cameroons.

Obs. There can be no doubt that Mr. Gurney and I were wrong in determining the bird here described to be the young of *A. hartlaubi*. Although bearing great resemblance in immature plumage, I have since determined that *A. hartlaubi* is a true Sparrow-Hawk; and Mr. Stevenson, who kindly measured the type in the Norwich Museum for me, has convinced me that it is also a member of the genus *Accipiter*, whereas the bird in question is a veritable Goshawk, and agrees sufficiently well with *A. tibialis* to warrant its being referred to that species.

15. Astur badius.

This species includes five races or subspecies, which, although recognizable to the experienced eye, yet present so many closely allied characters, that no certain distinction can be drawn between them.

Subsp. a. Astur badius.

The Brown Hawk, *Brown, Ill. Zool.* p. 6, pl. 3 (1776).
Falco badius, *Gm. S. N.* i. p. 280 (1788, *ex Brown*); *Daud. Traité*, ii. p. 86 (1800).
Falco brownii, *Shaw, Gen. Zool.* vii. pt. 1, p. 169 (1809).
Sparvius badius, *Vieill. N. Dict. d'Hist. Nat.* x. p. 318 (1817).
Falco dussumieri, *Temm. Pl. Col.* i. pls. 308, 336 (1824).
Nisus dussumieri, *Less. Man. d'Orn.* i. p. 99 (1828); *id. Traité*, p. 59 (1831); *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Astur dussumieri, *Cuv. Règne An.* i. p. 332 (1829); *Blyth, Ann. N. H.* xii. p. 91 (1843); *id. J. A. S. B.* xii. p. 308 (1843).
Accipiter dukhunensis, *Sykes, P. Z. S.* 1832, p. 79, *et J. A. S. B.* iii. p. 419 (1834); *Jerd. Madr. Journ.* x. p. 83 (1839).
Accipiter badius, *Strickl. Ann. N. H.* xiii. p. 33 (1844); *Gray, Gen. B.* i. p. 29 (1849); *Strickl. Orn. Syn.* p. 106 (1855); *Sharpe, Ibis*, 1870, p. 424.
Accipiter scutarius, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Accipiter fringillaroides, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Astur badius, *Kaup, Isis*, 1847, p. 190.
Astur bifasciatus, *Peale, U. S. Expl. Exp.* p. 70, pl. 20 (1848); *Hartl. Arch. f. Naturg.* 1852, p. 96.
Micronisus badius, *Bp. Consp.* i. p. 33 (1850); *Blyth, J. A. S. B.* xix. p. 332 (1850); *Kaup, Cont. Orn.* 1850, p. 66; *Jerd. B. Ind.* i. p. 48 (1862); *Blyth, Ibis*, 1863, p. 16; *Beav. P. Z. S.* 1868, p. 394; *Hume, Rough Notes*, i. p. 117 (1869); *Gray, Hand-l. B.* i. p. 35 (1869); *Holdsw. P. Z. S.* 1872, p. 411.
Nisus badius, *Bp. Rev. et Mag. de Zool.* 1854, p. 538; *Schl. Mus. P.-B.* Astures, p. 48 (1862); *id. Nederl. Tidschr.* iii. p. 359 (1866); *id. Revue Accipitr.* p. 92 (1873).

Young. Above ashy brown, all the feathers edged with pale rufous, the head and neck more plainly washed with this colour, and mottled with white; lores and a distinct eyebrow whitish, the latter streaked with dark brown; ear-coverts pale brown, tinged with rufous and narrowly streaked with darker brown; under surface of body white, the under tail-coverts unstreaked, the throat with a broad central line of dark brown, the breast streaked with

longitudinal drops of pale rufous, taking the form of bars on the sides of the body and flanks, but especially on the thighs, which are plainly barred; under wing-coverts buff, the upper ones streaked and the lower ones barred with dark brown; quills brown, barred with darker brown, the secondaries tipped with buff; the tail ashy brown, with five or six dark brown bands, nine on the outermost feather; the under surface of both quills and tail-feathers buffy white, the bands showing more distinctly; cere yellow; bill bluish, dusky at tip; feet yellow; iris pale yellow.

Adult. Above bluish grey, the nape mottled with white, concealed spots of which are also on the scapulars and secondaries; the latter bluish grey like the back, the primaries dusky black, barred with deeper black, these bars showing more plainly on the under surface, which is greyish white, tinged with buff near the base of the inner webs; tail ashy grey, tipped with white, crossed with six blackish bars, more numerous but less distinct on the outermost feather, and altogether obsolete on the two centre ones; sides of face ashy grey like the head, but paler; throat white, with an indistinct dusky streak down the centre; rest of the under surface deep salmon-rufous, with narrow cross bars of white, the lower abdomen, thighs, and under tail-coverts entirely white; under wing-coverts buffy white, with a few indistinct marks of brown on the lower ones; cere bright yellow; feet dark buffy yellow; iris deep orange. Total length 13·4 inches, culmen 0·7, wing 7·9, tail 6·3, tarsus 2.

Adult female. Similar to male, but larger. Total length 14·5 inches, wing 8·3, tarsus 2·15.

Hab. The whole of the Indian peninsula and Ceylon, extending westwards into Scinde and Afghanistan.

a. ♂ ad. sk.	India.	J. Gould, Esq. [P.].
b, c. ♂ ♀ ad. sk.	India.	Major-Gen. Hardwicke [P.].
d. ♂ ad. st.	India.	Major-Gen. Hardwicke [P.].
e. ♂ juv. sk.	Deccan (*Burgess*).	J. Gould, Esq. [P.].
f. ♂ juv. st.	Behar.	B. H. Hodgson, Esq. [P.].
g, h. ♀ ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
i. ♀ juv. sk.	Behar.	B. H. Hodgson, Esq. [P.].
k, l, m. ♂ ♀ juv. st.	Nepal.	B. H. Hodgson, Esq. [P.].
n, o. ♂ ♀ juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
p. ♀ ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
q. Pull. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
r. Ad. sk.	Darjiling.	R. B. Sharpe, Esq. [P.].
s, t. ♂ ♀ juv. sk.	Kattiawar.	Capt. Hayes Lloyd, [P.].
u. ♀ ad. st.	Madras.	Sir W. Elliot [P.].

Subsp. β. Astur poliopsis.

Micronisus badius, *Sel. Ibis*, 1864, p. 246; *Swinh. Ibis*, 1870, p. 84; *id. P. Z. S.* 1871, p. 411.
Accipiter poliopsis, *Hume, Stray Feathers*, 1874.

Adult. Very similar to *A. badius*, which it replaces to the eastward of Bengal. Much paler blue above and below, banded with

broader and brighter vinous bands than its near ally. Total length 11 inches, culmen 0·7, wing 7·3, tail 6·1, tarsus 1·95.

Hab. Burmah, Tenasserim, Siam, and Camboja; Formosa, Hainan.

a.	Ad. st.	Tenasserim.	J. D. C. Packman, Esq. [P.].
b.	♂ ad. sk.	Camboja.	J. Gould, Esq. [P.].
c.	♂ imm. sk.	Bangkok (*Conrad*).	R. B. Sharpe, Esq. [P.].

Subsp. γ. Astur brevipes.

Astur brevipes, *Severtz. Bull. Soc. Imp. Nat. Moscou*, xxxiii. p. 234, tab. i.–iii. (1850).
Accipiter sphenurus, *Gurney, Ibis*, 1859, p. 390 (*nec Rüpp.*).
Accipiter gurneyi, *Bree, B. Eur.* iv. p. 185 (1863).
Accipiter brevipes, *Tristram, Ibis*, 1865, p. 260; *Schlüter, Zool. Gart.* 1869, p. 374; *Elwes & Buckley, Ibis*, 1870, p. 75; *Sharpe & Dresser, B. Eur.* pt. ix. (1871).
Micronisus brevipes, *Newt. Ibis*, 1865, p. 342; *Dresser, P. Z. S.* 1871, p. 103.
Micronisus badius, *De Filippi, Viagg. Pers.* p. 345 (1865).
Accipiter badius, *Alléon, Rev. et Mag. de Zool.* 1867, p. 1.
Falco badius, *Krüper, J. f. O.* 1869, p. 25.

Young. Above ashy brown, the feathers margined with rufous, especially distinct on the head, the scapulars with concealed white spots, and the nape mottled with white; a distinct superciliary line and the sides of the face white, streaked with greyish brown; throat white, with a distinct black streak down the centre; rest of under surface of body white, with broad tear-shaped spots of rufous brown on the breast, represented by oval spots of the same colour on the flanks and by bars on the lower breast; flanks buffy white, with numerous spear-shaped markings of pale rufous, less plentiful on the abdomen, and diminishing in number on the under tail-coverts; under wing-coverts and axillaries buffy white, the former spotted and the latter barred with rufous brown; quills dark brown, the secondaries shaded with ashy and tipped with rufous, all the quills barred with darker brown on the inner web, more distinct underneath, where the interspaces are pale rufous; tail ashy brown above, whitish ashy below, tipped with rufous buff and crossed with five blackish bars; iris blackish brown.

Adult male. Above blackish slate-colour on the back, the head and lower back paler and more slaty grey, the scapulars with concealed white spots; wings uniform with the back, the wing-coverts and secondaries washed with slaty grey, the primaries blackish brown; inner surface of wing greyish, white near the base of inner webs, which have also a few dark bars more or less obsolete; tail slaty grey, paler at the tip, crossed with five bars of dark brown, obsolete on the two middle and outer feathers, the under surface of the tail paler and more ashy, with the cross bars more distinct; sides of face and neck pale ashy; throat whitish; breast white, thickly crossed with bars of delicate salmon-colour, collecting on the upper breast, which has a uniform appearance, gradually becoming less distinct on the abdomen and thighs and under wing-coverts;

under tail-coverts white; bill horn-blue; feet yellow; iris deep yellow. Total length 13·5 inches, culmen 0·85, wing 9·1, tail 7, tarsus 2·1.

Adult female. Altogether duller in colour, but larger than the male, the transverse barring on the under surface much broader and not of such a bright vinous tint. Total length 16·2 inches, wing 9·8, tail 7, tarsus 2·1.

Hab. Central Russia, Turkey, Asia Minor, Greece, and Persia, extending into Syria in winter.

a.	♀ ad. sk.	Timok River, Servia (*Hodèk*).	Baron A. von Hügel [P.] (*cf.* Schlüter, Zool. Gart. *l. c.*).
b.	♀ juv. sk.	Smyrna, Aug. 1858 (*Gonzenbach*).	J. H. Gurney, Esq. [P.].
c.	♂ juv. st.	Damascus.	

Subsp. δ. Astur sphenurus.

Falco sphenurus, *Rüpp. Neue Wirb.* p. 42 (1835).
Accipiter brachydactylus, *Swains. B. W. Afr.* i. p. 118 (1837); *Strickl. Orn. Syn.* p. 114 (1855).
Nisus sphenurus, *Rüpp. Syst. Uebers.* pp. 6, 11, pl. 2 (1845); *Bp. Rev. et Mag. de Zool.* 1854, p. 538; *Blanf. Geol. & Zool. Abyss.* p. 294 (1870).
Astur rueppellii, *Kaup, Isis*, 1847, p. 189.
Micronisus rueppellii, *Kaup, Contr. Orn.* 1850, p. 66.
Accipiter sphenurus, *Gray, Gen. B.* i. p. 29 (1849); *Bp. Consp.* i. p. 32 (1850); *Strickl. Orn. Syn.* p. 113 (1855); *Heugl. Ibis*, 1861, p. 74.
Melierax sphenurus, *Hartl. Abhandl. Geb. naturw. Hamb.* 1852, p. 15.
Nisus hybris, *Licht. Nomencl. Av.* p. 4 (1854, *ex Ehr. MS.*).
Astur brachydactylus, *Hartl. Orn. W.-Afr.* p. 14 (1857).
Accipiter polioparejus, *Heugl. J. f. O.* 1861, p. 428.
Micronisus guttatus, *Heugl. J. f. O.* 1861, p. 430.
Micronisus badius, *Heugl. Peterm. Mitth.* 1861, p. 20.
Micronisus sphenurus, *Heugl. Peterm. Mitth.* 1861, p. 20; *Brehm, Reise n. Habesch*, p. 207 (1863); *Gray, Hand-l. B.* i. p. 35 (1869).
Nisus badius; *Heugl. Orn. N.O.-Afr.* i. p. 70 (1869); *Finsch, Tr. Z. S.* vii. p. 205 (1871).
Nisus brachydactylus, *Giebel, Orn. Thes.* p. 263 (1872).

Young. Above ashy brown, with rufous margins to the feathers, especially distinct on the head and nape, the latter mottled with white; an indistinct superciliary streak white, streaked with dark brown; ear-coverts rufous brown, streaked with greyish brown; throat white, with a broad central streak of greyish brown, and a few streaks of the same on the lower throat; rest of under surface white, with distinct oval drops of rufous brown on the chest, somewhat inclining to bars on the sides of the body; thighs barred on the upper and spotted on the lower part with pale rufous brown; abdomen and under tail-coverts white; under wing-coverts buffy white, with broad spots and bars of brown; quills dark brown, the secondaries shaded with ashy grey, all plainly crossed with blackish bars, more distinct underneath, where the quills are buff-coloured near the base of the inner web; tail ashy grey, with a whitish tip.

crossed with seven distinct blackish bars, more distinct on the under surface, which is whitish, and more numerous on the outer feather; iris yellow.

Adult male. Clear bluish ashy above, with concealed white markings on the scapulars and inner secondaries, the sides of the face paler ashy grey; throat white, with scarcely any indication of a central streak; under surface of body dull salmon-rufous, barred with white, the bars gradually diminishing on the thighs; under tail-coverts white; under wing-coverts buffy white, with faint indications of dusky cross bars; the axillaries plainly barred with dull salmon-rufous like the chest; secondaries uniform with the back, primaries blackish externally, shaded with ashy, otherwise barred like the young bird; tail bluish ashy above, tipped with white, the cross bars about six in number, but nearly obsolete on the central and outer tail-feathers, being more numerous but reduced to narrow lines on the latter; cere yellow; bill black; feet dark yellow; iris orange, deepening to scarlet with age. Total length 11·5 inches, culmen 0·9, wing 7, tail 5·7, tarsus 1·85.

Adult female. Similar to the male, but larger. Total length 12·3 inches, wing 7·6.

Very old birds lose the barred character of the upper part of the breast, it becoming gradually merged by the disappearance of the whitish cross bars, leaving this part uniform.

Hab. N.E. Africa and Senegambia.

a.	Ad. st.	River Gambia.	Purchased.
b.	♂ ad. st.	West Africa.	Earl of Derby [P.].
c.	♂ ad. sk.	West Africa.	Sir A. Smith [P.].
d.	♀ juv. sk.	West Africa.	Sir A. Smith [P.].
e, f.	♂ ♀ ad. sk.	Bogos Land.	Herr Esler [C.].
g, h.	♂ ♀ juv. sk.	Bogos Land.	Herr Esler [C.].
i.	♀ juv. sk.	Anseba valley.	W. T. Blanford, Esq. [C.].
j.	♂ ad. sk.	Mohaber, Lebka valley, July 8, 1868.	W. T. Blanford, Esq. [C.].
k.	♂ juv. sk.	Mohaber, Lebka valley, July 8, 1868.	W. T. Blanford, Esq. [C.].

Subsp. *e.* **Astur polyzonoides.**

Accipiter polyzonoides, *Smith, Ill. Zool. S. Afr.* pl. 11 (1849); *Layard, B. S. Afr.* p. 29 (1867); *Gurney, Ibis*, 1868, p. 144; *Ayres, Ibis*, 1869, p. 289; *Gurney in Anderss. B. Dam. Ld.*, p. 38 (1872).
Nisus polyzonoides, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Micronisus polyzonoides, *Scl. Ibis*, 1864, p. 306; *Gray, Hand-l. B.* i. p. 35; *Bocage, Jorn. Acad. Lisb.* 1870, p. 338.
Nisus badius, *Finsch & Hartl. Vög. Ostafr.* p. 81 (1870).

Adult. Above clear ashy grey, the concealed base of the scapulars white, with which the nape also is mottled; sides of the face ashy grey like the head, but a little paler; wing-coverts rather darker than the back, and of a deeper slate-colour; quills brown, paler on the outer web, the secondaries ashy grey like the back, all the quills barred with blackish on the inner web, more plainly on the under surface, which is for the most part white; tail ashy brown, whitish

at tip, crossed with five bars of darker brown, nearly obsolete towards the base of the centre feathers, but very distinct on the under surface, which is whitish; under surface of body whitish, the throat indistinctly, but all the rest of the body plainly, crossed with numerous bars of very pale rufous, narrower on the abdomen and thighs; under tail-coverts white; under wing-coverts similar to the breast; bill blackish, base of upper mandible yellow, of lower one bluish black; feet yellow; iris bright orange. Total length 13 inches, culmen 0·8, wing 7·65, tail 6·1, tarsus 1·8.

Hab. South Africa.

a. Ad. st.	South Africa.	Sir A. Smith [C.].	Type of species.
b. Juv. st.	South Africa.	Earl of Derby [P.].	

16. Astur soloensis. (Plate IV. fig. 1.)

Falco soloensis, *Lath. Gen. Hist.* i. p. 209 (1821).
Dædalion soloensis, *Horsf. Tr. Linn. Soc.* xiii. p. 137 (1822).
Falco nisus (small var.), *Raffl. Tr. Linn. Soc.* xiii. p. 278 (1822).
Accipiter soloensis, *Vig. Zool. Journ.* i. p. 338 (1824); *Gray, Gen. B.* i. p. 29 (1849); *Strickl. Orn. Syn.* p. 107 (1855); *Swinh. P. Z. S.* 1862, p. 315; *Scl. P. Z. S.* 1863, p. 207.
Astur soloensis, *Less. Man. d'Orn.* i. p. 94 (1828).
Nisus cuculoides, *Less. Man. d'Orn.* i. p. 97 (1828); *id. Traité*, p. 61 (1831).
Nisus minutus, *Less. Traité*, p. 60 (1831); *Pucher. Rev. Zool.* 1850, p. 210.
Tachyspiza soloensis, *Kaup, Classif. Säug. u. Vög.* p. 117 (1844); *id. Contr. Orn.* 1850, p. 63; *Bp. Rev. et Mag. de Zool.* 1854, p. 538; *Kaup, P. Z. S.* 1867, p. 172; *Walden, Tr. Z. S.* viii. pp. 34, 110 (1872).
Micronisus soloensis, *Gray, Cat. Accipitr. B. M.* p. 75 (1848); *Bp. Consp.* i. p. 33 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 38 (1854); *Gray, P. Z. S.* 1860, p. 344; *Swinh. P. Z. S.* 1863, p. 261; *Pelz. Reis. Novara, Vög.* p. 12 (1865); *Wall. Ibis*, 1868, p. 12; *Gray, Hand-l. B.* i. p. 35 (1869); *Swinh. P. Z. S.* 1871, p. 342.
Micronisus badius, *Swinh. Ibis*, 1860, p. 359.
Accipiter virgatus, *Swinh. Ibis*, 1861, p. 264.
Nisus soloensis, *Schl. Mus. P.-B.* Astures, p. 44 (1862); *Blyth, Ibis*, 1863, p. 16; *Schl. Vog. Nederl. Ind., Valkv.* pp. 28, 66, pl. 19. figs. 4–6 (1866); *id. Revue Accipitr.* p. 97 (1873).

Young. Above brown, with rufous edgings to the feathers, a little broader on the upper tail-coverts, the sides of the neck washed with rufous, the nape mottled with white; crown blackish, an ill-defined eyebrow and fore part of the cheeks white, narrowly lined with blackish brown; the ear-coverts brown, slightly washed with dull rufous; throat buffy white, with a moustachial line on each, and a median streak of brown; rest of under surface buffy white, the chest broadly streaked and the breast and flanks barred with pale rufous; under tail-coverts white; under wing-coverts clear buff, the lowest ones spotted with blackish; quills dark brown, slightly tipped with whitish, very indistinctly barred above with darker brown, underneath buffy white at the base of the inner web, in-



$\frac{2}{3}$

Keulemans del. Mintern Bros. Lith.

1. *Astur soloensis.*
2. „ *cuculoides.*

distinctly barred with dark brown, visible only on the inner webs; tail ashy brown, whitish at tip, crossed with five bars of darker brown, the under surface whitish ashy, the cross bars more distinct, except on the outer web, where they are almost obsolete.

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

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

Hab. China, from Pekin southwards throughout the Malayan peninsula and the archipelago generally to New Guinea.

a. ♂ ad. sk.	Java.	J. Gould, Esq. [P.].
b. ♂ juv. sk.	Malacca.	A. R. Wallace, Esq. [C.].
c. ♀ juv. sk.	Sumatra.	A. R. Wallace, Esq. [C.].
d. ♂ juv. sk.	Batchian.	A. R. Wallace, Esq. [C.].
e. ♂ ad. sk.	New Guinea.	A. R. Wallace, Esq. [C.].
f. Imm. st.	Java.	E. Wilson, Esq. [P.].
g. Ad. st.	Philippine Islands.	Hugh Cuming, Esq. [C.].
h. Ad. st.		
i. ♂ ad. sk.	Pescadores, April 1866.	R. Swinhoe, Esq. [C.].
k, l. ♀ ad. sk.	Amoy, April 20, 1867.	R. Swinhoe, Esq. [C.].
m. Skeleton.		Purchased.

17. Astur cuculoides. (Plate IV. fig. 2.)

Falco cuculoides, *Temm. Pl. Col.* i. pls. 110, 129 (1823).
Nisus cuculoides, *Less. Man. d'Orn.* i. p. 97 (1828); *id. Traité*, p. 61 (1831).

Adult. Above light slaty grey, the margins to the feathers rather darker, the ear-coverts and sides of neck a little paler than the upper surface; lores slightly whitish; under surface of body very pale vinous, somewhat tinged with ashy on sides of breast and throat, the latter being otherwise whitish; lower flanks, abdomen, under tail-coverts, and thighs white, the latter indistinctly dusted with ashy; under wing-coverts and axillaries pure white; upper wing-coverts slaty grey like back; quills blackish, shaded above with slaty grey, lower surface of primaries black, all the quills white at base of inner web, more extended on the secondaries, which are ashy grey towards the tips; tail deep slaty grey, nearly uniform

above, greyish ash-colour below, inclining to white near base of feathers and crossed with five bands of darker brown, the subterminal one broadest; cere yellow; bill horn-brown; feet yellow, claws black; iris dark brown. Total length 12·2 inches, culmen 0·75, wing 8, tail 5, tarsus 2.

Hab. North China, southwards to the Moluccas.

a. Ad. st.	North China.	— Fortune, Esq. [C.].
b. Ad. sk.	Celebes.	J. Gould, Esq. [P.].

18. Astur franciscæ.

Accipiter francesii, *Smith, S. Afr. Q. Journ.* ii. p. 280 (1834); *Gray, Cat. Accipitr.* p. 36 (1844); *id. Gen. B.* i. p. 29 (1849); *Hartl. Ann. N. H.* (2) ii. p. 387 (1848); *Strickl. Orn. Syn.* p. 115 (1855); *Hartl. Faun. Madag.* p. 20 (1861); *Sel. Ibis*, 1864, p. 298, pl. vii.; *Grand. Rev. et Mag. de Zool.* 1867, p. 320; *Schl. & Poll. Faun. Madag. Ois.* p. 36 (1868); *Sharpe, P. Z. S.* 1872, p. 868.

Nisus francesii, *Kaup, Isis*, 1847, p. 173; *Schl. P. Z. S.* 1866, p. 420; *id. Mus. P.-B. Revue Accipitr.* p. 94 (1873).

Micronisus francesii, *Bp. Consp.* i. p. 33 (1850); *Gray, Hand-l. B.* i. p. 35 (1869).

Scelospiza francesii, *Kaup, Contr. Orn.* 1850, p. 63.

Scelospiza franciscæ, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.

Nisus madagascariensis, *Hartl. Faun. Madag.* p. 20 (1861); *Roch & E. Newt. Ibis*, 1862, p. 268; *E. Newt. Ibis*, 1863, p. 337.

Micronisus madagascariensis, *A. Newt. P. Z. S.* 1865, p. 833.

Accipiter franciscæ, *Gurney, Ibis*, 1869, p. 447.

Young. Above brown, the nape and hind neck strongly mottled with white, of which the bases are composed; quills brown, somewhat shaded with rufous externally, and barred across with darker brown; tail brown, more or less washed with rufous and crossed with eight bars of darker brown; underneath dull white, transversely banded with broad vinous-brown bars, less distinct on the throat, cheeks, and under tail-coverts; under wing-coverts ochraceous, barred with brown.

Adult male. Above clear slate-colour, a little paler on the sides of the neck; lores and sides of face white; the ear-coverts a little shaded with dusky; under surface of body, including the under wing- and tail-coverts entirely white; wings a little darker slate-colour than the back, the secondaries washed with paler grey with concealed white bases; primaries blackish brown, barred with black on the inner web, more distinctly on the lower face of the wing, which is white near the base; tail ashy brown, with seven bars of darker brown on the inner web, becoming obsolete on the outermost and two centre rectrices, more distinct on the under surface of the feathers, which are pale greyish; bill bluish black; feet yellow; iris yellow. Total length 11·3 inches, culmen 0·8, wing 6·2, tail 5·5, tarsus 2.

Adult female. Larger than the male. Total length 13 inches, wing 6·85, tail 6·4, tarsus 2·05.

Hab. Madagascar and Joanna Island.

a. Ad. sk.	Madagascar.	Sir A. Smith [C.]. Type of species.
b, *c*, *d*. ♀ juv. sk.	N.E. Madagascar.	Heer D. C. Van Dam [C.].
e. Juv. sk.	S.E. Madagascar.	Mr. A. Crossley [C.].
f. Ad. st.	?	
g. Juv. st.	Madagascar.	
h. ♂ ad. sk.	Mouroundava, S.W. Madagascar.	Heer D. C. Van Dam [C.].
i. ♀ juv. sk.	Mouroundava, S.W. Madagascar.	Heer D. C. Van Dam [C.].
j. ♂ ad. sk.	Joanna Island.	Bartle Frere, Esq. [P.].

19. Astur poliocephalus.

Accipiter poliocephalus, *Gray, P. Z. S.* 1858, p. 170; *id. Cat. B. N. Guin.* p. 16 (1859); *Scl. P. Z. S.* 1860, p. 322, pl. x.; *Kaup, P. Z. S.* 1867, p. 177; *Wall. Ibis*, 1868, p. 12; *Gray, Hand-l. B.* i. p. 34 (1869).

Nisus poliocephalus, *Schl. Nederl. Tijdsch.* iii. p. 328 (1866); *id. Mus. P.-B. Revue Accipitr.* p. 88 (1873).

Young. Above pale brown, the head and neck washed with rufous, all the feathers margined with pale rufous; quills brown, pale rufous underneath, half barred across with brown near the base; tail brown, crossed with numerous bars of darker brown, about eleven in number, the outer feathers washed with rufous near the base; sides of face and neck pale rufous, the ear-coverts slightly shaded with brown; under surface of body buffy white, irregularly streaked or barred with pale rufous; thighs and under wing-coverts clear pale rufous; under tail-coverts white, only slightly washed with rufous.

Adult female (type of species). Entire head, neck, and interscapulary region delicate ashy grey; rest of the upper surface bluish slate-colour, the quills and tail a little darker, the quills white at the base of the inner web, indistinctly barred half across with blackish; outer tail-feathers a little inclining to brownish, whitish ashy underneath, crossed both above and below with distinct blackish bars; sides of face very pale ashy grey: entire under surface of body white, including the under wing- and tail-coverts; cere, orbits, and feet orange-red; iris deep olive-brown. Total length 15 inches, culmen 1·3, wing 8·4, tail 6·8, tarsus 2·55.

Adult male. Similar to the female, but smaller. Total length 12·8 inches, wing 7·8, tail 6·3, tarsus 2·35, middle toe 1·05. (*Mus. Lugd.*)

Hab. New Guinea and the Aru Islands.

a. ♀ ad. sk.	Aru Islands.	A. R. Wallace, Esq. [C.].	Type of species.
b. Ad. sk.	Salwatti.	A. R. Wallace, Esq. [C.].	
c. ♂ juv. st.	Dorey.	A. R. Wallace, Esq. [C.].	

20. Astur cinereus.

Sparvius cinereus, *Vieill. N. Dict.* x. p. 338 (1817).

Astur ravi, *Vig. Trans. Linn. Soc.* xv. p. 180 (1827); *Bp. Consp.* i. p. 31 (1850); *Gray, Hand-l. B.* i. p. 30 (1869).

Astur novæ hollandiæ, *Gould, B. Austr.* i. pl. 14 (1848).

Leucospizia rayi, *Kaup, Contr. Orn.* 1850, p. 67; *Gould, Handb. B. Austr.* i. p. 38 (1865).

Adult male. Above brownish ash-colour, the feathers with concealed spots of white near the base, the head clearer and more slaty grey; lores, sides of the face, and neck pale ashy, varied with whitish; under surface white, numerously but indistinctly barred with dull ashy, these bars gradually decreasing in size on the belly and disappearing entirely on the abdomen, thighs, and under wing- and tail-coverts; wing-coverts like the back, the quills dark brown, secondaries externally shaded with ashy grey, the innermost pale brownish ash-colour, white at the base and on the inner web, which is barred with brownish, the quills barred with dark brown, more plainly underneath, where the feathers are white at the base; tail pale brown, whitish underneath, numerously but indistinctly barred with darker brown; cere yellowish orange; bill black; feet yellow, claws black; iris yellow. Total length 16·5 inches, culmen 1·2, wing 10·25, tail 7·8, tarsus 2·7.

Adult female. Larger than the male. A specimen in the collection has the wing-coverts and tail tipped with whitish, and the bars on the breast, which are a little more distinct than in the preceding specimen, are mixed with brown, evidently the signs of immaturity. Total length 20 inches, wing 12·25, tarsus 2·95.

A younger bird does not exhibit the whitish margins to the wing-coverts, but has the markings on the chest more elongate, these, as well as the other pectoral markings, being very broad and distinct and brownish in colour; iris brown.

Hab. New South Wales and South Australia, extending along the entire eastern side of the continent to Cape York.

a. ♂ imm. sk.	Australia.	Linnean Society [P.].	Type of *A. rayi.*
b. ♂ ad. st.	New Holland.	Lady Carington [P.].	
c. ♀ ad. sk.	N.E. Australia.	Purchased.	
d, e. ♂ ♀ ad. sk.	Cape York.	J. Gould, Esq. [P.].	

21. Astur novæ hollandiæ.

New-Holland White Eagle, *Lath. Gen. Syn.* i. p. 40 (1781).
Falco novæ hollandiæ, *Gm. S. N.* i. p. 264 (1788, *ex Lath.*).
Falco albus, *White, Voy. N. S. W.* pl. 35 (1790).
Fair Falcon, *Lath. Gen. Syn. Suppl.* ii. p. 54 (1801).
Falco clarus, *Lath. Ind. Orn. Suppl.* ii. p. xiii (1801).
Sparvius niveus, *Vieill. N. Dict.* x. p. 338 (1817).
Astur novæ hollandiæ, *Vig. Zool. Journ.* i. p. 338 (1824); *Gould, Synops. B. Aust.* pt. 3 (1838); *Gray, Gen. B.* i. p. 27 (1849); *Bp. Consp.* i. p. 31 (1850); *Strickl. Orn. Syn.* p. 118 (1855); *Schl. Mus. P.-B.* Astures, p. 20 (1862); *Gray, Hand-l. B.* i. p. 29 (1869); *Schl. Revue Accipitr.* p. 63 (1873).
Astur albus, *Jard. & Selby, Ill. Orn.* i. p. 1, pl. 1 (c. 1830).
Dædalion candidum, *Less. Traité*, p. 66, pl. 12. fig. 1 (1831).
Falco leucaetus, *Forster, Descr. An.* p. 70 (1844).
Leucospizia novæ hollandiæ, *Kaup, Classif. Säug. u. Vög.* p. 119 (1844); *id. Contr. Orn.* 1850, p. 67; *Gould, Handb. B. Austr.* i. p. 38 (1865).

Young. Above brown, most of the feathers white for their basal half and pale brown at tips; cheeks pure white and sides of neck white, only slightly mottled with pale brown; quills brown, with pale rufous brown shafts, the primaries white at the base of the inner web, the inner secondaries white above for the greater part of the feather; tail pale brown, narrowly but indistinctly barred with darker brown, the shafts pale rufous brown, changing to pure white, a shade of which is also spreading on the feathers near the shaft of some of the tail-feathers, upper surface of tail dull whitish, the cross bars obsolete; under surface pure white. Total length 16·5 inches, wing 10, tarsus 2·75.

Adult male. Everywhere pure white; cere orange-yellow; gape bright yellow; bill black; legs bright yellow; iris pale carmine. Total length 16 inches, culmen 1·3, wing 10·4, tail 8, tarsus 2·75.

Adult female. Pure white like the male, but a little larger. Total length 20 inches, wing 12·61, tarsus 3·2.

Hab. Tasmania, New South Wales, and South Australia.

a. ♀ ad. st.	Van Diemen's Land.	Dr. Macbraire [P.].
b. ♂ juv. st.	Red Wallis Island.	Earl of Derby [P.].
c. ♂ ad. sk.	Australia.	Major-Gen. Hardwicke [P.].
d. ♀ ad. sk.	Australia.	Sir D. Cooper, Bart. [P.].
e. ♀ ad. sk.	Australia.	Sir Everard Home, Bart. [P.].

Subsp. *a.* **Astur leucosomus.**

Astur novæ hollandiæ, *Schl. Vog. Ned. Ind.* pp. 19, 58, pl. 11. fig. 3 (1866, *nec Gm.*).

Adult male. Similar to *A. novæ hollandiæ* and uniformly white like that species, but very much smaller; cere yellow; bill black; feet citron-yellow; iris orange-yellow. Total length 12·3 inches, culmen 1·1, wing 7·8, tail 5·9, tarsus 2·25, middle toe 1·2. (*Mus. Lugd.*)

Hab. New Guinea and adjacent islands.

22. **Astur haplochrous.**

Accipiter haplochrous, *Sclater, Ibis*, 1859, p. 275, pl. viii.; *Verr. et Des Murs, Rev. et Mag. de Zool.* 1860, p. 385; *Gray, Hand-l. B.* i. p. 34 (1869).

Nisus haplochrous, *Giebel, Thes. Orn.* p. 263 (1872); *Schl. Mus. P.-B. Revue Accipitr.* p. 91 (1873).

Young. Above brown, the feathers margined with rufous ochre, the hind neck, scapulars, and upper tail-coverts tinged with ochraceous buff; the crown slightly streaked with rufous, with a broad whitish eyebrow, narrowly streaked with dark brown; sides of the face and neck ochraceous buff, streaked with dark brown, tinged with rufous on the ear-coverts; under surface of the body clear ochraceous buff, the throat streaked with dark brown, forming a line down the centre, the breast marked with oval spots of dark brown, taking the form of arrow-shaped or linear bars on the sides of the body

and flanks, becoming fewer in number on the abdomen and under tail-coverts; thighs pale fawn, with dart-shaped bars of dark brown; under wing-coverts and axillaries also pale fawn, the former spotted, the latter barred, with dark brown; quills and tail brown, slightly tipped with whitish, numerously barred with dark brown, more conspicuously underneath, where the inner webs are of a pale fawn-colour.

Adult. Above deep blackish slate-colour, including the sides of the head, neck, throat, and breast; rest of the under surface white, including the under wing- and tail-coverts; inner face of the wing and tail white, numerously barred with blackish, only seen above indistinctly on the inner web; bill black; feet and iris yellow. Total length 16 inches, culmen 1·05, wing 9·7, tail 7·6, tarsus 2·75.

Hab. New Caledonia.

a. ♀ ad.	New Caledonia.	Purchased.
b. ♂ ad.	New Caledonia.	Purchased.
c. ♂ juv. sk.	New Caledonia.	Purchased.

23. Astur albigularis.

Accipiter albogularis, *Gray, Ann. N. H.* (4) v. p. 327 (1870); *id. in Brenchley, Cruise of the 'Curaçoa,'* p. 354, pl. 1 (1873).

Adult. Above black, including the lores and sides of the face and of the neck; quills and tail black, whitish at the base of the inner web, shading into ashy grey towards the tips, the latter barred with blackish on the median rectrices; under surface entirely white, shaded with greyish (apparently remains of vermiculations) on the sides of the upper breast; under wing-coverts and axillaries white. Total length 18 inches, culmen 1·35, wing 10, tail 8, tarsus 2·65.

Hab. Solomon Islands.

a. Ad. st.	Recherche Bay, San Christoval Island.	Julius Brenchley, Esq. [P.]. Type of species.

24. Astur poliogaster.

Falco poliogaster, *Temm. Pl. Col.* i. pl. 264 (1824, *ex Natterer, MS.*).
Astur poliogaster, *Vig. Zool. Journ.* i. p. 338 (1824); *Gray, Gen. B.* i. p. 27 (1849); *Strickl. Orn. Syn.* p. 121 (1855).
Nisus poliogaster, *Less. Traité*, p. 62 (1831); *Schl. Mus. P.-B.* Astures, p. 43 (1862); *id. Revue Accipitr.* p. 96 (1873).
Asturina poliogastra, *Kaup, Isis*, 1847, p. 198, *et Contr. Orn.* 1850, p. 67; *Bp. Consp.* i. p. 30 (1850).
Cooperastur poliogaster, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Accipiter poliogaster, *Gray, Hand-l.* i. p. 33 (1869); *Pelz. Orn. Bras.* p. 8 (1871).

Adult male (type of species). Above dark leaden grey, the ear-coverts and sides of the neck uniform with the crown, which is slightly darker than the back, as also are the wing-coverts; upper tail-coverts tipped with clear ashy grey; quills brown, with rufous

brown shafts; the secondaries leaden grey like the back, the quills barred with darker brown, these bars showing more plainly underneath, where the lower surface of the wings is ashy white, inclining to pure white near the base of inner web; tail black, tipped with whitish, and crossed with three narrow bars of clear ashy grey, a little rufescent near the shafts; entire under surface, including the under tail-coverts, pale grey, the throat and under wing-coverts whiter, the shafts darker, showing a hair-like stripe. Total length 17 inches, culmen 0·85, wing 9·8, tail 7·8, tarsus 2·15, middle toe 1·4. (*Mus. Lugd.*)

Hab. Brazil.

25. Astur pectoralis.

Astur pectoralis, *Bp. Rev. et Mag. de Zool.* 1850, p. 490; *Schl. Mus. P.-B.* Astures, p. 18 (1862); *Pelz. Orn. Bras.* pp. 6, 398 (1871); *Schl. Revue Accipitr.* p. 63 (1873).

Cooperastur pectoralis, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.

Accipiter pectoralis, *Gray, Hand-l. B.* i. p. 33 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).

Female, not quite adult. Above brown, with tips of rather paler brown to the feathers of the middle back, scapulars, and secondaries; the greater part of the wing-coverts, the interscapular region, and the lower back, rump, and upper tail-coverts black, with white tips; crown of head crested, pure black; ear-coverts and sides of neck rich rufous, forming a broad collar round the back of the latter; feathers below the eye and a faintly indicated moustachial streak black; throat white, a central streak and a few feathers on the lower part black; fore neck and chest rufous like the hind neck, the centre varied with black and white; rest of under surface white, with very broad and distinct bars of jet-black on the flanks and thighs, smaller and less distinct in the centre of the body; under wing-coverts and axillaries white like the breast, and similarly barred with black; quills brown, barred above with darker brown, the under surface ashy white, with a few greyish black cross bars; tail ashy brown, with four broad black bars, equally distinct on the under surface, which is ashy white; bill horn-brown, yellowish at base; feet yellow. Total length 19 inches, culmen 1·3, wing 11, tail 8·5, tarsus 2·4. (*Mus. Lugd.*)

Hab. Brazil.

26. Astur rufitorques.

Epervier océanien, ♀, *Hombr. & Jacq. Voy. Pôle Sud, Atlas*, pl. 2. fig. 2 (1842–53).

Astur rufitorques, *Peale, U. S. Expl. Exp.* p. 68, pl. 19 (1848); *Hartl. Ibis*, 1864, p. 232.

Accipiter rufitorques, *Hombr. & Jacq. Voy. Pôle Sud, Zool.* iii. p. 49 (1853); *Cass. U. S. Expl. Exp.* p. 90, pl. 2. figs. 1, 2 (1858); *Gray, B. Trop. Isl. Pacif. Ocean*, p. 2 (1859); *id. Hand-l. B.* i. p. 34 (1869).

Astur cruentus, *Finsch u. Hartl. Faune Central-Polyn. Orn.* p. 3 (1867).
Nisus rufitorques, *Schl. Mus. P.-B. Revue Accipitr.* p. 81 (1873)*.

Young. Above clear brown, with indications of pale rufous margins to the wing-coverts and scapulars; the hinder neck clearly rufescent, mottled with brown, and slightly varied with white; head inclining to ashy grey; throat dull white; rest of under surface white, with oval drops of pale rufous, taking the form of bars on the sides of breast and flanks; the thighs and under tail-coverts uniform pale rufous, slightly mottled with remains of brown markings; quills and tail dull brown, with more or less distinct bars of darker brown, plainer on the inner webs; the under surface of both paler and more ashy, washed with pale rufous near the base of the inner webs.

The above short description of the young bird refers to a specimen in the Museum which is beginning to show signs of adolescence, as may be seen by the ashy grey on the head and the presence of two fresh feathers on the back, which are also grey. The markings on the breast-feathers are altering in shape and turning to bars, while at the same time the stage of plumage is becoming perfected by the shooting of new feathers, as is usual in this section of the genus.

Adult male. Above delicate bluish grey or dove-colour, the wings and tail uniform with the back, the primaries only a little darker and more blackish; the under surface of both quills and tail pale ashy, almost white; hinder part of neck delicate vinous; sides of face ashy grey like the head, but a little paler; throat white; rest of under surface very pale vinous, lighter towards the abdomen and thighs and under tail-coverts; under wing-coverts white. Total length 13·5 inches, culmen 0·85, wing 8·1, tail 6·1, tarsus 2·2.

Adult female. Similar to the male, but larger and more slate-coloured; the neck-collar and the under surface deeper vinous. Total length 16·5 inches, wing 9·6, tail 7·1, tarsus 2·6.

Hab. Fiji Islands.

a, b. ♂ ♀ ad. sk.	Island of Matuku.	F. M. Rayner, Esq. [C.].	Voyage of the 'Herald.'
c. ♂ juv. st.	Viti Levu.	F. M. Rayner, Esq. [C.].	Voyage of the 'Herald.'
d. ♂ ad. st.	Fiji Islands.		
e. ♀ ad. st.	Rewa.	Julius Brenchley, Esq. [P.].	

27. Astur griseigularis.

Astur griseogularis, *Gray, P. Z. S.* 1860, p. 343.
Nisus cruentus, *Schl. Mus. P.-B.* Astures, p. 40 (1862); *id. Vog. Nederl. Ind., Valkv.* pl. 14. figs. 3, 4, pl. 15. figs. 1–3, pl. 16. figs. 1, 2 (1866).

* Although Professor Schlegel recognizes this species by its name in the place quoted, he adds as synonyms three species which are in this work treated as distinct. These are Nos. 8, 27, and 28 of the present genus.

Accipiter griseogularis, *Wall. P. Z. S.* 1865, p. 474; *id. Ibis*, 1868, p. 9; *Gray, Hand-l. B.* i. p. 34 (1869).
Erythrospiza griseogularis, *Kaup, P. Z. S.* 1867, p. 174.
Nisus griseigularis, *Giebel, Thes. Orn.* p. 263 (1872).

Young male. Above dark brown with rufous edgings to the feathers, the head blacker, the nape and hind neck much mottled with white, and the bases to the interscapular feathers, as well as the scapulars and secondaries, conspicuously white; quills and tail brown, paler at the tips, with numerous bars of darker brown, about twelve or thirteen in number on the latter, the bars much paler on the under surface of both, which is whitish ashy, washed with pale rufous near the base; sides of face and a distinct eyebrow white, streaked with blackish brown, the ear-coverts clouded with ashy brown; under surface of body whitish, with a streak of sepia-brown down the centre of the throat, the chest marked with oval drops of sepia-brown, the breast barred with brown, slightly tinged with rufous; thighs whitish, broadly barred with pale rufous; under tail-coverts white, sparingly barred with dark brown; under wing-coverts fulvous, with dark brown cross bars, somewhat tinged with rufous. Total length 18 inches, tail 8·8, tarsus 2·75.

Adult female. Above ashy grey, the head much lighter, especially the sides of the face and throat, which are pale bluish grey; sides and hinder part of the neck, including the interscapulary region, light vinous chestnut; wings blackish slate-colour, uniform pale ashy underneath, without any bars; tail ashy brown, clearer brown on the inner web, with very faint indications of darker brown bars, underneath uniform pale ashy, without cross bars; under surface of body clear vinous red, the chest uniform, the rest of the body with faint indications of whitish cross bars; under wing-coverts uniform with the breast; cere yellowish; bill black, lead-colour at base; feet olive or ochre-yellow. Total length 19 inches, culmen 1·6, wing 10·5, tail 9, tarsus 2·85.

Adult male. Similar to the female, but smaller. Total length 17 inches, culmen 1·5, wing 9·9, tail 8·25, tarsus 2·5.

Obs. The beautiful series of this species brought home by Mr. Wallace enables us to see how the different changes from the young plumage to the old are brought about. In the first stage the young bird resembles other Goshawks, being streaked on the chest, barred on the breast; but in its changes it closely follows the example of the small *Micronisi*, of which this group of Hawks seem to be distant relations. Both above and below the plumage is changed partially by a moult and partially by an absolute change of feather. Many new plumes appear on the breast, showing that the next dress will be of a vinous red colour with whitish cross bars. At the same time it appears that, after the manner of Sparrowhawks and Goshawks, some of the oval drops on the chest break up into bars, which are darker and not of so clear a rufous colour as the fresh-moulted feathers. While these changes take place below, a slight shade of vinous begins to appear on the hind neck, which, however, never shows very clearly till the bird is quite old; and as this character increases in

intensity with age, Mr. Wallace's *Accipiter muelleri*, being fully adult, could not possibly be a specimen of *A. griseigularis* which has "lost the nape-band," as Professor Kaup suggests.

Hab. Batchian, Gilolo, and Ternate.

a. ♀ ad. sk.	Batchian.	A. R. Wallace, Esq. [C.]. Type of species.
b. ♀ juv. sk.	Batchian.	A. R. Wallace, Esq. [C.]
c. Imm. st.	Batchian.	A. R. Wallace, Esq. [C.]
d, e. ♀ juv. sk.	Gilolo.	A. R. Wallace, Esq. [C.]
f. Juv. sk.	Gilolo.	A. R. Wallace, Esq. [C.]
g. Imm. st.	Gilolo.	A. R. Wallace, Esq. [C.]
h. ♂ ad. sk.	Ternate.	A. R. Wallace, Esq. [C.]
i. ♂ juv. sk.	Ternate.	A. R. Wallace, Esq. [C.]

Subsp. *a.* **Astur henicogrammus.**

Astur henicogrammus, *Gray, P. Z. S.* 1860, p. 343.
Accipiter equatorialis, *Wall. P. Z. S.* 1865, p. 474; *id. Ibis*, 1868, p. 10; *Gray, Hand-l. B.* i. p. 34 (1869).
Nisus cruentus, *Schl. Vog. Nederl. Ind. Valkv.* pl. 14. fig. 2 (1866).
Erythrospiza griseogularis (pt.), *Kaup, P. Z. S.* 1867, p. 175.
Nisus equatorialis, *Giebel, Thes. Orn.* p. 262 (1872).

Young (type of *A. henicogrammus*). Above brown; all the feathers barred and tipped with rufous, white at their bases and sometimes barred across the middle with white; the hinder part of the head strongly inclining to slaty grey; head dark brown, the feathers having white bases and being slightly washed with rufous; forehead, a broad eyebrow, and sides of the face white, the latter strongly streaked with dark brown; entire wings and tail ashy brown, banded with rufous like the back; throat white, streaked down the centre and spotted on the lower parts with dark brown; rest of under surface white, barred on the chest with dusky brown tinged with rufous, on the breast and abdomen with clear rufous; under wing-coverts ochraceous buff, spotted with dark brown tinged with rufous. Total length 15 inches, culmen 1·1, wing 8·6, tail 7·8, tarsus 2·6.

Adult. Above ashy, neck a little paler; the wing-coverts darker and more slaty; the primaries externally shaded with ashy grey, the secondaries entirely of the latter colour; the underside of the quills clear whitish ash-colour, deepening into ashy brown towards the tips of the feathers; tail ashy grey, browner on the inner webs, where there are remains of obsolete bars, the under surface clear ashy; back of the neck and upper part of interscapulary region pale vinous salmon-colour; sides of face and throat pale ashy grey, with a slight salmon tinge on the latter; rest of under surface, including the under wing-coverts and axillaries, uniform vinous salmon-colour; cere, eyelids, and feet orange-yellow; bill black; iris golden orange-yellow. Total length 14·5 inches, culmen 1·2, wing 8·1, tail 6·8, tarsus 2·1.

Adult female. Similar to the male, but a little larger. Total length 16·5 inches, wing 9·1, tail 7·35, tarsus 2·35.

Hab. Molucca Islands.

a. Juv. sk.	E. Gilolo.	A. R. Wallace, Esq. [C.]. Type of species.
b. ♀ ad. sk.	Gilolo.	A. R. Wallace, Esq. [C.]. Type of *A. equatorialis*.
c, *d*. ♂ ♀ ad. sk.	Morty Island.	A. R. Wallace, Esq. [C.].
e. ♀ ad. st.	Batchian.	A. R. Wallace, Esq. [C.].
f. ♂ imm. sk.	Waigiou.	A. R. Wallace, Esq. [C.].
g. ♀ juv. sk.	Waigiou.	A. R. Wallace, Esq. [C.].
h. Ad. st.	Salwatti.	A. R. Wallace, Esq. [C.].

Obs. This race or subspecies very closely resembles *A. griseigularis*, but is much smaller. The young bird is quite different, recalling rather that of *A. trinotatus*.

28. Astur torquatus.

Falco torquatus, *Temm. Pl. Col.* i. pl. 43 (1823).
Urospizia torquatus, *Kaup, Contr. Orn.* 1850, p. 64; *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Nisus torquatus, *Schl. Mus. P.-B.* Astures, p. 40 (1862); *id. Vog. Nederl. Ind., Valkv.* pp. 25, 63, pl. 17. figs. 1, 2, 4 (1866); *id. Revue Accipitr.* p. 91 (1873).
Accipiter cruentus, *Wall. P. Z. S.* 1863, p. 22.
Uraspiza torquata, *Kaup, P. Z. S.* 1867, p. 176.
Accipiter torquatus, *Wall. Ibis*, 1868, p. 11; *Gray, Hand-l. B.* i. p. 34 (1869).

Adult. Above greyish brown; the head and wing-coverts clearer slate-colour; nape mottled with white; hinder part of neck brick-red, shading even over the interscapulary region and scapulars; quills dark brown, shaded externally with slaty grey, the secondaries more conspicuously; the under surface of the quills paler, whitish near the base, shading into clearer ashy towards the tips, with several indistinct bars of dark brown on the inner web; tail ashy brown, slightly rufescent above, with twelve or thirteen cross bands of darker brown, more distinct underneath, where the colour is pale ashy, tinged with light rufous near the base; the outermost feather almost uniform ashy, the bars obsolete; sides of face ashy grey, a little clearer than the crown; throat whitish, freckled with remains of greyish cross bars; under surface of body white, distinctly barred with clear pale rufous, the bars decreasing in width towards the abdomen; thighs and under tail-coverts white; under wing-coverts white, the inner ones narrowly barred with pale rufous; cere greenish yellow; bill lead-colour; feet orange-yellow; iris orange-yellow. Total length 17 inches, culmen 0·75, wing 10·4, tail 8·2, tarsus 2·65.

Hab. Timor.

a. ♂ ad. sk.	East Timor.	A. R. Wallace, Esq. [C.].
b. ♀ ad. sk.	East Timor.	A. R. Wallace, Esq. [C.].
c, *d*, *e*. ♀ juv. sk.	East Timor.	A. R. Wallace, Esq. [C.].
f. ♀ ad. st.	East Timor.	A. R. Wallace, Esq. [C.].
g. ♂ juv. st.	East Timor.	A. R. Wallace, Esq. [C.].

29. Astur approximans *.

Falco radiatus, *Temm. Pl. Col.* i. pl. 123 (1823, *nec Lath.*).
Astur radiatus, *Vigors & Horsf. Tr. Linn. Soc.* xv. p. 181 (1827).
Astur fasciatus, *iid. tom. cit.* p. 181 (1827).
Astur approximans, *iid. tom. cit.* p. 181 (1827); *Gould, Syn. B. Austr.* pt. 3 (1838); *id. B. Austr.* i. pl. 17 (1848); *Sturt, Exp. Centr. Austr. App.* p. 15 (1849); *Pelz. Sitz. Akad. Wien*, lxi. p. 62 (1861); *Gould, Handb. B. Austr.* i. p. 41 (1865).
Accipiter approximans, *Strickl. Ann. N. H.* xi. p. 335 (1843); *Gray, Gen. B.* i. p. 29 (1849); *Bp. Consp.* i. p. 33 (1850); *Strickl. Orn. Syn.* p. 111 (1855); *Gray, Hand-l. B.* i. p. 34 (1869).
Urospiza approximans, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Nisus approximans, *Schl. Mus. P.-B.* Astures, p. 42 (1862); *id. Revue Accipitr.* p. 79 (1873).

Young. Above brown, the feathers edged with pale rufous; forehead, eyebrow, and sides of face white, streaked with dark brown; the nape much mixed with white; quills and tail brown, with whitish tips, barred with numerous narrow bands of darker brown, thirteen or fourteen in number on the latter, the under surface of both glossy white; the bars more indistinct near the base, which is shaded with pale rufous; under surface of body white, with an ill-defined streak of dark brown down the throat; the chest streaked with broad oval drops of pale rufous; the breast and flanks broadly barred with the same colour, especially on the thighs and under tail-coverts; under wing-coverts buffy white, with pale rufous cross bars; cere, gape, and base of bill bluish lead-colour, the latter blackish at tip; feet gamboge-yellow; iris beautiful yellow.

Adult female. Above dull ashy brown; the hinder part of the neck dull vinous red; quills uniform brown above, with a slight shade of ashy on the secondaries; the inner webs slightly paler, with obsolete remains of darker brown bars; the under surface of the quills ashy grey, with a pale rufous shade near the base, inclining to dark brown towards the tips, with notches of the same colour; tail ashy brown above, glistening white beneath, with indistinct remains of darker bars, about fourteen in number, on the inner webs; sides of face dark ashy brown, like the head; throat dull white, mottled with transverse remains of ashy bars; remainder of under surface dull rufous, barred with numerous narrow lines of whitish, each bar having a conterminous bar of ashy above and below; under wing-coverts dull rufous, more broadly barred with fulvous; cere greenish yellow; bill dusky, olive-green at base, as also the gape; feet yellow, claws black; iris bright yellowish orange. Total length 20 inches, culmen 1·3, wing 12·25, tail 10, tarsus 3·2.

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* Under the title of *A. approximans* Mr. E. P. Ramsay makes remarks on a Goshawk from Port Denison, which he was inclined to separate from the present species. I am not aware that any further description has been published (*cf.* Ibis, 1866, p. 326).

Adult male. Similar to the female, but smaller. Total length 15 inches, wing 10·2, tail 8·5, tarsus 3·15.

Obs. The male of *Astur approximans* may always be told from the female of *Accipiter cirrhocephalus* by its long tail, which measures 8 to 8·5 in the former, whereas the length of the latter never exceeds 7·2 or 7·3 inches. Along with this character will be found the slender middle toe of the *Accipiter*.

Hab. Eastern Australia, from Van Diemen's Land and New South Wales to a little above 20° S. lat.; New Caledonia; Norfolk Island.

a. ♀ juv. st.	Australia.	
b. ♀ ad. st.	Australia.	Linnean Society [P.].
c. ♀ juv. sk.	Australia.	Linnean Society [P.]. Type of species.
d, e. ♂ ♀ juv. sk.	Australia.	Linnean Society [P.]. Types of *A. fasciatus*.
f. ♀ ad. sk.	Australia.	Lady Carington [P.].
g. ♂ juv. sk.	Australia.	A. Cunningham, Esq. [P.].
h. ♀ juv. sk.	Australia.	Sir D. Cooper, Bart. [P.].
i. ♀ juv. sk.	Van Diemen's Land.	J. Gould, Esq.
j. ♂ juv. sk.	New South Wales.	J. Gould, Esq.
k. ♂ ad. sk.	S. Australia.	Sir George Grey [P.].
l. ♂ juv. sk.	"The Depot, lat. 29° 40'."	Capt. Sturt [P.].
m. ♀ juv. sk.	Port Curtis.	Voyage of the 'Rattlesnake.'
n, o. ♂ ad. juv. sk.	Gould's Island.	J. B. Jukes, Esq. [P.].
p. ♂ juv. sk.	N. Australia.	J. R. Elsey, Esq. [P.].

30. Astur cruentus.

Astur cruentus, *Gould, P. Z. S.* 1842, p. 113; *id. B. Austr.* i. pl. 18 (1848); *id. Handb. B. Austr.* i. p. 43 (1865).
Accipiter cruentus, *Gray, Gen. B.* i. p. 29 (1849); *Bp. Consp.* i. p. 33 (1850).
Urospizia cruentus, *Kaup, Contr. Orn.* 1850, p. 65.
Urospiza cruenta, *Kaup, P. Z. S.* 1867, p. 176.

Adult. Above ashy grey, with a bluish shade, especially distinct on the crown, sides of face, and wing-coverts; nape somewhat varied with white; sides of neck dull vinous, forming an imperfect collar round hind neck; quills ashy grey, the primaries blacker, externally washed with ashy, all numerously barred with darker brown on inner webs; the lower surface ashy whitish, with a pale salmon-srufous tinge on inner web; the bars by no means distinct near base; tail ashy grey above, with a slight bluish shade, slightly tipped with ashy white, and crossed with fifteen or sixteen dusky bars, almost obsolete on the two central feathers; throat dull white, mottled all over with ashy brown bars; rest of under surface dull white, crossed with numerous bars of very pale vinous, inclining to grey on the lower under wing-coverts; cere dull yellow; bill blue at base, black at tip; feet pale yellow, claws black; iris bright yellow.

Total length 21·5 inches, culmen 1·2, wing 12·5, tail 11, tarsus 3·4. (*Mus. Cantabr.*)

Hab. Western Australia.

31. Astur wallacii *. (Plate V.)

Astur approximans, *Wall. Ibis*, 1868, p. 12 (*nec Vig. & Horsf.*).

Adult male (Lombock). Above ashy brown, the head more decidedly greyish; sides of the face ashy grey, paler than the crown; sides of the neck deep vinous salmon-colour, forming an ill-defined collar round the back of the neck; throat pale rufous, mottled with indistinct white and ashy grey cross bars; rest of under surface rich vinous salmon-colour, with indistinct remains of white cross bars on the breast, abdomen, and under tail-coverts; thighs uniform vinous salmon-colour; under wing-coverts coloured and faintly barred like the breast, the axillaries uniform vinous; quills ashy brown, more or less shaded with grey, indistinctly crossed with numerous bars of darker brown, a little more distinct on the under surface, which is pale rufous at base of inner webs, shading into ashy grey at the tips; tail-feathers uniform ashy brown above, with remains of thirteen or fourteen bars of darker brown, plainer underneath, where the feathers are ashy white; bill dusky, tip black; feet yellowish; iris brown. Total length 18 inches, culmen 1·15, wing 10·55, tail 8·6, tarsus 2·55.

Young female (Bouru). Above brown, the wing- and tail-coverts with clear rufous margins; the nape mottled with white, the hind neck with rufous ochre; eyebrow and sides of face and throat white, thickly streaked with dark brown; rest of under surface white, the breast obscured with numerous large spade-shaped mark-

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* Astur, sp.

Mr. Wallace's collection has a young bird from Lombock, which I cannot identify. From its rufous coloration it seems to belong to the *A. trinotatus* group.

Young. Above rufous, the feathers creamy white at their bases, barred and centred with ashy brown; nape slightly streaked with creamy buff; sides of face and neck entirely rufous, streaked with ashy brown, with faint indications of a buff eyebrow; wing-coverts ashy brown, with broad rufous margins; quills ashy brown, narrowly margined and tipped with rufous, barred with darker brown, more plainly seen on the under surface, which is pale rufous at base of inner web, ashy grey towards the tips; tail ashy brown, tipped with pale brown, washed externally with rufous, crossed with ten narrow bars of darker brown more distinct on the under surface, the feathers being pale rufous at base of inner web; under surface of body creamy buff; the throat with a broad central line of greyish brown, the entire breast streaked with longitudinal markings of brown, the under tail-coverts whitish with rufous-brown spots; thighs pale fawn-colour, spotted and barred with clear rufous; under wing-coverts buffy fawn-colour, streaked with rufous brown; cere pale yellow; bill black; feet pale yellow; iris olive. Total length 16 inches, culmen 1, wing 8·9, tail 7·3, tarsus 1·35.

This may be the young of *Astur wallacii*; but the bird from Bouru is what I consider to be really the young of that species.



1/3

Keulemans del. Mintern Bros. Lith.

Astur wallacii.

ings of dark brown, the lower breast barred with rufous brown, the bars becoming wider apart on the abdomen and under tail-coverts, and more distinctly rufous on the thighs; quills brown, numerously barred with darker brown on the inner webs, becoming obsolete on the bases of the latter, which are pale rufous underneath; tail brown, crossed with about eighteen bars of darker brown, the under surface lighter and ashy white in colour. Total length 18·5 inches, culmen 1·15, wing 10·4, tail 8·5, tarsus 2·7.

The young bird described has been considered to belong to *A. torquatus* by Mr. Wallace; but its *facies* certainly refers it to a species allied to *A. approximans*, as does also the sequence of change in its progress towards maturity, of which evidences are beginning to appear in the Bouru specimen. I think that there can be little doubt of its being the young of *A. wallacii*.

Hab. Lombock, Bouru.

a. ♂ ad. sk.	Lombock.	A. R. Wallace, Esq. [C.].
b. ♀ juv. sk.	Bouru.	A. R. Wallace, Esq. [C.].

23. NISOIDES.

Type.
Nisuoides, *Pollen, Bull. Soc. Sc. Réun.* 1866, p. 62..... N. moreli



Bill of *Nisoides moreli* (after Schlegel).

Range. Madagascar.

1. Nisoides moreli.

Nisuoides moreli, *Pollen, Bull. Soc. Sc. Réun.* 1866, p. 62.
Nisoides moreli, *Newton, Zool. Rec.* iii. p. 73 (1867).
Accipiter moreli, *Grand. Rev. et Mag. de Zool.* 1867, p. 320; *Gurney, Ibis*, 1870, p. 448.
Nisus morelii, *Schl. & Poll. Faun. Madag. Ois.* p. 39, pl. 12. fig. 3 (1868); *Schl. Revue Accipitr.* p. 95 (1873).
Micronisus moreli, *Gray, Hand-l. B.* i. p. 35 (1869).

Young male. Above rather light brown, with remains of rufous edges on the upper surface, more distinct on the head and least wing-coverts; nape much varied with white; ear-coverts rufous brown; an indistinct eyebrow and cheeks buffy white, streaked with brown; quills and tail much as in the adult bird, but rather paler; underneath buffy white, with broad blackish markings in the centre of the throat, causing very distinct streaks, the remainder of the under surface barred with dark brown with a rufous tinge; the bars smaller and more like spots on the chest; wing 5·95.

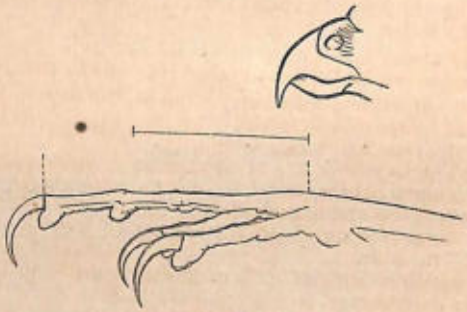
Adult male (type of species). Above slaty black, the nape

mottled with white, as also the base of the scapulars; upper tail-coverts slightly tipped with white; ear-coverts slaty black like head; cheeks, lores, and an indistinct eyebrow whitish, slightly tinged with rufous and streaked with black; quills and tail dark brown, barred with blackish brown, plainer below, where the under surface is ashy white, rufescent at the base of the inner webs; the tail ashy brown at tip, and crossed with about eight bands, the subterminal one broader; under surface of body white, the throat and chest washed with rufous ochre, the throat mesially streaked with narrow black lines, the entire breast barred with rufous brown, narrower on the thighs, and almost disappearing on the under tail-coverts; under wing-coverts rufous ochre, barred with blackish; bill black; feet yellow, nails black; iris pure white. Total length 11·5 inches, culmen 0·8, wing 6, tail 5·3, tarsus 2, middle toe 0·98. (*Mus. Lugd.*)

Hab. West coast of Madagascar.

24. ACCIPITER.

	Type:
Accipiter, *Briss. Orn.* i. p. 310 (1760)	A. nisus.
Nisus, *Cuv. Leçons Anat. Comp.* i. tabl. ois. (1799)	A. nisus.
Ierax, *Leach, Syst. Cat. Mamm. &c. Brit. Mus.* p. 10 (1816)	A. nisus.
Hieraspiza, *Kaup, Class. Säug. u. Vög.* p. 116 (1844)	A. virgatus.
Cooperastur, *Bp. Rev. et Mag. de Zool.* 1854, p. 538	A. nisus.
Teraspiza, *Kaup, P. Z. S.* 1867, p. 171	A. virgatus.



Bill and foot of *Accipiter nisus*.

Range. The four quarters of the globe, excepting Oceania, west of Australia, and New Guinea.

Key to the Species.

a. Thighs banded.
  a'. No collar round neck.
    a''. Bars on tail not exceeding five.

a'''. No white spots on centre tail-feathers; upper tail-coverts sometimes slightly margined at tip with white.
a''''. Cheeks and ear-coverts rufous, or ashy white tinged with rufous.
aa. The rufous bars underneath narrower than the intervening white spaces ..... *nisus*, p. 132.
bb. The rufous bars broader than the white interspaces.
aa'. Smaller; wing in ♂ 7·15 inches, in ♀ 8·25 ..... *fuscus*, p. 135.
bb'. Larger; wing in ♂ 9·3 inches, in ♀ 10·3 ..... *cooperi*, p. 137.
b''''. Ear-coverts greyish, like rest of crown; wing not exceeding 6·6 inches..... *tinus*, p. 139.
b'''. Centre tail-feathers with conspicuous white spots; upper tail-coverts white ..... *minullus*, p. 140.
a. Larger; darker; more broadly barred below. *a. erythropus*, p. 141.
β. Smaller; more grey; bars below narrower. *β. minullus*, p. 140.
b''. Bars on tail about 14 in number..... *cirrhocephalus*, p. 141.
c''. Tail quite uniform ..... *madagascariensis*, p. 143.
b'. White collar round neck ..... *collaris*, p. 144.
b. Thighs uniform.
a'. Rufous collar round neck.
a''. Larger; underneath grey ..... *rubricollis*, p. 144.
b''. Smaller; underneath vinous ..... *erythrauchen*, p. 145.
b'. No rufous collar.
c''. Thighs grey.
c'''. Ear-coverts and sides of neck grey.. *rhodogaster*, p. 145.
d'''. Ear-coverts and sides of neck rufous *sulaensis*, p. 146.
d''. Thighs rufous or ochraceous.
e'''. Ear-coverts and breast white.
f''''. Thighs rufous ..... *erythrocnemis*, p. 147.
g''''. Thighs ochraceous ..... *chionogaster*, p. 148.
f'''. Ear-coverts and breast rufous.
h''''. Larger; wing in ♂ 8·2 inches; in ♀ 9·4 ..... *rufiventris*, p. 148.
i''''. Smaller; wing in ♂ 7, in ♀ 8.. *ventralis*, p. 149.
g'''. Ear-coverts grey.
k''''. Large white spots on centre tail-feathers..... *hartlaubi*, p. 150.
l''''. No white spots on centre tail-feathers.
m. Breast rufous.
m'. Smaller; under wing-coverts buff; wing in ♂ 6·6 inches, in ♀ 7·4 ..... *virgatus*, p. 150.
n'. Larger; under wing-coverts rufous, like breast; wing in ♂ 8·5 inches, ♀ 10·5..... *guttatus*, p. 152.
n. Breast cinereous.

o. Breast uniform grey.
o'. Under wing-coverts deep rufous ..... *pileatus*, p. 153.
p'. Under wing-coverts white.. *bicolor*, p. 154.
p. Breast spotted with white.... *chilensis*, p. 155.
e''. Thighs black ..... *melanoleucus*, p. 156.

1. Accipiter nisus*.

The Sparrow-Hawk, *Albin, Nat. Hist. B.* i. pl. 5 (1731).
L'Epervier, *Briss. Orn.* i. p. 310 (1760); *Buff. Pl. Enl.* i. pls. 412, 467 (1783).
L'Epervier tacheté, *Briss. Orn.* i. p. 314 (1760).
Le petit Epervier, *Briss. Orn.* i. p. 315, pl. 30. fig. 1 (1760).
Falco nisus, *Linn. S. N.* i. p. 130 (1766); *Naum. Vög. Deutschl.* i. p. 258, Taf. 19, 20 (1822); *Yarr. Brit. B.* i. p. 62 (1843); *Schl. u. Susem. Vög. Eur.* Taf. 29 (1839).
Falco minutus, *Linn. S. N.* i. p. 131 (1766, *ex Briss.*).
Falco nisus major, *Bekker, Teutsche Orn.* Heft iii. pls. 1, 2 (c. 1800).
Falco nisus minor, *Bekker, Teutsche Orn.* Heft iii. pls. 3, 4, 5 (c. 1800).
Dædalion fringillarius, *Savign. Ois. d'Egypte*, p. 270 (1808).
Accipiter nisus, *Pall. Zoogr. Rosso-As.* i. p. 370 (1811); *Gray, Gen. B.* i. p. 29, pl. 10. fig. 4 (1849); *Bp. Consp.* i. p. 32 (1850); *Strickl. Orn. Syn.* p. 104 (1855); *Hewits. Eggs Brit. B.* i. p. 35 (1856); *Fritsch, Vög. Eur.* tab. 4. figs. 3, 4, 5 (1858); *Jerd. B. Ind.* i. p. 51 (1862); *Newt. Ooth. Wolley.* p. 79 (1864); *Gould, B. Gt. Br.* pt. v. (1865); *Brodr. Falc. Fav.* pl. ii. (1865); *Degl. et Gerbe, Orn. Eur.* i. p. 99 (1867); *Loche, Expl. Sci. Algér.* i. p. 72 (1867); *Bettoni, Ucc. Lomb.* ii. tav. 58 (1869); *Gray, Hand-l. B.* i. p. 31 (1869); *Hume, Rough Notes*, i. p. 124 (1869); *Newt. ed. Yarr. Brit. B.* i. p. 88 (1871); *Salvad. Faun. Ital. Ucc.* p. 15 (1871); *Swinh. P. Z. S.* 1871, p. 341; *Sharpe & Dresser, B. Eur.* pt. ix. (1871); *Shelley, B. Egypt*, p. 185 (1872); *Hume, Stray F.* i. p. 124 (1873).
Ierax fringillarius, *Leach, Syst. Cat. Mamm. &c. Brit. Mus.* p. 10 (1816).
Sparvius nisus, *Vieill. N. Dict.* x. p. 319 (1817).
Accipiter fringillarius, *Vig. Zool. Journ.* i. p. 338 (1824); *Gould, B. Eur.* i. pl. 18 (1837).
Buteo nisus, *Flem. Brit. An.* i. p. 55 (1828).
Nisus communis, *Less. Traité*, p. 58 (1831).
Nisus elegans, *Brehm, Vög. Deutschl.* p. 86 (1831).

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* The present species will be found fully treated of in Part ix. of Sharpe and Dresser's 'Birds of Europe.' There I was inclined to consider Mr. Hume's *Accipiter melanoschistus* a good species; but a further experience of Accipitrine birds induces me to think that it may be only a dark race of the ordinary Sparrow-Hawk. I say this under reserve, as I have not yet seen a specimen labelled by Mr. Hume himself, and only judge by examples in the British Museum and Lord Walden's collection. At present, also, I believe Hodgson's *A. subtypicus* to be only a common Sparrow-Hawk. Should Mr. Hume's bird be distinct, the synonymy will be as follows:—

ACCIPITER MELANOSCHISTUS.

Accipiter melanoschistus, *Hume, Ibis*, 1869, p. 356; *id. Rough Notes*, i. p. 128 (1869); *Sharpe & Dresser, B. Eur.* pt. ix. (A. nisus), p. 16 (1871).
Nisus melanoschistus, *Giebel, Thes. Orn.* p. 263 (1872).

Nisus fringillarum, *Brehm, tom. cit.* p. 87 (1831).
Nisus peregrinus, *Brehm, tom. cit.* p. 88 (1831).
Falco nisosimilis, *Tickell, J. A. S. B.* ii. p. 571 (1833).
Astur nisus, *Keys. & Blas. Wirb. Eur.* p. 140 (1840); *Bailly, Orn. Sav.* i. p. 75 (1853); *Dubois, Ois. Belg.* pls. 15, 16 (1854); *Schl. Vog. Nederl.* pls. 13, 14 (1854); *Sundev. Sv. Fogl.* p. 220, pl. xxviii. fig. 1 (1860).
Accipiter nisosimilis, *Blyth, J. A. S. B.* xii. p. 311 (1843); *Strickl. Orn. Syn.* p. 105 (1855).
Accipiter subtypicus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Astur major, *Degl. Orn. Eur.* i. p. 86 (1849).
Nisus fringillarius, *Kaup, Contr. Orn.* 1850, p. 64; *Schl. Mus. P.-B.* Astures, p. 28 (1862); *Heugl. Orn. N.O.-Afr.* p. 65 (1869); *Schl. Revue Accipitr.* p. 68 (1873).
Nisus major, *Jaub., Mots. Eur. Orn.* p. 29 (1851).
Nisus intercedens, *Brehm, Naum.* 1855, p. 269.

Nestling. Clothed with white down; the feathers of the back deep sepia-brown, with rufous margins; breast fulvous fawn, the chest longitudinally streaked with brown, inclining to arrow-head markings on the abdomen and to bars on the flanks.

Young. Above sepia-brown, all the feathers plainly margined with rufous, more especially on the crown; occiput and nape mottled with white; a distinct eyebrow, cheeks, and ear-coverts white, streaked with blackish, the hinder margin of the latter brown, washed with rufous; quills brown, inclining to ashy brown externally, the secondaries narrowly margined and tipped with rufous; all the quills barred across with darker brown, more distinct on the lower surface, which is whitish; tail ashy brown, slightly tipped with whitish, and crossed with five bars of dark brown; under surface of body white, the throat narrowly streaked with black, the breast barred with rufous brown, or marked with spade-shaped spots of brown tinged with rufous, the flanks and thighs distinctly barred with dark brown; under tail-coverts white; under wing-coverts buffy white, numerously spotted or half-barred with dark brown; cere yellow; bill horn-colour, the lower mandible yellowish at base; feet yellow; iris yellow.

Adult male. Above bluish slate-colour, the black shafts distinct on some of the rump-feathers; wings bluish slaty, the primaries browner and barred with darker brown, more distinct below, where the inner webs of the quills are ashy white somewhat tinged with rufous; tail also bluish slaty, but a little browner than the back, slightly tipped with whitish and crossed with four bars of darker brown; nape slightly mottled with white; forehead and eyebrow slightly washed with rufous; lores whitish; cheeks and ear-coverts bright rufous, the upper margin of the latter slaty like the sides of the neck; throat whitish, washed with rufous; rest of under surface white, the breast narrowly barred across with bright rufous, some of the bars tinged with brown, becoming narrower towards the abdomen and thighs, which are nearly entirely white; flanks bright rufous; under tail-coverts white; under wing-coverts and axillaries white, the former spotted, the latter barred with brown; cere yellow; bill dark

horn-blue, base of lower mandible yellowish; feet yellow; iris orange. Total length 13 inches, culmen 0·85, wing 8·15, tail 6·3, tarsus 2·3.

Adult female. Larger than the male, and paler grey above; below barred with brown, more or less tinged with rufous in young examples, but becoming slaty grey in old specimens, which also have a rufous tuft on the flanks. Total length 15·5 inches, wing 9·5, tail 7, tarsus 2·5.*

Hab. The whole of Europe and Northern Asia, extending in winter into Algeria, N.E. Africa, the Indian peninsula, and China.

a. ♂ ad. st.	England.	A. D. Bartlett, Esq. [P.].
b. ♂ ad. st.	England.	A. Cooper, Esq., R.A. [P.].
c. ♀ ad. sk.	England, Nov. 24, 1873.	Baron A. von Hügel [P.].
d. ♂ ad. sk.	Stonyhurst, Lancashire.	Baron A. von Hügel [P.].
e. Pull. sk.	Hethersett, Norfolk.	Baron A. von Hügel [P.].
f. ♀ juv. sk.	Hethersett, Norfolk.	J. Edmund Harting, Esq. [P.].
g. ♂ juv. sk.	Norwich, Norfolk.	J. Edmund Harting, Esq. [P.].
h. Juv. sk.	Lowestoft, Suffolk.	J. Edmund Harting, Esq. [P.].
i, k. ♂ ♀ juv. st.	Saffron Walden, Essex.	Mr. J. Clark [C.].
l. Pull. st.	Cambridgeshire.	Mr. J. Baker [C.].
m. ♀ imm. st.	Cambridgeshire.	Mr. J. Baker [C.].
n. ♀ ad. sk.	Uckfield, Sussex.	J. Edmund Harting, Esq. [P.].
o, p. ♂ ♀ juv. sk.	Cookham, Berks.	R. B. Sharpe, Esq. [P.].
q. ♂ ad. sk.	Avington, Hants, Nov. 11, 1873.	Captain Shelley [P.].
r, s. ♂ ♀ ad. st.	Wiltshire.	Col. Montagu [P.].
t. ♂ ad. sk.	Pembrokeshire.	Rev. A. Morgan [P.].
u, v. ♂ juv. sk.	Monmouthshire.	Rev. A. Morgan [P.].
w. ♀ juv. st.	Monmouthshire.	Rev. A. Morgan [P.].
x. Pull. sk.	Wermland, July 8, 1871.	Purchased.
y, z. ♀ juv. sk.	Skåne, S. Sweden, Oct. 14, 1869.	Purchased.
a'. ♂ ad. sk.	Skåne, S. Sweden, Oct. 16, 1869.	Purchased.
b', c'. ♂ juv. st.	Archangel.	R. B. Sharpe, Esq. [P.].
d'. ♀ alb. st.	Germany.	Dr. Kaup [P.].
e'. ♂ ad. st.	Kiel.	M. F. Boie [P.].
f'. ♀ ad. sk.	Belgium.	Brussels Museum [P.].
g'. ♂ juv. sk.	Tangiers.	J. Edmund Harting, Esq. [P.].

h'. ♀ juv. sk.	Algeria.	R. B. Sharpe, Esq. [P.].
i'. ♀ juv. sk.	Egypt.	W. B. D. Turnbull, Esq. [P.].
k'. ♀ juv. sk.	Kirjath Jearim.	Canon Tristram [C.].
l'. ♂ ad. sk.	Jericho.	Canon Tristram [C.].
m'. ♂ ad. sk.	Xanthus.	Sir C. Fellowes [P.].
n' o'. ♀ ad. sk.	Bagdad.	K. Loftus, Esq. [P.].
p'. ♂ ad. sk.	Scinde (*Dr. Gould*).	J. Gould, Esq. [P.].
q', r'. ♀ juv. st.	Nepal.	B. H. Hodgson, Esq. [P.].
s', t'. ♂ ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
u', v'. ♂ ♀ juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
w', x'. Skeleton.		Purchased.
y', z'. Sternum.		Purchased.

Subsp. a. *A. melanoschistus.*

a, b. ♀ vix ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].

2. Accipiter fuscus *.

American Brown Hawk, *Lath. Gen. Syn.* i. p. 98 (1781).
Dubious Falcon, *Penn. Arctic Zool.* p. 213 (1785).
Falco fuscus, *Gm. S. N.* i. p. 280 (1788); *Audub. B. Am.* pl. 374, *et Orn. Biogr.* iv. p. 522 (1838).
Falco dubius, *Gm. S. N.* i. p. 281 (1788).
Accipiter striatus, *Vieill. Ois. Am. Sept.* pl. 14 (1807); *Strickl. Orn. Syn.* p. 109 (1855).
Falco vieillotinus, *Shaw, Gen. Zool.* vii. p. 204 (1809).
Falco velox, *Wils. Am. Orn.* v. p. 116, pl. 45. fig. 1 (1812).
Falco pennsylvanicus, *Wils. Am. Orn.* vi. p. 1, pl. 46. fig. 1 (1812).
Sparvius striatus, *Vieill. N. Dict.* x. p. 328 (1817).
Accipiter ardesiaceus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1274 (1823).
Accipiter velox, *Vig. Zool. Journ.* i. p. 338 (1824).
Accipiter pennsylvanicus, *Vig. Zool. Journ.* i. p. 338 (1824); *Swains. Faun. Bor.-Am. Birds*, p. 44 (1831).
Astur pennsylvanicus, *Less. Man. d'Orn.* i. p. 92 (1828).
Nisus striatus, *Cuv. Règne An.* i. p. 334 (1829).
Nisus pennsylvanicus, *Cuv. R. A.* i. p. 334 (1829).
Astur velox, *Jameson, ed. Wils. Am. Orn.* i. p. 68 (1831).
Nisus malfini, *Less. Traité*, p. 58 (1831).

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* ACCIPITER FRINGILLOIDES.

Accipiter fringilloides, *Vig. Zool. Journ.* iii. p. 434 (1828); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).
Nisus fringilloides, *D'Orbigny, in Ramon de la Sagra, H. N. Cuba, Ois.* p. 18 (1839).

Hab. Cuba.
Supposed by nearly all ornithologists to be the same as *A. fuscus*; and in this opinion I am inclined to agree.

Accipiter fuscus, *Bp. Comp. List B. Eur. & N. Am.* p. 5 (1838); *Gray, Gen. B.* i. p. 29 (1849); *Bp. Consp.* i. p. 32 (1850); *Cass. B. Calif. & Texas*, p. 95 (1855); *Strickl. Orn. Syn.* p. 108 (1855); *Cass. in Baird's B. N. Am.* p. 18 (1860); *Gray, Hand-l. B.* i. p. 32 (1869); *Allen, Bull. Harv. Coll.* ii. p. 319 (1871); *Cooper, B. Calif. ed. Baird*, p. 466 (1871); *Coues, Key N. A. Birds*, p. 212 (1872); *Adams, Rambles*, p. 297 (1873); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).

Astur fuscus, *Dekay, Zool. N. York, Orn.* p. 17, pl. 2. fig. 2 (1844).

Nisus fuscus, *Kaup, Contr. Orn.* 1850, p. 64; *Schl. Mus. P.-B. Astures*, p. 30 (1862); *id. Revue Accipitr.* p. 69 (1873).

Young male. Above brown, with distinct rufous edgings to the feathers, the nape, bases of the scapulars, and upper tail-coverts varied with white; quills brown, with narrow fulvous margins and tips, barred with darker brown, more distinct below; tail brown, shaded with ashy above, tipped with white, and crossed with four blackish bands; forehead, eyebrow, and sides of face white, streaked with dark brown, especially the ear-coverts, which are nearly entirely brown on their hinder margin; throat buffy white, with narrow blackish streaks; rest of under surface white, the breast streaked with pale rufous, the abdomen and flanks numerously marked with spade-shaped spots or bars of the same colour, the thighs very broadly barred with brighter rufous, nearly uniform at base; under tail-coverts white, with spade-shaped spots of very pale rufous; under wing-coverts buff, narrowly streaked or spotted with dark brown; cere yellow; bill dark bluish horn-colour; tarsi yellow.

Adult male. Above slaty blue, the head and wing-coverts rather darker, shaft-stripes black and tolerably distinct; tail-coverts very narrowly tipped with white, as also the secondaries, which are slaty blue like the back; primaries brown, all the quills barred with darker brown, more distinct below, where the inner webs are ashy white; tail slaty blue, narrowly tipped with white, and crossed with four blackish bands, the subterminal one broadest; lores, frontal feathers, and an indistinct eyebrow whitish, with narrow black streaks; sides of face white, streaked with blackish, the ear-coverts and sides of neck inclining to bright rufous; throat white, with narrow blackish shaft-lines; under surface of body white, broadly barred with pale rufous, diminishing in extent towards the abdomen, but very distinct on the thighs; under wing-coverts buffy white, with small spots of black, becoming larger on the lower series; cere greenish yellow; bill black; feet greenish yellow; iris brilliant yellow. Total length 11·3 inches, culmen 0·65, wing 7·15, tail 6, tarsus 2.

Adult female. Similar to the male, but not so bright rufous underneath. Total length 14 inches, wing 8·25, tail 6·6, tarsus 2·15.

Hab. The whole of North America, extending in winter into Central America, to Guatemala and Veragua.

a. ♂ juv. st.	Quebec.	D. W. Mitchell, Esq. [P.].

b. ♀ juv. st.	Delaware, U.S.A.	E. Doubleday, Esq. [P.].
c, d. ♂ juv. sk.	N. America.	R. B. Sharpe. Esq. [P.].
e. ♀ juv. sk.	N. America.	R. B. Sharpe, Esq. [P.].
f. ♂ juv. sk.	N.W. America.	
g. ♂ juv. sk.	N. America.	
h, i. ♂ juv. sk.	West side of Rocky Mountains.	J. K. Lord, Esq. [P.].
j, k. ♂ juv. sk.	Vancouver's Island.	J. K. Lord, Esq. [C.].
l. ♀ juv. sk.	Vancouver's Island.	J. K. Lord, Esq. [C.].
m. ♀ juv. sk.	California.	Purchased.
n, o. ♂ ♀ ad. sk.	Jalapa.	R. de Oca [C.].

3. Accipiter cooperi*.

Falco cooperi, *Bp. Am. Orn.* i. pl. 10. fig. 1 (1828).
Falco stanleyi, *Aud. B. Am.* pls. 36, 141, *et Orn. Biogr.* i. p. 186 (1831).
Accipiter mexicanus, *Swains. Faun. Bor.-Am. Birds*, p. 45 (1831); *Cass. B. Calif.* p. 96 (1855); *Strickl. Orn. Syn.* p. 109 (1855); *Cass. in Baird's B. N. Am.* p. 17 (1860); *Gray, Hand-l. B.* i. p. 33 (1869); *Cooper, B. Calif. ed. Baird*, p. 465 (1871).
Astur cooperi, *Bp. Comp. List B. Eur. & N. Am.* p. 5 (1838); *Jard. ed. Wils. Am. Orn.* p. 685 (1840).
Accipiter cooperi, *Gray, Cat. Accipitr.* p. 38 (1848); *id. Gen. B.* i. p. 29 (1849); *Cass. B. Calif.* p. 96 (1855); *id. in Baird's B. N. Am.* p. 16 (1860); *Allen, Bull. Harv. Coll.* ii. p. 321 (1871); *Cooper, B. Calif. ed. Baird*, p. 464 (1871); *Coues, Key N. A. Birds*, p. 212 (1872); *Adams, Rambles*, p. 297 (1873); *Scl. & Salv. Nomencl. Av. Neotr.* p. 129 (1873).
Cooperastur stanleyi, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Nisus cooperi, *Schl. Mus. P.-B. Revue Accipitr.* p. 73 (1873).

Young male. Deep brown above with a chocolate gloss, all the feathers of the upper surface broadly edged with rufous; head and hind neck rufous, the feathers mesially streaked with black, the occiput, nape, and scapulars slightly varied with white at the bases of the feathers; sides of face rufous, with narrow lines of black; quills ashy brown, the secondaries with pale rufous tips, all barred across with blackish brown, showing more plainly underneath, where the under surface is ashy white; tail clear brownish ash-colour, broadly tipped with white and crossed with four broad black bars;

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* A. GUNDLACHII.

Accipiter cooperi, *Lembeye, Aves Cuba*, p. 17 (1850).
Accipiter pileatus, *Lembeye, l. c.* p. 125 (1850).
Astur pileatus, *Cab. u. Gundl. J. f. O.* 1854, Extrab. p. lxxxii.
Accipiter gundlachii, *Lawr. Ann. Lyc. N. Y.* vii. p. 252 (1862); *Scl. & Salv. Ex. Orn.* p. 170 (1869); *Gray, Hand-l. B.* i. p. 33 (1869); *Gundl. J. f. O.* 1871, p. 367.

Hab. Cuba.

I have never seen this species, which will probably prove on examination to be identical with the small, richly coloured form of *A. cooperi*, called by Swainson *A. mexicanus*.

upper tail-coverts inclining to ashy, broadly tipped with rufous, the lower ones with white, with which also many of them are spotted; under surface of body dull rufous, inclining to white on the throat, belly, and under tail-coverts; the throat narrowly streaked with black, the breast more broadly, and the flanks and thighs with large bars or spade-shaped spots; under tail-coverts white, with longitudinal black streaks; under wing-coverts rufous, with black streaks widening out into bars on the lower series.

Obs. The "brown-and-white" dress, as the next plumage may be called, is the one in which the young *A. cooperi* generally appears in museums. It is apparently gained without a moult from the first stage by the rufous margins on the upper surface becoming paler, and the white bases to the feathers becoming so extended that the hind head and neck as well as the side face become streaked with white. The dark centres to the feathers of the nape have a tendency to narrow; so that this part also has a very streaked appearance. On the breast the streaks become narrower by degrees, those on the sides of the body being still a little the broadest, the bars on the flanks dissolving and leaving these parts more or less distinctly streaked. Under tail-coverts pure white; throat generally streaked with black, but this character is so variable that sometimes the throat is quite white, with only a few hair-like lines. These are probably birds which have been hatched out earlier, and in whom the characteristic development of a streaked plumage has more chance of being perfected. The adult plumage must be gained by a moult.

Adult male. Above bluish slate-colour, the head darker and the wing-coverts also a shade deeper grey than the back, the shaft-stripes distinct on upper surface; lores and eyebrow whitish; cheeks ashy with a slight rufous tinge, and narrowly lined with black; quills brown, externally shaded with slaty, the secondaries grey like the back, all barred with darker brown, more distinct below, where the under surface is whitish ashy; upper tail-coverts tipped with white; tail bluish slate-colour, with a broad white tip and crossed with three bars of greyish black; the lower surface greyish white; throat white, streaked with narrow blackish shaft-lines and tinged with rufous on lower part; rest of under surface clear rufous, spotted on both webs or else barred with white, the upper breast more or less uniform rufous; under wing-coverts rufous white, the upper ones streaked, the lower ones spotted with rufous; under tail-coverts white. Total length 15·5 inches, culmen 1·05, wing 9·3, tail 7·9, tarsus 2·7, middle toe 1·5.

Adult female. Similar to the male, but larger. Total length 17·5 inches, wing 10·3, tail 8·8, tarsus 3.

Hab. Middle and southern States of North America, southwards to Guatemala and Costa Rica.

a. ♀ juv. st.	Quebec.	D. W. Mitchell, Esq. [P.].
b. ♂ juv. st.	British Columbia.	J. K. Lord, Esq. [P.].
c. ♀ juv. st.	West side of Rocky Mountains.	J. K. Lord, Esq. [P.].

d. ♀ juv. sk.	N. America.	R. B. Sharpe, Esq. [P.].
e. ♂ juv. sk.	Mexico.	Purchased.

4. Accipiter tinus.

Falco tinus, *Lath. Ind. Orn.* i. p. 50 (1790).
Sparvius subniger, *Vieill. N. Dict.* x. p. 319 (1817); *Pucher. Rev. Zool.* 1850, p. 92.
Sparvius minutus, *Vieill. N. Dict.* x. p. 328 (1817); *Pucher. Rev. Zool.* 1850, p. 93.
Nisus malfini, *Less. Traité*, p. 58 (1831); *Pucher. Rev. Zool.* 1850, p. 209.
Accipiter tinus, *Gray, Cat. Accipitr.* 1848, p. 72; *id. Gen. B.* p. 29, pl. 10 (1849); *Bp. Consp.* i. p. 32 (1850); *Gray, Hand-l. B.* i. p. 33 (1869); *Pelz. Orn. Bras.* pp. 8, 399 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).
Hieraspizia tinus, *Kaup, Contr. Orn.* 1850, p. 63.
Ieraspiza tinus, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Ieraspiza fontanieri, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Accipiter superciliosus, *Strickl. Orn. Syn.* p. 115 (1855).
Nisus tinus, *Burm. Th. Bras.* ii. p. 70 (1855); *Schl. Mus. P.-B.* Astures, p. 33 (1862); *id. Revue Accipitr.* p. 77 (1873).
Teraspiza tinus, *Kaup, P. Z. S.* 1867, p. 171.

Young. Above dull cinnamon-rufous, the head blackish, leaving only a rufous eyebrow, and the back, scapulars, and wing-coverts slightly mottled with black centres to some of the feathers; sides of face and throat pale rufous, the latter inclining to whitish; under surface cinnamon-buff, with indications of brown cross bars, the thighs and under tail-coverts deeper-coloured and more uniform; under wing-coverts uniform cinnamon-buff; wings cinnamon like rest of back, primaries externally dusky brown as also at tip and barred with the same on the inner web; tail cinnamon, with six black bars, two concealed by the upper tail-coverts.

Immature. Above brown, the feathers margined with rufous, the head blackish; sides of face greyish white, streaked with dark brown; throat white; sides of neck and rest of under surface white, thickly barred with pale rufous, these bars becoming narrower towards the lower abdomen; quills and tail much as in the adult, the secondaries margined with rufous, the tail marked with white at the base and crossed with five bands of dark brown.

Adult male. Above slaty-grey, the head darker, sides of the face and neck a little paler grey, throat pure white; rest of under surface white, very minutely banded with greyish brown, almost amounting to mere transvermiculations, the thighs barred like the breast; under wing- and tail-coverts white, the transverse markings almost obsolete; wing-coverts and quills a little browner than the back, the secondaries with concealed spots of white; the primaries barred with dark brown, plainer underneath, where the quills are white at the base of the inner web; tail ashy brown, lighter at the tip and crossed with four bars of darker brown, more distinct underneath where the interspaces are creamy white, but obsolete on the outermost feather. Total length 8·8 inches, culmen 0·65, wing 5·4, tail 3·9, tarsus 1·6.

Adult female. Similar to the male, but larger. Total length 10·5 inches, wing 6·6, tail 4·8, tarsus 1·8.

Hab. From Guatemala and Veragua southwards throughout Guiana and Brazil.

a. ♂ ad. st.	South America.	J. Gould, Esq. [P.].
b. ♂ ad. st.	South America.	Purchased.

5. Accipiter minullus.

Le Minule, *Levaill. Ois. d'Afr.* i. p. 140, pl. 34 (1799).
Falco minullus, *Daud. Traité*, ii. p. 88 (1800).
Sparvius minullus, *Vieill. N. Dict. d'Hist. Nat.* x. p. 326 (1817).
Nisus minullus, *Cuv. Règne An.* i. p. 321 (1817); *Grill, Zool. Anteckn.* p. 48 (1858); *Hartl. J. f. O.* 1861, p. 101; *Schl. Mus. P.-B.* Astures, p. 34 (1862); *Heugl. Orn. N.O.-Afr.* i. p. 69 (1869); *Finsch & Hartl. Vög. Ostafr.* p. 85 (1870).
Accipiter minullus, *Vig. Zool. Journ.* i. p. 338 (1824); *Smith, S. Afr. Q. Journ.* i. p. 226 (1830); *Gray, Gen. B.* i. p. 29 (1849); *Bp. Consp.* i. p. 32 (1850); *Strickl. Orn. Syn.* p. 113 (1855); *Gurney, Ibis*, 1859, p. 242; *Heugl. Ibis*, 1861, p. 75; *Scl. Ibis*, 1864, p. 306; *Gurney, Ibis*, 1868, p. 144; *Gray, Hand-l. B.* i. p. 33 (1869); *Sharpe, P. Z. S.* 1871, p. 134; *Gurney, in Anderss. B. Dam. Ld.* p. 31 (1872).
Hieraspiza minulla, *Kaup, Contr. Orn.* 1850, p. 63.
Nisus satrapa, *Licht. Nomencl. Av.* p. 4 (1854).
Nisus binotatus, *Licht. Nomencl.* p. 4 (1854).
Accipiter polyzonoides, *Bianc. Spec. Zool. Mosamb.* xviii. p. 318, tab. iii. (1867, *nec Smith*).
Teraspiza minulla, *Kaup, P. Z. S.* 1867, p. 171.

Young. Above brown, with pale rufous edgings to the feathers, the crown blackish; wings browner than in the adult, the secondaries tipped with pale rufous barred with darker brown, more distinct underneath, where the interspaces are rufous ochre; tail brown, whitish at tip, crossed with four bands of darker brown, the interspaces light brown somewhat varied with whitish; the under surface of the tail rufous buff, with distinct cross bands more numerous on the outer feather; under surface of body buffy white, covered with oval spots of dark brown, widening into bands on the flanks, thighs, and under tail-coverts; under wing-coverts deep ochre, streaked and barred with dark brown; the nape varied with white and the upper tail-coverts white at base, as in adult; iris yellow.

Adult male. Above deep slaty black, the hind neck slightly mottled with white; sides of face and neck uniform with the crown; the upper tail-coverts white at base, the lower ones also conspicuously tipped with white; tail blackish brown, tipped with white, with two faintly indicated bands of paler brown, the line of these cross bands being indicated by two large spots of white on the inner web; under surface of tail paler brown, barred distinctly and tipped with white, the outermost feather entirely ashy white, with eight or nine bars of dark brown; under surface of body white, the sides bright chestnut, the lower throat and under tail-coverts indistinctly but the breast plainly though narrowly barred with rufous, most of the bars

having a conterminous line of dark brown; under wing-coverts deep ochre, streaked or barred with dark brown. Total length 9·7 inches, culmen 0·7, wing 5·8, tail 4·6, tarsus 1·7.

Adult female. Similar to the male, but larger. Total length 11·5 inches, wing 6·6, tarsus 1·75.

Hab. South Africa generally, extending to Mozambique on the east, and to Angola on the west coast.

a. ♂ juv. sk.	Swarte Kop, S. Africa.	M. J. Verreaux [C.].
b. ♀ juv. st.	South Africa.	M. J. Verreaux [C.].
c. ♂ ad. sk.	South Africa.	S.-African Museum.
d. ♀ ad. st.	South Africa.	S.-African Museum.
e, f. ♂ ♀ ad. st.	Natal.	J. H. Gurney, Esq. [P.].
g. ♂ juv. sk.	Eland's Post, S.E. Africa (*T. Atmore*).	R. B. Sharpe, Esq. [P.].
h. ♂ juv. sk.	Galungo, Loanda, Aug. 15, 1869.	J. J. Monteiro, Esq. [C.].

Subsp. *a.* Accipiter erythropus.

Nisus erythropus, *Hartl. J. f. O.* 1855, p. 354 (*ex Temm. MS. in Mus. Lugd.*); *id. Orn. W.-Afr.* p. 16 (1857); *Schl. Mus. P.-B.* Astures, p. 35 (1869).
Accipiter erythropus, *Gray, Hand-l. B.* i. p. 33 (1869).

Adult male (type of species). Above blackish brown, with concealed white bases to the feathers of the occiput, hind neck, and scapulars; upper tail-coverts very broadly and conspicuously white; ear-coverts and cheeks blackish brown, very little lighter than the upper surface; entire throat, vent, and under tail-coverts pure white; remainder of under surface white, barred across with blackish brown, inclining to rufous on the sides of the chest and thighs; flanks bright rufous; under wing-coverts ochraceous buff, with a few blackish markings on the lower series; quills brown, barred with darker brown, more distinct underneath, where the inner web is for the most part ochraceous buff; tail brown, crossed with five bars of blackish brown; the inner web largely notched with white, spots of which are apparent even on the two centre feathers; cere and legs red; bill horn-black. Total length 10 inches, culmen 0·7, wing 6, tail 4·5, tarsus 1·8, middle toe 1·05. (*Mus. Lugd.*)

Hab. West Africa, Gold Coast.

6. Accipiter cirrhocephalus.

New Holland Sparrow-Hawk, *Lath. Gen. Syn. Suppl.* ii. p. 51 (1801).
Falco nisus, var., *Lath. Ind. Orn. Suppl.* ii. p. xi (1801).
Sparvius cirrhocephalus, *Vieill. N. Dict.* x. p. 329 (1817).
Accipiter torquatus, *Vig. Trans. Linn. Soc.* xv. p. 182 (1827); *Gould, Syn. B. Austr.* pt. 3 (1838); *id. B. Austr.* i. pl. 19 (1848); *Bp. Consp.* i. p. 33 (1850); *Gould, Handb. B. Austr.* i. p. 45 (1865).
Nisus australis, *Less. Traité*, p. 61 (1831).
Urospiza torquata, *Kaup, Isis*, 1847, p. 181.
Accipiter cirrhocephalus, *Gray, Gen. B.* i. p. 29 (1849).
Accipiter melanops, *Strickl. Orn. Syn.* p. 111 (1855).
Nisus cirrhocephalus, *Schl. Mus. P.-B.* Astures, p. 38 (1862).
Urospiza cirrhocephala, *Kaup, P. Z. S.* 1867, p. 176.

Young. Brown above, with rufous edgings to the feathers; the nape and hind neck mottled with white, and strongly washed with rufous; sides of the face dusky brown; the fore part of the cheeks and an indistinct frontal line whitish, streaked with dark brown; quills and tail brown, tipped with pale rufous, numerously barred with darker brown, more distinct on the tail, which is slightly shaded with ashy; the under surface of the wing and tail whitish ashy, shaded with rufous near the base, the cross bars being particularly distinct; under surface of body white, the throat narrowly streaked with dark brown; the chest marked with broad oval streaks of pale rufous brown; the breast and flanks barred with the same colour; the cross bars on the under wing- and tail-coverts less numerous, and of a darker brown; the flanks very broadly barred with pale rufous.

Obs. The present species follows the rule of most other Sparrow-Hawks in the changes of plumage characteristic of the progress to maturity, the longitudinal spots gradually dissolving and widening out into bars, as I have shown to be the case in the common *A. nisus* (*cf.* P. Z. S. 1873, p. 418).

Adult male. Above bluish ash-colour; the head and wing-coverts rather darker; the back of the neck bright vinous red; nape slightly mottled with white, and the scapulars and secondaries with concealed white spots; quills brown, externally shaded with ash-colour; the secondaries entirely ashy grey, like the back; all the quills very numerously banded with dark ashy brown, more distinct underneath, where the interspaces are whitish; tail-feathers brown, strongly shaded with bluish ashy on the upper surface, which is almost entirely uniform; the under surface paler and more whitish ashy, with very numerous bars of dark brown on the inner web; throat buffy white, with remains of ashy transverse markings; rest of under surface broadly barred with vinous red and ashy white; the ashy shade on the cross bars more distinct on the flanks; the thighs very thickly barred, but the abdomen and under tail-coverts less numerously than the breast; under wing-coverts and axillaries coloured like the breast; cere and gape yellowish green; bill black, lead-coloured at base; feet yellow, slightly tinged with green; iris yellow. Total length 12·3 inches, culmen 0·8, wing 8·3, tail 6·4, tarsus 2·25.

Adult female. Similar to the male, but larger. Total length 14·5 inches, wing 10, tarsus 2·6.

Hab. The whole of Australia.

a. ♀ ad. sk.	Australia.	Purchased.
b, c, d. ♀ ad. juv. st.	S. Australia.	Sir George Grey [P.].
e. ♂ ad. st.	S. Australia.	C. D. E. Fortnum, Esq. [P.].
f. ♀ juv. st.	Adelaide, S. Australia.	C. D. E. Fortnum, Esq. [P.].
g. Pull. sk.	Port Lincoln, S. Australia.	J. Gould, Esq.
h, i. ♂ ad. juv. sk.	Interior of Australia.	Captain Sturt [P.].

j, *k*. ♀ juv. sk.	"The Depot, lat. 29° 40'."	Captain Sturt [P.].
l. ♀ juv. sk.	"First Creek, lat. 30° 50', Dec. 1844."	Captain Sturt [P.].
m. ♂ ad. sk.	"The Depot, Victoria River, Oct. 1855."	J. R. Elsey, Esq. [P.].
n. ♂ ad. sk.	Queensland.	Purchased.
o. Skeleton.		Voyage of the 'Rattlesnake.'

7. Accipiter madagascariensis.

Accipiter madagascariensis, *Verr. S. Afr. Q. Journ.* ii. p. 282 (1834); *Gray, Cat. Accipitr.* p. 35 (1844); *Bp. Consp.* i. p. 32 (1850); *Strickl. Orn. Syn.* p. 114 (1855); *Gray, Hand-l. B.* i. p. 32 (1869).
Nisus madagascariensis, *Kaup, Contr. Orn.* 1850, p. 64.
Accipiter lantzii, *Verr. Rev. et Mag. de Zool.* 1866, p. 353, pl. 18; *Grand. op. cit.* 1867, p. 320.
Nisus lantzii, *Schl. & Poll. Faun. Madag. Ois.* p. 35, pl. 13 (1868); *Schl. Mus. P.-B. Revue Accipitr.* p. 72 (1873).

Young female. Above brown, with distinct ochraceous margins to feathers of upper surface, inclining to rufous on the least wing-coverts; crown brown in centre, with rufous margins to the feathers; the superciliary line and the hind neck ochre, with a rufous tinge and with brown centres to the feathers, causing a slightly streaked appearance; the nape mottled with white; quills brown, barred with darker brown, more distinct underneath, where the inner web is whitish ashy at base; secondaries brown, like the back, with four distinct external bars, tipped with ochraceous buff and narrowly margined with the same externally; tail ashy brown, tipped with whitish and crossed with six bars of darker brown, plainer on under surface, which is ashy white; ear-coverts rufescent; cheeks white, narrowly streaked with dark brown; throat white, with a few streaks of dark brown down the centre; remainder of under surface white, with broad oval drops of pale rufous brown on the breast, rounder on the abdomen and thighs, and developing into bars on the flanks; under tail-coverts white, with a few irregular brown spots; under wing-coverts ochraceous white, with brown spots like breast. Total length 13·8 inches, wing 8·7, tail 7·3; tarsus 2·35; middle toe 1·65. (*Mus. Lugd.*)

Adult female. Above blackish brown, slightly washed with slate-colour, the latter shade more distinct on the head and hind neck, especially the latter; ear-coverts greyish black; the lower margins, as well as the cheeks, whitish, narrowly streaked with black; quills and tail perfectly uniform blackish brown above, with bars of whitish ash-colour underneath, not very distinct, but plainer towards the base; under surface of body white, thickly barred with greyish black; the under wing-coverts uniform with the breast; a few narrow streaks of greyish black on the throat; under tail-coverts pure white; tarsi greenish yellow; iris yellow. Total length 15 inches, culmen 0·95, wing 8·8, tail 7·5, tarsus 2·4, middle toe 1·7. (*Mus. Lugd.*)

Adult male (type of species). Similar to the female, but smaller. Total length 11·5 inches, wing 7·15, tail 5·7, tarsus 2·1.

Hab. Madagascar.

a. ♂ ad. sk. Madagascar. South-African Museum. Type of species.

8. Accipiter collaris.

Micronisus collaris, *Kaup, MS. in Mus. Brit., undè*
Accipiter collaris, *Scl. Ibis*, 1860, p. 148, pl. 6; *Gray, Hand-l. B.* i. p. 33 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).
Nisus collaris, *Giebel, Thes. Orn.* p. 263 (1872).

Immature. Above sooty brown; the head blackish; the sides of the face and an ill-defined half-collar round the neck white, barred with dark brown; quills brown, barred with darker brown, more distinct underneath, where the interspaces are whitish; tail ashy brown, crossed with five bars of dark brown, the under surface paler and whitish ashy, the brown bars more distinct than above, except on the outer web, where they are nearly obsolete; throat white; rest of under surface white, broadly barred with brown somewhat tinged with pale rufous, narrower on the under tail-coverts; the thighs almost uniform brown, with slight remains of whitish cross bars. Total length 11·5 inches, culmen 1, wing 7·1, tail 5·2, tarsus 2.

Hab. New Granada.

a. Ad. st. Bogotá. Purchased. Type of species.

9. Accipiter rubricollis.

Nisus cirrhocephalus ceramensis, *Schl. Mus. P.-B.* Astures, p. 39 (1862).
Accipiter rubricollis, *Wall. P. Z. S.* 1863, pp. 19, 21, pl. iv.; *id. Ibis*, 1868, p. 7; *Gray, Hand-l. B.* i. p. 34 (1869).
Nisus erythrauchen (pt.), *Schl. Vog. Nederl. Ind., Valkv.* pp. 22, 60, pl. 13. fig. 2 (1866); *id. Rev. Accipitr.* p. 78 (1873).
Uraspiza erythrauchen (pt.), *Kaup, P. Z. S.* 1867, p. 177.
Nisus rubricollis, *Giebel, Thes. Orn.* p. 264 (1872).

Young. Crown and sides of head blackish brown; an indistinct eyebrow and the cheeks white, streaked with brown; upper surface of body brown, with rufous margins to the feathers; the hinder neck mixed with white and washed with vinous red; quills brown, numerously barred with darker brown; inner web rufescent from the base upwards, and the outer web spotted with rufous, so as to give the appearance of five bars across the wing; tail ashy brown, the tip lighter, crossed with ten bars of darker brown, the lighter brown interspaces shaded with rufous near the base; under surface of body creamy buff; the throat with a central streak of greyish brown; the breast longitudinally streaked with pale brown, more narrowly on the lower breast, abdomen, and thighs; under wing-

coverts rufous buff, streaked with dark brown, inclining to bars on the lower series and axillaries.

Adult female (type of species). Above blackish slate-colour, with a distinct shade of clearer ashy grey on the head and back; hinder part of neck and upper interscapulary region rich vinous chestnut; sides of face clear ashy grey, a little lighter than the crown; entire under surface pale ashy grey, whitish on the throat and abdomen; the sides of the neck rich vinous chestnut, shading slightly on the sides of the upper breast; under wing-coverts ochraceous, tinged with ashy grey, more plainly on the axillaries; quills and tail above black washed with slaty, numerously barred with blackish and washed with pale rufous at base of inner webs; the bands on the tail-feathers ten or eleven in number, obsolete on the outermost; cere yellow; bill black, lead-colour at base; feet yellow; iris golden yellow. Total length 14·7 inches, culmen 0·7, wing 8·5, tail 6·8, tarsus 2·4.

Hab. Morty Island; Bouru.

a. ♀ ad. sk.	Bouru.	A. R. Wallace, Esq. [C.]. Type of species.
b. ♀ juv. sk.	Bouru.	A. R. Wallace, Esq. [C.].
c. Juv. sk.	Morty Island.	A. R. Wallace, Esq. [C.].

10. Accipiter erythrauchen.

Accipiter erythrauchen, *Gray*, *P. Z. S.* 1860, p. 344; *Wall. Ibis*, 1868, p. 7; *Gray*, *Hand-l. B.* i. p. 34 (1869).
Nisus erythrauchen, *Schl. Vog. Nederl. Ind.*, *Valkv.* pp. 22, 60, pl. 13. figs. 1, 3, 4 (1866); *id. Rev. Accipitr.* p. 78 (1873).
Uraspiza erythrauchen, *Kaup*, *P. Z. S.* 1867, p. 177.

Adult male (type of species). Above uniform blackish slate-colour; the hinder part of the neck rich vinous chestnut; sides of face and entire throat pale grey, the latter even lighter than the ear-coverts; quills and tail blackish slate-colour, a little browner on the inner web, where are remains of more or less distinct blackish cross bars; the under surface of both paler and more ashy, washed with rufous at the base of inner webs; under surface of body uniform clear vinous, shading off much paler on the thighs; lower abdomen and under tail-coverts white; under wing-coverts vinous, with indistinct greyish mottlings. Total length 11 inches, culmen 0·85, wing 6·7, tail 5·4, tarsus 2·1.

Adult female. Similar to male, but larger. Total length 13·9 inches, wing 8·2, tail 6·2, tarsus 2·25. (*Mus. Lugd.*)

Hab. Gilolo, Batchian.

a. ♂ ad. sk.	E. Gilolo.	A. R. Wallace, Esq. [C.]. Type of species.

11. Accipiter rhodogaster.

Nisus virgatus rhodogaster, *Schl. Mus. P.-B.* Astures, p. 32 (1862).
Accipiter rhodogaster, *Gurney*, *Ibis*, 1863, p. 450; *Wall. Ibis*, 1868, p. 7; *Gray*, *Hand-l. B.* i. p. 33 (1869).

Nisus rhodogaster, *Schl. Vog. Nederl. Ind., Valkv.* pp. 21, 60, pl. 12. figs. 5, 6 (1866); *id. Revue Accipitr.* p. 76 (1873).
Teraspiza rhodogaster, *Kaup, P. Z. S.* 1867, p. 171.
Teraspiza rhodogastra, *Walden, Tr. Z. S.* viii. pp. 33, 109, pl. xi. (1872).

Young. Bright chestnut-red, the hind neck mottled with white, all the feathers of the upper surface subterminally spotted with black, especially on the head, which gains therefrom a blackish appearance; sides of face whitish, streaked with black; under surface creamy white, the lower abdomen and under tail-coverts unstriped, the throat bordered on each side with a moustachial line of black, with another central streak down the centre; the breast washed with rufous and broadly streaked with black; under wing-coverts rufous buff, minutely spotted with black; secondaries rufous like the back, barred with black, somewhat overspreading the rufous interspaces; primaries brown, tipped and spotted externally with rufous and crossed with bands of darker brown, the lower surface of quills rufous buff on inner web, with the bars of dark brown more conspicuous; tail rufous, crossed with four bands of dark brown.

Adult. Above deep bluish grey, a little clearer on the head and hind neck, the sides of the face and of the neck very pale bluish grey; throat whitish, shaded with grey; rest of under surface clear vinous red, not very deep, the lower abdomen and under tail-coverts whitish, the thighs and under wing-coverts white, shaded with ashy grey, the latter also slightly mottled with blackish spots; wing-coverts and quills blackish slate-colour, the primaries a little more brown, the under surface white at base, shading into ashy at tip, with dark brown cross bars, more indistinct on the secondaries; tail blackish slate-colour above, whitish ashy below, with four or five cross bars of dark brown on all except the outermost feather, where they are nearly obsolete, the bars almost invisible on the upper surface; cere dusky yellow; bill black; feet yellow; iris bright chrome-yellow. Total length 11 inches, culmen 0·8, wing 6·5, tail 5·1, tarsus 2·1.

Hab. Celebes.

a. ♂ ad. sk.	Macassar.	A. R. Wallace, Esq. [C.].
b. ♂ juv. sk.	Macassar.	A. R. Wallace, Esq. [C.].
c. ♂ ad. st.	Celebes (*Von Rosenberg*).	Leiden Museum [P.].

12. Accipiter sulaensis.

Nisus sulaensis, *Schl. Vog. Nederl. Ind., Valkv.* pp. 26, 64, pl. 16. figs. 3, 4 (1866).
Uraspiza sulaensis, *Kaup, P. Z. S.* 1867, p. 176.
Accipiter sulaensis, *Wall. Ibis*, 1868, p. 10; *Gray, Hand-l. B.* i. p. 34 (1869).
Nisus rhodogaster (pt.), *Schl. Revue Accipitr.* p. 76 (1873).

Adult female (type of species). Above dark slaty grey, clearer grey on the head and hind neck, the wing-coverts rather darker than the back; primaries dark brown, with numerous bars of

blackish brown, showing more distinctly underneath, where the bases to the quills are white; secondaries grey, like the back; tail slaty grey, the cross bars almost obsolete, the under surface ashy white, outer tail-feathers browner, the bars absent on the outermost; cheeks, ear-coverts, sides of neck and breast vinous red, gradually shading off into greyish on the flanks and thighs; throat and under tail-coverts whitish; under wing-coverts white, the lower ones with small blackish spots, the outer ones washed with greyish. Total length 13 inches, culmen 1, wing 6·9, tail 5·8, tarsus 2·15, middle toe (without claw) 1·3. (*Mus. Lugd.*)

Hab. Sula Islands.

13. Accipiter erythrocnemis.

Falco nisus, *Max. Beitr. Orn. Bras.* iii. Abth. 1, p. 111 (1830).
Accipiter erythrocnemis, *Gray, Cat. Accipitr. Brit. Mus.* p. 70 (1848); *Bp. Consp.* i. p. 32 (1850); *Strickl. Orn. Syn.* p. 116 (1855); *Scl. P. Z. S.* 1855, p. 134, et 1860, p. 76, et 1866, p. 303; *Scl. & Salv. Ex. Orn.* pl. xvii. (1867); *Gray, Hand-l. B.* i. p. 32 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).
Nisus fringillarius, subsp. erythrocnemius, *Kaup, Wiegm. Arch.* Bd. i. p. 34 (1850).
Nisus erythrocnemius, *Kaup, Contr. Orn.* 1850, p. 64; *Schl. Mus. P.-B. Revue Accipitr.* p. 70 (1873).
Nisus striatus, *Burm. Th. Bras.* ii. p. 71 (1856).

Young. Above brown, the head darker, all the feathers of the wing-coverts and scapulars edged with pale rufous; cheeks whitish, tinged with rufous on the ear-coverts, the upper margins of which are brown; under surface of body white, barred across with pale rufous, the shaft-lines distinctly indicated, and the rufous bars conterminously barred with dusky; sides of body and thigh-feathers pale rufous; under tail-coverts white; under wing-coverts buffy white, with small bars of dusky brown, the axillaries pale rufous, obscurely barred with dusky brown; quills brown, barred with darker brown, shafts rufescent, secondaries slightly tipped with whitish; tail ashy brown, paler at the tip, crossed with five bands of darker brown.

Adult (type of species). Above light slaty grey, the ear-coverts coloured like the head; cheeks white, narrowly streaked with dark brown; under surface of body white, with a few remains of dark shaft-lines and dusky bars on the chest and sides of the body; thighs bright chestnut; under tail-coverts white; under wing-coverts also white, the lower ones barred with ashy brown; quills brown, secondaries washed with slaty grey, primaries barred with blackish brown, more distinctly on the under surface of the wing, where the interspaces are white or whitish ashy; tail brown, slightly tipped with whitish and crossed with four bars of ashy brown, the corresponding bars being whitish ashy on the lower surface; bill blackish horn-colour, yellowish at base of lower mandible; legs yellow; claws horn-brown; iris yellow. Total length 11 inches, culmen 0·75, wing 6·7, tail 5·7, tarsus 2.

Hab. Brazil and Bolivia.

a.	♂ ad. st.	Brazil [?].	Purchased *.
b.	♀ juv. st.	Brazil.	E. Wilson, Esq. [P.].
c.	♂ juv. sk.	Brazil.	Purchased.
d.	♀ juv. sk.	Bahia.	Dr. Wucherer [C.].
e.	♂ juv. st.	Bolivia.	Mr. Brydges [C.].

14. Accipiter chionogaster.

Nisus chionogaster, *Kaup, P. Z. S.* 1851, p. 41.
Accipiter chionogaster, *Bp. Rev. et Mag. de Zool.* 1854, p. 538; *Scl. & Salv. Ex. Orn.* pl. xiv. (1867); *Gray, Hand-l. B.* i. p. 32 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).
Accipiter erythrocnemius, *Scl. & Salv. Ibis*, 1859, p. 218; *Salv. Ibis*, 1861, p. 140.

Adult. Above dark brown, the head blackish, the nape somewhat mottled with white, concealed spots of which mark the scapulars and inner secondaries; quills brown, barred with darker brown, the secondaries very slightly tipped with whitish, the shafts rufous brown, under surface of wing whitish, inclining to greyish white towards the tips, the dark brown bars very broad and distinct underneath; tail pale brown, inclining to whitish at the tips, crossed with four bars of darker brown; lores whitish; sides of the face white, with narrow lines of brown on the cheeks, the upper margin of the ear-coverts and the sides of the neck dark brown; under surface of body white, with narrow shaft-streaks of dark brown; the thighs pale ochre, unstriped; under tail-coverts entirely white; under wing-coverts white, slightly tinged with fulvous, with narrow brown shaft-streaks. Total length 11·5 inches, culmen 0·8, wing 7·3, tail 5·9, tarsus 2.

Hab. From Guatemala to Venezuela.

a.	Ad. st.	Caracas.	Purchased.
b.	Ad. sk.	Guatemala.	W. Wilson Saunders, Esq. [P.].

15. Accipiter rufiventris.

Accipiter rufiventris, *Smith, S. Afr. Q. Journ.* i. p. 231 (April 1830); *Gray, Gen. B.* i. p. 29 (1849); *Bp. Consp.* i. p. 32 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 538; *Layard, B. S. Afr.* p. 29 (1867); *Gray, Hand-l. B.* i. p. 32 (1869); *Gurney, in Anderss. B. Dam. Ld.* p. 32 (1872).
Falco exilis, *Temm. Pl. Col.* i. pl. 496 (May 1830).
Falco perspicillaris, *Rüpp. Neue Wirb.* p. 41, pl. 18. fig. 2 (1835).
Dædalion perspicillaris, *Rüpp. Syst. Uebers.* p. 11 (1845).
Accipiter exilis, *Strickl. Orn. Syn.* p. 107 (1855); *Gurney, Ibis*, 1859, p. 242.
Nisus rufiventris, *Grill, Zool. Anteckn.* p. 48 (1858); *Heugl. Orn. N.O.-Afr.* p. 66 (1869); *Schl. Mus. P.-B. Revue Accipitr.* p. 69 (1873).
Accipiter perspicillaris, *Heugl. Ibis*, 1861, p. 75.
Nisus fringillarius rufiventris, *Schl. Mus. P.-B.* Astures, p. 30 (1862).

* Said to have been from Jamaica, collected by Gosse, but the register probably erroneous.

Adult male. Above deep slate-colour, the scapulars with concealed white spots, and the nape also mottled with white; quills ashy brown, barred with darker brown, plainer underneath, where the interspaces are white or ashy white, the secondaries shaded with slate-colour above and tipped with light ashy; tail ashy brown, tipped with white and crossed with four bands of dark brown; sides of face tawny rufous, excepting a shade of slaty grey on the upper margin of the ear-coverts; throat white; rest of under surface uniform tawny rufous, under tail-coverts white; under wing-coverts tawny buff, the axillaries slightly tipped with whitish; cere and orbits yellow; bill black, bluish at base; feet yellow; iris fiery yellow. Total length 12·5 inches, culmen 0·9, wing 8·2, tail 6·3, tarsus 2·05.

Adult female. A little larger than the male, but similar in colour. Total length 14 inches, wing 9·4, tarsus 2·25.

Hab. Southern and North-eastern Africa.

a. ♀ ad. sk.	Cape Colony.	Sir A. Smith [C.].
b. ♂ ad. st.	South Africa.	M. J. Verreaux [C.].
c. ♂ imm. st.	Cat River, S. Africa.	M. J. Verreaux [C.].
d. ♂ ad. sk.	Shoa.	Sir W. C. Harris [C.].
e. ♂ ad. st.	Shoa.	Sir W. C. Harris [C.].

16. Accipiter ventralis.

Accipiter erythrocnemius ?, *Scl. P. Z. S.* 1855, p. 134.
Accipiter ventralis, *Scl. P. Z. S.* 1866, p. 303; *Scl. & Salv. Ex. Orn.* p. 25, pl. xiii. (1867); *Gray, Hand-l. B.* i. p. 32 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).
Accipiter nigriplumbeus, *Lawr. Ann. Lyc. N. Y.* 1869, p. 270.

Young. Above dark brown, the nape washed and all the feathers of the upper surface edged with rufous; sides of face rufous, streaked with dark brown; under surface buffy white, narrowly lined on the throat with dark brown, the chest streaked with brown, somewhat tinged with rufous on some of the feathers, on the lower breast and abdomen widening out into bars, the under tail-coverts white, narrowly lined with brown down the shaft; thighs bright chestnut; under wing-coverts white, washed with ochre, and plentifully spotted or barred with blackish; quills dark brown, with bars of still darker brown, almost invisible above, but plainer underneath, where the interspaces are ashy white; tail blackish brown, tipped with whitish and crossed with four bands of ashy grey; bill blackish horn-colour, yellowish at the base of the lower mandible; feet yellow, claws black; iris yellow.

Adult male. Deep slaty grey, including the sides of the face and ear-coverts; the entire under surface bright chestnut, the cheeks also washed with this colour, a few whitish cross bars remaining on the lower abdomen; under wing-coverts rufous, the lower ones somewhat inclining to ashy white, barred across with blackish; quills black, the secondaries slaty grey like the back, the under surface ashy grey, white near the base, crossed with broad blackish bands; tail black, tipped with whitish and barred across with four

bands of brownish ashy; bill blackish horn-colour, yellowish at base of lower mandible; feet yellow, nails horn-brown. Total length 10·5 inches, culmen 0·7, wing 7, tail 6, tarsus 2.

Adult female. Similar to the male, but larger. Total length 13·5 inches, wing 8, tail 7·5, tarsus 2·2.

Hab. Venezuela, Columbia, and Ecuador.

a.	♂ ad. st.	Bogotá.	Purchased.
b.	♂ juv. sk.	Bogotá.	R. B. Sharpe, Esq. [P.].
c.	♂ juv. st.	Concordia, New Granada.	T. K. Salmon, Esq. [C.].
d.	♂ ad. sk.	New Granada.	R. B. Sharpe, Esq. [P.].
e.	♀ ad. st.	Cosnipata, Nov. 16, 1871.	Henry Whitely, Esq. [P.].

17. Accipiter hartlaubii. (Plate VI. fig. 2.)

Nisus hartlaubii, *Verr. in Hartl. Orn. W.-Afr.* p. 15 (1857); *Hartl. t. c.* p. 262 (1857); *id. J. f. O.* 1861, p. 101.

Accipiter hartlaubii, *Cass. Pr. Philad. Acad.* 1859, p. 32; *Duchaillu, Eq. Afr.* p. 472 (1861); *Gray, Hand-l. B.* i. p. 32 (1869); *Sharpe, P. Z. S.* 1871, p. 613.

Adult male. Above deep slaty black, the head and wing-coverts darker and almost jet-black, the ear-coverts decidedly inclining to greyish; quills black, greyish white underneath at base of inner web, where there are remains of a few blackish bars; lower upper tail-coverts white, forming a band across the root of tail; tail black, the outer feathers brownish, underneath greyish black, with two bars of white on the inner web, appearing even on the centre feathers in the form of two rounded spots of white; throat white, inclining to ashy grey on the fore neck; remainder of under surface vinous chestnut, the thighs included; vent and under tail-coverts white, slightly varied with obsolete greyish black bars, more distinct on the lower tail-coverts. Total length 9·8 inches, culmen 0·75, wing 6·5, tail 4·4, tarsus 1·7, middle toe 1·05. (*Mus. Brux.*)

Hab. Gaboon.

a.	♂ ad. sk.	River Ogowe, Gaboon (*Marche et de Compiègne*).	M. E. Bouvier [E.].

18. Accipiter virgatus.

Falco virgatus, *Temm. Pl. Col.* i. pl. 109 (1823, *ex Reinw. MS.*).

Accipiter virgatus, *Vig. Zool. Journ.* i. p. 338 (1824); *Gray, Gen. B.* i. p. 29 (1849); *Blyth, Cat. B. Mus. A. S. B.* p. 22 (1849); *id. J. A. S. B.* xix. p. 331 (1850); *Bp. Consp.* i. p. 32 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 37 (1854); *Moore, P. Z. S.* 1854, p. 260; *Strickl. Orn. Syn.* p. 106 (1855); *Jerd. B. Ind.* i. p. 52 (1862); *Scl. P. Z. S.* 1863, p. 207; *Blyth, Ibis*, 1863, p. 15; *Gurney, t. c.* p. 366, et 1865, p. 236; *Swinh. t. c.* p. 108; *Beav. P. Z. S.* 1868, p. 395; *Wall. Ibis*, 1868, p. 6; *Hume, Rough Notes*, i. p. 132 (1869); *Gray, Hand-l. B.* i. p. 33 (1869); *Jerd. Ibis*, 1871, p. 243; *Holdsw. P. Z. S.* 1872, p. 411.

Nisus virgatus, *Less. Man. d'Orn.* i. p. 97 (1828); *Bp. Rev. et Mag. de Zool.* 1854, p. 538; *Schl. Mus. P.-B.* Astures, p. 32 (1862); *id. Vog. Nederl. Ind., Valkv.* pp. 20, 59, pl. 12. figs. 1–4 (1866); *id. Revue Accipitr.* p. 74 (1873).



Keulemans del. Mintern Bros. Lith.

1. Astur toussenelii
2. Accipiter hartlaubi.

ZOOLOGICAL GARDENS
1875.
CALCUTTA

Accipiter dussumieri (*nec Temm.*), *Sykes, P. Z. S.* 1832, p. 79; *Hodgs. J. A. S. B.* xii. p. 308 (1843).
Nisus manillensis, *Meyen, Beitr.* p. 694, Taf. ix. (1834) *.
Accipiter besra, *Jerd. Madr. Journ.* x. p. 84 (1839); *id. Ill. Ind. Orn.* pl. 4 (1847).
Accipiter fringillarius, *Jerd. Madr. Journ.* x. p. 84 (1839).
Accipiter minutus, *Blyth, J. A. S. B.* xi. p. 882 (1842).
Accipiter affinis, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Accipiter nisoides, *Blyth, J. A. S. B.* xvi. p. 727 (1847); *id. Cat. B. Mus. A. S. B.* p. 22 (1849); *id. Ibis*, 1865, p. 28, et 1866, p. 240, et 1870, p. 158.
Hieraspiza virgatus, *Kaup, Contr. Orn.* 1850, p. 63.
Astur gularis, *Temm. & Schl. Faun. Jap. Aves*, p. 5, pl. 2 (1850).
Accipiter gularis, *Bp. Rev. et Mag. de Zool.* 1854, p. 538; *Gurney, Ibis*, 1865, p. 547; *Swinh. P. Z. S.* 1871, p. 342.
Micronisus badius, *Swinh. Ibis*, 1860, p. 359, et 1861, p. 263.
Micronisus, sp., *Swinh. Ibis*, 1861, p. 25.
Micronisus gularis, *Swinh. Ibis*, 1863, p. 212.
Accipiter stevensoni, *Gurney, Ibis*, 1863, p. 447, pl. xi.; *Swinh. P. Z. S.* 1863, p. 261, et 1870, p. 600, et 1871, p. 341; *Gray, Hand-l. B.* i. p. 32 (1869).
Accipiter gularis, *Swinh. Ibis*, 1863, p. 89.
Micronisus virgatus, *Swinh. Ibis*, 1866, p. 403.
Teraspiza virgata, *Kaup, P. Z. S.* 1867, p. 171.

Young. Above brown, the feathers margined with rufous or rufous ochre, the crown blackish brown, the nape mixed with white and the scapulars and upper tail-coverts with concealed white spots; over the eye a streak of white narrowly lined with dark brown; sides of the face and neck white, streaked with dark brown, the latter washed with rufous; ear-coverts pale brown, darker on their hinder margin; under surface of body white, the throat with a distinct line of blackish down the centre, the chest streaked with dark brown in the centre and with pale rufous on the sides, the breast and abdomen marked with heart-shaped spots of pale rufous, developing into bars on the thighs; under tail-coverts white; under wing-coverts buffy white, the lesser ones streaked, the greater ones spotted with dark brown; quills brown, the secondaries margined with rufous ochre, barred with darker brown, more distinct underneath, where the feathers are buffy white, shading into ashy brown at the tips; tail ashy brown, tipped with whitish and crossed with four bands of darker brown, the under surface ashy white, all the bars very plain, the outer tail-feather having seven.

Obs. By the gradual spreading of the streaks until they assume the form of bands, the next plumage is very different from the young stage just described, especially as the light rufous streaks on the side of the chest merge entirely, and present a thoroughly uniform appearance, as do also the sides of the face and neck. From this stage the under surface gradually becomes uniform bright rufous without any change of feather, the white interspaces on the breast gradually disappearing. This seems to be the usual mode of

* I have examined the type in the Berlin Museum.

procedure in the female; but the male would appear to gain his adult dress without the intervening varied stage just noticed. Judging from a specimen collected in Eastern Timor by Mr. Wallace, the plumage no sooner widens out from stripes to bars than they at once merge, and the bird becomes rufous underneath very rapidly.

Adult male. Above deep blackish slate-colour, the nape slightly mottled with white, the crown and wing-coverts a little darker; quills dark brown, shaded with slate-colour, without any bars above, the under surface paler and more ashy, inclining to pale rufous near the base of inner web, with blackish cross bars; tail ashy grey above, whitish ashy beneath, paler at tip, and crossed with three bars of slaty black; ear-coverts and sides of neck slaty grey, the latter washed with rufous; fore part of cheeks and throat buffy white, with a few indistinct blackish shaft-lines here and there; rest of under surface bright vinous chestnut, much paler on the thighs; abdomen and under tail-coverts white; under wing-coverts rich ochre, the lower ones and the axillaries irregularly barred with brownish; cere yellow; bill black, lead-colour at base; feet pale orange-yellow; iris yellow. Total length 11 inches, culmen 0·75, wing 6·6, tail 5·1, tarsus 1·9.

Adult female. A little larger than the male. Total length 13 inches, wing 7·4, tarsus 2·2.

Hab. Eastern Asia, from Northern China and Japan, throughout the Indian peninsula and the Indo-Malayan subregion *.

a. ♂ ad. sk.	Etawah, N.W. India.	Purchased.
b. ♀ imm. st.	Madras.	Dr. Jerdon [P.].
c. ♀ juv. st.	Nepal.	B. H. Hodgson, Esq. [P.].
d. ♀ juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
e. ♂ ad. sk.	Malacca.	A. R. Wallace, Esq. [C.].
f. ♂ juv. sk.	Java.	Hon. E. India Co. [P.].
g. ♂ imm. sk.	E. Timor.	A. R. Wallace, Esq. [C.].
h. ♀ ad. st.	Philippine Islands.	Hugh Cuming, Esq. [C.]
i. ♂ juv. st.	Philippine Islands.	Hugh Cuming, Esq. [C.].
j. ♂ ad. sk.	Cochin China.	R. B. Sharpe, Esq. [P.].
k. ♀ juv. sk.	Off coast of Cochin China, Nov. 11, 1871 (*Conrad*).	R. B. Sharpe, Esq. [P.].
l. ♂ juv. sk.	Off the Natuna Islands, Nov. 14, 1871 (*Conrad*).	R. B. Sharpe, Esq. [P.].
m. ♂ ad. st.	China.	Purchased.
n. ♀ juv. sk.	Fokien, China.	J. Gould, Esq. [P.].
o,p,q. ♂ ad. sk.	Chefoo, China, May 1873.	R. Swinhoe, Esq. [C.].
r. ♂ juv. st.	Japan.	Leiden Museum [P.].
s. Sternum.		Purchased.

19. Accipiter guttatus.

Esparvero pardo y goteado, *Azara, Apunt.* i. p. 113 (1802).
Sparvius guttatus, *Vieill. N. Dict.* x. p. 325 (1817).
Accipiter guttatus, *Strickl. Orn. Syn.* p. 110 (1855); *Scl. & Salv. Ex.*

* A larger series of specimens may ultimately prove the distinctness of Mr. Gurney's *Accipiter stevensoni*.

Orn. pp. 169, 170, pl. lxxv. (1869); *Gray, Hand-l. B.* i. p. 33 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).

Male (*nearly adult*). Above slaty grey, the head blackish, the nape varied with white; wings dull brown, the quills barred with darker brown, the interspaces ashy white below, so that the cross bars are more distinct, inner secondaries slaty grey like back; tail ashy brown, narrowly tipped with white, and crossed with four bars of darker brown, lower surface ashy white, the bars more distinct except on outermost feather, where nearly obsolete; throat white, tinged with rufous, the feathers narrowly centred with black shaft-lines; rest of under surface pale fawn-rufous, the thighs a little deeper-coloured, the breast mottled with white spots and half-bars; the sides of the face and of the neck clear slaty grey, the sides of the upper breast washed with the same colour; under tail-coverts white, with a few subterminal rufous spots; under wing-coverts and axillaries entirely pale fawn-rufous, like breast. Total length 15·2 inches, culmen 0·6, wing 8·5, tail 6·8, tarsus 2·4.

Adult female. Similar to the male but larger. Total length 18 inches, wing 10·5, tail 8·5, tarsus 2·65.

Hab. Paraguay and Bolivia.

a, b. ♂ ♀ ad. st. Bolivia. Mr. Brydges [P.]. Specimens figured in 'Exotic Ornithology.'

20. Accipiter pileatus.

Falco pileatus, *Temm. Pl. Col.* i. pl. 205 (1824); *Max. Beitr.* iii. p. 107 (1830).

Accipiter pileatus, *Vig. Zool. Journ.* i. p. 338 (1824); *Gray, Gen. B.* i. p. 29 (1849); *Bp. Consp.* i. p. 32 (1850); *Strickl. Orn. Syn.* p. 109 (1855); *Scl. & Salv. Ex. Orn.* p. 170 (1869); *Gray, Hand-l. B.* i. p. 33 (1869); *Pelz. Orn. Bras.* i. pp. 8, 399 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).

Nisus pileatus, *Less. Man. d'Orn.* i. p. 98 (1828); *Burm. Th. Bras.* ii. p. 73 (1855); *Schl. Mus. P.-B.* Astures, p. 36 (1862); *id. Revue Accipitr.* p. 70 (1873).

Cooperastur pileatus, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.

Falco beskii, *Licht. Nomencl. Av.* p. 4 (1854).

Young female. Above brown, much darker on head and wing-coverts, all the feathers margined with rufous buff, more distinct on the fore part of crown; scapulars, upper tail-coverts, and secondaries much varied with white, taking the form of bars on many of the latter, which are also tipped with white or fulvous; quills brown, barred with darker brown, showing more distinctly below, where the interspaces are ashy white; tail brown, tipped with buffy white, and crossed with four broad bands of dark brown, the interspaces creamy white below; a tolerably distinct eyebrow and sides of face buffy white, narrowly streaked with blackish; sides of neck and hinder part of same buffy white, with broad brown longitudinal centres, causing a streaked appearance, and forming a collar round the hinder neck; under surface of body buffy white, with a few irregular blackish spots on upper breast, the sides of the latter and

the thighs largely spotted and barred with blackish brown, as also the axillaries; the under wing-coverts fulvous, with dark brown streaks.

Adult female. Above dusky slate-colour, the head blackish; sides of face and under surface of body clear slaty blue, with distinct blackish shaft-stripes, the throat paler and more whitish; thighs bright tawny rufous, with which the feathers on the side of the vent are also tinged; under tail-coverts white; under wing-coverts tawny rufous, rather duller than the thighs; upper wing-coverts a little darker than the back, but the secondaries uniform with the latter; primaries brown externally, shaded with ashy and barred with blackish, showing more distinctly below, where the interspaces are ashy white; tail ashy grey, slightly tipped with whitish and crossed with five distinct bands of black, the subterminal one much the broadest, the interspaces white below. Total length 17·5 inches, culmen 1·2, wing 10·4, tail 8·7, tarsus 2·65.

Adult male. Similar to the female, but smaller, and having only four bands on the tail.

Hab. Brazil.

a, b. ♂ ♀ ad. st.	Brazil.	Purchased.
c. ♀ juv. st.	Brazil.	Zoological Society.
d. ♀ juv. sk.	Brazil.	Purchased.
e. ♀ juv. sk.	Brazil.	R. B. Sharpe, Esq. [P.].
f. ♂ ad. st.	Brazil [?].	Zoological Society*.

21. Accipiter bicolor.

Sparvius bicolor, *Vieill. N. Dict.* x. p. 325 (1817); *Pucher. Rev. Zool.* 1850, p. 92.
Nisus variatus, *Less. Traité*, p. 61 (1831); *Pucher. Rev. Zool.* 1850, pp. 6, 210.
Accipiter sexfasciatus, *Sw. An. in Menag.* p. 282 (1837).
Nisus sexfasciatus, *Cab. in Schomb. Reis. Guian.* iii. p. 736 (1848).
Micrastur dynastes, *Verr. in Bp. Notes Orn.* p. 4 (1854).
Rhynchomegas dynastes, *Bp. Notes Orn.* p. 4 (1854).
Cooperastur bicolor, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.
Astur sexfasciatus, *Licht. Nomencl. Av.* p. 4 (1854).
Accipiter bicolor, *Strickl. Orn. Syn.* p. 110 (1855); *Scl. & Salv. Ex. Orn.* pp. 137, 170, pl. lxix. (1868); *Gray, Hand-l. B.* i. p. 33 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).
Accipiter pileatus (*lapsu*), *Scl. P. Z. S.* 1859, p. 389; *Salv. Ibis*, 1861, p. 355; *Lawr. An. Lyc. N. Y.* vii. p. 289 (1862), ix. p. 134 (1864).
Accipiter erythrocnemis, *Scl. P. Z. S.* 1860, p. 96 (*lapsu*).
Nisus bicolor, *Giebel, Thes. Orn.* p. 263 (1872).

Young. Above dark brown, the head black, the feathers margined with rufous, especially the upper tail-coverts, which have also indications of white bars; quills very deep brown, with pale rufous tips, barred across with blackish brown, very distinct underneath, where the interspaces are ashy white; tail ashy brown, tipped and mottled near the shafts with white, and crossed with

* Marked as from the Straits of Magellan (Capt. King), but clearly in error.

four or five bars of black; over the eye an indistinct line of deep fulvous, streaked with blackish; sides of face and under surface rich fawn-colour, entirely uniform, the throat whitish, and the upper margin of ear-coverts brown; under wing-coverts and axillaries fawn-coloured, like the breast; round the hind neck a collar of rufous fawn.

Adult male. Above deep slate-colour, the head blackish, the wing-coverts a little darker than the back; quills brown externally, shaded with slaty grey, and barred with darker brown, more distinct below, where the interspaces are ashy white, the innermost secondaries slaty grey, like the back; tail ashy brown, shaded with slaty grey and crossed with four black bars, the subterminal one extremely broad; sides of face, sides of neck, and under surface of body clear slaty blue, the thighs bright tawny rufous; under tail-coverts white; under wing-coverts white, the outer margin rufous along the carpal bend, the axillaries ashy grey. Total length 13·5 inches, culmen 0·95, wing 9·75, tail 7·3, tarsus 2·25.

Adult female. Similar to the male, but smaller, the tail crossed with five bands, one concealed. Total length 17·5 inches, wing 10, tail 8·6, tarsus 3.

Hab. Southern Mexico, throughout Central America to Ecuador, New Granada, and Guiana in South America.

a, b. ♂ ♀ ad. st.	Columbia.	Purchased.
c, d. ♂ ♀ juv. st.	New Granada.	Purchased of M. Verreaux.
e. ♂ ad. sk.	New Granada.	Purchased.
f. ♂ juv. st.	Cayenne.	E. Wilson, Esq. [P.].
g. ♀ juv. sk.	British Guiana.	Zoological Society.
h. ♂ ♀ juv. sk.	Veragua.	Mr. E. Arcé [C.].

22. Accipiter chilensis.

Accipiter chilensis, *Philippi u. Landb. Arch. f. Naturg.* 1864, p. 43; *Scl. P. Z. S.* 1867, p. 329; *Scl. & Salv. Ex. Orn.* pp. 73, 170, pl. xxxvii. (1867); *Gray, Hand-l. B.* i. p. 33 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).
Accipiter cooperi, *Pelz. Reise Nov. Vög.* p. 13 (1865).
Nisus chilensis, *Giebel, Orn. Thes.* p. 263 (1872).

Young. Above brown, with distinct rufous margins, the head blackish and the margins very distinct, the nape white, the hind neck fulvous, the feathers broadly streaked down the centre with brown; quills brown, barred with darker brown, the secondaries tipped and spotted with white, the latter markings concealed, the interspaces ashy white below; tail ashy brown, tipped with white and crossed with six blackish bars, showing more distinctly on the under surface, which is ashy white; ear-coverts whitish, streaked with brown, the hinder margin of the latter entirely brown; under surface of body creamy buff, with broad oval streaks of dark brown, more distinct on the flanks; thighs rufous, barred and spotted with dark brown; under wing-coverts rufous buff, the axillaries whitish, barred with rufous brown.

Adult female. Above dull brownish slate-colour, deeper and more

blackish on the head, paler and clearer slaty grey on the sides of face and neck and hinder neck; quills brown, barred with darker brown, showing very distinctly underneath, where the interspaces are ashy white; tail ashy brown, slightly tipped with white and crossed with six black bars, the basal one concealed and indistinct, the under surface of tail ashy white, the cross bars very distinct; throat whitish, streaked and mottled with ashy brown spots; rest of under surface ashy grey with large white spots forming bars on some of the feathers, these spots mostly margined conterminously with brownish; the breast more or less shaded with rufous, the abdomen distinctly banded; thighs rich tawny rufous; under tail-coverts pure white; under wing-coverts rufous, mottled with brown spots; the axillaries rufous, barred with white, with brown margins like the breast-feathers. Total length 18 inches, culmen 1·2, wing 9·9, tail 8·2, tarsus 3·9.

Adult male. Smaller than the female. Total length 15·8 inches, wing 8·5, tail 7·8, tarsus 2·5.

Hab. Chili.

a. ♀ ad. st.	Straits of Magellan (*King*).	Zoological Society.
b. ♂ juv. sk.	Straits of Magellan (*King*).	The Admiralty.
c. ♀ juv. sk.	Chili.	The Admiralty.
d. ♀ ad. sk.	Chili.	Mr. Brydges [C.].
e. ♂ juv. sk.	Chili.	Mr. Brydges [C.].
f, g. ♂ ♀ juv. sk.	Santiago, Chili.	E. C. Reed, Esq. [C.].
h. ♂ ad. sk.	Santiago, Chili.	E. C. Reed, Esq. [C.].

23. Accipiter melanoleucus.

Accipiter melanoleucus, *Smith, S. Afr. Q. Journ.* i. p. 229 (1830).
Astur smithii, *Kaup, Isis*, 1847, p. 196; *id. Contr. Orn.* 1850, p. 66.
Astur melanoleucus, *Smith, Ill. S. Afr. Zool.* pl. 18 (1849); *Gray, Gen. B.* i. p. 27 (1849); *Bp. Consp.* i. p. 31 (1850); *Strickl. Orn. Syn.* p. 121 (1855); *Hartl. Orn. W.-Afr.* pp. 11, 269 (1857); *Schl. Mus. P.-B.* Astures, p. 15 (1862); *Layard, B. S. Afr.* p. 27 (1867); *Heugl. Orn. N.O.-Afr.* p. 60 (1869); *Gray, Hand-l. B.* i. p. 29 (1869).
Astur apoxypterus, *Licht. Nomencl.* p. 4 (1854).
Astur hypoxanthus, *Licht. t. c.* p. 4 (1854).
Astur temminckii, *Hartl. J. f. O.* 1855, p. 353 (*ex Pel, MS.*).
Nisus verreauxii, *Schl. Mus. P.-B.* Astures, p. 37 (1862).
Astur verreauxii, *Gray, Hand-l. B.* i. p. 29 (1869).
Nisus melanoleucus, *Schl. Mus. P.-B. Revue Accipitr.* p. 74 (1873).

Young. Above brown, with narrow fulvous edgings to the feathers, the scapulars and wing-coverts showing large marks of white near their bases; head and neck fulvous washed with rufous and longitudinally streaked with dark brown; greater wing- and upper tail-coverts broadly tipped with whitish buff or pale rufous; quills dark brown, the secondaries tipped with fulvous, indistinctly barred with blackish brown above, under surface fulvous, barred with dark brown, the fulvous interspaces sometimes extending to the outer web of the first primaries; tail brown, tipped with fulvous and crossed with five broad bands of darker brown, the subterminal one

almost obsolete, the others having a narrow marginal line of buffy white; under surface of body fulvous, washed with rusty red on the breast, and more especially on the under wing-coverts and thighs; throat paler fulvous, the black shaft-lines forming a narrow streak down the centre, otherwise unspotted; the breast broadly streaked with central brown markings to the feathers, much narrower and more linear on the lower breast, and disappearing on the abdomen and under tail-coverts; under wing-coverts rufous, with a few narrow shaft-lines of black, the axillaries a little more distinctly marked with black; cere yellowish green; bill black, dusky bluish at tip; feet pale yellow; iris light dusky brown.

Mature. Above blackish brown, the hind neck slightly varied with white; quills brown, with rufous brown shafts, the primaries indistinctly banded with darker brown above, under surface of wing paler, white at base of inner web, freckled on the inner and barred on the outer with ashy brown; tail brown, slightly tipped with whitish and crossed with five broad but indistinct bands of darker brown; under surface of body white, the sides of breast, flanks, and thigh-feathers blackish brown, very slightly varied with white; under wing- and tail-coverts white, one of the former marked with brown. Total length 18·2 inches, culmen 1·3, wing 11, tail 8·5, tarsus 2·8.

Adult. Everywhere deep black; the quills browner, indistinctly barred with blackish above, the under surface paler, ashy brown at tips, buffy white at base, the black cross bands distinctly indicated; upper tail-coverts and base of tail somewhat mottled with white; tail brown, with five distinct cross bands of blackish, under surface ashy white, the bars rather distinctly indicated; under surface of body black, most of the feathers with concealed white bases or spots on them; cere yellow, with greenish tinge; bill rich brown, base of lower mandible yellow; feet greenish yellow; iris yellow. Total length 21 inches, culmen 1·45, wing 13·7, tail 10, tarsus 3·25.

Hab. South Africa. W. Africa: Gold Coast, Gaboon, and Niger districts. N.E. Africa: Abyssinia. Very rarely in last-mentioned localities.

a, b. ♀ juv. sk.	S. Africa.	South-African Museum.
c. ♀ ad. st.	S. Africa.	Sir A. Smith [C.]. Type of species.
d. ♂ ad. st.	River Niger.	Dr. Baikie [C.].
e. ♂ ad. sk.	River Niger.	Dr. Baikie [C.].
f. ♀ juv. sk.	River Danger, Gaboon.	H. T. Ansell, Esq. [P.].

Subfamily V. BUTEONINÆ.

Outer toe only connected to middle toe by interdigital membrane; tibia much longer than tarsus, exceeding it by more than the length of hind claw*.

Key to the genera†.

a. Distance between tips of primaries and tips of secondaries equal to or greater than the length of tarsus.
  a'. Ridge of bill (without cere) less than half the length of middle toe (without claw).. 25. UROSPIZIAS, p. 159.
  b'. Ridge of bill greater than half length of middle toe.
    a''. Tail about equal to twice the tarsus; wings reaching up to or beyond the tail.
      a'''. Nostrils round, with large tubercular process ..... 25*. HETEROSPIZIAS, p. 160.
      b'''. Nostrils oval, with no tubercular process ..... 26. TACHYTRIORCHIS, p. 161.
    b''. Tail longer than twice tarsus; wings not reaching to tip of tail.
      c'''. Nostrils long ovals, with no tubercle.
        c^4. Tarsus bare ..... 27. BUTEO, p. 164.
        d^4. Tarsus feathered to the toes ..... 28. ARCHIBUTEO, p. 195.
      d'''. Nostrils round, with distinct central tubercle ..... 29. BUTEOLA, p. 201.
      e'''. Nostrils oval, with indistinct and concealed tubercle at base of upper margin 30. ASTURINA, p. 202.
b. Distance between tips of primaries and secondaries less than length of tarsus.
  c'. No perceptible crest.

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* I have done my utmost to secure the exact relative dimensions of these two bones; but the scantiness of osteological material renders positive identification in many cases impossible. At any rate the probability that some genera placed by me among the Buteoninæ may some day be found to belong to the Accipitrinæ only proves the truth of Professor Sundevall's remark that the two subfamilies are hardly separable (Av. Tent. p. 107).

† One genus remains still unknown to me, *Onychotes* of Ridgway (Pr. Phil. Acad. 1870, p. 142):—

"Nostril nearly circular, with a conspicuous (not central) tubercle. Tarsus very long and slender; toes moderate; claws very long, strong, and sharp, but only slightly curved. Tibial feathers short, close, not reaching below the joint. Wing very short, much rounded and very concave beneath; 4th quill longest, 1st shorter than 9th. Tail moderate, rounded."

Type *O. grueberi*, Ridgway, *l. c.*

Hab. California [?].

Mr. Ridgway has privately communicated to me the following additional details in answer to my inquiries:—"The posterior face of the tarsus has a row of transverse scutellæ, as in *Buteo*. The tarsus is longer than the distance from the ends of the secondaries to the tip of the primaries. The tips of the primaries reach to about the middle of the tail, which, however, is comparatively short; they fall short of the end of the tail by about the length of the tarsus. The nostrils are nearly round; they are not overhung by any perceptible membrane, though the upper part of the nasal aperture is filled by the tumid skin of the cere, much as in *Buteo* &c. The soles of the feet are as in *Buteo*. The distance from ends of secondaries to tips of primaries is 2·50 inches. Length of tarsus 2·70 inches, middle toe 1·45, hind toe 0·80."

From a comparison of these details with the above table it will be seen that *Onychotes* is closely allied to, if not identical with, *Urubitinga*.

c''. Sole of foot covered with rugose and thorny spicules (like an Osprey) ..... 31. BUSARELLUS, p. 210.
d''. Soles of feet ordinary, smooth.
c'''. Wing falling short of tail by less than hind toe (without claw) ..... 32. BUTEOGALLUS, p. 212.
d'''. Distance between tips of wing and tail greater than hind toe..... 33. URUBITINGA, p. 212.
d'. A crest from four to five inches long.
e''. Distance between summit of nostril and culmen less than length of nostril itself.
e'''. Tail short, not three times as long as tarsus ..... 34. HARPYHALIAETUS, p. 221.
f'''. Tail very long, more than four times as long as tarsus ..... 35. MORPHNUS, p. 222.
f''. Distance between summit of nostril and culmen greater than length of nostril itself 36. THRASAETUS, p. 223.

25. UROSPIZIAS.

Type.

Urospiza, *Kaup, Mus. Senckenb.* iii. p. 259 (1845) ..... U. radiatus.

Range. Eastern and Central Australia, from N. S. Wales to Port Essington, excepting the Cape York peninsula, in which direction only known from lat. 40°.

1. Urospizias radiatus.

Radiated Falcon, *Lath. Gen. Syn. Suppl.* ii. p. 53, pl. 121 (1801).
Falco radiatus, *Lath. Ind. Orn. Suppl.* ii. p. 12 (1801).
Sparvius radiatus, *Vieill. N. Dict.* x. p. 340 (1817).
Haliaetus caleyi, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 186 (1827).
Nisus radiatus, *Less. Man. d'Orn.* p. 97 (1828).
Astur radiatus, *Gray, Ann. N. H.* xi. p. 189 (1843); *Gould, B. Austr.* i. pl. 16 (1848); *Gray, Gen. B.* i. p. 27 (1849); *Bp. Consp.* i. p. 31 (1850); *Strickl. Orn. Syn.* p. 119 (1855); *Schl. Mus. P.-B.* Astures, p. 15 (1862); *Gould, Handb. B. Austr.* i. p. 441 (1865); *Gray, Hand-l. B.* i. p. 29 (1869).
Accipiter radiatus, *Gould, Ann. N. H.* xi. p. 335 (1843).
Urospiza radiata, *Kaup, Mus. Senck.* iii. p. 259 (1845).
Astur testaceus, *Kaup, Isis*, 1847, p. 367, *et Contr. Orn.* 1850, p. 66.
Urospizia tricolor, *Bp. Rev. et Mag. de Zool.* 1854, p. 538.

Adult male. Above bright rufous, the feathers of the head and neck mesially streaked with black; all the feathers of the upper surface black in the centre, rufous on the margins; the upper tail-coverts almost entirely rufous; quills dark brown, externally shaded with ashy brown, the secondaries washed with rufous before their tips, which are white, shafts of primaries whitish, under surface of wing ashy white near the base, with irregular mottling of dark brown, as if the remains of bars; tail clear greyish ash-colour, tipped with pale rufous and washed with bright rufous near the base, all the feathers irregularly barred with dark brown, the sub-terminal band being the most distinct; under surface of tail whitish, washed with rufous near the base of the inner webs, the cross bars very indistinctly indicated; under surface of body bright rufous, the throat and fore part of cheeks paler and more ochraceous, all the

feathers narrowly but distinctly streaked with black, obsolete on the thighs and under tail-coverts; under wing-coverts rufous, streaked with black, those on the edge of the wing more broadly marked. Total length 20 inches, culmen 1·4, wing 14·5, tail 9·5, tarsus 3.

Adult female. Similar to the male and a very little larger. Total length 20 inches, wing 14·8, tarsus 3.

Hab. The same as that of the genus.

a.	Ad. sk.	Australia.	Linnean Society [P.]. Type of *H. caleyi*.
b.	Ad. st.	Port Essington.	Capt. Chambers, R.N. [P.].
c.	Ad. st.	Bourke, River Darling.	John Gould, Esq.
d.	Skeleton.		Zoological Society.

25*. HETEROSPIZIAS*.

Urubitinga, *auct. aliq.*
Spizigeranus, *Gray, Hand-l. B.* i. p. 9 (1869, *nec Kaup*).



Nostril of *H. meridionalis*, showing tubercular process.

Range. The northern and central portions of the South American continent from Columbia and Guiana southwards to 20° S. lat., ranging on the east coast to the provinces of Rio and Paraguay.

1. Heterospizias meridionalis.

Rufous-headed Falcon, *Lath. Gen. Syn. Suppl.* p. 33 (1787).
Falco meridionalis, *Lath. Ind. Orn.* i. p. 36 (1790).
Gavilan de estero Acanelada, *Azara, Apunt.* i. p. 72 (1802); *Hartl. Ind. Azara*, p. 1 (1847).
Circus rufulus, *Vieill. N. Dict.* iv. p. 466 (1816).
Falco rutilans, *Licht. Verz. Doubl.* p. 60 (1823); *Temm. Pl. Col.* i. pl. 25 (1824).
Aquila buzon, *Spix, Av. Bras.* i. p. 6 (1824).
Circus rutilans, *Steph. Gen. Zool.* xiii. p. 43 (1826).
Buteo rutilans, *Less. Man. d'Orn.* i. p. 104 (1828).
Hypomorphnus rutilans, *Cab. Arch. f. Naturg.* 1844, p. 264; *id. & Tschudi, Faun. Peruan.* pp. 17, 84 (1844).
Rupornis meridionalis, *Kaup, Contr. Orn.* 1850, p. 68.
Astur rufulus, *Strickl. Orn. Syn.* p. 422 (1855).
Asturina rutilans, *Burm. Th. Bras.* ii. p. 80 (1856).
Buteogallus meridionalis, *Scl. P. Z. S.* 1860, p. 288.
Buteo meridionalis, *Schl. Mus. P.-B.* Buteones, p. 17 (1862); *Gray, Hand-l. B.* i. p. 9 (1869); *Schl. Mus. P.-B. Revue Accipitr.* p. 110 (1873).
Urubitinga meridionalis, *Scl. & Salv. P. Z. S.* 1867, p. 589, et 1869,

* ἕτερος, alter; ἱέραξ, accipiter.

p. 252; *Wyatt, Ibis*, 1871, p. 382; *Pelz. Orn. Bras.* pp. 7, 394 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 119 (1873).

Young. Dusky black above, the tail with two or three white bars near base in addition to the median and terminal bands; crown blackish, the feathers obscurely notched and barred with rufous; hind neck and underparts pale rufous, thickly barred with dusky black; least wing-coverts bright rufous, centred and barred with blackish, rest of the wing-coverts dusky black like the back, mottled with pale rufous near tips; quills much as in adult, but having remains of black bars across the rufous basal portion.

The progress to the adult plumage appears to proceed by a gradual change of feather, the bars on the lower surface narrowing and gradually becoming obsolete. The dusky black on the dorsal feathers becomes much broken into zigzag bars; and the rufous spreads towards the shaft of the feather, but is once more confined to the margin when the slaty grey shade of the adult plumage commences to occupy the centre of the feather.

Adult. Head rufous, the lores whitish, ear-coverts and sides of face light ashy grey; back and scapulars pale slaty grey, all the feathers margined with rufous; lower back, rump, and upper tail-coverts blackish, the latter glossed with purple and tipped with white; least wing-coverts bright rufous, the remainder pale slaty with broad rufous tips, the median ones also margined with rufous; quills rufous, primaries black towards tip, secondaries with a broad subterminal band of purplish brown, the innermost entirely of the latter colour; tail purplish black, mottled and washed with rufous near the base, broadly tipped with white and banded across the middle with a distinct white bar; under surface of body rufous, the entire breast covered with obsolete remains of narrow blackish bars; thighs and under wing- and tail-coverts uniform bright rufous. Total length 20 inches, culmen 1·55, wing 16·5, tail 8·3, tarsus 1·15.

Adult female. Larger than male. Total length 24 inches, wing 18·3, tail 10, tarsus 4·8.

Hab. The same as that of the genus.

a. Juv. st.	S. America.	Baron Laugier de Chartrouse.
b, c. Ad. st.	S. America.	
d. ♂ ad. st.	Merida.	Purchased.
e. Ad. sk.	Mexico.	Mr. Hartweg.
f. Ad. sk.	Island of Mexiana.	A. R. Wallace, Esq. [C.].

26. TACHYTRIORCHIS.

Tachytriorchis, *Kaup, Classif. Säug. u. Vög.* p. 123 (1844) ..... Type. T. albicaudatus.

Range. Eastern and Central Brazil from the Tropic of Capricorn northwards to Guiana and Columbia, along the western coast of Central America into the south-western boundary of the United States.



Nostril of *T. albicaudatus*, with no tubercular process.

Key to the Species.

a. Underneath white; throat black; tail white, with black band ..... *albicaudatus*, p. 162.
b. Underneath entirely black; tail black, banded with grey ..... *abbreviatus*, p. 163.

1. Tachytriorchis albicaudatus.

Aquila coliblanca, *Azara, Apunt.* i. p. 69 (1802).
Buteo albicaudatus, *Vieill. N. Dict.* iv. p. 477 (1816); *Pucher. Rev. et Mag.* 1850, p. 87; *Strickl. Orn. Syn.* p. 35 (1855).
Spizaetus leucurus, *Vieill. N. Dict.* xxxii. p. 59 (1819).
Falco pterocles, *Temm. Pl. Col.* i. pls. 56, 139 (1823).
Buteo pterocles, *Less. Man. d'Orn.* i. p. 103 (1828); *Gray, Gen. B.* i. p. 12 (1849); *Cab. in Schomb. Reis. Guian.* iii. p. 739 (1848); *Burm. Th. Bras.* ii. p. 49 (1855); *Schl. Mus. P.-B.* Buteones, p. 13 (1862); *Gray, Hand-l. B.* i. p. 8 (1869); *Pelz. Orn. Bras.* pp. 3, 396 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 119 (1873); *Schl. Mus. P.-B. Revue, Accipitr.* p. 110 (1873).
Buteo albicauda, *Less. Traité*, p. 81, pl. 15. fig. 2 (1831); *Pucher. Rev. et Mag. de Zool.* 1850, p. 214.
Tachytriorchis pterocles, *Kaup, Classif. Säug. u. Vög.* p. 123 (1844); *id. Contr. Orn.* 1850, p. 75; *Bp. Consp.* i. p. 17 (1850).
Buteo tricolor, *Hartl. Ind. Azara*, p. 1 (1847, *nec D'Orb.*).
Buteo leucurus, *Lafr. Rev. Zool.* 1849, p. 100.

Young. General plumage black, the bases to the feathers white, the small wing-coverts margined, and the scapulars with concealed rufous spots, indicative of the approaching rufous of the adult; greater wing-coverts indistinctly margined with paler brown; quills blackish brown, shaded externally with ashy grey, and barred with blackish, the secondaries browner, barred with blackish, all the bars showing more plainly below on the inner web, which is more or less white from the base upwards; upper tail-coverts brown, white at base, the outer ones white, tipped with brown; tail bluish grey, crossed with 16 or 17 blackish bands, somewhat indistinctly; head black, lores conspicuously white, an indistinct eyebrow, sides of neck and hinder part of the latter streaked with fulvous or buffy white; throat black; under surface of body fulvous, more or less varied with black on each feather, taking the form of bars on the flanks and thighs and almost disappearing on the under tail-coverts; under wing-coverts white, mottled with black, like the breast; axillaries black, tipped and spotted with white.

Adult male. Above slaty grey, darker on the head, the small scapulars and some of the least wing-coverts ferruginous; lower back,

rump, and upper tail-coverts pure white, the uppermost feathers of the former slightly tinged with ferruginous; tail silvery grey, the centre feathers white, crossed with eight or nine slaty bars, tipped with white or ashy white, before which is a broad subterminal band of black; sides of face and throat deep slaty grey; rest of under surface white, including the under wing- and tail-coverts, the axillaries numerously barred with slaty black, sometimes tinged with rufous, the flanks barred in the same manner, but less distinctly and more narrowly; upper wing-coverts slaty black, darker than the back, with indications of blackish bars on the greater coverts; quills black, inclining to ashy grey near the base, with blackish cross bars, inner web whitish ashy at base, the cross bars broader and more distinct. Total length 21 inches, culmen 1·5, wing 17, tail 7, tarsus 3·4.

Female (*young*). Total length 22 inches, wing 18·5, tail 5·5, tarsus 3·7.

Hab. Eastern and Central Brazil, Guiana, and Columbia, ranging into Central America as far as Southern Mexico.

a, *b*.	♂ ad. st.	South America.	
c.	♀ jun. st.	South America.	Zoological Society.
d.	♀ juv. st.	South America.	Major-Gen. Hardwicke [P.].
e.	♂ juv. st.	Caracas.	Mr. Dyson [C.].
f.	♂ ad. sk.	Concordia, New Granada.	T. K. Salmon, Esq. [C.].
g.	♀ juv. sk.	Demerara.	R. B. Sharpe, Esq. [P.].

2. Tachytriorchis abbreviatus.

Buteo albonotatus, *Gray, Cat. Accipitr.* 1844, p. 17 (*descr. nullâ*); *id. Gen. B.* i. p. 12 (1849); *Strickl. Orn. Syn.* p. 31 (1855); *Scl. & Salv. Ibis*, 1859, p. 217; *Gray, Hand-l. B.* i. p. 8 (1869).

Buteo abbreviatus, *Cab. in Schomb. Reis. Guian.* iii. p. 739 (1848); *Scl. & Salv. Nomencl. Av. Neotr.* p. 118 (1873).

Tachytriorchis albonotatus, *Kaup, Contr. Orn.* 1850, p. 75; *Bp. Consp.* i. p. 17 (1850).

Buteo zonocercus, *Scl. P. Z. S.* 1858, p. 130; *id. Tr. Z. S.* iv. p. 263, pl. 59 (1858); *Scl. & Salv. Ibis*, 1859, p. 217; *Coues, Pr. Phil. Acad.* 1866, p. 46; *Léot. Ois. Trinid.* p. 9 (1866); *Elliot, B. N. Am.* ii. pl. xxxiii. (1869); *Gray, Hand-l. B.* i. p. 8 (1869); *Cooper, B. Calif. ed. Baird*, p. 479 (1870); *Coues, Key N. Am. B.* p. 217 (1872).

Buteo cabanisii, *Schl. Mus. P.-B.* Buteones, p. 11 (1862).

Astur cabanisii, *Gray, Hand-l. B.* i. p. 30 (1869).

Adult. Entirely black, the nape varied with white bases to the feathers; lores white; quills black, secondaries a little browner; tail black, slightly tipped with ashy white, and banded across the middle with ashy grey, white on the inner web, with remains of a second narrower grey band below the broad median one; cere yellow; bill black, whitish at base; feet yellow; iris reddish brown. Total length 22 inches, culmen 1·55, wing 16·25, tail 8·5, tarsus 2·9.

Nearly adult (type of *B. albonotatus*). Black, the lores conspicuously white, nearly all the feathers with concealed white spots, a

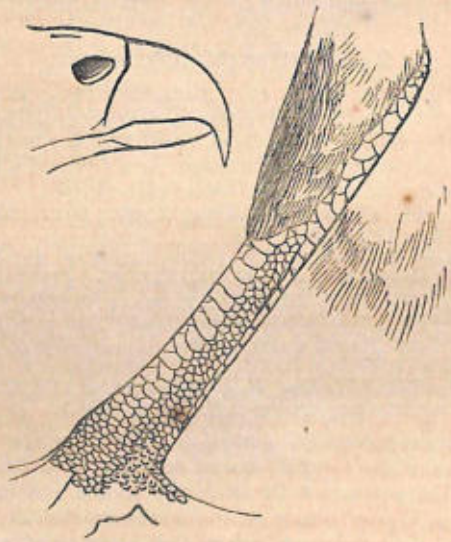
little more conspicuous on the throat and breast; primaries deep black, externally shaded with ashy, secondaries a little browner, the inner web barred with white; tail ashy brown, more decidedly ashy towards the base, the feathers tipped with white on the inner web, and crossed with seven or eight black bars, not including the subterminal band, which is very broad; the under surface of both the wings and tail white, the black bands very distinct. Total length 21·5 inches, culmen 1·6, wing 16·6, tail 9·8, tarsus 3.

Hab. From Arizona and California southwards along the western coast of Central America to Guiana and Trinidad.

a. Ad. st. Mexico. John Taylor, Esq. [P.]. Type of *B. albonotatus*.
b. Ad. st. Mexico.

27. BUTEO.

	Type.
Buteo, *Cuv. Leç. Anat. Comp.* i. tabl. ois. (1800) ..	B. vulgaris.
Craxirex, *Gould, in Darw. Voy. Beagle, Birds*, p. 22 (1841)	B. galapagensis.
Geranoaetus, *Kaup, Classif. Säug. u. Vög.* p. 122 (1844)	B. melanoleucus.
Butaquila, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844)	B. ferox.
Poecilopternis, *Kaup, Isis*, 1847, p. 329	B. latissimus.
Heteroaetus, *Kaup, Contr. Orn.* 1850, p. 74	B. melanoleucus.



Nostril and foot of *Buteo obsoletus*.

Range. The whole of the New World, likewise the entire Old World, excepting the Indo-Malayan subregion, and the whole of Australasia and Oceania, in all of which it is absent.

Key to the Species.

I. *Tail generally* uniform, *with no* complete *bars across the feathers, except the subterminal one, which is often absent altogether.*

A. *Tail rufous or ashy rufous.*

a. Head and ear-coverts black.
  a'. Underparts uniform black, or white with black throat. *augur* ad., p. 175.
  b'. Underparts black, the centre of the breast more or less rufous. *jackal* ad., p. 173.
b. Head and ear-coverts rufous or rufous buff, often varied with brown streaks, more rarely whitish (in *B. ferox*).
  c'. Cheeks whitish or rufous white, streaked with dark brown or rufous.
    a''. Much larger; wing in ♂ about 17·7 inches, in ♀ 18·4. *ferox* ad., 176.
    b''. Smaller; wing not exceeding 15 inches *desertorum* ad., p. 179.
  d'. Cheeks black ..... *montanus* vix ad., p. 189.
c. Head and ear-coverts smoky brown.
  e'. Breast whitish.
    c''. Thighs white ..... *borealis* ad., p. 188.
    d''. Thighs rufescent ..... *montanus* ad., p. 189.
  f'. Breast and thighs more or less inclining to brown. *montanus* ad., p. 189.
  g'. Breast and underparts generally smoky brown, tinged with rufous, or rufous streaked and barred with blackish *montanus* ad., p. 189 (*calurus*).

B. *Tail brown.*

d. Under surface uniform smoky black ..... *augur* juv. (var. *melanot.*), p. 175.

e. Under surface white, varied with brown streaks. *plumipes* juv. (*japonicus*), p. 180.

C. *Tail ashy grey mottled with black, with a subterminal bar of the latter colour.*

f. Much larger (length 28 inches); below ochre, streaked with black. *melanoleucus* juv., p. 168.

g. Much smaller (length 23 inches); below uniform black. *harlani* ad., p. 191.

D. *Tail black, tipped with white* ..... *melanoleucus* ad., p. 168.

II. *Tail brown of some shade or other, varying from light brown to sooty, greyish, or blackish brown, often nearly black,* but always with some distinct transverse *bars* *; *bars on tail never exceeding* 13, *generally less than* 11.

h. Smaller wing-coverts brown or black, never more than slightly margined with rufous or fulvous.

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* *B. ferox* and *B. plumipes* have often nearly uniform ashy brown tails, with very few remains of bars; but the indications of the latter can generally be traced by holding the tail towards one away from the light.

h'. Under surface uniform.
e''. With 12 bars on penultimate tail-feather (viewed from below). *galapagensis* ad., p. 170.
f''. Bars on penultimate tail-feather always less than 12.
a'''. General colour sooty black; tail distinctly barred; subterminal band distinct ..... *obsoletus* ad., 184.
b'''. General colour smoky brown; tail with indistinct cross bands, subterminal one imperceptible. *plumipes* ad., p. 180.
i'. Under surface particoloured.
g''. Thighs uniform.
c'''. Thighs white or buffy white, unspotted.
*a*⁴. Upper tail-coverts barred or spotted with white; tail whitish at base.
*a*⁵. Bare part of tarsus (measured on inner side) greater than middle toe without claw.
*a*⁶. Upper breast white, with a few spots only.
*a*⁷. Throat brown, with narrow white streaks. *vulgaris* juv., p. 186.
*b*⁷. Throat quite white, uniform *obsoletus* juv., p. 184.
*c*⁷. Throat white, with central streak of brown. *lineatus* juv., p. 191.
*b*⁶. Upper breast uniform rufous brown. *obsoletus* vix ad. (*insignatus*), p. 184.
*b*⁵. Bare part of tarsus on inner side less than middle toe (without claw) ..... *plumipes* juv. (=*japonicus*), p. 180.
*b*⁴. Upper tail-coverts ashy brown like tail, with rufous tips. *augur* juv., p. 175.
d'''. Thighs uniform brown externally, sometimes with remains of slight rufescent margins.
*c*⁴. General colour sooty black or sooty brown; not more than 9 bars on tail to be distinguished.
*c*⁵. Much larger (length 28 inches).
*c*⁶. Throat sooty brown, uniform. *ferox* ad. (*fuliginosus*, Hume), p. 176.
*d*⁶. Throat white, streaked with brown. *hemilasius*, p. 182.
*d*⁵. Smaller; length not more than 22 inches.
*e*⁶. No rufous on tail, except a slight tinge on apical band. *obsoletus* ad., p. 184.
*f*⁶. Upper tail-coverts and tail washed with rufous. *desertorum* ad., p. 179.
*d*⁴. General colour clear brown; bars on tail from 10 to 13.
*e*⁵. Bars equidistant on tail, which is not washed with rufous; upper tail-coverts not washed with rufous.
*g*⁶. Under tail-coverts white, with a few longitudinal streaks or spots of light brown. *vulgaris* ad., p. 186.
*h*⁶. Under tail-coverts white, with broad bars or arrow-head spots of dark brown ..... *obsoletus* ad., p. 184.
*f*⁵. Bars on tail not equidistant throughout, the subterminal one broader; tail washed with rufous.
*i*⁶. Bare part of tarsus on inner side greater than middle toe without claw.
*a*⁷. Upper tail-coverts not spotted with rufous.

a^5. Breast and thighs tawny rufous.
desertorum ad., 179.
b^5. Breast and thighs rufous brown.
vulgaris ad., p. 186.
b^7. Upper tail-coverts spotted with rufous.
desertorum ad., p. 179.
k^5. Bare part of tarsus on inner side less than middle toe without claw; thighs and breast bright tawny rufous.
plumipes ad. (*japonicus*), p. 180.

h''. Thighs particoloured.
e'''. Thighs white, mottled with brown, or with rufous spots or bars.
e^4. Subterminal bar on tail broader than outer toe (with claw); bars on tail not more than six in number.
latissimus ad., p. 193.
f^4. Subterminal bar decidedly less than outer toe.
l^5. Outer upper tail-coverts not barred across, but sometimes notched or mottled with white near the base.
c^7. Primaries barred alternately for whole extent below.
brachypterus, p. 183.
d^7. Primaries white at base, uniform brown for apical half.
c^8. Bare part of tarsus on inner side greater than middle toe without claw .... *obsoletus* juv., p. 184.
d^8. Bare part of tarsus on inner side less than middle toe ..... *plumipes* juv. (*japonicus*,) p. 180.
m^6. Outer upper tail-coverts distinctly barred across with white or rufous.
e^7. Throat white in centre, not streaked with brown.
e^8. Tail distinctly barred.
a^9. Bars on tail not more than 7 in number.
latissimus juv., p. 193.
b^9. Bars on tail more than 7.
aa. Tail sepia-brown, barred across with blackish brown, below whitish.
montanus juv. (*varius*), p. 189.
bb. Tail ashy rufous, with brown cross bars, below rufescent..... *borealis* juv., p. 188.
f^8. Tail nearly entirely rufous, the bars very indistinct.
borealis ad., p. 188.
f^7. Throat white, streaked with brown.
g^8. Tail rufous, with narrow and indistinct blackish bars.
borealis ad., *montanus* ad. (*calurus*), p. 189.
h^8. Tail sepia, more or less tinged with rufous, always regularly barred with dark brown.
e^9. Bars on tail 6 or 7 .. *latissimus* juv., p. 193.
d^9. Bars on tail more than 7.
borealis juv., p. 188.

f'''. Thighs rufous, or brown mottled with rufous, more rarely with whitish.
g^7. Throat whitish, or white streaked with brown.
i^8. Inner web of first primary white with no bars.
e^9. Under tail-coverts clear rufous, or slightly barred with brighter rufous.

cc. Upper tail-coverts ashy brown like back, with margins of pale greyish brown.
jackal juv., p. 173.
dd. Upper tail-coverts rufous.
desertorum ad., p. 179.
*f*⁶. Under tail-coverts whitish or buff.
ee. Ear-coverts whitish like the head.
ferox ad., p. 176.
ff. Ear-coverts whitish, head brown.
aa'. Centre of chest white, streaked with brown.
vulgaris ad., 186.
bb'. Chest uniform white.
desertorum juv.(*capensis*), p. 179.
*g*⁵. Inner web of first primary white, with slight remains of bars.
*g*⁶. Ear-coverts and sides of face like head.
gg. Upper tail-coverts broadly tipped with white.
montanus (*calurus*) ad., p. 189.
hh. Upper tail-coverts not tipped with white, but barred with ochraceous buff.
harlani juv., p. 191.
*h*⁶. Ear-coverts whitish, head brown; upper tail-coverts uniform, not tipped with white.
plumipes juv. (*japonicus*), p. 180.
*h*⁷. Throat uniform brown or rufous brown.
*i*⁵. Rufous brown underneath, mottled with darker brown and rufous .. *montanus* (*calurus*) ad., p. 189.
*j*⁵. Underneath pale rufous. *jackal* ad., p. 173.
i. Smaller wing-coverts conspicuously margined with rufous, forming a shoulder-patch; quills distinctly spotted with white externally; tail with from four to six alternate bars of black and pure white.
lineatus ad., p. 191.

III. *Tail bluish grey, with from* fourteen *to* seventeen *distinct cross bars on middle feather.*

erythronotus, p. 172; *poliosomus*, p. 171; *galapagensis* juv., p. 170.

IV. *Tail white, all the feathers narrowly barred across with blackish and crossed with a broad subterminal bar of the same.*

a. Under surface of body white.
a'. Back slaty blue ..... *erythronotus* ♂, p. 172.
β'. Back rufous ..... *erythronotus* ♀, p. 172.
β. Under surface of body leaden grey ..... *poliosomus*, p. 171.

1. Buteo melanoleucus*.

Aquila obscura y blanca, *Azara, Apunt.* i. p. 61 (1802).

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* "Why it should be called a 'Sea-Eagle' I do not know" (W. B. Lee, Ibis, 1873, p. 136). *Cf.* also Sundevall, Av. Tent. p. 107 (1873).

Aquila parda, *Azara, tom. cit.* p. 65 (1802).
Spizaetus melanoleucus, *Vieill. N. Dict.* xxxii. p. 57 (1819).
Spizaetus fuscescens, *Vieill. tom. cit.* p. 55 (1819).
Falco aguia, *Temm. Pl. Col.* i. pl. 302 (1824).
Haliaetus aguia, *Cuv. Règne An.* i. p. 327 (1829); *Less. Traité*, p. 42 (1831).
Haliaetus melanoleucus, *D'Orb. & Lafr. Syn. Av.* p. 3 (1838); *D'Orb. Voy. Am. Mérid. Ois.* p. 76 (1847); *Burm. Th. Bras.* ii. p. 54 (1855); *Gray, Hand-l. B.* i. p. 17 (1869).
Geranoaetus aguia, *Kaup, Classif. Säug. u. Vögel*, p. 122 (1844); *Bp. Consp.* i. p. 15 (1850).
Buteo aguia, *Cab. u. Tschudi, Arch. f. Naturg.* 1844, p. 264, *et Faun. Peruan.* p. 89 (1844); *Sundev. Av. Tent.* p. 107 (1873).
Pontoaetus melanoleucus, *Gray, Gen. B.* i. p. 18 (1845).
Cuncuma melanoleucus, *Gray, Cat. Accipitr.* 1848, p. 25.
Heteroaetus aguia, *Kaup, Contr. Orn.* 1850, p. 74.
Geranoaetus melanoleucus, *Strickl, Orn. Syn.* p. 55 (1855); *Burm. Reise La Pl. St.* ii. p. 425 (1861); *Pelz. Reise Nov. Vög.* p. 7 (1865); *id. Orn. Bras.* pp. 49, 397 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 119 (1873).
Asturina melanoleuca, *Schl. Mus. P.-B.* Asturinæ, p. 5 (1862); *id. Revue Accipitr.* p. 102 (1873).

Young male. Above dusky brown, the wing-coverts black, these as well as the scapulars slightly mottled with rufous, the upper tail-coverts also barred and mottled with the same; crown of the head and nape ochraceous buff, longitudinally streaked with black, the interscapulary feathers black in the centre, with broad rufous margins; quills black, the secondaries browner and tipped with fulvous, all quills mottled with ashy grey on both webs above and below, the primaries near the base, the secondaries for the greater part of their extent, and varied with white below on the inner web; tail ashy grey, mottled with black, more indistinctly towards the apex, which is entirely black; sides of face and throat whitish, the latter as well as the cheeks streaked with black; breast bright ochre, with a few streaks and spots of black; rest of under surface, including under wing- and tail-coverts, blackish, mottled and barred with ochre or rufous ochre; the axillaries more distinctly mottled with rufous. Total length 26 inches, wing 19·8, tail 11·5, tarsus 4·2.

Obs. The black of the underparts appears to spread over the entire breast, where it remains, while the rufous and ochraceous colouring of the young disappears by degrees; the mottlings on the abdomen break up into regular narrow bars.

Adult male. Above black, including the quills, which are externally shaded with ashy grey; least and median coverts ashy grey, the inner ones inclining to silvery grey, all finely and irregularly crossed with black bars, becoming broader on the median coverts and disappearing on the greater coverts, which are entirely black; upper tail-coverts and tail black, tipped with white; lores whitish; sides of face and throat whitish ash-colour, with narrow blackish streaks, more distinct on the ear-coverts; chest black, with sometimes a few white tips to the feathers (the remains of immaturity); rest of under

surface, including the under wing- and tail-coverts, ashy white, crossed with numerous bars of ashy black. Total length 28 inches, culmen 2·5, tail 10, tarsus 4·15.

Adult female. Larger than the male. Total length 31 inches, wing 23·7, tail 11·5, tarsus 4·15.

Hab. Chili and Patagonia, ranging north into Southern Brazil, and thence to Columbia.

a. ♂ ad. st.	S. America.	Purchased.
b. ♀ ad. st.	Eastern Patagonia.	Sir W. Burnett and Admiral Fitzroy [P.].
c. ♀ ad. sk.	Rio Negro, Patagonia.	W. H. Hudson, Esq. [C.].
d. ♂ juv. sk.	Chili (*Reed*).	W. Wilson Saunders, Esq. [P.].
e. Juv. sk.	Chili.	Mr. Brydges [C.].
f. Skeleton.		Zoological Society.

2. Buteo galapagensis.

Polyborus galapagoensis, *Gould, P. Z. S.* 1837, p. 9.
Craxirex galapagoensis, *Gould, in Darw. Zool. Beagle, Birds*, p. 23 (1841); *Bp. Consp.* i. p. 34 (1850).
Buteo galopagoensis, *Gray, Cat. Accipitr.* 1844, p. 18; *id. Gen. B.* i. p. 12 (1849); *Gray, Hand-l. B.* i. p. 7 (1869).
Buteo leucops, *Gray, Cat. Accipitr.* 1848, p. 36.
Pœcilopternis infulatus, *Kaup, Contr. Orn.* 1850, p. 76.
Buteo galapagensis, *Sund. P. Z. S.* 1871, pp. 125, 127; *Scl. & Salv. Nomencl. Av. Neotr.* p. 119 (1873).

Young. Above dark brown, the feathers margined with rufous, the nape much mixed with white, and the lores very conspicuously white, the wing-coverts and scapulars with broad rufous or rufous-buff bars and margins; quills black, externally shaded with ashy grey, the secondaries browner, tipped with rufous buff, all barred with dark brown, these bars conspicuous below on inner web of secondaries, but absent on primaries, which have the inner web pure white with a few ashy grey mottlings; upper tail-coverts rufous, broadly banded with black; the outer ones creamy white, with rufous cross markings; tail ashy grey, tipped with whity brown, and crossed with about seventeen blackish bars, the subterminal one being a little broader; eyebrow and sides of face deep ochre, streaked with black; cheeks and throat blackish; under surface of body ochraceous buff, streaked with black, the breast with rufous brown, broader on the sides of the body; the belly with triangular spots of rufous brown, narrower and paler rufous on thighs and under tail-coverts; under wing-coverts spotted and streaked with rufous brown. Total length 21 inches, wing 14·5, tail 9·25, tarsus 3·35.

Adult male (type of species). Everywhere sooty black, with a brownish shade, especially distinct on the wing-coverts; quills black, the secondaries browner and tipped with buffy white, the primaries externally shaded with ashy, all barred with blackish brown,

more distinctly below, where the interspaces are dull ashy white; tail greyish brown, tipped with fulvous, and crossed with thirteen blackish bars, the subterminal one slightly the broadest; under surface of body sooty black, with a clearer shade of brown, more distinct on under wing-coverts, which are also tinged with rufous. Total length 20·5 inches, culmen 1·7, wing 15·15, tail 9·2, tarsus 2·85.

Female (young). Rather larger than the male. Total length 23·5 inches, wing 17·3, tail 11, tarsus 3·35.

Hab. Galapagos Islands.

a. ♂ ad. sk.	Galapagos Islands (*Darwin*).	Zoological Society. Type of species.
b. ♀ juv. st.	Galapagos Islands (*Darwin*).	Zoological Society.
c. ♀ juv. sk.	Galapagos Islands.	Sir W. Burnett and Admiral Fitzroy [P.]. Type of *B. leucops*.

3. Buteo poliosomus.

Falco polyosoma, *Quoy et Gaim. Voy. de l'Uran. Ois.* p. 92, pl. 14 (1824).

Astur polyosoma, *Cuv. Règne An.* i. p. 332 (1829).

Buteo poliosoma, *Less. Traité*, p. 82 (1831); *Strickl. Orn. Syn.* p. 219 (1855); *Scl. P. Z. S.* 1860, p. 384; *Abbott, Ibis*, 1861, p. 151; *Scl. & Salv. Nomencl. Av. Neotr.* p. 119 (1873).

Adult. Bluish slate-colour above and below, a little clearer about the head and throat; lores whitish; upper and under tail-coverts white, with slaty grey cross bars and mottlings of the same colour; tail white crossed with about nine narrow bands of slaty grey, and a very broad subterminal band of slaty black; primaries black, externally shaded with silvery grey, the secondaries entirely slaty grey like the back, tipped with white; primaries white at base of inner web, with remains of dusky slate-coloured bars. Total length 22 inches, culmen 1·4, wing 15·25, tail 8·5, tarsus 3·4.

Female (*? in changing plumage*). All over blackish slate-colour, excepting the hinder neck, the entire mantle and upper scapulars, the centre of the breast, extending on to the chest and centre of the abdomen, all these rufous portions of the body more or less obscured with slate-colour; quills black, silvery grey near the base, barred with black; inner face of quills ashy white, with a few dusky cross bars; lower back, rump, and upper tail-coverts ashy, the former slightly washed with rufous; tail ashy white, with about nine narrow bars and a broad subterminal band of slate-colour, less distinct below. Total length 22·5 inches, culmen 1·75, wing 15, tail 9, tarsus 3·5.

Hab. Falkland Islands, Chili, and Tierra del Fuego.

a. ♂ ad. st.	Port Famine, S. Patagonia (*King*).	Zoological Society. Antarctic Expedition.
b. Ad. st.	Falkland Islands.	Mr. Brydges [C.].
c. Ad. st.	Chili.	

4. Buteo erythronotus*.

Haliaetus erythronotus, *King, Zool. Journ.* iii. p. 424 (1827).
Aquila braccata, *Meyen, Beitr.* p. 65 (1834).
Buteo varius, *Gould, P. Z. S.* 1837, p. 10; *Darw. Voy. Beagle, Birds*, p. 26 (1841); *Cass. U.S. Expl. Exp. Orn.* p. 92, pl. 3. fig. 1 (1858); *Scl. P. Z. S.* 1860, p. 384.
Buteo tricolor, *D'Orb. et Lafr. Syn. Av.* p. 6 (1838); *D'Orb. Voy. Am. Mérid.* pp. 69, 106, pl. 30 (c. 1840).
Buteo unicolor, *D'Orb. et Lafr. Syn. Av.* p. 7 (1838).
Buteo erythronotus, *Darwin, Voy. Beagle, Birds*, p. 26 (1841); *Strickl. Orn. Syn.* p. 34 (1855); *Scl. P. Z. S.* 1860, p. 384, *et Ibis*, 1860, p. 25, pl. 1. fig. 3; *Abbott, Ibis*, 1861, p. 151; *Scl. & Salv. Nomencl. Av. Neotr.* p. 119 (1873).
Hypomorphnus leucurus, *Lafr. Rev. Zool.* 1849, p. 388.
Pœcilopternis erythronotus, *Kaup, Contr. Orn.* 1850, p. 76; *Bp. Consp.* i. p. 17 (1850).
Buteo bracchatus, *Pelz. Verh. z.-b. Wien*, 1862, p. 142.
Buteo polyosoma, *Schl. Mus. P.-B.* Buteones, p. 12 (1862); *id. Revue Accipitr.* p. 109 (1873).
Buteo albicaudatus, *Scl. & Salv. P. Z. S.* 1873, p. 186.

Young. Above dark brown, the interscapulary feathers margined with dark rufous, the margins on the rest of the back and wing-coverts rufous buff or pale rufous; the scapulars, rump, and upper tail-coverts also barred with the latter colours; head dark brown, the nape buffy white, with narrow brown streaks; sides of head behind the eye, ear-coverts, and sides of neck ochraceous buff, narrowly streaked with dark brown; lores and a narrow frontal line white; cheeks dark brown, forming a distinct moustache; under surface of body ochraceous buff, the throat thickly streaked with dark brown, the breast largely spotted and narrowly streaked with the same; abdomen paler fulvous, irregularly barred and spotted with rufous brown, the thighs and under tail-coverts triangularly barred with pale rufous; under wing-coverts ochraceous buff, with rufous brown spots, the greater ones white barred with ashy brown; primary coverts and primaries ashy brown, with a clear shade of grey externally, and crossed with narrow bars of dark brown; secondaries browner than the primaries, tipped with buff, and more numerously barred; tail ashy grey above, ashy white below, whity brown at tip, and crossed with fifteen or sixteen bars of ashy brown, disappearing towards the base of the feathers.

Adult male. Above clear slaty blue; quills black, externally

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* The following has been thought to be the young of this species; but from the plate published it seems to me to be nearer to *B. borealis*.

Buteo cooperi.

Buteo cooperi, *Cass. Pr. Phil. Acad.* 1856, p. 253, *and in Baird, B. N. Am.* p. 31, pl. 16 (1860); *Cooper, B. Calif.* p. 472 (1871); *Coues, Key N. Am. B.* p. 216 (1872).

Hab. Santa Clara County, California.
Only one specimen known.

shaded with silvery grey, the secondaries broadly tipped with white; tail white, tipped with greyish white, crossed with ten or eleven narrow bars of grey, and subterminally banded with slaty black; upper tail-coverts white, with a few indications of narrow slaty bars; lores white; cheeks white, narrowly lined with slaty grey; entire under surface of body white, including the under wing-coverts; many of the feathers on the sides of breast and flanks internally slaty grey and externally barred with the same colour. Total length 21 inches, culmen 1·55, wing 15, tail 9, tarsus 3·3.

Adult female. Similar to the male below, but larger, and distinguished by its bright brick-red back and scapulars, traces of which coloration extend over the upper wing- and tail-coverts, as well as the secondaries, which have evident blackish cross bars. Total length 25 inches, wing 18·5, tail 10, tarsus 3·7.

Hab. Falkland Islands; from Patagonia (as high as 40° S. lat. on east coast) along the western coast of South America into Peru.

a. ♂ ad. st.	East Falkland.	Antarctic Expedition.
b. ♂ var. st.	Port Louis, Falkland Isl.	Antarctic Expedition.
c. ♀ juv. st.	Berkeley Sound, E. Falkland.	Antarctic Expedition.
d. ♀ ad. sk.	Falkland Islands.	The Admiralty [P.].
e. ♀ juv. sk.	Falkland Islands.	The Admiralty [P.].
f. ♂ ad. st.	Straits of Magellan.	The Admiralty [P.].
g. ♀ juv. st.	Straits of Magellan.	The Admiralty [P.].
h. ♀ juv. sk.	Falkland Islands.	J. Gould, Esq.
i. ♀ juv. sk.	Falkland Islands.	J. Macgillivray, Esq.
k. ♂ juv. sk.	Falkland Islands.	Capt. Kellett and Lieut. Wood [P.].
l. ♀ ad. st.	Falkland Islands.	Sir W. Burnett and Admiral Fitzroy [P.].
m. ♀ juv. st.	Santa Cruz, S. Patagonia (*Darwin*).	Zoological Society. Type of *B. varius*.
n. ♂ juv. sk.	Island of Masafuera.	E. C. Reed, Esq. [C.].
o. ♂ juv. sk.	Cosnipata, Peru, July 1871.	H. Whitely, Esq., Jun. [P.].
p. ♀ ad. sk.	Ccachuapata, Peru, Oct. 14, 1871.	H. Whitely, Esq., Jun. [P.].
q, r. ♂ ♀ var. sk.	Ccachuapata, Peru, Oct. 14, 1871.	H. Whitely, Esq., Jun. [P.].
s. ♂ ad. sk.	Straits of Magellan.	E. C. Reed, Esq. [C.].
t. ♀ juv. sk.	Straits of Magellan.	E. C. Reed, Esq. [C.].

5. Buteo jakal.

Le Rounoir, *Levaill. Ois. d'Afr.* i. p. 73, pl. 16 (1799).
Falco jakal, *Daud. Traité*, ii. p. 161 (1800, *ex Levaill.*)
Buteo jakal, *Vig. Zool. Journ.* i. p. 340 (1824); *Gray, Gen. B.* i. p. 11 (1849); *Kaup, Contr. Orn.* 1850, p. 76; *Bp. Consp.* i. p. 19 (1850); *Strickl. Orn. Syn.* p. 33 (1855); *Schl. Mus. P.-B.* Buteones, p. 14 (1862); *Layard, B. S. Afr.* p. 8 (1867); *Gurney in Anderss. B. Dam. Ld.* p. 31 (1872).
Buteo jacal, *Grill, Zool. Anteckn.* p. 49 (1858).

Nestling. Covered with white down, the shooting feathers ashy brown, washed with rufous.

Young, in change. Ashy brown above, the feathers paler and more whity brown on their margins, the scapulars, as well as many feathers of the head, neck, and interscapulary region, externally inclining to bright fawn; feathers of hind neck dark brown, some of the dorsal feathers black; quills black, externally shaded with ashy, the secondaries paler brown, all white at base of inner web, the secondaries barred towards the tip with ashy brown; tail ashy brown, washed on outer web with rufous, and crossed with eleven or twelve bars of blackish brown, disappearing towards base; sides of face and throat rather dusky brown, inclining to blackish; rest of under surface bright fawn, the flanks and thighs slightly washed with greyish ashy; under wing-coverts rufous fawn, the lower ones dark brown; on breast a few white feathers, more or less mixed with black, are appearing.

The adult plumage is apparently gained by a moult, which, however, does not immediately complete the full dress, as the fresh feathers on the under surface have a good deal of rufous on them, and then rapidly change to black. The brown cross bars on the tail disappear by degrees, foreshowing the uniformity of the new tail, which, when put on by a moult, is clear chestnut, excepting a subterminal patch of black, scarcely to be called a bar. The uniform character of the thighs with the rest of the under surface, and their rapid change to black, along with the breast-feathers, is a character unlike *B. vulgaris* and *B. desertorum*.

Adult male. Everywhere sooty black; tail chestnut-red, with a black subterminal band; centre of chest whitish or rufous white, more or less mottled with black, being the remains of immaturity, as also are the white edgings to the feathers of the abdomen and thighs, and rufous on the under tail-coverts; quills black, primaries externally ashy grey, secondaries whitish, both conspicuously barred with black; under surface of wing white, the secondaries barred with blackish on the inner web, and crossed with a broad black subterminal band; primaries black at tip; lores whitish; cere yellow; bill black, whitish at base; feet yellow; iris ochraceous grey. Total length 21 inches, culmen 1·85, wing 17, tail 8, tarsus 3·3.

Adult female. A little larger than the male. Total length 23 inches, wing 18, tail 9, tarsus 0·7.

Hab. South Africa, below 24° S. lat.

a, *b*. Ad. st.	Cape of Good Hope.	Major-Gen. Hardwicke [P.].
c. ♀ ad. st.	Knysna.	M. J. Verreaux [C.].
d. ♀ juv. st.	Van Staden River.	M. J. Verreaux [C.].
e. ♀ juv. st.	Constance, S. Africa.	M. J. Verreaux [C.].
f. Pull. st.	Swarte Land, S. Africa.	M. J. Verreaux [C.].
g, *h*. Skeletons.		Purchased.

6. Buteo augur*.

Buteo augur, *Rüpp. Neue Wirb. Vög.* p. 38, Taf. 16 (1835); *Gray, Gen. B.* i. p. 11 (1849); *Kaup, Contr. Orn.* 1850, p. 76; *Bp. Consp.* i. p. 19 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 60 (1854); *Strickl. Orn. Syn.* p. 34 (1855); *Schl. Mus. P.-B.* Buteones, p. 15 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 143; *Gray, Hand-l. B.* i. p. 7 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 92 (1869); *Finsch, Tr. Z. S.* vii. p. 202 (1870); *Blanf. Geol. & Zool. Abyss.* p. 297 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 57 (1870).
Buteo hydrophilus, *Rüpp. Neue Wirb.* p. 39, Taf. 17 (1835).

Young. Above uniform dark brown, the nape streaked with white; sides and hinder part of neck streaked with rufous buff; lores whitish; sides of face and under surface of body creamy buff, much marked with brown on the throat and cheeks, forming a distinct moustachial indication on the latter; sides of breast and abdomen, as well as under wing-coverts, distinctly marked with dark brown; thighs uniform ochraceous buff; upper tail-coverts ashy brown, tipped with rufous; tail ashy brown, with a whity brown tip, and crossed with twelve or thirteen bands of darker brown; quills ashy brown, externally ashy near the base, and barred with dark brown, the inner web of quills white, the tips black both above and below, secondaries with more or less distinct bars of dark brown below; iris umber-brown.

Adult male. Above black, pure white below and on sides of neck; cheeks, ear-coverts, and throat black, the latter somewhat streaked with white, the flanks slightly marked with black; upper tail-coverts rufous with black tips; tail bright tawny, with a blackish patch towards the tip of outer web; quills black at tip, ashy grey near the base, the secondaries paler and more silvery grey, all crossed with

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* BUTEO AUGURALIS.

Buteo augur, *Brehm, Naum.* 1855, p. 6; *id. Reise Habesch*, p. 248 (1863).
Buteo desertorum, *Antin. Cat. Descr. Uce.* p. 12 (1865).
Buteo auguralis, *Salvad. Atti Soc. Ital. Sc. Nat.* viii. p. 377 (1865); *Souza, Cat. Mus. Lisb.* p. 37 (1869); *Bocage, Jorn. Lisb.* ii. p. 337 (1869), *Finsch, Tr. Z. S.* vii. p. 313 (1870); *Salvad. Atti R. Accad. Tor.* 1870, p. 726; *Scl. P. Z. S.* 1871, p. 494.
Buteo delalandi, *Bocage, Jorn. Lisb.* i. p. 131 (1867).
Buteo anceps, *Heugl. Orn. N.O.-Afr.* p. 93 (1869).

I have not yet seen this species, and, therefore, have not been able to place it in my synoptic table. Full descriptions are given by Count Salvadori and Prof. Barboza du Bocage; and the following remarks by Dr. Otto Finsch will give a good idea of its relations to *B. augur*:—

"In any case this species, although allied to *B. augur*, is well distinguished, not only by its inferior size, but also by the very different coloration. The crop and breast are dark red-brown, the remaining underparts white, with conspicuous dark cordiform spots; under tail-coverts and thighs uniform white; the greater portion of the inner web of the secondaries is white, with five or six narrow, incomplete, dark cross bands, whereas in *B. augur* there are from nine to eleven complete dark cross bands."

black bars; under wing-coverts white, as also the inner web of the quills; cere and feet yellow; iris yellowish brown.

In the foregoing stage, which does not occur in the allied *Buteo jakal*, the under tail-coverts always incline more or less to rufous, which sometimes extends halfway up these coverts. Although, through the progress to maturity, the plumages are so different, yet in the fully adult black dress it is almost impossible to distinguish the present bird from *B. jacal*; and the only difference that I can see is, that in the latter species the silvery grey on the wing is lighter, while the tail is darker and more decided chestnut. The black markings on the latter never reach quite to the end, but are always subterminal, and form a more or less perfect band.

Old male. Black, the base of the quills externally ashy grey with black bars; the tail rufous, with black markings near the tip. Total length 20 inches, culmen 1·55, wing 16·3, tail 7·5, tarsus 3·6.

Old female. Similar to the male, but a little larger. Total length 24·5 inches, wing 18·75, tail 9, tarsus 3·6.

Hab. North-eastern Africa; the highlands of Abyssinia and adjacent countries.

a. Ad. st.	Abyssinia.	Dr. Rüppell [C.].
b. ♀ juv. st.	Abyssinia.	Dr. Rüppell [C.].
c. Ad. st.	Shoa.	Hon. East-India Co. [P.].
d. ♀ ad. st.	Ankober, Dec. 1841 (*Harris*).	Secretary of State for India [P.].
e, f. ♂ ♀ sk.	Ankober, Dec. 1841 (*Harris*).	Secretary of State for India [P.].
g. Ad. sk.	Adigrat, Tigré.	W. T. Blanford, Esq. [C.].
h. Ad. sk.	Wombarat Pass.	W. T. Blanford, Esq. [C.].
i. Sternum.		W. T. Blanford, Esq. [P.].

7. Buteo ferox.

Falco ferox, *S. G. Gmelin, N. Comm. Ac. Petrop.* xv. p. 442, t. x. (1769).

Falco rufinus, *Cretzschm. in Rüpp. Atlas*, p. 40, t. 27 (1826).

Buteo canescens, *Hodgs. Beng. Sport. Mag.* 1836, p. 180; *Bp. Consp.* i. p. 18 (1850); *Jerd. B. of Ind.* i. p. 88 (1862); *Blyth, Ibis*, 1863, p. 20.

Buteo longipes, *Jerd. Madr. Journ.* x. p. 75 (1839).

Butaquila leucocephala, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).

Buteo leucocephalus, *Hodgs. P. Z. S.* 1845, p. 37.

Buteo aquilinus, *Hodgs. J. A. S. B.* xiv. p. 176 (1845); *Jerd. B. Ind.* i. p. 90 (1862); *Blyth, Ibis*, 1863, p. 20; *Jerd. Ibis*, 1871, p. 339; *Hume & Henders. Lahore to Yark.* p. 175 (1850).

Buteo rufinus, *Gray, Gen. B.* i. p. 11 (1849); *Bp. Consp.* i. p. 18 (1850).

Buteo leucurus, *J. Fr. Naum. Naumannia*, 1853, p. 256, t. 3, 4 (*nec Lafr.*).

Butaetus leucurus, *Naum. & Moeschl. Naum.* 1853, p. 290.

Buteo ferox, *Thien. J. f. O.* 1853, p. 108; *Schl. Mus. P.-B.* Buteones, p. 9 (1862); *Gray, Hand-l. B.* i. p. 6 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 89 (1869); *Hume, Rough Notes*, ii. p. 274 (1870); *Jerd. Ibis*, 1871, p. 338; *Salvad. Faun. Ital. Ucc.* p. 12 (1871); *Shelley,*

B. of Egypt, p. 201, pl. ix. (1872); *Hume, Stray F.* p. 159 (1873); *Schl. Mus. P.-B. Revue Accipitr.* p. 107 (1873).
Buteo eximius, *Brehm, Naumannia*, 1855, p. 4.
Buteo pectoralis, *Strickl. Orn. Syn.* p. 35 (1855).
Limnosalius africanus, *Würt. Naum.* 1857, p. 432.
Buteo ferox, var. obscura, *Pelz. Verh. z.-b. Wien*, 1862, p. 147.
Buteo fuliginosus, *Hume, Ibis*, 1869, p. 356.

Young. Above rufous, the feathers centred with brown, forming narrowly longitudinal streaks on the head and hind neck, which are paler and more fulvous than the rest of the back; small wing-coverts tawny rufous, with narrow brown central streaks, the rest of the wing-coverts pale brown, margined and barred on the outer web with pale rufous, the inner web whitish; primaries dark brown, shaded with ashy grey on the outer web, which is indistinctly barred with dark brown, and washed with rufous near the base; secondaries rather paler brown, tipped with buffy white and barred on the inner web with dark brown like the primaries, the inner lining of the quills pure white, the secondaries only showing remains of bars on inner web; lower back and rump darker brown than the upper part, notched and margined with rufous; upper tail-coverts buffy white on outer web, rufous on inner, with dark brown shaft-stripes and remains of brownish bars; tail ashy brown, tipped with fulvous and shaded with ashy grey, inclining to rufous near the tip, all the feathers whitish at base and on the inner web, and having more or less distinct remains of brown cross bars; sides of face and underparts creamy buff, streaked with dark brown, those on the cheeks a little broader and showing a tolerably defined moustachial line; the lower flank-feathers more largely marked with rufous brown, which occupies the greater part of the feather; thighs strongly tinged with rufous, the brown central streaks a little broader and more pronounced; under wing-coverts creamy buff, narrowly streaked with rufous brown, the outer ones entirely brown on the outer edges.

The bird above described is manifestly quite young, from the pale and narrowly streaked character of the underparts; it was killed by Messrs. Dickson and Ross on the 3rd of August 1843. The under surface in this species darkens with age until the old bird arrives at the uniform sooty brown plumage, in which it is very rare in collections. The red tail cannot be regarded as a sign of actual immaturity; for the birds breed in this stage, and even then they seem to put on a rufous tail shaded with silvery grey before absolutely attaining the grey tail banded with dark brown which characterizes the last stage of this species. It would appear, therefore, that the different changes are very gradual, and occupy a long time.

Adult male in breeding-plumage (Volga, May 1870). Above brown, all the feathers broadly margined with tawny rufous, except on the lower back and rump, where the feathers are uniform brown; entire head and neck tawny, with narrow brown streaks down the centres of the feathers, more distinct on the nape; sides of head and ear-coverts whitish, with narrow rufous shaft-lines; entire under sur-

face rich tawny, deepening into chestnut on the abdomen and thighs, the throat and chest narrowly shafted with dark brown, a little broader on the breast and decidedly more distinct on the thighs, where the centres to the feathers are also brown; under wing-coverts and axillaries rich tawny, the outer median ones externally and the greater coverts brown; upper wing-coverts brown, edged with rufous like back, the least ones more broadly; quills dark brown, the primaries externally shaded with silvery grey, the secondaries a little paler, especially the inner ones, which are light brown like the back, the primaries pure white for greater part of inner web, secondaries mottled and broadly barred with brown; upper tail-coverts brown, the external ones bright tawny; tail pale rufous, with white shafts, and inclining to whitish towards base of centre feathers, the two outer ones externally shaded with ashy grey, and marked near the end with an irregular spot of brown; cere yellowish green; orbital ridge dusky greenish; bill brownish plumbeous, yellow at gape, tip black; feet dingy or pale lemon-yellow; iris brownish yellow. Total length 26 inches, culmen 1·9, wing 17·7, tail 10·5, tarsus 3·75.

Adult female. Similar to the male, but slightly larger. Total length 26 inches, culmen 1·9, wing 18·4, tail 10·5, tarsus 3·5*.

From this stage the bird gradually becomes more sooty, and in the last rufous plumage closely resembles *B. desertorum*, especially as the tail becomes ashy brown, tipped with rufous and slightly washed with the same, and crossed with nine or ten bands of darker brown, more conspicuous on inner web, which is for the most part whitish. Capt. Shelley shot a specimen in this stage along with red-tailed birds in Egypt.

Very old (type of *B. aquilinus*, figured, Pl. VIII.). Everywhere dusky brown, the head and neck streaked with whitish, with which also the centre of the breast is varied, the throat and chest slightly washed with rufous, all these characters being the remains of the previous plumage; tail ashy brown with white shafts, crossed with about nine bars of dark brown as above noted, these bars not always conterminous. Total length 27 inches, wing 18·3, tail 11, tarsus 3·5.

Hab. N.E. Africa to South-eastern Europe; Persia, Scinde, N.W. India and Himalayas.

a. ♂ ad. sk.	Fayoom, Egypt.	Capt. G. E. Shelley [P.].
b. Ad. sk.	Plain of Gennesaret.	Canon Tristram.
c. Juv. sk.	Erzeroom, Aug. 3, 1839 (*Dickson and Ross*).	J. Gould, Esq. [P.].
d. Ad. sk.	Teheran, Persia.	C. Darwin, Esq. [P.].
e, *f*. ♂ ♀ ad. st.	River Volga.	Purchased.
f'. Ad. sk.	Southern Ural.	Dr. Strader [C.].
g, *h*. Ad. st.	Himalaya Mountains.	J. R. Reeves, Esq. [P.].
i. Ad. st.	Nepaul. *	B. H. Hodgson, Esq. [P.].
j, *k*, *l*, *m*, *n*, *n*'. Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].

* Described from a pair of breeding birds shot in the Volga district in May 1870 and now in Mr. Howard Saunders's collection.



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Keulemans del. Mintern Bros Lith.

Butco ferox.

o. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.]. Type of *B. aquilinus.*
p, q. Ad. sk.	India (*Dr. Jerdon*).	J. Gould, Esq. [P.].
r. Ad. sk.	India.	J. Gould, Esq. [P.].
s. Ad. sk.	Mussoorie Hills.	Major Godwin-Austen.
t. Skeleton.		Purchased.

8. Buteo desertorum.

Le Rougri, *Levaill. Ois. d'Afr.* i. p. 77, pl. 17 (1799).
Falco desertorum, *Daud. Traité*, ii. p. 164 (1800).
Buteo desertorum, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 478 (1816); *Gurney, Ibis*, 1862, p. 361; *Schl. Mus. P.-B.* Buteones, p. 5 (1862); *Degl. & Gerbe, Orn. Europ.* i. p. 55 (1867); *Layard, B. S. Afr.* p. 9 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 90 (1869); *Gray, Hand-l. B.* i. p. 6 (1869); *Hume, Rough Notes*, ii. p. 268 (1870); *Jerd. Ibis*, 1871, p. 338; *Shelley, B. of Egypt.* p. 201 (1872); *Anderss. B. Dam. Ld.* p. 12 (1872); *Shelley and Buckley, Ibis*, 1872, p. 292; *Schl. Revue Accipitr.* p. 106 (1873).
Buteo rufiventer, *Jerd. Ill. Ind. Orn.* pl. 27 (1847).
Buteo cirtensis, *Levaill., jun., Expl. Sci. de l'Algérie*, pl. 3 (1850).
Buteo capensis, *Temm. & Schl. Faun. Jap., Aves*, p. 16 (1850); *Gray, Hand-l. B.* i. p. 7 (1869).
Buteo tachardus, *Bp. Consp.* i. p. 18 (1850); *Hartl. Orn. W.-Afr.* p. 2 (1857).
Buteo vulpinus, *Licht. Nomencl. Av.* p. 3 (1854).
Buteo minor, *Heugl. Syst. Uebers.* p. 5 (1856).
Buteo vulgaris, var. capensis, *Pelz. Verh. z.-b. Wien*, 1862, p. 144.
Buteo vulgaris, *Jerdon, B. Ind.* i. p. 87 (1862).
Buteo delalandi, *Des Murs, Rev. et Mag. de Zool.* 1863, p. 52.
Falco tachardus, *Bree, B. Eur.* i. p. 97 (1866).
Buteo cirtensis, *Loche, Expl. Sci. Algér.* i. p. 44 (1867).
Buteo rufinus, *Taczan. J. f. O.* 1870, p. 37.
Buteo ferox, *Heugl. tom. cit.* p. 384.

Immature. Above dull brown, the new feathers on the back and neck being deep sepia-brown with rufous edges; the upper tail-coverts also mottled with rufous near the base; crown paler brown; lores whitish; sides of face and of neck tawny rufous, with narrow black centres; under surface of body pure white; the throat narrowly lined with rufous; the breast thickly spotted with rufous brown, becoming duller brown on the belly and flanks, which are more sparingly marked; the thighs merely spotted here and there; under wing-coverts white, with a few narrow streaks of dark brown; quills brown, barred with darker brown, the inner lining white for the greater part of their extent; the primaries externally pale ashy near the base; tail dull rufous, the extreme base white, all the feathers mottled with dark brown, collecting near the end of the tail, which is usually uniform dark brown. Total length 20 inches, culmen 1·35, wing 13·5, tail 7·6, tarsus 2·9, bare part of same in front to root of middle toe 1·5.

Adult. Above brown, the feathers conspicuously margined with rufous, except on the lower back and rump; the head and neck entirely tawny rufous, the feathers narrowly streaked down the centre with dark brown; sides of face whitish, washed with rufous and narrowly shafted with dark brown; under surface of body tawny rufous, some

of the feathers of the lower breast tipped with creamy buff, the under tail-coverts inclining to this colour, as also the middle of the breast; the throat and chest narrowly streaked with dark brown; the thighs and flanks more uniform rufous, somewhat shaded with ashy brown; under wing-coverts creamy buff, with rufous central streaks, the outermost and greater series inclining to ashy brown; upper wing-coverts dark brown, margined with rufous like the back; primaries black, externally shaded with ashy grey; the secondaries lighter brown, tipped with whity brown; the under surface of quills white at base of inner web, shading into ashy white gradually towards the tips; upper tail-coverts rufous at tip and on outer web; tail rufous, yellowish at tip, with an indistinctly indicated subterminal bar of brown; shafts white, all the feathers shading off into brown on their outer margin, the external feather shaded with clear ashy grey; cere lemon-yellow; bill dark lead-colour, lighter near throat and cere; feet lemon-yellow; iris light hazel or yellowish. Total length 21 inches, culmen 1·55, wing 13·4, tail 7·8, tarsus 3.

Like the other Buzzards of the Old World, this species gradually gets darker with age, and the tail appears to alter to an almost uniform smoky brown, tipped with fulvous and washed with rufous, with indications of bars more or less distinct. The few examples examined from Northern Africa appear larger than others from India and Africa proper, and approach more nearly certain stages of *Buteo ferox*. The birds described are South-African examples, as being the typical birds.

Hab. The whole of Africa above and below the Sahara, South-eastern Europe, and the entire Indian peninsula.

a. Ad. st.	South Africa (*E. L. Layard*).	Zoological Society. [*Cf.* Sclater, List. Vertebr. p. 211, sp. *a*.]
b. Ad. sk.	South Africa.	Sir A. Smith [C.].
c. Ad. sk.	South Africa.	Sir A. Smith [C.].
d. ♀ juv. st.	Gaboon.	Purchased.
e. Ad. sk.	Etawah.	Purchased.
f. Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
g. Ad. st.	Madras.	Dr. Jerdon.
h. Ad. sk.	Morocco.	Purchased.
i, *k*, *l*. Ad. sk.	Southern Ural.	Dr. Strader [C.].

9. Buteo plumipes. (Plate VII. fig. 1.)

Circus plumipes, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).

Buteo plumipes, *Hodgs. P. Z. S.* 1845, p. 37; *Gray, Gen. B.* i. p. 11 (1849); *Kaup, Contr. Orn.* 1850, p. 77; *Bp. Consp. Av.* i. p. 19 (1850); *Strickl. Orn. Syn.* p. 38 (1855); *Jerd. B. Ind.* i. p. 91 (1862); *Blyth, Ibis*, 1863, p. 21, et 1866, p. 245; *Gray, Hand-l. B.* i. p. 7 (1869); *Hume, Rough Notes*, ii. p. 285 (1870); *Jerd. Ibis*, 1871, p. 340; *Blanf. Ibis*, 1872, p. 87.

Archibuteo plumipes, *Blyth, J. A. S. B.* xix. p. 338 (1850).

Falco buteo japonicus, *Temm. & Schl. Faun. Jap.* p. 16 (1850).

Buteo vulgaris japonicus, *iid. ut suprà*, pls. vi. & vi. B.

Buteo japonicus, *Bp. Consp.* i. p. 18 (1850); *Schl. Mus. P.-B.* Buteones, p. 7 (1862); *Blakist. Ibis*, 1862, p. 314; *Gray, Hand-l. B.* i. p. 6 (1869); *Swinh. Ibis*, 1870, p. 87; *Jerd. Ibis*, 1871, p. 337; *Schl. Revue Accipitr.* p. 106 (1873).



Keulemans del. Mintern Bros. Lith.

1. Buteo plumipes.
2. Archibuteo strophiatus.

Buteo vulgaris, *Blyth, Ibis*, 1863, p. 20.
Buteo asiaticus, *Swinh. P. Z. S.* 1871, p. 339.

Young. Above pale brown; scapulars and feathers of the hind neck washed with rufous on their outer margins, the whole of the upper plumage much varied with white bases to the feathers and also on the inner web, especially on the upper tail-coverts; head and hind neck distinctly streaked with white; lores, a distinct eyebrow, and ear-coverts white, the latter rufescent on their upper margin; the cheeks plainly streaked with brown, forming a distinct moustache; under surface of body white, with a few narrow streaks of brown on the throat and sides of chest, becoming broader on the lower flanks; thighs and under tail-coverts entirely white; under wing-coverts yellowish white, streaked with dark brown; primaries dark brown, shaded externally with ashy near the base; secondaries paler brown, like the back, and tipped with whitish; the inner face of the quills white for two thirds of their length; tail-feathers pale brown, darker towards the tips, which are whitish; the bases of the feathers white, mottled with brown, this coloration extending up the inner web; all the rectrices with indistinct cross bars of darker brown. Total length 21 inches, wing 14·8, tail 9, tarsus 2·8, bare part of tarsus in front to base of middle toe 0·95, on side to sole of tarsus 0·55.

Adult. Above dark purplish brown, the feathers rufescent on their margins; sides of face and neck rufous, streaked with dark brown down the centre of the feather; lores whitish; sides of face also rufous; the upper margin of ear-coverts dark brown, and the cheeks blackish, forming a strongly pronounced moustache; under surface of the body rufous, plainly streaked with blackish on the chin, and less distinctly on the throat; chest almost uniform rufous, varied only by a black shaft-stripe and a few fulvous spots on some of the feathers; the feathers of the lower breast entirely fulvous white, irregularly barred with rufous brown; the lower flanks uniform dull brown, slightly washed with rufous; thighs clearer rufous, with fulvous margins to the feathers; lower abdomen, vent, and under tail-coverts creamy buff, varied with indistinct remains of rufous bars; under wing-coverts uniform smoky brown, the inner ones rufous at tip; the axillaries and small coverts round the carpal joint ochraceous buff, varied with rufous in the centre; upper wing-coverts dark brown, like the back, the greater coverts varied with pale rufous on their inner webs; primaries blackish, secondaries paler brown, with whitish tips, inner face of quills white for greater part of their length, the secondaries irregularly mottled or barred with brown; tail brown, tipped with whitish, before which is an indistinctly indicated band of purplish brown; the tail washed with rufous, and crossed with only three or four distinguishable bars of darker brown, those near the base dissolved into brown mottlings. Total length 21·5 inches, culmen 1·35, wing 15·7, tail 9, tarsus 3, bare part of same in front to root of middle toe 1·2, on side to sole of foot 1·65.

Very old (type of species, figured in Plate VII.). Everywhere dull

smoky brown; the wing-coverts and scapulars lighter; primaries dark brown, inclining to purplish brown towards the tips; the inner web buffy white, barred with brown; shafts whitish; secondaries paler brown like the back; tail uniform smoky brown, with whitish shafts and pale whity brown tips, showing under certain lights obsolete remains of light cross bars, which are still distinctly indicated on the inner web and under surface of the tail, which is ashy white; lores whitish; sides of face and of neck, as well as the entire under surface of the body, including the under wing- and tail-coverts, uniform smoky brown, somewhat washed with rufous on the sides of the face and throat. Total length 20 inches, culmen 1·25, wing 15·4, tail 9, tarsus 3, bare part of tarsus in front 1·1 to the root of middle toe, on the side to sole of foot 1.

Notwithstanding the opinion of Macgillivray and others that Buzzards get whiter as they grow older, my belief is that the contrary is the case, though it must be remembered that Macgillivray's observations were made on British specimens, which are certainly darker than continental birds, and apparently so from the nest. With regard to the present species I am nearly convinced that *Buteo plumipes* of Hodgson is nothing more than the fully mature bird of *B. japonicus*. In the 'Fauna Japonica' the quite young bird, answering to the same stage of *B. vulgaris*, is figured (pl. vi. B); and on pl. vi. is an illustration of an older bird, showing the passage from the young stage to that which I have described as the adult. In this plumage it closely resembles *B. desertorum*, and may be doing duty for that species in some Indian collections. In the specimen described by me the fuliginous colouring of the back, flanks, and under wing-coverts shows the first approach to that uniform coloration which is supposed to be the characteristic of *Buteo plumipes*.

Hab. From Nepaul and Sikhim eastwards through China to Japan.

a. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.]. Type of species.
b, *c*. Juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
d. Juv. st.	Fokien, China.	J. Gould, Esq. [P.].
e, *f*, *g*. Juv. sk.	Fokien, China.	J. Gould, Esq. [P.].
h, *i*. Ad. sk.	Fokien, China.	J. Gould, Esq. [P.].
j. Juv. st.	Japan.	Dr. Lidth de Jeude.
k. Juv. st.	Japan.	Purchased.

10. Buteo hemilasius.

Bûteo hemilasius, *Temm. & Schl. Faun. Japon., Aves*, p. 18, pl. vii. (1850); *Schl. Mus. P.-B.* Buteones, p. 3 (1862).
Buteo asiaticus, *Blyth, Ibis*, 1866, p. 244; *Hume, Rough Notes*, ii. p. 283 (1870).
Archibuteo hemilasius, *Gray, Hand-l. B.* i. p. 10 (1869).
Archibuteo aquilinus, *Swinh. P. Z. S.* 1871, p. 339.
Buteo asiaticus, *Schl. Mus. P.-B. Revue Accipitr.* p. 107 (1873).

Young female (type of species, in rather bleached plumage). Whity brown, darker on the lower back and least wing-coverts, the

latter slightly margined with rufous; greater wing-coverts brown, tipped with whity brown; upper tail-coverts tipped with white and a little barred with pale brown near the edges; head white, the centre of the crown dark brown, the feathers of the head and hind neck margined with rufous; sides of face white, the cheeks streaked with brown, as also the upper margin of the ear-coverts; under surface of body white, the centre of the breast entirely so; lower throat and breast longitudinally marked with pale brown, somewhat margined with rufous on the feathers of the latter; abdomen clouded with ashy brown, the thighs entirely of the latter colour, a few of the longer feathers spotted and tipped with white; under tail-coverts white; under wing-coverts dark brown, washed with rufous and ochre, the carpal ones for the most part white; quills brown, secondaries light brown like the back, and inclining to whitish ashy along the terminal margin, the primaries externally shaded with greyish; all the quills white at base and for the greater part of the inner web, irregularly barred with dark brown, more plainly on the inner web; tail ashy brown, tipped with white and crossed with 11 or 12 bars of dark brown, disappearing near the base, where all the feathers are white, which encroaches on the middle feathers; the inner webs of all the feathers for the most part white. Total length 24·5 inches, culmen 1·7, wing 19, tail 11, tarsus 3·55. (*Mus. Lugd.*)

Hab. Eastern Siberia, Northern China, and Japan.

a. ♀ ad. sk.	Dauria, April 18, 1873.	Dr. Dybowski [C.].
b. Juv. sk.	Shanghai.	R. Swinhoe, Esq. [C.].

The types originally described were two in number; but more recently Prof. Schlegel (Revue, *l. c.*) has referred the male to *Buteo plumipes*, and in this he is apparently right. I subjoin the description I made of this supposed male of *B. hemilasius* in the Leiden Museum:—

Male. Altogether darker brown, apparently not so bleached; the eyebrow white and also the ear-coverts, causing the brown cheeks to stand out in bolder relief and appear like a broad moustachial streak; under surface of body white, the chest and entire thighs and under tail-coverts white, the throat narrowly and distinctly barred with dark brown, the streaks on the breast paler brown and less defined; flanks entirely brown; tail uniform brown, paler at the tip, with remains of darker brown cross bars; the under surface white, as also the base of the tail above, but not spreading on to the centre as in the female. Total length 20·5 inches, wing 10, tail 10, tarsus 2·9.

B. hemilasius may be regarded as a gigantic edition of *B. plumipes*.

11. Buteo brachypterus.

Buteo brachypterus, *Pelz. in Hartl. Faun. Madag.* p. 1 (1861); *id. Verh. z.-b. Wien*, 1862, p. 145; *Roch & E. Newt. Ibis*, 1862, p. 267, pl. viii.; *Schl. P. Z. S.* 1866, p. 420; *Schl. & Poll. Faun. Madag. Ois.* p. 44 (1868); *Gray, Hand-l. B.* i. p. 6 (1869); *Gurney*,

Ibis, 1869, p. 449; *Schl. Mus. P.-B., Revue Accipitr.* p. 108 (1873).

Buteo desertorum, *Grand. Rev. et Mag. de Zool.* 1867, p. 319.

Adult. Above pale brown, the feathers on the head and interscapulary region darker, the crown and nape more or less streaked with white; lores whitish; sides of face and of neck pale rufous, narrowly streaked with darker brown, the ear-coverts whitish; throat and breast white, the former narrowly, the latter very broadly streaked with pale brown, especially on the sides of the breast; belly and thighs uniform pale brown, the feathers slightly tipped with whitish and whitish also at base, especially on the lower abdomen and under tail-coverts, which are entirely whitish with large subterminal spots of pale brown; under wing-coverts whitish, largely marked with rufous brown; upper wing-coverts pale brown like back, the outermost slightly darker, the innermost greater coverts, as well as the scapulars, varied with white markings on the inner web; quills brown, tipped with whitish, the secondaries more broadly, all barred with darker brown, less distinctly on the primaries, which are rather darker brown than the secondaries; the inner web of the quills white for two thirds of their length; tail pale brown, tipped with whitish, and crossed with six or seven rather broad bands of darker brown; cere yellowish; bill horn-colour; feet yellow; iris brown. Total length 18·5 inches, culmen 1·4, wing 11·8, tail 7·7, tarsus 2·75.

Younger. Very little different from the adult, but rather more streaked on the head with white; the lower parts of the body not so uniform, especially on the abdomen, which is much mottled with white. Total length 17·5 inches, wing 12·2.

Hab. Madagascar.

a. ♂ st.	Madagascar.	F. Pollen and D. C. Van Dam [C.].
b. ♂ sk.	N.E. Madagascar, 1869.	D. C. Van Dam [C.].
c. ♀ ad. sk.	Mouroundara, S.W. Madagascar.	D. C. Van Dam [C.].

12. Buteo obsoletus.

Buzzard Falcon, *Penn. Arctic Zool.* ii. p. 207 (1785).

Plain Falcon, *Penn. Arctic Zool.* ii. p. 208 (1785).

Falco obsoletus, *Gm. S. N.* i. p. 268 (1788, *ex Penn.*).

Falco buteo, *Audub. B. N. Am.* fol. pl. cccIxxii. (1831); *id. Orn. Biogr.* iv. p. 508 (1838).

Buteo vulgaris, *Sw. & Rich. Faun. Bor.-Am. Birds*, p. 47, pl. 27 (1831).

Buteo swainsoni, *Bp. Comp. List B. Eur. & N. Am.* p. 3 (1838); *id. Consp. Av.* i. p. 19 (1850); *Cass. B. Calif. & Texas*, p. 98 (1855); *id. Pr. Philad. Acad.* 1855, p. 280; *Strickl. Orn. Syn.* p. 30 (1855); *Cass. in Baird, B. N. Am.* p. 19, pl. xiii. (1860); *Pelz. Verh. z.-b. Wien*, 1862, p. 150; *Gray, Hand-l. B.* i. p. 7 (1869); *Cooper, B. Calif. ed. Baird*, p. 476 (1871); *Coues, Key N. Am. B.* p. 217 (1872); *Scl. & Salv. Nomencl. Av. Neotr.* p. 119 (1873).

Buteo bairdii, *Hoy, Pr. Phil. Acad.* 1853, p. 451; *Cassin, op. cit.* 1855, p. 279; *id. B. Calif. & Texas*, pp. 99, 257, pl. 41 (1855); *Strickl. Orn. Syn.* p. 37 (1855); *Gray, Hand-l. B.* i. p. 8 (1869).

Buteo oxypterus, *Cass. Pr. Phil. Acad.* 1855, p. 282; *Strickl. Orn. Syn.* p. 38 (1855); *Cass. in Baird's B. N. Am.* p. 23, pl. 15. fig. 2 (1860); *Gray, Hand-l. B.* i. p. 8 (1869); *Cooper, B. Calif. ed. Baird*, p. 480 (1871); *Coues, Key to N. Am. B.* p. 218 (1872).

Buteo insignatus, *Cass. B. Calif. & Texas*, p. 102, pl. 31 (1855); *Strickl. Orn. Syn.* p. 38 (1855); *Scl. P. Z. S.* 1856, p. 285; *Cass. in Baird, B. N. Am.* p. 23 (1860); *Gray, Hand-l. B.* i. p. 8 (1869); *Cooper, B. Calif. ed. Baird*, p. 474 (1871).

Buteola insignata, *Bp. C. R.* xlii. p. 956 (1856).

Buteo fuliginosus, *Scl. P. Z. S.* 1858, p. 356, *et Tr. Z. S.* iv. p. 267, pl. lxii. (1858); *Cass. in Baird's B. N. Am.* pl. 15. fig. 1 (1860); *Salv. Ibis*, 1860, p. 401; *Gray, Hand-l. B.* i. p. 7 (1869).

Buteo harlani, *Bryant, Proc. Bost. Soc. N. H.* viii. p. 115 (1862).

Young. Above dull brown, interscapulary region a little darker; lores whitish; ear-coverts whitish, narrowly streaked with dark brown, the upper margin nearly uniform brown, as also are the cheeks, eyebrow, sides of neck, and hinder part of the latter, streaked with white; quills brown, inclining to blackish brown at tip; primaries slightly shaded externally with ashy, and barred with darker brown; primaries white for greater part of inner web below, secondaries barred with dark brown; upper tail-coverts slightly tipped with fulvous, and having concealed spots of white at base; tail inclining to ashy brown, whity brown at extreme tip, and crossed with nine or ten bands of darker brown; under surface of body white, narrowly streaked on the throat and more broadly on the breast with dark brown, inclining to spots on lower chest and to distinct bars on the under tail-coverts, the markings larger on sides of breast, flanks, and thighs, producing a nearly uniform appearance; under wing-coverts brown, with a few white margins and bars.

Adult female. Nearly uniform sooty brown, the wing-coverts and scapulars paler on their margins; lores whitish; throat slightly streaked with white; fore neck and centre of breast slightly mottled with fulvous or white spots and bars, the remains of previous plumage; under tail-coverts buffy white, barred across with dark brown; tail brown, conspicuously tipped with rufous white, and crossed with seven or eight bars of darker brown, the subterminal one being the broadest; cere yellowish; bill bluish black; feet yellowish; iris light brown. Total length 21 inches, culmen 1·4, wing 15·9, tail 9·3, tarsus 3·15.

Fully adult (*B. fuliginosus*). Everywhere sooty black, with a few more or less concealed whitish bars on the upper and under tail-coverts; inner lining of wing white; tail ashy brown, crossed with nine bars of black, the terminal one being the broadest. Total length 21 inches, culmen 1·35, wing 13·5, tail 7·5, tarsus 2·55.

Hab. The whole of North America, ranging in winter as far south as Patagonia.

a, b. Ad. st.	North America.	Purchased.
c. Ad. st.	Mexico.	M. A. Boucard [C.].
d. Ad. sk.	California.	Mr. Hardy [C.].
e. Ad. sk.	Patagonia	Purchased.
f, g. Juv. sk.	Patagonia	Purchased.

13. Buteo vulgaris.

The Puttock or Buzzard, *Albin, N. H. Birds*, i. p. 1, pl. 1 (1738).
La Buse, *Briss. Orn.* i. p. 406 (1760); *Buff. Pl. Enl.* i. pl. 419 (1770).
Falco buteo, *Linn. S. N.* i. p. 127 (1766, *ex Albin*); *Naum. Vög. Deutschl.* i. Taf. 32, 33 (1822); *Yarr. Brit. B.* i. p. 76 (1843).
? Aquila glaucopis, *Merrem, Beitr.* ii. p. 22, Taf. 7 (1786).
Falco glaucopis, *Gm. S. N.* i. p. 255 (1788).
? Falco versicolor, *Gm. S. N.* i. p. 272 (1788).
Falco albus, *Daud. Traité*, ii. p. 155 (1800).
Accipiter buteo, *Pall. Zoogr. Rosso-Asiat.* i. p. 362 (1811).
Buteo vulgaris, *Leach, Syst. Cat. Mamm. & B. Brit. Mus.* p. 10 (1816); *Steph. Gen. Zool.* xiii. p. 46 (1826); *Gould, B. Eur.* pl. 14 (1837); *Gray, Gen. B.* i. p. 11 (1849); *Kaup, Contr. Orn.* 1850, p. 77; *Schl. Vog. Nederl.* pls. 35, 36 (1854); *Strickl. Orn. Syn.* p. 27 (1855); *Pelz. Verh. z.-b. Wien*, 1862, p. 144; *Jerd. B. Ind.* i. p. 87 (1862); *Schl. Mus. P.-B.* Buteones, p. 3 (1862); *Gould, B. Gt. Br.* pt. iv. (1863); *Newt. Ooth. Wolley.* p. 138 (1864); *Sundev. Sv. Fogl.* pl. xxviii. fig. 4 (1869); *Heugl. Orn. N.O.-Afr.* p. 91 (1869); *Hume, Rough Notes*, ii. p. 261 (1870); *Salvad. Faun. Ital. Ucc.* p. 11 (1871); *Newt. ed. Yarr. Brit. B.* i. p. 109 (1871); *Shelley, B. of Egypt*, p. 200 (1872); *Schl. Revue Accipitr.* p. 105 (1873).
Buteo fasciatus, *Vieill. Faune Franç.* p. 17, pl. 8. fig. 1 (c. 1820).
Buteo mutans, *Vieill. Faun. Franç.* p. 18, pl. 8. fig. 2 (c. 1820).
Falco mutans, *Savi, Nuov. Giorn. Pisa*, xxii. p. 64 (1822).
Falco fasciatus, *Savi, Nuov. Giorn. Pisa*, xxii. p. 66 (1822); *Roux, Orn. Prov.* pls. 20, 21, 22 (1825); *Savi, Orn. Tosc.* iii. p. 195 (1831).
Falco pojana, *Savi, Nuov. Giorn. Pisa*, xxii. p. 68 (1822); *id. Orn. Tosc.* iii. p. 197 (1831).
Buteo communis, *Less. Traité*, p. 78 (1831).
Buteo septentrionalis, *Brehm, Vög. Deutschl.* p. 42 (1831).
Buteo medius, *Brehm, V. D.* p. 43 (1831).
Buteo murum, *Brehm, V. D.* p. 44 (1831).
Buteo fuscus, *Macgill. Hist. Brit. B.* iii. p. 183 (1840).
Falco albidus, *De Selys, Faun. Belg.* p. 55 (1842, *nec Gm.*).
Falco variegatus, *De Selys, F. B.* p. 54 (1842, *nec Gm.*).
Buteo cinereus, *Bp. Consp.* i. p. 18 (1850); *Loche, Expl. Algér. Ois.* p. 41 (1867).
Buteo variabilis, *Bailly, Orn. Sav.* i. p. 127 (1853).
Buteo major, *Brehm, Naum.* 1855, p. 268.
Buteo minor, *Brehm, Naum.* 1855, p. 268.
Buteo vulgaris, var. obscura, *Pelz. Verh. z.-b. Wien*, 1862, p. 144.
Buteo vulgaris, var. etrusca, *Pelz. tom. cit.* p. 144.
Buteo minor, *Pelz. tom. cit.* p. 144 (*nec Heugl.*).

Nestling. Covered with white down; the sprouting feathers dark brown with rufous margins.

Young from the nest. Above sooty brown, most of the feathers with plain rufous margins and mottled with rufous on both webs, having also one or two rounded white spots concealed near the base; head and hind neck dark brown, the feathers margined with pale ochre, producing a streaked appearance; sides of face light brown, streaked with darker brown; chin white; cheeks and throat white, with small streaks of dark brown; breast sooty brown, occupying the centre of the feathers, which are ochre at base and near the tip; centre of the

belly ochre, slightly spotted with sooty brown, the under tail-coverts narrowly streaked with the latter colour; flanks sooty brown, margined with ochre and mottled at base with white spots; thighs sooty brown, with broad ochraceous margins; quills, as far as developed, blackish brown, the secondaries more chocolate, barred with blackish brown on the inner web, very distinctly on the secondaries, where the interspaces are ashy white; tail brown, tipped with pale rufous, and barred with blackish brown.

Young (*fully grown*). Answering almost precisely to the foregoing description; quills dark brown, secondaries with ashy white tips, white for the greater part of the inner web, the primaries inclining above to ashy brown on the basal half, with three cross bars of dark brown; tail ashy brown, with pale rufous tips, crossed with ten bars of darker brown, the basal ones less strongly defined and merged together, the interspaces strongly shaded with rufous, and mottled with dark brown vermiculations.

Adult male. Above ashy brown, the scapulars and wing-coverts rather paler and inclining to whitish on their margins; the nape slightly streaked with white, as also the forehead and sides of the face, more especially the hind part of the cheeks; under surface of body yellowish white, the flanks and thighs more or less uniform brown, mottled with white spots near the base of the feathers, and slightly margined with rufous, the throat very narrowly streaked with brown, the breast more broadly, but the marks here of unequal width and more or less narrowing or breaking up, the abdomen again narrowly streaked; under tail-coverts buffy white, with a few subterminal spots of brown; primaries dark brown, externally shaded with ashy grey, and crossed with bars of darker brown, less distinct on the secondaries, which are paler brown like the back; all the quills white for two thirds of the inner web; tail ashy brown, slightly rufescent towards the tip, and crossed with twelve or thirteen bands of darker brown; cere yellow; bill bluish black, darker towards tip; feet yellow; iris yellowish brown. Total length 22 inches, culmen 1·45, wing 15, tail 9, tarsus 3·1.

Adult female. Similar to the male, but rather clearer brown and a little more rufescent, especially on the chest and thighs, which are more uniform than in the male described. Total length 23 inches, wing 16·5, tail 9·5, tarsus 3·1.

Hab. Europe generally, but replaced in N. Africa and in Eastern Europe, from the Volga districts and Southern Ural, by *B. desertorum*.

a. Ad. st.	Great Britain.	
b. Ad. st.	Wales.	
c. Ad. st.	Monmouthshire.	Rev. A. Morgan [P.].
d. ♂ ad. st.	Devonshire.	G. Leach, Esq. [P.].
e. Pull. st.	Devonshire.	G. Leach, Esq. [P.].
f. ♀ ad. st.	Devonshire.	
g. ♂ ad. sk.	Hickling, Norfolk.	Baron A. von Hügel [C.].
h. Juv. sk.	Europe.	M. Baillon.
i. Ad. st.	Europe.	M. Baillon.

k. Pull. st.		Purchased.
l. Ad. st.	Archangel.	R. B. Sharpe, Esq. [P.].
m. Juv. sk.	Belgium, June 15, 1872.	Brussels Museum [P.].
n, *o*. Ad. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
p. Ad. sk.	Thuringia, autumn of 1873.	R. B. Sharpe, Esq. [P.].
q–*x*. Juv. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
y. ♂ juv. sk.	Thuringia, autumn of 1872.	R. B. Sharpe, Esq. [P.].
z, *a'*, *b'*. ♀ juv.sk.	Thuringia, autumn of 1872 and 1873.	R. B. Sharpe, Esq. [P.].
c'. ♂ ad. sk.	Turkey in Europe (*Robson*).	J. Gould, Esq. [P.].
d'. Ad. sk.	Asia Minor (*Robson*).	J. Gould, Esq. [P.].
e'. Ad. sk.	Plain of Acre.	Canon Tristram [C.].
f'. Skeleton.		Zoological Society.
g'. Skeleton.		Purchased.
h', *i'*. Skulls.		Dr. Günther.
k'. Skulls.		W. Yarrell, Esq. [P.].
l'–*q'*. Sterna.		Purchased.

14. Buteo borealis.

American Buzzard, *Lath. Gen. Syn.* i. p. 49 (1781).
Red-tailed Buzzard, *Penn. Arctic Zool.* p. 205 (1785).
Leverian Falcon, *Penn. tom. cit.* p. 206 (1785).
Falco borealis, *Gm. S. N.* i. p. 266 (1788); *Wils. Am. Orn.* vi. p. 75, pl. 52. fig. 1 (1812); *Audub. B. Am.* pl. 51, *et Orn. Biogr.* i. p. 205 (1831).
Falco leverianus, *Gm. S. N.* i. p. 266 (1788); *Wils. Am. Orn.* vi. p. 78, pl. 52. fig. 2 (1812).
Accipiter ruficaudus, *Vieill. Ois. Am. Sept.* pl. 14 bis (1807).
Buteo ferruginicaudus, *Vieill. tom. cit.* pl. 6 (1807).
Buteo americanus, *Vieill. N. Dict.* iv. p. 477 (1816).
Buteo borealis, *Vieill. N. Dict.* iv. p. 478 (1816); *Less. Traité*, p. 79 (1831); *Sw. & Rich. Faun. Bor.-Am. Birds*, p. 50 (1831); *Gosse, B. Jam.* p. 11, pl. 2 (1849); *Gray, Gen. B.* i. p. 11 (1849); *Bp. Consp.* i. p. 19 (1850); *Cass. B. Calif.* p. 97 (1855); *Strickl. Orn. Syn.* p. 29 (1855); *Cass. in Baird's B. N. Am.* p. 25 (1860); *Bryant, Pr. Bost. Soc. N. H.* viii. p. 108 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 148; *Schl. Mus. P.-B.* Buteones, p. 8 (1862); *Gray, Hand-l. B.* i. p. 7 (1869); *Allen, Bull. Harv. Coll.* ii. p. 323 (1871); *Coues, Key N. Am. B.* p. 216 (1872); *Gundl. J. f. O.* 1872, p. 366; *Schl. Revue Accipitr.* p. 107 (1873); *Scl. & Salv. Nomencl. Av. Neotr.* p. 118 (1873).
Buteo leverianus, *Vig. Zool. Journ.* i. p. 340 (1824).
Astur borealis, *Cuv. Règn. An.* i. p. 332 (1829).
Astur leverianus, *Cuv. tom. cit.* p. 332 (1829).
Buteo ventralis, *Gould, P. Z. S.* 1837, p. 10; *Darwin, Zool. Beagle, Birds*, p. 27 (1841); *Gray, Cat. Accipitr.* 1844, p. 18; *Strickl. Orn. Syn.* p. 31 (1855); *Cass. U. S. Expl. Exp.* p. 94, pl. iii. fig. 2 (1858).
Pœciloptcrnis borealis, *Kaup, Isis*, 1847, p. 332.

Young. Above brown, the head and hind neck streaked with white; lores whitish, as also sides of face, streaked with brown, the cheeks uniform dark brown; the greater wing-coverts and upper tail-coverts tipped and irregularly barred with white; quills brown, rather darker towards the tips and barred with dark brown, secondaries broadly tipped with white, the inner webs white, the

secondaries barred with brownish ; tail brown, slightly washed with rufous, tipped with whitish and crossed with nine bars of darker brown ; under surface of body pure white, the chest entirely so, the throat narrowly streaked with dark brown, a little broader on the breast, and inclining to arrow-shaped spots on the flanks and abdomen ; under tail-coverts pure white ; thighs white, with small transverse spots of pale rufous ; under wing-coverts white, with a few spots of dark brown.

Male. Uniform brown, the greater coverts lighter and varied with whitish spots and bars ; upper tail-coverts buffy white, with rufous brown cross bars ; tail uniform tawny rufous, tipped with buffy white, and crossed with a subterminal band of blackish brown ; sides of face uniform brown like the head ; under surface of body whitish, the breast streaked and the abdomen mottled with bars of dark brown ; cere and gape greenish yellow ; bill bluish black ; feet yellow ; iris pale amber. Total length 21 inches, culmen 1·55, wing 15·4, tail 8·5, tarsus 3·6.

Adult female. Larger than male. Total length 25 inches, wing 17·5, tail 9·5, tarsus 3·8.

Hab. Eastern States of North America, extending to Cuba, Jamaica, and the West Indies.

a. Ad. sk.	N. America.	* Admiral Back [P.].
b. Ad. sk.	N. America.	* Sir John Franklin [P.].
c. Juv. st.	Quebec.	D. W. Mitchell, Esq. [P.].
d, e. Ad. sk.	Delaware, U. S.	E. Doubleday, Esq. [P.].
f, g. Juv. st.	Delaware, U. S.	E. Doubleday, Esq. [P.].
h. Juv. sk.	Delaware, U. S.	E. Doubleday, Esq. [P.].
i. Juv. st.	S. Nevis, W. I.	W. Cottle, Esq. [P.].
k. Juv. sk.	Jamaica.	Purchased.

Subsp. *a.* **Buteo montanus** †.

Buteo montanus, *Nutt. Man.* i. p. 112 (1833) ; *Cass. in Baird's B. N. Am.* p. 26 (1860) ; *Gray, Hand-l. B.* i. p. 7 (1869) ; *Cooper, B. Calif. ed. Baird*, p. 469 (1871).

Buteo calurus, *Cass. Pr. Phil. Acad.* 1855, p. 281 ; *Strickl. Orn. Syn.* p. 38 (1855) ; *Cass. in Baird's B. N. Am.* p. 22, pl. 14 (1860) ; *Gray, Hand-l. B.* i. p. 7 (1869) ; *Cooper, B. Calif. ed. Baird*, p. 471 (1871).

Young (with tufts of down still adhering to tips of tail-feathers). Above dark brown, the head and nape streaked with deep rufous ochre, with which also the dorsal feathers are slightly, and the scapulars and wing-coverts conspicuously margined ; small coverts terminally spotted and the greater series plainly half-barred with white ; feathers of lower back and rump margined with rufous ; upper tail-coverts broadly barred with brown and white, the latter often tinged with rufous on inner web ; tail sepia-brown, plainly tipped with white and crossed with nine bars of darker brown ;

* Collected during the Northern Land Expedition.

† Another subspecies not seen by me is *Buteo leucasanus*, Ridgway, in Coues's Key, p. 216 (1872). *Hab.* Cape S. Lucas.

quills brown, primaries black at tip, slightly tipped with whitish, barred with darker and more purplish brown, lower surface of quills white, secondaries barred with brown; eyebrow and sides of face rufous, streaked with brown; cheeks nearly uniform dark brown; lores white; under surface of body yellowish buff, the throat slightly, the breast more broadly streaked with brown, belly and flanks conspicuously marked with large trefoil spots of dark brown; flanks barred with pale rufous brown; under tail-coverts almost entirely white; under wing-coverts white, the small ones largely, the greater ones more minutely, spotted with dark brown.

Adult female. Above dark brown, a little lighter on the scapulars and wing-coverts, which are varied slightly with fulvous brown tips and mottlings; upper tail-coverts and tail clear tawny, slightly mottled and barred with rufous, remains of ten bars being distinguishable on the latter; lores whitish; head and neck all round, including throat and under surface of body, smoky brown, the neck slightly and the chest very plainly inclining to rufous, of which there are a few remains of bars on the thighs; under tail-coverts rufous, barred with smoky brown; under surface of tail creamy rufous, with scarcely any indications of bars; under wing-coverts uniform smoky brown, the lower ones whitish, with brown bars. Total length 24·5 inches, culmen 1·8, wing 17, tail 9·2, tarsus 3·8.

Adult male. Exactly similar to the female, but smaller. Total length 21·5 inches, wing 16·1, tail 9, tarsus 3·6.

Hab. Western North America, throughout Central America, and ranging in winter to the southernmost parts of the South American continent.

a. Juv. st.	Sumass Prairie, B. C.	J. K. Lord, Esq. [C.].
b. ♀ ad. st.	West side of Rocky Mountains.	J. K. Lord, Esq. [C.].
c, d. ♂ ♀ juv. sk.	West side of Rocky Mountains.	J. K. Lord, Esq. [P.].
e. Juv. sk.	California.	G. Barclay, Esq. [P.].
f. Ad. st.	San Francisco, Cal.	Admiral Sir E. Belcher [P.].
g. ♂ ad. st.	Mexico.	Purchased.
h. ♀ ad. st.	Mexico.	M. A. Boucard [C.].
i. ♀ ad. sk.	Mexico.	Zoological Society.
k. ♂ juv. sk.	Mexico.	Purchased.
l. ♂ ad. sk.	Mexico.	R. B. Sharpe, Esq. [P.].
m. Juv. sk.	San José, Costa Rica.	H. Van Patten [C.].
n. Ad. sk.	Guatemala.	Purchased.
o. Ad. sk.	Panama.	Purchased.
p. Juv. st.	Sta. Cruz, Patagonia.	C. Darwin, Esq. [C.]. Type of *B. ventralis*.

The case of the Peregrines appears to repeat itself here in the Red-tailed Buzzards of America, inasmuch as the western birds are different, being much larger, more powerful, and darker-plumaged than the eastern or ordinary specimens of *B. borealis*. The Museum contains a fine series; and if the whole of the plumages of *B. borealis* are represented (which is perhaps doubtful), the western bird must be specifically separated, or must at least rank as a subspecies.

15. Buteo harlani.

Falco harlani, *Aud. B. Am.* i. pl. lxxxvi.; *id. Orn. Biogr.* p. 441 (1830).
Buteo harlani, *Bp. Comp. List B. Eur. & N. Am.* p. 3 (1838); *Gray, Cat. Accipitr.* 1844, p. 13; *Cass. B. Calif.* p. 101 (1855); *Strickl. Orn. Syn.* p. 31 (1855); *Scl. P. Z. S.* 1857, p. 211; *Cooper, B. Calif. ed. Baird*, p. 473 (1871); *Coues, Key to N. Am. B.* p. 216 (1872).

Adult (type of species). Uniform deep brown with a chocolate gloss, the scapulars and wing-coverts with concealed ashy brown bands and tips, the former as well as the feathers of the head and hind neck much varied with white at the base; quills brown, externally ashy grey, inclining to silvery grey on outer web of primaries, all barred across with darker brown, the inner webs white below, the cross bars distinct towards the tips, but reduced to frecklings towards the base, the primaries uniform brown for apical half; upper tail-coverts brown, mottled and barred with rufous on the central and with white on the outer ones; tail ashy grey above, washed with rufous, tipped with rufous white or ashy white, before which a broad subterminal bar of black, all the rest of the feathers mottled and freckled with black, the under surface of the tail white, with a few blackish frecklings; sides of head and under surface of body sooty brown, the cheeks blackish, and the generality of the feathers varied with white bases; under tail-coverts brown, washed with rufous or with white, with which they are also barred and tipped. Total length 22·5 inches, culmen (imperfect, about) 1·7, wing 15·3, tail 10, tarsus 3·4.

Young. Deep brown, some of the feathers of the head and interscapulary region slightly margined with ochraceous buff, the upper tail-coverts barred on outer and spotted on inner web with the same colour; the median coverts notched on the inner web with whitish buff; primaries blackish, the secondaries deep brown, barred with blackish brown, the bars showing very distinctly below, where the inner webs are whitish; tail brown, tinged with pale rufous, tipped with whity brown and crossed with twelve bars of deeper brown; sides of face and of neck deep brown, the feathers margined with ochraceous, causing a distinctly streaked appearance, the cheeks blackish; under surface of body deep brown, broadly streaked with ochraceous, which forms broad margins or spots on the feathers, the thighs rufescent, with broad bars of dark brown; under tail-coverts barred across with dark brown and pale fulvous; under wing-coverts dark brown, the feathers barred, spotted, or margined with rufous ochre.

Hab. Southern United States to Guatemala.

a. Ad. sk. Louisiania. J. J. Audubon, Esq. [P.]. Type of species.
b. Imm. sk. Western Mexico. Purchased.

16. Buteo lineatus.

Barred-breasted Buzzard, *Lath. Gen. Syn.* i. p. 56 (1781).
Red-shouldered Falcon, *Penn. Arctic Zool.* p. 206 (1785).
Winter Falcon, *Penn. tom. cit.* p. 207 (1785).

Falco lineatus, *Gm. S. N.* i. p. 268 (1788); *Wils. Am. Orn.* vi. p. 86, pl. 53. fig. 3 (1812); *Audub. Orn. Biogr.* i. p. 296 (1831).
Falco hyemalis, *Gm. S. N.* i. p. 274 (1788); *Wils. Am. Orn.* iv. p. 73, pl. 35 (1811); *Aud. B. Am.* i. pls. 56, 71, *et Orn. Biogr.* i. p. 364 (1831).
Circus hyemalis, *Vieill. Ois. Am. Sept.* pl. 7 (1807).
Buteo fuscus, *Vieill. tom. cit.* pl. 5 (1807).
Nisus hiemalis, *Cuv. Règne An.* i. p. 334 (1829).
Astur fuscus, *Bp. Oss. Regno An. Cuv.* p. 37 (1830).
Buteo hiemalis, *Less. Traité*, p. 81 (1831).
Astur hiemalis, *Jard. ed. Wils. Am. Orn.* ii. p. 72, pl. 35. fig. 1 (1832).
Buteo lineatus, *Jard. ed. Wils. Am. Orn.* ii. p. 290 (1832); *Gray, Gen. B.* p. 12 (1849); *Bp. Consp.* i. p. 19 (1850); *Cass. B. Calif.* p. 99 (1855); *Strickl. Orn. Syn.* p. 31 (1855); *Cass. in Baird's B. N. Am.* p. 28 (1860); *Pelz. Verh. z.-b. Wien*, 1862, p. 150; *Schl. Mus. P.-B.* Buteones, p. 20 (1862); *Gray, Hand-l. B.* i. p. 7 (1869); *Allen, Bull. Harv. Coll.* ii. p. 329 (1871); *Coues, Key N. Am. B.* p. 217 (1872); *Scl. & Salv. Nomencl. Av. Neotr.* p. 119 (1873); *Schl. Revue Accipitr.* p. 108 (1873).
Pœcilopternis lineatus, *Kaup, Isis*, 1847, p. 330.
Buteo elegans, *Cass. Pr. Phil. Acad.* 1855, p. 281; *Strickl. Orn. Syn.* p. 38 (1855); *Cass. in Baird's B. N. Am.* p. 28 (1860); *Gray, Hand-l. B.* i. p. 7 (1869); *Cooper, B. Calif. ed. Baird*, p. 477 (1871).

Young. Above brown, the head, nape, and sides of neck much streaked with white; the dorsal and scapular feathers with white bases to the feathers, more or less concealed and margined with ochraceous buff, more inclining to rufous on the small wing-coverts; greater and median coverts brown, margined and barred with white, forming a distinct pattern; quills brown, tipped with white, primaries white or rufous, white along basal half of outer web, the secondaries less conspicuously so, all barred with darker brown, inner web white, the bars distinct on secondaries, but obsolete on primaries; upper tail-coverts white, with spots of brown, the subterminal one large and rounded; tail pale tawny rufous near the base, ashy brown towards the tip, which is white, and crossed with eight or nine bars of darker brown of greater or less distinctness; lores, eyebrow, and sides of face white; cheeks dark brown, forming a distinct stripe; sides of neck brown, streaked with white; under surface of body white, the throat narrowly streaked with brown down the centre, the breast with larger spade-shaped spots of brown, inclining to oval drops on flanks, and gradually vanishing on thighs and under tail-coverts; under wing-coverts buffy white, with a few longitudinal streaks of brown.

Adult. Above brown, with rufous buff margins to the feathers, producing a somewhat streaked appearance, especially on the head and neck, where the margins are much paler; lores and frontal feathers white; ear-coverts whitish, narrowly streaked with brown; cheeks dark brown, with slight rufescent streaks; least wing-coverts tawny rufous, forming a conspicuous shoulder-patch, the feathers dark brown in the centre; rest of wing-coverts ashy brown, externally spotted with white, forming a chequered pattern on the

outer aspect of wing; quills also ashy brown, marked externally with white in the same manner, the primaries slightly margined with rufous on outer web, secondaries paler and obsoletely barred across with light brown, tipped, but not so distinctly spotted, with white; under surface of wing whitish, barred across with pale brown, the subterminal bar broadest; feathers of back rufescent, with brown tips; lower back, rump, and upper tail-coverts dark brown, the latter tipped and barred with white; tail black, tipped narrowly with white, and crossed with five narrow bands of white, two of them concealed; under surface of body pale rufous, with faint whitish cross bars; throat browner, streaked with dull white, the breast-feathers also distinctly marked with central stripes of dark brown; thighs buff, with rufous cross bars; under tail-coverts white, with slight remains of rufous barring; under wing-coverts rufous buff, streaked with darker rufous or brown, the axillaries barred across with darker rufous; lower under wing-coverts whitish, barred with ashy brown; cere yellow; bill bluish black; feet yellow; claws black; iris bright amber. Total length 21 inches, culmen 1·4, wing 13·2, tail 8·5, tarsus 3·1.

Hab. North America, to which it is confined, wintering in Texas and the southernmost States.

a. Juv. st.	Delaware, U.S.A.	E. Doubleday, Esq. [P.].
b. Ad. sk.	Delaware, U.S.A.	E. Doubleday, Esq. [P.].
c. Juv. st.	San Francisco, Cal.	Capt. Kellett and Lieut. Wood [P.].
d. Ad. st.	N. America.	J. Gould, Esq.
e. Juv. sk.	California.	G. Barclay, Esq. [P.].
f. ♀ juv. sk.	Mexico.	Purchased.
g. ♂ ad. sk.	W. Mexico.	Purchased.
h. ♀ juv. sk.	W. Mexico.	Purchased..
i. Skeleton.		

17. Buteo latissimus.

Falco pennsylvanicus, *Wils. Am. Orn.* vi. p. 92, pl. 54. fig. 1 (1812, *nec* v. pl. 46. fig. 1); *Aud. B. Am.* i. pl. 91, *et Orn. Biogr.* i. p. 461 (1831).
Falco latissimus, *Wils. ut suprà* (*in later published copies*).
Falco wilsoni, *Bp. Journ. Ac. Sc. N. Y.* (*teste Strickland*).
Sparvius platypterus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1273 (1823).
Astur pennsylvanicus, *Cuv. Règne An.* i. p. 332 (1829).
Buteo pennsylvanicus, *Bp. Oss. Reg. An. Cuv.* p. 35 (1830); *Gray, Gen. B.* i. p. 12 (1849); *Cass. B. Calif.* p. 100 (1855); *Strickl. Orn. Syn.* p. 32 (1855); *Cass. in Baird, B. N. Am.* p. 30 (1860); *Schl. Mus. P.-B.* Buteones, p. 20 (1862); *Gray, Hand-l. B.* i. p. 7 (1869); *Allen, Bull. Harv. Coll.* ii. p. 330 (1871); *Gundl. J. f. O.* 1871, p. 266; *Pelz. Orn. Bras.* p. 396 (1871); *Coues, Key N. Am. B.* p. 217 (1872); *Schl. Revue Accipitr.* p. 109 (1873); *Scl. & Salv. Nomencl. Av. Neotr.* p. 119 (1873).
Astur latissimus, *Jard. ed. Wils. Am. Orn.* ii. p. 294 (1832).
Pœcilopternis wilsoni, *Kaup, Isis*, 1847, p. 330.
Buteo wilsoni, *Bp. Consp.* i. p. 19 (1850).

Young. Above brown; the feathers of the back somewhat washed

with rufous on their margins; head and nape streaked with white, the latter more plainly; lores whitish; sides of face white, the ear-coverts streaked with dark brown; cheeks entirely brown, forming a distinct facial stripe; under surface of body white; throat with a mesial streak of dark brown, breast broadly streaked with the same, the markings on the flanks and thighs more oval in shape and tinged with rufous; under tail-coverts white; under wing-coverts white, with a few longitudinal spots of dark brown; upper wing-coverts like back; quills brown, indistinctly barred with dark brown, obsolete on outer web of primaries; inner web of quills white, with dark brown bars on secondaries; upper tail-coverts spotted on both webs and tipped with white; tail light brown, crossed with five or six bands of darker brown.

As in most other Buzzards, the change from young to adult plumage is characterized by a darker and more uniform plumage beneath. This is acquired by a direct change of feather, the brown centres to the feathers widening out and occupying the greater part of the feather; and then, by the inroad of the white spots, a mottled appearance is produced on the breast and a barred plumage on the abdomen, where the white extends across the feathers.

Adult female. Above brown; the nape mottled with buffy white; the wings rather lighter than the back, the tips to the secondaries whitish, but otherwise coloured as in the young; outer upper tail-coverts tipped with white; tail brown, tipped with brownish white, and crossed with two bands only of the same colour; lores whitish; sides of face rufous brown, streaked with blackish brown; the cheeks blackish; throat buff, streaked with blackish brown; breast rufous brown, mottled with white spots of irregular shape on both webs of the feathers, taking the form of regular bars on the belly and flanks, which are barred with rufous and white, the thighs more narrowly and the under tail-coverts very sparingly; under wing-coverts buff, with small rufous markings; cere and gape yellow; bill black, bluish at base; feet dirty orange-yellow; iris bright amber. Total length 16 inches, culmen 1·3, wing 11·4, tail 7, tarsus 2·6.

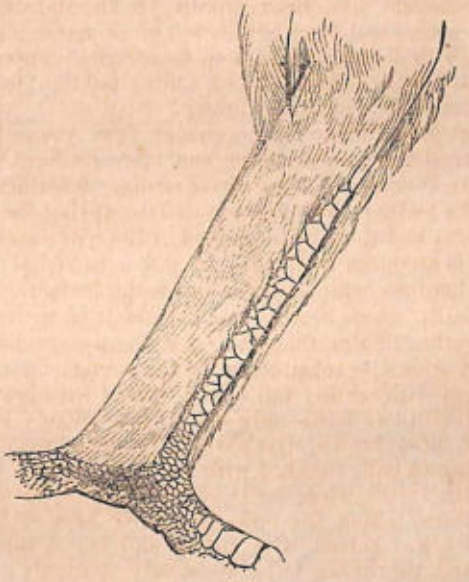
Adult male. Similar to the female, but not quite so rufous, and smaller in size. Total length 15 inches, wing 10·7, tail 6·8, tarsus 2·35.

Hab. Eastern North America and the Antilles, ranging south through the whole of Central America into Columbia and Upper Amazonia.

a. ♂ juv. st.	Quebec.	D. W. Mitchell, Esq. [P.].
b. ♂ ad. st.	Quebec.	D. W. Mitchell, Esq. [P.].
c. ♂ ad. sk.	Poland, Ohio.	Professor Kirtland [P.].
d. ♀ ad. sk.	Caracas.	Mr. Dyson [C.].
e. ♂ ad. sk.	Chamicuros, Peruvian Amazons, Jan. 1, 1868.	E. Bartlett, Esq. [C.].
f. ♀ ad. sk.	Chamicuros, Peruvian Amazons, Dec. 30, 1867.	E. Bartlett, Esq. [C.].
g. ♂ juv. sk.	Panama.	Purchased.

28. ARCHIBUTEO.

	Type.
Archibuteo, *Brehm, Isis*, 1828, p. 1269	A. lagopus.
Triorchis, *Kaup, Natürl. Syst.* p. 84 (1829)	A. lagopus.
Butaetes, *Less. Traité*, p. 83 (1831)	A. lagopus.
Lagopus, *Fraser, P. Z. S.* 1844, p. 37	A. ferrugineus.
Hemiaetus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844)	A. strophiatus.



Tarsus of *Archibuteo lagopus*, with feathering parted to show scales.

Range. The whole of North America and Mexico. All the northern and central portions of Europe, as well as northern Asia generally, not entering the Indian peninsula.

Key to the Species.

a. Flanks and thighs brown.
  a'. Crown of head, throat, and chest white or buffy white, streaked with brown ..... *lagopus*, p. 196.
  b'. Similar to above, but much darker, and having a greater extent of black on lower surface ..... *sancti johannis*, p. 197.
  c'. Crown of head, throat, and chest uniform brown ..... *strophiatus*, p. 199.
b. Flanks white; thighs bright chestnut fawn-colour ..... *ferrugineus*, p. 199.

1. Archibuteo lagopus.

Le Faucon à teste blanche, *Briss. Orn.* i. p. 325 (1760).
Falco lagopus, *Gm. S. N.* i. p. 260 (1788, *ex Brünn.*); *Naum. Vög. Deutschl.* i. p. 359, Taf. 34 (1822); *Schl. u. Susem. Vög. Eur.* Taf. 34 (1839).
Falco sclavonicus, *Lath. Ind. Orn.* p. 26 (1790).
La Buse gantée, *Levaill. Ois. d'Afr.* i. p. 79, pl. 18 (1799).
Buteo pennatus, *Daud. Traité*, ii. p. 156 (1800).
Falco plumipes, *Daud. Traité*, ii. p. 163 (1800, *ex Levaill.*).
Buteo lagopus, *Leach, Syst. Cat. Mamm. &c. Brit. Mus.* p. 10 (1816); *Gould, B. Eur.* i. pl. 15 (1838); *Macgill. Brit. B.* iii. p. 193 (1840); *Yarr. Brit. B.* i. p. 87 (1843); *Bailly, Orn. Sav.* i. p. 133 (1853); *Schl. Vog. Nederl.* pls. 33, 34 (1854); *Midd. Sibir. Reis.* p. 126 (1853); *Schl. Mus. P.-B.* Buteones, p. 1 (1862); *Sundev. Sv. Fogl.* p. 227, pl. xxvii. fig. 5 (1869); *Newt. ed. Yarr. Brit. B.* i. p. 117 (1871); *Schl. Revue Accipitr.* p. 105 (1873).
Archibuteo planiceps, *Brehm, Vög. Deutschl.* p. 40 (1831).
Archibuteo alticeps, *Brehm, tom. cit.* p. 41 (1831).
Butaetes buteo, *Less. Traité*, p. 82 (1831).
Butaetes lagopus, *Bp. Comp. List B. Eur. & N. Am.* p. 3 (1838).
Archibuteo lagopus, *Gray, List Gen. B.* p. 3 (1841); *id. Gen. B.* i. p. 12, pl. 5. fig. 1 (1849); *Strickl. Orn. Syn.* p. 38 (1855); *Fritsch, Vög. Eur.* p. 20, Taf. 5. fig. 9 (1858); *Newt. Ooth. Wolley.* p. 121 (1864); *Degl. & Gerbe, Orn. Europ.* i. p. 64 (1861); *Gray, Hand-l. B.* i. p. 9 (1869); *Salvad. Faun. Ital. Ucc.* p. 10 (1871).

Adult female. Entire head and neck white, streaked with dark brown, more especially on the cheeks and sides of neck; upper surface of body deep brown; the scapulars and least wing-coverts with conspicuous white bases, and most of the feathers margined with fawn-colour, producing a somewhat streaked appearance; quills brown, the primaries externally ashy grey, and inclining to blackish brown towards the tip, the secondaries browner, and tipped narrowly with whitish, all the quills white for greater extent of inner web; upper tail-coverts pure white, with a distinct subterminal bar of blackish brown; tail white for two thirds of its length, shading off into ashy brown tinged with rufous, with a broad subterminal band of black before a whitish tip; under surface of body white; the throat washed with buff like the sides of the neck and narrowly streaked with dark brown, these streaks broader but more irregular in shape on the breast; belly and flanks entirely dark brown, except in the centre of the abdomen, which is mottled with fulvous; thighs and tarsal feathers fulvous white, with numerous spots of brown; under tail-coverts white; under wing-coverts white, streaked more or less with dark brown, the lower series white at base, ashy brown towards tip; cere yellow; bill dark horn-colour; feet yellow; claws dark horn-colour; iris hazel. Total length 26 inches, culmen 1·45, wing 18·7, tail 10, tarsus 3·1.

Adult male. A little smaller than the female. Total length 22·5 inches, wing 17·1, tail 10, tarsus 2·8.

Young. Differing very little from the adult bird, from which it may be distinguished by its browner colour, especially on the under parts, by the more streaked appearance of the breast, and by the

greater extent of brown on the tail, which occupies the terminal half, and does not exhibit a perceptible subterminal band.

Hab. The northern and central portions of Europe and Siberia, becoming rarer in the central parts, and of accidental occurrence in Southern Europe, occasionally visiting South Africa.

a. Ad. st.	Great Britain.	
b. Juv. st.	Norfolk.	
c. ♀ juv. st.	Kent.	Dr. Latham [P.].
d, *e*. ♂ ♀ ad. st.	Epping Forest.	H. Doubleday, Esq. [P.].
f. ♀ ad. st.	Europe.	Purchased.
g, *h*. ♂ ♀ ad. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
i. ♂ ad. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
k. Juv. sk.	Southern Ural.	Dr. Strader [C.].
l. Juv. sk.	Sarepta.	Dr. Strader [C.].
m. Juv. st.	Port Natal.	Sir A. Smith [C.].
n. Juv. sk.	Port Natal.	Sir A. Smith [C.].
o. Sternum.		W. Yarrell, Esq. [P.].

2. Archibuteo sancti johannis.

S. John's Falcon, *Lath. Gen. Syn.* i. p. 77 (1781); *Penn. Arctic Zool. Birds*, p. 200, pl. ix. fig. 2 (1785).
Placentia Falcon, *Lath. Gen. Syn.* i. p. 76 (1781).
Falco sancti johannis, *Gm. S. N.* i. p. 273 (1788).
Falco spadiceus, *Gm. S. N.* i. p. 273 (1788).
Buteo spadiceus, *Vieill. Ois. Am. Sept.* i. p. 34 (1807).
Falco lagopus, *Wils. Am. Orn.* iv. pl. 33. fig. 1 (1811); *Audub. B. Am.* pls. 166, 422, *et Orn. Biogr.* ii. p. 377 (1831).
Falco niger, *Wils. Am. Orn.* v. pl. 53. figs. 1, 2 (1812).
Buteo ater, *Vieill. N. Dict.* iv. p. 482 (1816).
Buteo niger, *Steph. Gen. Zool.* xiii. p. 47 (1826).
Buteo sancti johannis, *Cuv. Règne An.* i. p. 323 (1817); *Jard. ed. Wils. Am. Orn.* ii. pp. 287, 288 (1832); *Schl. Mus. P.-B.* Buteones, p. 3 (1862).
Buteo lagopus, *Sw. & Rich. Faun. Bor.-Am. Birds*, p. 52 (1831).
Butaetes sancti johannis, *Bp. Comp. List B. Eur. & N. Am.* p. 3 (1838).
Archibuteo sancti johannis, *Gray, Gen. B.* i. p. 12 (1849); *Bp. Consp.* i. p. 18 (1850); *Cass. B. Calif. & Texas*, p. 103 (1855); *Strickl. Orn. Syn.* p. 40 (1855); *Cass. in Baird, B. N. Am.* p. 32 (1860); *Gray, Hand-l. B.* i. p. 10 (1869); *Cooper, B. Calif. ed. Baird*, p. 485 (1870).
Archibuteo lagopus, *Cass. B. Calif. & Texas*, p. 104 (1855); *id. in Baird, B. N. Am.* p. 32 (1860); *Dall & Bann. Tr. Chic. Acad.* i. p. 272 (1869); *Cooper, B. Calif.* p. 483 (1870).
Archibuteo niger, *Pelz. Verh. z.-b. Wien*, 1862, p. 153.
Archibuteo lagopus, var. sancti-johannis, *Coues, Key to N. Am. B.* p. 218 (1872).

Young. Above brown; the feathers of the back, scapulars, and wing-coverts margined with ochraceous buff or fawn-colour, most of the feathers with conspicuous white bases; the lower back and rump uniform ashy brown; the outer upper tail-coverts white, tinged with fulvous, and subterminally spotted with dark brown; quills brown, the secondaries lighter, and tipped with whitish, the inner

web white for the greater part, blackish towards the tip; tail white at base, shading into ashy grey, and becoming brown before the immediate tip, which is dull white; on the inner webs of some of the feathers are some brown spots and bars; head and neck ochraceous buff, narrowly streaked with brown, forming on the sides of the face a tolerably defined malar stripe; under surface of body ochraceous buff, streaked broadly with brown on the breast, and more narrowly on the thighs, which are of a deeper ochre; the under tail-coverts buffy white; flanks and abdomen uniform blackish brown; under wing-coverts ochraceous, with brown or rufous-brown streaks, the lower series entirely dark brown.

Adult. Above blackish brown, with slight rufous margins to the interscapulary feathers and wing-coverts; the scapulars barred with fulvous or buffy fawn-colour; lower back and rump blackish brown, the upper tail-coverts white, tinged with deep ochre, and barred more or less completely with black; tail white at base and at tip, uniform brown for rest of extent, washed with rufous or greyish, and becoming subterminally blackish brown; quills much as in preceding plumage, but more distinctly shaded with grey externally, and more plainly barred with brown on the inner web; head, neck, and sides of face whitish, with broad dark brown centres to the feathers, which are thus distinctly streaked, the cheeks more plainly, thus forming a well-defined malar stripe; under surface of body ochraceous buff; the throat streaked with brown, becoming much broader on the breast; the thighs widely banded with dark brown; centre of abdomen and under tail-coverts uniform ochraceous; flanks and abdomen deep blackish brown, extending a good way up the breast; under wing-coverts black, varied with fulvous margins and spots, broader on the innermost feathers and axillaries; cere yellow; bill blackish; feet yellow; iris yellow. Total length 22 inches, culmen 1·5, wing 16·4, tail 9·5, tarsus 2·8.

Variety. General colour above and below sooty black, with conspicuous white lores and frontal feathers, many of the feathers slightly shaded with rufous on their margins; nape and hind neck whitish; scapulars and wing-coverts with more or less concealed spots of white or pale ashy brown; quills blackish, barred with lighter brown, externally shaded with ashy grey; upper tail-coverts and tail blackish, tipped with ashy white, the latter crossed with four or five bands of ashy brown, inclining to whity brown on inner web. Total length 24 inches, culmen 1·4, wing 17, tail 10, tarsus 2·8.

Hab. Confined to North America.

a. ♂ var. sk.	Delaware, U.S.A.	E. Doubleday, Esq. [P.].
b. Ad. sk.	Labrador.	R. B. Sharpe, Esq. [P.].
c. Ad. sk.	Sumass Prairie, British Columbia.	J. K. Lord, Esq. [C.].
d, *e*, *f*. Juv. sk.	Sumass Prairie, British Columbia.	J. K. Lord, Esq. [C.].

3. Archibuteo strophiatus. (Plate VII. fig. 2.)

Hemiaetos strophiatus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Archibuteo strophiatus, *Gray, Cat. Mamm. & B. Nepal Hodgs.* p. 39 (1846); *id. Gen. B.* i. p. 12 (1849); *Bp. Consp.* i. p. 18 (1850); *Kaup, Contr. Orn.* 1850, p. 75; *Jerd. Ibis*, 1871, p. 340.
Archibuteo hemiptilopus, *Blyth, J. A. S. B.* xv. p. 1 (1846); *Gray, Gen. B.* i. p. 12 (1849); *Bp. Consp.* i. p. 18 (1850); *Jerd. B. Ind.* i. p. 94 (1862); *Blyth, Ibis*, 1863, p. 20; *Gray, Hand-l. B.* i. p. 10 (1869); *Hume, Rough Notes*, ii. p. 232 (1870); *id. Stray F.* i. p. 315 (1873).
Archibuteo cryptogenys, *Hodgs. Calc. Journ. N. H.* viii. p. 94, pl. 5. fig. 1 (1847).
Archibuteo aquilinus, *Strickl. Orn. Syn.* p. 41 (1855).
Archibuteo asiaticus, *Gray, Hand-l. B.* i. p. 10 (1869).
Archibuteo leucoptera, *Hume, Stray F.* i. p. 318 (1873).

Adult (type of species). Above brown, rather darker on the interscapulary region, scapulars and wing-coverts margined with paler brown; head lighter brown than the back, the hind neck streaked with white; lores whitish; an indistinct blackish eyebrow; sides of face and neck brown, the ear-coverts varied with fulvous on upper margin; entire under surface of body brown, including the tarsal feathers, which extend to the root of the toes; chin slightly varied with white, and across the breast a broad irregular band of white, many of the breast-feathers slightly shading off into paler brown on their margins; quills dark brown, primaries with a slight greyish shade externally, secondaries tipped with buffy white, the innermost paler brown like the back; primaries white at base of inner web, extending a little higher up on the secondaries, which are, however, mottled with brown; tail brown above, ashy white beneath, the shafts white and the tips buffy white, the feathers crossed with traces of seven or eight bars of dark brown, the subterminal one very broad, all the others more or less dissolved. Total length 27 inches, culmen 1·9, wing 19·4, tail 11, tarsus 3·6.

Hab. Nepal and Thibet.

a. Ad. st. Nepal. B. H. Hodgson, Esq. [P.]. Type of species and specimen figured.

4. Archibuteo ferrugineus.

Falco ferrugineus, *Licht. Abhandl. K. Akad. Berlin*, 1838, p. 428.
Lagopus ferrugineus, *Fraser, P. Z. S.* 1844, p. 37.
Archibuteo regalis, *Gray, Cat. Accipitr.* 1844, p. 19; *id. and Mitch. Gen. B.* pl. 6 (1849).
Archibuteo ferrugineus, *Gray, Gen. B.* p. 12 (1849); *Cass. B. Calif. & Tex.* pp. 104, 159, pl. xxvi. (1855); *Strickl. Orn. Syn.* p. 40 (1855); *Cass. in Baird's B. N. Am.* p. 34 (1860); *Gray, Hand-l. B.* i. p. 10 (1869); *Cooper, B. Calif. ed. Baird*, p. 482 (1870); *Coues, Key N. Am. B.* p. 218 (1872).
Buteo californicus, *Hutchins, Calif. Mag., March* 1857 (*teste Cassin*).

Young. Above brown, the feathers of the nape, back, and scapulars white at base, and more or less broadly margined with pale fawn-colour; wings much as in the adult, but without any very broad rufous margins above; upper tail-coverts brown, tipped with rufous, the outer ones pure white, with a broad subterminal spot of black; tail ashy brown, shaded with clearer grey, and tipped with whity brown, before which is a slight indication of a dark brown subterminal bar, irregular spots of the same being on most of the feathers, all of which have the basal part white; lores whitish, with narrow brown streaks; head brown, with pale fulvous margins to the feathers, giving a streaked appearance; sides of face and of neck pure white, streaked with dark brown, more uniform and tinged with rufous on the upper margin of the ear-coverts; under surface of body pure white, with a few streaks of brown on the side of the breast, represented on the flanks by large arrow-shaped spots, much smaller on the thighs; tarsal feathers dark brown, varied with white; under wing- and tail-coverts white, the latter streaked with brown.

Adult. Above bright chestnut-fawn, with centres of dark brown to the feathers, giving a streaked appearance, the greater wing-coverts brown, broadly but irregularly margined with pale rufous; head, neck, and interscapulary region white, numerously streaked with dark brown centres to the feathers, broader on the latter, so that it appears nearly uniform brown; ear-coverts blackish; cheeks and sides of neck white, with distinct streaks of black; quills deep brown, the primaries externally shaded with silvery grey, less distinct on the secondaries, which are obscurely barred with darker brown and tipped with whitish; lower surface of primaries white for greater extent of inner web, blackish towards tip, the secondaries ashy white beneath, with remains of cross bars; upper tail-coverts bright fawn, irregularly marked down the centre with dark brown, and more or less white near the base; tail pale fawn-colour, shaded with light ashy grey, and mottled with brown towards the base, which is white, as also the inner webs and tips of the feathers; under surface of body pure white, with faint fawn-coloured streaks on the chest, the flanks more or less distinctly barred with rufous brown; thighs bright chestnut-fawn, barred across with dark brown, the tarsal feathers rufous brown; under wing-coverts white, with a few indications of fawn-coloured spots and streaks; cere yellow; bill blackish horn-colour; feet yellow; iris brown. Total length 26 inches, culmen 1·9, wing 18·35, tail 10·7, tarsus 4·5.

Hab. The south-western States of North America to Mexico.

a. Ad. st.	Real del Monte, Mexico.	John Philipps, Esq. [P.]
b. Juv. st.	Mexico.	Zoological Society.
c. Ad. sk.	Mexico.	
d. Juv. st.	California.	Purchased.

29. BUTEOLA.

Type.
Buteola, *Bp. C. R.* xli. p. 651 (1855)..... B. brachyura.



Bill of *Buteola brachyura*.

Range. From Veragua, in Central America, through Guiana, into Amazonia and Peru.

1. Buteola brachyura.

Buteo brachyurus, *Vieill. N. Dict.* iv. p. 477 (1816); *Gray, Gen. B.* i. p. 12 (1849); *Pucher. Rev. et Mag. de Zool.* 1850, p. 86; *Bp. tom. cit.* p. 481; *Salv. P. Z. S.* 1870, p. 215.
Falco albifrons, *Max. Beitr.* iii. p. 187 (1830).
Buteo melanoleucus, *Less. Traité*, p. 82 (1831).
Astur poliogaster, *Gray, Cat. Accipitr.* p. 66 (1848).
Asturina albifrons, *Kaup, Isis*, 1847, p. 200; *Bp. Consp.* i. p. 31 (1850).
Astur poliogaster, *Gray, Cat. Accipitr.* p. 66 (1848).
Asturina brachyura, *Bp. Rev. et Mag.* 1850, p. 489; *Strickl. Orn. Syn.* p. 42 (1855).
Asturina diadema, *Kaup, Rev. et Mag.* 1850, p. 489.
Buteola brachyura, *Bp. C. R.* xli. p. 651 (1855); *Scl. & Salv. P. Z. S.* 1869, p. 130; *iid. Nomencl. Av. Neotr.* p. 118 (1873).
Buteo albifrons, *Schl. Mus. P.-B.* Buteones, p. 10 (1862); *id. Revue Accipitr.* p. 109 (1873).
Buteo minutus, *Pelz. Sitz. Akad. Wien*, xliv. p. 14 (1862); *id. Verh. z.-b. Wien*, 1862, p. 141; *id. Reis. Novara, Vög.* p. 16 (1865); *id. Orn. Bras.* pp. 3, 396 (1871).
Astur brachyura, *Gray, Hand-l.* i. p. 30 (1869).
Buteola minuta, *Giebel, Orn. Thes.* i. p. 517 (1872).

Adult. Entire upper surface, including the sides of the face and of the neck, slaty black; a conspicuous loral spot and entire under surface white, slightly shaded with dark brown on the sides of the breast; quills blackish brown, the secondaries a little clearer brown tipped with dull white, the quills white at the base of inner web, the primaries freckled and the secondaries indistinctly barred with blackish brown; upper tail-coverts shaded with ashy brown near the tips, the outermost with concealed white bars; tail ashy brown, tipped with dull white, crossed with four bars of blackish brown, the under surface paler and inclining to greyish white, causing the black cross bands to appear more distinct; under wing-coverts white. Total length 15·5 inches, culmen 1·3, wing 11·3, tail 6·3, tarsus 2·25.

Young. Very similar to the adult, but browner above, the feathers being margined with fulvous; the crown and sides of face streaked with pale ochre; the under surface, especially the under wing-coverts, washed with ochre.

Black variety. All over sooty black, excepting a few streaks of white on the forehead, ear-coverts, and throat; the bases of all the breast-feathers white; quills black, the secondaries a little browner, and decidedly paler brown at tips; tail brown, tipped with paler brown, and crossed with eight blackish bands, these being browner underneath but very plain, as the interspaces are ashy white; lower under wing-coverts barred with white, the bases of the quills white on the inner web for a great extent. Total length 16 inches, culmen 1·25, wing 12, tail 6·6, tarsus 2·2, middle toe 1·4. (*Mus. Lugd.*)

Hab. The same as that of the genus.

a. Ad. sk.	Guatemala.	Purchased.
b, c. Ad. sk.	Brazil.	
d. Ad. st.	S. America.	Purchased.

30. ASTURINA.

	Type.
Asturina, *Vieill. Analyse*, p. 24 (1816)	A. nitida.
Rupornis, *Kaup, Classif. Säug. u. Vög.* p. 120 (1844)..	A. magnirostris.
Asturisca, *Sundev. Av. Tent.* p. 107 (1873).	

Cf. *Sclater & Salvin, P. Z. S.* 1869, p. 129.



Bill of *Asturina pucherani*.

Range. From South-eastern Brazil, Paraguay, Bolivia, and Peru, throughout Amazonia, Guiana, and Columbia, Central America, into the south-eastern States of N. America.

Key to the Species.

a. Thighs banded.
  a'. Thighs white, banded with blackish or ashy grey.
    a''. Above ashy grey, with transverse whitish bands..... *nitida*, p. 203.
    b''. Above uniform dark ashy grey ..... *plagiata*, p. 204.
  b'. Thighs buff, banded with rufous.
    c''. Bands on tail rufous.
      a'''. Head and throat ashy grey; base of primaries deep ferruginous ..... *ruficauda*, p. 205.
      b'''. Head and throat dark brown; base of primaries buff ..... *pucherani*, p. 205.

d''. Bands on tail ashy.
c'''. Chest ashy grey; bands on breast and thighs white, with rufous or pale ashy bars ..... *magnirostris*, p. 207.
d'''. Chest rufous; bands on breast buff, barred with rufous ..... *nattereri*, p. 208.
b. Thighs uniform, not banded; plumage black above and below ..... *leucorrhoa*, p. 209.

1. Asturina nitida.

Plumbeous Falcon, *Lath. Gen. Syn. Suppl.* p. 37 (1787).
Falco nitidus, *Lath. Ind. Orn.* i. p. 41 (1790); *Temm. Pl. Col.* i. pls. 87, 294 (1824).
Azulejo, *Azara, Apunt.* i. p. 167 (1802).
Asturina cinerea, *Vieill. Analyse*, p. 68 (1816); *id. et Oud. Gal. Ois.* i. pl. 20 (1825).
Astur nitidus, *Vig. Zool. Journ.* i. p. 338 (1824); *D'Orb. Voy. Am. Mérid. Ois.* p. 95 (1847); *Gray, Gen. B.* i. p. 27 (1849); *Burm. Th. Bras.* ii. p. 68 (1856); *Léot. Ois. Trinid.* p. 46 (1866); *Gray, Hand-l. B.* i. p. 30 (1869).
Cymindis cinerea, *Less. Man.* i. p. 91 (1828).
Astur striolatus, *Cuv. Règne An.* i. p. 332 (1829).
Falco striolatus, *Max. Beitr.* iii. p. 209 (1830).
Dædalion nitidus, *Less. Traité*, p. 65 (1831).
Asturina nitida, *Cab. in Schomb. Reis. Guian.* iii. p. 737 (1848); *Bp. Consp.* i. p. 30 (1850); *Strickl. Orn. Syn.* p. 42 (1855); *Schl. Mus. P.-B.* Asturinæ, p. 1 (1862); *Scl. & Salv. P. Z. S.* 1869, p. 130; *Pelz. Orn. Bras.* pp. 3, 395 (1871); *Scl. & Salv. Nomencl.* p. 118 (1873).
Asturisca nitida, *Sundev. Tent.* p. 107 (1873).

Adult. Above ashy grey, everywhere barred with dull white, the head and neck much lighter, secondaries broadly tipped with white; primaries dark brown, inclining to ashy grey on the outer web, barred with blackish; under surface of quills white at the base and on the inner web, barred with dusky black; lower back, rump, and upper tail-coverts uniform deep ashy, inclining to blackish, the latter broadly tipped with white; tail ashy black above, tipped with whitish, and crossed with a broad whitish bar about a third of its length from the tip; the under surface paler, and crossed with a second lower bar of white; forehead, sides of face, and throat dull whitish; rest of under surface transversely barred with ashy grey and white, more narrowly on the thigh-feathers; under wing- and tail-coverts white, the former with a few bars of ashy grey. Total length 16·3 inches, culmen 1·3, wing 9·8, tail 6·8, tarsus 2·6.

Adult female. A little larger than the male. Total length 18 inches, wing 10·5, tarsus 2·8.

Young. Above brown, most of the feathers margined and washed near the base with rufous; crown of head buffy white, broadly streaked with dark brown; forehead, as well as a distinct eyebrow, sides of the face, and throat buffy white, unspotted, except as regards a few marks of dark brown on the latter; rest of under surface buffy white, scantily marked with large spots of dark brown at the

tips of the feathers; thighs, under wing-, and tail-coverts clear creamy buff; quills creamy buff at base, shading into rufous and brown at the tips of the feathers; all the quills barred with blackish brown, showing more plainly underneath, the secondaries entirely brown, barred only on the inner web; tail alternately barred with buffy white and blackish brown, the bars of the latter colour being five in number; all the outer feathers, especially the ones having the fulvous bars, more or less shaded with ashy brown.

Hab. From S.E. Brazil, throughout Amazonia, Guiana, and Columbia, into Panama.

a.	Juv. sk.	S. America.	
b.	♂ ad. sk.	Bahia.	Sudbury Museum.
c.	♀ juv. sk.	Bahia.	Dr. Wucherer [C.].
d.	♂ ad. sk.	North side of River Amazon.	A. R. Wallace, Esq. [C.].
e.	♀ juv. sk.	Caracas.	Mr. Dyson [C.].
f.	Ad. sk.	Demarara.	R. B. Sharpe, Esq. [P.].
g.	♂ ad. st.	South America.	Dr. Lidth de Jeude.
h.	♂ juv. st.	South America.	Dr. Lidth de Jeude.
i.	Skeleton.		Zoological Society.

2. Asturina plagiata.

Buteo plagiatus, *Licht. Nomencl.* p. 3 (1854).
Asturina nitida (*nec Lath.*), *Cass. in Baird, B. N. Am.* p. 35 (1860); *Cooper, B. Calif. ed. Baird*, p. 486 (1870).
Asturina plagiata, *Schl. Mus. P.-B.* Asturinæ, p. 1 (1862); *Scl. & Salv. P. Z. S.* 1869, p. 131, *et Ex. Orn.* p. 179, pl. xc. (1869); *Finsch, Abhandl. Ver. Bremen*, 1870, p. 325; *Coues, Key N. Am. B.* p. 218 (1870); *Scl. & Salv. Nomencl.* p. 118 (1873).
Astur plagiatus, *Gray, Hand-l. B.* i. p. 30 (1869).

Adult. Above clear ashy grey, not crossed with whitish bars, the head and neck a little lighter, with rather distinct dusky shaft-stripes, the lores whitish; primaries blackish, externally shaded with ashy grey, the secondaries more decidedly ashy grey like the back, tipped with white; all the quills indistinctly barred with blackish, a little plainer on the under surface of the wing, which is for the most part white; lower upper tail-coverts white for their apical half, the outer ones also nearly all white, forming a bar across the base of the tail; tail blackish, tipped with white, and crossed with a distinct band of whitish across the middle of the tail, with remains of a lower one visible near the base of the tail; chin whitish, with narrow dusky shaft-lines; chest ashy grey, with dusky shaft-lines, varied with more or less distinct bars of white, the lower breast, abdomen, and thighs banded with white and dull ashy grey, narrower on the latter; under tail-coverts white; under wing-coverts white, with a few cross markings of ashy grey; cere and feet yellow. Total length 17·5 inches, culmen 1·45, wing 11·1, tail 7·3, tarsus 2·85.

Young. Above brown, the feathers edged with pale rufous, and mottled with white at the base and on the sides of the dorsal feathers; crown and sides of the face and neck whitish, broadly mottled and streaked with dark brown; quills dark brown, the pri-

maries blackish, with no perceptible bars on the upper surface, except a dark purplish brown subterminal shade on the secondaries; the inner face of the wing buffy white, with a few indistinct bars on the inner secondaries; upper tail-coverts dark brown, barred and tipped with white; tail brown, tipped with white, before which a subterminal indistinct bar of purplish brown, the bars on the other feathers principally on the inner webs, and nowhere very distinct; under surface of body creamy white, with longitudinal or rounded spots of pale rufous, especially distinct on the thighs, less distinct on the under wing-coverts, and nearly obsolete on the under tail-coverts.

Hab. From Costa Rica and Guatemala northwards to Arizona and Illinois.

a. Juv. sk.	Mexico.	Purchased.
b. Ad. st.	Guatemala.	O. Salvin, Esq. [C.].
c. Ad. st.	Guatemala.	J. Gould, Esq.
d. Juv. st.	Mexico.	Purchased.
e. Skeleton.		

3. Asturina ruficauda.

Asturina magnirostris, *Scl. P. Z. S.* 1856, p. 285 (*nec Gm.*); *Scl. & Salv. Ibis*, 1859, p. 217.

Asturina ruficauda, *Scl. & Salv. P. Z. S.* 1869, p. 133, *et Ex. Orn.* pl. lxxxviii. (1869), *et Nomencl.* p. 118 (1873).

Adult. Above dull ashy grey, a little clearer on the head and sides of the face, the upper tail-coverts tipped with white, and barred with black and pale rufous or buff; wing-coverts slightly darker and more brown than the back; quills deep chestnut, inclining gradually to dark brown at the tips, barred with blackish, the bars paler and broader on the secondaries, the outermost of which are ashy brown externally, the inner ones uniform ashy, like the back; inner face of the wing rufous, the primaries barred and tipped with dark brown, the bars becoming obsolete towards the inner quills; tail rufous, tipped with ashy, and banded across with four broad bars of blackish brown; throat and chest dull ashy grey, the former somewhat varied with white, the latter with rufous; rest of under surface pale rufous, banded alternately with that colour and white, with a few bars of ashy on the breast; under tail-coverts buffy white, with a few obsolete bars of rufous; thighs barred with fulvous and pale rufous; under wing-coverts buff, slightly spotted and barred with pale rufous, the axillaries plainly barred with buff and pale rufous.

Hab. Central America, from S. Mexico to Panama.

a. Ad. sk.	Chiriqui.	Capt. Kellett and Lieut. Wood [P.].
b. Ad. sk.	Pearl Island, Bay of Panama.	Capt. Kellett and Lieut. Wood [P.].
c. Ad. sk.	Rio Negro, Brazil.	Purchased.

4. Asturina pucherani.

Esparvero indayé, *Azara, Apunt.* i. p. 131 (1802).

Astur magnirostris, *D'Orb. Voy. Am. Mérid. Ois.* p. 91(1847); *Hartl. Ind. Azara*, p. 2 (1847).
Falco gularis, *Licht. in Mus. Berol., undè*
Rupornis gularis, *Licht. Nomencl.* p. 3 (1854, *descr. nulla*).
Asturina pucherani, *J. & E. Verr. Rev. et Mag. de Zool.* 1855, p. 350; *Scl. & Salv. P. Z. S.* 1860, p. 133, *et Ex. Orn.* pl. lxxxix. (1860), *et Nomencl.* p. 118 (1873).
Asturina gularis, *Schl. Mus. P.-B.* Asturinæ, p. 4 (1862).
Astur pucherani, *Gray, Hand-l. B.* i. p. 30 (1869).

Adult. Above brown, some of the wing-coverts margined with pale rufous, probably the remains of immaturity, the outermost upper tail-coverts fulvous, barred with rufous; primary coverts rufous, mottled and banded near the base, and broadly tipped with dark brown; quills deep chestnut, barred and tipped with dark brown, the secondaries externally brown, the innermost uniform brown, like the back, inclining to dark brown near their tips; inner surface of wing creamy rufous, inclining to chestnut towards the tips of the feathers, the primaries externally creamy rufous near the base, forming rather a conspicuous mark on the wing, the two outermost primaries for the most part brown, rufous only near the base, and distinctly barred with dark brown; tail pale rufous, crossed with five bands of dark brown, the two basal ones indistinct, and not strictly continuous; head and neck all round a little darker brown than the back, blackish on the cheeks and above the eye; lores white, the throat also streaked with white; rest of the under surface buffy white, very narrowly and indistinctly barred with pale rufous, almost obsolete on the chest; under tail-coverts uniform buffy white; under wing-coverts pale rufous. Total length 18 inches, culmen 1·35, wing 10·9, tail 8·2, tarsus 2·65.

Young. Above brown, the feathers edged with fulvous, the upper tail-coverts buff, broadly barred with brown; wings much as in the adult, but paler rufous, especially the exterior patch on the primaries, which is light buff, barred with blackish; tail with five bands of dark brown, as in the adult, but all broad and clearly defined, the basal bar very distinct, the interspaces cinereous, the lower ones approaching to rufous; the crown, and especially the hind neck streaked with light buff; a distinct eyebrow and the sides of the face also buff, narrowly streaked with dark brown; upper margin of ear-coverts entirely dark brown; under surface of body buffy white, the throat very narrowly, the chest very broadly streaked with pale brown, the latter with a slight wash of rufous; lower breast crossed with bars of pale rufous, those in the centre of the body heart-shaped, the thighs buff, thickly barred with rufous; under wing- and tail-coverts buffy white, sparsely marked with brown bars, the former also slightly washed with pale rufous.

Hab. S.E. Brazil, Paraguay, and Bolivia.

a. Juv. sk.	South America.	W. Wilson Saunders, Esq. [P.].
b. Juv. st.	South America.	Purchased.
c. Ad. st.	Bolivia.	Mr. Brydges [C.].

5. Asturina magnirostris.

L'Epervier à gros bec de Cayenne, *Buff. Pl. Enl.* i. pl. 464.
Great-billed Falcon, *Lath. Gen. Syn.* p. 103 (1781).
Falco magnirostris, *Gm. S. N.* i. p. 282 (1788).
Astur magnirostris, *Vigors, Zool. Journ.* i. p. 338 (1824); *Gray, Gen. B.* i. p. 27 (1849); *Strickl. Orn. Syn.* p. 120 (1855); *Gray, Hand-l. B.* i. p. 30 (1869).
Falco insectivorus (pt.), *Spix, Av. Bras.* i. p. 17, t. 8 *a* (1824).
Nisus magnirostris, *Less. Man.* i. p. 96 (1828).
Rupornis magnirostris, *Kaup, Classif. Säug. u. Vög.* p. 120 (1844); *Cab. in Schomb. Reis. Guian.* iii. p. 737 (1848).
Asturina magnirostris, *Scl. P. Z. S.* 1857, p. 261; *Scl. & Salv. P. Z. S.* 1869, p. 131; *üid. Nomencl.* p. 118 (1873).
Astur macrorhynchus, *Pelz. Orn. Bras.* pp. 6, 398 (1871).

Young. Above blackish brown, the head and hind neck streaked with white, the scapulars also with large concealed white spots of the same; upper tail-coverts ochraceous, with arrow-shaped bars of brown; scapulars dark brown, like the back, with somewhat paler margins.

Adult male. Above pale ashy grey, the upper tail-coverts alternately banded with black and white, the greater wing-coverts a little darker ash-colour than the back; primary coverts and quills rufous at the base, ashy brown at the tips, the outer secondaries externally ashy grey, the inner ones entirely of this colour, like the back, the primaries narrowly and irregularly barred with blackish, broader but less distinct on the secondaries, the inner face of the wing pale rufous, the bars nearly obsolete; tail ashy grey, with three broad cross bands of black; sides of face, throat, and chest ashy grey, like the back, the chin a little inclining to whitish; rest of under surface white, with broad bands of pale rufous on the breast, becoming very narrow and inclining to ashy grey on the abdomen, flanks, and thigh-feathers; under wing- and tail-coverts white, with a few indistinct ashy bars, almost obsolete except on the lower under wing-coverts. Total length 14 inches, culmen 1·3, wing 8·7, tail 6·2, tarsus 2·5.

Adult female. A little larger than the male. Total length 15 inches, culmen 1·2, wing 8·9, tail 6·5, tarsus 2·5.

Hab. Columbia, Guiana, and Amazonia.

a.	ad. sk.	Santa Marta.	W. Wilson Saunders, Esq. [P.].
b.	♀ ad. sk.	Antioquia, New Granada.	T. K. Salmon, Esq. [C.].
c.	♀ ad. sk.	Concordia, New Granada.	T. K. Salmon, Esq. [C.].
d.	♀ ad. sk.	Caracas.	Mr. Dyson [C.].
d'.	♂ ad. sk.	Venezuela.	A. Goering, Esq. [C.].
e.	♂ ad. sk.	I. of Mexiana.	A. R. Wallace, Esq. [C.].
f.	Ad. sk.	Brazil.	M. Claussen [P.].
g.	♀ ad. st.	British Guiana.	Royal Geographical Society [P.].
h.	♂ ad. st.	British Guiana.	Sir R. Schomburgk [P.].
i.	Ad. sk.	Demarara.	R. B. Sharpe, Esq. [P.].
k.	♂ ad. st.	S. America.	D. W. Mitchell, Esq. [P.].
l.	♀ ad. sk.	S. America.	D. W. Mitchell, Esq. [P.].

6. Asturina nattereri.

Falco magnirostris (pt.), *Spix, Av. Bras.* i. p. 18 (1824).
Falco magnirostris, *Temm. Pl. Col.* i. pl. 86 (1824); *Max. Beitr.* iii. p. 102 (1830).
Nisus magnirostris, *Cab. & Tsch. Faun. Peruan.* p. 104 (1844–46); *Burm. Th. Bras.* ii. p. 76 (1856).
Astur magnirostris, *Pelz. Orn. Bras.* pp. 6, 398 (1869–71).
Asturina nattereri, *Scl. & Salv. P. Z. S.* 1869, p. 132; *iid. Ex. Orn.* pl. lxxxvii. (1869); *iid. Nomencl.* p. 118 (1873).

Adult. Above ashy brown, the head much clearer and inclining to ashy grey; quills deep chestnut, inclining to brown at the tips, the exterior primaries brown on the outer web, the secondaries externally ashy brown, the innermost entirely of that colour, like the back, all the quills marked with narrow black bars, a little broader but more indistinct on the secondaries, the inner face of the wing pale creamy rufous, with slight indications of blackish bars; lower upper tail-coverts buffy white, tinged with ochre, and barred with dark brown; tail clear ashy brown, tipped with whitish, and crossed with three bands of blackish; throat ashy grey, slightly varied with whitish; chest pale rufous, the shafts distinctly indicated by narrow central black lines; rest of the under surface fulvous, barred with pale rufous, decreasing in number and distinctness on the abdomen and under wing- and tail-coverts; the thighs fulvous, very thickly banded with pale rufous. Total length 14·5 inches, culmen 1·3, wing 9·2, tail 6·5, tarsus 2·4.

Young. Above brown, some of the wing-coverts margined with fulvous or pale rufous; forehead, crown of head, and hind neck, as well as the interscapulary region, varied with creamy white; a tolerably distinct eyebrow, cheeks, and ear-coverts creamy white, streaked with brown; quills brown, barred with blackish, the secondaries tipped with dull white, the inner webs creamy buff at the base, slightly washed with rufous, the cross bars showing very plainly on the light ground; upper tail-coverts creamy buff, barred with brown; tail ashy brown, inclining to creamy buff at the base, especially on the inner web, crossed with five bars of dark brown, and tipped with dull white; under surface buffy white, the throat narrowly, the chest broadly streaked with dark brown, the streaks on the latter widening out towards the tip of the feather; the lower breast and flanks spotted and barred with heart- or arrow-shaped spots of pale rufous, each spot enclosed in a narrow border of brown; vent and under tail-coverts buffy white, unspotted; thighs buff, thickly banded with pale rufous; under wing-coverts buff, with numerous pale rufous cross markings, the axillaries plainly barred with rufous, the lower coverts spotted with blackish.

Obs. The next stage is very similar, being a little more uniform dark brown above, with few rufous edgings to the feathers: the markings on the breast are more rufous, and the bars on the inner face of the wing narrow, while a clearer shade of rufous is also here apparent; the throat streaked with ashy brown. The progress

towards maturity is marked by the gradual widening of the longitudinal spots on the chest, with which a shade of ashy brown gradually mingles and overspreads the whole of the throat and chest; the rufous bars on the belly and thighs gradually become narrower, and the bars on the wing disappear by degrees, leaving the inner surface of the wing more or less uniformly rufous towards the base of the quills.

Hab. S.E. Brazil and Peru.

a. Ad. sk.	South America.	J. J. Audubon, Esq.
b. Juv. sk.	South America.	J. J. Audubon, Esq.
c, d. Juv. sk.	Bahia.	Dr. Wucherer [C.].
e. Ad. sk.	Brazil.	Lord Stuart de Rothsay [P.].
f. ♀ ad. sk.	Brazil.	Mr. Claussen [P.].
g. Juv. sk.	Brazil.	Mr. Claussen [P.].
h. Juv. sk.	Cosnipata, Peru, June 2, 1871.	H. Whitely, Esq. [C.].
i. ♂ ad. st.	Cosnipata, Peru, June 2, 1871.	H. Whitely, Esq. [C.].
k. Ad. st.	Cosnipata, Peru, June 2, 1871.	H. Whitely, Esq. [C.].

7. Asturina leucorrhoa.

Falco leucorrhous, *Quoy et Gaim. Voy. de l'Uran.* p. 91, pl. 13 (1824).

Astur leucorrhous, *Vigors, Zool. Journ.* iii. p. 271 (1827); *Gray, Gen. B.* i. p. 27 (1849); *Strickl. Orn. Syn.* p. 120 (1855); *Pelz. Orn. Bras.* pp. 7, 398 (1871); *Gray, Hand-l. B.* i. p. 30 (1869).

Dædalion leucorrhous, *Less. Traité*, p. 66 (1831).

Nisus leucorrhous, *Cab. & Tsch. Arch. f. Naturg.* 1844, p. 265; *iid. Faun. Peruan., Vög.* pp. 18, 103 (1844).

Asturina leucorrhoa, *Bp. Consp.* i. p. 30 (1850); *Schl. Mus. P.-B.* Asturinæ, p. 5 (1862); *Scl. & Salv. P. Z. S.* 1869, p. 134; *iid. Nomencl.* p. 118 (1873).

Adult. Uniform black, the lower upper tail-coverts white, forming a bar across the base of tail; tail black, white at immediate base, and crossed above by a single bar of ashy brown about one third of the length of the tail from the tip, which also inclines to ashy, the under surface of tail crossed with two distinct white bands; under surface of body black, like the upper, the tibial plumes rufous; under tail-coverts buffy white; under wing-coverts creamy buff, the axillaries and lower coverts slightly spotted with black; inner surface of wing black, the primaries barred with white near the base, the secondaries with ashy grey. Total length 14·5 inches, culmen 1, wing 8·5, tail 6·5, tarsus 2·3.

Adult female. Similar to the male, but a little larger. Total length 15 inches, culmen 1·1, wing 9, tail 6·7, tarsus 2·3.

Young. Above dark brown, much mottled with rufous, the scapulars and wing-coverts notched or barred as well as edged with the latter colour; quills pale creamy buff at base, shading into rufous towards the tip, which is dark brown, the secondaries externally dark brown, rufous on the inner web and at the tip, the

innermost entirely brown, like the back, all the quills barred above with blackish, broader but more indistinct on the secondaries; lower upper tail-coverts creamy buff, as is also the tail at the base; tail-feathers alternately barred with black and creamy white, tipped with the latter colour, with an ashy shade overspreading the whitish bars; head and neck creamy buff, the latter slightly washed with rufous; the crown and nape streaked with dark brown centres to the feathers, the forehead and a broad eyebrow uniformly creamy buff, as are also the sides of the face, except the upper margin of the ear-coverts, which is brown; under surface of the body rich creamy buff, all the feathers of the breast and abdomen broadly streaked down the centre with dark brown; throat, under wing- and tail-coverts unspotted.

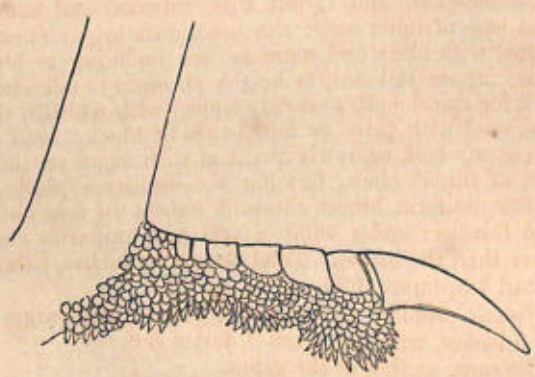
Obs. A specimen in the collection shows the progress towards maturity, in the disappearance of the rufous mottling on the upper surfaces, while a uniform black shade is spreading over the bird both above and below; the thighs rufous; on the tail two ashy brown bands, the basal one, however, becoming obsolete.

Hab. Brazil, Peru, and Columbia.

a. Juv. sk.	Trinidad.	
b. Ad. st.	Brazil.	Purchased.
c. Ad. st.	Brazil.	
d. ♀ juv. st.	Caracas.	Mr. Dyson [C.].

31. BUSARELLUS.

Busarellus, *Lafr. in D'Orb. Dict. d'Hist. Nat.* ii. pp. 785, 786 (1842)	Type. B. nigricollis.
Ichthyoborus, *Kaup, Contr. Orn.* 1850, p. 76	B. nigricollis.



Hind toe of *Busarellus nigricollis*, to show spicules.

Range. Brazil, Amazonia, and Guiana.

1. Busarellus nigricollis.

Busard roux de Cayenne, *Maud. Enc. Méth.* p. 543 (1784).
Black-necked Falcon, *Lath. Gen. Syn. Suppl.* i. p. 30 (1787).
Falco nigricollis, *Lath. Ind. Orn.* i. p. 35 (1790).
Le Buserai, *Levaill. Ois. d'Afr.* i. p. 84, pl. 20 (1799); *Sundev. Crit. om Levaill.* p. 25 (1858).
Falco busarellus, *Daud, Traité*, ii. p. 168 (1800, *ex Levaill.*).
Buzzaret, *Lath. Gen. Syn. Suppl.* ii. p. 32 (1801).
Cabeza blanca, *Azara, Apunt.* i. p. 78 (1802).
Falco melanobronchos, *Shaw, Gen. Zool.* vii. p. 167 (1809).
Circus leucocephalus, *Vieill. N. Dict.* iv. p. 465 (1816).
Buteo nigricollis, *Vieill. N. Dict.* iv. p. 473 (1816); *Gray, Gen. B.* i. p. 15 (1845); *Pucher. Rev. et Mag. de Zool.* 1850, p. 85; *Burm. Th. Bras.* ii. p. 47 (1856); *Schl. Mus. P.-B.* Buteones, p. 17 (1862); *Gray, Hand-l.* i. p. 9 (1869).
Circus busarellus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1212 (1823).
Buteo busarellus, *Vig. Zool. Journ.* i. p. 340 (1824); *Gray, Gen. B.* i. p. 15 (1845).
Aquila milvoides, *Spix, Av. Bras.* i. pl. 1 *d* (1824).
Morphnus milvoides, *Cuv. Règne An.* i. p. 330 (1829).
Haliaetus milvoides, *Gray, Cat. Accipitr.* 1844, p. 12; *id. Gen. B.* i. p. 17 (1845).
Morphnus nigricollis, *Gray, Gen. B.* iii. *App.* p. 1 (1849).
Buteogallus busarellus, *Bp. Consp.* i. p. 17 (1850).
Ichthyoborus nigricollis, *Kaup, Contr. Orn.* 1850, p. 76; *Pelz. Orn. Bras.* pp. 3, 394 (1871).
Buteogallus nigricollis, *Strickl. Orn. Syn.* p. 43 (1855); *Scl. & Salv. Nomencl.* p. 119 (1873).

Adult male. Above bright chestnut, with narrow black shaft-stripes to the feathers of the back and wing-coverts; greater coverts blackish on the inner web, the outermost of this series, as well as the primary coverts, entirely black; quills black above and below; secondaries browner, and tipped with fulvous, and more or less chestnut at base of inner web; the innermost bright chestnut, like back, shafted with black and more or less inclining to blackish on both webs; upper tail-coverts bright chestnut; tail chestnut at base, black for apical half, narrowly tipped with whitish, the chestnut base crossed with three or four bands of black; head and neck all round creamy buff, narrowly streaked with black on the crown; lower part of throat black, forming a conspicuous patch; rest of under surface uniform bright chestnut, except on fore neck, which inclines to fulvous; under wing-coverts and axillaries chestnut, a little darker than the breast. Total length 18 inches, culmen 1·85, wing 15, tail 7·5, tarsus 3·35.

Adult female. Similar to the male, but a little larger. Total length 22·5 inches, wing 18·1, tail 8, tarsus 3·8.

Hab. The same as that of the genus.

a. ♀ ad. st.	Brazil.	Major-Gen. T. Hardwicke [P.].
b. Ad. st.	Brazil.	Dr. J. E. Gray [P.].
c. ♂ ad. sk.	Island of Mexiana.	A. R. Wallace, Esq. [C.].
d. Ad. sk.	Demerara.	R. B. Sharpe, Esq.

32. BUTEOGALLUS.

Type.
Buteogallus, *Less. Traité*, p. 83 (1831) ..... B. æquinoctialis.

Range. Guiana and Columbia.

1. Buteogallus æquinoctialis.

Falco æquinoctialis, *Gm. S. N.* i. p. 265 (1788).
Le Buson, *Levaill. Ois. d'Afr.* i. p. 86, pl. 21 (1799); *Sundev. Crit. om Levaill.* p. 25 (1858).
Falco buson, *Daud. Traité*, ii. p. 168 (1800).
Buteo buson, *Vigors, Zool. Journ.* i. p. 340 (1824).
Buteogallus cathartoides, *Less. Traité*, p. 83 (1831).
Buteogallus buson, *Gray, List Gen. B.* p. 2 (1840); *Bp. Consp.* i. p. 17 (1850).
Daptrius buson, *Gray, Cat. Accipitr.* p. 14 (1844).
Morphnus buson, *Gray, Gen. B.* i. p. 15 (1845).
Buteo æquinoctialis, *Gray, Cat. Accipitr.* 1848, p. 37; *Strickl. Orn. Syn.* p. 42 (1855); *Schl. Mus. P.-B.* Buteones, p. 18 (1862); *Gray, Hand-l. B.* i. p. 9 (1869).
Morphnus æquinoctialis, *Gray, Gen. B.* iii. *App.* p. 1 (1849).
Hypomorphnus æquinoctialis, *Sundev. Crit. om Levaill.* p. 25 (1858).
Buteogallus æquinoctialis, *Scl. & Salv. Nomencl.* p. 119 (1873).

Adult. Above black, with rufous margins to the dorsal feathers and wing-coverts; head entirely black, as also the lower back, rump, and upper tail-coverts, the latter with narrow white tips; quills bright chestnut; primaries externally slaty black; secondaries with a broad band of black across the tips, the innermost brown, with paler tips; tail black, plainly tipped with white, and barred across the middle with another indistinct band of white, plainer on the inner webs; throat dusky black; rest of under surface bright rufous, numerously crossed with black bars, narrower on thighs, and reduced to vermiculations on under tail-coverts; under wing-coverts rufous, barred with black like the breast, some of the outer ones largely marked with black; cere and orbits yellow; bill yellow at base, horn-brown towards tip; feet yellow. Total length 19 inches, culmen 1·7, wing 13·25, tail 7·5, tarsus 3·5.

Hab. The same as that of the genus.

a. Ad. st.	British Guiana.	Royal Geographical Society [P.].
b, c. Ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].

33. URUBITINGA.

Type.
Urubitinga, *Less. Rev. Zool.* 1839, p. 132 ..... *Typo nullo*!
Urubitinga, *Lafr. in D'Orb. Dict. d'Hist. Nat.* ii. p. 786 (1842, *ex Less.*) ..... U. zonura.
Hypomorphnus, *Cab. Wiegm. Arch.* 1844, p. 263 .. U. zonura.
Spizigeranus, *Kaup, Classif. Säug. u. Vög.* p. 120 (1844) ..... U. zonura.
Leucopternis, *Kaup, Isis*, 1847, p. 210 ..... U. melanops.
Pseudastur, *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 24 (1849) ..... U. lacernulata.

Range. South America, from Peru, Southern Brazil, Paraguay, and Bolivia, northwards throughout the whole continent, and ranging into Central America as far north as Mexico.

Key to the Species.

a. Breast black.
  a'. Upper tail-coverts white ..... *zonura*, p. 213.
  b'. Upper tail-coverts black, with a very narrow white terminal edging ..... *anthracina*, p. 215.
b. Breast slaty grey, like back.
  c'. Under wing-coverts slaty ..... *schistacea*, p. 216.
  d'. Under wing-coverts white ..... *plumbea*, p. 216.
c. Breast white.
  e'. Upper tail-coverts pure white.
    a''. Tail black, with white tip ..... *albicollis*, p. 216.
    b''. Tail white, with black subterminal band. *ghiesbrechti*, p. 217.
  f'. Upper tail-coverts black or slaty grey, with white spots or bars.
    c''. Tail pure white, black at base..... *palliata*, p. 218.
    d''. Tail with a black terminal or subterminal band.
      a'''. Primaries not banded underneath .... *lacernulata*, p. 218.
      b'''. Primaries banded underneath.
        a''''. Ear-coverts white.
          aa. Tail with one median white band only; head blackish ..... *kaupi*, p. 219.
          bb. Tail with two bands of white; head white, streaked with black . *melanops*, p. 220.
        b''''. Ear-coverts slaty grey, like the head *semiplumbea*, p. 220.
d. Breast white, everywhere barred with slaty black ..... *princeps*, p. 220.

1. Urubitinga zonura.

L'Aigle du Brésil, *Briss. Orn.* i. p. 445 (1760).
Brasilian Eagle, *Lath. Gen. Syn.* i. p. 41 (1781).
Falco urubitinga, *Gm. S. N.* i. p. 265 (1788); *Temm. Pl. Col.* i. pl. 55 (1825).
Gavilan mixto chorreado, *Azara, Apunt.* i. p. 88 (1802); *Hartl. Ind. Azarâ*, p. 2 (1847).
Gavilan mixto pintado, *Azara, t. c.* p. 92 (1802); *Hartl. t. c.* p. 2 (1847).
Gavilan mixto negro, *Azara, t. c.* p. 96 (1802); *Hartl. t. c.* p. 2 (1847).
Falco zonurus, *Shaw, Gen. Zool.* vii. p. 62 (1809).
Pandion fulvus, *Vieill. N. Dict.* iii. p. 163 (1816).
Spizaetus niger, *Vieill. op. cit.* xxxiii. p. 57 (1819).
Spizaetus ater, *Vieill. tom. cit.* p. 58 (1819).
Aquila urubitinga, *Spix, Av. Bras.* i. pl. 1 *b* (1824).
Aquila picta, *Spix, tom. cit.* pl. 1 *c* (1824).
Morphnus urubitinga, *Cuv. Règne An.* i. p. 330 (1829); *D'Orb. Voy. Am. Mérid., Ois.* p. 84 (1847); *Gray, Gen. B.* i. p. 15, pl. 7. fig. 6 (1845).
Harpyia urubitinga, *Sw. Classif. B.* ii. p. 208 (1837).
Hypomorphnus urubitinga, *Cab. & Tschudi, Arch. f. Naturg.* 1844,

p. 263; *iid. Faun. Peruan.* pp. 16, 84 (1844); *Cab. in Schomb. Reis. Guian.* iii. p. 740 (1848); *Burm. Th. Bras.* ii. p. 42 (1856).
Falco longipes, *Illiger, in Mus. Berol., undè*
Urubitinga longipes, *Bp. Consp.* i. p. 29 (1850).
Morphnus brasiliensis, *Strickl. Orn. Syn.* p. 24 (1855).
Urubitinga zonura, *Scl. P. Z. S.* 1858, p. 129; *Scl. & Salv. Nomencl.* p. 119 (1873).
Asturina urubitinga, *Schl. Mus. P.-B.* Asturinæ, p. 6 (1862); *id. Revue*, p. 103 (1873).
Buteo urubitinga, *Gray, Hand-l.* i. p. 9 (1869).
Urubitinga brasiliensis, *Pelz. Orn. Bras.* pp. 2, 393 (1871).

Young. Above brown; the dorsal feathers more or less margined and barred with rufous; the head streaked with deep ochre, of which colour there is also a distinct eyebrow; sides of face and under surface of body deep ochre; the upper margin of ear-coverts dark brown, and the sides of neck streaked with the same colour; the breast sparingly spotted with dark brown, the spots diminishing in number towards the abdomen, and changing to bars on the thighs and under tail-coverts; under wing-coverts deep ochre, with blackish spots; upper wing-coverts a little browner than the back and much mottled, with rufous margins to the greater series; primaries black, secondaries browner, barred with black, showing more plainly on the inner web, which is ochraceous in the primaries, rufous in the secondaries; upper tail-coverts ochraceous white, the middle ones blackish at base and along shaft; tail ashy brown, tipped with whity brown, crossed with eight or nine bars of darker brown, the subterminal one being the broadest.

Obs. The bars on the tail dissolve into irregular mottlings, and are never quite conterminous on each side of the shaft. At the same time as the bird's plumage begins to get black by the gradual extension of the dark centres to the feathers, a new tail is assumed by a moult, the apical half of which is black, the basal half ashy brown, with numerous black mottlings (as in the preceding tail), but with the white of the adult plumage already appearing in a greater or less degree; the base of the tail is black at first, but this gradually disappears with age.

Adult male. Entirely black; upper tail-coverts for the most part white, especially the external ones; tail white at base (generally with remains of black) and at tip, with a broad black band across the lower half. Total length 22·5 inches, culmen 2·25, wing 15·3, tail 9, tarsus 4·45.

Adult female. A little larger than the male. Total length 25 inches, wing 15·9, tail 10, tarsus 4·8.

Hab. Brazil, through Amazonia and Guiana, into Central America to Costa Rica.

a. Ad. st.	S. America.	D. W. Mitchell, Esq. [P.] *.
b. Ad. st.	S. America.	Zoological Society.
c. Juv. st.	S. America.	Purchased.

* Said to be from the "West Indies" (*cf.* Gray, Cat. Accipitr. 1848, p. 21).

d, *e*. Juv. sk.	S. America.	Purchased.
f. Ad. st.	Para.	R. Graham, Esq. [P.].
g. Ad. sk.	Island of Mexiana.	A. R. Wallace, Esq. [C.].
h. Juv. st.	Cayenne.	Purchased.
i. Ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].
k. Ad. sk.	Costa Rica.	Mr. van Patten [C.].
l. Skeleton.		Zoological Society.

2. Urubitinga anthracina.

Falco anthracinus, *Licht. in Mus. Berol., undè Nitzsch, Pteryl.* p. 83 (1840); *Lafr. Rev. Zool.* 1848, p. 240.
Morphnus mexicanus, *Du Bus, Bull. Acad. Brux.* xiv. pt. 2. p. 102 (1847); *Lafr. Rev. Zool.* 1848, p. 240.
Urubitinga anthracina, *Lafr. Rev. Zool.* 1848, p. 241; *Scl. P. Z. S.* 1858, p. 129; *Scl. & Salv. Ibis*, 1859, p. 216; *Pelz. Orn. Bras.* p. 394 (1871); *Scl. & Salv. Nomencl.* p. 119 (1873).
Urubitinga mexicanus, *Bp. Rev. Zool.* 1850, p. 488.
Morphnus urubitinga, *Lembeye, Aves de Cuba*, pl. 3. fig. 3 (1850).
Hypomorphnus anthracinus, *Licht. Nomencl.* p. 1 (1854).
Hypomorphnus gundlachii, *Cab. J. f. O.* 1854, Extrah. p. lxxx; *Finsch, P. Z. S.* 1870, p. 554; *Gundl. J. f. O.* 1871, p. 365.
Morphnus anthracinus, *Strickl. Orn. Syn.* p. 25 (1855).
Asturina anthracina, *Schl. Mus. P.-B.* Asturinæ, p. 8 (1862).
Astur unicinctus, *Léot. Ois. Trinid.* p. 44 (1866).
Buteo anthracinus, *Gray, Hand-l.* i. p. 9 (1869).

Young. Above chocolate-brown, black on the head and interscapular region, which are both streaked with ochraceous buff, forming an eyebrow; the wing-coverts irregularly marked with rufous, especially on the greater series; primaries black; secondaries brown, like the back, all barred with blackish, more plainly on inner web, which is buff in the primaries, rufous in the secondaries; upper tail-coverts black, washed with rufous, and barred with white or buffy white; tail white at base, gradually inclining to brownish towards tip, which is white, the basal half with indications of six more or less complete black bands, and the apical half with two bands, the subterminal one broader and more brown in colour; sides of face and of neck ochraceous buff, strongly streaked with black; the upper margin of ear-coverts and cheeks entirely black; lores buff; under surface of body ochraceous buff, streaked with black, very minutely on throat and largely on sides of breast and flanks, the latter being almost uniform brownish black; thighs, abdomen, and under tail-coverts barred across with black, less numerously on the latter; under wing-coverts ochraceous buff, with large heart-shaped spots of black.

Obs. The change from the young to the adult dress being effected by a gradual spreading of the black centres to the feathers till all the ochre or buff coloration is absorbed, remains of this are seen in many adult birds, particularly on the sides of the face and under the wings.

Adult male. Entirely black; nape slightly varied with buff-coloured bases to the feathers; upper and under tail-coverts narrowly tipped with white; quills black above and below; tail black, nar-

rowly tipped with white, and crossed with a broad white band in the centre of the tail, rather irregular on its upper outline. Total length 23·5 inches, culmen 1·75, wing 15, tail 9, tarsus 3·9.

Hab. Cuba and Central America, southwards from S. Mexico; doubtfully in Trinidad and Brazil.

a. Ad. st.	Central America.	
b, *c.* Ad. st.	Mexico.	
d. Juv. st.	Mexico.	Capt. Kellett and Lieut. Wood [P.].
e. Ad. sk.	Central America.	Capt. Kellett and Lieut. Wood [P.].
f. Juv. st.	Vera Paz, Guatemala.	O. Salvin, Esq. [C.].

3. Urubitinga schistacea.

Asturina schistacea, *Sundev. Œfv. K. Vet. Akad. Förh.* 1849, p. 132; *Schl. Mus. P.-B.* Asturinæ, p. 8 (1862).
Hypomorphnus ardesiacus, *Licht. Nomencl.* p. 1 (1854).
Urubitinga schistacea, *Scl. Tr. Z. S.* iv. p. 261, pl. 58 (1858); *Pelz. Orn. Bras.* pp. 2, 394 (1871).
Buteo schistaceus, *Gray, Hand-l. B.* i. p. 9 (1869).
Leucopternis schistacea, *Salv. Ibis*, 1872, p. 243; *Scl. & Salv. Nomencl.* p. 119 (1873).

Adult female. Everywhere uniform bluish slate-colour, a little darker on the head and sides of face; tail black, narrowly tipped with white, and crossed with a distinct white band across the middle. Total length 18·5 inches, culmen 1·5, wing 11·9, tail 7·8, tarsus 3·2.

Hab. Amazonia and Columbia.

a. ♀ ad. st.	Upper Ucayali River.	E. Bartlett, Esq. [C.].
b. ♂ ad. sk.	Upper Ucayali River.	E. Bartlett, Esq. [C.].

4. Urubitinga plumbea.

Leucopternis plumbea, *Salvin, Ibis*, 1872, p. 240, pl. viii.; *Scl. & Salv. Nomencl.* p. 119 (1873).

Adult (type of species). Everywhere leaden grey; wing-coverts and quills black, the latter whitish at base of inner web; upper tail-coverts and tail black, the latter with a single bar of white somewhat shaded with ashy across the middle; tibial plumes indistinctly barred with white; under wing-coverts white; cere, orbits, and feet orange; bill and claws black. Total length 14·5 inches, culmen 1·5, wing 9·8, tail 6·7, tarsus 2·5. (*Mus. Salvin and Godman.*)

Hab. Ecuador and Panama.

a. Ad. sk.	Panama.	Purchased.

5. Urubitinga albicollis.

White-necked Falcon, *Lath. Gen. Syn. Suppl.* p. 30 (1787).
Falco albicollis, *Lath. Ind. Orn.* p. 36 (1790).

Falco picatus, *Shaw, Gen. Zool.* vii. pt. 1. p. 167 (1809).
Buteo melanotus, *Vieill. Nouv. Dict.* iv. p. 472 (1816); *Pucher. Rev. et Mag.* 1850, p. 84.
Falco pœcilonotus, *Temm. Pl. Col.* i. pl. 9 (1824).
Buteo pœcilonotus, *Vigors, Zool. Journ.* i. p. 340 (1824); *Gray, Gen. B.* i. p. 12 (1849); *Léot. Ois. Trinid.* p. 7 (1866).
Leucopternis albicollis, *Kaup, Isis*, 1847, p. 210; *Bp. Consp.* i. p. 19 (1250); *Pelz. Verh. z.-b. Wien*, 1862, p. 140; *Scl. & Salv. Ex. Orn.* p. 122 (1868); *Finsch, P. Z. S.* 1870, p. 555; *Pelz. Orn. Bras.* pp. 3, 395 (1871); *Salvin, Ibis*, 1872, p. 242; *Scl. & Salv. Nomencl.* p. 119 (1873).
Buteo albicollis, *Gray, Cat. Accipitr.* 1848, p. 38; *id. Gen. B.* i. p. 12 (1849); *Strickl. Orn. Syn.* p. 37 (1855); *E. C. Taylor, Ibis*, 1864, p. 180; *Gray, Hand-l. B.* i. p. 8 (1869).
Leucopternis pœcilonotus, *Bp. Rev. et Mag.* 1850, p. 481.
Tachytriorchis albicollis, *Bp. C. R.* xli. p. 651 (1855).
Asturina albicollis, *Schl. Mus. P.-B.* Asturinæ, p. 9 (1862).

Adult. Above slaty black, the interscapulary feathers much varied with white bases and margins, sometimes also barred with white on the outer web; wing-coverts like the back, but less distinctly varied with white; quills slaty black, the secondaries a little browner, broadly tipped with white, some of the outer ones indistinctly barred with darker brown; back, rump, upper tail-coverts, and tail pure white, the latter with a broad subterminal band of black; head white, streaked with black; sides of face, neck all round, and entire under surface white. Total length 21 inches, culmen 1·7, wing 14, tail 9, tarsus 3·25.

Hab. Amazonia, Guiana, Venezuela, and Trinidad.

a.	Ad. sk.	S. America.	Purchased.
b.	Ad. sk.	Trinidad.	Purchased.

6. Urubitinga ghiesbrechti.

Buteo ghiesbrechti, *Du Bus, Esq. Orn.* pl. 1 (1845); *Strickl. Orn. Syn.* p. 36 (1855); *Scl. P. Z. S.* 1857, p. 227; *Scl. & Salv. Ibis*, 1859, p. 217; *Lawr. Ann. Lyc. N. Y.* vii. p. 289 (1861); *Salv. P. Z. S.* 1867, p. 158; *Gray, Hand-l. B.* i. p. 8 (1869).
Leucopternis ghiesbrechti, *Bp. Rev. Zool.* 1850, p. 481; *Scl. & Salv. Ex. Orn.* p. 121 (1868); *Salv. P. Z. S.* 1870, p. 215; *id. Ibis*, 1872, p. 242; *Scl. & Salv. Nomencl.* p. 119 (1873).
Tachytriorchis ghiesbrechti, *Bp. C. R.* xli. p. 651 (1855).
Asturina ghiesbrechtii, *Schl. Mus. P.-B.* Asturinæ, p. 11 (1862).

Adult. Snowy white above and below; a slight shade of greyish on upper margin of ear-coverts; tail with a broad subterminal band of black; small wing-coverts white, like back, only a few of the outermost irregularly marked with black on their external webs; greater coverts black, white at base and at tip; primary coverts and primaries black, scarcely tipped at all with white; secondaries also black, with very broad white tips, the innermost ones for the most part white, irregularly marked in the middle with black, in the form of more or less broken bars; under wing-coverts and inner lining

of wing white, the primaries inclining to greyish, and barred with black on inner web; bill lead-colour; feet yellow, nails black. Total length 23·5 inches, culmen 1·75, wing 14·8, tail 8·5, tarsus 3·65.

Hab. From Southern Mexico to Panama.

a. Ad. st.	Mexico.	Purchased.

7. Urubitinga palliata.

Falco palliatus, *Natterer, MS., undè*

Leucopternis palliata, *Pelz. Sitz. Akad. Wien*, xliv. p. 11 (1861); *id. Verh. z.-b. Wien*, 1862, p. 141; *Scl. & Salv. Ex. Orn.* p. 97, pl. xlix. (1868); *Pelz. Orn. Bras.* p. 3 (1871); *Scl. & Salv. Nomencl.* p. 119 (1873).

Buteo polionotus, *Gray, Cat. Accipitr. Brit. Mus.* 1844, p. 17 (*descr. nulla*); *Strickl. Orn. Syn.* p. 37 (1855); *Gray, Hand-l. B.* i. p. 8 (1869).

Leucopternis polionota, *Kaup, Isis*, 1847, p. 212; *Bp. Consp.* i. p. 19 (1850).

Asturina melanonota, *Schl. Mus. P.-B.* Asturinæ, p. 10 (1862, *nec Vieill.*); *id. Revue Accipitr.* p. 103 (1873).

Adult. Above blackish slate-colour, the feathers of the back and scapulars white at base, tipped with white, and irregularly spotted or barred with the same, most of the latter spots being concealed, the lower back, rump, and upper tail-coverts much barred and broadly tipped with white; head and neck all round, as well as the under surface, including under wing- and tail-coverts, pure white; upper wing-coverts blackish slate-colour, with a few white spots and tips to the feathers; quills black, externally shaded with slaty grey, the secondaries broadly tipped with white; inner web white at base, with indistinct blackish bars; tail black at base, white for terminal half; "cere pale yellow; feet pale orange-yellow, claws black; iris not very dark brown" (*Natterer*). Total length 21 inches, culmen 1·7, wing 15·5, tail 9, tarsus 3·8.

Hab. Southern Brazil.

a. Ad. st.	South America.	Purchased.
b. Ad. st.	South America.	Sir A. Smith. Types of *B. polionotus*.

8. Urubitinga lacernulata.

Falco lacernulatus, *Temm. Pl. Col.* i. pl. 437 (1827).

Buteo lacernulatus, *Cuv. R. A.* i. p. 337 (1829); *Strickl. Orn. Syn.* p. 34 (1855).

Falco skotopterus, *Max. Beitr.* iii. pt. 1. p. 204 (1830).

Leucopternis scotoptera, *Kaup, Isis*, 1847, p. 211; *Pelz. Verh. z.-b. Wien*, 1862, p. 141, et *Orn. Bras.* pp. 3, 395 (1871); *Salv. Ibis*, 1872, p. 242; *Scl. & Salv. Nomencl.* p. 119 (1873).

Buteo scotopterus, *Gray, Cat. Accipitr. Brit. Mus.* 1848, p. 38; *Burm. Th. Bras.* ii. p. 51 (1856); *Gray, Hand-l.* i. p. 8 (1869).

Leucopternis lacernulata, *Bp. Consp.* i. p. 19 (1850).

Asturina scotoptera, *Schl. Mus. P.-B.* Asturinæ, p. 11 (1862).

Adult. Head and neck all round pure white, the latter with a delicate shade of greyish; rest of upper surface dark slate-colour, with a few more or less concealed spots and bars of white on the inner web of the feathers, more distinct on the lower back, rump, and upper tail-coverts, the latter strongly barred across with white, and mottled with the same on the outer web; primaries blackish, the primary coverts and secondaries dark slaty, with almost imperceptible white tips; tail slaty black at base, white for apical half, with a distinct subterminal black band; the under surface of tail white, the black basal part indicated by greyish bars on inner web, but the subterminal band very distinct; entire under surface of body, including under wing- and tail-coverts, pure white; inner web of quills white at base, the secondaries with greyish bars. Total length 20 inches, culmen 1·6, wing 12·4, tail 7·6, tarsus 3·2.

Young. Differs from the adult in having the feathers of the head and neck mesially streaked with slaty black, the wing-coverts tipped with white, and the white spots on the inner webs of dorsal feathers more conspicuous.

Hab. Southern Brazil.

a, b. Ad. sk.	Bahia.	Dr. Wucherer [C.].
c. Ad. st.	S. America.	Purchased.
d. Ad. st.	Bogotá.	Purchased.

9. Urubitinga kaupi.

Leucopternis kaupi, *Bp. Rev. et Mag. de Zool.* 1850, p. 481.
Leucopternis kuhlii, *Bp. Consp.* i. p. 19 (1850, *lapsu*).
Buteo kaupi, *Strickl. Orn. Syn.* p. 37 (1855).
Leucopternis superciliaris, *Pelz. Sitz. Akad. Wien*, xliv. p. 10 (1861); *id. Verh. z.-b. Wien*, 1862, p. 140; *Scl. & Salv. P. Z. S.* 1867, p. 589; *iid. Ex. Orn.* p. 75, pl. xxxviii. (1867), et p. 122 (1868); *Pelz. Orn. Bras.* pp. 3, 395 (1871); *Salv. Ibis*, 1872, p. 242; *Scl. & Salv. Nomencl.* p. 119 (1873).
Asturina superciliaris, *Schl. Mus. P.-B.* Asturinæ, p. 12 (1862).
Buteo kuhlii, *Gray, Hand-l. B.* i. p. 8 (1869).

Adult. Above slaty black; over the eye a broad white stripe; nape and hind neck streaked with white, with which the feathers are narrowly margined; lores and feathers round the eye, above the ear-coverts, black; feathers of interscapulary region with concealed white bases; quills dark brown, crossed with blackish bars, more distinct on inner web, which is ashy grey underneath, inclining to white near the base; tail black, tipped with ashy brown, with a band of white across the middle, the outer feather varied with white at the base of inner web; sides of face and of neck white, narrowly streaked with black; under surface white, with a few narrow streaks of black on the sides of chest; under wing-coverts white. Total length 15·5 inches, culmen 1·4, wing 8·7, tail 6·2, tarsus 2·4.

Hab. Brazil, in the vicinity of Para.

a, b. Ad. st.	S. America.	Purchased.

10. Urubitinga melanops.

Streaked Falcon, *Lath. Gen. Syn. Suppl.* i. p. 34 (1787).
Falco melanops, *Lath. Ind. Orn.* i. p. 37 (1790); *Temm. Pl. Col.* i. pl. 105 (1824).
Dædalion melanops, *Vigors, Zool. Journ.* i. p. 338 (1824).
Astur melanops, *Less. Man. d'Orn.* i. p. 94 (1828).
Leucopternis melanops, *Kaup, Isis*, 1847, p. 210; *Bp. Consp.* i. p. 19 (1850); *Pelz. Verh. z.-b. Wien*, 1862, p. 140; *Scl. & Salv. Ex. Orn.* p. 122 (1868); *Pelz. Orn. Bras.* pp. 3, 395 (1871); *Salv. Ibis*, 1872, p. 242; *Scl. & Salv. Nomencl.* p. 119 (1873).
Buteo melanops, *Gray, Gen. B.* i. p. 12 (1849); *Strickl. Orn. Syn.* p. 36 (1855); *Gray, Hand-l. B.* i. p. 8 (1869).
Asturina melanops, *Schl. Mus. P.-B.* Asturinæ, p. 10 (1862).

Adult. Entire head and neck white, with narrow black shaft-lines; lores, feathers round the eye above the ear-coverts black; rest of the upper surface black, ocellated with white spots to the feathers, less distinct on the wing-coverts, which are somewhat tipped with white; tail black, tipped with whity brown, and broadly banded with white at about a third of its length from tip. Total length 16·8 inches, culmen 1·4, wing 9·1, tail 6·5, tarsus 2·65.

Hab. Amazonia and Guiana.

a. Ad. st.	S. America.	Purchased.
b. Ad. st.	Brazil.	Purchased.

11. Urubitinga semiplumbea.

Leucopternis semiplumbea, *Lawr. Ann. Lyc. N. Y.* vii. p. 288 (1861); *Scl. & Salv. Ex. Orn.* pl. lxi. (1868); *Salv. Ibis*, 1872, p. 243; *Scl. & Salv. Nomencl.* p. 119 (1873).
Buteo semiplumbeus, *Gray, Hand-l. B.* i. p. 9 (1869).

Adult female. Above dark slaty grey, the wing-coverts rather blacker; quills black, the secondaries more slaty below, white at base, ashy grey towards tip, the inner web more or less distinctly barred with greyish black; upper tail-coverts and tail black, the latter with a single band of white across the middle; sides of face and of neck ashy grey, like the head; entire under surface of body, including under wing- and tail-coverts, pure white, with a few black shaft-stripes on sides of throat and breast; cere and orbits orange-yellow; bill black; feet orange, claws black. Total length 15 inches, culmen 1·2, wing 8·2, tail 7·8, tarsus 2·4. (*Mus. Salvin and Godman.*)

Hab. Panama and Costa Rica.

12. Urubitinga princeps.

Leucopternis princeps, *Scl. P. Z. S.* 1865, p. 429, pl. xxiv.; *Scl. & Salv. Ex. Orn.* p. 122 (1868); *Salv. Ibis*, 1872, p. 243; *Scl. & Salv. Nomencl.* p. 119 (1873).
Buteo princeps, *Gray, Hand-l. B.* i. p. 9 (1869).

Adult female (type of species). Above slaty black, with a marginal shade of ashy grey to the feathers, those of the nape white at base, the

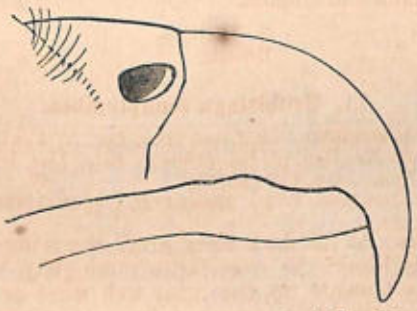
inner secondaries varied with white spots on the inner web; entire sides of face, throat, and fore neck slaty black like the back; rest of under surface of body white, plentifully barred across with black, a little more narrowly on the thighs and under wing-coverts; quills slaty black, the secondaries indistinctly banded with grey, the lower surface of quills paler grey, the inner web barred or mottled with white near the base; tail greenish black, with a single band of white across the middle; cere and orbits yellow; bill likewise pale yellow, black near base, and lead-coloured towards the tip; feet yellow, claws black. Total length 23 inches, culmen 2·1, wing 15·2, tail 9, tarsus 3·8. (*Mus. Salvin and Godman.*)

Adult male. A little smaller than the female. Total length 22 inches, culmen 2, wing 14·9, tail 8·5, tarsus 3·7. (*Mus. Salvin and Godman.*)

Hab. Costa Rica.

34. HARPYHALIAETUS*.

	Type.
Harpyhaliaetus, *Lafr. Rev. Zool.* 1842, p. 173 ..	H. coronatus.
Urubitornis, *Verr. P. Z. S.* 1856, p. 145.	H. coronatus, var. [?] =H. solitarius.



Bill of *Harpyhaliaetus coronatus* (reduced).

Range. South America, from Chili and N. Patagonia as far north as Veragua in Central America.

1. Harpyhaliaetus coronatus.

Aquila coronada, *Azara, Apunt.* i. p. 56 (1802); *Hartl. Ind. Azara,* p. 1 (1847).
Harpyia coronata, *Vieill. N. Dict.* xiv. p. 237 (1817).
Falco coronatus, *Temm. Pl. Col.* i. pl. 234 (1823).
Circaetus coronatus, *Cuv. Règne An.* i. p. 328 (1829); *Less. Traité,* p. 48 (1831); *Gray, Gen. B.* p. 16 (1845); *D'Orb. Voy. Am. Mérid., Ois.* p. 75 (1847); *Gray, Hand-l. B.* i. p. 14 (1869); *Pelz. Orn. Bras.* pp. 4, 397 (1871).

* In uniting *Urubitornis* to *Harpyhaliaetus*, I must state my inability to find any generic distinction between them. At present I believe that there is only one species, but admit the possibility of two distinct kinds being differentiated, the grey bird (*H. coronatus*) having a more southern distribution than the black one (*H. solitarius*).

Harpyhaliaetus coronatus, *Lafr. R. Z.* 1842, p. 173; *Scl. & Salv. Nomencl.* p. 119 (1873).
Circaetus solitarius, *Cab. & Tsch. Arch. f. Natürg.* 1844, p. 264; *Tsch. Faun. Peruan., Vög.* p. 94, Taf. 2 (1844).
Asturina azaræ, *Kaup, Isis*, 1847, p. 209.
Thrasaetus coronata, *Bp. Consp.* i. p. 29 (1850).
Urubitornis solitaria, *Verr. P. Z. S.* 1856, p. 14; *Salv. P. Z. S.* 1870, p. 214; *Scl. & Salv. Nomencl.* p. 119 (1873).
Asturina coronata, *Schl. Mus. P.-B.* Asturinæ, p. 12 (1862).

Adult. Above ashy brown, with a chocolate gloss, and having a distinct shade of greyish on the least wing-coverts and interscapulary feathers; a long occipital crest, the feathers of which are darker than the crown; a broad streak behind the eye buffy white, with narrow dark centres to the feathers; sides of face and of neck whitish, with ashy brown centres to the feathers; the upper margin of the ear-coverts entirely ashy brown; under surface of body clear ashy brown, with whity brown margins to the thigh-feathers and under tail-coverts, broader on the latter; thighs blackish, deepening in colour towards the tarsal joint; under wing-coverts clear ashy, much varied with white streaks and margins to the feathers; quills blackish, the primaries externally shaded with grey near the base, the secondaries ashy grey, mottled with black and narrowly tipped with whitish, before which is a broad subterminal band of black, the inner secondaries like the back; rump and upper tail-coverts deep ashy brown, the latter broadly tipped with white; tail black, narrowly tipped with white, and crossed with a broad median band of white, with remains of a second band nearer the base of the outer feathers; beak bluish horn-colour, clear yellow at base; feet deep yellow; iris reddish brown. Total length 33 inches, culmen 3, wing 22·2, tail 13·5, tarsus 5·1.

Hab. The same as that of the genus.

a. Ad. st.	S. America.	Purchased.
b. Juv. st.	S. America.	E. Wilson, Esq. [P.].
c. Var. st.	Chili.	Purchased.

35. MORPHNUS.

Type.
Morphnus, *Cuv. Règne An.* i. p. 318 (1817) ..... M. guianensis.

Range. Amazonia and Guiana, ranging into Panama.

1. Morphnus guianensis.

Petit Aigle de la Guiane, *Maud. Enc. Méth.* p. 1257 (1784).
Falco guianensis, *Daud. Traité*, ii. p. 78 (1800, *ex Mauduyt*).
Falco sonnini, *Shaw, Gen. Zool.* vii. p. 67 (1809).
Falco delicatus, *Shaw, tom. cit.* p. 68 (1809).
Morphnus guianensis, *Cuv. Règne An.* i. p. 318 (1817); *Gray, Gen. B.* i. p. 15 (1845); *Bp. Consp.* i. p. 30 (1850); *Strickl. Orn. Syn.* p. 24 (1855); *Burm. Th. Bras.* ii. p. 66 (1856); *Gray, Hand-l. B.* i. p. 16 (1869); *Pelz. Orn. Bras.* pp. 4, 397 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).
Spizaetus variegatus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1257 (1823).
Morphnus sonnini, *Steph. Gen. Zool.* xiii. p. 18 (1825).

Morphnus cristatus, *Less. Traité*, p. 51, t. 11. fig. 2 (1831).
Harpyia guianensis, *Swains. Classif. B.* ii. p. 208 (1837).
Thrasaetus guianensis, *Kaup, Mus. Senckenb.* iii. p. 260 (1845).
Astur guianensis, *Schl. Mus. P.-B.* Astures, p. 25 (1862).

Adult female. Above black, somewhat shaded with brown on the margins of the feathers, the upper tail-coverts tipped with white, the outermost also barred, especially near the base, which is entirely white; upper wing-coverts black, with ashy white margins, producing a barred appearance, the greater series ashy brown, barred with black and mottled with darker brown on the interspaces; quills black, somewhat mottled with ashy brown, externally and narrowly tipped with whity brown, the secondaries more distinctly; tail black, tipped with whity brown and crossed with three bands of ashy brown, mottled with darker brown, the base of the tail somewhat varied with whitish; head and neck greyish brown, with more or less distinct hoary margins to the feathers, plainer on the ear-coverts; head with a long crest, the feathers of which are brown, more or less white at base, with a distinct subterminal spot of black; chest ashy brown, clearer than the head, and having faint hoary margins to the feathers; rest of under surface of body white, with pale rufous cross bars, darker and browner on the thighs, and gradually disappearing on the under tail-coverts; under wing-coverts white; inner lining of quills ashy white, mottled with brown and crossed with broad blackish bands. Total length 36 inches, culmen 2·4, wing 19·3, tail 17, tarsus 4·6.

Hab. The same as that of the genus.

a. Ad. sk.	British Guiana.	Sir R. Schomburgk [C.].
b. ♀ ad. st.	Peruvian Andes.	E. Bartlett, Esq. [C.].
c. Ad. sk.	Upper Amazon.	A. R. Wallace, Esq. [C.].
d. Skeleton.		Purchased.

36. THRASAETUS.

	Type.
Harpyia, *Vieill. Analyse*, p. 24 (1816)	T. harpyia.
Thrasaetus, *Gray, P. Z. S.* 1837, p. 108	T. harpyia.
Nothrophrontes, *Gloger, Handb. Naturg.* p. 219 (1842)	T. harpyia.



Bill of *Thrasaetus harpyia* (reduced).

Range. South America from Bolivia and Paraguay, northwards through the whole of Amazonia and Columbia to Mexico.

1. Thrasaetus harpyia.

L'Aigle hupé du Brésil, *Briss. Orn.* i. p. 446 (1760).
Vultur harpyia, *Linn. S. N.* i. p. 121 (1766).
Caracca Falcon, *Lath. Gen. Syn.* i. p. 81 (1781).
Crested Falcon, *Dillon, Trav. Spain*, p. 80, pl. 3 (1782).
Vultur coronatus, *Jacquin, Beitr.* p. 15 (1784).
Grand Aigle de la Guiane, *Maud. Enc. Méth.* iii. p. 1250 (1784).
Falco jacquini, *Gm. S. N.* i. p. 251 (1788).
Falco harpyia, *Gm. S. N.* i. p. 251 (1788).
Falco cristatus, *Gm. S. N.* i. p. 260 (1788).
Falco destructor, *Daud. Traité*, ii. p. 60 (1800); *Temm. Pl. Col.* i. pl. 14 (1824).
Gypaetus harpyia, *Daud. Traité*, ii. p. 27 (1800).
Gypaetus coronatus, *Daud. Traité*, ii. p. 28 (1800).
L'Ouira ouassou, *Sonn. ed. Buff. H. N.* xxxviii. p. 47, pl. 7. fig. 1 (1806).
Falco imperialis, *Shaw, Gen. Zool.* vii. p. 52, pl. 15 (1809).
Falco regalis, *Shaw, Gen. Zool.* vii. p. 56 (1809).
Falco caracca, *Shaw, Gen. Zool.* vii. p. 64 (1809).
Falco calquin, *Molin. St. Chili*, p. 220 (1810).
Harpyia destructor, *Cuv. Règne An.* i. p. 317 (1817); *D'Orb. Voy. Am. Mérid., Ois.* p. 81 (1847); *Burm. Th. Bras.* ii. p. 59 (1856).
Harpyia maxima, *Bonn. et Vieill. Enc. Méth.* iii. p. 1249 (1823).
Harpyia imperialis, *Steph. Gen. Zool.* xiii. p. 17 (1826).
Harpyia ferox, *Less. Traité*, p. 50 (1831).
Thrasaetus harpyia, *Gray, P. Z. S.* 1837, p. 108; *id. Gen. B.* i. p. 15 (1845); *Bp. Consp.* i. p. 29 (1850); *Strickl. Orn. Syn.* p. 26 (1855); *Gray, Hand-l.* i. p. 16 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 120 (1873).
Nothrophrontes destructor, *Gloger, Handb. Naturg.* p. 219 (1842).
Morphnus harpyia, *Cab. & Tsch. Arch. f. Naturg.* 1844, p. 265; *Pelz. Orn. Bras.* p. 4 (1871).
Morphnus destructor, *Licht. Nomencl.* p. 2 (1854).
Astur harpyia, *Schl. Mus. P.-B.* Astures, p. 25 (1862).

Young. Upper surface black, the lower back and rump crossed with distinct ashy grey bars, the median and greater wing-coverts mottled with ashy brown, taking the form of bars on the latter; head and neck all round ashy grey, blacker on the crown, the long crest-feathers very plainly blackish towards their tips; scapulars and quills brown, externally shaded with grey and mottled with black, forming a distinct subterminal band on the scapulars and secondaries, which are tipped with whity brown; lower surface of wing ashy white, the black bands very distinct below, except near bases of inner webs, which are mottled only with black; tail-feathers ashy brown, inclining near base to bluish ash-colour, tipped with whitish and crossed with five broad bands of black, the subterminal one much the broadest; throat ashy grey like head, remainder of under surface of body white, with a broad band of glossy black feathers across the chest, the thighs barred with black; under wing-coverts and feathers round the bend of the wing white,

most of them subterminally black, causing a more or less distinctly mottled appearance.

Adult. General colour of upper surface ashy grey, the head and neck all round, as well as the entire under surface of the body, white, excepting the long crest-feathers and an indistinct chest-band, which incline to ashy grey; wing-coverts and scapulars generally darker ashy, slightly mottled with black, the median coverts inclining to whity brown; quills blackish, externally shaded and mottled with greyish, the secondaries more decidedly of the latter colour with black mottlings; tail-feathers ashy brown, externally shaded with grey, and crossed with six imperfect bands of black, with which the interspaces are plentifully mottled; bill black; feet yellow; iris brown. Total length 38 inches, culmen 3·1, wing 22·3, tail 16, tarsus 4·8.

Hab. The same as that of the genus.

a. Ad. st.	South America.	Zoological Society.
b, c. Imm. st.	British Guiana.	Sir R. Schomburgk [C.].
d, e, f. Skeletons.		Zoological Society.

Subfamily VI. AQUILINÆ.

Outer toe only connected to middle toe by membrane; tibia much longer than tarsus, exceeding it by more than length of hind claw; tarsus more than half the length of the tibia, and reticulate on hinder aspect; bill festooned but not toothed.

Key to the Genera.

a. Nostrils hidden by stiff bristles; chin with a long tuft of black bristly hairs ..... 37. GYPAETUS, p. 228.

b. Nostrils visible; no chin-tuft.

a'. Tarsi clothed with feathers all round to base of toes.

a''. Tail strongly graduated, wedge-shaped when closed, the middle feathers exceeding the outer ones by more than length of tarsus ..... 38. UROAETUS, p. 231.

b''. Tail nearly square or only moderately rounded, the difference in length of middle and outer tail-feathers inappreciable and less than length of tarsus.

a'''. Distance between tips of primaries and tips of secondaries greater than length of tarsus.

*a*⁴. Claws curved and powerful, the outer toe with its claw exceeding in length the circumference of inner claw.

a^5. No elongated crest; ridge of bill (without cere) greater than inner toe (without claw) measured from extremity of tarsal feathers ..... 39. AQUILA, p. 232.

b^5. No elongated occipital crest; inner toe measured as above equal to circumference of culmen .. 40. NISAETUS, p. 249.

c^5. Crest long and wedge-shaped, longer than outer toe and claw; circumference of culmen decidedly less than length of inner toe ..... 41. LOPHOTRIORCHIS, p. 255.

b^4. Claws nearly straight; the circumference of inner claw exceeding the length of outer toe even with its claw included ..... 42. NEOPUS, p. 256.

c^4. Claws rounded and powerful; the circumference of inner claw about equal to the length of outer toe and claw ..... 43. SPIZIASTUR, p. 258.

b'''. Distance between tips of primaries and tips of secondaries less than length of tarsus.

d^4. Crest-feathers sometimes fully developed, sometimes absent; wings short, falling short of tail by more than length of crest..... 44. SPIZAETUS, p. 259.

e^4. Crest-feathers extremely long and pendent, far exceeding in length the distance by which the wings fall short of the tail..... 45. LOPHOAETUS, p. 274.

b'. Tarsi bare on lower portion.

c''. Bare part of tarsus equal to or longer than middle toe without claw.

c'''. Nostrils with osseous margin.

f^4. Nostrils circular.

d^5. Tarsi transversely plated in front. 46. ASTURINULA, p. 275.

e^5. Tarsi reticulate in front ..... 47. HERPETOTHERES, p. 277.

g^4. Nostrils perpendicular ovals.

f^5. Crest-feathers lanceolate in shape, about equal in length to middle toe with claw.

a^6. Wing short, less than once and a half the length of tail .... 48. DRYOTRIORCHIS, p. 278.

b^6. Wing long, more than once and a half the length of tail .... 49. CIRCAETUS, p. 280.

g^5. Crest-feathers rounded, longer than middle toe with claw.. 50. SPILORNIS, p. 287.

d'''. Nostrils oval, with a superior membrane ..... 51. BUTASTUR, p. 294.

d''. Bare part of tarsus less than middle toe without claw.

e'''. Nostrils more or less perpendicular ovals, with bony margin all round.

h^4. Eyebrow feathered.

h^5. Crest-feathers rounded; wing exceeding tip of tail by more than length of tarsus ..... 52. HELOTARSUS, p. 299.

i^5. Crest-feathers lanceolate; wings reaching nearly or quite to tip of tail ..... 53. HALIAETUS, p. 301.

i^4. Eyebrow bare..... 54. GYPOHIERAX, p. 312.

f'''. Nostrils circular, with bony margin all round..... 55. HALIASTUR, p. 312.

g'''. Nostrils oblique, generally closed in with a superior membrane, so as to render the nasal opening almost linear in character.

k^4. Tail forked, outer tail-feather longest.

k^5. Distance between tips of primaries and tips of secondaries equal to fork of tail.

c^6. Wing extremely long, exceeding length of tail by more than twice the length of tarsus ..... 56. ELANOIDES, p. 317.

d^6. Wing very long, but not exceeding length of tail by twice length of tarsus ..... 57. NAUCLERUS, p. 318.

l^5. Distance between tips of primaries and tips of secondaries greater than difference between longest and shortest tail-feather (*i. e.* fork of tail).

e^6. Distance from angle of mouth to anterior margin of nostril greater than distance from latter point to tip of beak .. 58. MILVUS, p. 319.

f^6. Distances as above measured equal..... 59. LOPHOICTINIA, p. 326.

g^6. Distance from angle of mouth to nostril less than distance from latter point to tip of beak 60. ROSTHRAMUS, p. 327.

l^4. Tail rounded, outer feather shorter than middle one.

m^5. Ridge of bill (without cere) greater than half of middle toe (without claw).

h^6. Loral space bare ..... 61. LEPTODON, p. 329.

i^6. Loral space feathered.

a^7. Wings reaching right to end of tail.

a^8. Bare part of tarsus in front greater than half of middle toe (without claw).. 62. GYPOICTINIA, p. 335.

b^8. Bare part of tarsus in front less than middle toe (without claw)..... 63. ELANUS, p. 336.

b^7. Wings falling short of tail by at least as much as, or

even more than, length of tarsus.
c^3. Tail not four times length of tarsus ..... 64. GAMPSONYX, p. 340.
d^3. Tail very long, more than five times length of tarsus 65. HENICOPERNIS, p. 341.
n^3. Ridge of bill (without cere) less than half of middle toe (without claw).
k^4. Bill weak and slightly keeled; loral plumes produced above half the nostril ..... 66. MACHEIRHAMPHUS, p. 342.
l^4. Bill stout; loral plumes not produced beyond posterior margin of nostril ..... 67. PERNIS, p. 343.

37. GYPAETUS.

	Type.
Gypaetus, *Storr, Alpenreise*, p. 69 (1784)	G. barbatus.
Gyptus, *Dumér. Zool. Anal.* p. 34 (1806)	G. barbatus.
Phene, *Savign. Syst. Ois. d'Égypte*, p. 242 (1809).....	G. ossifragus.

Range. The mountains of countries bordering the Mediterranean, and extending through Central Asia and the Himalaya Mountains to Northern China. Africa: in Egypt and N.E. Africa, and in S. Africa.

Key to the Species.

a. Tarsus feathered to the toes; cheeks marked with black ..... *barbatus*, p. 228.
b. Tarsus bare towards the lower part; cheeks white. *ossifragus*, p. 230.

1. Gypaetus barbatus.

The Bearded Vulture, *Edw. N. H. Birds*, iii. pl. 106 (1750).
Le Vautour doré, *Briss. Orn.* i. p. 458 (1760).
Le Vautour des Alpes, *Briss. Orn.* i. p. 464 (1760).
Vultur barbatus, *Linn. S. N.* i. p. 123 (1766).
Falco magnus, *Gm. Reis. Sibir.* iii. pl. 38 (1774).
Gypaetus grandis, *Storr, Alpenreise*, p. 69 (1784).
Gypaetus barbatus, *Storr, Alpenreise*, p. 69 (1784); *Naum. Vög. Deutschl.* i. Taf. 4, 5 (1822); *Werner, Atl.* Rapaces, pl. 5 (1827); *Gould, B. Eur.* i. pl. 4 (1837); *Schl. u. Susem. Vög. Eur.* Taf. 5, 6, (1839); *Gray, Gen. B.* i. p. 2, pl. 1 (1844); *Bp. Consp.* i. p. 11 (1850); *Midd. Sibir. Reis., Vög.* p. 124 (1851); *Strickl. Orn. Syn.* p. 15 (1855); *Fritsch, Vög. Eur.* tab. 1. figs. 6, 7 (1858); *Schl. Mus. P.-B.* Vultures, p. 10 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 125; *Jerd. B. Ind.* i. p. 13 (1862); *Radde, Reis. Sibir. Vög.* p. 79 (1863); *Newt. Ooth. Wolley.* p. 8 (1864); *Gurney, Cat. Rapt. B. Norw. Mus.* p. 81 (1864); *Bree, B. Eur.* i. p. 12 (1866); *Degl. et Gerbe, Orn. Eur.* i. p. 16 (1867); *Loche, Expl. Algér.* i. p. 14 (1867); *Gray, Hand-l. B.* i. p. 1 (1869); *Hume, Rough Notes*, i. p. 35 (1869); *Salvad. Faun. Ital. Ucc.* p. 4 (1871); *Swinh. P. Z. S.*

1871, p. 337; *Dresser, B. Eur.* pt. xv. (1872); *Hume, Str. F.* i. p. 151 (1873); *id. & Henders. Lahore to Yark.* p. 170 (1873).
Vultur barbarus, *Gm. S. N.* i. p. 250 (1788).
Falco barbatus, *Gm. S. N.* i. p. 252 (1788).
Gypaetus aureus, *Daud. Traité*, ii. p. 25 (1800, *ex Briss.*).
Gypaetus alpinus, *Daud. t. c.* p. 25, pl. 10 (1800).
Gypaetus castaneus, *Daud. t. c.* p. 26 (1800).
Vultur leucocephalus, *Meyer in Meyer u. Wolf, Taschenb. deutsch. Vogelk.* i. p. 9, Taf. 3 (1810).
Vultur melanocephalus, *Meyer, t. c.* p. 10, Taf. 1 (1810); *Wolf, Abbild. merkw. Gegenst.* pl. 15 (1816).
Phene ossifraga, *Vieill. et Oud. Gal. Ois.* pl. 8 (1825).
Gypaetus hemalachanus, *Hutton, J. A. S. B.* vii. p. 22 (1838).
Gypaetus subalpinus, *Brehm, Isis*, 1840, p. 771.
Gypaetus altaicus, *Gebler, Bull. Soc. Acad. St. Pétersb.* vi. p. 292 (1840).
Gypaetus barbatus occidentalis, *Schl. Rev. Crit.* p. xiii (1844).
Gypaetus occidentalis, *Bp. Consp.* i. p. 11 (1850); *Salvad. Cat. Ucc. Sard.* p. 16 (1864); *Lilford, Ibis*, 1865, p. 169.
Gypaetus meridionalis, *Brehm, Naum.* 1855, p. 267.
Gypaetus orientalis, *Blyth, Ibis*, 1863, p. 25 (*lapsu*).

Young. Head and nape all round including the throat blackish brown, with a tawny feather appearing here and there; rest of the plumage light brown, varied with an occasional dark brown feather appearing, some of the dorsal plumes creamy white, as also are several of the wing-coverts; quills and tail paler than in the adults; the inner secondaries shaded with ashy; bill dull horn-colour; feet dull lead-colour, claws black; iris hazel-brown.

Adult. Above black, on the rump a few brown feathers, some of the scapulars washed with ochre-brown, shafts of all the back-feathers white, more or less tinged with tawny buff, especially on the wing-coverts, where they somewhat dilate towards the apex; quills brown, externally washed with ashy, the secondaries with ochre-brown, the shafts of all white, those of the primaries somewhat yellowish; tail brown, shafts white, some of the outer feathers more ashy; head white, the elongated lanceolate nape-feathers tinged with bright tawny; crown of the head and sides of the face white; bristles over the nostrils and a broad line on each side of the crown black; a few black feathers on the ceral portion of the beak, and along the crown of the head, being a little more distinct on the occiput; under the eye a tinge of tawny; on the cheeks a few black feathers forming a black line below the ear; on the chin a tuft of long black bristles; entire under surface of the body rich tawny, with a few whitish feathers showing here and there; under wing-coverts dark brown, with pale tawny shaft-streaks dilated slightly at the apex; some of the feathers on the sides of the breast and the axillaries broadly margined with blackish brown; bill bluish horn-colour, the tip darker; feet lead-colour, claws horn-brown; iris pale orange, sclerotic membrane blood-red. Total length about 41 inches, culmen 3·7, wing 29·5, tail 20, tarsus 4 (in skeleton 3·4).

Nestling. Covered with dense smoky brown down, the feathers, where they are appearing, being dark chocolate-brown, with a pur-

plish gloss, the back and breast-feathers clearly tipped with whitish, and some of the wing-coverts also washed with whitish towards the tips.

Obs. A nestling procured by Mr. A. B. Brooke in Sardinia, covered with *yellowish* down is figured in part xv. of Dresser's 'Birds of Europe' (*cf.* Brooke, Ibis, 1873, p. 143).

Hab. The mountains of Southern Europe and N.E. Africa, extending eastwards from Asia Minor and Palestine through Central Asia to the Himalayas and Northern China.

a. Pull. sk.	Gaitanes, S. Spain.	R. B. Sharpe, Esq. [P.]. [Spec. fig. in Dresser, B. Eur. pl. 3.]
b. ♀ ad. sk.	Granada.	Howard Saunders, Esq. [P.].
c. Juv. sk.	Athens.	C. W. L. Merlin, Esq. [P.].
d. Juv. st.	Himalaya Mountains.	
e, f. Ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
g. Juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
h. Ad. st.	China.	J. R. Reeves, Esq. [P.].
i. Skull.		Dr. Günther.
k. Skull.		Hon. E. I. Co.

2. Gypaetus ossifragus.

Nisser or Golden Eagle, *Bruce, Trav. Abyss.* v. *App.* pl. 31 (1790).
Phene ossifraga, *Savign. Syst. Ois. d'Egypte*, p. 245 (1809).
Gypaetus barbatus, *Smith, S.-Afr. Q. Journ.* i. p. 105 (1830); *Des Murs in Lefebvre, Voy. Abyss. Ois.* p. 43 (1845); *Heugl. J. f. O.* 1862, p. 295; *Schl. Mus. P.-B. Revue Accipitr.* p. 141 (1873, pt.).
Gypaetus meridionalis, *Keys. & Blas. Wirb. Eur.* p. xxviii (1840); *Rüpp. Syst. Uebers.* p. 9, pl. 1 (1845); *Strickl. Orn. Syn.* p. 17 (1855); *Layard, B. S. Afr.* p. 2 (1867); *Blanf. Geol. & Zool. Abyss.* p. 298 (1870); *Finsch, Tr. Z. S.* vii. p. 200 (1870).
Gypaetus nudipes, *Brehm, Isis*, 1847, p. 772; *Bp. Consp.* i. p. 10 (1850); *Pelz. Verh. z.-b. Wien*, 1862, p. 125; *Gray, Hand-l. B.* i. p. 1 (1869); *Shelley, B. Egypt*, p. 209 (1872).
Gypaetus barbatus meridionalis, *Schl. Mus. P.-B.* Vultures, p. 10 (1862); *Heugl. Orn. N.O.-Afr.* i. p. 17 (1869).

Similar to *G. barbatus*, but wanting the black markings on the cheeks, which are entirely white, and having the lower part of the tarsus not feathered. Total length about 38 inches, culmen 3·8, wing about 29, tail about 18·5, tarsus 4.

Young. Besides the difference in the feathering of the tarsus, the young bird differs from that of *G. barbatus* in having the cheeks browner and not so intermixed with black.

Hab. Mountainous parts of Egypt, N.E. Africa, and Southern Africa.

a. ♀ ad. st.	Ankober, Dec. 1841.	Sir W. C. Harris [C.].
b. ♂ juv. st.	Ankober, Dec. 1841.	Sir W. C. Harris [C.].
c. Juv. sk.	Angollàla, Shoa, Oct. 1841.	Sir W. C. Harris [C.].
d. Juv. sk.	Angollàla, Shoa.	Sir W. C. Harris [C.].

e. Juv. st.	Abyssinia.	Sir W. C. Harris [C.].
f. ♀ juv. sk.	Senafé, March 11, 1868.	W. T. Blanford, Esq. [C.].

38. UROAETUS.

Type.
Uroaetus, *Kaup, Classif. Säug. u. Vög.* p. 121 (1844)..... U. audax.

Range. Australia and Van Diemen's Land.

1. Uroaetus audax.

Bold Vulture, *Lath. Gen. Syn. Suppl.* ii. p. 10 (1801).
Vultur audax, *Lath. Ind. Orn. Suppl.* p. 2 (1801).
Mountain Eagle, *Collins, N. S. W.* p. 526, pl. 31 (1804).
Aquila albirostris, *Vieill. N. Dict.* i. p. 229 (1816); *Pucher. Rev. et Mag. de Zool.* 1850, p. 81.
Falco fucosus, *Temm. Pl. Col.* i. pl. 32 (1824).
Aquila fucosa, *Vig. Zool. Journ.* i. p. 337 (1824); *Gould, Syn. B. Austr.* pt. iii. (1838); *id. B. Austr.* i. pl. 1 (1848).
Aquila audax, *Gray, Ann. N. H.* xi. p. 189 (1842); *id. Gen. B.* i. p. 14 (1845); *Bp. Consp.* i. p. 14 (1850); *Strickl. Orn. Syn.* p. 62 (1855); *Schl. Mus. P.-B.* Aquilæ, p. 10 (1862); *Gould. Handb. B. Austr.* i. p. 8 (1865); *Diggles, Orn. Austr.* pt. xviii. (1868); *Gray, Hand-l. B.* i. p. 11 (1869).
Uroaetus fucosus, *Kaup, Classif. Säug. u. Vög.* p. 121 (1844).
Aquila cuneicaudata, *Brehm, Isis*, 1845, p. 356.

Adult male. General colour black above and below, the wing-coverts and scapulars slightly varied with a few pale brown margins to the feathers, apparently disappearing with age; head black, with white bases to the feathers, causing a slightly streaked appearance; nape and hind neck bright tawny chestnut, the feathers mesially streaked with black; quills black, the primaries slightly inclining to pale brown at base, the secondaries also faintly mottled with brown; all the quills whitish at base of inner web, mottled with brown; upper tail-coverts paler brown, somewhat shaded with ashy, and inclining to dark brown in the centre of the feather, mottled with white near the base; tail black, whitish at base of inner web, with a few mottlings of the same extending up the inner web of the feathers; under surface of body black, the under tail-coverts paler brown; cere and orbits yellowish white; bill yellowish horn-colour, passing into black at tip; feet light yellow; iris hazel. Total length 38 inches, culmen 3, wing 24·2, tail 17·5, tarsus 4·8.

Young. Above bright rufous fawn, the crown inclining to dark brown, the neck-feathers mesially streaked and tipped with fulvous, the scapulars darker brown, with distinct central streaks; least wing-coverts dark brown, with whity brown margins, the median coverts bright rufous fawn; greater coverts dark brown, indistinctly barred with ashy brown; quills blackish, the secondaries indistinctly barred with chocolate-brown, the innermost pale brown, mottled with darker brown, the primaries externally shaded with ashy near

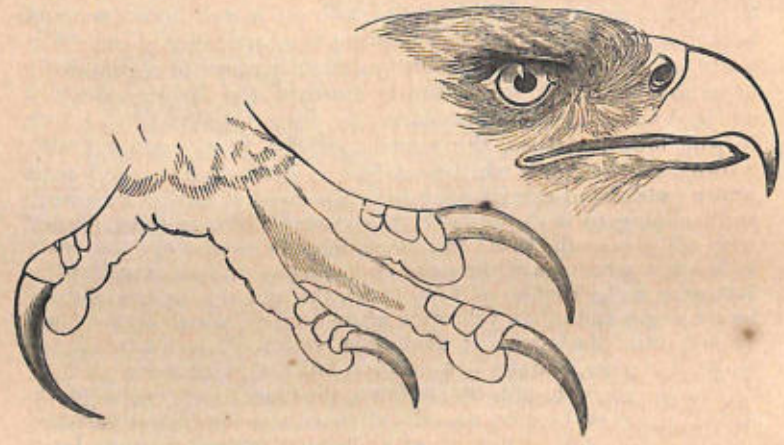
the base, and the outer secondaries slightly shaded with ashy on the external interspaces, the lower surface of the quills brown, mottled with ashy brown and white near base of inner web; tail black, with dull fawn-coloured tip and indistinct mottlings and bars of brown, more distinct on inner web; cheeks and throat blackish; rest of under surface brown, the centre of the chest and under tail-coverts bright fawn, the breast mesially streaked and tipped with pale fawn, less strongly marked on the abdomen and flanks; under wing-coverts brown, slightly tipped with rufous, the plumes on the bend of the wing entirely of the latter colour; axillaries ashy brown, with pale rufous tips.

Hab. The same as that of the genus.

a. ♂ ad. st.	Australia.	Lady Carington [P.].
b. Juv. st.	S. Australia.	Sir G. Grey [P.].
c. Juv. sk.	Australia.	W. Marten Smith, Esq. [P.].
d, e. ♂ ad. sk.	Van Diemen's Land.	The Admiralty [P.].
f. ♂ ad. sk.	Van Diemen's Land.	The Admiralty [P.].
g. ♂ ad. sk.	Van Diemen's Land.	J. Gould, Esq.
h. Juv. sk.	Interior of Australia (the Depôt, lat. 29° 40′).	Captain Sturt [P.].

39. AQUILA.

	Type.
Aquila, *Briss. Orn.* i. p. 419 (1760).....	A. chrysaetus.
Pteroaetus, *Kaup, Classif. Säug. u. Vög.* p. 120 (1844)	A. verreauxii.



Head and foot of *Aquila chrysaetus*.

Range. The whole of Europe, Africa, and Asia, but not extending to the Malayan or Australian regions; N. America, as far as Mexico.

Key to the Species.

a. Lower back and rump pure white ..... *verreauxi* ad., p. 234.
b. Lower back and rump fulvous or dark brown.
a'. With white scapular feathers.
a''. Base of tail ashy grey, with black bands.
a'''. Carpal plumes blackish, like rest of wing-coverts..... *heliaca* ad., p. 238.
b'''. Carpal plumes white, like scapulars .. *adalberti* ad., p. 239.
b''. Base of tail white..... *chrysaetus* juv. (*barthelemyi*), p. 235.
b'. Scapulars brown, either pale or dark, uniform with rest of upper surface.
c''. Under surface of body uniform.
c'''. Basal half of tail uniform white..... *chrysaetus* juv., p. 235.
d'''. Tail brown at base.
*a*⁴. Tail uniform below.
*a*⁵. Under surface of body blackish or deep chocolate-brown.
*a*⁶. Larger: wing, ♂ 21·4 inches, ♀ 20·5 ..... *clanga* ad., p. 248.
*b*⁶. Smaller: wing, ♂ 19 inches, ♀ 19·75..... *maculata* ad., p. 246.
*b*⁵. Under surface of body pale fawn-colour or ashy brown.
*c*⁶. Larger: wing, ♂ 25·25 inches, ♀ 26·2 ..... *verreauxi* juv., p. 234.
*d*⁶. Smaller: wing, ♂ 23 inches, ♀ 24·5 ..... *adalberti* juv., p. 239.
*e*⁶. Smallest: wing, ♂ 20 inches, ♀ 22·2.
*a*⁷. Underneath fawn-colour .... *rapax* ad., p. 242.
*b*⁷. Underneath ashy brown .... *rapax* juv. (*albicans*), p. 242.
*b*⁴. Tail more or less distinctly barred below.
*c*⁵. Much larger: wing 22 to 27 inches in length.
*f*⁶. Primary coverts entirely uniform *chrysaetus* ad., p. 235.
*g*⁶. Primary coverts with a pale fulvous tip, nearly an inch broad. *mogilnik* vix ad., p. 240.
*d*⁵. Smaller: wing not exceeding 22 inches in length; primary coverts narrowly paler at tip.
*c*⁷. Underneath tawny ..... *vindhiana* ad., p. 243.
*d*⁷. Underneath ashy brown .... *vindhiana* juv., p. 243.
*e*⁷. Underneath dark brown.
*a*⁸. Small wing-coverts tipped with white spots; nostrils rounded..... *hastata* ad., p. 248.
*b*⁸. Small wing-coverts uniform, or with narrow white margins; nostrils oval ..... *wahlbergii* ad., p. 245.
*f*⁷. Underneath white, with a few brown bars ..... *wahlbergii* juv., p. 245.
d'''. Under surface of body parti-coloured.
e'''. Tail with bars underneath.
*c*⁴. Tail barred to the base.

e^5. Thighs uniform dark brown..... *chrysaetus* ad., p. 235.
f^5. Thighs uniform fulvous ..... *heliaca* juv., p. 238.
g^5. Thighs light fulvous, with brown margins, streaked or mottled with dark brown, like rest of under surface ..... *heliaca* juv., p. 238.
h^5. Thighs deep tawny, or light ashy fulvous, with brown shaft-stripes. *rapax* juv., p. 242.
i^5. Thighs white, with a few brown bars ..... *wahlbergi* juv., p. 245.
d^4. Tail uniform at base..... *maculata* juv., p. 246.
f'''. Tail not barred below.
e^4. Cheeks tawny or pale fulvous.
k^5. Entire under surface streaked .... *heliaca* juv., p. 238.
l^5. Under surface uniform, only the chest streaked.
k^6. Chest light fawn, a few feathers margined with brown.. ..... *adalberti* juv., p. 239.
l^6. Chest blackish, with central streaks of tawny brown ..... *rapax*, p. 242.
f^4. Cheeks dark brown or blackish.
m^5. Chest uniform dark brown.
k^6. Larger: wing, ♂ 20 inches, ♀ 22·3 ..... *rapax*, p. 242.
l^6. Smaller: wing, ♂ 19–20 inches, ♀ 21–22 ..... *vindhiana*, p. 243.
n^5. Chest dark brown, the feathers mesially streaked with paler brown.
m^6. Wing-coverts with large oval tips of white.
g^7. Larger: wing in ♂ 20·8 inches, in ♀ 21·4 ..... *clanga* juv., p. 248.
h^7. Smaller: wing in ♂ 19 inches, in ♀ 19·75 ..... *maculata* juv., p. 246.
n^6. Wing-coverts not spotted with white ..... *rapax*, p. 242.

1. Aquila verreauxi*.

Aquila verreauxi, *Less. Cent. Zool.* p. 105, pl. 38 (1830); *id. in Bélang. Voy. Zool.* p. 216 (1834); *Des Murs, in Lef. Voy. Abyss. Zool.* p. 49, pl. iv. (c. 1848); *Strickl. Orn. Syn.* p. 63 (1855); *Layard, B. S. Afr.* p. 11 (1867).

* It is impossible to adopt the name of *vulturina* for this species, as Daudin founded this title on Levaillant's "Caffre," which, in the exercise of charity, we may imagine to have been intended for the Black Eagle of South Africa; but inasmuch as he omits all mention of the characteristic white back, and describes its habits most erroneously, we cannot allow his name to take precedence over Lesson's description, which is most exact. The following synonymy applies to Levaillant's species:—

Le Caffre, *Levaill. Ois. d'Afr.* i. p. 28, pl. 6 (1799).
Falco vulturinus, *Daud. Traité*, ii. p. 53 (1800, *ex Levaill.*).
Gypaetus caffer, *Ranz. Elem. Zool.* iii. p. 45.
Haliaetus vulturinus, *Vig. Zool. Journ.* i. p. 336 (1824).

Aquila vulturina, *Smith, S.-Afr. Q. Journ.* i. p. 112 (1830, *nec Daud.*); *Gray, Gen. B.* i. p. 16 (1845); *id. Cat. Accipitr.* 1848, p. 12; *Bp. Consp.* i. p. 14 (1850); *Strickl. Orn. Syn.* p. 63 (1855); *Schl. Mus. P.-B.* Aquilæ, p. 9 (1862); *Heugl. Orn. N.O.-Afr.* i. p. 49 (1869); *Gray, Hand-l. B.* i. p. 11 (1869); *Gurney, Anderss. B. Dam. Ld.* p. 5 (1872).
Aquila nigra, *James, Mem. Wern. Soc.* vii. p. 483 (1835).
Pteroaetus verreauxii, *Kaup, Classif. Säug. u. Vög.* p. 120 (1844).
Pteroaetus vulturina, *Kaup, Contr. Orn.* 1850, p. 69.
Aquila leucoprymna, *Licht. Nomencl.* p. 397 (1854).

Young male. General colour clear fawn-colour both above and below, paler and more fulvescent on the sides of face, throat, thighs, and under tail-coverts; some of the scapular feathers with margins of dark brown, appearing slightly streaked; least wing-coverts uniform fawn-colour, the median series pale brown at base with fawn-coloured tips, the greater and primary coverts, as well as secondaries, blackish brown, broadly tipped with fawn-colour; the primaries entirely blackish; lower surface of wing ashy brown, inclining to deep brown towards tips of primaries; lower back, rump, and upper tail-coverts uniform pale fawn-colour; tail brown, tipped with buffy fawn-colour; under wing-coverts uniform fawn like the breast, the lower series ashy brown like the wing-lining. Total length 36 inches, wing 25·25, tail 15, tarsus 4·6.

Adult female. Entirely black both above and below; back and rump white, as also some of the scapulars, the whole of which are white at their bases; upper tail-coverts also pure white, excepting the lowest ones, which are black; tail entirely black, with faint indications of five or six brown bars on the basal half; quills blackish, the primaries externally shaded with ashy grey, and conspicuously mottled with pale brown near the base, the primary coverts similarly marked, the secondaries also with slight indications of pale brown bars on inner web; cere and orbits yellow; bill leaden horn-colour; feet yellow; iris pale umber-brown. Total length 37 inches, culmen 3·2, wing 26·2, tail 13·5, tarsus 4·2.

Hab. South Africa and N.E. Africa.

a. Ad. st.	South Africa.	Sir A. Smith [C.].
b. Ad. st.	South Africa.	Messrs. Smith & Co. [P.].
c. Juv. st.	South Africa.	Purchased.

2. Aquila chrysaetus.

White-tailed Eagle, *Edwards, N. H. Birds*, pl. 1 (1743).
L'Aigle, *Briss. Orn.* i. p. 419 (1760).
L'Aigle blanc, *Briss. t. c.* p. 424 (1760, *var.*).
L'Aigle doré, *Briss. t. c.* p. 431 (1760).
L'Aigle noir, *Briss. t. c.* p. 434 (1760).
L'Aigle commun, *Buff. Pl. Enl.* 409.
Le Grand Aigle, *Buff. Pl. Enl.* 410.
Falco chrysaetus, *Linn. S. N.* i. p. 125 (1766); *Yarr. Brit. B.* i. p. 7 (1841); *Naum. Vög. Deutschl.* xiii. Taf. 339 (1860).
Falco fulvus, *Linn. S. N.* i. p. 125 (1766); *Wils. Am. Orn.* vii. pl. 55. fig. 1 (1813); *Naum. V. D.* i. p. 208, Taf. 8, 9 (1822); *Werner,*

Atlas, Rapaces, pl. 15 (1827); *Schl. u. Susem. Vög. Eur.* Taf. 16, 17 (1839).
Black-backed Eagle, *Brown, Ill. Zool.* pl. 2 (1776).
Falco melanaetus, *Gm. S. N.* i. p. 254 (1788).
Falco canadensis, *Gm. S. N.* i. p. 256 (1788).
Falco albus, *Gm. S. N.* i. p. 257 (1788, *var.*).
Falco niger, *Gm. S. N.* i. p. 259 (1788, *ex Brown*).
Falco cygneus, *Lath. Ind. Orn.* i. p. 14 (1790, *var.*).
Falco melanonotus, *Lath. Ind. Orn.* i. p. 16 (1790, *ex Brown*).
Falco aquila, *Daud. Traité*, ii. p. 47 (1800).
Aquila fulva, *Sav. Descr. Ois. d'Egypte*, p. 251 (1809); *Meyer, in Wolf u. Mey. Taschenb. deutsch. Vogelk.* i. p. 14 (1810); *Schl. Vog. Nederl.* pls. 23, 24, 25 (1854); *id. Mus. P.-B.* Aquilæ, p. 1 (1862); *Degl. et Gerbe, Orn. Eur.* i. p. 20 (1867); *Loche, Expl. Sci. Algér. Ois.* p. 19 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 43 (1869); *Shelley, B. Egypt*, p. 205 (1872).
Aquila nobilis, *Pall. Zoogr. Rosso-As.* i. p. 338 (1811).
Aquila regalis, *Temm. Man. d'Orn.* ed. i. p. 10 (1815).
Aquila chrysaetus, *Dumont, Dict. Sci. Nat.* i. p. 339 (1816); *Sw. & Rich. Faun. B.-Am., Birds*, p. 12 (1831); *Gould, B. Eur.* i. pl. 6 (1837); *Audub. B. Am.* i. p. 50, pl. xii. (1839); *Macgill. Brit. B.* iii. p. 204 (1840); *Gray, Gen. B.* i. p. 13, pl. 7. fig. 1 (1845); *Bp. Consp.* i. p. 13; *Cass. B. Calif.* p. 109 (1855); *Strickl. Orn. Syn.* p. 55 (1855); *Fritsch, Vög. Eur.* tab. vii. figs. 1–3 (1858); *Sundev. Sv. Fogl.* pl. xxx. fig. 1 (c. 1860); *Jerd. B. Ind.* i. p. 55 (1862); *Gould, B. Gt. Br.* pt. 3 (1863); *Pelz. Verh. z.-b. Wien*, 1863, p. 153; *Radde, Reis. Sibir. Vög.* p. 83 (1863); *Newt. Ooth. Wolley.* p. 8 (1864); *Gray, Hand-l. B.* i. p. 10 (1869); *Hume, Rough Notes*, i. p. 139 (1869); *Newt. ed. Yarr. Brit. B.* i. p. 11 (1871); *Swinh. P. Z. S.* 1871, p. 338; *Salvad. Faun. Ital. Ucc.* p. 5 (1871); *Coues, Key N. Am. B.* p. 219 (1872); *Hume, Str. F.* i. p. 157 (1873).
Aquila regia, *Less. Traité*, p. 36, pl. 8. fig. 1 (1831).
Aquila daphanea, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Falco imperialis, *Crespon, Faun. Merid.* i. p. 131 (1844).
Aquila barthelemyi, *Jaub. Rev. Zool.* 1852, p. 545; *id. et Barth. Lap. Rich. Orn.* p. 34, pl. 2 (1859); *Murie, P. Z. S.* 1870, p. 80.
Aquila fuscicapilla, *Brehm, Naum.* 1855, p. 267.
Aquila canadensis, *Cass. in Baird's B. N. Am.* p. 41 (1860); *Dall & Bann. Tr. Chic. Acad.* i. p. 272 (1869); *Cooper, B. Calif. ed Baird*, p. 449 (1870).

Nestling. Clothed with pure white down, the feathers visible being of a glossy chocolate- (almost bronzy) brown, the quills and tail-feathers blackish, the latter with buffy white tips; feathers of the head and neck rufous brown.

Young. Above brown, all the feathers with broad white bases, showing conspicuously on the disarrangement of the feathers; lores whitish; crown of head and ear-coverts black, the latter slightly streaked with rufous; hind head and neck tawny rufous, the bases to the feathers smoky brown; entire under surface of body light brown, the feathers with broad white bases, the throat blackish, the thighs and under tail-coverts tawny rufous; quills blackish, the secondaries browner, especially the innermost; under surface of wing blackish, the inner primaries white for more than half of inner web;

upper tail-coverts black, washed with rufous on outer web, the bases white; tail ashy white at base, gradually mottled with brown, the terminal third black, forming a very broad band. (Specimen in change from first to second plumage.)

Adult male. Above blackish brown, with slightly paler margins to the interscapulary feathers and wing-coverts; greater wing-coverts and scapulars with ashy white bases, mottled with brown; quills blackish, the secondaries ashy grey, mottled with brown, the terminal third of the feather blackish, the lower surface of the wing ashy brown, with slight paler brown mottlings on the inner secondaries; tail blackish at tip, browner towards the base, with an irregular grey band across the middle of the tail, the basal portion more or less mottled with ashy grey; the lower surface of the tail as dark as the upper, the single grey bar distinctly indicated; crown of head brown; nape and hind neck rich tawny, the feathers lanceolate in shape, with brown bases, appearing as if streaked; lores whitish; sides of face light tawny, paler than neck; cheeks and entire under surface of body blackish, the feathers mostly brown at base, the leg-feathers and under wing-coverts pale brown; under wing-coverts blackish; cere yellow; bill bluish horn-colour, darker at tip; feet yellow, claws black; iris hazel. Total length 32 inches, culmen 2·6, wing 24·5, tail 13, tarsus 3·7.

Adult female. Larger than the male. Total length 35·5 inches, wing 27·5, tail 14, tarsus 3·8.

Hab. The whole of Europe and Northern Asia, extending into India and North China; N. America, as far south as Mexico *.

a, b. Pull. st.	Orkneys.	Mr. Bullock.
c. Juv. st.	Orkneys.	Mr. Bullock.
d, e. ♂ ♀ ad. st.	Orkneys.	Mr. Bullock.
f. Pull. st.	Europe.	Purchased.
g. Ad. st.	Archangel.	R. B. Sharpe, Esq. [P.].
h. ♀ juv. sk.	Skåne, S. Sweden, Nov. 5, 1872.	Mr. Meves [C.].
i. Juv. st.	Tunis.	L. Fraser, Esq. [C.].
k. ♀ ad. sk.	Huzara, N. Punjab.	Capt. Unwin [P.].
l. Juv. st.	Huzara, N. Punjab.	Capt. Unwin [P.].
m. Juv. sk.	India.	Major-Gen. Hardwicke [P.].
n. Ad. sk.		B. H. Hodgson, Esq. [P.].
o. ♂ ad. sk.	Nepal.	Zoological Society.
p. Ad. st.	N. America.	Hudson's Bay Co. [P.].
q. Juv. st.	N. America.	Purchased.
r. Juv. st.	N. America.	

* I cannot separate *A. canadensis*, the old birds of which appear to be indistinguishable. The young ones from America wear a peculiarly light plumage on the head and neck, and are of large size, though in this respect they are equalled by Himalayan specimens. Capt. Unwin's female bird, from Huzara, measures:—total length 40 inches, wing 27·9, tail 15, tarsus 4. These measurements, which are from the skin, somewhat surpass those of the bird when measured in the flesh. A North-American specimen measures:—total length 41 inches, wing 26·25, tail 16·5, tarsus 4·1.

s. Ad. sk.	Fort Simpson.	Bernard H. Ross, Esq. [P.].
t. Skeleton.		Zoological Society [*A. barthelemyi*].

3. Aquila heliaca.

Aquila heliaca, *Savign. Descr. Egypte*, p. 459, pl. 12 (1809); *Vieill. et Oud. Gal. Ois.* pl. 9 (1825); *Gould, B. Eur.* pl. 5 (1837); *Gray, Gen. B.* i. p. 13 (1845); *Bp. Consp.* i. p. 13 (1850); *Fritsch, Vög. Eur.* tab. 8. figs. 1–3 (1858); *Jaub. et Barth. Lap. Rich. Orn.* p. 35 (1859).

Aquila chrysaetos, *Leis. Ann. Wetter.* ii. p. 170 (1810, *nec L.*).

Falco imperialis, *Bechst. Taschenb. Vög. Deutschl.* iii. p. 553 (1812); *Naum. Vög. Deutschl.* i. p. 201, Taf. 6, 7 (1822), *et* xiii. Taf. 340 (1860); *Werner, Atl.* Rapaces, pl. 14 (1827); *Schl. u. Susem. Vög. Eur.* Taf. 14, 15 (1839); *Brèe, B. Eur.* i. p. 58 (1866).

Aquila imperialis, *Cuv. Règne An.* i. p. 325 (1829); *Gray, Ill. Ind. Zool.* ii. pl. 28 (1833); *Jerd. B. Ind.* i. p. 57 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 155; *Degl. et Gerbe, Orn. Eur.* i. p. 24 (1867); *Gray, Hand-l.* i. p. 10 (1869); *Hume, Rough Notes*, i. p. 142 (1869); *Finsch, Tr. Z. S.* vii. p. 201 (1870); *Salvad. Faun. Ital. Ucc.* p. 6 (1871); *Saund. P. Z. S.* 1871, p. 37; *Anders. t. c.* p. 686; *id. P. Z. S.* 1872, p. 620; *Shelley, B. Egypt*, p. 205 (1872); *Hume, Stray F.* i. p. 157 (1873).

Aquila crassipes, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844); *Brooks, P. Z. S.* 1872, p. 503; *Anders. P. Z. S.* 1872, p. 620.

Aquila mogilnik, *Strickl. Orn. Syn.* p. 57 (1855); *Schl. Mus. P.-B.* Aquilæ, p. 3 (1862); *Heugl. Orn. N.O.-Afr.* i. p. 44 (1869); *Dresser, B. Eur.* pt. xix. (1873).

Aquila riparia, *Würt. MS.*; *Heugl. Naum.* 1857, p. 432.

Aquila bifasciata, *Saund. P. Z. S.* 1871, p. 37; *Swinh. t. c.* p. 338.

Young. Above rather light brown, the back-feathers mostly shaded down the middle with ashy and on the margins with purplish; all the feathers of the upper surface pointed with buffy fawn-colour, giving a spotted character to the plumage; head and neck tawny buff, the feathers with clear brown bases, which show through more or less, and impart a streaked appearance; the plumes of the hind neck long and lanceolate, brown, like back, with tawny streaks down the centre; wing-coverts brown, pointed with fulvous like the back; the greater and median coverts with broad whitish buff terminal spots, widening up the shafts of the feathers; quills blackish, the secondaries rather browner, and broadly tipped with whitish buff; feathers of hinder back and rump tawny fulvous, with dark brown lateral margins, spreading more over the plumes of the latter part; upper tail-coverts buffy white, in strong contrast to tail; tail uniform brown, tipped with buffy white; under surface light tawny fulvous, nearly uniform on the throat, abdomen, thighs, leg-feathers, and under tail-coverts; the whole of the breast-feathers laterally margined with brown, producing a distinctly streaked appearance; under wing-coverts rufous fawn-colour, streaked with brown, the lower series ashy brown, like the inner lining of the wing; bill and feet as in adult.

Obs. The change from the striped under surface to the adult seems

to be effected mostly by a gradual change in the coloration of the feather, by means of the spreading of the brown colour. At present I have seen no specimen in actual moult; yet it is very probable that a partial moult occurs, and that the new feathers, which are parti-coloured, gradually get entirely black. The Museum contains an example, in full progress towards the black dress, killed in the month of April, probably in the second year of the bird's age.

Adult male. Blackish brown above, much lighter brown on the upper part of the back and on the upper tail-coverts, which are mottled with white near the base, and broadly tipped with the same; many of the scapulars pure white, forming a conspicuous patch, which, however, is confined to the scapulars themselves; the least wing-coverts slightly mottled with brown, but not with white, near the carpal bend; rest of wing-coverts blackish brown, uniform with interscapulary region; quills blackish, the primaries externally shaded with ashy grey, the secondaries browner, the innermost slightly tipped with buffy white; the lower surface of wing ashy brown, the primaries mottled with whitish at base of inner web; tail ashy grey for a little more than the basal two thirds, shaded with silvery grey, and mottled with blackish brown, forming indistinct and broken bars on some of the feathers, the terminal third blackish brown, with a narrow tip of fulvous; head and neck light fulvous, with fawn-coloured bases to some of the nape-feathers; feathers of hind neck dark fawn-brown, with light buff tips and dark brown centres; forehead and anterior part of crown blackish, as well as the feathers over the eye; sides of face and of neck light fulvous like the crown, the feathers under the eyes inclining to brown; cheeks and entire underparts blackish, the under tail-coverts tawny buff, with dark-brown shaft-lines and whitish tips to the feathers; under wing-coverts and axillaries blackish, like the breast; cere pale yellow; bill bluish, darker at tip; feet pale yellow; iris brownish yellow. Total length 31 inches, culmen 2·6, wing 22·6, tail 11·3, tarsus 3·9.

Adult female. A little larger than the male. Total length 32 inches, wing 23·75, tail 11·5, tarsus 3·85.

Hab. South-eastern Europe, eastwards throughout Northern India to China. Very rarely ranging into Central Europe.

a. ♂ ad. sk.	Ober Kovil, Lower Hungary (*Hodek*).	Baron A. von Hügel [P.]
b. ♀ ad. st.	S. Europe.	Dr. Kaup.
c. Juv. sk.	S. Europe.	Dr. Kaup.
d. ♂ v. ad. sk.	S. Ural.	Dr. Strader [C.].
e. ♀ juv. sk.	S. Ural.	Dr. Strader [C.].
f, g. Juv. st.	Nepal.	B. H. Hodgson, Esq. [P.].
h. Juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
i. Juv. sk.	Behar.	B. H. Hodgson, Esq. [P.].
k. Sternum.		B. H. Hodgson, Esq. [P.].

4. Aquila adalberti.

Aquila adalberti major, *Brehm, Ber. Vers. deutsch. Orn. Ges.* 1860, p. 55.

Aquila adalberti minor, *Brehm, l. c.* (1860).
Aquila heliaca, *Bocage, Instruc. prat. Prod. Zool.* p. 76 (1862); *Lilford, Ibis*, 1865, p. 171.
Aquila imperialis, *Saunders, Ibis*, 1870, p. 61.
Aquila leucolena, *Dresser, P. Z. S.* 1872, p. 864.
Aquila adalberti, *Dresser, B. Eur.* part xviii. (1873).

Adult female. Crown of head black, the eyebrow, sides of face, hinder part and sides of neck sandy brown, inclining to tawny brown on the bases of some of the feathers; general colour of upper surface black, the feathers of the upper interscapulary region margined with dark brown, a few with whity brown; wings blackish, some of the innermost secondaries brown, and marbled with whity brown on the outer web, the wing-coverts also a little browner than the back, all those running right along the edge of the wing from the carpus thus forming a continuous shoulder-patch; some of the upper scapulars pure white, continuous with the white shoulder; quills black, primaries externally brownish, the secondaries rather browner; lower surface of the wing ashy brown, the outer primaries slightly marbled with whitish near the base; upper tail-coverts slightly tipped with buffy whitish; basal two thirds of tail ashy grey, more or less mottled with brown, the terminal third blackish brown, with a narrow whity brown tip, the lower surface of the tail much paler than the upper, the basal part ashy white, strongly mottled with brown; entire under surface of body blackish, the chest-feathers slightly inclining to brown, those on the lower tarsus whity brown; under tail-coverts fulvescent at base; cere and gape waxy yellow; bill bluish horn-colour; feet yellow; iris light brownish grey. Total length 32 inches, culmen 2·9, wing 23·1, tail 12·75, tarsus 3·9.

Young female. General colour light fawn-colour, the head, scapulars, some of the dorsal feathers, and the greater wing-coverts inclining to bright tawny; upper tail-coverts pale fulvous, lighter than the rest of the back; outer greater coverts ashy brown, with broad whitish margins; primary coverts dark brown, tipped with pale brown; quills black, the secondaries browner, externally shaded with ashy grey, and terminally margined with buffy white, the innermost inclining to pale brown, like the back; tail uniform brown, tipped with fulvous, the centre feathers shaded with ashy; under surface of body rich fawn, rather paler on the abdomen, thighs, and leg-feathers. Total length 34 inches, wing 24·5, tail 13·5, tarsus 4.

Hab. Spain and N.W. Africa.

a. ♀ ad. sk.	Seville (*Ruiz*).	Purchased.
b. ♀ juv. sk.	Seville (*Ruiz*).	Purchased.
c. Juv. st.	S. Europe.	E. Wilson, Esq. [P.].

5. Aquila mogilnik.

Aquila mogilnik, *Gm. N. Comm. Petrop.* xv. p. 445, pl. xi. *b* (1770).
Russian Eagle, *Lath. Gen. Syn.* i. p. 43 (1781).
Falco mogilnik, *Gm. S. N.* i. p. 259 (1788).

Aquila bifasciata, *J. E. Gray, in Gray & Hardw. Ill. Ind. Zool.* i. pl. 17 (1832); *G. R. Gray, Gen. B.* iii. App. p. 1 (1849); *Bp. Consp.* i. p. 14 (1850); *Strickl. Orn. Syn.* p. 58 (1855); *Anders. P. Z. S.* 1871, p. 621; *Brooks, J. A. S. B.* 1873, p. 145.
Aquila nipalensis, *Hodgs. Asiat. Res.* xviii. pt. 2, p. 13, pl. 1 (1833).
Aquila orientalis, *Cab. J. f. O.* 1854, p. 369.
Aquila mogilnik bifasciata, *Schl. Mus. P.-B.* Aquilæ, p. 3 (1862).
Aquila clanga, *Pelz. Verh. z.-b. Wien*, 1862, p. 156; *Newt. Ooth. Wolley.* p. 43 (1864).
Aquila imperialis, *Radde, Reis. Sibir.* p. 81 (1863).
Aquila amurensis, *Swinh. P. Z. S.* 1871, p. 338.

Adult male. Upper surface pale brown, the head rather darker, as well as some of the scapulars and the inner secondaries; lesser and median wing-coverts pale brown, like back, some of the latter slightly tipped with fulvous, the greater ones dark brown, rather more distinctly tipped with fulvous; primary coverts and quills deep brown, slightly tipped with buffy fawn-colour, some of the fresh-moulted primaries clear ashy grey, with broad fawn-coloured tips, lower surface of wing blackish, the base of inner web slightly mottled with greyish near the base; lower back and rump pale brown, the upper tail-coverts white; tail brown, with pale fulvous tip, and having indistinct ashy bars; lores whitish; rest of under surface of body pale brown, the under wing-coverts very slightly darker, the lowest series quite white; cere, gape, and base of lower mandible deep yellow; bill horn-black; feet deep yellow; iris dark brown. Total length 30 inches, culmen 3, wing 22, tail 11·7, tarsus 4.

Adult female. Total length 30 inches, wing 23·2, tail 11·5, tarsus 4.

Young male. Above ashy brown, shaded with glossy purplish brown on the back, scapulars, and wing-coverts; median and greater coverts blackish, shaded with ashy grey, and broadly tipped with bright ochraceous fawn-colour, paling into fulvous on the extreme tip, forming a triple band across the wing; primary coverts and quills blackish, broadly tipped with fawn-colour, like the wing-coverts, both webs distinctly though irregularly barred with silvery grey, these bars showing very distinctly on the secondaries underneath; the primaries black below, greyish on the inner web, thickly mottled with brownish; lower back and rump ashy brown, like the head, the lower feathers of the latter part more or less marked with fawn-colour; the upper tail-coverts entirely fawn-colour, paling into fulvous on their tips; tail dark brown, with a broad terminal band of fawn-colour, mottled conspicuously with ashy grey on the outer feathers, and taking the form of imperfect bars on the middle ones, sometimes eight or nine being distinguishable; sides of face and of neck, as well as entire under surface of body, ashy brown, paler on tarsal feathers; under tail-coverts pale buffy fawn, some of the under wing-coverts also marked with a terminal triangular spot of the same colour; bill (in dried specimen) black, yellow at gape and base of lower mandible; cere greenish; feet yellow, claws black.

Hab. South-eastern Europe, N.W. India, and the Himalayas, extending into Eastern Siberia.

a. ♂ juv. sk.	Sarepta, Sept. 1872.	Baron A. von Hügel.
b, *c*. ♂ ad. sk.	Southern Ural.	Dr. Strader [C.].
d, *e*. ♀ ad. sk.	Southern Ural.	Dr. Strader [C.].
f. Juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
g, *h*. Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
i. Ad. st.	India.	Purchased.

6. Aquila rapax.

Falco rapax, *Temm. Pl. Col.* i. pl. 455 (1828).
Aquila senegala, *Cuv. Règne An.* i. p. 326 (1829); *Gray, Gen. B.* i. p. 13 (1845); *Pucher. Rev. et Mag. de Zool.* 1850, pp. 4, 208; *Hartl. Orn. W.-Afr.* p. 3 (1857); *Layard, B. of S. Afr.* p. 10 (1867).
Aquila nævioides, *Cuv. Règne An.* i. p. 326 (1829); *Gray, Gen. B.* i. p. 13 (1845); *Pucher. Rev. et Mag. de Zool.* 1850, p. 5; *Bp. Consp.* i. p. 14; *Strickl. Orn. Sym.* p. 59 (1855); *Pelz. Verh. z.-b. Wien*, 1862, p. 158; *Schl. Mus. P.-B.* Aquilæ, p. 3 (1862); *Lilford, Ibis*, 1865, p. 172, pl. 5; *Loche, Expl. Sci. Algér.* i. p. 25 (1867); *Degl. et Gerbe, Orn. Eur.* i. p. 30 (1867); *Gray, Hand-l.* i. p. 10 (1869); *Anders. P. Z. S.* 1871, p. 687; *Shelley, B. Egypt*, p. 205 (1872); *Gurney, in Anderss. B. Dam. Ld.* p. 6 (1872).
Aquila choka, *Smith, S.-Afr. Q. Journ.* i. p. 114 (1830).
Aquila rapax, *Less. Traité*, p. 37 (1831); *Heugl. Orn. N.O.-Afr.* i. p. 45 (1869); *Blanf. Geol. & Zool. Abyss.* p. 295 (1870); *Finsch, Tr. Z. S.* vii. p. 201 (1870); *id. u. Hartl. Vög. Ostafr.* p. 44 (1870).
Aquila vulturina, *Benn. Gard. Z. S.* ii. p. 288 (1831).
Aquila albicans, *Rüpp. N. Wirb.* p. 34, pl. 13 (1835).
Falco belisarius, *Levaill. Expl. Sci. Algér. Ois.* pl. 2 (1850).
Aquila raptor, *A. Brehm, Naum.* 1855, pp. 13, 267.
Aquila variegata, *C. L. Brehm, Naum. t. c.* p. 267.
Aquila substriata, *Heugl. Syst. Uebers.* p. 6 (1856).
Aquila isabellina, *Heugl. t. c.* p. 6 (1856).
Aquila lestris, *L. Brehm, Ber. Orn. Vers. Stuttg.* 1860, p. 55.

Young. Above light tawny, rather paler and more ashy on the lesser wing-coverts and scapulars; the median coverts ashy brown at base, with tawny ends; greater and primary coverts, as well as secondaries, chocolate-brown, with tawny tips to the feathers, which are subterminally shaded with ashy; primaries blackish, shaded near the base with clear ashy, the under surface of the wing uniform ashy brown, the primaries gradually chocolate-brown towards tips, the secondaries tipped with fulvous; lower back and rump tawny, the upper tail-coverts paler and more fulvous; tail uniform brown, shaded with ashy, and broadly tipped with fulvous; entire under surface of body light tawny, paler on the throat, legs, and under tail-coverts, the breast-feathers having a slight ashy shade; under wing-coverts also paler, the lower series ashy brown, like the wing-lining; cere and gape yellow; bill dark horn-colour, livid at base, the under mandible yellow; iris pale yellow, freckled with brown, with a narrow exterior edging of dark brown. Total length 28 inches, culmen 2·2, wing 20, tail 10·5, tarsus 3·4.

Adult female. General colour above deep brown, some of the feathers with paler brown centres, the wing-coverts tipped with paler brown, forming a conspicuous spot on some of the feathers; primaries blackish, their coverts as well as the secondaries chocolate-brown, tipped with fulvous, some of the outer secondaries shading subterminally into ashy grey, under surface of wing ashy brown, shading into darker brown towards tips of primaries, the inner webs slightly mottled with greyish; lower back paler and more fulvous brown, the rump darker, the upper tail-coverts whity brown; tail almost uniform brown, with fulvous tips, some of the feathers with very slight mottlings of grey; hind neck and sides of face streaked with pale fulvous; entire under surface of body dark brown, the breast terminally streaked with fulvous, more broadly on the abdomen, the thighs fulvous brown, with darker brown margins, as also the under tail-coverts, some of which are faintly margined with brown; under wing-coverts fulvous brown, darker on the edges, the lower series ashy brown, like the inner lining of wing; iris brown. Total length 31 inches, wing 22·2, tail 12, tarsus 3·7.

Hab. Africa generally, being found in Algeria and N.W. Africa, extending rarely into Southern Spain. N.W. India.

a. Juv. st.	Senegal.	Baron Laugier de Chartrouse.
b. Juv. st.	Abyssinia.	Frankfort Museum.
c, d. Imm. st.	Shoa.	Sir W. C. Harris [C.].
e. ♀ ad. sk.	Ankober, Dec. 1841.	Sir W. C. Harris [C.].
f. ♂ imm. sk.	Angollála, Shoa.	Sir W. C. Harris [C.].
g, h. Juv. sk.	Bogos Land.	Herr Esler [C.].
i. ♀ ad. sk.	Amba, Samhar.	W. T. Blanford, Esq. [C.].
k. ♂ ad. sk.	Senafé, March 9, 1868.	W. T. Blanford, Esq. [C.].
l. Ad. st.	Snewberg, S. Africa.	Purchased.
m. Imm. st.	South Africa.	South-African Museum.
n. Skeleton.		Zoological Society.
o. Sternum.		W. T. Blanford, Esq. [P.].

7. Aquila vindhiana *.

Aquila vindhiana, *Franklin, P. Z. S.* 1831, p. 114; *Strickl. Orn. Syn.* p. 59 (1855).

Aquila punctata, *Gray, in Gray & Hardw. Ill. Ind. Zool.* i. pl. 16 (1832).

Aquila fusca, *id. op. cit.* ii. pl. 26 (1833).

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* It is doubtful whether *A. vindhiana* should be considered more than a small race of *A. rapax*, the adult plumages being very similar, but the young apparently different. This, however, depends on the question whether we really know the young bird of *A. vindhiana* in Europe. Mr. W. E. Brooks has written voluminous papers on the Eagle question, and has made some interesting identifications, one of the last of them being the existence of three species of the *A. rapax* group, which he distinguishes as *A. fulvescens*, Gray, *A. vindhiana*, Frankl., and *A. nævioides*, Cuv. The characters of these three exist in their rounded or vertical nostril and their plain or barred tail. On the strength of these points I cannot at present follow Mr. Brooks in distinguishing *A. fulvescens* from *A. vindhiana*, as I have seen specimens of the latter with an unbarred tail and yet possessing a vertical nostril, while I have also seen *A. rapax* from Africa with the same characters. [*Cf.* Brooks Ibis, 1874, p. 84.]

Aquila fulvescens, *id. op. cit.* ii. pl. 29 (1833); *Jerd. B. Ind.* i. p. 60 (1862); *Gray, Hand-l. B.* i. p. 10 (1869); *Hume, Rough Notes*, i. p. 173 (1869); *id. Str. F.* i. p. 158 (1873).
Aquila nævia, *Blyth, Ann. N. H.* xiii. p. 114 (1844).

Young. Above glossy purplish brown with distinct fulvous tips to the feathers, broader on lower back, rump, and upper tail-coverts; head and neck all round, as well as entire underparts greyish mouse-colour, with distinct points to all the feathers of the head and neck, particularly thick on the latter, absent on the under surface, excepting a few faint remains on the tips of the abdominal and lower throat-feathers; lores and chin whitish, with narrow blackish shaft-lines, the latter also apparent on the cheeks and ear-coverts, which are mouse-grey, like the breast; tarsal feathers and under tail-coverts more fulvescent; under wing-coverts mouse-grey, with pale fulvous tips; upper wing-coverts ashy brown, with a very slight purplish gloss, but not so dark as the back, nor so grey as the head, though tipped like the latter with fulvous; greater and primary coverts, as well as secondaries, deep brown, with tolerably broad whitish ends; primaries black, slightly shaded with brown near the base; lower surface of wing ashy brown, blackish towards tips of primaries, the inner webs of all slightly mottled with greyish; tail purplish brown, tipped with buffy white, all the feathers shaded with ashy grey, taking the form of indistinct bars on the centre feathers, on which remains of eleven or twelve can be counted. Total length 28 inches, wing 20·75, tail 11, tarsus 3·2.

Adult female. General colour fulvous brown, most of the feathers with lighter margins, especially on the least wing-coverts; the median coverts darker brown, but not so glossy as the back, with fulvous margins; greater and primary coverts, as well as secondaries, tipped with fulvous; primaries blackish, externally shaded with ashy grey, forming distinct bands on both webs, these bands more vermiculated on the lower surface, the inner webs of the quills being ashy brown, shading into deep brown towards the tips of the primaries; tail dark brown, tipped with fulvous, the feathers shaded with ashy grey, forming eight or nine distinct bars on centre feathers; head and neck rather paler than the back, the feathers of the latter part margined with fulvous, giving a very mealy appearance, sides of face also light fulvous; under surface of body pale fulvous brown, lighter on the throat, leg-feathers, and under tail-coverts, many of the breast-feathers mottled with ashy brown near the base; under wing-coverts rather lighter than the breast, many of the feathers whity brown on their margins and near the base, the lower series ashy brown, like the inner lining of the wing; cere and gape deep yellow; feet yellow; iris hazel-brown. Total length 27 inches, culmen 2·5, wing 21·75, tail 11·5, tarsus 3·3.

Adult male. Total length 28 inches, wing 20·5, tail 11, tarsus 3·4.

Hab. India.

a. Juv. st.	India.	J. R. Reeves, Esq. [P.].
b. ♂ ad. sk.	India.	Dr. Burns [P.].
c, d. Imm. sk.	Kattiawar.	Capt. J. Hayes Lloyd [P.].

e. Imm. sk.	Western Ghats.	J. Gould, Esq. [P.].
f. Juv. sk.	Behar.	B. H. Hodgson, Esq. [P.].
g. Ad. st.	Madras.	Sir W. Elliot [P.].
h, i. ♂ ♀ juv. sk.	Darjiling.	R. B. Sharpe, Esq. [P.].
k. ♀ juv. sk.	Darjiling.	R. B. Sharpe, Esq. [P.].
l. ♂ ad. sk.	Darjiling.	R. B. Sharpe, Esq. [P.].

8. Aquila wahlbergi.

Aquila wahlbergii, *Sundev. Œfv. K. Akad. Stockh.* 1850, p. 109; *Finsch u. Hartl. Vög. Ostafr.* p. 51 (1870); *Salvad. Faun. Ital. Ucc.* p. 7 (1871).
Aquila brehmii, *Müll. Naum.* 1851, p. 24*.
Aquila desmursi, *Verr. in Hartl. Orn. W.-Afr.* p. 4 (1857); *Gurney, Tr. Z. S.* iv. p. 366, pl. 77 (1862).



Head of *Aquila wahlbergi*.

Adult female. Above brown, the feathers with distinct paler brown margins; head with a distinct occipital crest; wing-coverts uniform with back, the margins whity brown; primaries blackish, secondaries browner, the innermost uniform with back and margined in the same manner; tail nearly uniform dark brown, tipped with whitish, and obsoletely barred with lighter brown on the inner web; sides of head fulvous brown, forming a sort of eyebrow, the sides of the neck of the same colour; ear-coverts and cheeks uniform dark brown; under surface whity brown, much mixed with dark brown on the throat, chest, and entire breast; under tail-coverts nearly uniform whity brown; under wing-coverts dark brown, the outermost whity brown; inner lining of wing nearly uniform ashy brown, rather lighter near the base, inclining to whitish at the base of the inner web of first primary. Total length 26 inches, culmen 2, wing 18, tail 10, tarsus 3.

Young male. Above brown, with paler margins to the feathers, very broad on the interscapulary region; crown of the head rather paler brown, slightly varied with whitish bases to the feathers; from the occiput a long pendent crest of dark brown feathers; sides of head, forming an eyebrow, sides of face and of neck, as well as entire under surface of body, white, the ear-coverts slightly mottled

* This species should be united to *A. wahlbergii*, according to Drs. Finsch and Hartlaub; but Dr. von Heuglin (Orn. N.O.-Afr. p. 48) says that he has examined Von Müller's type and it is a young *A. pennata*. Heuglin, however, apparently does not know *A. desmursi*.

with brown, and a few remains of brown bars on the flanks and under tail-coverts, a little more distinct on the latter; under wing-coverts white, with a few brown bars, principally on the outer edge of the wing; quills black, the secondaries browner, with whitish apical margins, the under surface ashy brown, paler towards the base and inclining to white near base of outer primaries; tail blackish, inclining to light brown at tip and obsoletely barred with brown on the inner webs of the feathers. Total length 23·5 inches, wing 16, tail 9·5, tarsus 3.

Hab. The whole of Africa; said to have occurred once in Italy.

a. ♂ ad. st.		Bissao.	M. Verreaux.
b. ♂ juv. st.		Bissao.	M. Verreaux.

9. Aquila maculata*.

L'Aigle tacheté, *Briss. Orn.* i. p. 425 (1760).
Rough-footed Eagle, *Lath. Gen. Syn.* i. p. 37 (1781).
Spotted Eagle, *Lath. Gen. Syn.* i. p. 38 (1781).
? Falco nævius, *Gm. S. N.* i. p. 258 (1788); *Naum. Vög. Deutschl.* i. p. 217, pl. 10, 11. figs. 1, 2 (1822); *Werner, Atlas*, Rapaces, pl. 16 (1827); *Schl. u. Susem. Vög. Eur.* Taf. 20, 21 (1839).
Falco maculatus, *Gm. S. N.* i. p. 258 (1788).
Aquila melanaetus, *Savign. Syst. Ois. d'Egypte*, p. 253, pl. 1, 2. fig. 1 (1809).
Aquila nævia, *Meyer, in Meyer u. Wolf, Taschenb. deutsch. Vogelk.* i. p. 19 (1810); *Gould, B. Eur.* i. pl. 8 (1837); *Gray, Gen. B.* i. p. 13 (1845); *Bp. Consp.* i. p. 14 (1850); *Strickl. Orn. Syn.* p. 58 (1855); *Fritsch, Vög. Eur.* tab. 6. fig. 3, tab. 8. fig. 4 (1858); *Jaub. et Barth. Lap. Rich. Orn.* p. 37 (1859); *Schl. Mus. P.-B.* Aquilæ, p. 6 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 157; *Newt. Ooth. Wolley.* p. 44 (1864); *Wolf, Zool. Sk.* pl. xxxi. (1865); *Loche, Expl. Sci. Algér. Ois.* i. p. 28 (1867); *Degl. et Gerbe, Orn. Eur.* i. p. 26 (1867); *Gray, Hand-l. B.* i. p. 11 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 47 (1869); *Gould, B. Gt. Br.* pt. xvii. (1870); *Newt. ed. Yarr. Brit. B.* i. p. 20 (1871); *Salvad. Faun. Ital. Ucc.* p. 6 (1871); *Shelley, B. Egypt*, p. 206 (1872).
Aquila planga, *Bonn. et Vieill. Enc. Méth.* iii. p. 1190 (1823).
Aquila bifasciata, *Brehm, Vög. Deutschl.* p. 25 (1831, *ex Hornsch., nec Gray*).
Aquila pomarina, *Brehm, Vög. Deutschl.* p. 27 (1831).
Aquila nævia, var. pallida, *Licht. J. f. O.* 1853, p. 69, pl. iv.
Aquila fusca, *Brehm, Naum.* 1855, p. 268.
Aquila subnævia, *Brehm, ut suprà.*
Aquila fulviventris, *Brehm, ut suprà.*
Aquila maculata, *Dresser, Ann. N. H.* 1874, xiii. p. 373.

Adult male. Above pale brown, some of the feathers on the back and scapulars darker brown, the latter particularly so; wing-coverts with plain whity brown margins, very distinct on the least series, obsolete on the greater ones, which are darker brown; quills blackish, externally shaded with ashy on the primaries, the secondaries browner, with pale fulvescent apical margins; lower back and rump

* There is so much difference of opinion as to which is the true *F. nævius* of Gmelin, that it is best to adopt the title of *A. maculata* for the species.

pale brown, some of the feathers with a terminal triangular spot of buff, the lower upper tail-coverts entirely buffy white; tail almost uniform brown, slightly inclining to ashy grey on the middle of the centre feathers, the inner webs somewhat inclining to bronzy brown, the tips fulvescent, the outer feathers dimly barred on inner web with blackish brown; the lower surface of both quills and tail ashy brown, the latter indistinctly mottled; head and neck light brown, the hinder neck pale straw-colour, a few tips of the same colour being visible on the upper interscapulary plumes; cheeks and entire under surface of body pale brown, lighter and more fulvescent on the under tail-coverts, a few of the chest-feathers rather darker brown, with fulvous brown centres; under wing-coverts brown, rather darker than breast, a few with irregular whitish tips, the lowest series darker and more ashy brown, uniform with the wing-lining; cere yellow; bill bluish horn-colour, lighter near base; feet yellow; iris hazel. Total length 24·5 inches, culmen 1·75, wing 19, tail 9·25, tarsus 3·45. (*Dantzig, mus. H. E. Dresser.*)

Adult female. Larger than the male. Total length 26 inches, wing 19·75, tail 10, tarsus 3·6. (*Brunswick, mus. H. E. D.*)

Young male. Above brown, paler on the head, the feathers of the crown tipped with fulvous, the plumes of the hind neck with a longitudinal fulvous streak towards the tip, giving a distinctly lanceolate appearance, the nape-feathers entirely ochraceous buff, forming a patch; wing-coverts brown like back, the outer median and greater series longitudinally streaked with white, forming a larger and more rounded spot on the greater and primary coverts; quills blackish, shaded externally with brown, the innermost secondaries much paler brown, with a large oval spot of white at the tip, as on the coverts, the outer secondaries slightly tipped with whity brown, inner lining of wings uniform ashy brown, the secondaries paler, with slight remains of ashy whitish cross bars on inner web; scapulars with a terminal whitish shaft-streak, larger on the lowest ones but less distinct, because over-shaded with brown; upper tail-coverts pale brown, whitish on outer webs, which are more or less mottled with brownish; tail perfectly uniform dark brown, tipped with whitish, but having no traces of barring above, and only the faintest appearance of ashy bars towards the tips of the feathers below; sides of face and throat pale buffy brown; rest of under surface of body from the lower throat pale brown, with whitish centres to the feathers, larger and forming a cluster down the middle of the breast, which preserves a lighter appearance, the stripes on the lower throat and flanks more linear and deeper ochraceous, whitish and forming a triangular apical spot on the thigh-feathers; tarsal feathers pale brown; under tail-coverts buffy white; under wing-coverts pale brown, with a few whitish shaft-streaks on the outermost small coverts, the lower series ashy brown, like the lining of the wings, the outer ones slightly whitish at tips and bases, the first primaries very faintly mottled with whitish at base. Total length 25 inches, wing 18·5, tail 9·5, tarsus 3·4.

Hab. Central Europe, extending into Northern Germany and

Poland, going southward in winter to Egypt and Africa. Of rarer occurrence in the southern and western countries of Europe.

a. Juv. st.	Xanthus.	Sir C. Fellows [P.].

Subsp. *a*. Aquila hastata.

Morphnus hastatus, *Less. Voy. Bélang.* p. 217 (1834).
Limnaetus unicolor, *Blyth, J. A. S. B.* xii. p. 128 (1843).
Limnaetus hastatus, *Blyth, Ann. N. H.* xiii. p. 114 (1844).
Spizaetus punctatus, *Jerd. Madr. Journ.* xiii. p. 164 (1844).
Spizaetus hastatus, *Gray, Gen. B.* i. p. 14 (1845); *Strickl. Orn. Syn.* p. 72 (1855).
Aquila hastata, *Blyth, J. A. S. B.* xv. p. 7 (1846); *Jerd. B. Ind.* i. p. 62 (1862); *Gray, Hand-l.* i. p. 11 (1869); *Hume, Rough Notes*, i. p. 180; *Anders. P. Z. S.* 1871, p. 622.
Aquila nævia, *Brooks, Str. F.* i. p. 293 (1873).

Of this species, to unite which with *A. nævia* I cannot quite agree with Mr. Brooks, I subjoin the measurements of a pair sexed by that gentleman and sent to Mr. H. E. Dresser:—

Adult ♂. Total length 23 inches, culmen 2·3, wing 19·15, tail 9·5, tarsus 3·9.

Adult ♀. Total length 24·5, wing 19·5, tail 10, tarsus 3·9.

Although, as Mr. Brooks says, some examples are difficult, if not impossible, to tell from *A. nævia* of Europe, I must coincide with Messrs. Gurney and Dresser that the young are not quite the same; and I have never seen any adult European birds with the small white spots on the least wing-coverts, which frequently occur in *A. hastata*. This character appears to me to be probably a sign of the adult plumage, and may perhaps present a character of importance in distinguishing *A. hastata* from *A. nævia*.

Hab. Indian peninsula.

a. Ad. st.	Behar.	B. H. Hodgson, Esq. [P.].
b. Juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
c, *d*, *e*. ♂ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
f. ♀ juv. sk.	Darjiling.	R. B. Sharpe, Esq.
g. ♂ ad. sk.	?	
h. Sternum.		B. H. Hodgson, Esq. [P.].

Subsp. *b*. Aquila clanga.

Aquila clanga, *Pall. Zoogr. Rosso-Asiat.* i. p. 351 (1811); *Schl. Vog. Nederl.* pl. 26 (1854); *Brehm, Naum.* 1855, p. 267; *Degl. et Gerbe, Orn. Eur.* p. 28 (1867); *Gray, Hand-l.* i. p. 28 (1869).
Aquila vittata, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Aquila fusco-ater, *Wodzicki, Naum.* 1851, p. 10.
Aquila unicolor, *Brehm, Naum.* 1855, p. 267.
Aquila nævia, *Schrenck, Reis. Amurl. Vög.* p. 220 (1859); *Linderm. Vög. Griech.* p. 26 (1860); *Jerd. B. Ind.* i. p. 59 (1862); *Radde, Reis. Sibir. Vög.* p. 85 (1863); *Hume, Rough Notes*, i. p. 162 (1869); *Anders. P. Z. S.* 1871, p. 686; *Hume, Str. F.* i. p. 158 (1873).
Falco clanga, *Naum. Vög. Deutschl.* xiii. Taf. 342, 346 (1860).

Adult female. Similar to *A. nævia*, but a very much larger and more powerful bird, and apparently never becoming so light brown

in plumage. Total length 29 inches, culmen 2·4, wing 21·4, tail 11·8, tarsus 4·2.

Adult male. Rather smaller than the female. Total length 26·5 inches, wing 20·5, tail 10·5, tarsus 3·9.

Young male. Above brilliant purplish brown, the head and neck rather duller, with lanceolate apical streaks of dingy buff on the nape and hind neck; wing-coverts purplish brown like back, with a few dull white longitudinal streaks on the median coverts, much larger and forming distinct oval spots on the primary and greater coverts, also very distinct and forming longitudinal oval spots at the tips of the scapulars; quills blackish, the secondaries rather browner, with obsolete blackish bars, and distinctly spotted with the same oval markings as the scapulars; lower back and rump with distinct triangular spots of ochraceous buff, the upper tail-coverts almost uniform buffy white; tail-feathers blackish, shading towards the end into brown, and tipped with whity brown, crossed with three or four blackish-brown bars near the tips; under surface of body blackish, the chin browner, the breast streaked with pale brown down the centre of the feathers, rather more ochraceous on the abdomen and leg-feathers; under tail-coverts ochraceous buff; under wing.coverts uniform blackish, the axillaries rather browner; the lower series of under wing-coverts ashy brown, like inner lining of wing, and conspicuously white at base like the primaries. Total length 26 inches, wing 20, tail 10, tarsus 3·9. (*Albania, mus. H. E. Dresser.*)

Hab. South-eastern Europe, very rarely extending into Poland and Germany; ranging eastwards into Siberia and India.

a. Ad. sk.	Southern Russia.	R. B. Sharpe, Esq. [P.].
b, c. ♀ ad. sk.	Southern Ural.	Dr. Strader [C.].
d. ♂ ad. sk.	Southern Ural.	Dr. Strader [C.].
e, f. Ad. st.	Bagdad.	K. Loftus, Esq. [P.].
g. Juv. st.	Bagdad.	K. Loftus, Esq. [P.].
h. ♀ ad. sk.	Madras.	Dr. Jerdon [P.].
i. ♀ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
k. ♀ ad. sk.	Darjiling.	R. B. Sharpe, Esq. [P.].

40. NISAETUS.

	Type.
Nisaetus, *Hodgs. J. A. S. B.* v. p. 227 (1836)	N. fasciatus.
Eutolmaetus, *Blyth, J. A. S. B.* xiv. p. 174 (1845)	N. fasciatus.
Butaetus, *Blyth* (*l. c.*) *nec Less.*	N. pennatus.
Hieraetus, *Kaup, Mus. Senckenb.* iii. p. 260 (1845).....	N. pennatus.
Tolmaetus, *Blyth, J. A. S. B.* xv. p. 5 (1846)	N. fasciatus.
Pseudaetus, *Bp. Cat. Ois. Eur. Parzud.* p. 1 (1856).....	N. fasciatus.
Aquilastur, *Brehm, Ber. Orn. Vers. Stuttg.* 1860, p. 53....	N. fasciatus.

Range. The whole of Africa; countries bordering the Mediterranean; the whole of India and Ceylon; Australia.

Key to the Species.

a. Breast pure white, streaked with black.
a'. Primaries banded below: greater series of under wing-coverts blackish ..... *fasciatus* ad., p. 250.

b'. Primaries not banded below: greater under wing-coverts white, like wing-lining.... *spilogaster* ad., p. 252.
b. Breast buffy white or light rufous, streaked with blackish brown.
c'. Primaries banded below.
a''. Larger: wing in ♂ about 19·6 inches, in ♀ 21 ..... *fasciatus* juv., p. 250.
b''. Smaller: wing 15 inches ..... *morphnoides* ad., p. 254.
d'. Primaries uniform below.
c''. Wing in ♂ 17·6, in ♀ 18·3 inches..... *spilogaster* juv., p. 252.
d''. Wing in ♂ 13·7 inches, in ♀ 16·5..... *pennatus* ad., p. 253.
c. Breast clove-brown, with narrow black streaks *pennatus* juv., p. 253.

1. Nisaetus fasciatus.

Aquila fasciata, *Vieill. Mém. Linn. Soc. Paris*, p. 152 (1822); *Strickl. Orn. Syn.* p. 61 (1855); *Degl. et Gerbe, Orn. Eur.* i. p. 33 (1867); *Salvad. Faun. Ital. Ucc.* p. 8 (1871).
Falco bonellii, *Temm. Pl. Col.* i. pl. 288 (1824); *Savi, Orn. Tosc.* i. p. 24 (1827); *Marm. Mem. Accad. R. Torino*, xxxvii. p. 110, pl. i. (1840).
Aquila intermedia, *Boitard, Ois. d'Eur.* p. (1825).
Aquila bonellii, *Less. Man. Orn.* i. p. 83 (1828); *Gould, B. Eur.* i. pl. 7 (1837); *Schl. u. Susem. Vög. Eur.* Taf. 18 (1839); *Gray, Gen. B.* i. p. 14 (1845); *Bp. Consp.* i. p. 14 (1850); *Hartl. Orn. W.-Afr.* p. 3 (1857); *Fritsch, Vög. Eur.* Taf. 6. figs. 4, 5 (1858); *Jaub. et Barth. Lap. Rich. Orn.* p. 10, pl. 4 (1859); *Schl. Mus. P.-B.* Aquilæ, p. 9 (1862); *Gray, Hand-l.* i. p. 12 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 49 (1869); *Shelley, B. Egypt*, p. 206 (1872).
Nisaetus grandis, *Hodgs. J. A. S. B.* v. p. 230 (1836); *Jerd. Ill. Ind. Orn.* pl. 1 (1847).
Nisaetus niveus, *Jerd. Madr. Journ.* x. pp. 69, 234 (1839).
Spizaetus grandis, *Blyth, J. A. S. B.* xii. p. 301 (1843).
Aquila nipalensis, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Aquila rubriventer, *Hodgs. t. c.* p. 81 (1844).
Eutolmaetus bonellii, *Blyth, J. A. S. B.* xiv. p. 174 (1845), et xix. p. 335 (1850); *Hume, Rough Notes*, i. p. 189 (1869).
Tolmaetus bonellii, *Blyth, J. A. S. B.* xv. p. 5 (1846).
Nisaetus strenuus, *Jerd. Ill. Ind. Orn.* pl. 1 (1847).
Aquila wiedii, *Brehm, Naum.* 1855, pp. 25, 268.
Pseudaetus bonellii, *Bp. Cat. Ois. Eur. Parzud.* p. 1 (1856); *Loche, Expl. Algér. Ois.* i. p. 29 (1867); *Hume, Str. F.* i. p. 158 (1873).
Aquilastur bonellii, *Brehm, Ber. Orn. Vers. Stuttg.* 1860, p. 53.
Aquilastur wiedii, *Brehm, ut suprà.*
Nisaetus bonellii, *Jerd. B. Ind.* i. p. 67 (1862); *Holdsw. P. Z. S.* 1872, p. 411.

Nestling. Above umber-brown, with whitish margins to the small wing-coverts and upper tail-coverts, broader on the latter, these being slightly mottled with paler brown; greater wing-coverts and secondaries purplish brown, the latter terminally margined with buffy white, the primaries blackish both above and below, the secondaries whitish below, with dark brown bars; tail greyish brown, broadly tipped with buffy white, with two distinct cross bands of dark brown, the subterminal one broader; head and neck brown, with rufous margins, the ear-coverts more rufous; underneath

rich fawn-colour, paler on the tarsal feathers and under wing-coverts, the breast-feathers mesially streaked with blackish shaft-stripes.

Young. The nestling described is so advanced in plumage as to show nearly all the characteristics of the fully grown young bird. Some points, however, are not fully developed, and require a short description of the second stage. General colour brown, with black shaft-stripes and faint fulvous-brown margins to the feathers, the head and neck fawn-colour like the underparts, with distinct blackish shaft-stripes, as also the under wing-coverts and axillaries; quills dark brown, broadly tipped with buffy white, and mottled with ashy grey externally towards the tips, crossed with distinct bars of darker brown, the innermost secondaries uniform brown like the back; tail ashy brown, mottled with rufous and shaded with the same towards the tips, with indications of dark brown spots near the shafts of the centre feathers, inclining to bars on the inner webs of the others, but with no appearance of a subterminal band.

Adult female. Above deep brown, the feathers white at base, some of them paler-margined, the eyebrow and sides of neck streaked with white; sides of face white, the cheeks distinctly streaked with brown, the ear-coverts more narrowly, the hinder margin of the latter inclining to rufous; under surface of body white, with distinct blackish brown shaft-stripes of unequal breadth, the flanks irregularly barred and marked with arrow-head markings of dark brown; leg-feathers more or less pale brown, varied with dark brown, and irregularly spotted with white; under wing-coverts white, streaked with black, the lower ones entirely black, with white tips; axillaries white, barred and streaked with blackish, the remains apparently of a uniform blackish feather; quills deep brown, much mottled with white on inner web; tail ashy brown, more or less inclining to grey, with five or six indistinct bars of brown near the base, and a broad subterminal band of dark brown, the tips of the feathers fulvous; cere and gape dingy yellow, bluish about nostrils; bill horn-black, bluish grey at base; feet whitish brown, tinged with yellow, claws black; iris yellow. Total length 26 inches, culmen 2·5, wing 21, tail 11·5, tarsus 4.

Adult male. Rather smaller than the female. Total length 29 inches, wing 19·6, tail 11, tarsus 3·5.

Hab. All the countries of Southern Europe, on both sides of the Mediterranean; the entire Indian peninsula.

a. Juv. sk.	Italy.	Purchased.
b. Juv. st.	Tangier.	R. Warren, Esq. [P.].
c, d. Pull. st.	Tunis.	L. Fraser, Esq. [C.].
e. ♀ ad. sk.	Tunis.	L. Fraser, Esq. [C.].
f. ♀ ad. st.	Tunis.	Sir T. Reade [P.].
g. Ad. st.	India.	J. R. Reeves, Esq. [P.].
h. Juv. st.	India.	Purchased.
i. Juv. sk.	India.	Purchased.
j. ♂ imm. sk.	Rajkote, Kattiawar, Jan. 1, 1871.	Capt. J. Hayes Lloyd [P.].
k. Juv. sk.	Madras.	Dr. Jerdon [P.].
l. Juv. st.	Nepal.	B. H. Hodgson, Esq. [P.].

m, n, o. Juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
p, q. Ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
r, s. Imm. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
t. Ad. sk.	Assam.	J. Gould, Esq. [P.].
u. Juv. sk.	India.	Prince Frederick of Schleswig-Holstein [P.].
v. Skeleton.		Zoological Society.
w. Skeleton.		L. Fraser, Esq. [C.].
x, y. Sterna.		B. H. Hodgson, Esq. [P.].

2. Nisaetus spilogaster.

Spizaetus spilogaster, *Bp. Rev. et Mag. de Zool.* 1850, p. 487 (*ex Du Bus, MS.*); *Strickl. Orn. Syn.* p. 73 (1855); *Schl. Mus. P.-B.* Astures, p. 12 (1862); *Layard, B. S. Afr.* p. 14 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 57 (1869); *Gray, Hand-l. B.* i. p. 13 (1869); *Finsch u. Hartl. Vög. Ostafr.* p. 48 (1870); *Bocage, Jorn. Lisb.* 1873, p. 3; *Schl. Revue Accipitr.* p. 59 (1873).
Spizaetus zonurus, *Müll. Naum.* 1850, p. 27; *id. Beitr. Orn. Afr.* Taf. 1 (1853).
Aquila bonellii, *Brehm, J. f. O.* 1853, p. 204; *Heugl. J. f. O.* 1861, p. 193; *Layard, B. S. Afr.* p. 11 (1867).
Spizaetus leucostigma, *Heugl. Syst. Uebers.* p. 7 (1856).
Spizaetus ayresii, *Gurney, Ibis*, 1862, p. 149, pl. 4; *id. Ibis*, 1864, p. 356.
Aquila fasciata, *Gurney, Ibis*, 1868, p. 138.
Pseudaetus spilogaster, *Gurney, in Anderss.* p. 7 (1872).

Young. Above brown, with slight spots and mottlings of white at the base of the scapulars and upper tail-coverts; head also dark brown, the hinder neck and sides of the face dull tawny rufous, with black streaks, more distinct on the latter, and forming a kind of irregular moustache; under surface of body uniform tawny rufous, a little paler on the feathers of the throat; under tail-coverts and outermost under wing-coverts, chin, and chest with a few lanceolate elongated black streaks; the lower under wing-coverts with large spots of black; quills dark brown, the secondaries paler brown, tipped and irregularly marked on both webs with white, the inner webs white at base, shading off into ashy white before the tips, which are dark brown, the dark brown cross bars showing more plainly; tail-feathers ashy grey above, tipped with white, ashy white below, and crossed with seven blackish bands not well defined, and often merging into each other; cere greenish yellow; bill ash-colour, black at tip; feet greenish yellow; iris light yellow. Total length 24·5 inches, wing 17·6, tail 11·3, tarsus 4.

Adult female. Above brownish black, the head streaked, and the back, scapulars, and wing-coverts conspicuously varied with large spots of white; primaries externally ashy, and blackish brown at tips, the secondaries mottled with brown or ashy and dark brown at tips; upper tail-coverts brown, largely banded and tipped with white; tail ashy grey, with a broad dark band at tip, the remainder of the feathers mottled with remains of brown bars; cheeks white, slightly streaked with black; under surface of body pure white, with black streaks on the breast and irregular large spots on the under tail-coverts; under wing-coverts black, some feathers mar-

gined with white; cere bright yellow; bill bluish, the base of the lower mandible yellow; feet bright yellow, talons horn-black; iris bright yellow. Total length 26·5 inches, culmen 1·9, wing 18·3, tail 11·4, tarsus 3·9.

Adult male. Very similar to the female, but with the white spots on the upper surface less distinct, and the streaks on the lower surface more distinct.

Hab. North-eastern Africa, extending along the eastern coast and over the whole of South Africa as far as Benguela on the western coast.

a, b. ♀ juv. sk.	Bogos Land.	Herr Esler [C.].
c. ♂ ad. st.	Abyssinia.	Purchased.

3. Nisaetus pennatus.

Le Faucon patu, *Briss. Orn.* vi. *App.* p. 22, pl. 1 (1760).
Falco pennatus, *Gm. S. N.* i. p. 272 (1788); *Temm. Pl. Col.* i. pl. 33 (1824); *Werner, Atlas*, Rapaces, pl. 17 (1827); *Schl. u. Susem. Vög. Eur.* Taf. 22 (1839); *Naum. Vög. Deutschl.* xiii. Taf. 343 (1868).
Aquila pennata, *Vig. Zool. Journ.* i. p. 337 (1824); *Gould, B. Eur.* i. pl. 9 (1837); *Gray, Gen. B.* i. p. 14 (1845); *Bp. Consp.* i. p. 14 (1850); *Strickl. Orn. Syn.* p. 60 (1855); *Hartl. Orn. W.-Afr.* p. 4 (1857); *Fritsch, Vög. Eur.* tab. 5. figs. 3, 4, 5 (1858); *Jaub. et Barth. Rich. Orn.* p. 36, pl. 3 (1859); *Jerd. B. Ind.* i. p. 63 (1862); *Schl. Mus. P.-B.* Aquilæ, p. 87 (1862); *Dresser, P. Z. S.* 1866, p. 377; *Degl. et Gerbe, Orn. Eur.* i. p. 36 (1867); *Layard, B. S. Afr.* p. 10 (1867); *Gray, Hand-l. B.* i. p. 12 (1869); *Heugl. Orn. N.O.-Afr.* p. 47 (1869); *Salvad. Faun. Ital. Ucc.* p. 7 (1871); *Holdsw. P. Z. S.* 1872, p. 411; *Shelley, B. Egypt*, p. 207 (1872); *Krüper, J. f. O.* 1872, p. 59; *Holtz, t. c.* p. 286; *Schl. Revue Accipitr.* p. 116 (1873).
Aquila minuta, *Brehm, Vög. Deutschl.* p. 29, pl. 2. fig. 2 (1831); *Goebel, J. f. O.* 1872, p. 454.
Spizaetus milvoides, *Jerd. Madr. Journ.* x. p. 75 (1839).
Butaetus pennatus, *Blyth, J. A. S. B.* xiv. p. 174 (1845).
Hieraetus pennatus, *Kaup, Mus. Senckenb.* iii. p. 260 (1845); *Blyth, J. A. S. B.* xv. p. 7 (1845); *Loche, Expl. Algér.* i. p. 132 (1867); *Hume, Rough Notes*, i. p. 182 (1869); *Gurney, in Anderss. B. Dam. Ld.* p. 7 (1872).
Aquila brehmii, *Müll. Naum.* 1852, p. 24; *Brehm, op. cit.* 1853, p. 268.
Aquila longicaudata, *Heugl. Syst. Uebers.* p. 6 (1856).

Nestling. Entirely covered with white down, the head very much crested.

Adult female. Above brown, the scapulars with a purplish shade, some of the highest plumes of the latter pure white, forming a shoulder-patch, the lowest broadly bordered with buffy white, as also are all the wing-coverts; lesser and median coverts slightly shaded with pale fawn-colour, the greater ones purplish brown, with a broad edging of buffy white; quills blackish, secondaries purplish brown, terminally margined with buffy white, the innermost very pale whity brown; lower surface of quills dark brown, inclining to ashy white near base of inner web, the secondaries indistinctly barred with dull whitish; lower back and rump dark purplish brown, the

upper tail-coverts dull fawn-brown, shading into buffy white on their margins and tips; tail dull sepia-brown, slightly shaded with ashy, and tipped with dull white, crossed with four or five indistinct bars of darker brown, the feathers inclining to dark brown towards the tips, but not forming a distinct subterminal band; head and neck fawn-colour, with lanceolate central streaks of dark brown, the cheeks streaked distinctly with blackish; frontal plumes whitish; under surface of body buffy white, the throat and chest inclining to dull fawn-colour, the throat broadly streaked with black down the centre, the chest also streaked with dark brown, becoming narrower on the breast, and disappearing on the abdomen, thighs, and under tail-coverts; under wing-coverts white, scarcely streaked with dark brown shaft-lines, the greater ones with large blackish spots; cere and gape bright wax-yellow; bill bluish black, pale blue at base; feet pale wax-yellow; iris pale brown. Total length 24 inches, culmen 1·7, wing 16·5, tail 10, tarsus 2·8.

Adult male. Smaller than the female. Total length 19 inches, wing 13·7, tail 8, tarsus 2·4.

Young. Differs from the adult in the colour of its under surface, which is entirely dull brown, with distinct black shaft-lines, the thighs and under tail-coverts a little more sandy, the tarsal feathers buffy white; upper surface purplish brown, the scapulars and wing-coverts lighter than the back and broadly edged with whitish, the upper tail-coverts almost entirely whitish; uppermost scapulars white, forming a larger patch than in the adult; head dull fawn, not so rufous as in the old bird, distinctly streaked with black, the cheeks and throat strongly inclining to dark brown; quills and tail much as in the adult.

Hab. Southern and North-eastern Africa, all the countries bordering the Mediterranean, South-eastern Europe, entire Indian peninsula and Ceylon.

a. Pull. st.	Europe.	J. Gould, Esq.
b. ♂ juv. st.	Europe.	Purchased.
c. ♂ ad. st.	Spain.	Purchased.
d. ♀ juv. st.	Egypt.	W. B. D. Turnbull, Esq. [P.].
e. ♀ ad. sk.	South Africa.	South-African Museum.
f. ♀ juv. st.	Nepal.	B. H. Hodgson, Esq. [P.].
g. ♀ ad. st.		
h. Skeleton.		Zoological Society.
i. Sternum.		B. H. Hodgson, Esq. [P.].

4. Nisaetus morphnoides.

Aquila morphnoides, *Gould, P. Z. S.* 1840, p. 161; *Gray, Gen. B.* i. p. 14 (1845); *Gould, B. Austr.* i. pl. 2 (1848); *Bp. Consp.* i. p. 14 (1850); *Strickl. Orn. Syn.* p. 62 (1855); *Gray, Hand-l. B.* i. p. 12 (1869).

Butaetus morphnoides, *Blyth, J. A. S. B.* xiv. p. 546 (1845).

Hieraetus cristatus, *Blyth, J. A. S. B.* xv. p. 4 (1846).

Hieraetus morphnoides, *Kaup, Isis*, 1847, p. 243; *Gould, Handb. B. Austr.* i. p. 11 (1865).

Adult. Face, crown of the head, and throat blackish brown, tinged

with rufous, giving it a striated appearance, and bounded in front above the nostrils with whitish; feathers at the back of the head, which are lengthened into a short occipital crest, back and sides of the neck, all the under surface, thighs, and under tail-coverts rufous, all but the thighs and under tail-coverts with a stripe of black down the centre of each feather; back, rump, and wings brown, the centre of the wing lighter; primaries brownish black, becoming darker at the tip, and barred throughout with greyish buff, which is conspicuous on the under surface, but scarcely perceptible on the upper, except at the base of the inner webs; under surface of the wing mottled with reddish brown and black; tail mottled greyish brown, crossed by seven or eight distinct bars of blackish brown, the tips being lighter; cere and bill lead-colour, passing into black at the tip; eye reddish hazel, surrounded by a blackish brown eyelash; feet lead-colour. Total length 21½ inches; bill 1¾; wing 15; tail 9½; tarsus 2¾. (*Gould.*)

Hab. S. Australia.

a. Ad. sk. Queensland. M. A. Bouvier [E.].

41. LOPHOTRIORCHIS*.

Spizaetus *et* Limnaetus (pt.), *auct.*



Head of *Lophotriorchis kieneri.*

Range. Columbian subregion in South America; Indo-Malayan subregion in Asia.

Key to the Species.

a. Smaller; wing 14·1 inches; chest white, with black streaks ..... *kieneri*, p. 255.

b. Larger; wing 20·2 inches; chest rufous, with black streaks ..... *isidorii*, p. 256.

1. Lophotriorchis kieneri.

Astur kieneri, *Geoffroy St.-Hil. Rev. Zool.* 1845, pl. 35 (1835).
Spizaetus albogularis, *Tick. J. A. S. B.* xi. p. 456 (1842).
Limnaetus kieneri, *Strickl. Ann. N. H.* xiii. p. 33 (1844); *Jerd. B. Ind.* i. p. 74 (1862).
Spizaetus kieneri, *Gray, Gen. B.* i. p. 14 (1845); *Bp. Consp.* i. p. 29 (1850); *Strickl. Orn. Syn.* p. 71 (1855); *Schl. Mus. P.-B.* Astures, p. 11 (1862); *Wall. Ibis*, 1868, p. 14; *Hume, Rough Notes*, i. p. 216

* Λόφος. *crista*, τριόρχης, *Avis accipitrina.*

(1869); *Gray, Hand-l.* i. p. 213 (1869); *Hume, Str. F.* i. p. 311 (1873); *Schl. Revue Accipitr.* p. 58 (1873).
Nisaetus kieneri, *Jerd. Ill. Ind. Orn.* p. 5 (1847).

Adult. Above black, with an occipital crest 2·4 inches in length; ear-coverts somewhat mixed with whitish; cheeks, throat, and breast pure white, with a few narrow black shaft-lines on the side of the latter; rest of under surface, including under wing- and tail-coverts, tawny rufous, streaked with black shaft-stripes, rather broader on the flanks, where they are more merged; wings black, some of the feathers externally brownish, the inner lining of quills whitish ashy, with a few blackish bars on the inner web of the primaries, the secondaries narrowly tipped with white; tail black, very slightly tipped with whity brown, and with indications of brown cross bands under certain lights, the lower surface of the tail ashy white, with a subterminal brown bar; cere yellow; bill leaden blue; feet yellow, claws black; iris brown. Total length 21 inches, culmen 1·5, wing 14·1, tail 8·3, tarsus 2·9.

Hab. The Indian peninsula, Malacca, and Borneo.

a.	Ad. st.	India.	Purchased.
b.	♀ ad. sk.	Sarawak, Borneo.	A. R. Wallace, Esq. [C.].

2. Lophotriorchis isidorii.

Falco isidorei, *Des Murs, Rev. Zool.* 1845, p. 176*.
Aquila isidori, *Des Murs, Icon. Orn.* pl. 1 (1845).
Circaetus isidori, *Gray, Gen. B.* iii. *App.* p. 1 (1849).
Spizaetus isidori, *Bp. Consp.* i. p. 29 (1850); *Strickl. Orn. Syn.* p. 72 (1855); *Gray, Hand-l.* i. p. 12 (1869); *Scl. & Salv. Nomencl.* p. 120 (1873).

Adult. Above glossy black, the head ornamented with a crest 3·3 inches long; quills also black, the primaries ashy grey at base, with a broad black tip; tail ashy grey for two thirds of its length, the remaining third being black, with a slight ashy brown tip; sides of face and throat black; rest of under surface tawny rufous, with central black streaks of irregular width to some of the feathers; flanks and external thigh-feathers black; under wing-coverts rufous, with black stripes like the breast. Total length 26·5 inches, culmen 2·5, wing 20·2, tail 13, tarsus 4·6.

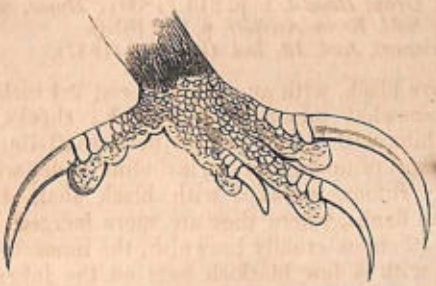
Hab. Columbia.

a.	Ad. sk.	Bogotá (*Chesterton*).	W. Wilson Saunders, Esq. [P.].

42. NEOPUS.

	Type.
Heteropus, *Hodgs. J. A. S. B.* xii. p. 127 (1843, *nec Dum. et Bibr.* 1839)	H. malayensis.
Neopus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844)	H. malayensis.
Onychaetus, *Kaup, Classif. Säug. u. Vög.* p. 120 (1844)	H. malayensis.
Ictinaetus, *Jerd. Ann. N. H.* xiii. p. 114 (1844)	H. malayensis.

Range. The entire Indian peninsula in suitable localities, Ceylon, Burmah, extending down the Malayan peninsula to Java, Sumatra, Celebes, and Ternate.



Foot of *Neopus malayensis* (reduced).

1. Neopus malayensis.

Falco malayensis, *Temm. Pl. Col.* i. pl. 117 (1824, *ex Reinw. MS.*).
Aquila malayensis, *Vig. Zool. Journ.* i. p. 337 (1824); *Gray, Gen. B.* i. p. 14 (1845); *Bp. Consp.* i. p. 14 (1850); *Strickl. Orn. Syn.* pp. 60 220 (1855); *Schl. Mus. P.-B.* Aquilæ, p. 11 (1862); *id. Vog. Nederl. Ind. Valkv.* pp. 8, 49, pl. 3. figs. 1, 2 (1866); *Gray, Hand-l.* i. p. 11 (1869); *Schl. Revue Accipitr.* p. 117 (1873).
Aquila malayana, *Less. Traité*, p. 39 (1831).
Aquila pernigra, *Hodgs. J. A. S. B.* v. p. 227 (1836).
Heteropus perniger, *Hodgs. J. A. S. B.* xii. p. 127 (1843).
Nisaetus ovivorus, *Jerd. Madr. Journ.* xiii. p. 157 (1844).
Ictinaetus perniger, *Blyth, Ann. N. H.* xiii. p. 114 (1844).
Neopus perniger, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Ictinaetus malayensis, *Blyth, J. A. S. B.* xv. p. 7 (1846).
Neopus malayensis, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 381 (1854); *Jerd. B. Ind.* i. p. 65 (1862); *Beav. P. Z. S.* 1868, p. 396, pl. xxxiv.; *Wall. Ibis*, 1868, p. 13; *Hume, Rough Notes*, i. p. 187 (1869); *Wald. Tr. Z. S.* viii. p. 34 (1872); *Holdsw. P. Z. S.* 1872, p. 411.

Young. Above brown, all the wing-coverts and the secondaries with buffy white spots at their tips, minute on the former, larger on the latter and also distinct on the feathers of the lower back; upper tail-coverts very broadly tipped with white; primaries black, slightly mottled with white at the base of the inner web, less distinct on the secondaries; tail-feathers black, the centre ones browner, all crossed with indistinct bands of ashy brown, rather inclining to whitish on the inner web of the outer feathers; head slightly crested, brown, with ochre-coloured margins to the feathers, reduced to narrow lines on the forehead; sides of crown, cheeks, and throat buffy ochre, a few feathers below the eye and some narrow streaks on the throat blackish; rest of the under surface of body rich buffy ochre, with margins of dark brown to the feathers, giving a strongly striped appearance, the margins less distinct on the abdomen, thighs, and flanks, which are less striped in consequence; vent and feathers on the tarsus uniform buffy ochre, the under tail-coverts with brown shaft-stripes and mottled with brown on the outer web; under wing-coverts ochre, uniform with the breast, the lower ones mottled, and the axillaries margined with dark brown. Total length 27·5 inches, culmen 1·7, wing 21·2, tail 12, tarsus 3·1. (*Mus. Lugd.*)

The adult plumage of *Neopus* seems to be gained by a partial moult on the upper surface, while the brown edgings to the crown and feathers of the under surface gradually occupy the whole of the feathers and produce a uniform appearance.

Adult female. All over black, the quills mottled with white near the base; tail-feathers more or less distinctly barred with ashy above, appearing as if mottled with white underneath; cere and gape deep yellow; bill greenish horny, black at tip; feet deep yellow; iris dark brown. Total length 29·5 inches, culmen 2·05, wing 22·7, tail 12·8, tarsus 3·4.

Hab. The same as that of the genus.

a. Ad. sk.	India.	Prince Frederick of Schleswig-Holstein [P.].
b, *c*. Ad. sk.	Nepaul.	B. H. Hodgson, Esq.
d. Ad. st.	Nepaul.	B. H. Hodgson, Esq.
e. Ad. st.	Ceylon.	H. Cuming, Esq. [C.].
f. Imm. sk.	Malayan archipelago.	Leiden Museum [P.].

43. SPIZIASTUR*.

Spizastur, *Gray, List Gen. B.* p. 3 (1841)..... Type. S. melanoleucus.



Foot of *Spiziastur melanoleucus*.

Range. From Guatemala in Central America southwards to Brazil.

1. Spiziastur melanoleucus.

Buteo melanoleucus, *Vieill. N. Dict.* iv. p. 482 (1816); *id. et Oud. Gal. Ois.* pl. 14 (1825).
Falco atricapillus, *Temm. Pl. Col.* i. pl. 79 (1823).
Morphnus atricapillus, *Vigors, Zool. Journ.* i. p. 325 (1824).

* This genus is often ascribed to Lesson, who, however, only used the name "Les *Spiziastures*" for a group of Hawks in the same way that he used "Les Gymnogènes" (Compl. Buff. vii. p. 92, 1837).

Astur atricapillus, *Less. Man. d'Orn.* i. p. 93 (1828).
Spizastur atricapillus, *Gray, List Gen. B.* p. 3 (1841); *Kaup, Mus. Senck.* iii. p. 259 (1845).
Spizaetus atricapillus, *Gray, Gen. B.* p. 14 (1845); *Burm. Th. Bras.* p. 65, note (1856); *Pelz. Orn. Bras.* p. 4 (1871).
Spizaetus melanoleucus, *Bp. Consp.* i. p. 28 (1850); *Strickl. Orn. Syn.* p. 73 (1855); *Schl. Mus. P.-B.* Astures, p. 14 (1862); *Gray, Hand-l.* i. p. 12 (1869); *Scl. & Salv. Nomencl.* p. 120 (1873).

Adult male. Above blackish, deeper on the interscapulary region and wing-coverts; quills dark brown, slightly tipped with fulvous, and barred across with blackish brown, the primaries externally shaded with greyish, the innermost secondaries paler than the back; upper tail-coverts paler brown, with indistinct margins of whity brown; tail ashy brown, slightly tipped with fulvous, and crossed with four blackish bands, the subterminal one decidedly broader; head, neck, and entire under surface of body pure white, with the exception of a few black markings on the nape and occipital crest; under wing- and tail-coverts white; inner lining of quills white, the primaries blackish towards the tip, the secondaries inclining to ashy white, with more or less distinct cross bars of dark brown. Total length 21 inches, culmen 1·5, wing 15, tail 9·1, tarsus 2·9.

Female. A little larger than the male. Total length 24 inches, wing 16·4, tail 9·5, tarsus 3·2. The specimen in the Museum is apparently a little younger than the male, at least as regards the tail, which has six black cross bands of nearly equal breadth.

Hab. The same as that of the genus.

a. ♀ ad. st.	South America.		
b. ♂ ad. st.	South America.	Purchased.	

44. SPIZAETUS*.

	Type.
Spizaetus, *Vieill. Analyse*, p. 24 (1816)	S. mauduyti.
Plumipeda, *Flem. Phil. Zool.* ii. p. 234 (1822).	S. mauduyti.
Limnaetus, *Vigors, Mem. Raffl.* p. 649 (1830)	S. caligatus.
Pternura, *Kaup, Mus. Senckenb.* iii. p. 259 (1845).....	S. tyrannus.



Head of *Spizaetus mauduyti* (reduced).

* The following species have not been examined by me :—

SPIZAETUS AFRICANUS.

Limnaetus africanus, *Cass. Proc. Phil. Acad.* 1865, p. 4.
Spizaetus africanus, *Gray, Hand-l. B.* i. p. 13 (1869).

"General form very strong; bill rather short, fully curved; edge of upper

Range. The whole of Central and Southern America, excepting the extreme south of the latter continent; the whole of Africa; entire Indian peninsula and Ceylon; all the Indo-Malayan subregion and Celebes; Formosa; Japan.

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mandible lobed; wing moderate, fourth and fifth quills longest and nearly equal; tail rather long; tarsi thick and densely feathered to the toes, the bases of which are also feathered; toes and claws very strong; entire upper parts brownish black; plumage of the back and neck behind white at base; rump and upper tail-coverts with concealed large spots of white; quills brownish black on their outer surface, with a few transverse bands of a darker shade of the same colour, and with a large space on their inner webs white; under surface of quills white, with about three transverse bands of black; entire underparts white; flanks, under tail-coverts, and tibial plumes externally with large spots of brownish black, and narrowly tipped with white, on its under surface ashy white, with a few transverse bands of black; under wing-coverts white, with large spots of black; tarsi white; cere and toes yellow; bill dark bluish brown; axillary feathers brownish black, the black spots on the under wing-coverts unitedly form a large space of that colour on the under surface of the wings. Total length about 22 inches, wing 14, tail 9½, tarsus 2¾; bill from corner of mouth to tip of upper mandible 1½ inch. (*Cassin, l. c.*)

Hab. Ogobai river, Gaboon.

My belief is that, could specimens be compared, this supposed species would very probably turn out to be the crested *Aquila wahlbergii* in the plumage figured by Mr. Gurney (Tr Z. S. iv. pl. 77. fig. 2).

SPIZAETUS ANDAMANENSIS.

Spizaetus andamanensis, *Tytler, Pr. A. S. B.* 1865, p. 112; *Beav. Ibis*, 1867, p. 315; *Hume, Rough Notes*, i. p. 203 (1869); *Ball, Str. F.* i. p. 52 (1873).

Adult male. Head with the traces of a crest, and of a light brown colour, striped with dark brown; each feather is, for the basal three fourths, white, and one fourth from the tip light brown, with a longitudinal dark brown stripe in the centre, which gives an appearance of light brown to the head; but on the feathers being in the slightest ruffled the head assumes an albescent appearance. Back, wings, and tail brown; but, from the greater portion of the base of each feather being white or light brown, the upper surface of the bird assumes a mottled appearance of brown and white, the brown being darkest in the centre of the back, quill-feathers, and tail. The greatest portion of the inner web of the quill-feathers is white, which gives a white appearance to the under surface of the wing, which is most striking when the bird is flying. The primaries are dark towards their points; but all the wing-feathers are more or less conspicuously banded with four or five dark brown bars. This is also the case with the feathers of the tail. All the under surface is white, streaked with longitudinal brown marks on the breast, flanks, and centre of abdomen. Some of the under wing-coverts have three or four dark brown bands; and immediately under the bend the feathers of the wing are streaked with rufous; this is also the case with the thighs and some of the lower tail-coverts and white feathers of the densely feathered tarsus. The toes are yellowish, with black claws; cere greenish slaty; bill dark blackish slaty; irides dark reddish brown. The two outermost lateral tail-feathers, when observed from beneath, have a very albescent appearance, with dark dots near the tips, and traces of spots of the same colour going towards the base. Total length 24 inches, bill along curve from edge of cere 1·37, wing 13·75, tail 10·15, tarsus 3·65. (*Tytler, in Hume's 'Rough Notes,' l. c.*)

Adult female. Total length 25·25 inches, wing 14·25, tail 10·25, tarsus 3·6. (*Tytler.*)

Hab. Andaman Islands.

Key to the Species.

a. Chest uniform.
  a'. Chest chocolate-brown or blackish.
    a''. Tail banded across.
      a'''. Smaller: breast uniform black ..... *tyrannus* ad., p. 264.
      b'''. Larger: breast white, with a few black spots here and there ..... *bellicosus* ad., p. 265.
    b''. Tail perfectly uniform, or with a few irregular and indistinct remains of bands.
      c'''. Larger: wing in ♂ 19·7 inches, in ♀ 21 ..... *gurneyi* ad., p. 273.
      d'''. Smaller: wing not exceeding 16·5 inches ..... *limnaetus* ad., p. 272.
  b'. Chest white.
    c''. Lower flanks barred.
      e'''. Smaller: wing 13–16 inches, crest 3 inches long, tarsal feathers barred across ..... *mauduyti* juv., p. 262.
      f'''. Larger: wing 19–22 inches; tarsal plumes pure white, or with a few scattered spots of black ..... *coronatus* juv., p. 266.
    d''. Lower flanks pure white.
      g'''. Larger: tarsal feathers produced to between inner and middle toes, and faintly barred with fulvous ..... *nipalensis* juv., p. 267.

SPIZAETUS SPHINX.

Spizaetus sphynx, *Hume, Str. F.* i. p. 323 (1873).

A single skin of a *Spizaetus* is in the Museum, with no history attached, which I feel inclined to refer to *S. sphinx* of Hume. It agrees exactly in description, but is larger, being perhaps a female. I can hardly believe, however, that the bird can be separated from *S. cirrhatus*; but perhaps I have not got Mr. Hume's actual species before me. The broad subterminal bar and preceding interspace occur in young Madras specimens, and in one immature bird from Nepal.

SPIZAETUS PHILIPPINENSIS.

Spizaetus philippensis, *Gurney, in Gould's B. Asia*, pt. xv. (1863); *Gray, Hand-l. B.* i. p. 13 (1869).

The general colour of the upper surface in this species is a dark umber-brown; but the base of the feathers of the crest is white, and the margins of the other occipital feathers are of a light yellowish brown. Some of the scapulars and other alar feathers (especially the latter) are slightly tipped with the same; the tail, which is of a somewhat lighter brown than the back, is tipped with a very narrow edging of white, and is also crossed by seven blackish brown bars, the upper one, however, being somewhat indistinct, and the two lower being separated by an interval which is twice the breadth of the spaces between the other bars. The throat has a broad blackish band running down the centre, with two similar and nearly parallel bands proceeding from the corners of the mouth, the three bands all merging in a cluster of dark-brown lanceolate marks upon the upper portion of the breast, the intervals between these markings, and also the whole sternal and abdominal regions, being tinged with a yellowish rufous; the under tail-coverts are barred with brown and white, the former bars being much broader than the latter; and the thighs and toes are marked throughout their length with narrow, equidistant, transverse bars of the same colour. Total length 25 inches, crest 2⅔, wing from carpal joint 14⅔, tail 11½, tarsus 3½, middle toe and claw 3.

h'''. Smaller: tarsal plumes pure white, and not extending beyond joints of toes ..... *limnaetus* juv., p. 272.

b. Chest particoloured.

c'. Penultimate interspace of tail broader than subterminal band.

e''. Abdomen barred across.

i'''. Under wing-coverts whitish, spotted with black, like chest ..... *alboniger* ad., p. 271.

k'''. Under wing-coverts buffy white, unspotted ..... *alboniger* juv., p. 271.

l'''. Under wing-coverts thickly barred with black, like breast; chest rufous ..... *lanceolatus* ad., p. 270.

f''. Abdomen and entire breast broadly streaked with brownish black ..... *cirrhatus* imm., p. 269.

g''. Abdomen uniform brown ..... *cirrhatus* ad., p. 269.

h''. Abdomen white, faintly mottled with rufous, not barred or streaked; tarsal plumes thickly barred with black ..... *lanceolatus* juv., p. 270.

d'. Subterminal band of tail greater than or equal to penultimate interspace.

i''. Ear-coverts and sides of neck uniform, not streaked or mottled.

m'''. Upper tail-coverts uniform with tail, and barred with black in the same manner. [p. 262.

*a*⁴. Thighs white, barred with black .... *mauduyti* ad. et juv.,

*b*⁴. Thighs black, barred with white .... *tyrannus* vix ad.,

n'''. Upper tail-coverts dark brown, tipped and barred with white. p. 264.

*c*⁴. Bands on tail 3 ..... *coronatus* ad., p. 266.

*d*⁴. Bands on tail 10 ..... *bellicosus* juv., p. 265.

k''. Ear-coverts and sides of neck fulvous, streaked with brown.

o'''. Tail-bands 5, counting the concealed basal one; under surface rufescent or [p. 267.

brown, with faint white bars ..... *nipalensis* ad. et imm.,

p'''. Tail-bands 7 ..... *cirrhatus* juv., p. 269.

q'''. Tail-bands 8, very narrow ..... *limnaetus* juv., p. 272.

r'''. Tail-bands 6.

*e*⁴. Abdomen buffy white, with faint rufous bars ..... *nipalensis* juv., p. 267.

*f*⁴. Underneath black, barred with white. *tyrannus* juv., p. 264.

s'''. Tail nearly uniform, the bands very indistinct; upper tail-coverts brown, the tips whitish ..... *gurneyi* juv., p. 273.

1. Spizaetus mauduyti.

L'Aigle hupé de Brésil, *Briss. Orn.* i. p. 446 (1760).
Grand Autour de la Cayenne, *Maud. Enc. Méth.* p. 500 (1784).
Aigle moyen de Guiane, *id. t. c.* p. 475 (1784).
L'Autour huppé, *Levaill. Ois.* i. p. 114, pl. 26 (1799).
Falco mauduyti, *Daud. Traité*, ii. p. 73 (1800, *ex Maud.*).
Falco ornatus, *Daud. Traité*, ii. p. 77 (1800, *ex Levaill.*); *Max. Beitr.* iii. p. 78 (1820).

Esparvero calzado, *Azara, Apunt.* i. p. 106 (1802); *Hartl. Ind. Azara*, p. 2 (1847).
Falco superbus, *Shaw, Gen. Zool.* vii. p. 64 (1809).
Aquila urutaurana, *Dumont, Dict. Sci. Nat.* i. p. 358 (1816).
Morphnus ornatus, *Cuv. Règne An.* i. p. 319 (1817).
Plumipeda superba, *Flem. Phil. Zool.* ii. p. 234 (1822).
Spizaetus ornatus, *Vieill. N. Dict.* xxxii. p. 60 (1819); *id. et Oud. Gal. Ois.* pl. 21 (1825); *Gray, Gen. B.* p. 14, pl. 7. fig. 2 (1845); *Bp. Consp. Av.* i. p. 28 (1850); *Strickl. Orn. Syn.* p. 67 (1855); *Burm. Th. Bras.* Th. ii. p. 60, note (1856); *Schl. Mus. P.-B.* Astures, p. 2 (1862); *Léot. Ois. Trinid.* p. 10 (1866); *Gray, Hand-l. B.* i. p. 12 (1869); *Finsch, P. Z. S.* 1870, p. 555; *Pelz. Orn. Bras.* pp. 4, 397 (1871); *Scl. & Salv. Nomencl.* p. 20 (1873); *Schl. Revue Accipitr.* p. 52 (1873).
Harpyia ornata, *Spix, Av. Bras.* p. 8 (1824).
Morphnus mauduyti, *Steph. Gen. Zool.* xiii. p. 18 (1826).

Adult male. Above black, with an occipital crest 3 inches long; all the feathers brown at the base, the scapulars and inner secondaries brown, barred with blackish; quills brown, slightly tipped with whity brown, and barred across with blackish, the secondaries less distinctly; lower surface of the wing ashy white, with distinct blackish bars on the primaries, almost obsolete on the secondaries; tail brown, crossed with five blackish bands of equal breadth; ear-coverts, sides of neck, and hind part of latter bright tawny rufous, with a distinct broad moustachial streak of black drawn from below the eye; throat pure white, unspotted; rest of under surface white, the sides of the chest bright tawny rufous, with a few central streaks of black in the middle; lower breast and abdomen thickly banded with deep black, more closely on the thighs and tarsal feathers, and more widely on the under tail-coverts; under wing-coverts white, largely spotted with black. Total length 24 inches, culmen 1·9, wing 13·4, tail 10·8, tarsus 3·5.

Adult female. Larger than the male. Total length 28·5 inches, wing 16·2, tail 13, tarsus 3·6. The specimen in the Museum, though not quite so full-plumaged as the male, has the centre tail-feathers fully moulted, showing that, when adult, the species has only four broad bands of black.

Young. Much browner than the adult, the interscapulary region and wing-coverts slightly darker; quills much as in the adult, as also the tail, excepting that the latter has six blackish cross bands; head and neck all round buffy white, with a slight wash of fawn-colour here and there; an occipital crest as long as in adult; rest of under surface of body white, with a few oval spots of black in the centre; the sides of the body broadly banded with black, the tarsal feathers more narrowly but more thickly banded; under tail-coverts entirely white; under wing-coverts white, with large and distinct spots of black.

Hab. Central America, and South America as far as Paraguay.

a. ♂ ad. st.	Brazil.	
b. Juv. sk.	Brazil.	
c. ♂ ad. st.	Panama.	O. Salvin, Esq.

d. Juv. st.	Coban, Guatemala.	Capt. Kellett and Lieut. Wood [P.].
e. Ad. sk.	Bahia.	Dr. Wucherer [C.].
f. Skeleton.		Zoological Society.

2. Spizaetus tyrannus.

Falco tyrannus, *Max. Reis. Bras.* i. p. 360 (1820); *Temm. Pl. Col.* i. pl. 73 (1823).
Harpyia bracchata, *Spix, Av. Bras.* i. pl. 3 (1824).
Aquila tyrannus, *Less. Man. d'Orn.* i. p. 84 (1828).
Astur tyrannus, *Less. Man. d'Orn.* i. p. 92 (1828).
Morphnus tyrannus, *Cuv. Règne An.* i. p. 331 (1829).
Pternura tyrannus, *Kaup, Mus. Senckenb.* iii. p. 259 (1845).
Spizaetus tyrannus, *Gray, Gen. B.* i. p. 14 (1845); *Bp. Consp.* i. p. 29 (1850); *Strickl. Orn. Syn.* p. 69 (1855); *Burm. Th. Bras.* ii. p. 62 (1856); *Gray, Hand-l. B.* i. p. 12 (1869); *Pelz. Orn. Bras.* pp. 4, 397 (1871); *Scl. & Salv. Nomencl.* p. 120 (1873); *Schl. Revue Accipitr.* p. 59 (1873).
Spizaetus bracchatus, *Des Murs, R. Z.* 1847, p. 323; *Lafr. R. Z.* 1848, p. 134; *Strickl. Orn. Syn.* p. 68 (1855); *Léot. Ois. Trinid.* p. 12 (1866).
Spizaetus spixii, *Des Murs, R. Z.* 1847, p. 325.

Adult. Black above and below, the wing-coverts a little browner, the leg-feathers, as well as the under wing- and tail-coverts, slightly varied with a few bars or spots of white, more distinctly inclining to bars on the latter; quills deep brown, externally shaded with ashy grey, and broadly banded with black; the lower surface of the wing blackish brown, with three irregular bands of ashy white; upper tail-coverts black, with a narrow tip and a few indistinct spots of white; tail black, crossed with four bands of ashy brown, the basal one very narrow and indistinct. Total length 29 inches, culmen 1·9, wing 18·6, tail 15·5, tarsus 3·5.

Adult female. Total length 26 inches, wing 16, tail 13, tarsus 3·6.

Young. Above deep chocolate-brown, blackish on the interscapulary region, the wing-coverts with small apical spots or margins of white, the median and greater series indistinctly barred with ashy brown; quills deep brown, tipped with whitish, and broadly banded with black, the interspaces externally shaded with greyish, with which the primaries are outwardly washed; lower back and rump blackish brown, with concealed bars of white, more distinct on the upper tail-coverts, which are also broadly tipped with white; tail chocolate-brown, shaded with ashy grey, tipped with whity brown, and crossed with six broad blackish bands; head white, with broad black tips to the feathers, especially distinct on the nape; sides of the face blackish, streaked with white, the sides of the neck pale brown, with large subterminal black spots; cheeks and throat pure white, with a few narrow black lines on the former; chest white, with a few broad streaks of black in the centre, the sides of the breast brown, varied with broad mesial streaks of black; rest of under surface of body black, thickly spotted with white, inclining to bars on the flanks and leg-feathers; under wing-coverts black,

barred and spotted with white like the breast; quills and tail below regularly barred with black and ashy white.

Hab. From Guatemala, in Central America, southwards to Brazil.

a. Juv. sk.	South America.	Purchased.
b. Ad. st.	Bogotá.	Purchased.
c. Juv. st.	Choctum, Vera Paz, Guatemala.	O. Salvin, Esq. [P.].
d. ♀ imm. sk.	Capim river.	A. R. Wallace, Esq. [C.].
e. ♀ ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].

3. Spizaetus bellicosus.

Le Griffard, *Levaill. Ois. d'Afr.* i. p. 1, pl. 1 (1799); *Sundev. Krit. om Levaill.* p. 23 (1858).
Falco bellicosus, *Daud. Traité*, ii. p. 38 (1800, *ex Levaill.*).
Falco armiger, *Shaw, Gen. Zool.* vii. p. 57 (1809).
Aquila bellicosa, *Dumont, Dict. Sci. Nat.* i. p. 347 (1816); *Gray, Gen. B.* i. p. 34 (1845); *Smith, Ill. Zool. S. Afr. Aves*, pl. 42 (1849); *Strickl. Orn. Syn.* p. 61 (1855).
Aquila armiger, *Cuv. Règne An.* i. p. 315 (1817).
Eutolmaetus bellicosus, *Blyth, J. A. S. B.* xiv. p. 174 (1845).
Tolmaetus bellicosus, *Blyth, J. A. S. B.* xv. p. 5 (1846).
Spizaetus bellicosus, *Kaup, Isis*, 1847, p. 147; *Bp. Consp.* i. p. 28 (1850); *Hartl. Orn. W.-Afr.* p. 5 (1857); *Schl. Mus. P.-B.* Astures, p. 57 (1862); *Layard, B. S. Afr.* p. 13 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 59 (1869); *Gray, Hand-l.* i. p. 13 (1869); *Schl. Revue Accipitr.* p. 59 (1873).
Pseudaetus bellicosus, *Gurney, in Anderss. B. Dam. Ld.* p. 8 (1872).

Young female. General colour pale brown, with white margins to the feathers of the upper surface, very distinct on the wing-coverts; feathers of the head and neck white, with a large terminal spot of pale brown; greater and primary wing-coverts and quills ashy brown, broadly tipped with whitish, and barred across with darker brown; these bars distinct underneath, where the quills are ashy grey from the base upwards towards the tips, which are blackish brown; upper tail-coverts pale brown, with darker brown bars; tail ashy brown, with buffy white tips, and crossed with eleven bands of darker brown; under surface of body entirely buffy white, with a few spots of dark brown on the chest and under wing-coverts.

Adult female. Above dark sepia-brown, with faint edgings of paler brown to the dorsal feathers and wing-coverts, the greater series of which, as well as the scapulars, are indistinctly barred with ashy brown; quills dark brown, tipped with buffy white, and crossed with blackish brown, the subterminal band broader on the secondaries, the primaries externally shaded with ashy grey; upper tail-coverts brown, with faint bands of darker brown, and tipped with fulvous; tail dark brown, tipped with buffy white, and crossed with six bands of ashy grey, the basal one often indistinct; head dark brown, with narrow whity brown margins, all the feathers white at base, showing more conspicuously on the neck, where the margins to the feathers are broader; sides of face and throat white, with a few brown streaks on the ear-coverts; fore neck and chest uniform dark brown;

rest of under surface white, with sparsely distributed spots of dark brown, larger and more cordiform on the flanks, and smaller on the leg-feathers; under wing-coverts white, spotted and mesially streaked with dark brown, the greater ones entirely brown, shaded with ashy, and tipped with buffy white; cere bluish; bill black, bluish at gape; feet pale yellow, claws black; iris dull yellowish *. Total length 38 inches, culmen 3, wing 27·5, tail 14, tarsus 5·2.

Hab. South Africa.

a. ♀ ad. st.	South Africa.	S. African Museum.
b. ♀ juv. sk.	Snewberg, South Africa.	Purchased.
c. Skeleton.		Zoological Society.

4. Spizaetus coronatus.

Crowned Eagle, *Edwards, Gleanings*, pl. 224 (1758).
Aigle hupé d'Afrique, *Briss. Orn.* i. p. 448 (1760).
Falco coronatus, *Linn. S. N.* i. p. 124 (1766).
Le Blanchard, *Levaill. Ois. d'Afr.* i. p. 12, pl. 3 (1799); *Sundev. Krit. om Lev.* p. 23 (1858).
Falco albescens, *Daud. Traité*, ii. p. 45 (1800, *ex Levaill.*).
Aquila albescens, *Dumont, Dict. Sci. Nat.* i. p. 361 (1816).
Morphnus albescens, *Cuv. Règne An.* i. p. 331 (1829).
Harpyia albescens, *Sw. Classif. B.* ii. p. 208 (1837).
Spizaetus albescens, *Gray, Gen. B.* i. p. 14 (1845); *Strickl. Orn. Syn.* p. 68 (1855).
Aquila coronata, *Gray, Gen. B.* i. p. 14 (1845); *Smith, Ill. Zool. S. Afr.* pls. 40, 41 (1847).
Spizaetus coronatus, *Bp. Consp.* i. p. 28 (1850); *Strickl. Orn. Syn.* p. 68 (1855); *Hartl. Orn. W.-Afr.* p. 5 (1857); *Schl. Mus. P.-B. Astures*, p. 3 (1862); *Layard, B. S. Afr.* p. 12 (1869); *id. Ibis*, 1869, p. 362; *Sharpe, t. c.* p. 387; *Gray, Hand-l.* i. p. 13 (1869).

Young male. Above brown, with indistinct bands of darker brown, the subterminal spot often strongly pronounced; all the feathers of the upper surface broadly margined with white, small bands of which colour appear on the outer web of the upper tail-coverts; tail brown, tipped with white, externally shaded with ashy grey on the interspaces; the lower surface of the wing white, mottled with ashy grey and barred with blackish on inner web of secondaries; the primaries ashy grey towards their tips, and distinctly banded with blackish brown; tail black, tipped with whitish, and crossed with three distinct bands of ashy grey, inclining to brown on inner web; head and neck white, with a slight tinge of fawn on the hinder part of the latter; under surface of body entirely white, with a few distinct broad bars of dark brown on the sides of the vent; the outer aspect of the thighs largely spotted with dark brown; under wing-coverts white, the greater ones with a broad subterminal bar of black. Total length 32 inches, culmen 2·5, wing 19·1, tail 13·6, tarsus 3·8.

Adult female. Above black, with a brownish shade on the greater wing-coverts and scapulars near their bases; quills pale brown,

* These soft parts taken from a living bird in the Antwerp Gardens. Another one, not apparently different in plumage, had a brighter yellow iris.

slightly tipped with whitish, externally shaded with clear ashy grey, inclining to whitish near outer base of primaries; all the quills with a broad subterminal band of greenish black, most of the quills exhibiting remains of a second dark brown bar near the base; innermost secondaries with three distinct bands of dark brown; upper tail-coverts greenish black, tipped and spotted with white; tail black, tipped with pale brown and crossed with two broad bands of ashy grey, with remains of a third basal one on the outermost feathers; crown and occipital crest blackish brown, with faint indications of pale brown tips to the feathers; sides of face and of neck earthy brown; the cheeks and throat blackish brown; under surface of body yellowish buff, broadly banded with black, these bands being so thick on the chest as to render it almost entirely black, the buff being confined to the base of the feathers; under tail-coverts barred with black and white; thighs black, thickly spotted and barred with dull white; under wing-coverts deep chestnut, slightly streaked down the centre with black, the median ones broadly tipped with black, the lower ones uniform blackish, with white tips and bases to the feathers; bill horn-colour, yellow at base and gape; feet pale yellow; iris yellow. Total length 39 inches, culmen 2·8, wing 22·2, tail 16, tarsus 4·1.

Hab. South and West Africa.

a.	♂ juv. st.	South Africa.	S.-African Museum.
b.	♀ ad. st.	South Africa.	S.-African Museum.
c.	♂ juv. st.	South Africa.	Sir A. Smith [C.].

5. Spizaetus nipalensis.

Nisaetus nipalensis, *Hodgs. J. A. S. B.* v. p. 229, pl. 7 (1836).
Nisaetus pulcher, *Hodgs. J. A. S. B.* vi. p. 361 (1837).
Nisaetus pallidus, *Hodgs. l. s. c.* (1837).
Spizaetus grandis, *Gray, Cat. Accipitr.* 1844, p. 8.
Spizaetus pulcher, *Gray, t. c.* p. 8 (1844).
Spizaetus nipalensis, *Gray, t. c.* p. 8 (1844); *Blyth, J. A. S. B.* xix. p. 333 (1850); *Strickl. Orn. Syn.* p. 69 (1855); *Gray, Hand-l. B.* i. p. 13 (1869); *Hume, Rough Notes*, i. p. 210 (1869); *Swinh. P. Z. S.* 1871, p. 339.
Spizaetus cirrhatus, *Gray, Cat. Accipitr.* 1848, p. 16.
Spizaetus orientalis, *Temm. & Schl. F. J. Aves*, pl. 3 (1850); *Bp. Consp.* i. p. 29 (1850).
Limnaetus nipalensis, *Jerd. B. Ind.* i. p. 73 (1862); *Holdsw. P. Z. S.* 1872, p. 411.

Nestling. Clothed with white down; the feathers deep brown, broadly margined with ochraceous buff, especially on the head, which is much crested; the feathers of the crown deep ochraceous, with a broad blackish subterminal band; underneath buffy white, all the feathers distinctly streaked with rufous brown.

Young. Above brown, the feathers lighter at the base and whitish on the margins; the median and greater wing-coverts whity brown, broadly tipped with white and darker brown in the centre of the feathers; quills deep purplish brown, broadly tipped with whitish,

banded with dark brown, plainer on the inner web, especially underneath, where the inner web is ashy white; rump dark brown, tipped with whitish; the long upper tail-coverts whity brown, faintly barred and tipped with white; tail pale brown, tipped with white and crossed with six bands of darker brown of rather unequal breadth, the subterminal one the broadest; head and neck all round white, with broad dark centres to most of the feathers, causing a spotted appearance; an occipital crest 3·9 inches long, the feathers black, margined and tipped with white; the ear-coverts and cheeks narrowly streaked with black; under surface of body white, with a few streaks of dark brown on the chest, rather broader on the sides of the body; the lower flanks and thighs pale brownish, with faint bars of white; under wing-coverts white, the lower ones with subterminal spots of dark brown; cere hoary black; bill black; feet dirty yellowish white; iris yellow. Total length 30 inches, wing 18·8, tail 12·6, tarsus 3·9.

Adult male. Above very dark brown, the feathers slightly margined with paler brown; the wing-coverts and secondaries rather lighter, excepting just before the tips, which are dark brown, the latter also regularly barred across with this latter colour, these bars much more distinct below, where the lower surface of the quills is whitish grey; upper tail-coverts somewhat lighter brown than the back, narrowly tipped and more broadly barred with dull whitish; tail pale brown, somewhat washed with ashy, tipped with whity brown and crossed with four broad bands of blackish brown, the subterminal one broader than the penultimate interspace; head blackish, the feathers slightly margined with fulvous brown, causing a streaked appearance, which is much more distinct on the hind neck; an occipital crest 2·8 inches long, blackish, with narrow whity-brown tips; cheeks and ear-coverts blackish brown; throat white, with a broad streak of black down the centre; chest fawn-brown, with broad black centres to the feathers, giving a distinctly striped aspect; the rest of the under surface brown, largely spotted on the breast with white, changing into distinct bars on the flanks and thighs, which are darker brown; the tarsal feathers and under tail-coverts rather paler brown, barred with white; under wing-coverts fawn-brown like the chest, spotted with dark brown; the lower series white, barred with dark brown. Total length 28 inches, culmen 1·9, wing 18·5, tail 13, tarsus 3·9.

Adult female. Larger than the male. Total length 32 inches, wing 20, tail 13, tarsus 4·2.

Hab. The Himalayas, hills of Southern India, and Ceylon.

a. ♂ ad. sk.	India.	Major-General Hardwicke [P.].
b. ♀ ad. st.	India.	J. R. Reeves, Esq. [P.].
c. ♀ ad. sk.	India.	J. Gould, Esq. [P.].
d, *e*, *f*. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
g. Juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
h, *i*. Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
k, *l*. Juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
m. Pull. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
n. Sternum.		B. H. Hodgson, Esq. [P.].

6. Spizaetus cirrhatus.

Le Faucon hupé des Indes, *Briss. Orn.* i. p. 300 (1760, *ex Willub.*).
Ceylonese Crested Falcon, *Lath. Gen. Syn.* i. p. 80 (1781).
Falco cirrhatus, *Gm. S. N.* i. p. 274 (1788, *ex Briss.*).
Falco ceylanensis, *Gm. S. N.* i. p. 275 (1788, *ex Lath.*).
Falco cristatellus, *Temm. Pl. Col.* i. pl. 282 (1824).
Astur cristatellus, *Less. Man. d'Orn.* i. p. 94 (1828).
Morphnus cristatellus, *Less. Traité*, p. 52 (1831).
Spizaetus cristatellus, *Jard. & Selby, Ill. Orn.* ii. pl. 66 (?1832); *Gray, Gen. B.* i. p. 14 (1845).
Nisaetus cristatellus, *Elliot, Madr. Journ.* x. p. 234 (1839); *Jerd. Ill. Ind. Orn.* p. 6 (1847).
Nisaetus cirrhatus, *Blyth, J. A. S. B.* xiv. p. 174 (1845).
Limnaetus cirrhatus, *Gray, Gen. B.* iii. *App.* p. 1 (1849); *Kaup, Contr. Orn.* 1850, p. 61.
Spizaetus cirrhatus, *Bp. Consp.* i. p. 29 (1850); *Strickl. Orn. Syn.* p. 69 (1855); *Gray, Hand-l. B.* i. p. 13 (1869); *Hume, Rough Notes*, i. p. 206 (1869); *Schl. Revue Accipitr.* p. 52 (1873, *pt.*).
Limnaetus cristatellus, *Jerd. B. Ind.* i. p. 71 (1862); *Holdsw. P. Z. S.* 1872, p. 411.

Young female. Above dark brown, with paler margins and bases to the feathers; the lower back, rump, and upper tail-coverts decidedly paler than the back; the median and greater coverts paler brown than the smallest ones, much varied with white bases and margins to the feathers; quills brown, barred across with dark brown; the primaries externally shaded with ashy grey, the secondaries tipped with buffy white; all the bars very distinct below, the inner lining of the wing being white shading into ashy grey towards the tips of the feathers; tail pale brown, barred across with five bands of dark brown, the subterminal one equal to or narrower than the penultimate interspace; head and neck dull fawn-colour, with blackish centres to the feathers, much broader on the hind neck, narrow and hair-like on the sides of face and ear-coverts; the cheeks again more broadly streaked, forming an irregular moustache; an occipital crest 4·1 inches long, black, with buffy white tips and margins; under surface of body entirely white, the lower throat and chest longitudinally streaked with blackish brown; the breast with a few streaks of pale rufous brown, widening into broad spots on the abdomen; sides of body, flanks, thighs, and under tail-coverts pale fawn-brown; the axillaries a little brighter, and slightly mottled with white; under wing-coverts white, with distinct blackish spots, largest on the lower series; iris dun-brown. Total length 29 inches, culmen 1·75, wing 17·4, tail 13, tarsus 4·3.

Adult male. Above brown, with faint margins of paler brown on the dorsal feathers; the neck and interscapulary region varied with pale almost whity brown bases to the feathers, which are streaked with dark brown along the shaft; the head darker brown, with much broader dark brown centres; an occipital crest of pure black feathers 3·8 inches in length, the long plumes not tipped with white, but whitish at immediate base; wing-coverts dark brown, with faint margins of pale brown, the greater series decidedly lighter; quills

rich brown, barred across with blackish brown; the secondaries tipped with buffy white, the innermost rather paler brown than the back, all the bars showing plainly below, where the inner lining of the wing is white at base, shading into ashy white towards the tip; lower back, rump, and upper tail-coverts uniform brown, a little paler than the back; tail light brown, with three bands of dark brown, then an interspace of 1·7 inch, and finally a broad subterminal band 1·5 inch in extent; sides of face and of neck light brown, with central streaks of black; throat white, with a broad black central streak, and bordered on each side with a distinct moustachial streak; under surface of body brown, slightly inclining to rufous on the chest, to the feathers of which the white bases impart a somewhat streaked appearance; the thighs decidedly paler brown; under wing-coverts rufous brown, with dark shaft-stripes, the outermost blackish brown, with pale fulvous margins; the lower series white, centred or barred with blackish brown; cere pale yellow; feet yellow; iris yellow. Total length 26·5 inches, culmen (broken) about 1·75, wing 16, tail 11, tarsus 3·9.

Adult female. Very similar to the foregoing, but not so uniform below; tail with four bands, the penultimate interspace broader than the subterminal band; the crest 3·7 inches long, black in colour, but showing very slight traces of pale margins of brown, the smallest plumes very distinctly bordered with buffy white. Total length 32 inches, wing 17·8, tail 12·75, tarsus 4·1.

Hab. Central and Southern India and Ceylon.

a. Ad. st.	India.	Hon. East-India Co. [P.].
b. Ad. sk.	India.	
c. Juv. st.	India.	
d, *e.* Juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
f. Ad. st.	Behar.	B. H. Hodgson, Esq. [P.].
g. ♀ juv. sk.	Western Ghats.	J. Gould, Esq. [P.].
h, *i.* ♂ ♀ ad. sk.	Madras.	Dr. Jerdon [P.].
j, *k.* Juv. sk.	Madras.	Dr. Jerdon [P.].
l. Juv. sk.	Ceylon.	R. B. Sharpe, Esq. [P.].
m. Sternum.		B. H. Hodgson, Esq. [P.].

7. Spizaetus lanceolatus.

Spizaetus lanceolatus, *Bp. Consp.* i. p. 29 (1850); *Wall. Ibis*, 1868, p. 13; *Gray, Hand-l. B.* i. p. 13 (1869).
Spizaetus fasciolatus, *Temm. & Schl. Faun. Jap.* p. 8 (1850).
Spizaetus cirrhatus, *Schl. Vog. Nederl. Ind. Valkv.* pl. 7. figs. 2, 3 (1866); *id. Rev. Accipitr.* p. 52 (1873, pt.).
Limnaetus lanceolatus, *Wald. Tr. Z. S.* viii. p. 34 (1872).

Adult female. Above deep sepia-brown, the head blackish; nape and hind neck pale rufous-brown, with median centres of dark brown; wings brown, the lesser wing-coverts a little blacker; primaries also rather darker brown, barred with blackish brown, more distinctly below, where the inner lining of the wing is ashy whitish, the bars nearly or quite obsolete on the secondaries, all the quills very narrowly margined with white at the tips; upper tail-coverts

and tail deep sepia, narrowly tipped with white, the latter with two distinct-whity brown bands and indications of a third one nearer the base; an indistinct eyebrow and sides of the face dull rufous, with blackish streaks down the centre of each feather; throat white, with a broad median and lateral (malar) streak of black; breast pale rufous, the fore neck strongly marked with broad black centres to the feathers; rest of under surface dull white, thickly banded with broad bars of dark sepia-brown, narrower on the flanks and thighs; under wing-coverts white, barred with dark brown, like the abdomen; bill black; feet pale lemon-yellow; iris yellow. Total length 25·5 inches, culmen 1·65, wing 14·8, tail 10·8, tarsus 3·25.

Young male. Brown, like the adult, the white bases to the feathers showing conspicuously; quills and tail much as in adult, the latter with more bars on the outer feathers; head and neck white, the feathers more or less washed with rufous, with small dark streaks down the feathers, much broader on the hind neck; under surface of body buffy white, the breast strongly rufescent, the chest with broad central streaks of black, the breast varied with white bars; thighs and under tail-coverts white, thickly barred with dark brown, the latter more broadly; under wing-coverts and axillaries white, more or less distinctly barred with blackish brown. Total length 25 inches, wing 13·8, tail 10·8, tarsus 3·2.

Hab. Celebes.

a. Juv. sk.	Celebes.	J. Gould, Esq.
b. ♀ ad. sk.	Menado, Celebes.	A. R. Wallace, Esq. [C.].
c. ♂ ad. st.	Macassar, Celebes.	A. R. Wallace, Esq. [C.].

8. Spizaetus alboniger.

Nisaetus alboniger, *Blyth, J. A. S. B.* xiv. p. 173 (1845).
Spizaetus borneonensis, *Gray, Cat. Accipitr.* 1848, p. 16.
Spizaetus alboniger, *Blyth, J. A. S. B.* xix. p. 335 (1850); *Strickl. Orn. Syn.* p. 71 (1855); *Gould, B. Asia*, pt. xv. (1863); *Wall. Ibis*, 1868, p. 215; *Gray, Hand-l. B.* i. p. 13 (1869).
Spizaetus nanus, *Wall. Ibis*, 1868, p. 14, pl. 1.

Adult. Above black, with an occipital crest 2·75 inches in length, the latter tipped with white; quills dark brown, narrowly tipped with whitish, crossed with bands of black, the subterminal one very broad; tail ashy brown, with two bands of black, one basal, the other subterminal; lores whitish, the sides of the face black, like the crown; a broad moustachial streak of black; under surface of body white, the breast plainly marked with large drops of black, the belly and thighs thickly banded with black, the abdomen and under tail-coverts a little more broadly; under wing-coverts white, sparingly barred with black. Total length 22·5 inches, culmen 1·4, wing 13, tail 9·5, tarsus 3·3.

Young. Above pale brown, the back, scapulars, and small wing-coverts darker, the greater coverts, scapulars, and upper tail-coverts tipped with white; head and neck fawn-brown, the nuchal feathers rather darker in the centre; an occipital crest (1·95 inch long)

black, with broad white tips to the feathers; sides of face pale fawn-colour; under surface of body buffy white, with a tinge of fawn-colour on the breast, a little deeper on the thighs, some of the flank-feathers brownish; under wing-coverts buffy white; quills brown, the primaries blackish, indistinctly barred with darker brown, not very plain below, where the inner lining of the wing is glossy white; tail brown, tipped with whitish, and crossed with three bands of blackish brown, the subterminal one much the broadest. Total length 19·5 inches, wing 11·2, tail 9, tarsus 3.

Hab. Malacca and Borneo.

a. Juv. st.	Borneo.	J. Low, Esq. [C.]. Type of *S. borneonensis*.
b. Juv. sk.	Sarawak, Borneo.	A. R. Wallace, Esq. [C.]. Type of *S. nanus*.
c. Ad. st.	Sunda Islands.	Purchased.

9. Spizaetus limnaetus.

Falco limnaetus, *Horsf. Tr. Linn. Soc.* xiii. p. 138 (1822); *id. Zool. Res. Java*, pl. 36 (1824); *Temm. Pl. Col.* i. pl. 134 (1824).
Falco caligatus, *Raffl. Tr. Linn. Soc.* xiii. p. 278 (1822).
Falco niveus, *Temm. Pl. Col.* i. pl. 127 (1823).
Morphnus limnaetus, *Vig. Zool. Journ.* i. p. 325 (1824).
Morphnus niveus, *Steph. Gen. Zool.* xiii. pt. 2. p. 19 (1825).
Astur niveus, *Less. Man. d'Orn.* i. p. 94 (1828).
Astur limnaetus, *Less. Man. d'Orn.* i. p. 94 (1828).
Limnaetus caligatus, *Vig. Mem. Raffl.* p. 649 (1830).
Limnaetus horsfieldii, *Vig. Mem. Raffl.* p. 649 (1830).
Spizaetus niveus, *Blyth, Ann. N. H.* xii. p. 91 (1843).
Limnaetus niveus, *Strickl. Ann. N. H.* xiii. p. 33 (1844); *Jerd. B. Ind.* i. p. 71 (1862).
Limnaetus unicolor, *Blyth, Ann. N. H.* xiii. p. 114 (1844).
Spizaetus caligatus, *Gray, Cat. Accipitr.* 1844, p. 8; *id. Gen. B.* i. p. 14 (1845); *Strickl. Orn. Syn.* p. 70 (1855); *Schl. Mus. P.-B.* Astures, p. 6 (1862, pt.); *id. Vog. Nederl. Ind. Valkv.* pp. 14, 53, pls. 6, 7. figs. 1, 8 (1866); *Wall. Ibis*, 1868, p. 13; *Gray, Hand-l. B.* i. p. 13 (1869); *Hume, Rough Notes*, i. p. 198 (1869).
Spizaetus limnaetus, *Gray, Gen. B.* i. p. 14 (1845); *Strickl. Orn. Syn.* p. 71 (1855).
Nisaetus caligatus, *Blyth, J. A. S. B.* xiv. p. 174 (1845).
Spizaetus nipalensis, *Blyth, J. A. S. B.* xvi. p. 1179 (1847).
Nisaetus niveus, *Jerd. Ill. Ind. Orn.* p. 5 (1847).
Spizaetus cirratus (pt.), *Schl. Mus. P.-B. Revue Accipitr.* p. 52 (1873).

Nestling. Covered with snow-white down, the crown of the head inclining to fawn-colour, the sprouting feathers blackish brown, the greater wing-coverts tipped with white; the few breast-feathers visible white, with broad blackish cross bars.

Young (type of species). Above clear brown, with faint terminal margins of fulvous brown, the buff-coloured bases showing very conspicuously on all the upper parts, but especially distinct on the wing-coverts, which are also broadly margined with buffy white; quills deep brown, the secondaries lighter and more purplish brown,

broadly tipped with buffy white, and indistinctly barred with darker brown, plainer on the inner web, especially underneath, where it is ashy white on the primaries and greyish on the secondaries; lower back and rump pale brown, the upper tail-coverts brownish buff; tail brown, tipped with buffy white and crossed with six equidistant bands of darker brown; head and neck whitish buff, the sides of the latter washed with sandy rufous, and mottled with dark brown in the centres of the feathers; under surface of body buffy white, washed with pale fawn-colour on the sides of the body and thighs, with a few indistinct spots of the same on the chest; under wing-coverts white, spotted with dark brown, the spots larger on the greater series; iris brownish. Total length 24 inches, wing 15·5, tail (not fully grown) 9·5, tarsus 3·7.

Another young bird, collected by Mr. Wallace, is rather larger in general bulk than the foregoing example, though having the wing of the same length. It is purer white below, with a shade of dark brown on the lower flanks, and a few distinct oval spots of brown on the breast. The centre tail-feather has seven bands of dark brown.

Adult. Above and below deep chocolate-brown, inclining to blackish on the head and back, the quills and tail blackish, the shafts of the latter brownish, the inner webs of the quills clear ashy; tail-feathers below ashy white, brownish towards the tips, the penultimate ones with remains of irregular cross markings; cere yellowish; feet pale yellow; iris bright yellow. Total length 25 inches, culmen 1·7, wing 16, tail 11, tarsus 4·1.

Hab. Java, Sumatra, Borneo, Malacca, reaching northwards into the Eastern Himalayahs and Lower Bengal.

a. Pull. st.	Sumatra.	Purchased.
b. Juv. sk.	Sumatra.	Sir S. Raffles [C.]. Type of *S. caligatus*.
c. Ad. sk.	Java.	A. R. Wallace, Esq. [C.]
d. Ad. st.	Java.	Purchased.
e. Juv. sk.	Java.	R. B. Sharpe, Esq. [P.].
f. Juv. sk.	Penang.	A. R. Wallace, Esq. [C.].
g. Skeleton.		

10. Spizaetus gurneyi.

Aquila gurneyi, *Gray, P. Z. S.* 1860, p. 342, pl. 169; *Wall. Ibis*, 1868, p. 13; *Gray, Hand-l. B.* i. p. 11 (1869).

Spizaetus gurneyi, *Schl. Mus. P.-B.* Astures, p. 14 (1862); *id. Vog. Nederl. Ind.* pp. 17, 56, pl. 9 (1866); *Pelz. Verh. z.-b. Wien*, 1872, p. 425; *Schl. Revue Accipitr.* p. 60 (1873).

Adult female. All over blackish brown, the head, sides of face, and throat purer black, the greater wing-coverts and inner secondaries a little lighter brown; primaries blackish, externally shaded with ashy grey near the base; tail blackish, shaded on the outer web with ashy grey, very distinct at the base of the centre feathers, which have indications of six or seven not continuous grey bars; under surface of both wings and tail more brown than the upper, the shafts white, and the inner webs whitish ashy for the greater

part of their extent from the base upwards. Total length 30 inches, culmen 2·35, wing 21, tail 13·5, tarsus 3·6. (*Mus. Lugd.*)

Adult male. Similar to the female, but smaller. Total length 24 inches, wing 19·7, tail 13·7, tarsus 3·1.

Young female (type of species). Above light brown, the interscapulary region darker, and having dull rufous tips to the feathers; wing-coverts and scapulars pale fulvous at the tips, some of the least ones margined with dull rufous; some of the median and all the greater wing-coverts blackish brown, with broad, irregular bars of ashy grey; quills blackish brown, narrowly tipped with fulvous, and irregularly mottled and shaded with silvery grey, the innermost secondaries dark brown, with grey shading only near the base; lower surface of wing greyish, the primaries gradually blackish towards tips, and irregularly mottled on the inner web, the secondaries with distinct dark brown cross bands; lower back and rump pale brown, the upper tail-coverts broadly margined with fulvous; tail dark brown, with indications of five or six blackish brown bands, the interspaces more or less inclining to silvery grey, very distinct on the centre feathers; head and neck all round dull tawny rufous, the feathers of the crown and nape slightly tipped with fulvous; under surface of body dull fawn-colour, deeper and more tawny on the breast, and inclining to fulvous on the abdomen and under tail-coverts; under wing-coverts deep fawn-colour, like the breast; cere and bill bluish white, the tip of the latter darker; feet white; iris yellowish olive.

Hab. Batchian, Gilolo, Ternate, Aru Islands, Waigiou, New Guinea.

a. ♀ imm. sk.	Waigiou.	A. R. Wallace, Esq. [C.]. Type of species.
b. ♀ juv. sk.	Gilolo (*Von Rosenberg*).	Leiden Museum [P.].

45. LOPHOAETUS.

	Type.
Morphnus, *Kaup, Mus. Senckenb.* iii. p. 259 (1845) ..	L. occipitalis.
Lophoaetus, *Kaup, Isis*, 1847, p. 165	L. occipitalis.



Head of *Lophoaetus occipitalis* (reduced).

Range. The whole of Africa.

1. Lophoaetus occipitalis.

Black Eagle, *Bruce, Trav. Abyss.* v. App. p. 159, pl. 32 (1790).
Le Huppard, *Levaill. Ois. d'Afr.* i. p. 8, pl. 2 (1799); *Sundev. Krit. om Levaill.* p. 50 (1858).

Falco occipitalis, *Daud. Traité*, ii. p. 40 (1800).
Falco senegalensis, *Daud. Traité*, ii. p. 41 (1800).
Morphnus occipitalis, *Vig. Zool. Journ.* i. pp. 323, 337 (1825); *Less. Traité*, p. 54, pl. 13. fig. 1 (1831).
Harpyia occipitalis, *Swains. Classif. B.* ii. p. 208 (1837).
Spizaetus occipitalis, *Gray, Gen. B.* i. p. 14 (1845); *Bp. Consp.* p. 28 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 35 (1854); *Strickl. Orn. Syn.* p. 72 (1855); *Hartl. Orn. W.-Afr.* p. 5 (1857); *id. Orn. Madag.* p. 16 (1861); *Schl. Mus. P.-B.* Astures, p. 25 (1862); *Scl. Ibis*, 1864, p. 303; *Kirk, t. c.* p. 315; *Layard, B. S. Afr.* p. 13 (1867); *Schl. & Poll. Faun. Madag. Ois.* p. 35 (1868); *Gray, Hand-l. B.* i. p. 13 (1869); *Heugl. Orn. N.O.-Afr.* p. 57 (1869); *Layard, Ibis*, 1869, p. 71; *Gurney, t. c.* p. 147; *Finsch & Hartl. Vög. Ostafr.* p. 50 (1870).
Lophoaetus occipitalis, *Kaup, Isis*, 1847, p. 165.

Adult female. Always chocolate-brown, with some of the feathers on the back and wing-coverts inclining to paler brown; head rather darker, blackish, with a black occipital crest 4·2 inches long; bases of the crest-feathers and a few spots on the outer upper tail-coverts white; tail dark brown, the immediate base white, the basal band white, the others more or less whity brown; quills dark brown, white at base, banded with paler brown above, whitish below, the secondaries more indistinctly, the inner ones quite uniform with the rest of the back; under wing-coverts for the most part white, the inner ones and the tips of the greater ones brown; axillaries brown; legs white, more or less washed with brownish; forehead whitish; bill bluish, black at tip; cere pale yellow; feet light yellow, claws black. Total length 21·5 inches, culmen 1·7, wing 15·9, tail 8·5, tarsus 3·7.

Adult male. Rather smaller than the female. Total length 21 inches, wing 15·1, tail 8·5, tarsus 4.

Hab. The same as that of the genus.

a. ♀ ad. sk.	South Africa.	John Rocke, Esq. [P.].
b. ♂ ad. sk.	Lower Shirè valley.	Dr. Kirk [C.].
c. Ad. st.	Port Natal.	Purchased.
d. Ad. st.	Snewberg, S. Africa.	Purchased.
e. ♂ ad. sk.	Ogowe River, Gaboon (*Marche et de Compiègne*).	M. A. Bouvier [E.].
f, g, h. Skeletons.		Purchased.

46. ASTURINULA.

Type.
Kaupifalco, *Bp. Rev. et Mag. de Zool.* 1854, p. 555. A. monogrammica.
Asturinula, *Finsch u. Hartl. Vög. Ostafr.* p. 59 (1870). . . . . A. monogrammica.

Range. The whole of Africa, except the southern portion.

1. Asturinula monogrammica.

Falco monogrammicus, *Temm. Pl. Col.* i. pl. 314 (1824).
Astur monogrammicus, *Less. Man.* i. p. 93 (1828); *Swains. B. W.*

Afr. i. pl. 4 (1837); *Strickl. Orn. Syn.* p. 121 (1855); *Hartl. Orn. W.-Afr.* p. 18 (1857); *Schl. Mus. P.-B.* Astures, p. 24 (1862); *Heugl. Orn. N.O.-Afr.* p. 64 (1869); *Schl. Revue Accipitr.* p. 67 (1873).

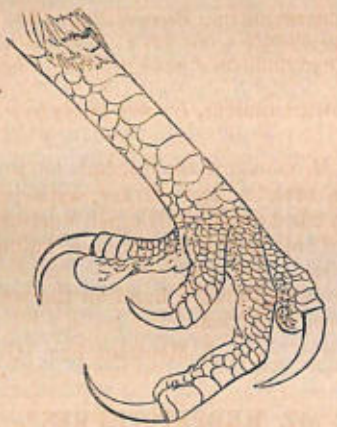
Nisus monogrammicus, *Less. Traité*, p. 57 (1831).

Accipiter monogrammicus, *Gray, Gen. B.* i. p. 29 (1849).

Melierax monogrammicus, *Hartl. Beitr. Orn. W.-Afr.* p. 15 (1852).

Micronisus monogrammicus, *Bp. Consp.* i. p. 34 (1850); *Gray, Hand-l.* i. p. 36 (1869).

Kaupifalco monogrammicus, *Bp. Rev. et Mag. de Zool.* 1854, p. 535.



Leg of *Asturinula monogrammica*.

Adult. Above dark slaty grey, the head and sides of the face lighter, the wing-coverts also a little paler grey, the edge of the wing white, with which colour the outermost of the upper primary coverts is edged; quills blackish, all tipped, and the outermost edged, with white, the secondaries ashy grey like the back and more broadly tipped; all the quills white at the base of the inner web, extending in notches for some distance up the feather; lower back and rump blackish; the upper tail-coverts and immediate base of tail white, forming a broad band; tail blackish, broadly tipped with white, and having one conspicuous white band across the centre; lores and feathers in front of the eye whitish; throat white, with a very broad streak of black down the centre; fore neck, sides of neck, and chest ashy grey; rest of under surface, including the flanks and axillaries, thickly barred with white and ashy brown; under wing- and tail-coverts white; cere, orbits, and base of lower mandible bright cinnabar-red; bill dark leaden horn-colour; feet vermilion; iris umber-brown. Total length 12 inches, culmen 1·1, wing 8·9, tail 5·8, tarsus 1·95.

Adult female. A little larger than the male. Total length 13·5 inches, culmen 1·2, wing 9·5, tail 6·5, tarsus 2·1.

Hab. Western and North-eastern Africa, as far south as Zanzibar in Eastern Africa.

a. Ad. st.	River Gambia.	Governor Rendall [P.].
b. Ad. sk.	River Gambia.	Governor Rendall [P.].
c. Ad. sk.	Senegal.	Earl of Derby [P.].
d. Ad. sk.	Senegal.	Rev. D. F. Morgan [P.].
e. Ad. sk.	Mombas (*Wakefield*).	R. B. Sharpe, Esq. [P.].
f. Skeleton.		Zoological Society.

Subsp. α. Asturinula meridionalis.

Micronisus monogrammicus, var. meridionalis, *Hartl. P. Z. S.* 1860, p. 109.
Micronisus monogrammicus, *Bocage, Jorn. Lisb.* 1867, pp. 132, 331.
Melierax monogrammicus, *Sharpe, P. Z. S.* 1870, p. 150.
Asturinula monogrammica, *Finsch u. Hartl. Vög. Ostafr.* p. 60 (1870, *pt.*).
Kaupifalco monogrammicus, *Gurney in Anderss. B. Dam. Ld.* p. 26 (1872).

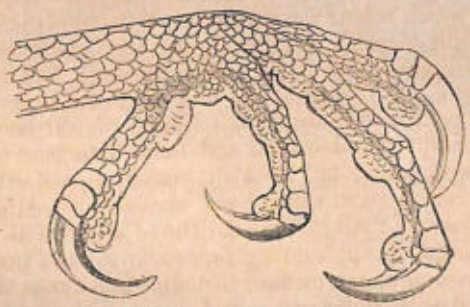
Very similar to *M. monogrammicus*, but having the bands on the lower parts much broader and darker, especially on the thigh-feathers, the white band on the tail much narrower, and the throat-stripe indistinct. Total length 13·8 inches, culmen 1·15, wing 8·8, tail 5·9, tarsus 1·95.

Hab. From Angola to Damara Land on the west coast, and Zambesi on the east coast of Africa.

a. Ad. sk. Ambriz. J. J. Monteiro, Esq. [C.]. Type of species.

47. HERPETOTHERES*.

	Type.
Herpetotheres, *Vieill. N. Dict.* xviii. p. 317 (1817)	H. cachinnans.
Cachinna, *Fleming, Phil. Zool.* ii. p. 236 (1822)	H. cachinnans.
Macagua, *Less. Traité*, p. 68 (1831)	H. cachinnans.



Foot of *Herpetotheres cachinnans*.

Range. From Bolivia and Paraguay northwards throughout the whole country to Southern Mexico.

* Mr. G. R. Gray (Hand-l. i. p. 31) adds *Physeta* of Vieillot (Analyse, p. 24, 1816), founded on the *Falco sufflator* of Linnæus (S. N. p. 127), a species often referred to *H. cachinnans*, but not sufficiently recognizable to allow of any certainty in the determination.

1. Herpetotheres cachinnans.

Falco cachinnans, *Linn. S. N.* i. p. 128 (1766).
Macagüá, *Azara, Apunt.* i. p. 81 (1802); *Hartl. Ind. Azar.* p. 2 (1847).
Astur cachinnans, *Cuv. Règne An.* i. p. 320 (1817); *Spix, Av. Bras.* i. p. 8, tab. iii. *a* (1824); *Schl. Mus. P.-B.* Astures, p. 26 (1862); *id. Revue Acciptr.* p. 68 (1873).
Herpetotheres cachinnans, *Vieill. N. Dict. d'Hist. Nat.* xviii. p. 317 (1817); *id. et Oud. Gal. Ois.* i. p. 47, pl. 19 (1825); *Bp. Consp.* i. p. 30 (1850); *Strickl. Orn. Syn.* p. 75 (1855); *Burm. Th. Bras.* ii. p. 90 (1855); *Gray, Hand-l. B.* i. p. 31 (1869); *Pelz. Orn. Bras.* pp. 7, 398 (1871); *Scl. & Salv. Nomencl.* p. 122 (1873).
Cachinna cachinnans, *Flem. Phil. Zool.* ii. p. 236 (1822).
Dædalion cachinnans, *Vig. Zool. Journ.* i. p. 338 (1824).
Macagua cachinnans, *Less. Traité*, p. 68 (1831).
Cachinna herpetotheres, *Gray, Gen. B.* i. p. 15, pl. 7. fig. 4 (1845).
Circaetus cachinnans, *Kaup, Mus. Senckenb.* iii. p. 260 (1845).

Adult. Brown above, with faint indications of paler edgings to the feathers, the lower upper tail-coverts creamy buff; head crested, the crown buffy white, forming a cap, with narrow brown shaft-streaks to the feathers; feathers all round the eye, hinder cheeks, ear-coverts, and a broad nuchal band black; a small spot under the eye, fore part of cheeks, sides of neck, and a collar round the same, as well as the entire underparts, buffy white; wing-coverts brown like the back; quills brown, creamy buff at the base, gradually shading into rufous, and barred with black, the inner primaries externally creamy buff at the base, forming a conspicuous patch on the wing; tail alternately banded with dark brown and creamy buff, the outer feather almost entirely creamy buff, with very narrow cross bars; cere orange; bill black; feet orange; iris hazel. Total length 18 inches, culmen 1·35, wing 11·2, tail 9·3, tarsus 2·4.

Young. Very similar to the adult, but having plainer margins to the feathers of the upper surface; the under surface, especially the under wing-coverts and axillaries, strongly shaded with ochre; the rufous on the quills extending further down towards the tip of the feathers; the bands on the tail more strongly tinged with ochre.

Hab. The same as that of the genus.

a. Jun. st.	British Guiana.	Royal Geographical Society [P.].
b. Ad. st.	Honduras.	
c. Juv. sk.	Mexico.	Purchased.
d. Ad. sk.	I. of Mexiana.	A. R. Wallace, Esq. [C.].
e. Ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].
f. Skeleton.		L. Fraser, Esq. [C.].

48. DRYOTRIORCHIS.

	Type.
Dryotriorchis, *Shelley, Ibis*, 1874, p. 90	D. spectabilis.

Range. Gold Coast, probably reaching to Gaboon.



Bill of *Dryotriorchis spectabilis*.

1. Dryotriorchis spectabilis*.

Astur spectabilis, *Schl. Nederl. Tijdschr.* i. p. 13, pl. 6 (1864); *Gray, Hand-l. B.* i. p. 29 (1869).
Dryotriorchis spectabilis, *Shelley, Ibis*, 1874, p. 91.

Adult. Above dark brown on the head and interscapulary region, which are shaded with ashy grey, the feathers of the nape and hind neck with conspicuous white bases, as also the scapulars; wing-coverts brown, the least ones with narrow white edgings; greater coverts and quills brown, barred with darker brown, the inner web of the quills white from the base upwards, the bars showing very plainly below; upper tail-coverts dark brown, tipped with white, before which the feathers are subterminally darker brown; tail brown, barred across with six blackish bands, narrowly tipped with white; sides of face and of neck pale ashy brown, with a distinct moustachial stripe of black; under surface of body white, the throat and chest washed with buffy fawn-colour, the former with a broad central streak of black; breast and belly with distinct black spots on the tip of each feather, the lower abdomen and under tail-coverts with small spots of rufous; axillaries, flanks, and thighs broadly barred with blackish, the latter more regularly; under wing-coverts buffy white, distinctly spotted with black. Total length 22·5 inches, culmen 1·9, wing 11·9, tail 10·4, tarsus 2·45. (*Mus. G. E. Shelley.*)

Younger (type of species). General colour brown, the dorsal feathers darker brown, the least wing-coverts and the upper tail-coverts with small buffy white spots at the tips of the feathers; bases of the feathers of the crown, hind neck, scapulars, greater wing-coverts, and rump white, causing a slightly streaked appearance on the head and neck; throat white, with a central black streak and a narrow moustachial line on each side; rest of under surface white, tinged with rufous on the chest and flanks wherever there are black bars; chest conspicuously spotted with black, the flanks broadly barred with brown, the abdomen less distinctly spotted with black.

* This is very probably the bird referred to by Cassin (Pr. Phil. Acad. 1865, p. 2) as *Spilornis bacha*, from Gaboon.

the spots smaller on the under tail-coverts and thighs, the latter more strongly tinged with rufous; under wing-coverts white, sparsely spotted with black, the axillaries broadly barred; quills and tail brown, with widely separated bars of black, five in number on the latter, more distinct below, the under surface being white, shading into whitish ashy towards the tip; cere yellow; bill horn-brown, yellow at base; feet yellow, claws blackish. Total length 21·5 inches, culmen 1·8, wing 12·15, tail 9·7, tarsus 2·9. (*Mus. Lugd.*).

Hab. The same as that of the genus.

49. CIRCAETUS.

Circaetus, *Vieill. Analyse*, p. 23 (1816) ..... Type. C. gallicus.



Head of *Circaetus gallicus* (reduced).

Range. The whole of Africa, Southern and Central Europe, the Indian peninsula, Timor, and Flores.

Key to the Species.

a. Chest white, streaked with brown ..... *gallicus* ad., p. 280.
b. Chest uniform brown or greyish.
  a'. Abdomen quite white ..... *cinereus* ad., p. 282.
  b'. Abdomen white, barred across with brown.
    a''. Larger; four bands on tail ..... *beaudouinii* ad., p. 284.
    b''. Smaller; three bands on tail ..... *fasciolatus* ad., p. 285.
  c'. Abdomen greyish brown, with a few white bands on thighs ..... *cinerascens* ad., p. 285.
  d'. Abdomen earthy brown.
    c''. Tail black, with three or four narrow brown cross bands ..... *cinereus* imm., p. 282.
    d''. Tail black, with a broad central band of whity brown, as broad as the subterminal black band ..... *cinerascens* imm., p. 285.
c. Chest orange tawny ..... *cinereus* juv., p. 282.

1. Circaetus gallicus.

Le Jean-le-Blanc, *Briss. Orn.* i. p. 443 (1770); *Buff. Pl. Enl.* i. pl. 413.

Falco gallicus, *Gm. S. N.* i. p. 295 (1788).
Aquila leucamphomma, *Bekker, Teutsche Orn.* Heft 9 (1804).
Falco leucopsis, *Bechst. Naturg. Deutschl.* ii. p. 572 (1805); *Nordm. in Démid. Voy.* iii. p. 95 (1840).
Aquila brachydactyla, *Wolf, Taschenb. deutsch. Vogelk.* i. p. 21 (1810); *Bailly, Orn. Sav.* i. p. 108 (1853).
Accipiter hypoleucus, *Pall. Zoogr. Rosso-Asiat.* i. p. 354 (1811).
Falco brachydactylus, *Temm. Man.* p. 15 (1815); *Naum. Vög. Deutschl.* i. p. 236, pl. 15 (1822); *Schl. u. Susem. Vög. Eur.* Taf. 35 *a* (1839).
Circaetus gallicus, *Vieill. N. Dict. d'Hist. Nat.* vii. p. 137 (1817); *Gould, B. Eur.* i. pl. 13 (1837); *Gray, Gen. B.* i. p. 16, pl. 7. fig. 7 (1845); *Bp. Consp.* i. p. 16 (1850); *Strickl. Orn. Syn.* p. 45 (1855); *Hartl. Orn. W.-Afr.* p. 6 (1857); *Fritsch, Vög. Eur.* tab. 6. fig. 6 (1859); *Schl. Mus. P.-B.* Buteones, p. 23 (1862); *Pelz. Verh. z.-b. Wien*, 1862, p. 169; *Jerd. B. Ind.* i. p. 76 (1862); *Schl. Vog. Nederl. Ind. Valkv.* pp. 35, 70, pl. 24. fig. 1 (1866); *Degl. et Gerbe, Orn. Europ.* i. p. 50 (1867); *Gray, Hand-l. B.* i. p. 14 (1869); *Hume, Rough Notes*, i. p. 217 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 82 (1869); *Salvad. Faun. Ital. Ucc.* p. 10 (1871); *Shelley, B. Egypt*, p. 202 (1872); *Schl. Revue Accipitr.* p. 112 (1873).
Circaetus brachydactylus, *Vig. Zool. Journ.* i. p. 336 (1824).
Circaetus leucopsis, *Brehm, Vög. Deutschl.* p. 36 (1831).
Circaetus anguium, *Brehm, Vög. Deutschl.* p. 37 (1831).
Circaetus hypoleucus, *Keyserl. u. Blas. Wirb. Eur.* pp. 29, 137 (1840); *Gray, Gen. B.* i. p. 16 (1845); *Brehm, Naum.* 1855, p. 268.
Aquila gallica, *De Selys, Faune Belge*, p. 53 (1844).
Circaetus meridionalis, *A. Brehm, J. f. O.* 1854, Extrah. p. xvii.
Circaetus orientalis, *Brehm, Naum.* 1855, p. 268.

Young from the nest. Above earthy brown; all the feathers white at base, very conspicuous on nape and hind neck; scapulars and wing-feathers edged with pale brown, producing a somewhat variegated appearance; quills blackish, with pale brown tips; the secondaries chocolate-brown, externally margined with pale brown; tail chocolate-brown, with conspicuous white tip; under surface pale earthy brown with somewhat of a rufous tinge; feathers of the lower breast and abdomen white with terminal spots of brown and irregular bars of the same colour; under wing-coverts similarly coloured.

Full-grown young bird. Like the preceding in most respects; quills and tail, not developed in the nestling, coloured as follows:—primaries blackish, secondaries dark brown, except some of the inner ones which are pale earthy brown like the back; inner lining of quills white, shading into ashy white, the tips and inner margin deep brown; the secondaries subterminally pale brown when seen from below; tail brown, with narrow whity-brown tip, crossed with four bands of darker brown, not very distinct on lower surface, which is whitish.

Adult male. Above dark brown with a purplish gloss; the wing-coverts rather paler, especially on their margins; head rather more ashy brown; the forehead and lores whitish, with narrow hair-like lines of black, a streak of which overhangs the eyebrow; sides of face whitish on the anterior part, which is furnished with black hair-

like bristles; the hinder part of the ear-coverts and cheeks brown, like the sides of the neck; under surface of body white, the throat narrowly streaked with brown with a distinct central shaft-stripe of black; the flanks barred with brown at wide intervals, these bars disappearing on the thighs and under tail-coverts, which are almost entirely white; under wing-coverts and axillaries white, with irregularly defined spots or bars of brown; quills black, the secondaries browner, especially the inner ones, which are pale brown like the greater wing-coverts, the outer ones glossed with purplish and narrowly tipped with white; inner lining of quills white, except[illegible] tips and the inner margin of primaries, which are [illegible] secondaries barred with dark brown, the subter[illegible] broad; some of the upper tail-coverts notched [illegible] with white; tail brown, plainly tipped with [illegible] three bars of blackish brown; cere whiti[illegible] bluish grey; bill pale greyish blue at base, blackish horny at tip; feet pale earthy greyish brown; iris bright orange-yellow. Total length 26 inches, culmen 2·15, wing 19·65, tail 11·5, tarsus 3·7.



Adult female. Similar to the male, but larger. Total length 31 inches, wing 21·3, tail 12·5, tarsus 4.

Hab. All the countries bordering the Mediterranean, extending into south-eastern and, more rarely, into Central Europe. The whole of the Indian peninsula, Timor, Flores.

a. ♂ ad. sk.	Montpellier.	Baron Laugier de Chartrouse.
b. ♀ ad. st.	Italy.	Purchased.
c. Pull. st.	Tunis.	L. Fraser, Esq. [C.].
d. Juv. sk.	Bogos Land.	Herr Esler [C.].
e. ♂ ad. sk.	Mount Carmel.	Canon Tristram [C.].
f. ♀ ad. st.	India.	J. R. Reeves, Esq. [P.].
g. ♀ ad. sk.	Kattiawar.	Captain J. Hayes Lloyd [P.].
h. Ad. sk.	Madras.	Dr. Jerdon [P.].
i. Ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
k. Ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
l. Skeleton.		

2. Circaetus cinereus.

Circaetus cinereus, *Vieill. N. Dict.* xxiii. p. 445 (1818); *id. et Oud. Gal. Ois.* pl. 12 (1825); *Less. Traité*, p. 48 (1831); *Gray, Gen. B.* i. p. 16 (1845); *Bp. Consp.* i. p. 16 (1850); *Schl. Mus. P.-B.* Buteones, p. 25 (1862); *Bocage, Jorn. Lisb.* ii. p. 39 (1868); *Gray, Hand-l. B.* i. p. 14 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 85 (1869); *Finsch u. Hartl. Vög. Ostafr.* p. 54 (1870).

Circaetus pectoralis, *Smith, S. Afr. Q. Journ.* i. p. 109 (1830); *Strickl. Orn. Syn.* p. 47 (1855); *Gurney in Anderss. B. Dam. Ld.* p. 10 (1872).

Circaetus thoracicus, *Less. Traité*, p. 48 (1831); *Gray, Gen. B.* i. p. 16 (1845).

Falco funereus, *Rüpp. N. W. Vög.* p. 35, pl. 14 (1835).

Falco thoracicus, *Cuv.*; *Pucher. Rev. et Mag. de Zool.* 1850, p. 6.

Circaetus thoracicus, *Bp. Consp.* i. p. 16 (1850); *Hartl. Orn. W.-Afr.* pp. 6, 269 (1857); *Grill, Zool. Anteckn.* p. 50 (1858); *Verr. et Des Murs, Ibis*, 1862, p. 209; *Layard, B. S. Afr.* p. 15 (1867); *Gray,*

Hand-l. B. i. p. 14 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 84 (1869).

Circaetus funereus, *Antin. Cat. Ucc.* p. 11 (1865); *Hartmann, J. f. O.* 1863, p. 123.

Young. Above brown; the feathers of the head and upper surface broadly margined with light tawny or pale fulvous; quills blackish, the secondaries browner, all broadly margined and tipped with pale tawny, inner webs white below; the secondaries ashy grey towards their tips; tail brown, tipped with fulvous and crossed with three indistinct bands of ashy grey; head and neck tawny, with narrow central shaft-stripes of dark brown, much broader on hind neck; lores whitish; over the eye a narrow line of black feathers; ear-coverts a little browner than the head, washed with tawny and narrowly streaked with darker brown; under surface of body light orange tawny; the throat whitish and streaked with narrow shaft-lines of dark brown extending on to the chest, but absent on breast and abdomen, which are much varied with white bases and bars to the feathers; the under tail-coverts white, with broad bars of tawny.

Mature. Dark brown above and below; the feathers of the upper surface margined with paler brown; lores whitish; a narrow malar and superciliary streak of black feathers; quills blackish, the secondaries browner, with narrow tips of whity brown; the inner web of the quills ashy white with mottlings of pure white; tail ashy brown, tipped with whitish and crossed with four blackish bands, the two basal ones often merged and indistinct; feathers of the lower surface brown like the upper, but most of the feathers with scarcely concealed white bases, showing more distinctly on the abdomen and flanks; under wing-coverts much varied with white, especially on the outer margin, where the feathers are white spotted with brown.

Adult. Above brownish black, some of the wing-coverts and scapulars with narrow whitish margins; quills blackish, the secondaries tipped with white and broadly barred across with ashy grey, with which also the primaries are washed externally; greater wing-coverts also barred with ashy grey like the secondaries; outer upper tail-coverts narrowly tipped and broadly barred on external web only with white; tail ashy brown tipped with whitish and crossed with four distinct blackish bands; lores whitish, as also the feathers at base of lower mandible; over the eye a distinct narrow line of black feathers; throat blackish, slightly streaked with white; chest uniform brownish black; rest of under surface of body, including the under wing- and tail-coverts, pure white; cere and gape olive-yellow; bill blackish; iris fulvescent. Total length 29 inches, culmen 2·15, wing 21, tail 11, tarsus 3·85.

Adult female. A little larger than the male. Total length 30 inches, wing 22·5, tail 12·5, tarsus 3·95.

Hab. The whole of Africa, excepting the forest-region on the west coast.

like bristles; the hinder part of the ear-coverts and cheeks brown, like the sides of the neck; under surface of body white, the throat narrowly streaked with brown with a distinct central shaft-stripe of black; the flanks barred with brown at wide intervals, these bars disappearing on the thighs and under tail-coverts, which are almost entirely white; under wing-coverts and axillaries white, with irregularly defined spots or bars of brown; quills black, the secondaries browner, especially the inner ones, which are pale brown like the greater wing-coverts, the outer ones glossed with purplish and narrowly tipped with white; inner lining of quills white, excepting the tips and the inner margin of primaries, which are deep brown; secondaries barred with dark brown, the subterminal band very broad; some of the upper tail-coverts notched externally and tipped with white; tail brown, plainly tipped with white and crossed with three bars of blackish brown; cere whitish, tinged in places with bluish grey; bill pale greyish blue at base, blackish horny at tip; feet pale earthy greyish brown; iris bright orange-yellow. Total length 26 inches, culmen 2·15, wing 19·65, tail 11·5, tarsus 3·7.

Adult female. Similar to the male, but larger. Total length 31 inches, wing 21·3, tail 12·5, tarsus 4.

Hab. All the countries bordering the Mediterranean, extending into south-eastern and, more rarely, into Central Europe. The whole of the Indian peninsula, Timor, Flores.

a.	♂ ad. sk.	Montpellier.	Baron Laugier de Chartrouse.
b.	♀ ad. st.	Italy.	Purchased.
c.	Pull. st.	Tunis.	L. Fraser, Esq. [C.].
d.	Juv. sk.	Bogos Land.	Herr Esler [C.].
e.	♂ ad. sk.	Mount Carmel.	Canon Tristram [C.].
f.	♀ ad. st.	India.	J. R. Reeves, Esq. [P.].
g.	♀ ad. sk.	Kattiawar.	Captain J. Hayes Lloyd [P.].
h.	Ad. sk.	Madras.	Dr. Jerdon [P.].
i.	Ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
k.	Ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
l.	Skeleton.		

2. Circaetus cinereus.

Circaetus cinereus, *Vieill. N. Dict.* xxiii. p. 445 (1818); *id. et Oud. Gal. Ois.* pl. 12 (1825); *Less. Traité*, p. 48 (1831); *Gray, Gen. B.* i. p. 16 (1845); *Bp. Consp.* i. p. 16 (1850); *Schl. Mus. P.-B.* Buteones, p. 25 (1862); *Bocage, Jorn. Lisb.* ii. p. 39 (1868); *Gray, Hand-l. B.* i. p. 14 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 85 (1869); *Finsch u. Hartl. Vög. Ostafr.* p. 54 (1870).

Circaetus pectoralis, *Smith, S. Afr. Q. Journ.* i. p. 109 (1830); *Strickl. Orn. Syn.* p. 47 (1855); *Gurney in Anderss. B. Dam. Ld.* p. 10 (1872).

Circaetus thoracicus, *Less. Traité*, p. 48 (1831); *Gray, Gen. B.* i. p. 16 (1845).

Falco funereus, *Rüpp. N. W. Vög.* p. 35, pl. 14 (1835).

Falco thoracicus, *Cuv.*; *Pucher. Rev. et Mag. de Zool.* 1850, p. 6.

Circaetus thoracicus, *Bp. Consp.* i. p. 16 (1850); *Hartl. Orn. W.-Afr.* pp. 6, 269 (1857); *Grill, Zool. Anteckn.* p. 50 (1858); *Verr. et Des Murs, Ibis*, 1862, p. 209; *Layard, B. S. Afr.* p. 15 (1867); *Gray,*

Hand-l. B. i. p. 14 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 84 (1869).

Circaetus funereus, *Antin. Cat. Ucc.* p. 11 (1865); *Hartmann, J. f. O.* 1866, p. 123.

Young. Above brown; the feathers of the head and upper surface broadly margined with light tawny or pale fulvous; quills blackish, the secondaries browner, all broadly margined and tipped with pale tawny, inner webs white below; the secondaries ashy grey towards their tips; tail brown, tipped with fulvous and crossed with three indistinct bands of ashy grey; head and neck tawny, with narrow central shaft-stripes of dark brown, much broader on hind neck; lores whitish; over the eye a narrow line of black feathers; ear-coverts a little browner than the head, washed with tawny and narrowly streaked with darker brown; under surface of body light orange tawny; the throat whitish and streaked with narrow shaft-lines of dark brown extending on to the chest, but absent on breast and abdomen, which are much varied with white bases and bars to the feathers; the under tail-coverts white, with broad bars of tawny.

Mature. Dark brown above and below; the feathers of the upper surface margined with paler brown; lores whitish; a narrow malar and superciliary streak of black feathers; quills blackish, the secondaries browner, with narrow tips of whity brown; the inner web of the quills ashy white with mottlings of pure white; tail ashy brown, tipped with whitish and crossed with four blackish bands, the two basal ones often merged and indistinct; feathers of the lower surface brown like the upper, but most of the feathers with scarcely concealed white bases, showing more distinctly on the abdomen and flanks; under wing-coverts much varied with white, especially on the outer margin, where the feathers are white spotted with brown.

Adult. Above brownish black, some of the wing-coverts and scapulars with narrow whitish margins; quills blackish, the secondaries tipped with white and broadly barred across with ashy grey, with which also the primaries are washed externally; greater wing-coverts also barred with ashy grey like the secondaries; outer upper tail-coverts narrowly tipped and broadly barred on external web only with white; tail ashy brown tipped with whitish and crossed with four distinct blackish bands; lores whitish, as also the feathers at base of lower mandible; over the eye a distinct narrow line of black feathers; throat blackish, slightly streaked with white; chest uniform brownish black; rest of under surface of body, including the under wing- and tail-coverts, pure white; cere and gape olive-yellow; bill blackish; iris fulvescent. Total length 29 inches, culmen 2·15, wing 21, tail 11, tarsus 3·85.

Adult female. A little larger than the male. Total length 30 inches, wing 22·5, tail 12·5, tarsus 3·95.

Hab. The whole of Africa, excepting the forest-region on the west coast.

a. Ad. sk.	Cape of Good Hope.	Earl of Derby [P.].
b. ♀ ad. st.	Cape of Good Hope.	Baron Laugier de Chartrouse.
c. Juv. sk.	Cape of Good Hope.	S.-African Museum.
d. ♂ ad. st.	Snewberg, S. Africa.	Purchased.
e, *f*. Juv. st.	Port Natal.	Purchased.
g. Skeleton.		Purchased.

3. Circaetus beaudouinii.

Circaetus fasciatus, *Heugl. Syst. Uebers.* p. 7 (1856, *descr. nulla*); *id. Orn. N.O.-Afr.* p. 86 (1869).
Circaetus beaudouinii, *Verr. et Des Murs, Ibis*, 1862, p. 212; *Schl. Mus. P.-B.* Buteones, p. 25 (1862); *Gray, Hand-l. B.* i. p. 14 (1869).
Circaetus thoracicus (*lapsu*), *Souza, Cat. Accipitr. Lisb. Mus.* p. 37 (1869); *Bocage, Jorn. Lisb.* 1871, p. 3.
Circaetus gallicus (pt.), *Schl. Revue Accipitr.* p. 112 (1873).

Young. Above brown, with paler margins to the feathers; the lesser and median wing-coverts rather lighter than the back; quills blackish, the secondaries glossy brown, the innermost much paler brown, like the wing-coverts; the lower surface of the wing white for the greater part of the inner web; the secondaries whitish ashy underneath, with indistinct brownish bands; tail nearly uniform brown, darker on the outer web; the tips of the feathers whity brown, the lower surface whitish, with indications of three or four dusky brown cross bands; head pale brown, with narrow blackish shaft-lines, the feathers more or less whitish near the base, producing a streaked appearance; lores, feathers round the eye, and sides of face white, with narrow blackish shaft-lines; over the eye a narrow black line, forming an eyebrow; cheeks and entire throat fulvous brown, narrowly streaked with black along the shafts of the feathers; rest of under surface fulvous brown, the bases of the feathers on the abdomen white, causing a slightly barred appearance; under tail-coverts white, with broad fulvous-brown bars; under wing-coverts nearly uniform fulvous brown, showing the white bases to the feathers very slightly; the lower series white, with an indistinct subterminal spot of pale brown.

Adult female. Above ashy brown with somewhat of a purplish gloss; the wing-coverts lighter than the back, some of the greater coverts narrowly margined with whitish, some of the outer upper tail-coverts broadly tipped and barred on the outer web with white; quills blackish, externally shaded with ashy grey; the secondaries tipped with whitish and barred with ashy grey and dark brown; the lower surface of the wing white, shading into ashy brown towards the tips, the secondaries with distinct bars of darker brown; tail ashy brown, tipped with whitish and crossed with four distinct bands of blackish brown; sides of head ashy brown; the lores and feathers round the eye whitish, with a narrow superciliary line of black feathers; throat pale ashy brown, with white bases to the feathers, causing a slightly varied appearance; chest uniform ashy

brown; rest of under surface white, regularly crossed with narrow bands of ashy brown, less distinct on the thighs and under wing-coverts; under wing-coverts white, the axillaries barred with ashy brown like the breast; cere and base of bill yellow; bill blackish towards tip; feet yellow; iris yellow. Total length 32 inches, culmen 1·9, wing 20·5, tail 11, tarsus 3·65.

Hab. Senegambia and North-eastern Africa.

a.	♀ ad. sk.	Bissao.	M. Beaudouin [C.].
b.	♀ juv. st.	Bissao.	M. Beaudouin [C.].
c.	Juv. sk.	Senegal.	Baron Laugier de Chartrouse.

4. Circaetus fasciolatus.

Circaetus fasciolatus, *Gray, Cat. Accipitr.* p. 18 (1848); *Strickl. Orn. Syn.* p. 48 (1855); *Gurney, Ibis*, 1861, p. 130, et 1862, p. 35, pl. 3; *Verr. et Des Murs, Ibis*, 1862, p. 211; *Gray, Hand-l. B.* i. p. 14 (1869).

Spilornis fasciolatus, *Kaup, Contr. Orn.* 1850, p. 72.

Circaetus gallicus (pt.), *Schl. Revue Accipitr.* p. 112 (1873).

Adult (type of species). Above blackish, with paler margins to the feathers of the upper surface, inclining to white on the greater wing-coverts, scapulars, rump, and upper tail-coverts; quills blackish, tipped with white, the primaries externally shaded with ashy grey; the secondaries browner, barred across with blackish brown, the subterminal band being much the broadest; the inner web of the quills white or ashy white, the cross bars very distinct below; tail pale ashy brown, tipped with white and crossed with four broad black bands, the ashy brown interspaces tinged slightly with whity brown; head and neck ashy brown, a little darker on the crown, with a narrow line of black over the eye; throat and chest fulvous brown, with more or less concealed spots of white; rest of under surface white, broadly barred across with rather darker brown deepest on the flanks; the under tail-coverts quite white, as also the under wing-coverts, the latter of which have a few markings of pale brown; axillaries white, regularly barred across with pale brown; cere yellow; bill bluish, black towards tip; feet yellow; iris yellow. Total length 25 inches, culmen 1·9, wing 14·6, tail 10·5, tarsus 3·4.

Hab. Natal.

a.	Ad. st.	Port Natal.	Purchased. Type of species.

5. Circaetus cinerascens.

Circaetus cinerascens, *Müll. Naum.* 1851, Heft iv. p. 27; *id. Beitr. Vög. Afr.* Lief. ii. pl. 6 (1853); *Strickl. Orn. Syn.* p. 48 (1855); *Sharpe, P. Z. S.* 1870, p. 149.

Circaetus zonurus, *Pr. v. Würt. MS.*; *Heugl. Syst. Uebers.* p. 8 (1856), *et Ibis*, 1860, p. 410, pl. xv.; *Verr. et Des Murs, Ibis*, 1862, p. 209; *Sel. Ibis*, 1864, p. 304; *Gray, Hand-l. B.* i. p. 14 (1869); *Souza, Cat. Accipitr. Lisb. Mus.* p. 35 (1869); *Heugl. Orn. N.O.-Afr.* p. 86, Taf. 3 (1869); *Schl. Revue Accipitr.* p. 113 (1873).

Circaetus melanotis, *Verr. in Hartl. Orn. W.-Afr.* p. 7 (1857).

Young. Above brown, with margins of paler brown, especially the wing-coverts; quills pale brown, the outer web blackish, and also the tips of the feathers, especially the secondaries; the primaries externally lighter brown near the base with bars of darker brown, remains of which are on the inner webs, tolerably distinct on the lower surface of the secondaries, the inner webs of all quills below being whitish; tail whity brown, darker brown on the margins of all the feathers, which are white at immediate base and crossed with two black bars, one very broad and subterminal, the other narrower and crossing the tail just below the upper tail-coverts; head and neck all round whitish, the crown darker brown, with which the other feathers are also narrowly streaked; ear-coverts ashy grey, darker on the hinder margin; under surface of body white, the feathers washed with pale brown, more plainly on the lower breast; the thighs and vent-feathers entirely pale brown, slightly varied with a few white margins; under wing-coverts nearly entirely white, a few of the feathers slightly spotted with brown; cere and feet pale ochre-yellow; iris pale ochre.

Mature. Above brown; the feathers mostly shaded with ashy grey and faintly margined with paler brown; quills brown, the primaries externally shaded with ashy grey; the secondaries tipped with whitish and barred across with black and ashy grey, the subterminal band much the broadest; the inner web of the quills whitish, with distinct though somewhat irregular remains of bars; tail whitish, shaded externally and tipped with pale brown, crossed with three blackish bands, one very indistinct at the base of the tail, another crossing it at about the extremity of the upper tail-coverts, and the third very broad and subterminal; head and neck all round a little more ashy brown than the back, the crown slightly darker, the lores and feathers under the eye whitish; entire under surface of body ashy brown, some of the feathers shaded with grey; the thighs and lower abdomen somewhat barred with white; the under tail-coverts almost entirely white, with brown cross bands; under wing-coverts pure white.

Adult female. Differs from the foregoing in being much more distinctly shaded with grey both above and below, and having more distinct whitish bands on the abdomen, showing also on the breast; cere and orbits orange-yellow; bill leaden blue, yellow at base and blackish at tip; feet orange-yellow; iris yellow. Total length 27·5 inches, culmen 2, wing 16·1, tail 9·8, tarsus 3·4.

Male. A little smaller than the female. Total length 26 inches, wing 15, tail 9·5, tarsus 3.

a. ♀ ad. st.	Bissao.	M. Beaudouin [C.].
b. ♀ juv. st.	Bissao.	M. Beaudouin [C.].
c. ♂ juv. sk.	Bissao.	R. B. Sharpe, Esq. [P.].
d, e. ♀ ad. st.	River Shiré.	Dr. Livingstone [C.].
f, g. ♂ ♀ ad. sk.	Zambesi.	Dr. Dickerson [P.].
h. ♀ ad. sk.	Rio Dande, Angola, Jan. 28, 1869.	J. J. Monteiro, Esq. [C.].

50. SPILORNIS.

Type.
Hæmatornis, *Vigors, P. Z. S.* 1830–31, p. 170 (*nec Sw.*). S. cheela.
Spilornis, *Gray, List Gen. B.* p. 3 (1840) ..... S. bacha.
Ophoaetus, *Jerd. Madr. Journ.* xiii. p. 159 (1844) .... S. melanotis.

Range. Indian peninsula, with the Andaman Islands and Ceylon, extending throughout the Indo-Malayan subregion and islands to Celebes, the Sula group, and the Philippines, reaching to Southern China and Formosa.

Key to the Species.

a. Chest uniform.
a'. Chest brown.
a''. Pale brown above and below, the spots more or less obscurely indicated.
a'''. Very large and robust; wing varying from 15 to 20·5 inches ..... *cheela*, p. 287.
b'''. Very much smaller and slighter; wing not exceeding 14·5 inches ..... *pallidus*, p. 290.
b''. General colour dark brown; the spots shown in bold relief ..... *bacha*, p. 290.
b'. Chest rufous.
c''. Chest deep rufous; belly spotted with white.. *rufipectus*, p. 291.
d''. Chest pale rufous; belly narrowly banded with rufous and broadly with white ..... *sulaensis*, p. 292.
b. Chest and back spotted with white ..... *holospilus*, p. 293.

1. Spilornis cheela.

Cheela Falcon, *Lath. Gen. Syn. Suppl.* p. 33 (1787).
Falco cheela, *Lath. Ind. Orn.* i. p. 14 (1790).
Falco albidus, *Temm. Pl. Col.* i. pl. 19 (1824, *ex Cuv.*).
Cymindis albidus, *Vigors, Zool. Journ.* i. p. 324 (1824).
Buteo albidus, *Cuv. Règne An.* i. p. 337 (1829).
Hæmatornis undulatus, *Vigors, P. Z. S.* 1830–31, p. 171; *Gould, Cent. Himal. B.* pl. 1 (1832).
Circaetus nipalensis, *Hodgs. As. Research.* xviii. pt. 2, p. 17, pl. 2 (1833).
Haliaetus bacha, *Meyen, Beitr.* p. 68 (1834).
Spilornis undulata, *Gray, Cat. Accipitr.* 1844, p. 10.
Circaetus undulatus, *Gray, Gen. B.* i. p. 16 (1845).
Hæmatornis cheela, *Blyth, J. A. S. B.* xiv. p. 179 (1845); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 50 (1854).
Circaetus cheela, *Gray, Cat. Accipitr.* 1848, p. 18; *Schl. Mus. P.-B.* Buteones, p. 25 (1862); *Gray, Hand-l. B.* i. p. 14 (1869).
Spilornis cheela, *Bp. Consp.* i. p. 17 (1850); *Strickl. Orn. Syn.* p. 17 (1855, pt.); *Jerd. B. Ind.* i. p. 77 (1862); *Blyth, Ibis*, 1863, p. 12, et 1866, p. 243; *Hume, R. N.* i. p. 222 (1869); *Swinh. P. Z. S.* 1871, p. 340.
Spilornis orientalis, *Gurney, Ibis*, 1866, p. 243 (*lapsu*).
Spilornis hoya, *Swinh. Ibis*, 1866, pp. 304, 399; *Gurney, t. c.* p. 421.

Nestling. Covered with white down, but already the sprouting feathers forming a crest; the plumage as far as developed blackish

brown, with pale fulvous margins on the upper surface; the breast-feathers tawny brown, already showing small white spots.

Young. Above brown, with large spots of dark brown near the end of each feather, which is slightly tipped with fulvous; the bases to the feathers white; the upper tail-coverts tipped and barred on the outer web with the same; wing-coverts blackish brown, the least ones apically margined with white; the greater series whity brown, more or less entirely white on inner web, mesially streaked with dark brown, widening into a spatulate apical spot; quills dark brown tipped with white, the secondaries more broadly, barred across with blackish brown, very distinct underneath, where the inner webs are for the most part white; tail ashy brown, tipped with white and crossed with three broad bands of darker brown, with indications of irregular whitish lines on the interspaces; head and neck all round white, with a narrow shaft-stripe and diamond-shaped apical spot of dark brown; the ear-coverts and cheeks nearly uniform brown; under surface of body white, with broad streaks of brown on the breast, becoming very narrow and linear on the flanks; the thighs narrowly barred with brown; under wing-coverts white, with large oval spots of rufous brown on the innermost, and having bars of brown on the lower series.

Mature female. Head much crested, jet-black, with conspicuous white bases to the feathers, those of the nape tipped with dull ochraceous; rest of upper surface of body purplish brown, paler on the interscapulary region; the wing-coverts blacker, with remains of white tips, which are less distinct on the scapulars, but very broad on the upper tail-coverts; quills brown, tipped with white and mottled slightly on the outer web, but more on the inner, with the same; all the quills dark brown at base, and having a broad subterminal band of blackish brown, the primaries showing a second dark brown band near the base; the inner web of the quills below whitish, showing the bands very distinctly; tail black, narrowly tipped with whitish and crossed with a very broad median band of pale whity brown; sides of face and chin blackish with a distinct greyish shade, the latter showing slight tips of fulvous to the feathers; rest of under surface pale ochreous brown, with distinct but irregular transverse lines of dark brown, the rest of the under surface with large spots of white, rather oblong in shape, and mostly margined above and below with black, changing to bars on the thighs and under tail-coverts; under wing-coverts and axillaries light rufous, with very distinct oval spots of white. Total length 30 inches, culmen 2·25, wing 20·5, tail 13, tarsus 4·5.

Adult male. Smaller than the female. Total length 28 inches, wing 18·5, tail 12, tarsus 4·15. The adult bird differs from the foregoing in having the chest perfectly uniform brown, with no trace of cross barrings on the under surface; the breast and lower parts very largely and distinctly spotted with white; cere, loral skin, and gape bright yellow; bill slaty plumbeous at base, bluish black at tip and on culmen; feet pale dingy yellow; iris intense yellow.

Hab. Himalaya Mountains eastwards to China and Formosa.

a. Juv. sk.	India.	Major-General Hardwicke [P.].
b. ♂ ad. st.	Himalayas.	
c. ♀ ad. st.	Himalayas.	J. Gould, Esq. [P.].
d, e. Pull. st.	Nepal.	B. H. Hodgson, Esq. [P.].
f, g. ♂ ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
h, i. ♀ ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
k–n. ♀ ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
o, p. Imm. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
q. ♀ ad. sk.	Assam.	J. Gould, Esq. [P.].
r. Sternum.		B. H. Hodgson, Esq. [P.].
s. Sternum.		R. Swinhoe, Esq. [C.].
t. Skull.		B. H. Hodgson, Esq. [P.].

Subsp. *a.* **Spilornis melanotis.**

Circaetus undulatus, *Jerd. Madr. Journ.* x. p. 70 (1839).
Buteo melanotis, *Jerd. Madr. Journ.* xiii. p. 165 (1844).
Hæmatornis spilogaster, *Blyth, J. A. S. B.* xvi. p. 351 (1852); *Layard, Ann. N. H.* xii. p. 100 (1853).
Circaetus cheela, *Kelaart, Prodr. Faun. Zeyl.* p. 17 (1852).
Hæmatornis cheela, *Beav. Ibis*, 1867, p. 314.
Spilornis rutherfordi, *Swinh. Ibis*, 1870, p. 85; *id. P. Z. S.* 1871, p. 340; *Wald. Ibis*, 1873, p. 298.
Spilornis spilogaster, *Blanf. J. A. S. B.* 1871, p. 270.
Spilornis bacha, *Holdsw. P. Z. S.* 1872, p. 412.
Circaetus rutherfordi, *Giebel, Orn. Thes.* p. 702 (1872).
Spilornis davisoni, *Hume, Str. F.* i. pp. 305, 422 (1873).

Similar in all respects to *S. cheela*, but very much smaller, appearing to be a southern representative of that bird. A specimen from Hainan, one of the types of *S. rutherfordi*, measures :—total length 27 inches, wing 17·8, tail 11, tarsus 3·8. The colour is rather duller brown than in other Indian examples. With the above dimensions may be compared a bird from Murshedabad :—total length 25 inches, wing 16·8, tail 10·8, tarsus 3·65. Mr. Hume gives the following measurements of his new Andaman species, *S. davisoni* (♀):—total length 24 inches, wing 15 inches; and I believe that a gradual gradation may be found. The uniform chest, which some naturalists think a distinguishing character, exists in fully adult birds of *S. cheela* from the Himalayas. It is possible that *S. pallidus* may some day be united as a further diminutive race of the southern form ; but its extremely small size and pale coloration induce me at present to keep it distinct.

Hab. Central and Southern India, Andaman Islands, and Ceylon, extending eastwards through the Indo-Chinese countries to Hainan.

a. Juv. st.	Madras.	Dr. Jerdon [P.].
b. Juv. sk.	Madras.	Dr. Jerdon [P.].
c. Ad. sk.	Murshedabad.	Colonel Cobbe [C.].
d. Ad. st.	Hainan.	R. Swinhoe, Esq. [C.].

2. Spilornis pallidus. (Plate IX.)

Spilornis cheela, *Wall. Ibis*, 1868, p. 15.
Spilornis pallidus, *Walden, Ibis*, 1872, p. 363.

Adult male. Above pale brown, with indistinct margins of fulvous brown to the feathers, the scapulars slightly spotted with white at the tip; the upper tail-coverts broadly tipped with white; upper wing-coverts blacker, with two distinct white spots at the tip of each feather; quills ashy brown, broadly tipped with buffy white, with two broad bands of blackish brown, one subterminal and the other near the base; the lower surface of the wing ashy whitish, the bands very distinct below; tail dark brown, tipped with buffy white and crossed with a broad median band of pale whity brown shaded with ashy; head much crested, jet-black with white bases to the feathers; the nape-feathers with slight rufous tips; sides of the face and throat clear bluish grey; sides of the neck and chest uniform pale brown; rest of under surface of body pale brown with distinct rounded spots of white, taking rather the form of bars on the thighs and under tail-coverts; the under wing-coverts paler and more rufescent, with numerous spots and bars of white. Total length 21 inches, culmen 1·8, wing 14, tail 8·8, tarsus 3·25.

Young female. Pale brown above with lighter margins; the feathers of crown white, with a black terminal spot; the body below pale brown; the throat and chest vermiculated with cross lines of dark brown, with a few white spots on the abdomen, turning to bars on the thighs and under tail-coverts; tail brown at base, with two broad black bands, the basal one with slight indications of a whitish band immediately preceding the lower of the two, and a broad subterminal whity brown band. Total length 24·5 inches, wing 14·3, tail 9·4, tarsus 3.

Hab. Borneo.

a. ♂ ad. sk.	Borneo.	Rajah Brooke [P.].
b. ♀ imm. sk.	Sarawak.	A. R. Wallace, Esq. [C.].

3. Spilornis bacha.

Le Bacha, *Levaill. Ois. d'Afr.* i. p. 69, pl. 15 (1799); *Sundev. Krit. om Levaill.* p. 25 (1858).
Falco bacha, *Daud. Traité*, ii. p. 43 (1800, *ex Levaill.*).
Falco bido, *Horsf. Tr. Linn. Soc.* xiii. p. 137 (1822).
Cymindis bacha, *Vigors, Zool. Journ.* i. p. 324 (1824).
Buteo bacha, *Vigors, Mem. Raffl.* p. 650 (1830).
Hæmatornis bacha, *Vigors, P. Z. S.* 1830–31, p. 170; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 49 (1854).
Spilornis bacha, *Gray, List Gen. B.* 1840, p. 3; *Bp. Consp.* i. p. 16 (1850); *Blyth, Ibis*, 1863, p. 12; *Wall. Ibis*, 1868, p. 15; *Hume, Rough Notes*, i. p. 230 (1869).
Circaetus bacha, *Gray, Gen. B.* i. p. 16 (1845); *Schl. Mus. P.-B.* Buteones, p. 26 (1862); *id. Vog. Nederl. Ind. Valkv.* pp. 36, 71, pl. 22. figs. 1–3 (1866); *Gray, Hand-l. B.* i. p. 14 (1869).
Hæmatornis bido, *Blyth, Cat. B. Mus. A. S. B.* p. 19 (1849).
Circaetus bascha, *Schl. Mus. P.-B. Revue Accipitr.* p. 113 (1873).



Keulemans del. Mintern Bros. lith.

Spilornis pallidus.

Adult male. Head largely crested, jet-black with white bases to the feathers; upper surface of body brown, the wing-coverts with a few minute spots of white on the margins of the feathers; quills black, the primary coverts and secondaries narrowly tipped with white, the primaries somewhat shaded with ashy grey externally and crossed with two brown bands, one broad and very distinct, the other basal and nearly obsolete, these bars less distinct above on the secondaries, but rather plainer below; upper tail-coverts and tail blackish brown, slightly tipped with whitish, the latter crossed with a broad median band of pale ashy brown with indications of a second basal one only visible below; sides of head and throat blackish, the cheeks somewhat shaded with ashy grey; remainder of under surface of body brown, the chest uniform, the breast with distinct oval spots of white on both webs, more numerous on the thighs and inclining to bars on the flanks and under tail-coverts; under wing-coverts paler brown, thickly varied with oval spots of white, larger and further apart on the axillaries and greater coverts; cere yellow; bill black, horn-coloured at tip; feet orange-yellow; iris yellow. Total length 24·5 inches, culmen 1·9, wing 16, tail 10, tarsus 3·4.

Adult female. Similar to the male, but larger. Total length 26 inches, wing 16·5, tail 10·5, tarsus 3·75.

Hab. Java, Sumatra, and Malacca.

a, b. ♂ ♀ ad. sk.	E. Java.	A. R. Wallace, Esq. [P.].
c. ♀ ad. sk.	E. Java.	A. R. Wallace, Esq. [P.].
d. ♂ juv. st.	Java.	Purchased.
e. ♀ ad. st.	Java.	Hon. East-India Co. [P.].
f. Skeleton.		Purchased.

Subsp. *a.* Spilornis elgini.

Hæmatornis spilogaster, *Blyth, Ibis*, 1866, p. 343.
Hæmatornis elgini, *Tytler, J. A. S. B.* xxxii. p. 87 (1863); *Blyth, Ibis*, 1863, p. 118; *Beav. Ibis*, 1867, p. 314.
Spilornis bacha, *Gurney, Ibis*, 1867, p. 466; *Hume, Rough Notes*, i. p. 230 (1869); *Jerd. Ibis*, 1871, p. 335; *Ball, Str. F.* i. p. 52 (1873); *Hume, t. c.* p. 306 (1873).
Spilornis elgini, *Beav. Ibis*, 1867, p. 314; *Walden, Ibis*, 1873, p. 299.

Differs in no respect from *S. bacha* of Java, excepting that it is very much blacker, and the white spots are therefore very distinct indeed. Total length 22·5 inches, wing 15·6, tail 10·2, tarsus 3·6. (*Mus. Walden.*)

a. Skeleton. Zoological Society.

4. Spilornis rufipectus.

Spilornis rufipectus, *Gould, P. Z. S.* 1857, p. 222; *id. B. of Asia*, part xii. (1860); *Wall. Ibis*, 1868, p. 16; *Walden, Tr. Z. S.* viii. p. 35 (1871).
Circaetus bacha celebensis, *Schl. Mus. P.-B.* Buteones, p. 27 (1862).
Circaetus rufipectus, *Schl. Vog. Nederl. Ind. Valkv.* pp. 37, 72, pl. 23. figs. 1–3 (1866); *Gray, Hand-l. B.* i. p. 15 (1869); *Schl. Mus. P.-B. Revue Accipitr.* p. 114 (1873).

Adult male. Head crested, black; upper surface of body purplish brown, the upper tail-coverts slightly tipped with white; quills brown, tipped with white, with a broad subterminal band of purplish brown, the secondaries also margined externally with purplish brown, the primaries banded with dark brown below, secondaries brown, more thickly spotted with white towards the base of the inner web; tail brown, tipped with white and crossed with three bands of purplish brown, the two basal ones being indistinct and almost merged together, the subterminal one nearly black, and the interspace before it inclining to whity brown; hinder neck brown, darker in the centre of the feathers, which are tipped with rufous, as are also some of the under feathers of the crest; sides of face and throat bluish ash-colour, the latter inclining to blackish, especially on the lower margin; chest uniform dull rufous; rest of under surface rufous brown, with large spots and bars of white on each web, producing a barred appearance; thighs white, numerously barred with ashy brown, the under tail-coverts also, but less numerously, barred; under wing-coverts rufous brown, marked like the belly with white spots, the small coverts on the edge of the wing for the most part white; cere yellow; bill black; feet yellow; iris yellow. Total length 17·6 inches, culmen 1·45, wing 13·3, tail 9·5, tarsus 3·1, middle toe 1·5.

Hab. Celebes.

a. Ad. sk.	Macassar, Celebes.	J. Gould, Esq. [P.].	Type of species.
b, c. Ad. st.	Macassar, Celebes.	A. R. Wallace, Esq. [C.].	
d. ♀ ad. sk.	Macassar, Celebes.	A. R. Wallace, Esq. [C.].	
e. ♀ juv. sk.	Macassar, Celebes.	A. R. Wallace, Esq. [C.].	

5. Spilornis sulaensis.

Circaetus sulaensis, *Schl. Vog. Nederl. Ind.* pp. 38, 72, pl. 23. figs. 4–6 (1866); *Gray, Hand-l. B.* i. p. 15 (1869).
Spilornis sulaensis, *Wall. Ibis*, 1868, p. 16.
Circaetus rufipectus sulaensis, *Schl. Mus. P.-B. Revue Accipitr.* p. 114 (1873).

Young. Above brown, with rufous margins to the feathers, the bases of which are fulvous, causing a slightly mottled appearance; head, much crested, and hind neck creamy buff, with dark brown longitudinal centres to the feathers; ear-coverts blackish; cheeks and under surface of the body creamy buff, inclining to white on the abdomen; under tail-coverts entirely white, the breast distinctly streaked with dark brown, the lower parts with narrower and more rufous streaks, widening out into dart-shaped spots on the flanks; quills brown, barred with darker brown, the inner web white at base, the secondaries tipped with white and barred plainly on the inner web, which is rufous white; upper tail-coverts brown, broadly tipped with white; tail brown, tipped with whitish and crossed with four bars of darker brown, after which a whity brown interspace, and then a broad subterminal band of black, the under surface of the tail ashy white, purer white towards the base of the inner web,

with indistinct remains of bars. Total length about 19 inches, wing 13·7, tarsus 3·05. (*Mus. Lugd.*)

Adult male (type of species). Above brown, the wing-coverts and feathers of the middle back darker and more purplish brown, the upper tail-coverts barred and tipped with white; crown of head black, the nape a little varied, and the under crest-feathers slightly tipped with rufous; hind neck rufous, the feathers dark brown in the centre; sides of face and throat ashy grey, with a whitish malar stripe on each side; chest very pale tawny, the lower parts rufous brown, broadly barred across with white, the bars sometimes not complete; thighs white, barred with brown; under tail-coverts white, with a few remains of brown bars; quills brown, barred with darker purplish brown, the secondaries paler and tipped with white, all the quills white for the greater part of the inner web, the bars more distinctly indicated; tail pale ashy brown above, tipped with white, and crossed with three basal bars of dark brown, and a subterminal band much broader and darker, the under surface of the tail ashy white, the bars not very distinctly indicated. Total length 17 inches, culmen 1·55, wing 12·2, tail 8·5, tarsus 2·9, middle toe 1·4. (*Mus. Lugd.*)

Adult female. Similar to the male, but a little larger. Total length 18 inches, wing 12·1, tail 8·9, tarsus 2·95. (*Mus. Lugd.*)

Hab. Sula Islands.

a. Ad. st.	Sula Islands.	Purchased.
b. ♂ ad. sk.	Sula Islands.	A. R. Wallace, Esq. [C.].

6. Spilornis holospilus.

Buteo holospilus, *Vigors, P. Z. S.* 1830–31, p. 96.
Hæmatornis holospilus, *Vigors, t. c.* p. 170; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 50 (1854).
Spilornis holospilus, *Gray, Cat. Accipitr.* p. 10 (1844); *Bp. Consp.* i. p. 17 (1850); *Strickl. Orn. Syn.* p. 45 (1855); *Blyth, Ibis*, 1866, p. 243; *Wall. Ibis*, 1868, p. 16.
Circaetus holospilus, *Gray & Mitch. Gen. of B.* i. p. 16, pl. 7 (1845); *Schl. Mus. P.-B.* Buteones, p. 28 (1862); *Gray, Hand-l. B.* i. p. 14 (1869); *Schl. Revue Accipitr.* p. 114 (1873).

Adult. Above pale brown with a purplish gloss, and irregularly spotted or margined with white at the tip; hind neck and interscapulary region lighter than the rest of the back, the feathers tipped with pale rufous, and ocellated with large rounded spots of white; head much crested, ashy black, the feathers slightly margined with rufous and spotted with white; sides of face and throat ashy grey, the latter varied with oval markings of whitish; under surface of body very light tawny, ocellated all over with spots or half bars of white, the latter more distinct on the under tail-coverts, the thighs and under wing-coverts a little darker and more thickly spotted with white; wing-coverts dark brown, minutely spotted with white; primaries brown, whitish on inner web, black at tip, and crossed with a bar of black about the middle of the feather; secondaries pale brown like the back, with white tips and faint indications of obso-

lete whitish bars on the feathers; upper tail-coverts brown, darker before the tips, which are white, and having remains of rounded white spots concealed or obscured by the brown colour of the feathers; tail pale brown, narrowly tipped with whity brown, and crossed with two broad bands of blackish brown, one subterminal and the other about the middle of the tail, a band of light brown before the lower black band, and a broad band of whity brown between the two black bands; bill leaden black, yellow at base of both mandibles. Total length 25 inches, culmen 1·8, wing 14·5, tail 10, tarsus 3·55.

Young. Above brown, the feathers tipped with pale rufous, the white bases very conspicuous, especially on the wing-coverts, which appear lighter than the back; head, which is largely crested, and hind neck rufous, the feathers buffy white at the base, with a chestnut-brown subterminal spot; ear-coverts and sides of face uniform dark brown; throat white; rest of under surface of body fulvous washed with rufous, more especially on the breast-feathers, which have dark brown shafts; under wing-coverts fulvous, washed with tawny rufous; primaries dark brown, secondaries rather lighter like the back, and tipped with buffy white, all the quills white at base of inner web, and barred with darker brown, showing more plainly underneath, as the interspaces are whitish ashy; tail brown, washed with rufous near the base, and slightly tipped with fulvous, crossed with four or five bars of dark brown, the basal ones indistinct and more or less dissolved into mottlings.

Hab. Philippine Islands.

a. Ad. sk.	Manilla.	J. Gould, Esq.
b. Juv. sk.	Cataguan.	H. Cuming, Esq. [P.].
c. Juv. st.	Mindanao.	
d. Ad. st.	Philippine Islands.	J. R. Reeves, Esq. [P.].

51. BUTASTUR.

	Type.
Butastur, *Hodgs. J. A. S. B.* xii. p. 311 (1843)	B. teesa.
Poliornis, *Kaup, Classif. Säug. u. Vög.* p. 122 (1844)	B. teesa.



Bill of *Butastur teesa*.

Range. From North China and Japan throughout Indo-Chinese countries and Malayan subregion to New Guinea; Indian peninsula; N.E. Africa.

Key to the Species.

a. Tail rufous, with indistinct cross bands of dark brown.
  a'. Primary coverts brown, like the quills ..... *teesa*, p. 295.
  b'. Primary coverts rufous, like the quills ..... *liventer*, p. 296.
b. Tail ashy brown, with dark brown cross bands.
  c'. Tail-coverts not tipped with white; primary coverts rufous ..... *rufipennis*, p. 299.
  d'. Tail-coverts tipped with pure white; primary coverts blackish ..... *indicus*, p. 297.

1. Butastur teesa.

Zuggun Falcon, *Lath. Gen. Hist.* i. p. 190 (1821).
Circus teesa, *Frankl. P. Z. S.* 1831, p. 115 (*descr. orig.*).
Astur hyder, *Sykes, P. Z. S.* 1832, p. 79.
Buteo teesa, *Gray & Hardw. Ill. Ind. Zool.* ii. pl. 30 (1833); *Jerd. Madr. Journ.* x. p. 77 (1839); *Schl. Mus. P.-B.* Buteones, p. 22 (1862).
Butastur teesa, *Hodgs. J. A. S. B.* xii. p. 311 (1843).
Poliornis teesa, *Kaup, Classif. Säug. u. Vög.* p. 122 (1844); *Gray, Gen. B.* i. p. 30 (1849); *Blyth, Cat. B. Mus. A. S. B.* p. 21 (1849); *Bp. Consp.* i. p. 18 (1850); *Strickl. Orn. Syn.* p. 125 (1855); *Jerd. B. Ind.* i. p. 92 (1862); *Gray, Hand-l. B.* i. p. 15 (1869); *Hume, Rough Notes*, ii. p. 286 (1870); *id. Stray F.* p. 159 (1873).

Adult female. Above pale rufous brown, darker and more decided brown on the head and hind neck, the nape-feathers for the most part white and conspicuously showing; all the feathers of upper surface with more or less distinct black shaft-stripes, and many of them mottled with ashy fulvous on their margins; wing-coverts like the back, excepting the median series, which are lighter and much varied with whitish or rufous buff; primary coverts blackish, externally shaded with ashy; quills pale brown, rufescent near shafts, the primaries externally ashy grey, barred and broadly tipped with dark brown, the secondaries pale brown like the back, the innermost also slightly mottled with whitish; inner lining of wing pure white, the secondaries inclining to greyish, with indications of obsolete greyish cross bars; upper tail-coverts pale rufous, the lower ones with indications of greyish black cross bars; tail pale rufous, tipped with buffy white, and crossed with six or seven indistinct bars of greyish black, the subterminal one darker and broader; sides of face rufous brown; throat yellowish white, bordered on each side with a moustachial line of black, and having a broad stripe of the same down the centre; breast pale rufous brown, somewhat varied with yellowish white spots, more or less distinct on both sides of the feather; rest of under surface buffy white, barred with pale rufous, less distinct on the thighs and under tail-coverts; under wing-coverts white, the median ones streaked and subterminally spotted with rufous brown; cere, gape, and base of lower mandible bright orange; the tip of the bill black, the intermediate part fleshy; feet dingy orange-yellow; iris pale yellowish white, eyelid orange-yellow. Total length 18·5 inches, culmen 1·4, wing 12·2, tail 7·8, tarsus 2·55.

Adult male. Similar to the adult female, but smaller. Total length 16 inches, culmen 1·3, wing 11·7, tail 6·9, tarsus 2·5.

Young. Above ashy brown, the feathers tipped with whitish, more distinctly on the wing-coverts, the greater series of which have very broad whitish spots and tips, contrasting strongly with the back; quills and tail much as in the adult, but the latter not so rufous; head and hind neck ochraceous buff, the nape whitish, with narrow central lines of blackish brown; sides of face and throat whitish, with faint indications of the moustachial line and throat-streak; breast buffy white, with numerous mesial streaks of dark brown; thighs, vent, and under tail-coverts white.

Hab. Plains of India, extending eastwards to Assam, and westwards to Scinde.

a. Ad. st.	Gangoutra, Himalayas.	
b. Pull. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
c, *d.* Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
e. Ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
f. ♀ ad. sk.	Kattiawar, Nov. 2, 1871.	Capt. J. Hayes Lloyd [P.].
g. ♂ ad. sk.	Badrachellam, south of Godavery.	W. T. Blanford, Esq. [P.].
h. Skeleton.		B. H. Hodgson, Esq. [P.].

2. Butastur liventer.

Falco liventer, *Temm. Pl. Col.* i. pl. 438 (1827).
Buteo liventer, *Cuv. Règne An.* i. p. 337 (1829); *Temm. & Schl. F. J. Aves*, p. 21 (1850); *Schl. Mus. P.-B.* Buteones, p. 21 (1862); *id. Vog. Nederl. Ind. Valkv.* pp. 32, 69, pl. 21. fig. 1 (1866); *id. Revue Accipitr.* p. 111 (1873).
Buteo pallidus, *Less. Traité*, p. 82 (1831).
Astur liventer, *Gray, Cat. Accipitr.* p. 34 (1844).
Poliornis liventer, *Kaup, Classif. Säug. u. Vög.* p. 122 (1844); *Gray, Gen. B.* i. p. 30 (1849); *Bp. Consp.* i. p. 18 (1850); *Strickl. Orn. Syn.* p. 126 (1855); *Wall. Ibis*, 1868, p. 19; *Gray, Hand-l. B.* i. p. 16 (1869); *Walden, Tr. Z. S.* viii. p. 37 (1872); *Hume, Stray F.* i. p. 319 (1873).

Adult female (type of species). Above brownish ashy, clear ashy on the head, hind neck, and wing-coverts, especially the greater series, the shaft-stripes somewhat distinctly indicated; ear-coverts pale ashy; upper tail-coverts also ashy, but strongly tinged with rufous; quills rufous, externally ashy grey, brown at their tips and barred with dark brown, these bars disappearing towards the base of the inner web, which is white; secondaries ashy brown like the back, more or less inclining to rufous on outer web; throat whitish, somewhat mottled with ashy grey; rest of under surface clear ash-colour, with blackish shaft-stripes clearly indicated, and remains of a few whitish bars on the flanks; thighs and under wing- and tail-coverts pure white; tail rufous, distinctly margined and tipped with ashy grey, and crossed with six blackish bars, the subterminal one being a little broader; cere and orbits yellow; bill yellow, the tip black; feet yellow; iris pale yellow. Total length 17 inches, culmen 1·45, wing 11·8, tail 7, tarsus 2·65, middle toe 1·4.

Young. Much darker above and below than the adult, the feathers of the upper surface brown with rufous margins; forehead whitish, as also a tolerably distinct eyebrow; crown of head and neck brown, with rufous margins, giving a distinctly streaked appearance; nape mixed with white; ear-coverts ashy brown; throat white, with a central blackish stripe, and bordered on each side with a blackish moustachial line; under surface of body ashy brown, mottled with pale rufous spots on both webs of the breast-feathers, the abdomen barred more or less distinctly with creamy buff; thighs and under tail-coverts pure white; wings and tail much as in the adult; cere and orbits yellow; bill yellow, black at tip; feet yellow; "iris pale lead-colour, not yellow" (*A. R. W.*). Total length 16·2 inches, culmen 1·3, wing 11·2, tail 6·6, tarsus 2·5.

Another young bird in the Leiden Museum did not differ so much from the adult as the one just described. It was much browner on the head, had a white eyebrow and the nape also varied with white; it had likewise remains of white on the wing-coverts.

Hab. From Burmah and Siam to Celebes, occurring in Java and Timor.

a. ♂ ad. st.	Malay archipelago.	Leiden Museum [P.].
b. ♂ juv. sk.	Macassar.	A. R. Wallace, Esq. [C.].

3. Butastur indicus.

Javan Hawk, *Lath. Gen. Syn. Suppl.* p. 32* (1787).
Falco indicus, *Gm. S. N.* i. p. 264 (1788, *ex Lath.*).
Falco javanicus, *Lath. Gen. Hist.* i. p. 163 (1821).
Falco poliogenys, *Temm. Pl. Col.* i. pl. 325 (1825).
Astur poliogenys, *Gray, Cat. Accipitr.* 1844, p. 34.
Buteo fasciatus, *A. Hay, Madr. Journ.* xiii. p. 146 (1844).
Astur barbatus, *Eyton, Ann. N. H.* xvi. p. 228 (1845).
Buteo pygmæus, *Blyth, J. A. S. B.* xiv. p. 177 (1845); *id. Cat. B. Mus. A. S. B.* p. 29 (1849).
Poliornis indicus, *Gray, Cat. Accipitr.* 1848, p. 68; *Strickl. Orn. Syn.* p. 125 (1855); *Walden, Tr. Z. S.* viii. p. 37 (1872).
Poliornis pyrrhogenys, *Gray, Gen. B.* i. p. 30 (1849).
Poliornis poliogenys, *Gray, Gen. B.* i. p. 30 (1849); *Bp. Consp.* i. p. 18 (1850); *Wall. Ibis*, 1868, p. 19; *Gray, Hand-l. B.* i. p. 16 (1869); *Swinh. P. Z. S.* 1871, p. 341.
Buteo pyrrhogenys, *Temm. & Schl. F. J. Aves*, p. 21, pl. 7 B (1850).
Buteo poliogenys, *Schl. Mus. P.-B.* Buteones, p. 22 (1862); *id. Vog. Nederl. Ind.* pp. 33, 70, pl. 21. figs. 2,3 (1866); *Blyth, Ibis*, 1866, p. 247; *Schl. Revue Accipitr.* p. 111 (1873).
Poliornis barbatus, *Gray, Hand-l. B.* i. p. 15 (1869).

Adult. Above brown, inclining to ashy on the head and upper back, and to rufous on the lower back, rump, and upper tail-coverts, the latter of which are plainly barred and broadly tipped with pure white; forehead white; sides of face clear ashy grey; sides of neck ashy brown, uniform with the interscapulary region; wing-coverts rufous brown, mottled with clearer rufous; primary coverts rufous, externally mottled and broadly tipped with black; quills rufous, narrowly tipped with buffy white, primaries brown externally and

towards their tips, also barred with dark brown on their inner webs, the secondaries ashy brown, inclining gradually to whity brown at their tips, washed with rufous and barred with dark brown, the lower surface of the wing creamy white on the inner webs of the quills, somewhat washed with rufous; tail ashy brown, whity brown at tip and crossed with three or four broad bars of blackish brown, the lower surface ashy white, the bars showing more plainly, except on the outermost feather, where they are obsolete; throat white, with a mesial line of ashy brown, as well as two not very distinct moustachial streaks; upper breast ashy brown, washed with rufous, the lower breast and abdomen barred with white and rufous brown, the latter bars decreasing towards the vent and thighs, and totally absent on the under tail-coverts; under wing-coverts with slight cross markings of pale rufous; bill leaden black, yellow at base; cere and feet yellow; iris yellow*. Total length 18·5 inches, culmen 1·3, wing 13·1, tail 7·9, tarsus 2·4.

Adult female. Larger than the male. Total length 18·5 inches, wing 13·6, tail 8·4, tarsus 2·45.

Young. Considerably different from the adult. Above dark brown, the wing-coverts washed with rufous and tipped with dull white, the greater ones with rufous or rufous white spots on both webs, giving a mottled appearance to these parts; forehead and eyebrow creamy white; crown and hind neck brown, the feathers margined with creamy white, giving a striped appearance, the latter also slightly washed with rufous; sides of face ashy brown, streaked with darker brown, the fore part of cheeks white; under surface of body creamy buff, the throat with a central blackish streak on the lower part; centre of chest streaked with dark brown, the breast with pale chestnut, becoming spade-shaped spots on the flanks, but narrowing to small streaks on the thighs, and disappearing altogether on the under tail-coverts, which are creamy buff; under wing-coverts creamy buff, with a few rufous-brown marks on the lower series, and bars of the same on the axillaries; upper tail-coverts brown, white at the base and at the tips, and having the outer margin also white; tail ashy brown, tipped with pale rufous brown and crossed with five bars of darker brown, the subterminal one broader; quills dark brown, the secondaries paler, the base of the inner web white, with remains of ashy bars on the inner secondaries; cere and feet yellow; bill black; iris yellow†.

Hab. Eastern Asia, from Japan southwards along the coast of China to Formosa, thence found in Tenasserim and Malacca, through the Malayan islands as far as New Guinea.

a. ♂ ad. st.	Japan.	Purchased.
b. ♂ ad. sk.	Fokien, China.	J. Gould, Esq. [P.].
c. ♀ juv. sk.	Philippine Islands.	R. B. Sharpe, Esq. [P.].
d. ♀ juv. st.	Philippine Islands.	Hugh Cuming, Esq. [C.].

* For a full description of the soft parts of this species, *cf.* Swinhoe, Ibis, 1867, p. 412.

† From a living bird in the Zoological Gardens of Rotterdam.

e. Juv. st.	Philippine Islands.	Hugh Cuming, Esq. [C.].	
f. ♂ ad. st.	Malacca.	Andrew Charlton, Esq. [P.].	Type of *A. barbatus*.
g. ♂ juv. st.	Borneo.		
h. Juv. sk.	Menado, Celebes.	J. Gould, Esq.	
i. Skeleton.		Dr. Meyer [C.].	

4. Butastur rufipennis.

Poliornis rufipennis, *Sund. Œfv. Vet. Akad. Förh. Stockh.* 1850, p. 131; *Pelz. Verh. z.-b. Wien*, 1862, p. 151; *Heugl. Orn. N.O.-Afr.* p. 95 (1869); *Gray, Hand-l. B.* i. p. 16 (1869).
Buteo rufipennis, *Strickl. P. Z. S.* 1850, p. 214, pl. xxii.; *id. Orn. Syn.* p. 36 (1855); *Schl. Mus. P.-B.* Buteones, p. 25 (1862); *id. Revue Accipitr.* p. 111 (1873).
Poliornis percnopsis, *Du Bus, Esq. Orn.* pl. 29 (1850).
Circus mulleri, *Heugl. Naum.* 1851, pt. 3, p. 36, pl. 1.

Adult. Above cinereous brown, with distinct black shaft-stripes, the feathers margined with rufous, more distinct on the hind neck; the head and neck rather darker than the rest of the upper surface; lores whitish, cheeks inclining to blackish cinereous, the ear-coverts distinctly washed with ashy grey; primary coverts rufous; quills rufous, tipped with whitish, before which is a broad subterminal bar of blackish brown, secondaries more plainly tipped with whitish and washed with cinereous brown, the innermost ones entirely of the latter colour, and agreeing with the back, the lower surface of the quills much paler, the feathers white for the greater part of the inner web; tail entirely cinereous brown, tipped with whitish and crossed on all but the centre feathers with three or four blackish bands more or less distinct, the under surface whitish, the bands a little more distinct; throat creamy buff; rest of under surface pale rufous, with narrow central shaft-streaks, a little broader on the sides of the body, and gradually disappearing towards the abdomen, till they become absent on the thighs, vent, and under tail-coverts, the latter of which are whitish at base; under wing-coverts entirely white; cere and lores bright yellow; terminal half of bill dusky black, orange-yellow at base; feet yellow; iris bright yellow. Total length 16·5 inches, culmen 1·15, wing 12·3, tail 7·5, tarsus 2·5.

Young. Differs from the adult in being much lighter in colour; head and neck dark brown, washed with rufous and streaked with whitish, forming a rather distinct eyebrow; underparts pale rufous buff, the throat and abdomen whitish, with a few streaks of black down the centre of the breast-feathers.

Hab. North-eastern Africa.

a. Ad. sk.	Kordofan.	Consul Petherick [C.].
b. Ad. st.	N.E. Africa.	J. H. Gurney, Esq.
c. Juv. st.	N.E. Africa.	

52. HELOTARSUS.

	Type.
Helotarsus, *Smith, S. Afr. Q. Journ.* i. p. 110 (1830) ..	H. ecaudatus.
Terathopius, *Less. Traité*, p. 47 (1831)	H. ecaudatus.



Head of *Helotarsus ecaudatus* (reduced).

Range. The whole of Africa, below the Sahara.

1. Helotarsus ecaudatus.

Le Bateleur, *Levaill. Ois. d'Afr.* i. p. 31, pls. 7, 8 (1799); *Sundev. Krit. om Levaill.* p. 24 (1858).
Falco ecaudatus, *Daud. Traité*, ii. p. 54 (1800, *ex Levaill.*).
Aquila ecaudata, *Dumont, Dict. Sci. Nat.* i. p. 356 (1816).
Circaetus ecaudatus, *Cuv. Règne An.* i. p. 328 (1829); *Schl. Mus. P.-B.* Buteones, p. 28 (1862); *id. Revue Accipitr.* p. 115 (1873).
Helotarsus typus, *Smith, S. Afr. Q. Journ.* i. p. 110 (1830).
Terathropius ecaudatus, *Less. Traité*, p. 47 (1831).
Helotarsus ecaudatus, *Gray, List Gen. B.* p. 3 (1840), *et Gen. B.* i. p. 18, pl. 7. fig. 11 (1845); *Des Murs in Lefebv. Voy. Abyss. Ois.* p. 66, pl. 11 (1849); *Bp. Consp.* i. p. 716 (1850); *Strickl. Orn. Syn.* p. 76 (1855); *Hartl. Orn. W.-Afr.* p. 7 (1857); *Grill, Zool. Anteckn.* p. 51 (1858); *Pelz. Verh. z.-b. Wien*, 1863, p. 594; *Layard, B. S. Afr.* p. 18 (1867); *Gray, Hand-l. B.* i. p. 17 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 80 (1869); *Bocage, Jorn. Lisb.* ii. p. 337 (1869); *Finsch, Tr. Z. S.* vii. p. 202 (1870); *Blanf. Geol. & Zool. Abyss.* p. 296 (1870); *Finsch u. Hartl. Vög. Ostafr.* p. 51 (1870); *Gurney in Anderss. B. Dam. Ld.* p. 10 (1872).
Helotarsus brachyurus, *Brehm, J. f. O.* 1858, p. 491.
Falco brevicaudatus, *Pelz. Verh. z.-b. Wien*, 1863, p. 594 (*ex Natt. MS.*).
Helotarsus ecaudatus, var. fasciatus, *Heugl. Orn. N.O.-Afr.* i. p. 81 (1869).

Nestling. Covered with dense white down, the feathers, which are visible, being blackish brown, with very broad rufous margins, the head and neck almost entirely rufous, with dull brown bases to the feathers.

Adult male. Head (very much crested) and neck all round, as well as the entire parts, glossy black; hind neck and back rich maroon, the lower back rather paler than the interscapulary region; scapulars black; wing-coverts bronzy brown, the greater coverts rather darker and blackish at base; quills blackish, externally shaded with grey, the secondaries ashy grey, with black tips, the innermost black, like the scapulars; tail deep maroon, as also the under tail-coverts; under wing-coverts white; inner lining of wing grey, the secondaries white underneath; axillaries black; cere and orbits coral-red; bill black; feet coral-red; iris brown. Total length 21 inches, culmen 2·5, wing 21·2, tail 4·5, tarsus 3·2.

Adult female. Larger than the male. Total length 25 inches, wing 21·5, tail 5, tarsus 3·2.

Young. Above dark brown, with dull fawn-coloured margins to the feathers, the interscapulary region and greater wing-coverts blacker, as also are the centres to the other wing-coverts; head and neck lighter than the back, washed with sandy colour, the sides of the face entirely sandy rufous; quills black, the secondaries externally washed with bronzy brown, and slightly tipped with rufous, the lower surface of the quills ashy grey, inclining to blackish at the tips of the primaries; upper tail-coverts rather lighter brown than the back, with margins of paler brown; tail black, shaded with bronzy brown, and tipped with rufous, under surface ashy; under surface of body brown, with light edgings to the feathers, inclining to rufous on the breast, and to whity brown on the abdomen, the throat light brown; thighs blackish, as also the under wing-coverts, the latter slightly margined with rufous.

Hab. The same as that of the genus.

a. Pull. st.	Snewberg, S. Africa.	Purchased.
b. Juv. st.	S. Africa.	Purchased.
c. Ad. st.	S. Africa.	Purchased.
d. ♀ ad. sk.	Kordofan.	Consul Petherick [C.].
e. ♂ ad. sk.	Bedjuk, Anseba valley.	W. T. Blanford, Esq. [C.].
f. Skeleton.		Zoological Society.

2. Helotarsus leuconotus.

Helotarsus leuconotus, *Rüpp. Syst. Uebers.* p. 10 (1845, *ex Würt. MS.*); *Gray, Hand-l. B.* i. p. 18 (1869).

Exactly similar to *H. ecaudatus*, of which it is perhaps the fully adult bird, but having the back creamy fulvous. Total length 22 inches, culmen 2·4, tail 4·2, tarsus 3·1.

Hab. North-eastern and Southern Africa.

a. Ad. st.	South Africa.	Purchased.
b. Skeleton.		Zoological Society.

53. HALIAETUS.

	Type.
Haliaetus, *Savign. Syst. Ois. d'Egypte*, p. 254 (1809)	H. albicillus.
Cuncuma, *Hodgs. J. A. S. B.* vi. p. 367 (1837)	H. leucoryphus.
Pontoaetus, *Kaup, Classif. Säug. u. Vög.* p. 122 (1844)	H. leucogaster.
Thalassoaetus, *Kaup, t. c.* p. 123	H. pelagicus.
Pontoaetus, *Kaup, Mus. Senck.* iii. p. 261 (1845)	H. leucogaster.
Blagrus, *Blyth, Cat. B. Mus. A. S. B.* p. 30 (1849) ..	H. leucogaster.



Head of *Haliaetus albicillus* (reduced).

Range. The whole of Europe, Africa, Asia, Indo- and Austro-Malasia, Australia, Occania, N. America.

Key to the Species.

a. Tail pure white.
  a'. Belly brown.
    a''. Wing-coverts pure white ..... *pelagicus* ad., p. 306.
    b''. Wing-coverts brownish.
      a'''. Head and neck dark brown, uniform with back ..... *pelagicus* imm., p. 306.
      b'''. Head and neck ashy brown, lighter than back ..... *albicillus* ad., p. 302.
      c'''. Head and neck pure white.
        a^4. Under wing-coverts dark brown *leucocephalus* ad., p. 304.
        b^4. Under wing-coverts chestnut .. *vociferoides* ad., p. 311.
  b'. Belly chestnut ..... *vocifer* ad., p. 310.
b. Tail black, with broad terminal band of white ..... *leucogaster* ad., p. 307.
c. Tail white, with broad terminal band of black.
  c'. Wing-coverts uniform with rest of back; breast uniform ..... *leucoryphus* ad., p. 308.
  d'. Wing-coverts broadly margined with chestnut; breast white, slightly streaked with blackish ..... *vocifer* juv., p. 310.
d. Tail variegated, mottled and vermiculated with brown and white.
  e'. Bill leaden blue
    c''. Wing not exceeding 24 inches .... *leucogaster* juv., p. 307.
    d''. Wing 24–26 inches ..... *albicillus* juv., p. 302. *leucocephalus* juv., p. 304.
  f'. Bill yellow, culmen horn-brown.
    e''. Head and back uniform ..... *leucoryphus* vix ad., p. 308.
    f''. Head lighter than back ..... *albicillus* juv., p. 302.
e. Tail perfectly uniform ..... *leucoryphus* juv., p. 308.

1. Haliaetus albicillus.

The Golden Eagle, *Albin, N. H. Birds*, ii. pl. 1 (1738).
L'Aigle à queue blanche, *Briss. Orn.* i. p. 427 (1760).
Le Petit Aigle à queue blanche, *Briss. t. c.* p. 429 (1760).
Le Grand Aigle du mer, *Briss. t. c.* p. 437 (1760); *Buff. Pl. Enl.* i. pls. 112, 415.
Vultur albicilla, *Linn. S. N.* i. p. 123 (1766).
Falco ossifragus, *Linn. S. N.* i. p. 124 (1766).
Falco albicilla, *Gm. S. N.* i. p. 253 (1788); *Naum. Vög. Deutschl.* i. p. 224, pls. 12, 13, 14 (1822); *Werner, Atlas*, Rapaces, pl. 19 (1827); *Kittl. Kupf. Vög.* pl. 2. fig. 2 (1832); *Schl. u. Susem. Vög. Eur.* Taf. 25, 26 (c. 1839); *Nordm. in Démid. Voy.* p. 98 (1840); *Yarr. Br. B.* i. p. 18 (1841).
Falco melanaetus, *Gm. S. N.* i. p. 254 (1788).
Falco albicaudus, *Gm. S. N.* i. p. 258 (1788).
Falco hinnularius, *Lath. Ind. Orn.* i. p. 15 (1790).
Falco pygargus, *Daud. Traité*, ii. p. 62 (1800, *ex Briss.*).
Haliaetus nisus, *Savign. Descr. Egypte, Ois.* p. 253 (1809); *Less. Traité*, p. 40, pl. 8. fig. 2 (1831).

Aquila leucocephala, *Meyer in Wolf u. Mey. Taschenb. deutsch. Vogelk.* p. 16, pl. 4 (1810).
Aquila albicilla, *Pall. Zoogr. Rosso-As.* i. p. 345 (1811); *Midd. Sibir. Reis. Zool.* p. 125 (1851).
Haliaetus albicilla, *Leach, Syst. Cat. Mamm. &c. Brit. Mus.* p. 9 (1816); *Cuv. Règne An.* i. p. 315 (1817); *Gould, B. Eur.* pl. 10 (1837); *Macgill. Brit. B.* iii. p. 221 (1840); *Gray, Gen. B.* i. p. 17, pl. 7. fig. 8 (1845); *Bp. Consp.* i. p. 15 (1850); *Schl. Vog. Nederl.* pls. 28, 29 (1854); *Cass. B. Calif.* p. 111 (1855); *Strickl. Orn. Syn.* p. 48 (1855); *Fritsch, Vög. Eur.* tab. 7. figs. 4, 5 (1858); *Cass. in Baird's B. N. Am.* p. 43 (1860); *Schrenk, Reis. Amurl.* p. 223 (1860); *Sundev. Sv. Fogl.* pl. xxx. figs. 2, 3 (c. 1860); *Schl. Mus. P.-B.* Aquilæ, p. 11 (1862); *Gould, B. Gt. Br.* pt. 3 (1863); *Pelz. Verh. z.-b. Wien*, 1863, p. 587; *Radde, Reis. Sibir. Vög.* p. 95 (1863); *Scl. P. Z. S.* 1863, p. 252; *Newt. Ooth. Wolley.* p. 345 (1864); *Scl. P. Z. S.* 1865, p. 731; *Degl. et Gerbe, Orn. Eur.* i. p. 39 (1867); *Heugl. Vög. N.O.-Afr.* p. 51 (1869); *Gray, Hand-l. B.* i. p. 16 (1869); *Salvad. Faun. Ital. Ucc.* p. 9 (1871); *Swinh. P. Z. S.* 1871, p. 339; *Newt. ed. Yarr. Brit. B.* i. p. 25 (1871); *Shelley, B. Egypt*, p. 204 (1872); *Hume, Str. F.* i. p. 159 (1873); *Schl. Revue Accipitr.* p. 117 (1873).
Falco albicilla borealis, *Faber, Isis*, 1827, p. 56.
Haliaetus grœnlandicus, *Brehm, Naum.* 1855, p. 267.
Haliaetus borealis, *Brehm, l. c.*
Haliaetus islandicus, *Brehm, l. c.*
Haliaetus orientalis, *Brehm, l. c.*
Haliaetus cinereus, *Brehm, l. c.*
Haliaetus funereus, *Brehm, l. c.*
Haliaetus pelagicus, *Hume, Rough Notes*, ii. p. 252 (1870, *lapsu*).
Haliaetus brooksi, *Hume, Ibis*, 1870, p. 438.

Nestling. Covered with brownish white down, the shooting feathers chocolate-brown in colour, those on the back with paler brown margins.

Young. Head and neck all round blackish brown, the long feathers of the latter slightly tipped with fulvous brown, less distinct on the crown; the bases of the plumes of the hind neck fulvous brown, with terminal marks of dark brown; the whole of the back, scapulars, and median wing-coverts bright fulvous brown, with large brown markings of darker brown towards the tips, causing a very greatly mottled appearance on the upper surface; least and greater wing-coverts dark brown, the latter slightly mottled with whity brown, the inner secondaries also varied in the same manner, the quills otherwise much as in the adult; lower back, rump, and upper tail-coverts light brown, the long plumes of the latter mottled with whity brown; tail whity brown, the middle feathers more decidedly whitish, all irregularly mottled with greyish brown, the margins of the feathers being broadly of this colour; throat dark brown, the bases of the feathers conspicuously white; sides of the face nearly uniform dark brown, the ear-coverts faintly streaked with ashy brown; rest of under surface mottled like the back, the bases of the feathers being fulvous brown, marked down the centre and at the tip with dark brown; the under tail-coverts and thighs rather more uniform, and the under wing-coverts entirely

dark brown; cere yellowish brown; bill black; feet yellow; iris brown.

Adult female. Above brown, more or less tinged with sandy on the neck and wing-coverts, many of the feathers margined with pale brown or ashy grey, with an occasional whity brown feather interspersed; head and sides of face decidedly shaded with ashy grey, the ear-coverts browner; median and greater wing-coverts glossy brown, with whity-brown margins; quills black, with brown shafts, the primaries externally shaded with ashy, the secondaries glossy brown like the back, shading into darker brown towards their tips; lower back and rump dark brown; the long upper tail-coverts white, slightly varied at the base and at the tip with brown; tail pure white; under surface of body brown, the throat and chest whity brown, with dark brown central streaks, some of the feathers shaded with ashy; under wing-coverts and inner lining of wing dark brown, the latter inclining to ashy; cere and bill yellow; feet yellow, claws black; iris straw-yellow. Total length 38 inches, culmen 3·8, wing 26·3, tail 13·5, tarsus 4·6.

Adult male. Smaller than the female. Total length 33·5 inches, wing 24·5, tail 11, tarsus 4·1.

Hab. Greenland, Iceland, Færö Islands, the whole of Europe and Northern Asia, occurring in Kamtschatka, the Aleutian Islands, and Japan, and extending into China as far as Amoy. It is also found in Scinde and N.W. India.

a. Pull. st.	Orkneys.	Mr. Bullock.
b. Ad. st.	Shropshire.	Mr. Bullock.
c. Juv. sk.	Shropshire.	Mr. Bullock.
d. Ad. st.	Kent.	Colonel Montagu [P.]
e. Vix ad. st.	Greenland.	Dr. Wm. Durrant [P.].
f. Ad. st.	Greenland.	
g, h, i. Juv. st.	Greenland.	Governor Holböll [C.].
k, l. Skeleton.		Zoological Society.
m, n, o. Sterna.		Purchased.

2. Haliaetus leucocephalus.

The Bald Eagle, *Catesb. N. H. Carol.* i. pl. 1 (1731).

L'Aigle à teste blanche, *Briss. Orn.* i. p. 422 (1760); *Buff. Pl. Enl.* i. pl. 411.

Falco leucocephala, *Linn. S. N.* i. p. 124 (1766); *Wils. Am. Orn.* iv. p. 89, pl. 36 (1811); *Werner, Atlas*, Rapaces, pl. 26 (1827); *Aud. B. Am.* pl. 31, *id. Orn. Biogr.* i. p. 160 (1831); *Schl. u. Susem. Vög. Eur.* Taf. 27 (1839); *Naum. Vög. Deutschl.* xiii. Taf. 344, 345 (1860).

Falco pygargus, *Daud. Traité*, ii. p. 62 (1800).

Aquila leucocephala, *Vieill. Ois. d'Am. Sept.* pl. 111 (1807).

Haliaetus leucocephalus, *Savign. Descr. d'Egypte, Ois.* p. 257 (1809); *Sw. & Rich. F. Bor.-Am. Birds*, p. 15 (1831); *Gould, B. Eur.* i. pl. 11 (1837); *Aud. B. N. Am.* i. p. 59, pl. 14 (1839); *Gray, Gen. B.* i. p. 17 (1845); *Bp. Consp.* i. p. 15 (1850); *Cass. B. Calif.* p. 111 (1855); *Strickl. Orn. Syn.* p. 50 (1855); *Cass. in Baird's B. N. Am.* p. 43 (1860); *Schl. Mus. P.-B.* Aquilæ, p. 12 (1862); *Pelz. Verh. z.-b. Wien*, 1863, p. 588; *Degl. et Gerbe, Orn. Eur.* i.

p. 42 (1867); *Gray, Hand-l. B.* i. p. 16 (1869); *Dall. & Bann. Tr. Chic. Acad.* i. p. 273 (1869); *Cooper, B. Calif. ed. Baird,* p. 451 (1870); *Allen, Bull. Harv. Coll.* ii. p. 333 (1872); *Coues, Key N. A. Birds,* p. 219 (1872); *Finsch, Abhandl. Brem.* iii. p. 22 (1872); *Schl. Revue Accipitr.* p. 117 (1873).

Falco ossifragus, *Wils. Am. Orn.* vii. pl. 55. fig. 2 (1813).

Aquila pygargus, *Dumont, Dict. Sci. Nat.* i. p. 348 (1816).

Falco washingtonianus, *Nutt. Man. Orn.* p. 67 (1822).

Falco washingtonii*, *Audub. Mag. N. H.* i. p. 115 (1829); *id. B. Am.* pl. 11, *et Orn. Biogr.* i. p. 58 (1831).

Haliaetus washingtonii, *Jard. ed. Wils. Am. Orn.* ii. p. 92 (1832); *Aud. B. Am.* i. p. 53, pl. 13 (1839); *Gray, Gen. B.* i. p. 17 (1845); *Cass. B. Calif.* p. 110 (1855); *Strickl. Orn. Syn.* p. 51 (1855); *Cass. in Baird, B. N. Am.* p. 42 (1860).

Pandion washingtonii, *Haym. Pr. Phil. Acad.* 1856, p. 286.

Adult female. Above rich dark brown, almost black, the dorsal feathers rather lighter towards their tips, the whole of the wing-coverts conspicuously paler-margined, so that they appear much lighter brown than the back; quills blackish, the secondaries browner, with slight whity-brown terminal margins, inner lining of wing ashy black, with pale mottlings near base of inner web; lower back, rump, upper tail-coverts, and tail pure white; head and neck all round white; rest of under surface of body brown, many of the feathers darker brown, the leg-feathers and all the under wing-coverts and axillaries dark brown; under tail-coverts pure white; cere, bill, and feet yellow; iris yellow. Total length 38 inches, culmen 3·75, wing 26, tail 13·5, tarsus 4·4.

Adult male. Rather smaller than the female. Total length 36 inches, wing 24·1, tail 12·5, tarsus 4·3.

Young. Above light brown, the feathers whitish at base, and blackish towards their tips, the scapulars slightly shaded with greyish and mottled with brown; wing-coverts rather darker brown, with small whity-brown tips, the greater coverts largely mottled with white near the base, especially on the inner web; quills blackish, with whity-brown terminal margins, the tips of the innermost secondaries whitish vermiculated with dark brown, inner lining of wings ashy black, the secondaries whitish on inner web, mottled with black; lower back and rump lighter brown than the back, the bases of the feathers whity brown, the upper tail-coverts darker; tail dull white, more or less black on both webs, increasing towards the outer feathers, all the centres of the feathers variously mottled with black; lores whitish; head and neck black, the feathers long and lanceolate, with indistinct brown points; throat white, streaked with brown; rest of under surface pale brown, the breast and thighs blackish brown, streaked with lighter brown down the centres of the feathers; the under tail-coverts whitish, mottled on either web with dark brown; under wing-coverts blackish, more or less conspicuously white at the base; bill brownish black; irides brown.

* "Immature *H. leucocephalus* average larger than the adults. The famous 'Bird of Washington' is a case in point."—*Coues, l. c.*

Hab. The whole of North America, as far south as Florida, California, and Mexico.

a. ♂ ad. st.	N. America.	Earl of Derby [P.].
b. ♀ ad. st.	N. America.	Hudson's Bay Co. [P.].
c. ♀ juv. st.	N. America.	Hudson's Bay Co. [P.].
d. ♂ juv. st.	N. America.	Purchased.
e, f. Juv. sk.	Orcas Island.	Dr. Lyall [P.].
g, h. Ad. sk.	British Columbia.	J. K. Lord, Esq. [C.].
i. Juv. sk.	British Columbia.	J. K. Lord, Esq. [C.].
k, l, m. Skeletons.		Zoological Society.
n, o. Skulls.		

3. Haliaetus pelagicus.

Aquila pelagica, *Pall. Zoogr. Rosso-As.* i. p. 343, pl. 18 (1811); *Kittl. Kupf. Vög.* p. 3, pl. 2. fig. 1 (1832); *Midd. Sibir. Reise, Zool.* p. 125 (1851).
Falco leucopterus, *Temm. Pl. Col.* i. pl. 489 (1824).
Falco imperator, *Kittl. Kupf. Vög.* p. 3 (1832).
Thalassaetus pelagicus, *Kaup, Mus. Senck.* iii. p. 261 (1845).
Haliaetus pelagicus, *Gray, Gen. B.* iii. *App.* p. 1 (1849); *Temm. & Schl. F. J. Aves*, p. 11, pl. 4 (1850); *Bp. Consp.* i. p. 15 (1850); *Cass. B. Calif.* pp. 31, 110, pl. 6 (1855); *Strickl. Orn. Syn.* p. 51 (1855); *Schrenk, Reis. Amurl. Zool.* p. 222 (1859); *Cass. in Baird, B. N. A.* p. 42 (1860); *Schl. Mus. P.-B.* Aquilæ, p. 14 (1862); *Elliot, B. N. Am.* part 6 (1867); *Homey. J. f. O.* 1868, p. 248; *Gray, Hand-l.* i. p. 17 (1869); *Swinh. P. Z. S.* 1871, p. 339; *Coues, Key N. A. Birds*, p. 220 (1872).

Adult. General colour brown, the feathers of the back imperceptibly whitish at the tips, with ashy streaks on the whole head, neck, and under surface; forehead and a few feathers near the gape white; quills blackish, the secondaries, as well as the greater wing-coverts, brown like the back, with paler brown edges; the following parts white—lesser and median wing-coverts, forming a large patch, rump, upper tail-coverts, and tail, the entire thighs and under tail-coverts; under wing-coverts brown, those along the carpal joint white, the long vent-feathers brown, like the rest of the under surface; cere, orbits, and bill bright yellow; feet deep yellow, with horn-brown nails. Total length 41 inches, culmen 4·5, wing 24·4, tail 15·1, tarsus 4·9, middle toe 3·1. (*Mus. Lugd.*)

Young. Similar to the adult, but not so rich brown, the streaks on the head and underparts more distinct down the centre of the feathers; scapulars white at the base, becoming mottled with brown towards the middle of the feathers; the small and median wing-coverts brown like the back, the greater coverts and inner secondaries white at the base and along the inner web, as also the feathers of the lower back, rump, and upper tail-coverts, the latter especially being brown towards the tips; tail white, with brown mottling towards the tip, and especially on the exterior web of the outer feather; thighs brown, very slightly mottled with white, as also the vent-feathers, which show rather more white. Total length

about 38 inches, culmen 4·65, wing 27·1, tail 15, tarsus 4·9, middle toe 2·85.

Hab. N.E. Siberia and N. China, Japan, Kamtschatka. "Still to be detected in North America" (*Coues*).

a. Juv. st. Kamtschatka.
b. Skeleton. Purchased.

4. Haliaetus leucogaster.

White-bellied Eagle, *Lath. Gen. Syn.* i. p. 33 (1781).
Falco leucogaster, *Gm. S. N.* i. p. 257 (1788, *ex Lath.*); *Temm. Pl. Col.* i. pl. 49 (1823).
Le Blagre, *Levaill. Ois. d'Afr.* i. pl. 5 (1797); *Sund. Krit. om Levaill.* p. 23 (1858).
Falco blagrus, *Daud. Traité*, ii. p. 70 (1800, *ex Levaill.*).
Haliaetus blagrus, *Cuv. Règne An.* i. p. 316 (1817); *Smith, S.-Afr. Q. Journ.* i. p. 108 (1830); *Bp. Consp.* i. p. 15 (1850).
Falco dimidiatus, *Raffl. Tr. Linn. Soc.* xiii. p. 277 (1822).
Pandion blagrus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1200 (1823).
Haliaetus leucogaster, *Vig. Zool. Journ.* i. p. 336 (1824); *Gould, Syn. B. Austr.* pt. 3, pl. 37. fig. 1 (1838); *Strickl. Orn. Syn.* p. 53 (1855); *Schl. Mus. P.-B.* Aquilæ, p. 14 (1862); *Jerd. B. Ind.* i. p. 85 (1862); *Schl. Vog. Nederl. Ind. Valkv.* pp. 9, 50, pl. 4. figs. 1, 2 (1866); *Finsch u. Hartl. Faun. Centralpolyn.* p. 1 (1867); *Gray, Hand-l. B.* i. p. 17 (1869); *Hume, Rough Notes*, i. p. 259 (1869); *Schl. Mus. P.-B. Revue Accipitr.* p. 117 (1873).
Haliaetus dimidiatus, *Vig. Mem. Raffl.* p. 648 (1830); *Gray, Gen. B.* i. p. 17 (1845); *Strickl. Orn. Syn.* p. 54 (1855).
Haliaetus sphenurus, *Gould, P. Z. S.* 1837, pp. 97, 138; *id. Syn. B. Austr.* pt. 3, pl. 37. fig. 2 (1838).
Ichthyaetus cultrunguis, *Blyth, J. A. S. B.* xi. p. 110 (1842).
Ichthyaetus leucogaster, *Gray, Cat. Accipitr.* 1844, p. 13; *Gould, B. Austr.* i. pl. 3 (1848); *Diggles, Orn. Austr.* pt. 5 (1866).
Pontoaetus leucogaster, *Gray, Gen. B.* i. p. 18 (1845); *Pelz. Verh. z.-b. Wien*, 1863, p. 591.
Pontoaetus blagrus, *Gray, Gen. B.* i. p. 18 (1845).
Cuncuma leucogaster, *Gray, Cat. Accipitr.* 1848, p. 24; *Wall. Ibis*, 1868, p. 15; *Wald. Tr. Z. S.* viii. p. 35 (1872).
Blagrus leucogaster, *Blyth, Cat. B. Mus. A. S. B.* p. 30 (1849); *id. J. A. S. B.* xix. p. 341 (1850); *id. Ibis*, 1863, p. 22; *Swinh. Ibis*, 1870, p. 86.
Ichthyaetus blagrus, *Blyth, J. A. S. B.* xi. p. 116 (1849).
Polioaetus leucogaster, *Gould, Handb. B. Austr.* i. p. 13 (1863).

Adult. Head and neck all round, as well as entire underparts, including the under tail- and wing-coverts, white, some of the outermost of the latter shaded with grey, the greater series ashy grey with white bases; upper surface of body ashy grey, slightly shaded with brownish, the upper feathers of the interscapulary region and scapulars narrowly margined with white; primaries blackish, externally shaded with ashy grey, the secondaries uniform, slightly tipped with white, the lower surface of the wing ashy grey, inclining to blackish towards the tips of the feathers; tail black, the terminal third white, forming a conspicuous band; cere, lores, and orbital

ridge bluish lead-colour, slightly tinged with green; feet yellowish white; iris olive-brown. Total length 28 inches, culmen 2·6, wing 22·3, tail 9·5, tarsus 4.

Adult female. Slightly larger than the male. Total length 28 inches, wing 23·2, tail 11, tarsus 4·2.

Young. Above brown, the feathers margined with paler brown, with dull whitish shaft-stripes, widening out towards the tips of the feathers; lower back and rump rather darker than the rest of the back, with distinct white streaks; quills deep brown, the secondaries paler brown like the back and tipped with buffy white, all the quills more or less distinctly barred with darker brown, especially towards the tip of inner web, which is whitish underneath for the greater part of its length; tail dark brown, tipped with whitish, and crossed with three ill-defined bars of paler brown, much mottled with darker brown, and shaded with whitish; head and neck dark brown, distinctly streaked with buffy white, less broadly on the sides of the face; throat sandy buff, with paler central streaks to the feathers; rest of under surface rufescent brown, with distinct buffy white shaft-streaks, widening out towards the apex of the feathers, the abdominal plumes and under tail-coverts for the most part white, irregularly mottled with reddish brown.

Hab. The whole of India and Ceylon, throughout the entire Malay archipelago and Australia, ranging into Western Polynesia, where it has been said to occur in the Friendly Islands.

a. ♀ ad. sk.	New Holland.	Lady Carington [P.].
b. Juv. sk.	New Holland.	Lady Carington [P.].
c. Juv. sk.	Port Essington.	Capt. Chambers, R.N. [P.].
d. Juv. sk.	Tasmania.	J. Gould, Esq.
e. Juv. sk.	Ysabel, Solomon Islands.	Julius Brenchley, Esq. [P.].
f. Juv. sk.	Aru Islands.	A. R. Wallace, Esq. [C.].
g. Ad. sk.	Morty Island.	A. R. Wallace, Esq. [C.].
h. Juv. sk.	Malacca.	A. R. Wallace, Esq. [C.].
i. ♂ ad. sk.	Luzon.	Purchased.
j. Juv. st.	Luzon.	Purchased.
k. Juv. st.	Philippine Islands.	Hugh Cuming, Esq. [C.].
l. Ad. sk.	Madras.	Dr. Jerdon [P.].
m. Ad. sk.	Cape of Good Hope.	M. Jules Verreaux [C.].
n. Skeleton.		Zoological Society.
o. Skull.		Capt. Stanley [P.]

With regard to the last specimen (*m*) I may state that I have also seen two adult specimens, both of which I was assured came direct from the Cape; but of this fact I could not satisfy myself perfectly. Mr. Cassin has recorded this species under the name of *H. blagrus* (Pr. Phil. Acad. 1865, p. 4) from Gaboon; so that it seems probable that this or an allied Sea-Eagle remains to be discovered in Africa.

5. Haliaetus leucoryphus.

Aquila leucorypha, *Pall. Reis. Russ. Reichs*, i. p. 454 (1771).
White-crowned Eagle, *Lath. Gen. Syn.* i. p. 42 (1781).
Falco leucoryphus, *Gm. S. N.* i. p. 259 (1788); *Schl. u. Susem. Vög. Eur.* Taf. 27 *a* (1839).

Falco fulviventer, *Vieill. N. Dict.* xxviii. p. 283 (1819); *Pucher. Rev. et Mag. de Zool.* 1850, p. 81.
Falco macei, *Temm. Pl. Col.* i. pls. 8, 223 (1824).
Haliaetus macei, *Vig. Zool. Journ.* i. p. 336 (1824); *Gray, Gen. B.* i. p. 17 (1845); *Bp. Consp.* i. p. 15 (1850); *Strickl. Orn. Syn.* p. 52 (1855); *Gray, Hand-l. B.* i. p. 17 (1869); *Hume, Str. F.* i. p. 159 (1873).
Aquila macei, *Less. Man. d'Orn.* i. p. 84 (1828).
Haliaetus unicolor, *Gray & Hardw. Ill. Ind. Zool.* pl. 19 (1832); *Jerd. Ibis*, 1871, p. 236.
Haliaetus albipes, *Hodgs. J. A. S. B.* v. p. 228 (1836).
Cuncuma albipes, *Hodgs. J. A. S. B.* vi. p. 367 (1837).
Haliaetus leucoryphus, *Keys. & Blas. Wirb. Eur.* p. xxx (1840); *Strickl. Orn. Syn.* p. 52 (1855); *Fritsch, Vög. Eur.* tab. 8. figs. 5, 6 (1858); *Schl. Mus. P.-B.* Aquilæ, p. 590 (1862); *Pelz. Verh. z.-b. Wien*, 1863, p. 589; *Degl. & Gerbe, Orn. Eur.* i. p. 45 (1867); *Gray, Hand-l.* i. p. 17 (1869); *Hume, Rough Notes*, ii. p. 242 (1870); *Jerd. Ibis*, 1871, p. 336; *Hume & Henders. Lahore to Yark.* p. 173 (1873).
Ichthyaetus leucoryphus, *Blyth, Ann. N. H.* xiv. p. 37 (1844).
Haliaetus lanceatus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Pontoaetus macei, *Kaup, Isis*, 1847, p. 280.
Cuncuma macei, *Gray, Cat. Accipitr.* 1848, p. 23.
Pontoaetus leucoryphus, *Gray, Gen. B.* iii. *App.* p. 2 (1849).
Aquila deserticola, *Eversm. Bull. Soc. Imp. Mosc.* xxv. p. 545, tab. 8 (1852).
Haliaetus fulviventer, *Jerd. B. Ind.* i. p. 82 (1862).

Adult male. Above dark brown, with a slight purplish gloss, some of the greater coverts slightly margined with paler brown; quills blackish, the secondaries rather browner, like the scapularies, the lower surface of the quills brown, inclining to bluish ash-colour on the inner web of the primaries, some of the secondaries mottled with white near the base of the inner web; lower back, rump, and upper tail-coverts purplish brown, some of the outermost of the latter whitish at base; tail white, blackish at base, and having a broad terminal band of black; head, hind neck, and interscapulary region sandy brown, darker brown on the head, and more tawny on the hind neck, the feathers of which are streaked with fulvous; sides of face and throat buffy white, the latter with narrow whitish streaks down the centre of the feather; rest of under surface of body dull fulvous brown, lighter on the chest, where the feathers are paler-centred, and deeper brown on the flanks, thighs, and under tail-coverts; under wing-coverts and axillaries blackish brown, slightly mottled with white, especially near the base of the median lower coverts; cere pale bluish green; nostrils, gape, and base of lower mandible bluish; upper mandible greenish horn-colour, dusky at tip; feet greyish white; iris pale brownish yellow. Total length 30 inches, culmen 2·6, wing 22·2, tail 12·2, tarsus 3·6.

Adult female. Rather larger than the male. Total length 33 inches, wing 24·4, tail 11·7, tarsus 4·3.

Young. Above dark brown, the feathers of the back deeper towards their bases, the wing-coverts lighter than the back, the median series

and the upper tail-coverts plainly margined with whity brown; greater coverts dark brown, with whity-brown tips; quills blackish, externally shaded with ashy, the innermost secondaries dark brown like the back, lower surface of quills ashy brown, some of the innermost primaries inclining to whitish on inner web; tail dark brown, shaded with ashy above and below; head, neck, and underparts fulvous brown, deeper on the head, and varied with white bases to the abdominal plumes and under tail-coverts, the head and neck rather darker than the underparts, and streaked with sandy brown, the chest and breast-feathers with broad whity-brown margins and tips; under wing-coverts dull brown, margined with paler brown, the median series streaked with whity brown, the greater ones ashy white at the base, and mottled along the shaft towards the tip, which is also white; feet clear pale lemon-yellow.

Hab. From the Caspian eastwards to India and Burmah.

a. Ad. st.	India.	Major-Gen. Hardwicke [P.].
b. Pull. sk.	India.	Purchased.
c. Ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
d. Juv. st.	Behar.	B. H. Hodgson, Esq. [P.].
e. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
f. Juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
g. Juv. st.*		
h, *i*. Sternum.		B. H. Hodgson, Esq. [P.].

6. Haliaetus vocifer.

Le Vocifer, *Levaill. Ois. d'Afr.* i. p. 17, pl. 4 (1799).
Falco vocifer, *Daud. Traité*, ii. p. 65 (1800, *ex Levaill.*).
Aquila vocifera, *Dum. Dict. Sc. Nat.* i. p. 355 (1816).
Haliaetus vocifer, *Cuv. Règne An.* i. p. 316 (1817); *Gray, Gen. B.* i. p. 16 (1845); *Des Murs, Iconogr. Orn.* pl. 8 (1845); *Bp. Consp.* i. p. 15 (1850); *Strickl. Orn. Syn.* p. 51 (1855); *Hartl. Orn. W.-Afr.* p. 8 (1857); *Schl. Mus. P.-B.* Aquilæ, p. 16 (1862); *Layard, B. S. Afr.* p. 17 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 53 (1869); *Gray, Hand-l.* i. p. 53 (1869); *Finsch u. Hartl. Vög. Ostafr.* p. 38 (1870); *Gurney in Anderss. B. Dam. Ld.* p. 9 (1872).
Pontoaetus vocifer, *Kaup, Classif. Säug. u. Vög.* p. 122 (1844).
Cuncuma vocifer, *Gray, Cat. Accipitr.* 1848, p. 25.
Haliaetus clamans, *C. Brehm, J. f. O.* 1853, p. 199.
Pandion vocifer, var. orientalis, *Heugl. J. f. O.* 1863, p. 8.

Adult female. Entire head and neck, including the interscapular region above and the entire breast below, pure white; tail also entirely white; remainder of lower parts, including the thighs, sides of body, under wing-coverts, and axillaries, deep chestnut; rest of upper surface blackish brown, the primaries quite black, greyish on their under surface; least wing-coverts entirely rufous, and those along the carpal bend margined with rufous; cere and orbits very pale yellow; bill bluish, pale yellow at base; feet yellow; iris

* Marked by Mr. G. R. Gray as the true *H. leucoryphus* (Pall.), but without any register or trace of its origin.

clear hazel. Total length 25 inches, culmen 2·5, wing 20·5, tail 9·3, tarsus 4.

Adult male. Similar to, but smaller than the female. Total length 22 inches, wing 19·2, tarsus 3·6.

Young. Differs from the adult principally in being more dingily coloured and in not showing the contrast of colours as in the latter; thus the whole of the head, neck, and breast are more or less brown in the young, though generally giving indications of approaching whiteness, especially about the ears and lower breast, the crown being the last to change; least wing-coverts blackish, with rufous margins, the rest dark brown, but the greater ones for the most part white, causing a large patch across the wing; lower parts of the belly brown, more or less varied with white, the thighs inclining to rufous; tail ashy white, brown at the tip, and more or less brown on the rest of the feather; gape whitish yellow; orbits and cere dusky; bill dusky bluish; iris darker hazel than in the adult.

Hab. The whole of Africa.

a.	Ad. sk.	Port Natal.	Purchased.
b.	♂ juv. st.	Buffalo River, S. Africa.	M. Jules Verreaux [C.].
c.	♀ juv. st.	S. Africa.	M. Jules Verreaux [C.].
d.	♂ ad. st.	S. Africa.	Purchased.
e.	♂ ad. st.	Fifth Cataract of the Nile.	F. Galton, Esq. [P.].
f.	Skeleton.		Zoological Society.

7. Haliaetus vociferoides.

Haliaetus vociferoides, *Des Murs, R. Z.* 1845, p. 175*; *id. Iconogr. Orn.* pl. 7 (1845); *Bp. Consp.* i. p. 15 (1850); *Strickl. Orn. Syn.* p. 52 (1855); *Hartl. Faun. Madag.* p. 16 (1861); *Schl. P. Z. S.* 1866, p. 420; *Gray, Hand-l. B.* i. p. 17 (1869).

Haliaetus vociferator, *Sch. & Poll. F. M. Ois.* p. 42, pl. 15 (1868); *Schl. Mus. P.-B. Revue Accipitr.* p. 118 (1873).

Nearly adult. Above dark brown, the wing-coverts with rufous edgings and spots; head paler brown, a little varied with ashy white, and inclining to blackish above the ear-coverts, the latter quite white, the sides of the neck and hind neck streaked with white; throat pale rufous, slightly varied with white, and streaked with dark brown; rest of under surface brown, the upper breast streaked longitudinally with rufous; lower under tail-coverts and tail white; quills dark brown, the primaries blackish, the secondaries slightly tipped with white, the lower surface of the wings ashy grey; under wing-coverts dark brown, inclining to rufous at tip; bill black; feet greyish; iris salmon-colour. Total length 24 inches, culmen 2·5, wing 20·4, tail 9·5, tarsus 3·8, middle toe 2·45. (*Mus. Lugd.*)

Another specimen in the Leiden Museum is apparently younger, and has the head and hind neck streaked with rufous, the whole of the sides of the face and throat rufous, and the breast again plainly streaked, many of the wing-coverts and feathers of the lower belly and thighs tipped with fulvous; ear-coverts ashy grey; cere and lores greyish; bill black; feet greyish; iris brown.

Hab. Madagascar.

54. GYPOHIERAX.

	Type.
Gypohierax, *Rüpp. Neue Wirb.* p. 46 (1835)	G. angolensis.
Racama, *J. E. Gray in G. R. Gray's List of Genera*, p. 1 (1840)	G. angolensis.

Range. West Africa, from Senegambia to Angola. East Africa, Island of Pemba, near Zanzibar.

1. Gypohierax angolensis.

Angola Vulture, *Penn. Tour in Wales*, i. p. 307, pl. 16 (1778).
Falco angolensis, *Gm. S. N.* i. p. 252 (1788, *ex Penn.*).
Vultur angolensis, *Lath. Ind. Orn.* i. p. 7 (1790); *Shaw, Mus. Lever.* p. 153, pl. 37 (1792).
Gypaetus angolensis, *Daud. Traité*, ii. p. 27 (1800).
Polyborus hypoleucus, *Benn. P. Z. S.* 1830–31, p. 13; *id. Gard. Zool. Soc.* ii. p. 303 (1831).
Gypohierax angolensis, *Rüpp. N. W.* p. 46 (1835, note); *Gray, Gen. B.* i. p. 7, pl. 4 (1844); *Bp. Consp.* i. p. 12 (1850); *Strickl. Orn. Syn.* p. 14 (1855); *Hartl. Orn. W.-Afr.* pp. 1, 246 (1857); *Pelz. Verh. z.-b. Wien*, 1861, p. 134; *Wolf, Zool. Sk.* pl. 38 (1861); *Gurney, Cat. Rapt. B. Norw. Mus.* p. 80 (1864); *Gray, Hand-l. B.* i. p. 4 (1869); *Sharpe, P. Z. S.* 1870, p. 146; *Finsch u. Hartl. Vög. Ostafr.* p. 37 (1870); *Pelz. Ibis*, 1873, p. 106.
Racama angolensis, *J. E. Gray in G. R. Gray's List Gen. B.* p. 1 (1840).
Vultur hypoleucus, *Jard. & Selby, Ill. Orn.* ser. 2, pl. 13 (c. 1840).
Haliaetus angolensis, *Schl. Naum.* 1852, p. 24; *id. Mus. P.-B.* Aquilæ, p. 18 (1862); *id. Revue Accipitr.* p. 119 (1873).

Adult male. General colour white; scapulars black, except the very highest, which are mottled with white; quills black, the primaries for the most part white, excepting the tips, which are black, and the outer web, which is more or less mottled with black, the inner web less so; tail black, with a very broad white tip, forming a terminal band; all the rest of the body white; head slightly crested; cere grey; bare skin of face flesh-colour; feet rosy flesh-colour; iris light yellow. Total length 23 inches, culmen 2·5, wing 17·2, tail 8·8, tarsus 3·35.

Adult female. Similar to male, but larger. Total length 24·5 inches, culmen 2·7, wing 17, tail 9·5, tarsus 3·5. (*Mus. Lugd.*)

Hab. The same as that of the genus.

a. ♀ ad. sk.	Kattenbella, Benguela.	J. J. Monteiro, Esq. [C.].
b. Ad. sk.	River Congo.	J. Cranch, Esq. [P.].
c. Ad. sk.	Gaboon.	R. B. Sharpe, Esq. [P.].
d. Ad. sk.	River Niger.	Dr. Baikie [P.].
e. ♂ ad. st.	Fernando Po.	L. Fraser, Esq. [C.].
f. Ad. st.	Fantee.	R. B. Sharpe, Esq. [P.].
g. Juv. sk.	Fantee.	R. B. Sharpe, Esq. [P.].

55. HALIASTUR.

	Type.
Haliastur, *Selby, Cat. Gen. & Subg. Typ.* p. 3 (1840)	H. indus.
Dentiger, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844)	H. indus.
Ictinoaetus, *Kaup, Contr. Orn.* 1850, p. 73	H. indus.
Milvaquila, *Burm. Verz. Zool. Mus. Halle*, p. 24 (1850)	H. indus.



Bill of *Haliastur indus*.

Range. Indian peninsula and Ceylon; Indo- and Austro-Malayan subregions; Australia and New Caledonia.

Key to the Species.

a. Tail maroon, with broad whitish tip; head and neck white ..... *indus*, p. 313.
a'. Black shaft-stripes on head and neck very distinct. *a. indus*, p. 313.
b'. Black shaft-stripes narrow and indistinct. *β. intermedius*, p. 314.
c'. No black shaft-stripes. *γ. girrenera*, p. 315.
b. Tail uniform ashy brown; head and neck sandy-coloured, with fulvous streaks ..... *sphenurus*, p. 316.

1. Haliastur indus.

L'Aigle de Pondichery, *Briss. Orn.* i. p. 450, pl. xxxv. (1760).
Agile des Grandes Indes, *Buff. Pl. Enl.* i. pl. 416 (1770).
Falco indus, *Bodd. Tabl. Pl. Enl.* 25 (1783).
Falco pondicerianus, *Gm. S. N.* i. p. 265 (1788).
Haliaetus pondicerianus, *Cuv. Règne An.* i. p. 316 (1817).
Haliaetus garuda, *Less. Traité*, p. 44 (1831).
Milvus pondicerianus, *Jerd. Madr. Journ.* x. p. 72 (1839).
Haliastur pondecerianus, *Selby, Cat. Gen. & Subg. Types*, p. 3 (1840).
Dentiger pondicerianus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Milvus? rotundicauda, *Hodgs. ut suprà*, p. 81 (1844).
Haliastur indus, *Gray, Gen. B.* i. p. 18 (1845); *Blyth, Cat. B. Mus. A. S. B.* p. 31 (1849); *Strickl. Orn. Syn.* p. 73 (1855); *Jerd. B. Ind.* i. p. 101 (1862); *Gray, Hand-l. B.* i. p. 18 (1869); *Hume, Rough Notes*, ii. p. 316 (1870); *Holdsw. P. Z. S.* 1872, p. 414; *Hume, Str. F.* p. 160 (1873).
Ictinaetus indus, *Kaup, Arch. f. Naturg.* xvi. p. 39 (1850).
Haliastur ponticerianus, *Bp. Consp.* i. p. 15 (1850).
Ictinoaetus pondicerianus, *Kaup, Contr. Orn.* 1850, p. 73.
Haliaetus indus, *Sch. Mus. P.-B.* Aquilæ, p. 19 (1862); *id. Revue Accipitr.* p. 119 (1873).

Adult. Head and neck all round, throat, and entire breast white, with very distinct black shaft-stripes; rest of the plumage maroon chestnut, paler on the secondaries and tail, especially on the latter, where it fades off into fulvous white at the tip, the black shaft-stripes everywhere distinct; primaries black, outer secondaries also brownish at tip, the inner lining of the wing pale creamy rufous,

the primaries black below, rufescent only at base of inner web; under wing-coverts deep maroon, with black shaft-stripes, except the greater series, which are pale rufous shaded with ashy; cere and bill blackish brown; feet light greenish yellow; iris brown. Total length 20 inches, culmen 1·55, wing 14·7, tail 8·1, tarsus 2·1.

Young. Above deep brown, the interscapulary feathers inclining to dull maroon towards their tips, the rest of the feathers of the upper surface tipped with rufous, and most of them externally shaded with ashy grey; head and neck pale rufous, with buffy-white centres and tips to the feathers, giving a streaked appearance, as in a young *Milvus*; forehead, lores, and sides of face white, with narrow black shaft-lines to the feathers; the ear-coverts slightly washed with brown, their hinder margin distinctly brown; chin whitish; rest of under surface pale rufous brown, the shaft-stripes distinct, all the feathers with central streaks of buffy white, the chest-feathers darker, and washed with brown on both margins, thighs and under tail-coverts inclining to maroon; under wing-coverts and axillaries clear brown, tipped with rufous or maroon, and centred with black shaft-streaks.

Hab. India and Ceylon, on sea-coasts and in vicinity of lakes, extending westwards into Upper Sindh, and eastwards to Burmah.

a. Ad. sk.	Meerut.	J. Gould, Esq. [P.].
b. Juv. sk.	Balacherry, Kattiawar, Oct. 14, 1871.	Capt. J. Hayes Lloyd [P.].
c. Juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
d. Skeleton.		Purchased.
e. Skeleton.		

As this species extends eastwards a variation takes place in the coloration of the head, neck, and breast, by reason of the marked attenuation of the black shaft-stripes to the feathers of these parts. The Javan bird has been separated as a species; but so gradual are the changes in this respect, and so thoroughly coincident with a change of locality, that I cannot allow full specific rank to either of the two subspecies mentioned below. For the sake of convenience, however, I keep their synonymy distinct. The Indian birds have the shaft-stripes strongly pronounced; but the birds from Siam, the Philippines, Malacca, Java, and Borneo have very narrow black shaft-lines, which diminish in intensity in the Timor specimens, are less distinct in Celebean examples (*cf.* Schl. Mus. P.-B. *Aquilæ*, p. 20), and almost absent in those from Bouru. In all other islands of the Malayan archipelago they are entirely wanting, and the birds have white heads and breasts, as in the true *H. girrenera* of Australia. The latter are a little smaller, and have the young generally rather lighter in colour than in the typical *H. indus*.

Subsp. *a*. **Haliastur intermedius.**

Haliaetos pondicerianus, *Horsf. Tr. Linn. Soc.* xiii. p. 136 (1822); *Meyen, Beitr.* p. 69 (1834).
Falco pondicerianus, *Raffl. Tr. L. S.* xiii. p. 278 (1822).
Haliastur intermedius, *Gurney, Ibis*, 1865, p. 28.

Haliastur indus, *Blyth, Ibis*, 1865, p. 28; *Wall. Ibis*, 1868, p. 16.
Haliaetus indus, *Schl. Vog. Nederl. Ind. Valkv.* pl. 4. fig. 4 (1866, *nec* fig. 3).

Adult. Similar to *H. indus*, but having the black shaft-stripes on the head; hind neck, and breast narrower and less distinct; bill pale lead-colour, tip yellowish; cere and feet pale yellow; iris dull yellow.

Young. Similar to that of *H. indus*, but a little more sandy in colour.

Hab. Siam, Malay peninsula, Java, Sumatra, Timor, Flores, Philippines, Borneo, Banka.

Var. Celebes, Bouru.

a. ♀ ad. sk.	E. Java, 1861.	A. R. Wallace, Esq. [C.].
b. Ad. st.	Java.	Hon. East-India Company [P.].
c. Juv. st.	Java.	Hon. East-India Company [P.].
d. Juv. sk.	Malacca.	A. R. Wallace, Esq. [C.].
e. Juv. st.	Philippine Islands.	
f. ♂ ad. sk.	E. Timor.	A. R. Wallace, Esq. [C.].
g. ♀ juv. st.	Macassar, Celebes.	A. R. Wallace, Esq. [C.].
h. ♀ ad. sk.	Bouru.	A. R. Wallace, Esq. [C.].
i. Skeleton.		Zoological Society.

Subsp. β. Haliastur girrenera.

Falco ponticerianus, *Shaw & Nodd. Nat. Misc.* x. pl. 389 (1799).
White-headed Rufous Eagle, *Lath. Gen. Hist.* i. p. 218 (1821).
Haliaetus girrenera, *Vieill. & Oud. Gal. Ois.* i. pl. x. (1825).
Haliaetus leucosternus, *Gould, P. Z. S.* 1837, p. 138; *id. Syn. B. Austr.* iii. pl. 3. fig. 1 (1838).
Haliastur leucosternus, *Gray, Gen. B.* i. p. 18 (1845); *Gould, B. Austr.* i. pl. 4 (c. 1845); *Bp. Consp.* i. p. 15 (1850); *Strickl. Orn. Syn.* p. 75 (1855); *Gould, Handb.* i. p. 17 (1865); *Wall. Ibis*, 1868, p. 16; *Gray, Hand-l. B.* i. p. 18 (1869); *Diggles, Orn. Austr.* pt. 17 (1870); *Walden, Tr. Z. S.* viii. p. 35 (1872).
Ictinoaetus leucosternus, *Kaup, Contr. Orn.* 1850, p. 73.
Haliaetus indus, *Schl. Vog. Nederl. Ind. Valkv.* p. 51, pl. 4. fig. 3 (1866).

Adult male. Head and neck all round, occupying the interscapulary region above and the entire breast below, snowy white; the rest of the body bright maroon, the tail broadly whitish at tip; primaries blackish brown, rufous at base of both webs, and inclining to whitish at immediate base of inner web; cere pale yellow; orbits smoke-grey; bill pale yellow, bluish at base, light horn-colour at tip; tarsi cream-yellow. Total length 20 inches, culmen 1·45, wing 14·2, tail 7·8, tarsus 2·1.

Adult female. Similar to adult male, but a little larger. Total length 21 inches, wing 15·3, tarsus 2·1.

Young. Above dull maroon-brown, the dorsal feathers tipped, and the interscapulary ones mesially streaked with fulvous; head and neck creamy white, the feathers brown at base and on their edges, causing a somewhat striped appearance on the latter part; sides of face ashy brown; throat creamy white; breast-feathers pale rufous

brown, mesially streaked with creamy white; lower abdomen, thighs, and under tail-coverts creamy white, with pale rufous margins, a little brighter than on the breast; primaries purplish black, secondaries rufous, tipped with whitish, and shaded along each side of the shaft with more or less distinct purplish brown, especially the innermost, which are almost entirely of the latter colour; tail-feathers rufous, tipped with whitish, shaded in the centre with brown, which colour overspreads the apical portion of the outermost.

Hab. Northern and eastern parts of Australia, New Guinea, Amboina, Batchian, Ternate, Morty Island, Celebes, Louisiade archipelago.

a.	Ad. st.	Australia.	Lady Carrington [P.].
b.	Ad. st.	Port Essington.	J. B. Jukes, Esq. [P.].
c.	♀ ad. st.	Louisiade archipelago.	Voyage of the 'Rattlesnake.'
d.	♀ ad. sk.	Dorey.	A. R. Wallace, Esq. [C.].
e.	♂ ad. sk.	Batchian.	A. R. Wallace, Esq. [C.].
f.	Ad. sk.	Morty Island.	A. R. Wallace, Esq. [C.].
g.	♀ juv. sk.	Morty Island.	A. R. Wallace, Esq. [C.].
h.	♂ ad. st.	Ternate.	A. R. Wallace, Esq. [C.].
i.	♀ juv. sk.	Amboyna.	A. R. Wallace, Esq. [C.].
j.	Ad. sk.	Amboyna.	R. B. Sharpe, Esq. [P].

2. Haliastur sphenurus.

Cinereous Eagle, var., *Lath. Gen. Syn. Suppl.* p. 18 (1801).
Milvus sphenurus, *Vieill. N. Dict. d'Hist. Nat.* xx. p. 564 (1818); *id. et Oud. Gal. Ois.* i. pl. xv. (1825).
Haliaetus canorus, *Vig. & Horsf. Tr. Linn. S.* xv. p. 187 (1826); *Gould, Syn. B. Austr.* pt. iii. pl. 3. fig. 2 (1838).
Haliastur sphenurus, *Gray, Gen. B.* i. p. 18 (1845); *Gould, B. Austr.* i. pl. 5 (c. 1845); *Bp. Consp.* i. p. 15 (1850); *Strickl. Orn. Syn.* p. 74 (1855); *Verr. et Des Murs, Rev. et Mag. de Zool.* 1860, p. 385; *Gould, Handb. B. Austr.* i. p. 20 (1865); *Gray, Hand-l. B.* i. p. 18 (1869).
Ictinoaetus canorus, *Kaup, Contr. Orn.* 1850, p. 73.
Haliaetus sphenurus, *Schl. Mus. P.-B.* Aquilæ, p. 21 (1862); *id. Revue Accipitr.* p. 123 (1873).

Adult. Above ashy brown, darker and more chocolate-brown on the scapulars and wing-coverts; head washed with rufous; feathers of the hind neck fulvous in the centre, producing a streaked appearance; sides of face and throat fulvous; breast dull ochraceous, the bases of the feathers whitish, as also a streak towards the tip of the feathers, which being bordered with brown on the breast causes the feathers of this part to appear much striped; the flanks narrowly black-shafted; under tail-coverts and thighs whitish, with dark brown shafts; under wing-coverts ochraceous, like breast, barred and streaked with dark brown; primary coverts and primaries brownish black, the latter rufous white at base of inner web; greater coverts and secondaries deep sepia-brown; tail greyish brown, paler and more ashy at tips and towards the base of the outer feathers; the inner web mottled with greyish brown, the remains of obsolete bars; cere and bill greyish; feet pale bluish white; iris bright hazel. Total length 22 inches, culmen 1·7, wing 16·6, tail 10·5, tarsus 2·35.

Young. Similar to the adult, but much paler, the wing-coverts tipped with fulvous, and the head streaked with rufous or rufous buff; under surface of body fulvous white, with faint indications of dark brown streaks and margins to the feathers of the breast.

Hab. The whole of Australia and New Caledonia.

a.	Vix ad. st.	S. Australia.	Sir George Grey [P.].
b.	Ad. st.	S. Australia.	Sir George Grey [P.].
c.	Ad. st.	Port Essington.	Dr. Sibbald [P.].
d.	Ad. sk.	Port Essington.	J. B. Jukes, Esq. [P.].
e.	♀ ad. sk.	Perth, W. Australia.	J. Gould, Esq. [C.].
f.	Ad. sk.	N.E. Australia.	Sir T. Mitchell [P.].
g.	Ad. sk.	Australia.	Linnean Society [P.]. Type of *H. canorus.*

56. ELANOIDES.

Type.

Elanoides, *Vieill. N. Dict. d'Hist. Nat.* xxiv. p. 101 (1818).. E. furcatus.

Range. Central and southern States of N. America, southwards to Columbia and Brazil. Accidental in Europe.

1. Elanoides furcatus.

The Swallow-tailed Hawk, *Catesby, N. H. Carol.* i. p. 4, pl. 4 (1731).
Le Milan de la Caroline, *Briss. Orn.* i. p. 418 (1760).
Falco furcatus, *Linn. S. N.* i. p. 129 (1766); *Shaw & Nodd. Nat. Misc.* pl. 204 (1795); *Daud. Traité*, ii. p. 152 (1800); *Wils. Am. Orn.* vi. p. 70, pl. 51. figs. 1–3 (1812); *Schl. u. Susem. Vög. Eur.* Taf. 32. fig. 1 (1839).
Cola-tixera, *Azara, Apunt.* i. p. 169 (1802).
Milvus furcatus, *Vieill. Ois. Am. Sept.* p. 38, pl. 10 (1807).
Elanoides yetapa, *Bonn. et Vieill. Enc. Méth.* iii. p. 1205 (1823).
Elanoides furcatus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1205 (1823); *Strickl. Orn. Sym.* p. 141 (1855); *Scl. & Salv. Ibis*, 1859, p. 220; *Owen, Ibis*, 1860, p. 240; *Schl. Mus. P.-B.* Milvi, p. 5 (1862); *Scl. & Salv. Nomencl.* p. 121 (1873).
Elanus furcatus, *Vig. Zool. Journ.* i. p. 340 (1824).
Nauclerus furcatus, *Vig. Zool. Journ.* ii. p. 387 (1825); *Gould, B. Eur.* i. pl. 30 (1837); *Aud. B. Am.* fol. pl. 72, et ed. 8vo, i. p. 78, pl. 18 (1839); *Dekay, Nat. Hist. N. Y. Birds*, p. 12, pl. 7. fig. 15 (1844); *Gray, Gen. B.* i. p. 25, pl. 9. fig. 9 (1845); *Hartl. Ind. Azara*, p. 57 (1847); *Cab. in Schomb. Reis. Guian.* iii. p. 735 (1848); *Bp. Consp.* i. p. 21 (1850); *Kaup, Contr. Orn.* 1850, p. 57; *Burm. Th. Bras.* ii. p. 110 (1856); *Cass. in Baird's B. N. Am.* p. 36 (1860); *Dresser, Ibis*, 1865, p. 325; *Léot. Ois. Trinid.* p. 30 (1866); *Gundl. J. f. O.* 1871, p. 370; *Newt. ed. Yarr. Brit. B.* p. 103 (1871); *Pelz. Orn. Bras.* p. 6 (1871).
Falco yetapa, *Max. Beitr. Orn. Bras.* iii. Abth. i. p. 141 (1830).
Nauclerus forficatus, *Ridgway, Pr. Phil. Acad.* 1870, p. 144.

Adult. Head and neck all round, as well as the hinder part of back and rump and entire under surface, pure white; rest of the body blackish, with varying shades according to the light; the wings shaded externally with ashy grey, glossed with purple or bronzy green, the latter especially distinct on the two outer tail-feathers;

the interscapulary region and lesser wing-coverts deep velvety brown; upper tail-coverts white at their bases, shaded with grey and glossed with greenish; under wing-coverts and bases of inner secondaries white; bill dark horn-blue; feet light milk-blue; iris rich dark reddish brown. Total length 21 inches, culmen 1·3, wing 16·25, tail to tip of outer rectrix 13·1, tarsus 1·4.

Hab. The same as that of the genus.

a. Ad. st.	S. America.	Baron Laugier de Chartrouse.
b, c. Ad. sk.	Brazil.	Lord Stuart de Rothsay [P.].
d. Skeleton.		Purchased.

57. NAUCLERUS.

Type.

Nauclerus, *Vigors, Zool. Journ.* ii. p. 386 (1825) ..... N. riocouri.
Chelictinia, *Less.* 1843 (*teste Gray, ubi?*).
Chelidopteryx, *Kaup, Mus. Senckenb.* iii. p. 258 (1845) N. riocouri.
Cypselopteryx, *Kaup*, 1851 (*teste Gray, ubi?*).

Range. Western and North-eastern Africa.

1. Nauclerus riocouri.

Elanoides riocouri, *Vieill. et Oud. Gal. Ois.* i. p. 43, pl. 16 (c. 1823); *Bonn. et Vieill. Enc. Méth.* iii. p. 1206 (1823); *Strickl. Orn. Syn.* p. 142 (1855); *Schl. Handb. Dierk.* i. p. 167, pl. 1. fig. 5 (1857); *id. Mus. P.-B.* Milvi, p. 5 (1862); *Heugl. Orn. N.O.-Afr.* i. p. 102 (1871).
Falco riocouri, *Temm. Pl. Col.* i. pl. 85 (1824).
Elanus riocouri, *Vig. Zool. Journ.* i. p. 340 (1824).
Nauclerus riocouri, *Vig. Zool. Journ.* i. p. 386 (1825); *Less. Traité*, p. 73 (1831); *Gray, Gen. B.* i. p. 25 (1845); *Bp. Consp.* i. p. 22 (1850); *Hartl. Orn. W.-Afr.* p. 11 (1857).
Nauclerus africanus, *Sw. Classif. B.* ii. p. 210 (1837).
Chelidopteryx riocourii, *Kaup, Mus. Senckenb.* iii. p. 258 (1845); *id. Contr. Orn.* 1850, p. 57.
Milvus riocouri, *Giebel, Orn. Thes.* p. 86 (1874).

Adult. Above cinereous, interscapulary region and scapulars slightly darker; quills ashy grey, paler beneath. the feathers inclining to white at the base, especially on the inner web of secondaries, which are white at their tips externally also; tail-feathers externally ashy grey, brownish on the inner web, the greater portion of which from the base upwards is white; forehead and indistinct eyebrow whitish; cheeks, ear-coverts, sides of neck, and entire underparts pure white; the under wing-coverts with a broad patch of black running down their whole extent parallel with the exterior margin; bill greenish dusky; feet yellow; iris red. Total length 14·5 inches, culmen 0·65, wing 9·95, tail 7·8, tarsus 1·2.

Hab. The same as that of the genus.

a. Ad. st.	W. Africa.	Captain Sabine [P.].
b. Ad. sk.	W. Africa.	Captain Sabine [P.].
c. Ad. sk.	Dakar, Senegal.	M. A. Bouvier [P.].

58. MILVUS.

Type.
Milvus, *Cuv. Leç. Anat. Comp.* i. tabl. Ois. (1800) .... M. regalis.
Hydroictinia, *Kaup, Classif. Säug. u. Vög.* p. 115 (1844) M. migrans.



Head of *Milvus regalis*.

Range. The whole of Europe, Africa, Asia, and Australia.

Key to the Species.

a. Tail rufous; general colour rufous ..... *ictinus*, p. 319.
b. Tail brown, with blackish bars; general colour brown.
  a'. Bill yellow ..... *ægyptius*, p. 320.
  b'. Bill black.
    a''. No perceptible patch of white at base of primaries.
      a'''. Larger; head and throat white with black stripes; wing over 17 inches ..... *korschun*, p. 322.
      b'''. Smaller; wing under 16 inches; head and throat brownish ..... *affinis*, p. 323.
    b''. A perceptible patch of white at base of primaries.
      c'''. Larger, with the white on the under face of quills more extended; rufous brown, the vent and under tail-coverts clear rufous.. *melanotis*, p. 324.
      d'''. Smaller, the white on inner face of quills less apparent; brownish in colour, the vent and under tail-coverts fulvous..... *govinda*, p. 325.

1. Milvus ictinus.

The Kite or Glead, *Albin, N. H. Birds*, i. pl. 4 (1738).
Le Milan royal, *Briss. Orn.* i. p. 414, pl. 33 (1760).
Falco milvus, *Linn. S. N.* i. p. 126 (1766); *Naum. Vög. Deutschl.* i. p. 333, Taf. 31. fig. 1 (1822); *Werner, Atlas*, Rapaces, pl. 23 (1827); *Schl. u. Susem. Vög. Eur.* Taf. 30. fig. 1 (1839); *Yarr. Brit. B.* i. p. 66 (1843).
Le Milan, *Buff. Pl. Enl.* i. pl. 422 (1770).
? Milvus castaneus, *Daud. Traité*, ii. p. 148 (1800).
Milvus ictinus, *Savign. Syst. Ois. d'Egypte*, p. 259 (1809); *Newt. Ooth. Wolley.* p. 112 (1864); *id. ed. Yarr. Brit. B.* i. p. 92 (1871).
Accipiter milvus, *Pall. Zoogr. Rosso-As.* i. p. 356 (1811).

Milvus regalis, *Roux, Orn. Prov.* i. p. 44, pls. 26, 27 (1825); *Macgill. Brit. B.* iii. p. 265 (1840); *Gray, Gen. B.* i. p. 24 (1845); *Bp. Consp.* i. p. 21 (1850); *Schl. Vog. Nederl. Ind.* pl. 31 (1854); *Strickl. Orn. Syn.* p. 132 (1855); *Sundev. Sv. Fogl.* p. 235, pl. xxix. fig. 4 (1858); *Fritsch, Vög. Eur.* Taf. 6. fig. 7 (1858); *Schl. Mus. P.-B.* Milvi, p. 1 (1862); *Degl. et Gerbe, Orn. Eur.* i. p. 64 (1867); *Loche, Expl. Sci. Algér. Ois.* i. p. 76 (1867); *Gould, B. Gt. Br.* pt. xiii. (1868); *Gray, Hand-l.* i. p. 26 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 97 (1869); *Salvad. Faun. Ital. Ucc.* p. 13 (1871); *Shelley, B. Egypt*, p. 195 (1872); *Schl. Revue Accipitr.* p. 126 (1873).

Milvus ruber, *Brehm, Vög. Deutschl.* p. 50 (1831).

Milvus vulgaris, *Selby, Br. B.* i. p. 74, pl. 5 (1833); *Gould, B. Eur.* i. pl. 28 (1837).

Adult. Above brown, the centres of the feathers darker with rufous edgings, gradually shading into buff on the extreme margin; the wing-coverts decidedly paler-edged; primary coverts and primaries black, white at the base of the inner web; the secondaries paler brown, with rufescent margins; lower back and rump dark brown; the upper tail-coverts rufous, washed with brown; tail rufous with fulvous tips, the centre feathers paler; the outer feathers dark brown on the outer web, especially towards the tip; the inner web partially barred with dark brown; head, sides of the face, and throat whitish streaked with dark brown, more narrowly on the two latter; chest pale rufous, the feathers margined with fulvous and broadly streaked down the centre with brown; rest of under surface bright rufous, with longitudinal central streaks of dark brown, very narrow on the thighs and under tail-coverts; lower wing-coverts and axillaries dark brown, margined with deep rufous, the lowest ones greyish; cere yellow; bill horn-colour; feet yellow; iris yellow. Total length 24 inches, culmen 1·8, wing 20·4, tail 15, tarsus 2·2.

Hab. Europe generally, breeding in Southern Scandinavia as far as 61° N. lat. Rarer in Eastern Europe.

a. Ad. st.	Great Britain.	
b. ♂ ad. st.	Caermarthenshire.	Colonel Montagu [P.].
c. Ad. st.	France.	Baron Laugier de Chartrouse.
d. ♂ juv. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
e. Sternum.		J. Ray, Esq. [P.].
f. Sternum.		Mr. Yarrell.
g. Sternum.		
h. Skull.		Mr. Yarrell.
i. Skull.	Würtemberg.	Dr. Günther.

2. Milvus ægyptius.

Arabian Kite, *Lath. Gen. Syn.* i. p. 61 (1781).

Falco ægyptius, *Gm. S. N.* i. p. 261 (1788, *ex Forsk.*); *Bree, B. Eur.* i. p. 105 (1866).

Falco forskahli, *Gm. S. N.* i. p. 261 (1788, *ex Forsk.*).

Le Parasite, *Levaill. Ois. d'Afr.* i. p. 88, pl. 22 (1799).

Falco parasitus, *Daud. Traité*, ii. p. 150 (1800, *ex Levaill.*).

Falco parasiticus, *Lath. Ind. Orn. Suppl.* p. v (1801); *Schl. u. Susem. Vög. Eur.* Taf. 31 (1839).

Milvus ætolius, *Savign. Syst. Ois. d'Egypte*, p. 260, pl. 3. fig. 1 (1809).
Milvus parasiticus, *Less. Traité*, p. 71, pl. 14. fig. 1 (1831); *Bp. Consp.* i. p. 21 (1850); *Hartl. Orn. W.-Afr.* p. 10 (1857); *Fritsch, Vög. Eur.* tab. 10. fig. 1 (1858); *Hartl. Faun. Madag.* p. 19 (1861); *Layard, B. S. Afr.* p. 25 (1867).
Milvus ægyptius, *Gray, Cat. Accipitr.* p. 44 (1848); *Schl. Mus. P.-B.* Milvi, p. 3 (1862); *Newt. Ooth. Wolley.* p. 118 (1864); *Loche, Expl. Sci. Algér., Ois.* i. p. 77 (1867); *Schl. & Poll. Faun. Madag., Ois.* p. 44 (1868); *Gray, Hand-l. B.* i. p. 27 (1869); *Blanf. Geol. & Zool. Abyss.* p. 300 (1870); *Shelley, B. Egypt*, p. 196 (1872).
Milvus leucorhynchus, *L. Brehm, Naum.* 1855, p. 268.
Milvus forskahli, *Strickl. Orn. Syn.* p. 134 (1855); *Heugl. Orn. N.O.-Afr.* i. p. 98 (1869); *Finsch, Tr. Z. S.* vii. p. 203 (1870); *id. u. Hartl. Vög. Ostafr.* p. 63 (1870); *Gurney, in Anderss. B. Dam. Ld.* p. 22 (1872).
Hydroictinia parasitica, *A. Brehm, Illustr. Thierl.* iii. p. 493 (1866).

Adult. Above brown, the feathers very faintly paler-edged, the wing-coverts much lighter, the greater ones especially, with distinct blackish shaft-stripes; primaries brownish black, the secondaries paler brown, barred with dark brown on the inner web; under surface of wing pale brown, whitish near the base of the quills, barred with dark brown; tail brown, almost rufous brown, narrowly tipped with fulvous, with seven or eight more or less distinct cross bands of black; head and neck clear brown, very slightly inclining to rufous, with dark brown shaft-stripes; forehead, sides of the face, and throat greyish white, with narrow blackish shaft-streaks; under surface rufous brown, with narrow blackish shaft-stripes; the lower abdomen, thighs, and under tail-coverts clearer rufous, narrower and almost obsolete on the abdomen, thighs, and under tail-coverts; under wing-coverts rufous, with black shaft-stripes, some of the median ones shaded with blackish, the lower ones greyish, with blackish cross bars; cere and bill bright yellow; feet yellow; iris umber-brown. Total length 22·5 inches, culmen 1·8, wing 17·9, tail 11, tarsus 2·15.

Young. Above glossy chocolate-brown, all the feathers tipped with ochre and streaked down the centre with black, the wing-coverts more broadly tipped; crown rufous, shading into buff at the tips of the feathers, which are plainly streaked with black; under surface brown, the feathers very broadly ochre down the centre, shading into whitish on the abdomen; bill black.

Hab. The whole of Africa and Madagascar, extending into South-eastern Europe, Greece, and Dalmatia.

a, b. Ad. st.	Egypt.	W. B. D. Turnbull, Esq. [P.].
c, d. Juv. sk.	Egypt.	Capt. Shelley [P.].
e. Ad. st.	Shoa.	Hon. E. I. Co. [P.].
f. ♂ ad. sk.	Ankober, Feb. 1842.	Sir W. C. Harris [C.].
g. Ad. sk.	Angollallah, Oct. 1842.	Sir W. C. Harris [C.].
h. ♀ vix ad. sk.	Senafé, Feb. 25, 1868.	W. T. Blanford, Esq. [C.].
i. ♂ ad. sk.	Lake Ashangi, April 3, 1868.	W. T. Blanford, Esq. [C.].
k. Ad. sk.	River Niger.	Dr. Baikie [P.].

l. Ad. sk.	South Africa.	Earl of Derby.
m. Ad. st.	South Africa.	South-African Museum.
n. Ad. sk.	Madagascar.	R. B. Sharpe, Esq. [P.].

3. Milvus korschun.

Le Milan noir, *Briss. Orn.* i. p. 413 (1760); *Buff. Pl. Enl.* i. pl. 472.
Accipiter korschun, *Gm. N. Comm. Petrop.* xv. p. 444 (1771).
Austrian Kite, *Lath. Gen. Syn.* i. p. 62 (1781).
Russian Kite, *Lath. Gen. Syn.* i. p. 63 (1781).
Falco migrans, *Bodd. Tabl. Pl. Enl.* p. 28 (1783).
Falco austriacus, *Gm. S. N.* i. p. 262 (1788).
Falco ater, *Gm. S. N.* i. p. 262 (1788); *Werner, Atlas*, Rapaces, pl. 24 (1827); *Schl. u. Susem. Vög. Eur.* Taf. 30. fig. 2 (1839); *Bree, B. Eur.* i. p. 101 (1866).
Milvus russicus, *Daud. Traité*, ii. p. 148 (1800).
Milvus castaneus, *Daud. t. c.* p. 148 (1800).
Milvus austriacus, *Daud. t. c.* p. 149 (1800).
Milvus ater, *Daud. t. c.* p. 149 (1800); *Sundev. Sv. Fogl.* p. 236 (1858); *Layard, B. S. Afr.* p. 25 (1867).
Falco fusco-ater, *Meyer, in Mey. u. Wolf. Taschenb. deutschl. Vogelk.* i. p. 27 (1810); *Naum. Vög. Deutschl.* i. Taf. 31. fig. 2 (1822).
Accipiter regalis, *Pall. Zoogr. Rosso-Asiat.* i. p. 356 (1811).
Milvus fuscus, *Brehm, Vög. Deutsch.* p. 53 (1831).
Milvus niger, *Bp. Comp. List B. Eur. & N. Am.* p. 4 (1838); *Gray, Gen. B.* i. p. 24 (1845); *Bp. Consp.* i. p. (1850); *Fritsch, Vög. Eur.* tab. 9. fig. 2 (1858); *Loche, Expl. Sci. Algér., Ois.* i. p. 77 (1867); *Degl. et Gerbe, Orn. Eur.* i. p. 65 (1867); *Salvad. Faun. Ital. Ucc.* p. 13 (1871).
Hydroictinia ater, *Kaup, Classif. Säug. u. Vög.* p. 115 (1844).
Milvus ætolius, *Schl. Vog. Nederl.* pl. 32 (1854); *id. Mus. P.-B.* Milvi, p. 2 (1862); *Heugl. Orn. N.O.-Afr.* i. p. 98 (1869).
Milvus migrans, *Strickl. Orn. Syn.* p. 133 (1855); *Newt. Ooth. Wolley.* p. 116 (1864); *Gray, Hand-l.* i. p. 26 (1869); *Blanf. Geol. & Zool. Abyss.* p. 300 (1870); *Finsch, Tr. Z. S.* vii. p. 203 (1870); *id. u. Hartl. Vög. Ostafr.* p. 61 (1870); *Swinh. P. Z. S.* 1871, p. 341; *Newt. ed. Yarr.* i. p. 97 (1871); *Shelley, B. Egypt*, p. 197 (1872); *Schl. Revue Accipitr.* p. 126 (1873).

Adult. Above dark brown, the median wing-coverts paler and more fulvous brown, with blackish shaft-stripes; quills dark brown, the secondaries rather lighter and paler on the inner web; under surface of the wing ashy brown, paler at base; tail dark brown, inclining to rufous brown at the tip, barred with very indistinct bands of dark brown, scarcely visible; head and throat all round whitish, the ear-coverts washed with brown, all the feathers narrowly but distinctly streaked with dark brown; rest of under surface rufous brown, inclining to clear rufous on the abdomen, the breast broadly streaked with dark brown, the abdomen, flanks, and under tail-coverts more narrowly; under wing-coverts dull brown, washed with rufous and streaked with dark brown, the lower ones ashy brown; cere and gape orange; bill black, yellowish at base; feet yellow, claws black; iris pale greyish yellow, surrounded by a black line. Total length 22 inches, culmen 1·6, wing 18·1, tail 11, tarsus 2·2.

Hab. The whole of Africa and Madagascar; Southern and Western Europe; accidental in England, rarer in Germany, but occurring in Southern Scandinavia; South-eastern Europe, probably extending into Central Asia as far as Afghanistan.

a. Ad. st.	Sweden.	Baron Laugier de Chartrouse.
b. Ad. sk.	Southern Ural.	Dr. Strader [C.].
c, d. ♂ ad. st.	Plain of Gennesaret.	Canon Tristram [C.].
e. ♂ ad. sk.	Senafé, May 28, 1868.	W. T. Blanford, Esq. [C.].
f. ♂ juv. sk.	Zoulla, Jan. 9, 1868.	W. T. Blanford, Esq. [C.].
g. ♂ ad. sk.	Angollallah.	Sir W. C. Harris [C.].
h. Juv. sk.	Senegal.	M. L. Laglaize [C.].
i, k. Ad. sk.	Mayo, Cape-Verde Islands.	M. A. Bouvier [C.].
l. Skeleton.		Zoological Society.
m, n. Sterna.		

4. Milvus affinis.

Milvus affinis, *Gould, P. Z. S.* 1837, p. 140; *id. Syn. B. Austr.* pt. iii. (1838); *Gray, Gen. B.* i. p. 24 (1845); *Gould, B. Austr.* i. pl. 21 (1848); *Bp. Consp.* i. p. 21 (1850); *Schl. Mus. P.-B.* Milvi, p. 3 (1862); *Gould, Handb. B. Austr.* i. p. 49 (1865); *Schl. Vog. Nederl. Ind. Valkv.* pp. 30, 67, pl. 20. fig. 1 (1866); *Diggl. Orn. Austr.* pt. 1 (1866); *Wall. Ibis*, 1868, p. 13; *Gray, Hand-l. B.* i. p. 27 (1869); *Jerd. Ibis*, 1871, p. 343; *Wald. Tr. Z. S.* viii. p. 36 (1871).

Adult. Above blackish brown, the median wing-coverts much paler, with distinct black shaft-stripes; primaries blackish, the secondaries paler brown, especially on the inner web; under surface of the wing pale brown, inclining to ashy near the base; tail dark brown, more ashy underneath, with remains of dark bars on the centre feathers; head a little paler brown, slightly washed with rufous, and distinctly streaked with blackish; lores and ear-coverts shaded with blackish; chin whitish, with distinct black shaft-stripes; under surface of body dull rufous brown, inclining to dusky on the chest and flanks, all the feathers distinctly but narrowly streaked along the shaft with black; under wing-coverts rufous brown, the least ones more decidedly rufous, with distinct blackish shaft-stripes, the lower ones ashy like the inner surface of the quills; cere yellow; bill blackish; feet yellow; iris brown. Total length 20 inches, culmen 1·55, wing 16·5, tail 10·7, tarsus 2·05.

Young. Brown, all the feathers tipped with rufous; head and neck pale rufous, margined with brown; the black shaft-stripes everywhere very distinct; under surface distinctly striped, all the feathers pale rufous down the centre, margined on both sides with brown, with a narrow black shaft-stripe; sides of the face rufous brown, feathers over the eye and upper margin of ear-coverts blackish.

Hab. Australia and Malaisia, ranging as far north as Chusan; probably occurring in India.

a, b. Ad. st.	Australia.	Lady Carington [P.].
c. Ad. sk.	Cape York.	J. Gould, Esq. [P.].
d. Juv. st.	N.E. Australia.	Sir T. Mitchell [P.].

e. Ad. sk.	N.E. Australia.	Sir T. Mitchell [P.].
f, g. Ad. sk.	N.W. Australia.	J. E. Elsey, Esq. [P.].
h, i. Ad. sk.	Interior of S. Australia.	Capt. Sturt [C.].
k. Juv. sk.	Interior of S. Australia.	Capt. Sturt [C.].
l. ♀ juv. sk.	Macassar, Celebes.	A. R. Wallace, Esq. [C.].
m. ♀ ad. sk.	E. Timor.	A. R. Wallace, Esq. [C.].

5. Milvus melanotis.

Milvus melanotis, *Temm. et Schl. Faun. Jap.* Aves, p. 14, pls. 5, 5B (? 1845); *Gray, Gen. B.* i. p. 24 (1845); *Blanf. J. A. S. B.* 1872, p. 153.

Milvus niger, var. melanotis, *Schrenk, Reis. Amurl., Vög.* p. 234 (1860).

Milvus niger, *Radde, Reis. Sibir., Vög.* p. 135, Taf. 1. fig. 1 (1863); *Homey. J. f. O.* 1868, p. 252.

Milvus major, *Hume, Rough Notes*, ii. p. 326 (1870); *Jerd. Ibis*, 1871, p. 342; *Hume, Str. F.* i. p. 160 (1873).

Milvus govinda, *Swinh. P. Z. S.* 1871, p. 341; *Schl. Mus. P.-B. Revue Accipitr.* p. 126 (1873).

Adult male. Above dark chocolate-brown, with a slight purplish reflection, the head and neck inclining to rufous, and distinctly streaked down the centre with black; the wing-coverts a little paler brown, especially the median ones, the lesser series strongly washed with rufous, all with distinct black shaft-stripes; greater coverts and quills dark brown, the secondaries paler brown, the primaries blackish, all the quills very distinctly white at the base of the inner web, which is sometimes slightly mottled with brown; tail rather pale brown, darker on the outer web of the external feathers, the centre feathers with a slight rufous tinge, and distinctly barred with darker brown, these bars distinct on the inner web only of the other feathers; under surface of the tail whitish or brownish ashy, the bars more or less distinct; lores, forehead, and cheeks white, with narrow little black shaft-lines; ear-coverts dark brown, shading into black on their upper margin; throat white, tinged with rufous on the lower part, with distinct shaft-lines of dark brown; rest of under surface deep rufous brown, shading into clear rufous on the abdomen and under tail-coverts; chest a little darker, with broad central black streaks, on each side of which the feather is a little clearer rufous, giving rather a distinct striped appearance; under wing-coverts dark brown, washed with rufous, the lower ones ashy brown, notched or barred with white on the inner web; cere pale greenish yellow; bill horn-black; feet dull yellow, toes mingled dingy greenish and yellow; iris reddish brown. Total length 25·5 inches, culmen 2, wing 21, tail 13·2, tarsus 2·5.

Young. Dark brown, the scapulars and inner secondaries shading into ochraceous brown and buff at their tips; the head, neck, and wing-coverts thickly tipped with white; tail not very distinctly barred above or below; throat dull ochre; breast very dark brown, with very broad central streaks of cream-colour, slightly washed with rufous, the abdomen and under tail-coverts ochraceous buff;

cere greyish white; bill black; feet bluish white; iris reddish brown *.

Hab. Japan and China to Formosa; Indian peninsula.

a. Juv. st.	Japan.	Purchased.
b. Juv. sk.	Formosa.	Purchased.
c. Ad. sk.	Fokien, China.	J. Gould, Esq. [P.].
d. Ad. sk.	Amoy.	R. Swinhoe, Esq. [C.].
e. Juv. sk.	Chefoo, Sept. 6, 1873.	R. Swinhoe, Esq. [C.].
f. Juv. sk.	Shanghai.	J. Webb, Esq.
g. Ad. sk.	Gangoutra, Himalaya Mts.	
h. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
i. Juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
k. Juv. st.	Behar.	B. H. Hodgson, Esq. [P.].
l. ♀ ad. sk.	Godavery valley.	W. T. Blanford, Esq. [P.].

6. Milvus govinda †.

Milvus govinda, *Sykes, P. Z. S.* 1832, p. 81; *Bp. Consp.* i. p. 21 (1850); *Schl. Mus. P.-B.* Milvi, p. 2 (1862); *Jerd. B. Ind.* i. p. 104 (1862); *Gray, Hand-l. B.* i. p. 26 (1869); *Hume, Rough Notes*, ii. p. 320 (1870); *Holdsw. P. Z. S.* 1872, p. 414; *Blanf. J. A. S. B.* 1872, p. 43; *Hume & Henders. Lahore to Yark.* p. 176 (1873); *Ball, Str. F.* i. p. 53 (1873).

Milvus cheela, *Jerd. Madr. Journ.* x. p. 71 (1839); *Gray, Gen. B.* p. 24 (1845).

Milvus ater, *Blyth, Cat. B. Mus. A. S. B.* p. 31 (1849).

Adult male. Above brown, the head and neck slightly rufescent, and very distinctly striped down the centre of each feather with black; scapulars and wing-coverts edged with buff, the latter with distinct black shaft-stripes, the median coverts rather paler brown; greater coverts and quills dark chocolate-brown, the inner secondaries paler, the primaries darker and more inclining to blackish brown, all the quills indistinctly white near the base, mottled with brown, the white only conspicuous on the primaries; tail-feathers brown, especially on the external web of the outermost, all tipped with buffy white, and rather distinctly barred with blackish; the under surface whitish on the inner web, more or less mottled and barred with brown; sides of the face whitish, with narrow brown shaft-streaks, the ear-coverts entirely brown on their upper margin; throat whitish, with brown shaft-stripes; rest of under surface dull rufous brown, inclining to buff on the vent and under tail-coverts, all the breast-feathers paler and more fulvescent along each side of the shaft, which is dark brown, producing a somewhat striped appearance; under wing-coverts rufous brown, with dark brown centres to the feathers, the lower ones more ashy brown; cere and gape yellow; bill black or blackish horny; feet wax-yellow; iris yellowish brown. Total length 20 inches, culmen 1·8, wing 19·2, tail 13, tarsus 2·3.

Young. Brown like the adult, but much more mottled, all the

* Soft parts from two Japanese birds living in the Rotterdam Gardens.

† Mr. A. Anderson has described a new species (*Milvus palustris*) from N.W. India. The paper arrived too late to allow of its insertion here, but it will be noticed in the 'Addenda.'

feathers of the upper surface broadly tipped with whitish; the under surface deep rufous brown, all the feathers broadly streaked down the centre with cream-colour; the tail less distinctly barred above than the adult, but much more plainly and numerously underneath; cere greenish grey; feet very pale greenish grey; iris brown.

Hab. Indian peninsula and the Himalayas.

a. Juv. st.	India.	J. R. Reeves, Esq. [P.].
b. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
c. Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
d. Juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
e. Sternum.		B. H. Hodgson, Esq. [P.].

59. LOPHOICTINIA.

Lophoictinia, *Kaup, Isis*, 1847, p. 117 ..... Type. L. isura.



Head of *Lophoictinia isura*.

Range. Australia.

1. Lophoictinia isura.

Milvus isurus, *Gould, P. Z. S.* 1837, p. 140; *id. Syn. B. Austr.* pt. iii. (1838); *Gray, Gen. B.* i. p. 24 (1845); *Gould, B. Austr.* i. pl. 22 (1848); *Bp. Consp.* i. p. 21 (1850); *Schl. Mus. P.-B.* Milvi, p. 4 (1862); *Gould, Handb. B. Austr.* i. p. 51 (1865); *Gray, Hand-l. B.* i. p. 27 (1869).

Lophoictinia isura, *Kaup, Isis*, 1847, p. 117.

Milvus pacificus, *Strickl. Orn. Syn.* p. 135 (1855).

Adult. Above blackish brown, the median and greater coverts paler brown, slightly washed with rufous, dark brown in the centre of the feathers; primary coverts dark brown, banded with blackish; primaries dark brown, externally shaded with grey, the secondaries rather paler, all the feathers banded with black, the subterminal band very broad; lower surface of the wing ashy grey, white at the base of quills, distinctly banded with blackish; tail dark brown, shaded with ashy above and slightly tipped with whitish, banded with black, the subterminal bar broadest; head distinctly crested, dark rufous, streaked with black down the centre of the feathers; forehead, lores, fore part of cheeks, and throat whitish, with narrow blackish shaft-stripes; ear-coverts grey; under surface of the body rufous, the sides of the neck slightly shaded with grey, the chest thickly marked with broad black centres to the feathers, diminishing

to narrow black shaft-stripes on the lower breast and abdomen, the flanks indistinctly barred near the base with brown; under tail-coverts fulvous, washed with rufous; under wing-coverts rufous, with black shaft-stripes, the lower ones greyish; cere and base of bill greyish white, the tips of the latter blackish; feet greyish white; iris pale yellow. Total length 19 inches, culmen 1·4, wing 18·1, tail 10·3, tarsus 1·9.

Young. Paler than the adult, the rufous colour nowhere so rich, and the black chest-markings almost wanting; no grey on cheeks or sides of neck.

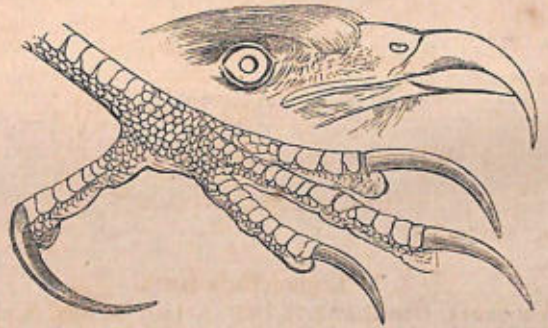
Hab. Australia.

a. Ad. st.	Swan River, Australia.	Purchased.
b. Juv. st.	Australia.	Zoological Society.

60. ROSTHRAMUS.

Type.

Rosthramus, *Less. Traité*, p. 55 (1831) ..... R. sociabilis.
Hamirostrum, *Sundev. av. Tent.* p. 108 (1873) ..... R. sociabilis.



Bill and foot of *Rosthramus leucopygus*.

Range. Florida, Antilles, Guiana, Amazonia to Brazil and Peru.

Key to the Species.

a. Upper tail-coverts grey, like back.
  a'. Tail grey, with a broad black band at tip .... *sociabilis*, p. 327.
  b'. Tail grey, with white base, and three white bands across it ..... *tæniurus*, p. 328.
b. Upper and under tail-coverts white ..... *leucopygus*, p. 328.

1. Rosthramus sociabilis.

Gavilan del estero sociabile, *Azara, Apunt.* i. p. 84 (1802); *Hartl. Ind. Azara*, p. 2 (1847).
Herpetotheres sociabilis, *Vieill. N. Dict.* xviii. p. 318 (*ex Azara*).
Falco hamatus, *Illiger, in Temm. Pl. Col.* i. pls. 61, 231 (1823); *Max. Beitr. Naturg. Bras.* iii. p. 182 (1830).
Buteo hamatus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1223 (1823).
Cymindis hamatus, *Vigors, Zool. Journ.* i. p. 337 (1824).

Rosthramus niger, *Less. Traité*, p. 56 (1831).
Rosthramus hamatus, *Gray, Gen. B.* i. p. 25 (1845); *Bp. Consp.* i. p. 20 (1850); *Cab. in Schomb. Reis. Guian.* iii. p. 736 (1848).
Rosthramus sociabilis, *Strickl. Orn. Syn.* p. 136 (1855); *Scl. & Salv. Nomencl.* p. 121 (1873).
Ibycter sociabilis, *Schl. Mus. P.-B.* Polybori, p. 7 (1862); *id. Revue*, p. 138 (1873).

Adult. Entirely bluish slate-colour, the head, neck, and underparts rather inclining to leaden grey; secondaries as well as primaries and their coverts blackish, with a very slight gloss of greenish; tail grey, with a broad terminal band of black; cere, lores, angle of mouth, and bare part of lower mandible intense orange-yellow; iris blood-red. Total length 13·5 inches, culmen 1·8, wing 11·7, tail 5·5, tarsus 2, middle toe 1·35. (*Mus. Lugd.*)

Young male. Very similar to that of *R. leucopygus*, and having the base of tail-feathers and upper tail-coverts whitish, and the tips of the tail ashy brown. It is smaller, however, than that species: wing 12·5 inches, tail 6·8, tarsus 1·8. (*Mus. Lugd.*)

A young female in the Leiden Museum had the wing 12, tail 6·1, tarsus 1·9.

Hab. Eastern Brazil northwards to Guiana.

2. Rosthramus tæniurus.

Rosthramus tæniurus, *Cab. J. f. O.* 1854, p. lxxx; *Scl. & Salv. Nomencl.* p. 121 (1873).

Similar to *R. sociabilis*, having a dark rump, with a white base to the tail and three bands across the latter, two basal and one median. Total length 15 inches, culmen 1·85, wing 11·6, tail 6·6, tarsus 1·95. (*Mus. Berol.*)

Hab. Para.

I regret that when in Berlin I did not more fully describe the type, from which, however, the measurements are taken. I fancied at the time that it was not distinct from one of the other two species; but I have not been able to reconcile it with either of them. The species of *Rosthramus* are not well known, and their characters and geographical distribution still require working out with a good series.

3. Rosthramus leucopygus.

Cymindis leucopygus, *Spix, Av. Bras.* i. p. 7, pl. 2 (1824).
Rosthramus sociabilis, *D'Orb. Voy. Amér. Mérid., Ois.* p. 73 (1847); *Cass. B. Calif. & Texas*, p. 107 (1855); *id. in Baird, B. N. Am.* p. 38 (1860); *Gray, Hand-l. B.* i. p. 27 (1869); *Coues, Key N. Am. B.* p. 211 (1872); *Maynard, B. Florida*, pl. 1 (1872).
Rosthramus hamatus, *Burm. Th. Bras.* ii. p. 46 (1856); *id. La Plata Reise*, ii. p. 435 (1861); *Léot. Ois. Trinid.* p. 31 (1866); *Pelz. Orn. Bras.* pp. 6, 398 (1871).
Ibycter leucopygus, *Schl. Mus. P.-B.* Polybori, p. 8 (1862); *id. Revue*, p. 138 (1873).
Rosthramus leucopygus, *Scl. & Salv. Nomencl.* p. 121 (1873).

Adult. Entirely slaty black, with a slight brownish shade on the wings and scapulars; upper and under tail-coverts and base of tail

white; rest of tail black, tipped with white, before which a subterminal bar of ashy brown; cere and orbits bright yellow; bill entirely black; feet deep yellow, claws black. Total length 18 inches, culmen 1·5, wing 14·1, tail 8, tarsus 1·95.

Young. Above dark brown, the wing-coverts margined and externally spotted with rufous; forehead, eyebrow, and cheeks whitish, narrowly streaked with dark brown; crown slightly varied with rufous; hinder part of ear-coverts and sides of neck dark brown, the latter feathers margined with white, and looking as if streaked; quills dark brown, barred with black, the secondaries tipped with pale rufous, inner surface of quills white at the base, with more or less irregular bars of dark brown; rump, upper tail-coverts, and base of tail white; rest of tail dark brown, paler and more ashy underneath, tipped with pale brown; under surface of body whitish, the throat narrowly, the breast very broadly streaked with dark brown, the sides of chest and flanks entirely brown, scarcely at all varied with white; under wing-coverts and axillaries dark brown, margined and barred with rufous.

Obs. On comparing adults of *R. leucopygus* with *R. sociabilis* in the Leiden Museum, I noted that the former is a much larger and blacker bird, and is further distinguished by having the base of tail and the terminal band on the same, as well as the upper and under tail-coverts, white. Young birds measured as follows:—♂ (no. 1 of Schlegel's Cat.), wing 13·6 inches, tail 7·9, tarsus 1·85; ♀ (no. 2 of Cat.), wing 14, tail 8, tarsus 1·9.

Hab. Florida and Antilles; Guiana; Columbia; Amazonia and Brazil.

a.	Juv. st.	British Guiana.	Sir R. Schomburgk [P.].
b.	Juv. sk.	Demerara.	R. B. Sharpe, Esq. [P.].
c.	Juv. st.	Bogotá.	Purchased.
d.	Ad. st.	Bogotá.	Purchased.
e.	Juv. sk.	Pebas, Aug. 28, 1872.	J. Hauxwell, Esq. [C.].
f.	Juv. sk.	Venezuela.	Purchased.
g.	Ad. st.	S. America.	Purchased.

61. LEPTODON.

	Type.
Cymindis, *Cuv. Règne An.* i. p. 319 (1817, *nec Latr.* 1806)	C. cayennensis.
Leptodon, *Sundev. K. Vet. Akad. Handl.* 1835, p. 114	C. cayennensis.
Odontriorchis, *Kaup, Classif. Säug. u. Vög.* p. 124..	C. cayennensis.
Regerhinus, *Kaup, Mus, Senck.* iii. p. 262 (1845) ..	C. uncinatus.



Head of *Leptodon uncinatus*.

Range. From Central America throughout Guiana and Columbia to Southern Brazil, Bolivia, and Peru.

Key to the Species.

a. Chest uniform.
  a'. Chest blackish brown.
    a''. Larger; culmen 2·5 inches ..... *megarhynchus* var., p. 332.
    b''. Smaller; culmen 1·55–1·65 inch .. *uncinatus* var., p. 330.
  b'. Chest uniform blue ..... *uncinatus* ad., p. 330.
  c'. Chest pure or buffy white, or white washed with greyish.
    c''. Hinder neck blue-grey, like head.. *cayennensis* ad., p. 333.
    d''. Hinder neck pure white.
      a'''. Forehead brown, like the crown *uncinatus* juv., p. 330.
      b'''. Forehead white, crown of head brown ..... *cayennensis* imm., p. 333.
b. Chest particoloured.
  d'. Under surface white, longitudinally streaked with dark brown ..... *cayennensis* juv., p. 333.
  e'. Under surface white, transversely crossed with irregular narrow bars of brown.
    e''. Bill black ..... *uncinatus* juv., p. 330.
    f''. Bill yellowish ..... *wilsoni* juv., p. 333.
  f'. Under surface chestnut, with white or fulvous cross bars ..... *uncinatus* imm., p. 330.
  g'. Under surface white, with blue-grey cross bands.
    g''. Bill yellowish ..... *wilsoni* ad., p. 333.
    h''. Bill black.
      c'''. Larger; culmen 2·5 inches .... *megarhynchus* ad., p. 332.
      d'''. Smaller; culmen 1·55–1·65 inch *uncinatus* ad., p. 330.
  h'. Under surface blue, with a few narrow white cross bars.
    i''. Larger; bill longer (*vide suprà*) .. *megarhynchus* ad., p. 332.
    k''. Smaller; bill shorter (*vide suprà*) . *uncinatus* ad., p. 330.

1. Leptodon uncinatus.

Falco uncinatus, *Temm. Pl. Col.* 103, 104, 105 (1824; *ex Illig.*).
Falco vitticaudus, *Max. Beitr.* iii. p. 178 (1830).
Cymindis uncinatus, *Less. Man. d'Orn.* i. p. 91 (1828); *Gray, Gen. B.* i. p. 25, pl. 9. fig. 7 (1845); *Bp. Consp.* i. p. 21 (1850); *Burm. Th. Bras.* ii. p. 108 (1856); *Léot. Ois. Trinid.* p. 36 (1866); *Gray, Hand-l. B.* i. p. 136 (1869); *Pelz. Orn. Bras.* pp. 5, 398 (1871); *Schl. Revue*, p. 136 (1873); *Sharpe, P. Z. S.* 1873, p. 419; *Scl. & Salv. Nomencl.* p. 122 (1873).
Cymindis cuculoides, *Swains. Classif. B.* ii. p. 209 (1837).
Regerhinus uncinatus, *Kaup, Mus. Senckenb.* iii. p. 262 (1845); *Cab. in Schomb. Reis. Guian.* iii. p. 736 (1848).
Rosthramus uncinatus, *Strickl. Orn. Syn.* p. 136 (1855).
Cymindis pucherani, *Léot. Ois. Trinid.* p. 40 (1866); *Gray, Hand-l. B.* i. p. 25 (1869); *Finsch, P. Z. S.* 1870, p. 557.
Cymindis boliviensis, *Burm. P. Z. S.* 1868, p. 635; *Gray, Hand-l. B.* i. p. 28 (1869).
Cymindis vitticaudus, *Pelz. Orn. Bras.* pp. 6, 398 (1871).

Young. Above brown, the dorsal feathers and wing-coverts margined with pale rufous, the upper tail-coverts broadly barred and tipped with buff; quills dark brown, with rufous-buff tips, the primaries barred with dark brown above, the secondaries more or less distinctly barred with rufous or rufous buff; the under surface of the wing ashy brown, barred with darker brown, the bases of the feathers creamy buff, washed with rufous near the tips; tail ashy brown, tipped with whitish, barred across with dark brown bars, the interspaces on the inner web creamy buff, more or less mottled with brown above, at the base barred above and below with creamy buff, like the upper tail-coverts; crown of the head dark brown, with no pale margins; sides of the face and a collar round the neck white, slightly spotted with pale brown, the ear-coverts inclining to bluish grey; under surface of body white, the throat indistinctly spotted, and the breast narrowly barred with pale brown, the bars almost linear on the under tail-coverts, those on the thigh-feathers broader and more rufous; under wing-coverts and axillaries white, barred with pale rufous. Total length 17 inches, culmen 1·65, wing 10·4, tail 8·6, tarsus 1·45.

Another specimen, still quite young, agrees with the foregoing in the coloration of the wings and tail, but has the edgings to the feathers of the upper surface very much broader, and a broad white tip to the tail; the sides of the face and collar round the neck are creamy white, without any brown spots; the under surface of the body is also more free from spots, with here and there a feather appearing broadly barred with tawny rufous, indicative of the next change in the plumage.

Mature. Altogether different from the preceding stage. Above leaden brown, the head more slaty, the sides of the face and chin clear slaty blue; round the neck a rufous collar; quills brown, with narrow apical margins of pale rufous or buffy white, the outer secondaries rufous for nearly their whole extent, the under surface of the wing greyish, creamy white near the base, all the quills barred above and below with blackish brown; tail ashy grey, crossed by two very broad bars of black, tipped with creamy white, before which an indistinct subterminal line of ashy grey is visible, some of the outer upper tail-coverts and base of tail slightly mottled with whitish; under surface of body tawny rufous, crossed with broad bars of ochraceous buff, the under wing-coverts similarly marked, the lower ones ochraceous buff, with greyish black cross bars.

The next change seems to be in the under surface, where the ochre-coloured bars become quite white, and whitish bars appear on the grey throat. From this stage (to judge by our specimens) it changes by a partial moult, and by a gradual change of feather at the same time; for the bars on the breast lose by degrees their rufous tint and become grey, while the back also becomes slaty grey instead of brown; the nuchal collar gradually disappears. This gradual development seems to be satisfactorily traced, with the exception of the tail, which, instead of agreeing with that of the rufous or "mature" stage, has four rather narrow black bars, like the young

specimen first described. This can only be accounted for by the fact that Hawks have really no fixed laws of change in plumage, and that it is impossible for any one to define exactly the regular sequence of the variations. No two birds are exactly alike; for one has the head more advanced, another the tail, and *vice versâ*. Thus the bird last noticed as donning his grey dress is very far advanced as regards his body-plumage, but has not moulted his tail, whereas those in the rufous dress are not so forward in their body-plumage, but have already the tail of the adult (one being in the act of moulting).

Adult female. Slaty blue above and below; no trace of a nuchal collar; under surface narrowly but irregularly barred with white, the under tail-coverts clear buff; under wing-coverts grey, thickly barred with buffy white; quills blackish, shaded with slaty grey above, the secondaries entirely of this colour, the under surface greyish white, with black bars and tips, less conspicuous on the upper surface; tail alternately crossed with two bands of black above, with a broad intermediate band of ashy grey between, narrowly tipped with ashy grey, barred with ochraceous buff and black below, the bars very broad. Total length 17 inches, culmen 1·6, wing 11·7, tail 7·5, tarsus 1·4.

Adult male. A little smaller than the female. Total length 16 inches, culmen 1·55, wing 11, tail 7·5, tarsus 1·4.

Hab. Central America, Guiana, Amazonia, Brazil, and Bolivia.

a. ♂ ad. st.	S. America.	Dr. Gray [P.].
b. Juv. st.	S. America.	Dr. Gray [P.].
c. Var. st.	S. America.	Purchased.
d, *e*. Juv. sk.	S. America.	
f. Ad. st.	Brazil.	Purchased.
g. Imm. st.	S. America.	Dr. Lidth de Jeude.
h. Ad. sk.	Pará.	R. Graham, Esq. [P.].
i. Ad. sk.	Bahia.	Dr. Wucherer [C.].
k. Ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].
l. Ad. sk.	Trinidad.	Purchased.
m. Skeleton.	Venezuela.	Purchased.

2. Leptodon megarhynchus.

Regerhinus megarhynchus, *Des Murs, in Casteln. Voy. Zool., Ois.* p. 9, pl. 1 (1855).

Cymindis megarhynchus, *Gray, Hand-l. B.* i. p. 28 (1869); *Scl. & Salv. Nomencl.* p. 122 (1873).

Nearly adult. Above slaty blue, clearer on the head and darker on the back; wing-coverts brown, margined with deep ochre (evidently remains of young plumage); quills brown, shaded externally with ashy, the secondaries clearer brown with rufous-white tips; under surface of wings white at base, greyish white for the apical half, all the quills barred above and below with dark brown; lower back, rump, and upper tail-coverts blackish brown, the latter barred near the base and tipped with white; tail alternately banded with black and ashy brown, and tipped with white, the black bands being much the broadest, and between them and the ashy brown bands a faint

indication of a white line; throat slaty blue, like the sides of the face; rest of the under surface slaty blue, banded narrowly with white; under wing- and tail-coverts white, with only a few nearly obsolete indications of narrow brownish cross bars; bill dark horn-black, yellowish on under mandible; feet deep yellow, nails black. Total length 19 inches, culmen 2·5, wing 12·3, tail 9·2, tarsus 1·6.

Hab. Peru and Bolivia.

a. Ad. st. Peru. Prof. Macdonald [P.].

3. Leptodon wilsoni.

Cymindis wilsonii, *Cass. Journ. Ac. Philad.* 4to, i. p. 21, pl. 7 (1847); *Bp. Consp.* i. p. 21 (1850); *Gray, Hand-l. B.* i. p. 28 (1869); *Scl. & Salv. Nomencl.* p. 122 (1873).

Regerhinus wilsonii, *Kaup, Arch. f. Naturg.* 1850, p. 40; *Gundl. J. f. O.* 1872, p. 360.

Regerhinus uncinatus, *Cab. J. f. O.* 1854, p. lxxx.

Male. Body above entirely dark brown, paler on the head; beneath white, every feather from the chin to the under tail-coverts crossed by several bars of bright rufous, and these colours extending upwards into a collar around the neck; 4th, 5th, and 6th primaries longest and nearly equal, external webs nearly black, internal webs of outer primaries white at base, and for nearly half their length, remaining part reddish inclining to chestnut, every primary (on its inner web) having two irregularly shaped black marks, and tipped with black. Tail of the same colour as the back, but paler, white at base, and crossed by about four broad bars, which are nearly black, the second bar from the tip accompanied by a narrow, rather indistinct bar of rufous; tip of tail narrowly edged with white. Bill very large, larger than that of any other species of this genus, yellowish white, inclining to bluish horn-colour at base. Total length 17 inches. (*Cassin, l. c.*)

Female. Body above entirely light bluish ash-colour, paler on the head, beneath barred with the same, the bars having a ferruginous tinge. (*Cassin, l. c.*)

Hab. Cuba.

4. Leptodon cayennensis.

Cayenne Osprey, *Lath. Gen. Syn.* i. p. 47 (1781).

Petit Autour de Cayenne, *Buff. Pl. Enl.* i. pl. 473.

Falco cayennensis, *Gm. S. N.* i. p. 263 (1788); *Temm. Pl. Col.* i. pl. 270 (1824).

Falco palliatus, *Max. in Temm. Pl. Col.* i. pl. 204 (1823); *id. Beitr. Naturg. Bras.* iii. p. 148 (1830).

Cymindis cayennensis, *Cuv. Règne An.* i. p. 319 (1817); *Gray, Gen. B.* i. p. 25 (1845); *Bp. Consp.* i. p. 20 (1850); *Strickl. Orn. Syn.* p. 128 (1855); *Burm. Th. Bras.* ii. p. 107 (1856); *Schl. Mus. P.-B. Pernes*, p. 9 (1862); *Léot. Ois. Trinid.* p. 34 (1866); *Gray, Hand-l.* i. p. 27 (1869); *Pelz. Orn. Bras.* pp. 5, 398 (1871); *Scl. & Salv. Nomencl.* p. 122 (1873); *Schl. Revue Accipitr.* p. 136 (1873).

Asturina cyanopus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1261 (1823).

Astur cayennensis, *Spix, Av. Bras.* i. pl. 8 *c* (1824).

Buteo palliatus, *Less. Man. d'Orn.* i. p. 103 (1828).

Buteo cayennensis, *Less. Man. d'Orn.* i. p. 103 (1828).
Cymindis buteonides, *Less. Traité*, p. 55 (1831).
Odontriorchis cayennensis, *Kaup, Classif. Säug. u. Vög.* p. 124 (1844); *Cab. in Schomb. Reis. Guian.* iii. p. 736 (1848).

Young. Above brown, all the feathers margined with pale rufous brown, the sides of the face and neck much paler and slightly inclining to rufous, the nape mixed with white; quills brown, banded with black, the bars on the secondaries narrower and nearly obsolete, these latter tipped with pale rufous; under surface of wing greyish, barred with brown; upper tail-coverts dark brown, banded with pale rufous, the lateral ones white at the base, and banded also with white; tail pale brown, tipped with whity brown, crossed by four black bars, one basal and very narrow; under surface of body white, streaked with long shaft-stripes of dark brown, larger on the sides of the breast, and forming a broad mesial streak down the throat, as well as a clearly defined moustachial streak along the lower cheek-line; under wing-coverts white, slightly washed with rufous, especially on the outer margin.

Intermediate stage. This is very different from the young plumage, and seems to be attained by a partial, if not complete, moult.

Upper surface dark brown, a few of the wing-coverts and the inner secondaries margined with pale buff or rufous, the latter more broadly; entire head and neck all round as well as the whole of the underparts pure white (in the specimen described a few brown feathers remaining on the crown and behind the eye); quills and tail-feathers as in the young.

From this stage the fully adult dress is gained by a partial moult; but the grey shade on the head and neck appears to be the result of a change in the feather itself.

Adult female. Above glossy black, with a very slight greenish shade in some lights; quills slaty grey, conspicuously banded with black, the under surface of wing paler, white at base, ashy towards the apical half, broadly banded with black; upper tail-coverts black, barred with ashy grey; tail black, with three bands of ashy grey, and narrowly tipped with the same; head slaty grey, a little lighter on the sides of the face; entire under surface white; under wing-coverts black, the lower ones ashy grey, those on the lower part of the bend of the wing white; bill horn-black; feet yellow, claws horn-brown. Total length 24·5 inches, culmen 1·5, wing 14·5, tail 10·5, tarsus 1·8.

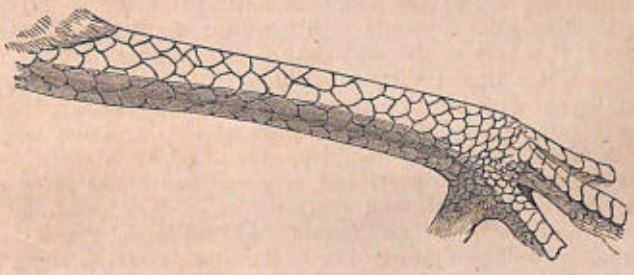
Adult male. Similar to the female, but smaller. Total length 18 inches, culmen 1·5, wing 13, tail 9, tarsus 1·6.

Hab. Central America; Guiana; Amazonia; Brazil.

a. ♀ ad. st.	South America.	Purchased.
b. ♂ ad. st.	South America.	Purchased.
c, d. Juv. st.	South America.	Purchased.
e. Ad. sk.	Pará.	R. Graham, Esq. [P.].
f. Juv. st.	Caracas.	Mr. Dyson [C.].
g. Juv. sk.	Demerara.	R. B. Sharpe, Esq. [P.].
h. Juv. st.	West Indies [?].	
i. Juv. sk.	Honduras.	G. Whitely, Esq. [C.].

62. GYPOICTINIA.

Gypoictinia, *Kaup, Contr. Orn.* 1850, p. 61 ..... Type. G. melanosterna.



Tarsus of *G. melanosterna*, from a sketch by Dr. Dubois.

Range. Southern and Western Australia.

1. Gypoictinia melanosterna.

Buteo melanosternon, *Gould, P. Z. S.* 1840, p. 162; *id. B. of Austr.* i. pl. 20 (1848); *Gray, Gen. B.* i. p. 12 (1849); *Strickl. Orn. Syn.* p. 34 (1855); *Gray, Hand-l. B.* i. p. 7 (1869); *Diggles, Orn. Austr.* pt. 21 (1870).
Gypoictinia melanosternon, *Kaup, Contr. Orn.* 1850, p. 61; *Bp. Consp.* i. p. 19 (1850); *Gould, Handb. B. Austr.* i. p. 47 (1865).
Gypoictinia leucosternon, *Kaup, Arch. f. Naturg.* 1850, p. 33.

Male. Above blackish, browner on the scapulars, lower back, and rump, the latter parts washed with rufous, some of the feathers lighter-edged; smaller wing-coverts ashy grey, each feather blackish in the centre, the rest of the wing-coverts black, the inner ones washed with rufous; quills black, the secondaries ashy grey towards their tips, primaries externally ashy white at base, the outer ones shaded with grey; primaries underneath white at base, black towards the tip, the secondaries greyish below; upper tail-coverts black, outer ones washed with rufous; tail ashy grey above, paler below, and inclining to white near the base; head crested, the fore part of crown black, the hinder part and the nape, as well as the sides of the neck, tawny rufous, some of the feathers black in the centre, producing a striped appearance; cheeks, ear-coverts, and entire under surface black, some of the flanks and abdominal feathers inclining to ashy; thighs and under tail-coverts rufous, with black shaft-lines; under wing-coverts blackish, the small ones varied with white, and some washed with rufous. Total length 24 inches, culmen 2·45, wing 19, tail 8·5, tarsus 2·65, middle toe 1·95. (*Mus. Lugd.*)

63. ELANUS.

Type.

Elanus, *Sav. Syst. Ois. d'Egypte*, p. 274 (1809) ..... E. cæruleus.



Leg of *Elanus cæruleus*, to show extent of tarsal feathering.

Range. The whole of Africa, including the countries bordering the African side of the Mediterranean; Indian peninsula; Indo-Malayan islands, Celebes, and Australia; Southern States of North America and the whole of Central and Southern America.

Key to the Species.

a. Axillaries white.
  a'. Under wing-coverts pure white, with no black patch.
    a''. Inner lining of wing entirely dark grey .... *cæruleus*, p. 336.
    b''. Inner webs of quills white towards base .... *hypoleucus*, p. 338.
  b'. Under wing-coverts with a distinct patch of black near outer margin of wing.
    c''. Black patch on under wing-coverts very large, the greater series dark ashy grey, like the wing-lining ..... *axillaris*, p. 338.
    d''. Black patch on under wing-coverts less and confined to a small patch on the outermost greater coverts; the rest of this series white, slightly tinged with grey..... *leucurus*, p. 339.
b. Axillaries and a broad bar across the under wing-coverts black ..... *scriptus*, p. 340.

1. Elanus cæruleus.

La petite Buse criarde, *Sonn. Voy. Ind.* ii. p. 184 (1782).
Falco cæruleus, *Desf. Mém. Acad. R. des Sciences*, 1787, p. 503, pl. 15.
Criard Falcon, *Lath. Gen. Syn. Suppl.* i. p. 38 (1787).
Falco vociferus, *Lath. Ind. Orn.* i. p. 46 (1790).
Le Blac, *Levaill. Ois. d'Afr.* i. p. 147, pls. 36, 37 (1799); *Sundev. Krit. om Levaill.* p. 27 (1858).
Falco melanopterus, *Daud. Traité*, ii. p. 152 (1800); *Schl. u. Susem. Vög. Eur.* Taf. 32 (1839); *Bree, B. Eur.* i. p. 108 (1866).
Falco clamosus, *Shaw, Gen. Zool.* vii. p. 200 (1809).
Elanus cæsius, *Savign. Syst. Ois. d'Egypte*, p. 274 (1809).

Elanus melanopterus, *Leach, Zool. Misc.* p. 5, pl. 122 (1817); *Gould, B. Eur.* i. pl. 31 (1837); *Gray, Gen. B.* i. p. 26 (1845); *Bp. Consp.* i. p. 22 (1850); *Hartl. Orn. W.-Afr.* p. 11 (1857); *Fritsch, Vög. Eur.* tab. 9. fig. 4 (1858); *Schl. Mus. P.-B.* Milvi, p. 6 (1862); *Jerd. B. Ind.* i. p. 112 (1862); *Layard, B. S. Afr.* p. 26 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 100 (1869); *Sharpe, P. Z. S.* 1869, p. 570; *Gray, Hand-l. B.* i. p. 28 (1869); *Hume, Rough Notes*, ii. p. 21 (1870); *Finsch u. Hartl. Vög. Ostafr.* p. 65 (1870); *Hume, Str. F.* i. pp. 21, 163 (1873); *Schl. Revue Accipitr.* p. 180 (1873).

Elanoides cæsius, *Bonn. et Vieill. Enc. Méth.* iii. p. 1206 (1823).

Buteo vociferus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1220 (1823).

Elanus minor, *Bp. Consp.* i. p. 22 (1850); *Gray, Hand-l. B.* i. p. 28 (1869).

Elanus cæruleus, *Strickl. Orn. Syn.* p. 137 (1855); *Loche, Expl. Sci. Algér., Ois.* i. p. 80 (1867); *Degl. et Gerbe, Orn. Eur.* i. p. 68 (1867); *Shelley, B. Egypt*, p. 198 (1872); *Gurney, in Anderss. B. Dam. Ld.* p. 20 (1872).

Adult. Above ashy grey, lighter on the head; forehead and a rather distinct eyebrow, lores, and sides of face white, the ear-coverts washed with ashy grey; feathers round the eye and eyelashes black; lesser and median wing-coverts and a little patch on the outer edge of the wing black, greater coverts ashy grey; primary coverts and quills ashy grey above and below, the latter white at the base, shafts black, smaller quills paler and inner secondaries darker, like the back; tail ashy white, the two centre feathers more ashy grey; under surface of body pure white, including the under wing-coverts and axillaries; cere, orbits, and feet yellow; bill black; iris carmine. Total length 13·2 inches, culmen 1·05, wing 10·6, tail 5·6, tarsus 1·4.

Young. Ashy brown, with broad buffy white tips to the feathers; tail also ashy brown, whiter on the inner web; wing-coverts black, as in adult, with indistinct buffy white tips; forehead and eyebrow white, with narrow rufous-brown streaks; sides of face and under parts silky white, the sides of the breast washed with rufous, narrow streaks of which also appear down the centre of the breast and on the flanks; iris light brown.

Hab. The whole of Africa, including the northern countries bordering the Mediterranean; South-eastern Europe: Indian peninsula, and Ceylon.

a, b. Ad. st.	Egypt.	W. B. D. Turnbull, Esq. [P.].
c. Ad. st.	Egypt.	John Bowring, Esq. [P.].
d. Ad. sk.	Egypt.	Capt. Shelley [P.].
e. Juv. sk.	R. Gambia.	Governor Rendall [P.].
f. Ad. sk.	R. Gambia.	Purchased.
g. Ad. sk.	Accra.	Capt. Shelley [P.].
g'. Ad. sk.	River Quanza.	J. J. Monteiro, Esq. [C.].
h. Ad. st.	Zambesi.	Dr. Kirk [C.].
i. ♂ ad. sk.	Transvaal.	R. B. Sharpe, Esq. [P.].
k. Ad. sk.	Transvaal.	A. Foresman, Esq. [P.].
l. Ad. sk.	Natal.	Purchased.
m. ♂ pull. st.	Elephant River.	M. Verreaux [C.].
n. Pull. st.	South Africa.	Sir A. Smith [C.].
o. Ad. st.	South Africa.	Earl of Derby [P.].

p. Ad. sk.	South Africa.	J. Rocke, Esq. [P.].
q, *r*. Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
s. Skeleton.		Purchased.
t. Skeleton.		B. H. Hodgson, Esq. [P.].
u. Sternum.		B. H. Hodgson, Esq. [P.].

2. Elanus hypoleucus.

Falco melanopterus, *Horsf. Tr. Linn. Soc.* xiii. p. 137 (1822).
Elanus hypoleucus, *Gould, P. Z. S.* 1859, p. 127; *id. B. Asia*, pt. xii. (1860); *Wall. Ibis*, 1868, p. 17; *Gray, Hand-l.* i. p. 28 (1869); *Wald. Tr. Z. S.* viii. p. 36 (1872); *Schl. Mus. P.-B. Revue Accipitr.* p. 130 (1873).
Elanus intermedius, *Schl. Mus. P.-B.* Milvi, p. 7 (1862); *id. Vog. Nederl. Ind.* pp. 31, 68, pl. 24. figs. 2, 3 (1866); *Gray, Hand-l.* i. p. 28 (1869).

Female, not quite adult (type of species). Above ashy grey, the scapulars and quills plainly tipped with white, and washed with rusty brown, especially on the interscapulary region; crown white, the hinder part inclining to ashy grey, plainly streaked with rusty brown; wing ashy grey, the primaries darker, all the quills, as well as the coverts, tipped with white, the lesser and median coverts black, forming a conspicuous shoulder-patch; tail white, shaded with ashy towards the tip, the two centre feathers entirely ashy grey; under surface of body entirely white, including the under wing-coverts; under surface of quills deep ashy grey towards the tip, whitish at base; cere yellow; bill black; feet yellow; iris red. Total length 14·5 inches, culmen 1·1, wing 12, tail 6·2, tarsus 1·5.

Hab. Philippine Islands, Java, Borneo, Celebes.

a. ♀ vix ad. sk.	Makassar.	A. R. Wallace, Esq. [C.]. Type of species.
b. Ad. sk.	Java.	J. Inskipp, Esq.
c. Ad. sk.	Java.	Hon. E.-India Co. [P.].
d. Ad. sk.	Philippines.	W. B. Pryer, Esq. [P.].
e. Skeleton.		Purchased.

3. Elanus axillaris.

Axillary Falcon, *Lath. Gen. Syn. Suppl.* ii. p. 43 (1801).
Falco axillaris, *Lath. Ind. Orn. Suppl.* i. p. ix (1801).
Circus axillaris, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 453 (1816).
Elanus melanopterus, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 185 (1827).
Elanus notatus, *Gould, P. Z. S.* 1837, p. 141; *id. Syn. B. Austr.* pt. 4 (1838).
Elanus axillaris, *Gray, Ann. N. H.* xi. p. 189 (1843); *id. Gen. B.* i. p. 26, pl. 9. fig. 5 (1845); *Gould, B. Austr.* i. pl. 23 (1848); *Bp. Consp.* i. p. 22 (1850); *Strickl. Orn. Syn.* p. 139 (1855); *Schl. Mus. P.-B.* Milvi, p. 8 (1862); *Gould, Handb. B. Austr.* i. p. 53 (1865); *Diggl. Orn. Austr.* pt. iii. (1866); *Gray, Hand-l. B.* i. p. 28 (1869).

Adult. Above light silvery grey, the tail whitish ashy, and the

wing-coverts black, as in the other species; quills grey, much darker, almost blackish below; fore part of the head, eyebrow, sides of the face, and entire underparts pure white; feathers round the eye black, especially in front of it; under wing-coverts and axillaries pure white, excepting the outer lower coverts, which are black, the lowest shading into greyish black; cere pale yellow; bill black; feet pale yellow; iris reddish orange. Total length 13 inches, culmen 1, wing 11·5, tail 6·2, tarsus 1·45.

Young. Similar to the adult, but more ashy brown, and having the feathers of the back, as well as the quills and tail, tipped with white; fore part of head and a broad eyebrow white, with narrow dusky brown shaft-streaks; under surface white, streaked with rufous brown, the sides of the breast rather rufescent.

Hab. Australia.

a. Ad. st.	S. Australia.	Sir George Grey [P.].
b. Juv. st.	Australia.	Lady Carington [P.].
c. Ad. sk.	Australia.	Lady Carington [P.].
d. Ad. sk.	Port Albany.	Purchased.
e. Ad. sk.	Interior of Australia.	Purchased.
f. Juv. sk.	Queensland.	Purchased.
g. Ad. sk.	Moreton Bay.	J. Gould, Esq. [P.].

4. Elanus leucurus.

Alcon blanco, *Azara, Apunt.* i. p. 165 (1802); *Hartl. Ind. Azara*, p. 3 (1848).

Milvus leucurus, *Vieill. N. Dict. d'Hist. Nat.* xx. p. 563 (1818); *D'Orb. Voy. Amér. Mérid., Ois.* p. 98 (1847).

Elanoides leucurus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1205 (1823).

Falco melanopterus, *Bp. Journ. Philad. Acad.* v. p. 28 (1825).

Falco dispar, *Temm. Pl. Col.* i. pl. 319 (1825); *Bp. Am. Orn.* ii. p. 18, pl. 11. fig. 1 (1828); *Audub. B. Am.* pls. 351, 352, *et Orn. Biogr.* iv. p. 367 (1838).

Milvus dispar, *Less. Man. d'Orn.* i. p. 99 (1828).

Elanus dispar, *Cuv. Règne An.* i. p. 334 (1829).

Elanus leucurus, *Bp. Comp. List B. Eur. & N. Am.* p. 4 (1838); *Gray, Gen. B.* i. p. 26 (1845); *Cab. in Schomb. Reis. Guian.* iii. p. 735 (1848); *Bp. Consp.* i. p. 22 (1850); *Cass. B. Calif. & Texas*, p. 106 (1855); *Strickl. Orn. Syn.* p. 138 (1855); *Burm. Th. Bras.* ii. p. 112 (1856); *Cass. in Baird's B. N. Am.* p. 36 (1860); *Schl. Mus. P.-B.* Milvi, p. 8 (1862); *Gray, Hand-l.* i. p. 28 (1869); *Pelz. Orn. Bras.* pp. 6, 398 (1871); *Cooper, B. Calif. ed. Baird*, p. 489 (1872); *Coues, Key N. Am. B.* p. 211 (1872); *Scl. & Salv. Nomencl.* p. 120 (1873); *Schl. Revue Accipitr.* p. 130 (1873).

Adult. Above pale bluish grey, the head lighter, silvery grey, the forehead, eyebrow, sides of the face, and underparts pure white; least and median wing-coverts black, but not forming so large a black shoulder as in the other species; a little patch on the outside of the wing black; rest of the wing-coverts and inner secondaries pale bluish grey like the back; primaries brown, greyish externally; tail pure white, the two centre feathers ashy grey; under wing-coverts and axillaries entirely white, excepting the lowest, which slightly incline to ashy grey; a small patch of black on the outer feathers of

the greater under wing-coverts; bill black; feet orange; iris orange-red. Total length 14·5 inches, culmen 1, wing 11·95, tail 7, tarsus 1·4.

Young. As in the other species, mixed with brown above, the quills and tail-feathers tipped with white; under surface streaked with pale rufous.

Hab. Southern States of North America, throughout the whole of Central and Southern America, as far as Chili.

a. Ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].
b. Ad. sk.	Bahia.	Dr. Wucherer [C.].
c. Ad. st.	Bahia.	Sudbury Museum.
d. Ad. st.	Chili.	Purchased.
e. ♂ imm. sk.	Chili.	E. C. Reed, Esq. [C.].
f. Ad. sk.	California.	Mr. Hardy [C.].
g. Skeleton.		Purchased.

5. Elanus scriptus.

Elanus scriptus, *Gould, P. Z. S.* 1842, p. 80; *Gray, Gen. B.* i. p. 26 (1845); *Gould, B. Austr.* i. pl. 24 (1848); *Bp. Consp.* i. p. 26 (1850); *Gould, Handb. B. Austr.* i. p. 55 (1865); *Gray, Hand-l. B.* i. p. 28 (1869).

Adult. Above delicate ashy white, fore part of head, sides of face, carpal bend of wing, and entire underparts white; feathers in front of the eye and a narrow ring surrounding it black; greater and median coverts and a patch on the outside of the wing black, greater coverts greyish ash; quills brown, washed externally with grey, the under surface whiter, especially of the secondaries, which are also ashy white above like the rest of the back; tail ashy white, paler on the inner web; under wing-coverts and axillaries black, except the lower ones, which are greyish white, and those round the bend of the wing, which are pure white; cere yellow; bill black; feet yellow; iris orange. Total length 12 inches, culmen 1·1, wing 11·5, tail 6·5, tarsus 1·5.

Hab. Australia.

a. Ad. st.	Port Albany.	Purchased.
b. Ad. sk.	Champion Bay, W. Australia.	Purchased.
c, d, e. Ad. sk.	Interior of Australia.	Capt. Sturt [P.].

64. GAMPSONYX.

	Type.
Gampsonyx, *Vigors, Zool. Journ.* ii. p. 69 (1825)	G. swainsoni.
Chondrohierax, *Less.*	

Range. Trinidad, Guiana, and Brazil.

1. Gampsonyx swainsoni.

Gamponyx swainsoni, *Vigors, Zool. Journ.* ii. p. 69 (1825); *Gray, Gen. B.* i. p. 26, pl. 9. fig. 4 (1845); *Cab. in Schomb. Reis. Guian.* iii. p. 735 (1848); *Bp. Consp.* i. p. 21 (1850); *Strickl. Orn. Syn.* p. 137 (1855); *Burm. Th. Bras.* ii. p. 114 (1856); *Léot. Ois. Trinid.* p. 41

(1866); *Gray, Hand-l. B.* i. p. 28 (1869); *Pelz. Orn. Bras.* pp. 6, 398 (1871); *Scl. & Salv. Nomencl.* p. 121 (1873).
Nertus rufifrons, *Boie, Isis*, 1828, p. 314.
Falco rufifrons, *Max. Beitr. Orn. Bras.* iii. p. 123 (1830).
Elanus torquatus, *Less. Traité*, p. 72 (1831); *Pucher. Rev. et Mag. de Zool.* 1850, p. 14.
Chondrohierax rufifrons, *Less.*
Elanus swainsoni, *Schl. Mus. P.-B.* Milvi, p. 9 (1862).

Adult. Above leaden grey, the quills blackish, the secondaries broadly tipped with white; tail above leaden black, underneath much paler, inclining to white on the inner web; forehead and sides of the face saffron-yellow; sides of the neck and a collar encircling the latter white, below which is a more or less conspicuous interscapulary patch of vinous red; under surface of the body entirely white, with a small patch of leaden black on each side of the upper breast; the thighs very pale rufous, as also the inner under wing-coverts; all the rest of the wing-coverts and the inner face of the quills white; bill horn-black; feet yellow, nails black. Total length 8 inches, culmen 0·65, wing 5·8, tail 3·9, tarsus 1·15.

Adult female. Similar to the male, but larger. Total length 10·6 inches, culmen 0·7, wing 7, tail 4·6, tarsus 1·2.

Hab. The same as that of the genus.

a.	Ad. st.	Brazil.	Major-Gen. Hardwicke [P.].
b.	Ad. sk.	Brazil.	
c.	Ad. sk.	Bahia.	Dr. Wucherer [C.].
d.	Ad. sk.	Guayaquil.	Capt. Kellett and Lieut. Wood [P.].
e.	Ad. sk.	Trinidad.	Purchased.

65. HENICOPERNIS.

Type.
Henicopernis, *Gray, P. Z. S.* 1859, p. 153 ..... H. longicauda.

Range. New Guinea, Aru Islands, Waigiou, Mysol.

1. Henicopernis longicauda.

Falco longicaudus, *Garnot, Voy. Coq.* i. p. 588, pl. 10 (1826).
Dædalion longicauda, *Less. Traité*, p. 67 (1831).
Astur longicaudus, *Gray, Gen. B.* i. p. 27 (1849); *Strickl. Orn. Syn.* p. 120 (1855).
Henicopernis longicauda, *Gray, P. Z. S.* 1859, p. 153; *Wall. Ibis*, 1868, p. 17.
Pernis longicauda, *Schl. Nederl. Tijdschr.* iii. p. 327 (1866); *Gray, Hand-l. B.* i. p. 26 (1869); *Schl. Mus. P.-B. Revue Accipitr.* p. 132 (1873).

Adult female. Above ashy brown, the feathers all broadly barred with black, excepting the lower back and rump, which is more uniform; the head and hind neck much varied with white, and longitudinally marked with blackish brown, the sides of the face more narrowly streaked; quills and tail ashy brown, paler at tips, and

crossed with broad bars of black, five in number on the latter, very distinct on the under surface of both, where the interspaces are ashy white; under surface of body creamy white, with broad longitudinal streaks of dark brown on the throat and breast, narrowing towards the lower breast, and absent on the under tail-coverts; under wing-coverts coloured exactly like the breast, the greater ones ashy white, strongly barred with blackish; cere bluish white; bill nearly white, tip blackish; feet pale lemon-yellow or white; iris orange-yellow. Total length 22 inches, culmen 1·35, wing 14·4, tail 11·5, tarsus 2·05, middle toe 1·4.

Adult male. Very little smaller than the female. Total length 19·5 inches, wing 13·8, tail 11·3, tarsus 1·9.

Hab. The same as that of the genus.

a. ♂ ad. sk. Waigiou. A. R. Wallace, Esq. [C.].

66. MACHÆRHAMPHUS.

	Type.
Machæramphus, *Westerm. Bijd. tot d. Dierk.* i. p. 29, pl. 12 (1848)	M. alcinus.
Stringonyx, *Gurney, P. Z. S.* 1865, p. 618	M. anderssoni.



Bill of *Machærhamphus anderssoni.*

Range. Malacca; S.W. Africa, Damara Land; Madagascar.

Key to the Species.

a. Abdomen brown; crest very long ..... *alcinus*, p. 342.
b. Abdomen white; crest smaller ..... *anderssoni*, p. 343.

1. Machærhamphus alcinus.

Machærhamphus alcinus, *Westerm. Bijd. tot d. Dierk.* i. p. 29, pl. 12 (1848); *Bp. Rev. et Mag.* 1854, p. 535; *Strickl. Orn. Syn.* p. 135 (1855); *Schl. Handl. Dierk.* i. p. 168, pl. 1. fig. 6 (1857); *id. Mus. P.-B.* Pernes, p. 7 (1862); *Sharpe, P. Z. S.* 1871, p. 502.

Adult (type of species). Everywhere black, with a chocolate-brown shade; an ill-defined spot above and below the eye white; quills and tail also black, the shafts dull white underneath; throat

and centre of chest white, the chin and a broad streak down the throat, as well as the sides of the latter and a few spots on the lower part, black. Total length 18·5 inches, occipital crest 2·65, culmen 1·35, wing 14·2, tail 7·8, tarsus 2·5. (*Mus. Lugd.*)

Hab. Malacca.

2. Machærhamphus anderssoni.

Stringonyx anderssoni, *Gurney, P. Z. S.* 1865, p. 618.

Machærhamphus alcinus (*nec Westerm.*), *Bartlett, P. Z. S.* 1866, p. 324; *Gurney, Tr. Z. S.* vi. pl. 29 (1869); *Gray, Hand-l. B.* i. p. 26 (1869).

Machærhamphus anderssoni, *Sharpe, P. Z. S.* 1871, p. 501; *Gurney in Anderss. B. Damara Ld.* p. 23 (1872).

Adult. Upper surface chocolate-brown, the head very much crested, the nape and some of the feathers of the upper parts somewhat varied with white, where the bases to the feathers show through; above and below the eye a broad white line; lores inclining to white behind the nostril; cheeks slightly mottled with whitish; below the gape a line of dark brown feathers, forming a kind of moustache; quills dark brown, banded with white below, some of the inner secondaries with concealed white bars on the upper surface; tail chocolate-brown, narrowly tipped with whitish, with bars of paler brown on the upper surface, white on the inner web of outer tail-feathers and under surface of all; throat and chest white, with a faintly indicated streak of dark brown on the throat, and many streaks of dark brown on the breast, the lower part of which, as well as the flanks and thigh-feathers, are entirely brown, slightly mottled with white; lower part of abdomen and under tail-coverts white, the latter tipped with brown; under wing-coverts brown, crossed and tipped with white; bill and gape bluish lead-colour, black at tip of the former; tarsi and toes bluish white; iris bright lemon-yellow. Total length 16·8 inches, culmen 1, wing 13·9, tail 7·3, tarsus 2·4.

Hab. Damara Land in S.W. Africa, and Madagascar.

a. ♂ ad. st.	Damara Land.	C. J. Andersson, Esq. [C.]. *Cf.* Anderss. B. Dam. Ld. (*l. c.*).
b. Ad. sk.	Madagascar.	Mr. Lormier [C.].

67. PERNIS*.

	Type.
Pernis, *Cuv. Règne An.* i. p. 322 (1817)	P. apivorus.
Pterochalinus, *Gloger, Handb. Naturg.* p. 215	P. apivorus.

Range. Europe and Northern Asia, extending to Japan and North China; the whole of India, with Ceylon; Java and Sumatra; the whole of Africa, with Madagascar.

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* I have not been able to identify or describe *Pernis brachypterus* of Blyth from Mergui, quoted by Mr. G. R. Gray (Hand-l. i. p. 26).



Bill of *Pernis apivorus*.

Key to the Species.

a. Chest *white*, with blackish brown streaks or spots.
  a'. Axillaries white, barred with brown; outer under wing-coverts brown, forming a large patch ..... *apivorus* ad., p. 344.
  b'. Axillaries white, tinged or faintly barred with rufous buff ..... *ptilonorhynchus* imm., p. 347.
b. Chest *brown*, varying from light or dark fulvous to blackish or rufous brown.
  c'. Under wing-coverts transversely barred with black and white, like the abdomen..... *celebensis* ad., p. 349.
  d'. Under wing-coverts not transversely barred.
    a''. Larger, and having a crest from 1·4 to 3·7 inches long ..... *ptilonorhynchus* juv., p. 347.
    b''. Rather smaller; no distinct crest.. *apivorus* juv., p. 344.
c. Chest black ..... *apivorus* var., p. 344.

1. Pernis apivorus.

Honey Buzzard, *Albin, N. H. Birds*, i. pl. 2 (1738).
La Bondrée, *Briss. Orn.* i. p. 410 (1760); *Buff. Pl. Enl.* i. pl. 420.
Falco apivorus, *Linn. S. N.* i. p. 130 (1766); *Naum. Vög. Deutschl.* i. p. 367, Taf. 35, 36 (1822); *Werner, Atlas*, Rapaces, pl. 26 (1827); *Schl. u. Susem. Vög. Eur.* Taf. 35 (1839); *Yarr. Brit. B.* i. p. 85 (1841).
Le Tachard, *Levaill. Ois. d'Afr.* i. pl. 19 (1799); *Sundev. Krit. om Levaill.* p. 25 (1858).
Falco poliorhynchus, *Bechst. Orn. Taschenb.* i. p. 19 (1802).
Accipiter lacertarius, *Pall. Zoogr. Rosso-Asiat.* i. p. 359 (1811).
Buteo apivorus, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 479 (1816).
Aquila variabilis, *Koch, Syst. baier. Zool.* p. 115 (1816).
Pernis apivorus, *Cuv. Règne An.* i. p. 322 (1817); *Gould, B. Eur.* i. pl. 16 (1837); *Macgill. Brit. B.* iii. p. 254 (1840); *Gray, Gen. B.* i. p. 24, pl. 9. fig. 3 (1845); *Bp. Consp.* i. p. 20 (1850); *Schl. Vog. Nederl. Ind.* pls. 37, 38, 39 (1854); *Strickl. Orn. Syn.* p. 129 (1855); *Hartl. Orn. W.-Afr.* p. 10 (1857); *Fritsch, Vög. Eur.* tab. 5. figs. 6, 7 (1858); *Schl. Mus. P.-B.* Pernes, p. 1 (1862); *Newt. Ooth. Wolley.* p. 118 (1864); *Gould, B. Gr. Brit.* pt. x. (1866); *Sundev. Sv. Fogl.* p. 237, pl. xxix. figs. 2, 3 (1867);

Layard, B. S. Afr. p. 24 (1867); *Degl. et Gerbe, Orn. Eur.* i. p. 61 (1867); *Loche, Expl. Sci. Algér., Ois.* i. p. 46 (1867); *Gray, Hand-l. B.* i. p. 25 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 97 (1869); *Salvad. Faun. Ital. Ucc.* p. 12 (1871); *Newt. ed. Yarr. Brit. B.* i. p. 121 (1871); *Shelley, B. Egypt*, p. 199 (1872).

Buteo tachardus, *Bonn. et Vieill. Enc. Méth.* iii. p. 224 (1823); *Gurney, Ibis*, 1862, p. 361; *Schl. Faun. Madag.* p. x (1866).

Pernis communis, *Less. Traité*, p. 75 (1831).

Pernis apium, *Brehm, Vög. Deutschl.* p. 46 (1831).

Pernis vesparum, *Brehm, Vög. Deutschl.* p. 47 (1831).

Pernis platyura, *Brehm, Naum.* 1855, p. 268.

Pernis tachardus, *Gray, Hand-l. B.* i. p. 26 (1869).

Young * (just out of the nest, the sides of the head still pen-feathered). Above chocolate-brown, slightly more rufous on the hind neck, and much paler on the greater wing-coverts; shafts of all the feathers of upper surface blackish, and distinctly indicated; crown of head rather dark brown, the feathers over the eye and the sides of face inclining to pale tawny rufous, and rather scaly in appearance; under surface of body dull rufous brown, with very distinct black shaft-stripes, the under tail-coverts paler and more fulvous at base, as are also some of the breast-feathers; under wing-coverts brown, the outermost slightly washed with rufous; upper wing-coverts with distinct rufous margins; upper tail-coverts pale brown, slightly washed with rufous buff, especially near the base; quills blackish brown, secondaries paler and more chocolate, and tipped with whitish; under surface of quills brownish, white at base of inner web; tail ashy brown, broadly tipped with buffy white, with two distinct chocolate-brown bars, one across the middle of the tail and one subterminal, and indications of about six or seven more cross bars, but all of them very indistinct and more or less faintly characterized and separated by very narrow interspaces of ashy brown; iris hazel. (*Mus. Lugd.* No. 10 of Schlegel's Cat.)

Obs. No. 9 of the Leiden Museum catalogue is also a young bird of the year, and is very Kite-like in appearance, by reason of the buff points to the feathers of the head and hind neck; feathers round the eye and over the ear-coverts black; general colour of upper surface brown, as in the foregoing example, but the greater wing-coverts more ashy brown, and tipped with whitish; secondaries also tipped with white, and marked largely on the inner web; otherwise the wings and tail as in the foregoing; under surface also as in No. 10, but a little darker on the chest, where the shaft-stripes are broader; forehead and chin whitish.

Obs. A young female from Syria is a little more advanced than the last, and has lost almost all trace of the buff points to the head-feathers, excepting a few remains on the hind neck; the forehead is white, but the absence of buff over the eye does away with the apparent eyebrow of the preceding bird; under surface a little

* The series of Honey-Buzzards in the national collection not being quite perfect, I have compiled the description of the species from the more complete one in the Leiden Museum.

paler than the foregoing, and the throat whitish, the feathers slightly rufescent towards their tips, and having hair-like black shafts, widening slightly towards the ends, and a little more distinct on the malar line; wings and tail much as in the foregoing example, but the wing-coverts not distinctly tipped with white, and the bars on tail almost entirely absent.

Obs. Two specimens, not quite adult, from the Gold Coast, give an idea of the changes which take place while the young bird is away in its winter quarters. They are a little older than the Syrian bird, but have not such a uniform tail, showing, probably, that whereas the latter has remains of the cross mottling only on the under surface of the tail, these African birds have still considerable remains on the upper surface, and yet as regards other points they are further advanced in plumage *. In general these birds resemble the foregoing plumage, but are a little more uniform above, and show scarcely any rufescent margins to the wing-coverts, the secondaries also being less distinctly tipped. The white forehead is less plain in one bird than in the other; but both have the paler throat and narrow shaft-lines of the preceding plumage. The chief difference lies in the fact that they show that the next important change of the young bird is on the lower parts, which become broadly barred with white.

The Syrian bird shows no trace of bars, but is uniform underneath; the bases of the feathers, however, are whitish, and slight mottlings of white are apparent for some part of their extent. The passage from this dress to the fully adult plumage next to be described is apparently gained by a partial moult as well as by a gradual change of colour, the latter progressing, certainly as regards the under surface, until the under surface becomes white with remains of the brown bars. The tail is changed by the time the grey face appears.

Adult male. Above brown, the feathers slightly paler on their margins, with a distinct black shaft-stripe, the nape-feathers conspicuously white at the base; greater coverts and quills much darker at tip, externally shaded with greyish, and having two basal bars of dark brown, more conspicuous below, where the feathers are whitish, with some slight greyish frecklings on the inner web, much more pronounced on the secondaries: upper tail-coverts rather paler brown than the back, with obsolete white tips, and rather broad bars of white near the base; tail pale brown, narrowly tipped with whitish, with which also the immediate base is mottled, the feathers crossed with three bands—one subbasal and rather pale brown, one median, and another subterminal, both the latter dark brown; head

* This either shows that the present species does not follow the exact sequence of change of plumage in the case of each individual (*cf.* Sharpe, P. Z. S. 1873, p. 416), or else the more uniform tail of the Syrian bird is owing to the inherent melanism of the species. Certainly the melanism of many specimens which I have seen affected young birds as well as old; and it is by no means a sign of age in Kites. Witness the specimen of *Leptodon uncinatus* in the Museum, which still retains signs of immaturity, but is uniformly fuliginous.

greyish all over, this colour extending somewhat on to the sides of the neck; under surface of body white, narrowly streaked with brown, widening out into a spade-shaped spot on the sides of the breast; the flanks and abdomen also slightly spotted with brown; under wing-coverts brown, all the outermost entirely so, the inner ones and axillaries white, with a few brown spots or bars, the lower series white, broadly barred across with blackish; cere grey; bill black; feet yellow, claws black; iris straw-coloured. Total length 25·5 inches, culmen 1·4, wing 17·2, tail 11, tarsus 2.

Hab. Europe generally, migrating to Africa and Madagascar in winter.

a. Ad. st.	Europe.	Purchased.
b. Var. melan. st.	Europe.	J. Gould, Esq.
c. ♀ st.	Yorkshire.	
d. ♀ st.	Cornwall.	
e. ♂ st.	Great Britain.	
f. ♂ ad. sk.	Thuringia, Aug. 1873.	R. B. Sharpe, Esq. [P.].
g. Pull. sk.	Westphalia.	Baron A. von Hügel [P.].
h. Ad. sk.	Halle, A. S. Prussia.	Baron A. von Hügel [P.].
i. Ad. sk.	Galicia.	Baron A. von Hügel [P.].
k. Juv. st.	Madagascar.	Sir A. Smith [C.].
l. Skeleton.		Purchased.
m. Sternum.		Dr. Günther.
n. Skull.		W. Yarrell, Esq.
o. Skull.		

2. Pernis ptilonorhynchus.

Falco ptilorhynchus, *Temm. Pl. Col.* i. pl. 44 (1823).
Pernis ptilonorhynchus, *Steph. Gen. Zool.* xiii. pl. 35 (1826); *Holdsw. P. Z. S.* 1872, p. 414.
Pernis cristata, *Cuv. Règne An.* i. p. 335 (1829); *Gray, Gen. B.* i. p. 24 (1845); *Bp. Consp. Av.* i. p. 20 (1850); *Strickl. Orn. Syn.* p. 131 (1855); *Jerd. B. Ind.* i. p. 108 (1862); *Wall. Ibis*, 1868, p. 17; *Gray, Hand-l. B.* i. p. 26 (1869); *Hume, Rough Notes*, ii. p. 330 (1870); *Schl. Mus. P.-B. Revue Accipitr.* p. 132 (1873).
Pernis torquata, *Less. Traité*, p. 76 (1831); *Gray, Gen. B.* i. p. 24 (1845); *Des Murs, Iconogr. Orn.* pl. 13 (1845); *Pucher. Rev. et Mag. de Zool.* 1850, p. 212.
Pernis ruficollis, *Less. l. c.* p. 77 (1831); *Gray, l. c.* p. 24 (1845); *Des Murs, l. c.* pl. 14 (1845); *Pucher. l. c.* p. 212.
Pernis albigularis, *Less. l. c.* p. 77 (1831); *Gray, l. c.* p. 24 (1845); *Pucher. l. c.* p. 212.
Pernis maculosa, *Less. in Bélang. Voy. Ind.* p. 223 (1834).
Pernis ellioti, *James. Tr. Wern. Soc.* vii. p. 493 (1836).
Pernis bharatensis, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Pernis apivorus, *Temm. & Schl. Faun. Jap.* Aves, p. 24 (1850); *Swinh. P. Z. S.* 1871, p. 341.

Young. Above brown, the feathers white at base and darker brown at tips, the white bases showing very conspicuously on the head and hind neck, the feathers of which are bordered and tipped with fulvous, and have distinct subterminal spots of black; feathers

on forehead and sides of face scaly, the lores greyish, the cheeks with narrow black shaft-lines, widening towards the tip; entire under surface of body white, with distinct longitudinal shaft-lines of blackish brown, broader on lower throat and sides of the latter, and thus forming an irregular streak on these parts; under wing-coverts pure white, the outermost greater coverts greyish brown towards their tips; upper wing-coverts brown, like the back, the lesser ones margined with fulvous, the median and greater series tipped with white and barred with darker brown; quills dark brown, the secondaries paler and more broadly tipped with whity brown than the primaries; all the quills barred with darker brown, the inner secondaries with conterminous narrow bars of white, the interspaces ashy white below, showing the cross bars in strong relief; upper tail-coverts brown, with distinct white bars of unequal width; tail brown, the base white, broken up into several bars, the tail crossed with five broad bands of darker brown, all the interspaces much mottled with brown, the penultimate one broader than the others; feet dingy yellowish white; iris brownish yellow.

Intermediate stage. Entire head and neck all round, as well as the whole of the under surface, tawny brown, with distinct black shaft-streaks, the breast-feathers white at base, those of the abdomen and under and upper tail-coverts with broad terminal margins of whitish; feathers round the eye and lores slightly greyish, and the hinder cheeks marked with black, forming an ill-defined lateral throat-stripe; an occipital crest 1·5 inch long; general colour of back and wing-coverts purplish brown, deeper than the head, all the feathers margined with paler brown; primaries dark brown, with blackish brown cross bands, plainer and more numerous on the secondaries, which are paler brown, the under surface of the wing whitish on inner web, the bars much broken up and irregular; tail ashy brown, tipped with whity brown, and crossed with three distinct bars of blackish brown, all the interspaces likewise mottled with bars of pale brown and dull whity brown.

Obs. Great variation exists in the tone of this intervening stage, the colour varying from tawny to fulvous brown, while the extent of black stripes on the throat is also a very variable character.

Adult. General colour above and below rich chocolate-brown, with indistinct black shaft-stripes, the crown and sides of head, as well as the throat, ashy grey, the lower throat blackish; quills and tail much as in foregoing description, but the interspaces of each more or less shaded with ashy, and the mottlings on the latter very much reduced; cere black, greenish at nostrils and towards commissure; gape and greater portion of lower mandible pale blue, rest of bill black, with a small dingy greenish patch on each side of lower mandible towards base; feet beeswax-yellow; iris brilliant yellow. Total length 24 inches, culmen 1·65, wing 16·5, tail 11·5, tarsus 2·1.

Hab. Indian peninsula, Ceylon, Burmah, Malay peninsula, Java, Sumatra, Banka.

a. Juv. sk.	India.	
b. Juv. st.	Himalaya Mountains.	Purchased.
c. Ad. sk.	Darjiling.	R. B. Sharpe, Esq. [P.].
d. Juv. sk.	Deccan.	J. Gould, Esq. [P.].
e. Ad. sk.	Deccan.	J. Gould, Esq. [P.].
f. Juv. sk.	Madras.	Dr. Jerdon [P.].
g. Juv. sk.	Madras.	Sir W. Elliot [P.].
h. Ad. sk.	Madras.	Sir W. Elliot [P.].
i. Ad. st.	Behar.	B. H. Hodgson, Esq. [P.].
k. Juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
l, m. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
n, o. Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
p, q. Juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
r. Skeleton.		Zoological Society.

Obs. The young of *P. ptilonorhynchus*, if they happen to be crestless, are indistinguishable in plumage from the immature of *P. apivorus*; and I have seen young birds from India which I could not separate from European examples. A natural inference is that these may not be *P. ptilonorhynchus* but *P. apivorus*, the young of which may migrate to India in the winter. The difficulty in distinguishing young birds is most appreciable when the Eastern specimens are without a crest, this latter character being most strongly developed in birds from Java. Examples from the latter locality in the Leiden Museum appeared to be inseparable from Indian birds, but had enormous crests. My notes on the specimens in the above museum are as follows:—"A young bird (No. 6 of Schlegel's catalogue) is in tawny plumage, like a bird from Bengal, but entirely wants the crest, and is rather paler and more fulvous; the tail is ashy brown, with fourteen or fifteen bars of darker brown to be distinguished. Another fine bird from Java is changing from the tawny plumage to that of the adult with the grey face. It has a regular line running down the cheeks and encircling the throat, which has also a broad central streak; the under surface has white cross bars, commencing in the usual way; a black crest 3·7 inches long; tail only just shooting; wing 17·8."

3. Pernis celebensis.

Pernis cristatus, *Schl. Vog. Nederl. Ind. Valkv.* pl. 26. fig. 4 (1866).
Pernis cristatus, var. celebensis, *Wall. Ibis*, 1868, p. 17.
Pernis ptilorhyncha, *Wald. Tr. Z. S.* viii. p. 36 (1872).
Pernis celebensis, *Wald. Tr. Z. S.* viii. p. 111 (1872).

Adult. Above chocolate-brown, the head blackish, the feathers of the hind neck margined with rufous, giving a striped appearance; lores and feathers round the eye grey; throat white, with distinct black shaft-stripes; a moustachial streak, as well as a central streak down the throat, black; chest clear tawny rufous, with broad central streaks of black; rest of under surface white, each feather with four or five broad bars of blackish brown, very distinct on the tarsal plumes; under wing-coverts white, with a few streaks of black and remains of rufous bars, the feathers round the carpal joint barred

with black like the breast; quills dark brown, with indistinct bars of deeper brown, more distinct underneath, the secondaries paler and tipped with whitish; tail brown, with five bars of darker brown and remains of other bars on the interspaces, the tip whitish. Total length 21·5 inches, culmen 1·5, wing 14·7, tail 10·5, tarsus 2, middle toe 1·75. (*Mus. Lugd.*)

Hab. Celebes.

a. Ad. sk.	Celebes.	J. Gould, Esq. [P.].

Subfamily VII. FALCONINÆ.

Outer toe only connected to middle toe by interdigital membrane; tibia much longer than tarsus, but the latter not contained twice in the former; hinder aspect of tarsus reticulate; bill distinctly toothed.

Key to the genera.

a. Nostrils oblique or linear ovals, with distinct overhanging membrane.
  a'. Bill with two distinct teeth; wings not reaching to tail.
    a''. A distinct occipital crest; no tubercle in nostril ..... 68. Baza, p. 351.
    b''. No occipital crest; a distinct central tubercle to nostril ..... 69. Harpagus, p. 360.
  b'. Bill with only one tooth; wing reaching to tip of tail ..... 70. Ictinia, p. 364.
b. Nostrils perpendicular ovals, with no overhanging membrane or central tubercle.
  c'. Bare part of tarsus in front less than outer toe. 71. Microhierax, p. 366.
  d'. Bare part of tarsus greater than outer toe and claw ..... 72. Poliohierax, p. 369.
e. Nostrils round, with distinct central tubercle.
  e'. Outer toe (without claw) longer than inner toe (without claw).
    e''. Distance between tips of primaries and tips of secondaries less than half length of tail.
      e'''. Middle toe very short; the culmen (without cere) not contained twice in middle toe (without claw) ..... 73. Spiziapteryx, p. 371.
      d'''. Middle toe very long, more than twice length of culmen, as above measured .. 74. Harpa, p. 372.
    d''. Distance between tips of primaries and tips of secondaries more than half length of tail 75. Falco, p. 374.
  f'. Outer and inner toes (measured without claws) about equal in length.
    e''. Distance between tips of primaries and tips of secondaries about equal to or less than half the length of tail.

e'''. Tarsus finely reticulate in front, not nearly twice the length of middle toe ..... 76. HIEROFALCO, p. 410.
f'''. Tarsus transversely plated near base of toes, more than twice the length of the middle toe without claw ..... 77. HIERACIDEA, p. 420.
f'. Distance between tips of primaries and tip of secondaries greater than half the length of tail ..... 78. CERCHNEIS, p. 423.

68. BAZA.

	Type.
Lophotes, *Less. Traité*, p. 96 (1831, *nec Giorna*)	B. lophotes.
Baza, *Hodgs. J. A. S. B.* v. p. 777 (1836)	B. lophotes.
Avicida, *Sw. B. W. Afr.* i. p. 104 (1837)	B. cuculoides.
Lepidogenys, *J. E. Gray*, 1839, *teste G. R. Gray, List Gen. B.* p. 4 (1840)*	B. lophotes.
Hytiopus, *Hodgs. J. A. S. B.* x. p. 27 (1841)	B. lophotes.
Lophastur, *Blyth, J. A. S. B.* xi. p. 464 (1842)	B. reinwardti.



Head of *Baza lophotes*.

Range. Indian peninsula and Ceylon, extending throughout the Malayan peninsula and islands, as well as the Moluccas, to North Australia. Africa; on the west coast and in Natal.

Key to the species.

a. Tail black, unbanded; chest with a crescentic band of white ..... *lophotes*, p. 352.
b. Tail brown or ashy grey, barred with darker brown or black.
a'. Thighs and under tail-coverts pure white or buff, banded with rufous.
a''. Throat streaked with brown; chest white.... *madagascariensis*, p. 353.
b''. Throat and chest uniform grey.
a'''. Under wing-coverts uniform rufous; above brownish ash-colour ..... *cuculoides*, p. 354.
b'''. Under wing-coverts barred with rufous and white; above slaty grey ..... *verreauxi*, p. 354.
c''. Throat white or buff, washed as well as the chest more or less with rufous.
c'''. With a distinct throat-stripe. [p. 356.
a⁴. Chest grey ..... *magnirostris*,

* This generic name must have been in existence before this date, as Gould quotes it in 1837; but I cannot find where it was published.

b^4. Chest rufous ..... *erythrothorax*, p. 357.

d''. No throat-stripe; crest 2·3 inches long.... *sumatrensis*, p. 357.

b'. Thighs and under tail-coverts more or less uniform deep rufous, unbanded.

d''. Breast buffy white, with rufous brown cross bands ..... *subcristata*, p. 357.

e''. Breast whitish, with grey cross bands ..... *reinwardti*, p. 358.

f''. Breast chestnut, with fulvous cross bands .. *rufa*, p. 359.

1. Baza lophotes.

Cohy Falcon, *Lath. Gen. Hist.* i. p. 165, pl. x. (1821); *Pears. J. A. S. B.* x. p. 631 (1841).
Falco lophotes, *Temm. Pl. Col.* i. pl. 10 (1823).
Buteo cristatus, *Bonn. et Vieill. Enc. Méth.* iii. p. 1220 (1823); *Pucher. Rev. Zool.* 1850, p. 84; *Hartl. J. f. O.* 1855, p. 418.
Falco lathami, *J. E. Gray in Griffith's An. King.* i. p. 30 (1829, *descr. orig.*); *Tickell, J. A. S. B.* ii. p. 569 (1833, *descr. orig.*).
Lophotes indicus, *Less. Traité*, p. 96 (1831).
Baza syama, *Hodgs. J. A. S. B.* v. p. 777 (1836).
Lepidogenys lathami, *J. E. Gray*, 1839, *teste G. R. Gray, List Gen. B.* p. 4 (1840).
Baza lophotes, *Gray, List Gen. B.* p. 4 (1840); *id. Gen. of B.* fol. 1, p. 23 (1845); *Blyth, Cat. B. Mus. A. S. B.* p. 17 (1849); *id. J. A. S. B.* xix. p. 325 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 62 (1854); *Strickl. Orn. Syn.* p. 126 (1855); *Jerd. B. Ind.* i. p. 111 (1862); *Schl. Mus. P.-B.* Milvi, p. 4 (1862); *Blyth, Ibis*, 1863, p. 11; *Wall. Ibis*, 1868, p. 19; *Gray, Hand-l. B.* i. p. 25 (1869); *Hume, Rough Notes*, ii. p. 337 (1870); *Holdsw. P. Z. S.* 1872, p. 415.
Hytiopus syama, *Hodgs. J. A. S. B.* x. p. 27 (1841).
Hytiopus lophotes, *Blyth, J. A. S. B.* xii. p. 312 (1843); *id. Ann. N. H.* xii. p. 93 (1843); *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Pernis lophotes, *Kaup, Contr. Orn.* 1850, p. 77.
Aviceda lophotes, *Bp. Consp. Av.* i. p. 20 (1850).
Baza indicus, *Bp. Rev. et Mag. de Zool.* 1854, p. 535.

Adult. Above glossy greenish black, with a very long occipital crest; quills black, greyish underneath, the secondaries for the most part white, especially on the outer web, marked with chestnut at the base and towards the tip, which is greenish black; on the inner secondaries the chestnut predominates, the white being more on the inner web, but the amount of these chestnut and white markings is very variable and sometimes extends to the scapulars; tail greenish black above, ashy grey beneath; entire sides of the face and neck as well as the throat black like the upper surface, but a little tinged with brown; fore neck and chest white, forming a very broad band; below the latter an indistinct line of greenish black feathers, below which comes another broad band of chestnut, covering the upper breast; lower breast creamy white, banded with chestnut, the bars being broader on the upper part and narrower on the lower part

and flanks; thighs, lower abdomen, and under tail-coverts greenish black; under wing-coverts greenish black, the lower ones ashy grey like the inner face of the wing; bill and feet plumbeous; iris dark brown. Total length 13·9 inches, culmen 1·05, wing 9·85, tail 5·7, tarsus 1·3.

A younger specimen has not such a full crest, the sides of the face and throat mixed with ashy brown, the chestnut shades on the body not so deep or so vinous as in the old birds, both the chestnut band on the upper breast and the bars on the lower breast also much more scantily developed; the black feathers of the abdomen and under tail-coverts slightly margined with dull ochre; feet fleshy grey.

Hab. Indian peninsula, Ceylon, and Malacca.

a. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
b. Juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
c. Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
d. Ad. st.	Malacca.	Hugh Cuming, Esq. [C.].
e. Sternum.		B. H. Hodgson, Esq. [P.].

2. Baza madagascariensis.

Pernis madagascariensis, *Smith, S. Afr. Q. Journ.* ii. p. 285 (1835).
Avicida verreauxii, *Hartl. Orn. Madag.* p. 19 (1861).
Baza madagascariensis, *Schl. P. Z. S.* 1866, p. 420; *Schl. & Poll. Faun. Madag., Ois.* p. 45. pl. 16 (1868); *Gurney, Ibis,* 1869, p. 450; *Gray, Hand-l. B.* i. p. 25 (1869).
Aviceda madagascariensis, *Grand. Rev. et Mag. de Zool.* 1867, p. 319.

Adult male. Brown, the feathers paler brown on their edges, the interscapulary region and least wing-coverts darker and more sepia-brown; the scapulars and dorsal feathers with conspicuous white bases when disarranged; head dark brown, slightly tinged with rufous, the feathers margined with rufous, this, as well as the white bases to the feathers, giving a strongly streaked appearance to this part; crest dark brown, like the head; sides of face brown, narrowly streaked with white, especially on the fore part of the cheeks; throat ashy brown, slightly streaked with white, and having an indication of a median and a moustachial stripe of black on each side; rest of under surface white, the chest entirely so in the centre, as also the thighs, lower abdomen, and under tail-coverts; the sides of the body and upper breast spotted somewhat longitudinally with rufous brown; lower flanks almost uniform rufous brown; under wing-coverts dull rufous, with narrow white margins; primaries ashy brown, the secondaries brown like the back, tipped with whitish, all the quills distinctly banded with darker brown, plainer underneath against the white under surface; upper tail-coverts white, with broad brown tips; tail ashy grey, tipped with white and crossed with three bars of dark brown, the base of all the feathers white; bill black, yellow at base of lower mandible; feet whitish yellow; iris yellowish brown. Total length 17 inches, culmen 1·15, wing 12·5, tail 8, tarsus 1·4, middle toe 1·5. (*Mus. Lugd.*)

Adult female. Rather larger than the male. Total length 18 inches, culmen 1·2, wing 13, tail 9, tarsus 1·5.

Young male. Very similar to adult, but rather paler brown in colour; quills and tail pale brown, very plainly banded with dark brown, the latter crossed with six bars; eyebrow and sides of face whitish, the ear-coverts washed with pale rufous; throat white, with a distinct central streak of black down the centre, as well as a moustachial streak on each side; under surface as in adult, but the white chest a little varied with brown markings. Young birds vary much, one bird in the Leiden Museum having brown thigh-feathers.

Hab. Madagascar.

a. ♀ imm. st. Nossi-bè (*Pollen & Van Dam*). Leiden Museum [P.].

3. Baza cuculoides. (Plate XI. fig. 2.)

Avicida cuculoides, *Swains. B. W. Afr.* i. p. 104, pl. 1 (1837); *Gray, Gen. of B.* i. p. 23 (1845); *Sundev. Œfv. K. Vet. Akad. Förh. Stockh.* 1850, p. 110; *Bp. Rev. et Mag. de Zool.* 1854, p. 535; *Strickl. Orn. Syn.* p. 128 (1855); *Hartl. Orn. W.-Afr.* p. 10 (1857); *Cass. Pr. Philad. Acad.* 1859, p. 32; *Du Chaillu, Eq. Afr.* p. 472 (1861); *Hartl. J. f. O.* 1861, p. 99.

Pernis cuculoides, *Kaup, Contr. Orn.* 1850, p. 77.

Baza cuculoides, *Schl. Mus. P.-B.* Milvi, p. 6 (1862); *Gray, Hand-l. B.* i. p. 25 (1869).

Adult (type of species). Above ashy brown, with a cindery grey shade on the interscapulary region, the head and crest darker, and more inclining to slaty black; quills brown, very narrowly tipped with whitish, the under surface ashy white, pure white near base of inner web, which is barred with dark brown, the subterminal bar being very broad; upper tail-coverts brown, tipped and broadly barred with white; tail-feathers clear ashy grey, tipped with white and crossed with four bars of black, the basal one hidden by the tail-coverts, the subterminal one very broad; under surface of tail ashy white, pure white at base of inner web, bars more distinct on all except outer feather, where nearly obsolete; sides of face deep ashy grey; entire throat, fore neck, and chest pale ash-colour; rest of under surface white, with cross bars of pale tawny rufous, gradually decreasing in size towards the abdomen and thighs; under tail-coverts white; under wing-coverts uniform tawny rufous, paler on the lower series. Total length 16 inches, culmen 1·2, wing 11·6, tail 8, tarsus 1·2. (*Mus. Cantabr.*)

Hab. West Africa.

a. Vix ad. sk.	W. Africa.	R. B. Sharpe, Esq. [P.].
b. Ad. sk.	Gaboon (*Marche et de Compiègne*).	M. Bouvier [E.].

4. Baza verreauxi.

Avicida verreauxi, *Lafr. Rev. Zool.* 1846, p. 130; *Gray, Gen. B.* i. pl. ix. fig. 2 (1846); *Gurney, Ibis*, 1864, p. 356; *Layard, B. S. Afr.* p. 24; *Gurney, Ibis*, 1868, p. 145.



Keulemans del. Mintern Bros. Lith.

Baza sumatrensis.
„ cuculoides.

Avicida buteoides, *Lafr. Rev. Zool.* 1846, p. 132 *.
Hytiopus cafer, *Sundev. Œfv. K. Vetensk. Förh. Stockh.* 1850, p. 110.
Avicida cuculoides, *Gurney, Ibis*, 1859, p. 240.
Avicida cafer, *Schl. P. Z. S.* 1866, p. 420.
Baza verreauxii, *Gray, Handl. B.* i. p. 25 (1869).

Adult male. Above dark ashy grey, somewhat shaded with brown, crown and occipital crest dark ashy; quills brown, tipped with whitish, externally shaded with ashy grey; under surface of wing white for the basal, and shading into greyish white for the apical half; primaries crossed by a few bars of brown above and below, more indistinct on the inner ones, the secondaries with a broad subterminal bar of dark brown; upper tail-coverts ashy grey at base, brown at tip, appearing slightly banded; tail slaty grey above, conspicuously tipped with white, crossed by four bars of black, the subterminal one very broad, under surface whitish, the basal bars more indistinct and represented on the outer feathers by a black patch on the outer web, extending a little across to the inner one; sides of the face, throat, and chest clear grey; breast pure white, banded with pale rufous brown, a little broader on the sides of the body, and gradually decreasing in size towards the flanks and under tail-coverts, the latter of which are entirely white; under wing-coverts barred very thickly with pale rufous and fulvous; cere and orbits light yellow; bill black, bluish at base of under mandible; feet yellow; iris lemon-yellow. Total length 17 inches, culmen 1·05, wing 12·7, tail 7·9, tarsus 1·4.

Adult female. A little browner than the male, and not so clear grey; bars on the breast broader and more rufous, being equally distinct on the flanks. Total length 17 inches, culmen 1·15, wing 12·6, tail 7·9, tarsus 1·45.

Young. Brown above, the feathers narrowly margined with fulvous, much broader on the secondaries; quills and tail pale brown, banded with blackish brown, the latter tipped with fulvous, especially on the outer rectrix; sides of head and neck rufous brown, with dark brown centres to the feathers, giving rather a streaked appearance; under surface of body whitish, streaked on the throat and banded on the breast with pale rufous, the inner face of the thighs also rufous; on the breast and flanks some feathers with dark brown oval spots, less distinct on the under tail-coverts; crest less developed than in the adult and dark brown in colour; iris very light brown.

Hab. Natal.

a. Ad. st.	Natal.	E. Wilson, Esq. [P.].
b. Juv. st.	Natal.	J. H. Gurney, Esq. [P.].
c. Ad. st.	Natal.	Purchased.

* The type of this species is said to have come from Zanzibar; it has not been met with by Dr. Kirk or any subsequent observer, and is omitted in the great work on the birds of Eastern Africa by Drs. Finsch and Hartlaub. I have, however, little doubt that, if the locality *should* prove to be correct, the bird from Zanzibar will be identical with that of South Africa.

5. Baza magnirostris. (Plate X. fig. 1.)

Baza magnirostris, *Gray, Cat. Accipitr. Brit. Mus.* p. 19 (1844); *Strickl. Orn. Syn.* p. 127 (1855); *Gray, Hand-l. B.* i. p. 25 (1869).

Aviceda magnirostris, *Bp. Consp.* i. p. 20 (1850), *et Rev. et Mag. de Zool.* 1854, p. 535.

Pernis madagascariensis, *Kaup, Contr. Orn.* 1850, p. 77.

Nearly adult. Crown of the head and long occipital crest black; feathers over the eye, as well as the sides and back of the neck, tawny rufous, the latter spotted with black; the sides of the face greyish, washed with rufous; upper surface of body brown, with a gloss of purplish brown, some of the feathers also shaded with greenish in certain lights; quills brown, tipped with whitish, barred with purplish brown, the secondaries very much paler brown, against which the bands of darker brown contrast strongly, especially the subterminal one, which has a distinct purplish gloss; under surface of quills greyish white, with dark brown bands, pure white near the base; tail brown, tipped with whity brown, and crossed by three bands of dark purplish brown, the subterminal one being very broad, and glossed with greenish; under surface of tail greyish white, like that of the wings, the subterminal band distinctly marked, the basal ones very faintly, excepting on the outermost feathers, which have a patch of dark brown on the outer web, extending on to the inner one also; under surface of the body whitish, broadly streaked on the sides of the throat and the chest, banded on the breast, and spotted on the under tail-coverts with pale rufous, darker and more inclining to rufous brown on the flanks and sides of the body and axillary plumes; down the centre of the throat, extending to the fore neck, a broad black streak; under wing-coverts buffy white, spotted with pale rufous, the lower ones barred with this colour; bill horn-black, browner on lower mandible; feet yellow. Total length 17·5 inches, culmen 1·5, wing 12·3, tail 8·1, tarsus 1·5.

Another specimen in the national collection differs from the foregoing in not having so stout a bill, in the sides of the face being more conspicuously grey, this shade also extending over the throat and breast, the former of which is narrowly streaked with greyish down the centre; the crown of the head is blackish, the feathers of the forehead being edged with rufous; the sides and hind part of the neck similarly marked, producing a striped appearance; occipital crest black, with a narrow white tip to one or two of the feathers; the bands on the breast very broad and pale rufous. Total length 15·3 inches, culmen 1·35, wing 11·5, tail 7·5, tarsus 1·5. This would apparently be the adult male, and the other perhaps a female not quite adult.

Hab. Philippine Islands.

a. ♂ ad. st.	Philippine Islands.	Hugh Cuming, Esq. [C.].	Type of species.
b. ♀ juv. st.	Philippine Islands.	Hugh Cuming, Esq. [C.]	



Keulemans del. Mintern Bors Lith.

1. *Baza magnirostris.*
2. „ *erythrothorax.*

6. Baza erythrothorax. (Plate X. fig. 2.)

Baza magnirostris, *Schl. Vog. Nederl. Ind. Valkv.* pl. 28. figs. 4, 5 (1866); *Wall. Ibis*, 1868, p. 18.
Baza erythrothorax, *Sharpe, P. Z. S.* 1873, p. 625 (June).
Baza celebensis, *Schl. Mus. P.-B. Revue Accipitr.* p. 135 (1873, July).

This species differs from the true *B. magnirostris* of the Philippines in its much larger size, dark brown colour, black head, and dark cinereous ear-coverts, in wanting the grey on the chest, and in the dark rufous brown of the under surface. This latter colour is especially distinct on the chest, the sides of the body and flanks having a few white cross bars. Total length 17·5 inches, culmen 1·25, wing 11·5, tail 8, tarsus 1·65.

Mr. Wallace (*l. c.*) gives the following note on the soft parts:—"Bill lead-colour, black above; feet white; iris yellow."

Hab. Celebes.

a. Ad. sk.	Celebes.	J. Gould, Esq.	Type of species.
b. Juv. sk.	Celebes.	J. Gould, Esq.	
c. ♀ ad. sk.	Macassar.	A. R. Wallace, Esq.	[C.].
d. Ad. sk.	Sula Islands.	A. R. Wallace, Esq.	[C.].

7. Baza sumatrensis. (Plate XI. fig. 1.)

Avicida sumatrensis, *Lafr. Rev. Zool.* 1848, p. 210.
Baza sumatrensis, *Gray, Gen. B.* iii. App. p. 2 (1849); *Wall. Ibis*, 1868, p. 18; *Gray, Hand-l. B.* i. p. 25 (1869).

Young female. Head and hind neck creamy buff, washed with tawny rufous, the feathers on hinder part of crown dark brown in the centre; occipital crest very long, black, with cream-coloured tip; back brown, with fulvous edgings, the scapulars and secondaries further margined with white; quills ashy brown, barred with darker brown, the tail similarly coloured, narrowly tipped with white, the feathers washed externally with rufous near the base; the bars on the tail four in number, one being concealed, the under surface of both wings and tail paler and more ashy white; entire sides of face, throat, and underparts creamy buff, washed with pale tawny rufous, the breast and sides of body broadly barred with the latter colour; under wing-coverts creamy buff; bill black, pale at base beneath; feet yellowish white; iris yellow. Total length 20·5 inches, culmen 1·4, wing 12·75, tail 9·6, tarsus 1·6.

Hab. Sumatra.

a. ♀ vix ad. sk.	Sumatra.	A. R. Wallace, Esq. [C.].

8. Baza subcristata.

Lepidogenys subcristatus, *Gould, P. Z. S.* 1837, p. 140; *id. Syn. B. Austr.* part iii. (1838); *id. B. Austr.* fol. i. pl. 25 (1848); *Pelz. Reis. Novara, Vög.* p. 8 (1865).
Baza subcristata, *Gray, Gen. B.* i. p. 23 (1845); *Strickl. Orn. Syn.* p. 127 (1855); *Schl. Mus. P.-B.* Milvi, p. 4 (1862); *Gould, Handb.*

B. Austr. i. p. 56 (1865); *Ramsay, P. Z. S.* 1867, p. 392; *Gray, Hand-l. B.* i. p. 25 (1869).

Avicida subcristata, *Lafr. Rev. Zool.* 1846, p. 127; *Bp. Consp.* i. p. 20 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 535.

Pernis subcristatus, *Kaup, Isis*, 1847, p. 343, *et Contr. Orn.* 1850, p. 77.

Adult. Head and neck ashy grey, with a small occipital crest of black feathers; rest of upper surface brown, the wing-coverts and interscapulary region greyish black; quills dark brown, shaded externally with ashy grey, broadly barred with black above and with greyish white underneath, inner secondaries browner like the back; tail ashy brown, with four broad black bars, the subterminal one being especially broad, under surface greyish white as in the wing, with broad corresponding bars of black; forehead, lores, and sides of the face clearer cinereous than the head, as also the throat and chest, the latter of which is washed with rufous; breast banded alternately with buffy white and chestnut-brown; thighs and under wing- and tail-coverts buffy rufous; bill bluish horn-colour; feet yellowish. Total length 17 inches, culmen 1·2, wing 13·5, tail 9, tarsus 1·45.

Young. Above paler brown than in the adult, with narrow margins of ochraceous buff to the dorsal feathers and wing-coverts, becoming broader and more white on the inner secondaries; crown dark brown, as also the occipital crest, the white bases to the feathers rather conspicuous; forehead and sides of the face dusky cinereous, the former inclining to whitish; throat whitish; fore neck and chest buff, with a rufous tinge, which extends on to the sides and hinder part of the neck; breast buffy white, barred with rufous brown, much more narrowly than in the old bird; thighs and under wing- and tail-coverts rich buff, the former crossed near the base with a few narrow bars of rufous brown.

There is some confusion about the *Buteo cristatus* of Vieillot. Pucheran, in his excellent review on the types of this naturalist (Rev. Zool. 1850, p. 84), says that the species so called in the 'Encyclopédie' is *Baza lophotes*; and in that he is doubtless right. He also mentions that the bird is not mentioned in the 'Nouveau Dictionnaire;' but, as Strickland points out, there is a *Buteo cristatus* from New Holland described in this work (vol. iv. p. 481), and he refers Vieillot's bird to *Baza subcristata*, of which it would be an older title. I cannot trace any likeness to this species, and consequently omit it from my list of synonyms.

Hab. N. Australia.

a. Ad. st.	Australia.	Purchased.
b. Juv. st.	Australia.	Purchased.

9. Baza reinwardti.

Lophotes reinwardti, *Müll. & Schl. Naturl. Versch. Av.* p. 35, tab. 5 (1839–44).

Lophastor jerdoni, *Blyth, J. A. S. B.* xi. pt. 1, p. 464 (1842), et xv. p. 4 (1846).

Baza reinwardti, *Gray, Gen. B.* i. p. 23 (1845); *Strickl. Orn. Syn.* p. 127 (1855); *Schl. Mus. P.-B.* Milvi, p. 5 (1862); *Wall. P. Z. S.* 1863, p. 21; *Blyth, Ibis*, 1863, p. 11; *Schl. Vog. Nederl. Ind. Valkv.* pp. 40, 77, pl. 27. figs. 1–3 (1866); *Wall. Ibis*, 1868, p. 18; *Gray, Hand-l. B.* i. p. 25 (1869); *Schl. Revue Accipitr.* p. 133 (1873).
Pernis jerdoni, *Gray, Gen. B.* i. p. 24 (1845).
Avicida reinwardti, *Lafr. Rev. Zool.* 1846, p. 128; *Bp. Rev. et Mag. de Zool.* 1854, p. 535.
Baza jerdoni, *Gray, Gen. B.* iii. App. p. 2 (1849).
Baza stenozona, *Gray, P. Z. S.* 1858, p. 169, et 1859, p. 153; *Scl. Ibis*, 1860, p. 322.

Adult. Head and neck all round, including the interscapulary region above and the chest below, clear slaty grey, the occipital crest black, contrasting strongly; scapulars and inner secondaries chocolate-brown; lower part of back brownish, washed with dark slaty, the rump and upper tail-coverts being entirely of the latter colour; wing-coverts ashy grey, the least ones blackish, shaded with green; quills and tail ashy grey above, slightly tipped with whitish, barred with black, the subterminal bars on secondaries and tail-feathers clearly shaded with greenish, under surface ashy white, barred with black, the basal ones indistinct, and not carried right across the feather; breast buffy white, with greyish black cross bars, not continued on to the abdomen, thighs, and under tail-coverts, which are unbarred and of a clear orange-buff; under wing-coverts also orange-buff, the lower ones slightly marked with greyish black; cere lead-colour; bill black, lead-colour at base; feet bluish white; iris yellow. Total length 15·5 inches, culmen 1·2, wing 12·1, tail 7·2, tarsus 1·3.

Young. Browner than the adult, the upper surface being entirely brown, with pale fulvous edgings to the feathers; quills and tail brown, banded with darker brown; cheeks greyish; throat buffy white, with a narrow central streak of greyish black; chest clouded with brown; rest of under surface buffy white, barred with blackish, more narrowly than in the adult; the thighs and under wing- and tail-coverts clear yellowish buff.

Hab. New Guinea and islands of Austro-Malayan subregion.

a. ♀ juv. sk.	Aru Islands.	A. R. Wallace, Esq. [C.].	Type of *B. stenozona*.
b. ♂ ad. sk.	Amboyna.	A. R. Wallace, Esq. [C.].	
c. Ad. sk.	Amboyna.	A. R. Wallace, Esq. [C.].	
d. ♂ ad. sk.	Bouru.	A. R. Wallace, Esq. [C.].	
e. Juv. sk.	New Guinea.	A. R. Wallace, Esq. [C.].	
f. ♂ juv. sk.	New Guinea.	A. R. Wallace, Esq. [C.].	
g. ♂ ad. sk.	Dorey.	A. R. Wallace, Esq. [C.].	
h. ♂ ad. sk.	E. Timor.	A. R. Wallace, Esq. [C.].	
i. ♂ juv. sk.	E. Timor.	A. R. Wallace, Esq. [C.].	
j. ♂ ad. sk.	Timor Coupong.	A. R. Wallace, Esq. [C.].	
k. Ad. sk.	E. Ceram.	A. R. Wallace, Esq. [C.].	
l. Ad. sk.	Ceram.	A. R. Wallace, Esq. [C.].	
m. Ad. sk.	Ceram.	A. R. Wallace, Esq. [C.].	

10. Baza rufa.

Baza reinwardtii, *Gray*, *P. Z. S.* 1860, p. 343.
Baza rufa, *Schl. Vog. Nederl. Ind. Valkv.* pp. 41, 78, pl. 27. fig. 4, pl. 28. figs. 1–3 (1866); *Wall. Ibis*, 1868, p. 8; *Gray, Hand-l. B.* i. p. 25 (1869).

Adult. Head all round, neck, and throat clear slaty grey, lighter on the forehead, darker on the hind head and crest, which incline to blackish; interscapulary region and wing-coverts deep slaty black, with a slight greenish gloss; scapulars and some of the inner secondaries deep chocolate-brown; upper tail-coverts brownish, the lower ones slaty black; quills deep slaty brown above, pale whitish slaty below, banded on both surfaces with black; tail clearer slaty grey, with three bands of black, the subterminal one exceedingly broad and occupying nearly a quarter of the tail, under surface whitish, the bands faintly indicated and reduced on the outer feathers to a black patch on the outer web just extending on to the inner one; chest rufous, slightly washed with greyish; rest of under surface bright rufous, almost chestnut, with faintly indicated cross bars of fulvous, some of the intermediate chestnut bars having also a blackish shade; thighs and under tail-coverts deep rufous, unbarred; under wing-coverts chestnut, the axillaries paler and barred with dusky black; cere lead-colour; bill black, lead-colour at base; feet bluish white; iris yellow. Total length 17 inches, culmen 1·2, wing 12·3, tail 7·8, tarsus 1·55.

Hab. Batchian, Gilolo, Ternate, Tidore, Morty.

a. Ad. st.	Gilolo.	Purchased.
b, c. ♂ ad. sk.	Batchian.	A. R. Wallace, Esq. [C.].
d. ♀ juv. sk.	Batchian.	A. R. Wallace, Esq. [C.].

69. HARPAGUS.

	Type.
Harpagus, *Vigors, Zool. Journ.* i. p. 338 (1824)	H. diodon.
Bidens, *Spix, Av. Bras.* i. p. 15 (1824)	H. bidentatus.
Diodon, *Less. Traité*, p. 95 (1831)	H. bidentatus.
Diplodon, *Nitzsch, Pteryl.* p. 93 (1840)	H. bidentatus.



Bill and foot of *Harpagus diodon*.

Range. Central America; Guiana; Amazonia; Brazil; Peru.

Key to the Species.

a. *Adult* with rufous axillaries and under wing-coverts. *Young* white below, breast streaked with black; thighs rufous in adult and young ..... *diodon*, p. 361.

b. Adult with white or cream-coloured axillaries.

a'. Entirely chestnut underneath or greyish, with the lower breast and abdomen barred with white and ashy grey ..... *bidentatus*, p. 362.

b'. Broadly banded underneath with chestnut and white ..... *fasciatus*, p. 363.

1. Harpagus diodon.

Falco diodon, *Temm. Pl. Col.* i. pl. 198 (1824); *Max. Beitr. Orn. Bras.* iii. Abth. i. p. 138 (1830); *Burm. Th. Bras.* ii. p. 102 (1856); *Schl. Mus. P.-B.* Falc. p. 34 (1862); *id. Revue Accipitr.* p. 47 (1873).

Bidens femoralis, *Spix, Av. Bras.* i. p. 15, pl. 8 (1824).

Harpagus diodon, *Vig. Zool. Journ.* i. p. 338 (1825); *Bp. Consp.* i. p. 28 (1850); *Kaup, Contr. Orn.* 1850, p. 53; *Bp. Rev. et Mag. de Zool.* 1854, p. 537; *Strickl. Orn. Syn.* p. 102 (1855); *Pelz. Orn. Bras.* p. 5 (1871); *Scl. & Salv. Nomencl.* p. 122 (1873).

Adult. Above slaty grey, the head a little darker; quills dark brown, broadly barred with white on the inner web, the inner secondaries slaty grey, both these and the scapulars marked with concealed spots of white; tail dark brown, tipped slightly with greyish white, with bars of greyish white, much narrower than the alternate brown bands; sides of face slaty grey, a little lighter than the head; throat and under tail-coverts white, the former with a faint indication of a blackish median line; rest of under surface pale grey, the thighs bright ferruginous; under wing-coverts ferruginous, the lower ones white, barred with blackish; bill blackish brown, lower mandible yellowish; feet yellow, claws horn-brown. Total length 12·2 inches, culmen 0·8, wing 8·1, tail 6, tarsus 1·55.

Young. Brown above, all the feathers edged with pale ochre; secondaries and tail-feathers tipped with white; nape and sides of neck also mottled with brown and white; fore part of cheeks white, streaked with brown, the rest of the side of the face brown, like the head, slightly varied with streaks of lighter brown; under surface of body white, with a narrow streak of brown down the centre of the throat, all the breast-feathers marked down the centre with pear-shaped drops of dark brown, becoming narrower and more linear on the abdomen; thighs pale ferruginous; under wing-coverts pale buff, slightly spotted with black on the lower ones, the axillaries pale ferruginous, with indications of whitish cross bars.

Hab. Brazil.

a. ♂ ad. sk.	Brazil.	R. B. Sharpe, Esq. [P.].
b. ♀ ad. sk.	Bahia.	Dr. Wucherer [C.].
c. ♂ juv. sk.	Bahia.	Dr. Wucherer [C.].
d. Ad. st.	South America.	Purchased.
e. Juv. st.	South America.	Purchased.

2. Harpagus bidentatus.

Notched Falcon, *Lath. Gen. Syn. Suppl.* p. 34 (1787).
Falco bidentatus, *Lath. Ind. Orn.* i. p. 38 (1790); *Daud. Traité*, ii. p. 118 (1800); *Temm. Pl. Col.* i. pls. 38, 228 (1823); *Max. Beitr. Orn. Bras.* iii. Abth. i. p. 132 (1830); *Schl. Mus. P.-B.* Falc. p. 35 (1862).
Bidens rufiventer, *Spix, Av. Bras.* i. p. 14, pl. 6 (1824).
Bidens albiventer, *Spix, Av. Bras.* i. p. 14, pl. 7 (1824).
Harpagus bidentatus, *Vig. Zool. Journ.* i. p. 338 (1825); *Gray, Gen. of B.* i. p. 22 (1844); *Cab. & Tschudi, Faun. Peruan., Vög.* pp. 18, 107 (1845); *Kaup, Contr. Orn.* 1850, p. 54; *Bp. Consp.* p. 28 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 537; *Strickl. Orn. Syn.* p. 101 (1855); *Burm. Th. Bras.* ii. p. 100 (1856); *Lawr. Ann. Lyc. N. Y.* vii. p. 317 (1861); *Scl. & Salv. P. Z. S.* 1864, p. 369, et 1866, p. 198; *Léot. Ois. Trinid.* p. 28 (1866); *Scl. & Salv. P. Z. S.* 1867, pp. 753, 979; *Finsch, P. Z. S.* 1870, p. 556; *Pelz. Orn. Bras.* p. 5 (1871); *Scl. & Salv. Nomencl.* p. 122 (1873).
Diodon brasiliensis, *Less. Traité*, p. 96 (1831).
Diodon bidentatus, *D'Orb. Voy. Am. Mérid., Ois.* p. 122 (1835–44).
Harpagus rufipes, *Swains. Classif. B.* ii. p. 213 (1837).

Young. Above brown, with very narrow pale rufous edgings to the feathers; upper surface more or less mottled with white, where the concealed bases to the feathers show through, especially on the nape; quills and tail brown, tipped with white, barred with paler brown above, and with whitish beneath; sides of the face brown, except the fore part of the cheeks, which are white, with brown streaks; under surface of body white, the throat with a conspicuous mesial black streak, the throat and chest narrowly streaked with dark brown, flanks with a few indistinct arrow-head brown markings; under wing-coverts buffy white; bill horn-brown, yellowish on lower mandible and along ridge of upper; feet deep yellow, claws black.

From this stage the bird moults into the following plumage of the full-grown bird.

Adult male. Above clear slaty blue; tail brown, tipped and crossed with three narrow bands of greyish white or pale brown; under surface of body rich chestnut; throat white, with a broad mesial line of slaty black; under tail- and wing-coverts, as well as axillary plumes, creamy white; bill slaty black, yellowish on the under mandible; feet yellow, claws black. Total length 12·3 inches, culmen 0·9, wing 8, tail 6·2, tarsus 1·45.

Adult female. Similar to the adult male but larger, and having the abdomen and thighs barred obscurely with whitish. Total length 15 inches, culmen 0·9, wing 9·1, tail 6·7, tarsus 1·6.

From the above dress the bird changes again gradually, not by a moult apparently, into the fully mature plumage as follows:—Above slaty black, with a tinge of clearer slaty grey on the sides of the face; quills blackish, barred with white underneath; tail black, narrowly tipped with white, with only two cross bands visible on the tail itself, whitish below, tinged with pale brown above; throat white, with the usual black streak; chest greyish, the lower chest,

abdomen, and thighs banded with grey and white; under wing- and tail-coverts white.

Hab. Amazonia, Guiana, Venezuela, and Columbia.

a. ♂ ad. sk.	Chyavetas, Peruvian Amazons.	E. Bartlett, Esq. [C.].
b. ♀ juv. sk.	Chamicuros.	E. Bartlett, Esq. [C.].
c. ♀ ad. sk.	Upper Ucayali.	E. Bartlett, Esq. [C.].
d. Ad. st.	Rio Javari.	H. W. Bates, Esq. [C.].
e. Juv. sk.	Trinidad.	
f. ♂ ad. sk.	Bogotá.	Purchased.
g. Juv. sk.	S. America.	Purchased.
h. Ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].
i. Juv. sk.	Demerara.	R. B. Sharpe, Esq. [P.].
k. Ad. st.	Brazil.	Zoological Society.
l. Ad. st.	Brazil.	Purchased.

3. Harpagus fasciatus.

Harpagus fasciatus, *Lawr. Pr. Phil. Acad.* 1868, p. 429; *Salv. Ibis*, 1870, p. 115; *Scl. & Salv. Nomencl.* p. 122 (1873).

Adult. Above brown, with concealed spots of white on the scapulars, the nape also slightly mottled with white; crown and sides of face slaty grey; lores and a small spot of down under the eye whitish; throat white, with a broad line of blackish slate-colour down the centre; entire under surface, including the flanks, chestnut, broadly banded with white, with a more or less distinct slaty bar conterminous with the white bands, the cross bars on the chest not so distinct, giving a more uniform chestnut appearance to this part; under tail-coverts buffy white; under wing-coverts clear buff, with a few indistinct cross markings of brown; quills brown, barred with darker brown, the bars obsolete on the secondaries, the under surface of the wing creamy white at base, inclining to ashy white at tip, the cross bars showing very plainly; tail dark brown, slightly paler at tip, and crossed with three narrow bars of ashy brown shading into white on the inner web; the under surface of the tail paler, the cross bars broader and whiter; bill horn-blue, yellowish at base of lower mandible; feet orange, claws black. Total length 13·7 inches, culmen 1, wing 8·8, tail 5·3, tarsus 1·75. (*Mus. Salvin & Godman.*)

Young. Above brown, the nape mottled with white tinged with ochre, all the feathers of the upper surface margined with dull fulvous; the crown and sides of face streaked with rufous, especially above the eye; quills and tail much as in the adult, the whitish bars on the latter a little more distinct; under surface of body yellowish white, streaked on the throat and breast, and barred on the belly, flanks, and thighs with brown; under tail-coverts buffy white; under wing-coverts clear ochre, only the lowest ones barred with brown. (*Mus. S. & G.*)

Hab. From Guatemala to Panama.

70. ICTINIA.

	Type.
Ictinia, *Vieill. Analyse*, p. 24 (1816)	I. plumbea.
Nertus, *Boie, Isis*, 1828, p. 314	I. plumbea.
Pœcilopteryx, *Kaup, Mus. Senckenb.* iii. p. 258 (1845)	I. plumbea.



Bill of *Ictinia plumbea*.

Range. Southern States of North America; Central America; Columbia; Guiana; Amazonia; Brazil.

Key to the Species.

a. Secondaries leaden black, like rest of upper surface ..... *plumbea*, p. 364.

b. Secondaries silvery grey, in strong contrast to rest of upper surface ..... *mississipiensis*, p. 365.

1. Ictinia plumbea.

Spotted-tailed Hobby, *Lath. Gen. Syn.* i. p. 106 (1781).
Falco plumbeus, *Gm. S. N.* i. p. 283 (1788); *Temm. Pl. Col.* i. pl. 180 (1823); *Spix, Av. Bras.* i. pl. 8*b* (1824); *Max. Beitr. Naturg. Bras.* iii. p. 126 (1830).
Alcon azulezo, *Azara, Apunt.* i. p. 167 (1802); *Hartl. Ind. Azara*, p. 3 (1847).
Milvus cenchris, *Vieill. Ois. d'Amér. Sept.* p. 38, pl. 10 bis (1807).
Ictinia plumbea, *Vieill. N. Dict.* xvi. p. 76 (1817); *D'Orb. Voy. Am. Mér., Ois.* p. 101 (1835); *Gray, Gen. B.* i. p. 26, pl. 9. fig. 1 (1845); *Tschudi, Faun. Peruan., Vög.* p. 112 (1845); *Cab. in Schomb. Reis. Guian.* iii. p. 735 (1848); *Bp. Consp.* i. p. 22 (1850); *Strickl. Orn. Syn.* p. 140 (1855); *Burm. Th. Bras.* ii. p. 104 (1856); *Schl. Mus. P.-B.* Milvi, p. 10 (1862); *Léot. Ois. Trinid.* p. 142 (1866); *Gray, Hand-l. B.* i. p. 27 (1869); *Pelz. Orn. Bras.* pp. 6, 398 (1871); *Scl. & Salv. Nomencl.* p. 122 (1873).
Nertus plumbeus, *Boie, Isis*, 1828, p. 314.
Buteo plumbeus, *Cuv. Règne An.* i. p. 337 (1829).
Pœcilopteryx plumbea, *Kaup, Mus. Senckenb.* iii. p. 258 (1845).

Adult. Above leaden black, the tail included, the latter with three bars of white (one concealed by the under tail-coverts) on the under surface; wing-coverts leaden black, a little darker than the back; primaries rufous, leaden grey along the outer margin and at the tip; head paler and more slaty grey, the ear-coverts a little darker; feathers round the eye blackish; entire under surface slaty grey, the throat paler, and the under wing-coverts and axillaries darker. Total length 14 inches, culmen 0·9, wing 12·6, tail 6, tarsus 1·5.

Young. Above slaty black, the feathers of the back very narrowly margined with whitish, the secondaries a little more broadly, the head and neck streaked with white; quills black, tipped with white, the former more or less rufous on the base of the inner web; under surface whitish, the throat thickly, the breast broadly streaked with slaty black; thighs deep slate-colour, barred with white; under tail-coverts whitish, with large subterminal spots of greyish black; under wing-coverts slaty black, faintly barred and tipped with white; tail black, tipped with white and spotted with the same on the inner web, forming three bars (one concealed by the under tail-coverts) underneath, not very distinct.

Hab. From Mexico throughout Central America to Brazil.

a. ♂ ad. sk.	S. America.	D. W. Mitchell, Esq. [P.].
b. Ad. sk.	Pará.	A. R. Wallace, Esq. [C.].
c. ♂ juv. sk.	Concordia, New Granada.	T. K. Salmon, Esq. [C.].
d. Ad. sk.	Guatemala.	Purchased.
e. Skeleton.		Purchased.

2. Ictinia mississipiensis.

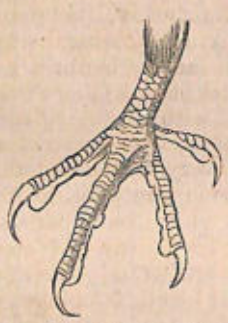
Falco mississipiensis, *Wils. Am. Orn.* iii. p. 80, pl. 25. fig. 1 (1811).
Falco ophiophagus, *Vieill. N. Dict. d'Hist. Nat.* xi. p. 103 (1817).
Ictinia ophiophaga, *Vieill. et Oud. Gal. Ois.* p. 44, pl. 17 (1825).
Nertus mississipiensis, *Boie, Isis*, 1828, p. 314.
Milvus mississipiensis, *Cuv. Règne An.* i. p. 335 (1829).
Falco plumbeus, *Audub. B. Am.* pl. 117, *et Orn. Biogr.* ii. p. 108 (1834).
Ictinia plumbea, *Bp. Comp. List B. Eur. & N. Am.* p. 4 (1838).
Ictinia mississipiensis, *Gray, Gen. B.* i. p. 26 (1845); *Bp. Consp.* i. p. 22 (1850); *Cass. B. Calif. & Texas*, p. 106 (1855); *Strickl. Orn. Syn.* p. 140 (1855); *Cass. in Baird's B. N. Am.* p. 37 (1860); *Schl. Mus. P.-B.* Milvi, p. 10 (1862); *Dresser, Ibis*, 1865, p. 327; *Gray, Hand-l. B.* i. p. 28 (1869); *Coues, Key N. Am. B.* p. 211 (1872).

Adult. Above leaden black, the tail uniform with the back, but totally unbarred with white; primaries black, with deep chestnut near the base, concealed by the feathers overlapping; the secondaries ashy grey, inclining to whitish, except the innermost, which are uniform with the back; entire head and neck all round clear grey, a patch in front of the eyes black; under surface clear grey, the throat and under tail-coverts white; under wing-coverts greyish, paler on the inner, darker on the outer margin of the wing; bill black; feet orange-red; iris deep lake-red. Total length 13·5 inches, culmen 0·95, wing 11·8, tail 6, tarsus 1·55.

Hab. Southern States of North America, ranging through Central America as far south as Guatemala.

71. MICROHIERAX *.

Hierax, *Vigors, Zool. Journ.* i. p. 339 (1824, *nec Leach*, 1816) ..... Type. H. fringillarius.



Foot of *Microhierax cærulescens.*

Range. Eastern Himalayas, Assam, Burmah; Malayan peninsula; Java; Sumatra; Borneo; Philippines.

Key to the Species.

a. Hind neck white ..... *cærulescens*, p. 366.
b. Hind neck like rest of back.
a'. Abdomen rufous ..... *fringillarius*, p. 367.
b'. Abdomen white.
a''. Thighs white ..... *melanoleucus*, p. 368.
b''. Thighs black ..... *erythrogenys*, p. 369.

1. Microhierax cærulescens.

The little Black-and-Orange-coloured Hawk, *Edw. Nat. Hist. B.* iii. p. 108, pl. 108 (1750) †.
Le Faucon de Bengale, *Briss. Orn.* vi. *Suppl.* p. 20 (1760, *ex Edw.*).
Falco cærulescens, *Linn. S. N.* i. p. 126 (1766, *ex Edw.*).
Harpagus cærulescens, *Sw. Classif. B.* ii. p. 213 (1837).
Hierax bengalensis, *Blyth, J. A. S. B.* xi. pt. ii. p. 789 (1842); *Gray, Cat. Mamm. & B. Nepal, Hodgs.* p. 45 (1846); *Bp. Consp.* i. p. 28 (1850).
Hierax eutolmus v. bengalensis, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Hierax cærulescens, *Gray, Gen. B.* i. p. 21 (1844); *Strickl. Orn. Syn.* p. 102 (1855).
Hierax eutolmus, *Gray, Gen. B.* i. p. 21 (1844); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 17 (1849); *id. J. A. S. B.* xix. p. 324 (1850); *Strickl. Orn. Syn.* p. 103 (1855); *Jerd. B. of India*, i. p. 42 (1862);

* μικρὸς, *parvus*, ἱέραξ, *accipiter.*
† The absence of the white nuchal collar in Edwards's plate and description alone prevents us from fully recognizing the bird here referred to that title. This discrepancy may have been caused by the state of the specimen, which is stated to have come out of spirits. No other member of the genus suits the description; but, with the above allowance being made, it coincides admirably with the species afterwards described as *Hierax eutolmus.*

Blyth, Ibis, 1863, p. 11, and 1866, p. 239; *Gray, Hand-l. B.* i. p. 24 (1869); *Hume, Rough Notes*, i. p. 111 (1869); *Blanf. Ibis*, 1870, p. 464.

Falco cærulescens bengalensis, *Schl. Mus. P.-B.* Falc. p. 33 (1862).

Adult. Above dull greenish black, the greenish tinge scarcely perceptible; forehead white, as well as a broad eyebrow running down the sides of the neck, and joining the hind neck, which is also white, and forms a broad collar; feathers round the eye and ear-coverts black; quills black, notched or broadly barred with white on the inner web, one or two of the primaries also spotted with white near the base of the outer web, the secondaries greenish black like the wing-coverts and rest of back; tail black, spotted with white near the base of the inner webs, forming rather broad bars; cheeks and sides of neck white; underparts silky white, the throat, abdomen, thighs, and under tail-coverts chestnut; sides of breast greenish black; wing-coverts white, some of the lower ones slightly spotted with black. Total length 5·5 inches, culmen 0·55, wing 3·9, tail 2·1, tarsus 0·8.

Adult female. Similar to male, but a little larger. Total length 6·4 inches, culmen 0·55, wing 4·3, tail 2·55, tarsus 0·85.

A specimen from Cambodia and another from Pegu are slightly brighter in colour and have broader white foreheads than Mr. Hodgson's examples; otherwise I can see no differences.

Hab. Nepal, Sikkim, Assam, Arakan, Burmah, Tenasserim, Siam, and Cambodia.

a. Ad. sk.	India.	M. A. Boucard [P.].
b, c. Ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
d. Ad. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
e. Juv. sk.	Darjiling.	R. B. Sharpe, Esq. [P.].
f. Ad. sk.	Ava.	W. T. Blanford, Esq. [P.].
g. Ad. sk.	Siam (*Schomburgk*).	J. Gould, Esq. [P.].
h. Ad. sk.	Cambodia.	M. Mouhot [C.].
i. Ad. sk.	Tenasserim.	W. B. D. Packman, Esq. [P.].
j, k. Sterna.		B. H. Hodgson, Esq. [P.].

2. Microhierax fringillarius.

Falco cærulescens (*nec Linn.*), *Horsf. Tr. Linn. Soc.* xiii. p. 135 (1822); *id. Zool. Res. Java*, pl. 35 (1824); *Temm. Pl. Col.* i. pl. 97 (1824); *Vieill. & Oud. Gal. Ois.* i. p. 46, pl. 18 (1825); *Kittl. Kupf. Vög.* p. 4, pl. iii. fig. 2 (1832); *Schl. Mus. P.-B.* Falc. p. 33 (1862); *id. Vog. Nederl. Ind. Valkv.* pp. 7, 49, pl. 2. fig. 1 (1866).

Falco fringillarius, *Drap. Dict. Class. d'Hist. Nat.* vi. p. 412, pl. v. (1824).

Hierax cærulescens, *Vig. Zool. Journ.* i. p. 339 (1824); *id. Life Raffl.* p. 649 (1830); *Blyth, J. A. S. B.* xii. p. 180* (1843); *Gray, Gen. of B.* i. p. 21 (1844); *Kaup, Contr. Orn.* 1850, p. 52; *Bp. Consp.* i. p. 28 (1850); *Bp. Rev. et Mag. de Zool.* 1854, p. 537; *Moore, P. Z. S.* 1854, p. 258; *Strickl. Orn. Syn.* p. 102 (1855); *Scl. P. Z. S.* 1863, p. 206; *Wall. Ibis*, 1868, p. 6; *Gray, Hand-l. B.* i. p. 24 (1869); *Wald. Ibis*, 1872, p. 362.

Hierax malayensis, *Strickl. Ann. N. H.* xiii. p. 33 (1844); *Gray, Gen. of B.* i. p. 21 (1844); *Strickl. Orn. Syn.* p. 104 (1855); *Pelz. Verh. z.-b. Wien*, xiii. p. 629 (1863); *id. Reis. Nov., Vög.* p. 3 (1865).

Hierax fringillarius, *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 17 (1849); *id. Ibis*, 1863, p. 11; *Wald. Ibis*, 1871, p. 161.
Hierax melanoleucus, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 16 (1854, *nec Blyth*).

Adult. Above deep blue-black, with a very faint greenish tinge in some examples; quills and tail black, barred with white on the inner web; forehead and a broad stripe from behind the eye down the sides of the neck white; lores, feathers round the eye, ear-coverts, and hinder parts of cheeks black; fore part of cheeks and underparts silky white, the throat slightly, the abdomen and under tail-coverts more richly washed with ochre; sides of body, flanks, and outer face of thighs glossy black; bill and feet horn-brown; iris dark. Total length 6·1 inches, culmen 0·5, wing 3·9, tail 2·3, tarsus 0·85.

Young. Like the adult, but has the bill yellow, horn-brown at tip, the forehead, cheeks, and streak down the sides of neck tinged with orange, the upper tail-coverts and tail-feathers margined with orange-buff.

Hab. Malayan peninsula; Java; Sumatra; Borneo.

a. Ad. st.	Java.	Purchased.
b. Ad. sk.	Java.	Hon. East-India Co. [P.].
c. Ad. sk.	Java.	— Nightingale, Esq. [P.].
d. Ad. st.	Borneo.	Purchased.
e. Ad. sk.	Borneo.	Rajah Brooke [P.].
f, g. Juv. sk.	Borneo.	J. Gould, Esq. [P.].
h. Ad. sk.	Sumatra.	A. R. Wallace, Esq. [C.].
i. ♀ ad. sk.	Malacca.	A. R. Wallace, Esq. [C.].
k. Juv. sk.	Malacca.	A. R. Wallace, Esq. [C.].
l. Ad. sk.	Malacca.	— Harvey, Esq. [P.].
m. Juv. sk.	Malacca.	— Harvey, Esq. [P.].
n. Ad. sk.	Malacca.	Walter Ewer, Esq. [P.].
o. Ad. sk.	Malacca.	R. B. Sharpe, Esq. [P.].
p. Ad. sk.	Singapore.	Earl of Ellenborough [P.].
q. Skeleton.		Purchased.

3. Microhierax melanoleucus.

Hierax cærulescens, *Blyth, J. A. S. B.* xi. pt. 1, p. 789 (1842).
Hierax melanoleucus, *Blyth, J. A. S. B.* xii. pt. 1, p. 179* (1843); *id. Cat. B. Mus. As. Soc. Beng.* xix. p. 324 (1849); *id. J. A. S. B.* xix. p. 324 (1850); *Blyth, Ibis*, 1863, p. 10, and 1865, p. 29; *Gray, Hand-l. B.* i. p. 24 (1869); *Jerd. Ibis*, 1871, p. 243.

Adult. Above entirely glossy greenish black, the wings and tail uniform with the back, the latter tipped with white and marked on the inner web with four white bars; quills lighter and more ashy below, and marked with numerous white bars on inner web; a narrow frontal line and a distinct eyebrow running down the side of the neck white; cheeks and ear-coverts greenish black; entire under-surface, including the thighs as well as the under wing- and tail-coverts, white; bill and feet black; iris dark. Total length 6·8 inches, culmen 0·5, wing 4·2, tail 2·9, tarsus 0·95. (*Mus. Walden.*)

Hab. Assam and Kachar.

4. Microhierax erythrogenys.

Hierax erythrogenys, *Vigors, P. Z. S.* 1831, p. 96; *Blyth, J. A. S. B.* xi. pt. 2, p. 789 (1842); *Gray, Gen. B.* i. p. 21 (1844); *Fraser, Zool. Typ.* pl. 31 (1849); *Kaup, Contr. Orn.* 1850, p. 52; *Strickl. Orn. Syn.* p. 102 (1855); *Gray, Hand.-l. B.* i. p. 24 (1869).

Falco sericeus, *Kittl. Kupf. Vög.* p. 4, pl. iii. fig. 3 (1832); *id. Mém. Acad. St. Pétersb.* ii. p. 1, tab. 1 (1835); *Schl. Mus. P.-B.* Falc. p. 34 (1862).

Falco Gironnieri, *Eydoux et Souley. Voy. Bonite, Zool.* i. p. 71, pl. 1 (1841).

Hierax sericeus, *Gray, Gen. B.* i. p. 21 (1844); *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Strickl. Orn. Syn.* p. 104 (1855); *Pelz. Verh. z.-b. Wien*, xiii. p. 630 (1863); *Wall. Ibis*, 1868, p. 6; *Gray, Hand-l. B.* i. p. 24 (1869).

Adult. Above glossy greenish black, primaries pure black; cheeks, ear-coverts, sides of the neck, and entire under surface silky white, the sides of the body, flanks, and thighs, as well as the lower under tail-coverts greenish black; bill shiny black; cere, orbits, and feet black; iris dark brown. Total length 6·5 inches, culmen 0·5, wing 4·4, tail 2·7, tarsus 0·85.

Young (*H. erythrogenys*). Similar to the adult, but having a tinge of bright ochre on the ear-coverts; beak yellowish, inclining to horn-blue at the point.

Hab. Philippine Islands.

a. Juv. st.	Manilla.	H. Lindsay, Esq. [C.].	Type of species.
b. Ad. st.	Manilla.	J. Gould, Esq. [P.].	
c. Ad. sk.	Philippine Islands.		
*d**. Ad. st.	Philippine Islands.	— Fortune, Esq. [C.].	
e. Ad. st.		Hugh Cuming, Esq. [C.].	

72. POLIOHIERAX.

	Type.
Polihierax, *Kaup, Isis*, 1847, p. 47	P. semitorquatus.



Leg of *Poliohierax semitorquatus*.

Range. N.E. Africa; S.E. Africa; Burmah.

* This specimen is registered as from Northern China [*cf.* Cat. Accipitr. 1848, p. 63], where, however, the species is not known at all. It is most probable

Key to the species.

a. Hind neck white ..... *semitorquatus*, p. 370.
b. Hind neck slaty blue, like back ..... *insignis*, p. 370.

1. Poliohierax semitorquatus.

Falco semitorquatus, *Smith, Rep. Exp. Centr. Afr.* p. 44 (1836), and *Ill. Ind. Orn. S. Afr.* pl. 1 (1849); *Strickl. Orn. Syn.* p. 93 (1855); *Heugl. Orn. N.O.-Afr.* p. 38 (1869).
Hypotriorchis semitorquatus, *Gray, Gen. B.* i. p. 20 (1844); *Scl. P. Z. S.* 1864, p. 107; *Gray, Hand-l.* i. p. 22 (1869).
Polihierax semitorquatus, *Kaup, Isis*, 1847, p. 47; *Bp. Consp.* i. p. 20 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 16 (1854); *Bp. Rev. et Mag. de Zool.* 1854, p. 537; *Anderss. P. Z. S.* 1864, p. 4; *id. B. Dam. Ld. ed. Gurney*, p. 19 (1872).
Hypotriorchis castanonotus, *Heugl. Ibis*, 1860, p. 407; *Scl. Ibis*, 1861, p. 346, pl. xiii.; *Gray, Hand-l. B.* i. p. 22 (1869).

Adult male. Above bluish grey, the head darker, the hind neck and upper tail-coverts pure white; quills and tail brown, spotted on the outer and barred on the inner webs with white, the secondaries and tail-feathers also tipped with white; forehead, sides of the face, and underparts white; under wing-coverts white, with indistinct brown cross bars on some of the lower ones; bill yellow, horn-coloured at tip; cere, orbits, and feet yellow, claws horn-brown. Total length 7·5 inches, culmen 0·5, wing 4·6, tail 3·2, tarsus 1·2.

Adult female. Differs from the male in having the interscapulary region and scapulars deep vinous chestnut. Total length 7·5 inches, culmen 0·5, wing 4·8, tail 3, tarsus 1·15.

A specimen, apparently of an adult male, from North-eastern Africa, collected by Sir W. C. Harris, is in the Museum. It is rather darker grey than the South-African examples, and has the white bars on the under surface of the wings and tail rather broader.

Hab. South-eastern and North-eastern Africa.

2. Poliohierax insignis.

Polihierax insignis, *Wald. P. Z. S.* 1871, p. 627, *et Ibis*, 1872, pp. 200, 471.
Lithofalco feildeni, *Hume, J. A. S. B.* 1872, p. 70.

Adult male (type of species). Above slaty blue, with distinct black shaft-stripes to the feathers of the head and back; lower back, rump, and upper tail-coverts pure white; wing-coverts a little darker than the back, and not having such distinct shaft-stripes; primary coverts and primaries blackish, the secondaries somewhat washed with slaty grey, spotted externally and barred internally with white; tail black, tipped with white, and crossed

that Mr. Fortune procured these birds from Manilla, whence also Mr. Swinhoe has once received a collection, and I have accordingly altered the locality of the specimen.

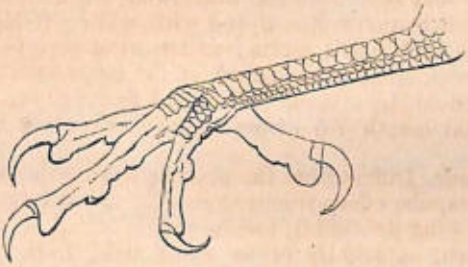
with three bands of white not strictly conterminous, and disappearing on the centre feathers; forehead and sides of face whiter than the head, and narrowly streaked with black; under surface of body white, the flanks washed with grey, and, like the upper breast, streaked with black shaft-stripes; under wing-coverts white, slightly marked with greyish black; cere, orbits, and feet yellow; bill leaden black, yellow at base. Total length 10·5 inches, culmen 0·85, wing 5·7, tail 5·2, tarsus 1·35. (*Mus. Walden.*)

Female. Similar to the male, but distinguished by its bright ferruginous head and mantle; forehead, eyebrow, and sides of face ashy white, with narrow linear black shaft-stripes. Total length 11·3 inches, wing 6·1, tail 5·2, tarsus 1·45. (*Mus. Walden.*)

Hab. Vicinity of Tonghoo, Burmah.

73. SPIZIAPTERYX.

	Type.
Spiziapteryx, *Kaup, P. Z. S.* 1851, p. 43	S. circumcinctus.
Hemihierax, *Burm. Reis. La Plata-St.* ii. p. 437 (1861)	S. circumcinctus.



Tarsus of *Spiziapteryx circumcinctus.*

Range. Confined to the Argentine Republic.

1. Spiziapteryx circumcinctus.

Harpagus circumcinctus, *Kaup, P. Z. S.* 1851, p. 43.
Spiziapteryx circumcinctus, *Kaup, P. Z. S.* 1851, p. 43; *Bp. Rev. et Mag. de Zool.* 1854, p. 537; *Scl. & Salv. Nomencl.* p. 122 (1873).
Falco punctipennis, *Burm. J. f. O.* 1860, p. 242.
Hemihierax circumcinctus, *Burm. Reis. La Plata-St.* ii. p. 437 (1861).
Falco circumcinctus, *Scl. Ibis*, 1862, p. 23, pl. ii.

Above ashy brown, the head darker and inclining to blackish brown; rump and upper tail-coverts creamy white; scapulars ashy brown like the back, streaked with blackish brown; wing-coverts dark brown, with blackish streaks down the centre of each, with two spots of white on each side; quills blackish, with large spots of white on both webs; tail black, the centre feathers tipped with white, the others spotted on the outer and barred on the inner web with white; a distinct eyebrow and a loral streak white; sides of face blackish, varied with white, the hinder part of the cheeks white, streaked with blackish; throat dull white; rest of under

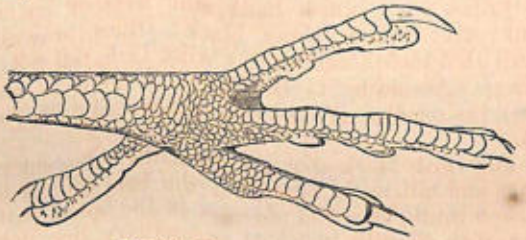
surface ashy white, with longitudinal streaks of black down the centre of the feather; thighs and under tail-coverts pure white; under wing-coverts white, with narrow streaks of black down the feathers; under surface of wing ashy brown, the inner web white at the base, and notched with white for the greater part of its length. Total length 11·5 inches, culmen 0·8, wing 6·35, tail 5·7, tarsus 1·9. (*Mus. Salvin and Godman.*)

Hab. The same as that of the genus.

74. HARPA.

Type.

Harpe, *Bp. C. R.* xli. p. 652 (1855) ..... H. novæ zealandiæ.
Hieracidea, *auct. recent.*



Foot of *Harpa novæ zealandiæ.*

Range. New Zealand and the Auckland Islands.

1. Harpa novæ zealandiæ.

New-Zealand Falcon, *Lath. Gen. Syn.* i. p. 57 (1781).
Falco novæ zealandiæ, *Gm. S. N.* i. p. 268 (1788, *ex Lath.*); *Gray, Voy. Ereb. & Terr. Birds*, p. 1 (1844); *Strickl. Orn. Syn.* p. 94 (1855); *Schl. Mus. P.-B.* Falc. p. 35 (1862); *Potts, Tr. N. Z. Inst.* ii. p. 51 (1869); *Finsch, J. f. O.* 1872, p. 87.
Falco harpe, *Gray, in Dieff. Trav.* ii. App. p. 186 (1843, *ex Forst. icon. ined.*); *Forst. Descr. Anim.* p. 68 (1844).
Hypotriorchis novæ zealandiæ, *Gray, Gen. B.* i. p. 20 (1844).
Hieracidea novæ zealandiæ, *Kaup, Isis*, 1847, p. 80; *id. Contr. Orn.* 1850, p. 56; *Bp. Consp.* i. p. 22 (1850); *id. Rev. et Mag.* 1854, p. 536; *Gray, Ibis*, 1862, p. 215; *Layard, Ibis*, 1863, p. 244; *Buller, Essay Orn. N. Z.* p. 6 (1865); *Finsch, J. f. O.* 1867, p. 243; *Gray, Hand-l. B.* i. p. 22 (1869); *Gurney, Ibis*, 1870, p. 535; *Hutton, Ibis*, 1871, p. 101; *id. Cat. B. N. Zeal.* p. 1 (1871); *Buller, Ibis*, 1872, p. 332, *et B. N. Zeal.* p. 1, pl. 1 (1872); *Hutton, Ibis*, 1873, p. 100; *Sharpe, t. c.* p. 327.
Harpe novæ zealandiæ, *Bp. C. R.* xli. p. 652 (1855).

Adult female. Above blackish brown, the crown and nape deeper and blacker; the whole of the back, scapulars, and wing-coverts barred across with narrow lines of pale rufous, deeper and broader on the upper tail-coverts, the bars on the greater wing-coverts and inner secondaries rufous or ashy white; quills blackish brown, interruptedly barred externally with ashy white, banded more broadly on the inner webs with dull white; tail dark brown,

tipped with rufous white and crossed by eight bands, more or less distinctly indicated, of greyish white; lores whitish; a faintly pronounced superciliary streak rufous, varied with black, as also are the sides of neck; ear-coverts blackish, and a moustachial streak not very distinctly separated from the ear-coverts by the rufous of the sides of the neck; under surface of body buffy white, with an ochraceous tinge on the breast, the throat unspotted, but the breast and abdomen mesially streaked with dark brown, broader on the sides of the body, where the white forms large spots on both webs, giving a distinctly ocellated appearance; thighs and under tail-coverts bright rust-colour, with narrow shaft-stripes of dark brown; under wing-coverts buffy white, barred across with brown, slightly tinged with chestnut, the axillaries distinctly ocellated with white; cere pale yellow; bill bluish black, the base of lower mandible horn-colour; feet yellow, claws black; irides brownish yellow. Total length 18·5 inches, culmen 1·3, wing 11·5, tail 8·3, tarsus 2·6.

Adult male. According to Dr. Buller (*l. c.*) it is only a little smaller than the female. Wing 11·25 inches, tail 8·25, culmen 1·25, tarsus 2·5.

Young. Brownish black above, without the rufescent cross markings; wings and tail as in adult, but the bars on the latter more indistinct, less continuous, and not seen on the apical portion; lores whitish; a very slightly indicated superciliary line deep rufous; facial features as in adult; throat and lower abdomen buffy white, with distinct brown shaft-stripes; rest of under surface clouded with brown, with black shaft-stripes, varied here and there with a few ocellated rufous spots, more distinct on the flanks; thighs and under tail-coverts dull chestnut, clouded with blackish centres to the feathers; under wing-coverts much as in adult, but the white markings smaller, giving a less ocellated appearance; cere and orbits bluish white; legs dark grey, claws black; iris black.

Hab. The same as that of the genus.

a.	♀ ad. st.	Auckland Islands.	The Admiralty [P.].
b.	♂ ad. sk.	Auckland Islands.	The Admiralty [P.].
c.	♀ juv. sk.	New Zealand.	Sir George Grey [P.].
d.	Juv. sk.	New Zealand.	Sir George Grey [P.].
e.	Juv. sk.	New Zealand.	Sir George Grey [P.].
f.	Juv. sk.	New Zealand.	Sir George Grey [P.].
g.	♀ juv. sk.	New Zealand.	Dr. Haast [C.].
h.	♀ juv. sk.	South Island, N. Z.	Percy Earl, Esq. [C.].
i.	♂ ad. sk.	Stewart's Island, N. Z.	Capt. Stokes, R.N. [P.].

Subsp. *a.* **Harpa australis.**

Falco brunnea (*nec Bechst.*), *Gould, P. Z. S.* 1837, p. 138, *et Syn. B. Austr.* part iii. (1838); *Gray, App. Dieff. Trav.* ii. p. 186 (1843).

Falco australis, *Hombr. & Jacq. Ann. Sci. Nat.* 1841, p. 312, *et Voy. Pôle Sud, Atlas, Ois.* pl. 1. fig. 1 (1842–53).

Falco ferox, *Peale, U. S. Expl. Exp.* p. 67 (1848).

Falco novæ zealandiæ, *Hombr. & Jacq. Voy. Pôle Sud, Zool.* iii. p. 47 (1853).

Ieracidea novæ zealandiæ, *Cass. U. S. Expl. Exp.* p. 89 (1858).

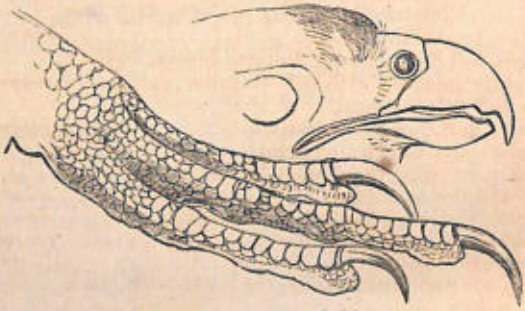
Hieracidea brunnea, *Gray, Ibis*, 1862, p. 215; *Layard, Ibis*, 1863, p. 332; *Pelz. Verh. z.-b. Wien*, xiii. p. 620 (1863); *Buller, Tr. N. Z. Inst.* i. p. 106 (1868); *Gurney, Ibis*, 1870, p. 535; *Buller, Ibis*, 1872, p. 332; *id. B. N. Zeal.* p. 6 (1872).
Ieracidea brunneus, *Gray, Hand-l. B.* i. p. 22 (1869).
Hieracidea australis, *Sharpe, Ibis*, 1873, p. 327.

Adult. Similar to *H. novæ zealandiæ*, but smaller and more ashy brown above. *Male*, wing 9 inches; *female*, wing 11. (*Buller.*)
Hab. New Zealand.

a. ♂ ad. st.	New Zealand.	Miss R. Stone [P.].
b. ♀ juv. st.	New Zealand.	Miss R. Stone [P.].
c. Ad. sk.	New Zealand.	
d. Juv. sk.	New Zealand.	Capt. Stokes, R.N. [P.].
e. ♀ juv. sk.	Chalky Bay, N. Z.	Capt. Stokes, R.N. [P.].
f. ♀ juv. sk.	South Island, N. Z.	Percy Earl, Esq. [C.].
g. ♂ ad. sk.	River Hutt, N. Z.	F. Strange, Esq. [C.].
h. Juv. sk.	South Island, N. Z. (*Hutton*).	R. B. Sharpe, Esq. [P.].
i. Skeleton.		Zoological Society.

75. FALCO*.

	Type.
Falco, *Linn. S. N.* i. p. 124 (1766)	F. communis.
Tinnunculus, *Vieill. Ois. Amér. Sept.* i. p. 39 (1807)	F. columbarius.
Hypotriorchis, *Boie, Isis*, 1826, p. 967	F. subbuteo.
Æsalon, *Kaup, Natürl. Syst.* p. 40 (1829)	F. regulus.
Dendrofalco, *Gray, List Gen. B.* p. 3 (1840)	F. subbuteo.
Lithofalco, *Blasius*	F. regulus.
Gennaia, *Kaup, Isis*, 1847, p. 69	F. juggur.
Chicquera, *Bp. Rev. et. Mag. de Zool.* 1854, p. 535	F. chicquera.
Turumtia, *Blyth, Ibis*, 1863, p. 9	F. chicquera.



Head and foot of *Falco communis*.

Range. The whole of the Old and New Worlds, excepting Oceania.

* Notwithstanding the fine series of Falcons in the Museum, I have in the present table only endeavoured to draw up diagnostic characters of the adult birds, as there are several important facts still in abeyance, such as the determination of *Falco atriceps*, Hume, which I have not seen, and the distinctness of the southern from the northern Peregrines. Until these points are settled I have preferred not to attempt a full diagnosis of the young, in order to avoid confusion.

Key to the Species.

a. Thighs particoloured.
  a'. Thighs transversely barred with narrow black lines.
    a''. Crown of head blackish ..... *communis* and allies, pp. 376–385.
    b''. Crown of head rufous ..... *chicquera*, p. 403. *ruficollis*, p. 404.
  b'. Thighs narrowly streaked, or at most marked with a few arrow-head spots of blackish.
    c''. Back uniform above, with a few black shaft-stripes only.
      a'''. Everywhere clear blue-grey, the tail blue-grey, with one broad subterminal band..... *regulus*, p. 406.
      b'''. Very much smaller and darker; tail blue-grey, with four black bands, the subterminal one much the broadest ..... *columbarius*, p. 408.
    d''. Back barred across.
      c'''. Forehead and nape rufous; hinder crown bluish grey.
        *a*⁴. Much larger: wing 11·8–12 inches, underneath with wavy bars..... *babylonicus*, p. 387.
        *b*⁴. Smaller: wing not exceeding 11·5 inches, underneath isabelline rufous ..... *barbarus*, p. 386.
      d'''. Forehead blackish, the hinder crown and nape rufous.
        *c*⁴. With a very narrow frontal line of black.. *feldegii*, p. 389.
        *d*⁴. With a very broad frontal band of black; interscapulary region blackish.
          *a*⁵. Sides of body and abdomen with distinct blackish spots; under surface of body buffy white or pale isabelline ..... *tanypterus*, p. 391.
          *b*⁵. Underneath entirely uniform, deep isabelline rufous..... *biarmicus*, p. 391.
  c'. Thighs and flanks nearly uniform brown, or only slightly mottled, with pale margins ..... *juggur*, p. 393.
b. Thighs perfectly uniform.
  d'. Thighs dull brown; breast white ..... *juggur*, p. 393.
  e'. Thighs sooty brown like breast.
    e''. Larger: wing more than 14 inches; forehead and throat whitish..... *subniger*, p. 394.
    f''. Smaller: wing not 14 inches ..... *eleonoræ*, p. 404.
  f'. Thighs leaden grey like breast ..... *concolor*, p. 405.
  g'. Thighs rufous.
    g''. Throat and breast white, the latter with black stripes.
      e'''. Larger: wing 11·8–13·3 inches ..... *eleonoræ*, p. 404.
      f'''. Smaller: wing 9·6–10·6 inches ..... *subbuteo*, p. 395.
    h''. Throat white, breast rufous.
      g'''. Chest rufous.
        *e*⁴. Sides of crown not different from crown itself.
          *c*⁵. No white forehead.
            *a*⁶. With a blue shade above..... *severus*, p. 397.
            *b*⁶. With a black shade above ..... *religiosus*, p. 397.
          *d*⁵. Forehead whitish; breast mottled or streaked.

c^6. Larger: flanks with greyish bars and shaft-stripes; middle tail-feathers plainly barred; primaries barred with rufous for nearly their full length ..... *lunulatus*, p. 398.

d^6. Smaller: flanks uniform rufous; middle tail-feathers not barred; primaries very slightly barred with rufous near base of inner web .... *cuvieri*, p. 400.

f^4. A broad streak of orange from hinder sides of crown down sides of neck ..... *fusco-cærulescens*, p. 400.

h'''. Chest black, spotted with white.

g^4. Much larger and more powerful; chest entirely rufous, only the middle of the breast black with fulvous spots ..... *aurantius*, p. 402.

h^4. Very much smaller and more slender, only the fore neck tinged with rufous; entire breast black with fulvous spots or bars. *albigularis*, p. 401.

h'. Thighs white..... *hypoleucus*, p. 394.

1. Falco communis†.

Le Faucon, *Briss. Orn.* i. p. 321 (1760); *Buff. Pl. Enl.* i. p. 197, pl. 421, *et Hist. Nat. Ois.* i. p. 249 (1770).

Le Faucon pèlerin, *Briss. Orn.* i. p. 341 (1760).

Le Faucon sors, *Buff. Pl. Enl.* i. pl. 470 (1770).

Oriental Hawk, *Lath. Gen. Syn. Suppl.* p. 34* (1787).

Behree Falcon, *Lath. Gen. Syn. Suppl.* p. 35 (1787).

Falco orientalis, *Gm. Syst. Nat.* i. p. 264 (1788, *ex Lath.*); *Lath. Ind. Orn.* i. p. 22 (1790); *Daud. Traité*, ii. p. 76 (1800); *Strickl. Orn. Syn.* p. 83 (1855); *Gray, Hand-l. B.* i. p. 19 (1869).

Falco communis, *Gm. S. N.* i. p. 270 (1788, *ex Buff.*); *Less. Traité*, p. 88, pl. 16. fig. 1 (1831); *Schl. Rev. Crit.* p. ii (1844); *Temm. & Schl. F. J. Aves*, p. 1 (1850); *Bp. Consp.* i. p. 23 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 536; *Schl. Vog. Nederl.* p. 6, pls. 1–3 (1854); *id. Mus. P.-B.* Falcones, p. 1 (1862); *id. Vog. Nederl. Ind.* Falcones, pp. 2, 44, pl. 1. fig. 2 (1866); *Degl. & Gerbe, Orn. Eur.* i. p. 81 (1867); *Sundev. Sv. Fogl.* p. 206, pl. xxvi. fig. 2 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 20 (1869); *Bocage, Cat. Lisb. Mus.* p. 42 (1869); *Salvad. Faun. Ital. Ucc.* p. 17 (1871); *Sharpe, Ann. N. H.* (4) xi. p. 222 (1873); *Schl. Revue Accipitr.* p. 32 (1873).

Falco hornotinus, *Gm. S. N.* i. p. 270 (1788, *ex Buff.*).

Falco peregrinus, *Gm. S. N.* i. p. 272 (1788, *ex Briss.*); *Wils. Am. Orn.* ix. p. 120, pl. lxxvi. (1814); *Temm. Man. d'Orn.* i. p. 22 (1820); *Naum. Vög. Deutschl.* i. Taf. 24, 25 (1822); *Werner, Atlas*,

† The older authors apparently derived their nomenclature from the terms in use in falconry; and it is difficult to tell what their descriptions really were intended for, as in several instances it is evident the Goshawk is mixed up with the Peregrine. Two names have been adopted by modern writers, viz. *Falco communis* and *Falco peregrinus*, titles founded by Gmelin on descriptions of his predecessors. The latter has generally been adopted; but inasmuch as both are said to have yellow irides, they are both open to the same objection, though they are otherwise good descriptions of the Common Peregrine. I prefer in this case to employ the title of *Falco communis* of Gmelin, founded on the "Faucon" of Brisson and Buffon. There can be no doubt as to the species intended by the latter, as will be seen by the figures in the 'Planches Enluminées.'

Rapaces, pl. 8 (1827); *Sw. & Rich. Faun. Bor.-Am.* p. 23 (1831); *Gould, B. Eur.* pl. 21 (1837); *Audubon, B. N. Am.* i. p. 84, pl. xx. (1839); *Magill. Hist. Brit. B.* iii. p. 294 (1840); *Yarr. Hist. Brit. B.* i. p. 32 (1843); *Gray, Gen. B.* i. p. 19 (1844); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 13 (1849); *Kaup, Contr. Orn.* 1850, p. 55; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 16 (1854); *Strickl. Orn. Syn.* p. 81 (1855); *Salvin & Brodr. Falconry*, p. 19, pls. 1–5 (1855); *Fritsch, Vög. Eur.* tab. x. figs. 8, 9 (1858); *Reinh. Ibis*, 1861, p. 5; *Gurney, t. c.* p. 131; *Jerd. B. Ind.* i. p. 21 (1862); *Blakist. Ibis*, 1862, p. 314; *Gould, B. Gt. Br.* pt. 1 (1862); *Pelz. P. Z. S.* 1863, p. 206; *Gray, Cat. Brit. B.* p. 11 (1863); *Blyth, Ibis*, 1866, p. 234; *Whitely, Ibis*, 1867, p. 194; *Wall. Ibis*, 1868, p. 5; *Hume, Rough Notes*, i. p. 49 (1869); *Gray, Hand-l. B.* i. p. 19 (1869); *Jerd. Ibis*, 1871, p. 237; *Newton, ed. Yarr. Brit. B.* p. 53 (1871); *Swinhoe, P. Z. S.* 1871, p. 340; *Allen, Bull. Harv. Coll.* ii. p. 316 (1871); *Godman, Ibis*, 1872, p. 165; *Scl. & Salv. Nomencl.* p. 121 (1873).

Falco calidus, *Lath. Ind. Orn.* i. p. 41 (1790); *Gray, Hand-l. B.* i. p. 19 (1869); *Blyth, Ibis*, 1863, p. 7.

Falco lunulatus, *Daud. Traité*, ii. p. 127 (1800, *ex Lath.*).

Falco abietinus, *Bechst. Naturg. Deutschl.* ii. p. 759 (1805).

Falco gentilis, *Wils. Mem. Wern. Soc.* ii. p. 587 (1818); *Thienem. Abbild. Vogeleiern*, Taf. li. figs. 1 *a–c* (1844).

Falco cornicum, *Brehm, Vög. Deutschl.* p. 62 (1831).

Falco griseiventris, *Brehm, Isis*, 1833, p. 778.

Falco anatum, *Bp. Comp. List B. Eur. & N. Am.* p. 4 (1838, *ex Audubon*); *Gosse, B. Jamaica*, p. 16 (1847); *Bp. Consp.* p. 23 (1850); *Kaup, Contr. Orn.* 1850, p. 56; *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Strickl. Orn. Syn.* p. 83 (1855); *Cass. B. Calif.* p. 86 (1855); *Newton, Ibis*, 1859, p. 63; *Scl. & Salv. t. c.* p. 219; *Cass. in Baird's B. N. Am.* p. 7 (1860); *March, Pr. Philad. Acad.* 1863, p. 304; *Baird, Ibis*, 1867, pp. 282, 288; *Cooper, B. Calif. ed. Baird*, p. 457 (1870).

Falco micrurus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844); *Jerd. Ibis*, 1871, p. 238; *id. tom. cit.* 1872, p. 2; *Sharpe, Ann. N. H.* (4) xi. p. 223 (1873).

Le Faucon hagard, *Schl. & Verst. Traité Fauc.* pl. 11 (1853).

Le Tiercelet sors de Faucon, *iid. ut suprà*, pl. 12 (1853).

Falco nigriceps, *Cass. B. Calif.* p. 87 (1855); *id. Pr. Phil. Acad.* 1855, p. 277; *id. U. S. Astr. Exp.* pl. xiv. (1855); *Strickl. Orn. Syn.* p. 85 (1855); *Cass. in Baird, B. N. Am.* p. 8 (1860); *Gurney, Ibis*, 1867, p. 465; *Brown, Ibis*, 1868, p. 418; *Cooper, B. Calif. ed. Baird*, p. 456 (1870); *Allen, Bull. Harv. Coll.* ii. p. 317 (1871); *Sharpe, Ann. N. H.* (4) xi. p. 223 (1873).

Falco leucogenys, *Brehm, Naumannia*, 1855, p. 268.

Falco atriceps, *Hume, Ibis*, 1869, p. 356; *id. Rough Notes*, i. p. 58 (1869); *id. Ibis*, 1871, p. 24; *Jerd. tom. cit.* p. 237; *Radcl. tom. cit.* p. 363; *Jerd. Ibis*, 1872, p. 2.

Falco peregrinoides, *Vian, Rev. et Mag. de Zool.* 1867, p. 174.

Falco brookii, *Sharpe, Ann. N. H.* (4) xi. pp. 20, 222 (1873).

Adult male. Above bluish grey, much paler on the rump and upper tail-coverts, barred with blackish, the bands on the last-named parts more or less dart-shaped; head, neck, upper part of mantle, and wing-coverts blackish, with grey barring, more or less indistinct on the latter; cheeks, ear-coverts, and a short moustachial band blackish; forehead whitish; sides of neck white, forming a

patch of white separating the ear-coverts from the hind neck; under surface of body white, with a tinge of pale fawn on the breast and lower abdomen, the throat unspotted, the chest with a few narrow black shaft-stripes; rest of the under surface crossed with narrow bars of blackish, taking the form of spots in the centre of the breast, and of narrow dart-shaped lines on the under tail-coverts; quills brownish black, primaries slightly shaded with greyish, the secondaries clearer grey, crossed by dull blackish bars, the smaller median quills tipped with white; tail-feathers greyish, broadly barred with black and tipped with white, the bars more obscure towards the tip of the tail, which thus appears darker than the base; cere and eyelids yellow; bill blue, blackish towards tip; feet yellow, claws black; iris dark hazel-brown. Total length 15 inches, culmen 1·2, wing 12–12·7, tail 6·5, tarsus 2·05.

Adult female. Similar to the adult male, but larger. Total length 17 inches, culmen 1·35, wing 14·5, tail 7·5, tarsus 2·3.

Young male. Brown, all the feathers margined with buffy brown, shading off into white on the extreme edge; primaries dark brown, without any perceptible paler margin; upper tail-coverts and tail-feathers brown, broadly tipped with buffy white, the outer web spotted, and the inner one barred with pale rufous, more or less distinct; crown of head brown, with paler edgings, like the back, forehead and fore part of crown, a broad streak from the hind part of eye to the nape, and the whole of the latter mottled with white and slightly tinged with rufous; feathers in front of eye, moustachial streak, and feathers above the ear-coverts dark brown, the sides of the face and neck whitish, with a few dark brown shaft-stripes; under surface of the body whitish, the throat unspotted, all the rest of the feathers dark brown in the centre, these central markings becoming broader and more dart-shaped on the sides of the body, while on the lower flanks they take the form of interrupted bars; cere and eyelids blue; feet yellow. Total length 15 inches, wing 12·2.

Young female. Similar to the young male, but much larger. Total length 17 inches, wing 14.

Young male on leaving the nest. Brown, all the feathers edged with rufous, a clear greyish shade pervading the upper surface, and particularly distinct on the secondaries; head and neck rusty buff, the sides of the crown and occiput, the nape and hind neck, the feathers behind the eye, and the moustachial line mottled with blackish; under surface of the body rusty buff, with longitudinal median spots of dark brown, fewer on the thighs, and changing into bars on the under wing- and tail-coverts; throat paler and unspotted*.

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* The above descriptions are taken from European specimens; but I add some of birds from various localities, to aid in a further examination of the questions at issue:—

a. From the Himalayas, ? = F. atriceps, *Hume.*

Adult male. Upper surface pale blue-grey, lighter on the rump and upper tail-coverts, very narrowly barred across with greyish black, nearly obsolete on

a. ♀ ad. st.	Great Britain.	
b. ♂ ad. st.	Devonshire.	Col. Montagu [P.].
c. ♂ juv. st.	Devonshire.	Col. Montagu [P.].
d. ♀ ad. st.	Devonshire.	Col. Montagu [P.].
e. ♂ ad. st.	Bickham, Devon.	

the rump, but darker and more distinct on the upper parts, becoming black on the crown and hind neck, but still with a greyish shade; forehead scarcely at all whitish; lores whitish, just tipped with blackish; fore part of cheeks and a moustachial streak greyish black, the ear-coverts also washed with greyish; entire throat and the upper breast, as well as the sides of the neck, pure white, without any markings at all; rest of the under surface of the body white, with very narrow brownish cross bars, on the lower part of the breast a few small spots of black; wing-coverts blue-grey, with nearly obsolete blackish cross markings, the least wing-coverts darker, like the upper back; quills black, with a greyish shade externally, the secondaries narrowly tipped with white, the innermost ones pale blue-grey like the lower back, with obsolete blackish cross markings; tail blue-grey, tipped with buffy white, narrowly barred with blackish, the whole tail much darker towards the tip, where the bars become broader, the subterminal one being the broadest of all; bill light blue, dark at the tip; cere and orbits light yellow; legs and feet rather brighter yellow; iris deep brown. Total length 15·7 inches, culmen 1·15, wing 11·5, tail 6·5, tarsus 1·9.

Female. Similar to the male, but larger and rather darker. Total length 19·5 inches, culmen 1·4, wing 13·4, tail 8, tarsus 2·15.

β. From Japan.

Young. All the feathers of the upper surface deep brown, margined with paler brown, the upper tail-coverts and tail with broad whitish tips; the basal half of the latter marked with obsolete rufous spots and bars; frontal line and lores whitish; crown of head dark brown, with narrow fulvous margins to the feathers; nape and hind neck mottled with clear fulvous, with somewhat of a rufous tinge; feathers under the eye blackish, produced backwards along the upper ear-coverts, where there is a browner tinge; cheek-stripe deep black; sides of the neck white, with a few central spots of black on some of the lower feathers; chin and throat white, the latter with a few shaft-stripes of brown; rest of the under surface whitish, with a wash of pale tawny buff from the breast downwards, all the feathers dark brown in the centre, giving a very broadly striped appearance; the under tail-coverts buff, with broad irregular bars of brown, somewhat arrow-shaped on the outer ones; under wing-coverts very dark brown, the least ones margined with buff, the greater ones and the axillaries spotted with buffy white; under surface of the quills spotted, the primaries barred near the base of inner web with pale rufous. Total length 19 inches, culmen 1·35, wing 14·5, tail 8·5, tarsus 1·2.

In my paper on Peregrines I was not certain whether the Japanese species, of which only young birds are in the Museum, might not prove to be the same as the Western-American form; but I now incline to think them only the European bird.

γ. From Western America, = F. nigriceps.

Adult male. Forehead whitish; head and neck black, with a wash of grey, more clear on the ear-coverts, which, as well as the cheeks, are black; upper surface clear bluish grey, with blackish cross bands, fewer on the rump; wing-coverts very distinctly mottled with black, edged with grey; quills blackish brown, with a greyish shade on the primaries, the secondaries tipped with whitish, the inner ones bluish grey with black cross bars; tail blackish, pale grey towards the base, iron-grey on the outer feathers, barred with black, more indistinct on the central rectrices; throat and chest pale creamy white, with a narrow indistinct shaft-stripe on a few of the feathers of the latter; rest of the under surface white, inclining to buff in the centre of the body, and washed

f. ♂ ad. st.	Chiswick.	Purchased.
g. ♀ ad. st.	Chiswick.	Purchased.
h. Pull. st.	Great Britain.	
i. ♂ juv. sk.	Yorkshire.	J. Gould, Esq.
k. ♀ ad. sk.	Littlecote, Berks.	J. Gould, Esq.
l. ♂ juv. sk.	Scotland.	J. Gould, Esq.
m. ♀ ad. sk.	Stockholm, Sweden, April 13, 1873.	Purchased.
n. ♂ juv. sk.	Denmark (*Benzon*).	Baron A. von Hügel.
o. ♀ ad. st.	Athens.	C. W. L. Merlin, Esq. [P.].
p. ♀ ad. st.	Sardinia.	A. B. Brooke, Esq. [P.]. One of the types of *F. brookii*.
q. ♀ ad. sk.	Tangiers (*Olcesse*).	Howard Saunders, Esq.
r. ♂ juv. sk.	S.E. coast of Arabia.	W. T. Blanford, Esq. [C.].
s. ♀ juv. sk.	Crimea.	J. Gould, Esq.
t. ♀ juv. st.	Persia.	K. Loftus, Esq. [P.].
u. ♀ ad. st.	India.	Zoological Society.
v. ♂ ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
w. ♀ juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
x. ♂ juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
y. ♂ ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
z. ♂ ad. st.	Madras.	Dr. Jerdon [P.].
a'. ♂ juv. st.	Hakodadi, Japan.	H. Whitely, Esq. [C].
b'. ♀ juv. st.	Hakodadi, Japan.	H. Whitely, Esq. [C.].
c'. ♂ ad. sk.	Greenland.	J. Gould, Esq. [P.].
d'. ♂ juv. sk.	S. Greenland, Sept. 7, 1871.	R. B. Sharpe, Esq. [P.].
e'. ♀ juv. sk.	Fiskenaesset, Greenland, Oct. 7, 1872.	R. B. Sharpe, Esq. [P.].
f'. ♀ ad. sk.	Fiskenaesset, Greenland, July 12, 1872.	R. B. Sharpe, Esq. [P.].
g'. ♀ ad. st.	N. America.	Hudson's Bay Co. [P.].
h'. ♂ ad. sk.	N. America.	Hudson's Bay Co. [P.].
i'. ♂ juv. sk.	Labrador.	Purchased.
k'. ♀ juv. sk.	Labrador.	Sir E. Parry [P.].

with grey on the flanks and thighs; the bars across this part of the body very scanty and narrow; bill yellowish horn-colour at the base, deeper on the under mandible, shading into bluish towards the tip; feet yellow, claws dark horn-brown. Total length 14·5 inches, culmen 1·2, wing 12·7, tail 6·5, tarsus 2.

Female. Similar to the male, but larger, and having the black extending from the head all over the interscapulary region, down to the lower back, without any indication of the alternate grey cross bars, which, where they occur on the rump and upper tail-coverts, are much broader than in the male. Total length 18 inches, culmen 1·45, wing 14, tail 8, tarsus 2·1.

Young female. Brownish black, the feathers of the upper surface edged with rufous, the tips of the upper wing- and tail-coverts inclining to fulvous; head and nape much mottled by fulvous margins to the feathers, especially the latter; from underneath the eye over the ear-coverts a line of feathers, as also a distinct malar stripe, black; ear-coverts and sides of the neck creamy buff, the latter streaked with blackish; throat creamy buff; rest of under surface deep ferruginous buff, the centres of the feathers broadly blackish brown, the markings more arrow-shaped on the flank-feathers, which are crossed by bars of ferruginous buff; under wing-coverts and axillaries very dark brown, the former barred, the latter spotted, with ferruginous buff. Total length 18 inches, culmen 1·35, wing 14·5, tail 8·5, tarsus 2·1.

l'. ♂ ad. sk.	N.W. America.	Capt. Collinson [P.].
m'. ♀ ad. sk.	N.W. America.	Capt. Collinson [P.].
n'. ♀ juv. st.	Vancouver Island.	J. K. Lord, Esq. [C.].
o'. ♀ juv. st.	Vancouver Island.	Dr. Lyall [P.].
p'. ♂ ad. sk.	Mexico.	R. B. Sharpe, Esq. [P.].
q'. ♀ ad. sk.	Mexico.	R. B. Sharpe, Esq. [P.].
r'. ♂ juv. st.	S. Nevis, W. I.	W. Cottle, Esq. [P.].
s'. Skeleton.		Purchased.
t', *u'*. Sterna.		B. H. Hodgson, Esq. [P.].
v'–*z'*. Sterna.		Purchased.

Obs. In the 'Annals of Natural History' for March 1873 I gave the result of my studies on the Peregrine Falcons in the Museum collection, and recognized eight species, viz.:—1. *Falco communis*, Gm.; 2. *F. brookii*, Sharpe; 3. *F. nigriceps*, Cass.; 4. *F. micrurus*, Hodgs.; 5. *F. peregrinator*, Sund.; 6. *F. melanogenys*, Gould; 7. *F. minor*, Bp.; and 8. *F. cassini*, Sharpe. Since writing that article I have studied these Falcons in several continental museums, especially in the Leiden collection, where an admirable series exists. I find, therefore, that some of my conclusions require modification. In the first place the characters of *plumage* in *Falco brookii* are not trustworthy; and all that can be said of that bird is, that it probably represents a small race resident in the countries bordering the Mediterranean Sea. Then, again, Mr. Salvin has suggested to me that my *F. cassini* is the true *F. nigriceps* of Cassin. On a re-examination of this question I must indorse my previous views on the subject. In their recently published 'Nomenclator,' Messrs. Sclater and Salvin recognize only one species of Peregrine all over the New World, viz. *F. communis*, being in this respect at variance with the late Mr. Cassin, Mr. Gurney, and myself. I cannot help thinking that any one devoting a close study to these confessedly difficult birds will find that there are three southern forms, confined to and resident in the extreme south of America, Africa, and Australia. At the same time the true northern type of Peregrine occurs, though rarely, within the domain of these resident species, migrating thence from the north; and although there is not much difficulty about the African and Australian birds, there is a question as to the nomenclature of the New-World species. It is therefore necessary to examine the works in which Mr. Cassin alludes to his *Falco nigriceps*. We find that he first speaks of it in the 'Birds of Texas,' and fixes the date of the title as "December 1853." It seems clear to me that he intended the North-American bird to be the true *F. nigriceps*, as he points out the distinctions between the western bird and that from eastern North America (*F. communis* vel *anatum*). At the same time he mentions that his species goes down to Chili (*Gilliss*), and he figures a presumed Chilian specimen in the report on the 'U. S. Astronomical Expedition' published in 1855. This, Mr. Salvin thinks, indicates that the Chilian Peregrine was intended by Cassin to be the typical *F. nigriceps*, while I contend that there is nothing to show that he recognized a second form in South America, although there undoubtedly is such form; nor is there

any evidence that the above-mentioned figure was taken from a Chilian specimen, though the inference is that this was the case; but if the figure is intended for the bird I call *F. cassini*, it is not a good likeness at all. Until an examination of the types has taken place I prefer to continue my nomenclature of these American birds, though I would not now separate specifically the eastern and western Peregrines of North America.

Another point remaining to be cleared up is the identity of *Falco atriceps* of Hume. This I was inclined formerly to refer to *F. micrurus* of Hodgson, a species which I would not now separate from the ordinary *F. communis*. But Mr. Blanford informs me that his impression is that Mr. Hume's *F. atriceps* is the bird named by me *F. peregrinator*, the true *F. peregrinator* being a Falcon from Central and Southern India, not at present represented in the Museum collection, and probably unknown to European naturalists. As, however, the bird I call *F. peregrinator* is undoubtedly the one thus named in other European museums, I must retain that title until I have the opportunity of examining named specimens of *F. atriceps*.

2. Falco peregrinator.

Falco peregrinator, *Sundev. Physiogr. Tidsskr. Lund*, 1837, p. 177, pl. 4 (*descr. orig.*); *Gray, Gen. of B.* i. p. 19 (1844); *Sundev. Ann. N. H.* xviii. p. 454 (1846); *Gray, Cat. Mamm. & B. Nepal Hodgs.* p. 44 (1846); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 14 (1849); *Bp. Consp.* i. p. 23 (1850); *Kaup, Contr. Orn.* 1850, p. 55; *Gould, B. of Asia*, part iii. (1851); *Blyth, J. A. S. B.* xix. p. 321 (1851); *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Strickl. Orn. Syn.* p. 84 (1855); *Jerd. B. of Ind.* i. p. 25 (1862); *Blyth, Ibis*, 1863, p. 8; *Gray, Hand-l. B.* i. p. 19 (1869); *Hume, Rough Notes*, i. p. 55 (1869); *Jerd. Ibis*, 1870, p. 237; *Sharpe, Ann. N. H.* (4) xi. p. 223 (1873).

Falco shaheen, *Jerd. Madr. Journ.* x. p. 81 (1839); *id. Ill. Ind. Orn.* pls. xii. & xxviii. (1847); *Pelz. Verh. z.-b. Wien*, xiii. p. 610 (1863).

Falco sultaneus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).

Falco ruber, *Schl. Mus. P.-B.* Falc. p. 5 (1862).

Adult female. Head, neck, interscapulary region, and wing-coverts deep black, with a shade of bluish grey on the latter; lower back, rump, and upper tail-coverts bright bluish grey, the last with a few nearly obsolete blackish cross markings; quills black, externally washed with greyish, the inner web with a few nearly obsolete rufous bars, the secondaries tipped with fulvous; tail bluish grey, darker towards the tip, which is tawny, the blackish bars nowhere very distinct; a frontal line of feathers slightly whitish; sides of the face black, the hinder ear-coverts and sides of neck creamy white, tinged with rufous, which tinge is also apparent on the nape; under surface deep tawny ferruginous, paler towards the throat, with a few spots and cross bars of black on the flanks, thighs, and under tail-coverts; under wing-coverts deep rufous, barred across with black; axillaries brown, with oval spots of buff; cere yellow;



Keulemans del. Mintern Bros. Lith.

Falco minor.

bill slaty blue-black at tip; feet yellow; iris deep brown. Total length 16 inches, culmen 1·45, wing 12, tail 6·7, tarsus 2·25.

Young. Blackish, the nape and sides of neck mottled with rufous; the wing-coverts and secondaries margined with rufous, these margins being nearly obsolete on the rest of the upper surface; upper tail-coverts and tail blackish, barred with rufous, which is gradually disappearing on the central tail-feathers; under surface rich tawny, paler towards the chest, the throat white and unspotted, all the rest of the feathers longitudinally streaked with black, these central markings being heart- or zigzag arrow-shaped on the flanks, where, as well as on the under wing- and tail-coverts, they take the form of cross bars.

Hab. Indian peninsula and Himalayas.

a, b. ♂ ♀ ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
c. ♂ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
d, e. ♂ ♀ juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].

3. Falco minor. (Plate XII.)*

Falco peregrinoides, *Smith, S. Afr. Q. Journ.* i. p. 235 (1830, *nec Temm.*); *Kaup, Contr. Orn.* 1850, p. 55.

Falco minor, *Bp. Rev. et Mag de Zool.* 1850, p. 484; *id. Consp.* p. 23 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 536; *Strickl. Orn. Syn.* p. 83 (1855); *Gurney, Ibis*, 1861, p. 131; *Scl. Ibis*, 1864, p. 298; *Layard, B. S. Afr.* p. 19 (1867); *id. Ibis*, 1869, p. 362; *Gurney, Ibis*, 1869, p. 443; *Gray, Hand-l. B.* i. p. 19 (1869); *Homeyer, J. f. O.* 1871, p. 51; *Anderss. B. Dam. Ld. ed. Gurney*, p. 12 (1872); *Sharpe, Ann. N. H.* (4) xi. p. 224 (1873).

Falco radama, *Bp. Rev. et Mag. de Zool.* 1854, p. 536 (*ex Verr. MS.*); *Hartl. Faun. Madag.* p. 17 (1861); *Gray, Hand-l. B.* i. p. 19 (1869).

Falco communis, var. minor, *Sundev. Krit. om Levaill.* p. 26 (1857).

Falco peregrinus, var. capensis, *Grill, Zool. Anteckn.* p. 48 (1858).

Falco communis minor, *Schl. Mus. P.-B.* Falc. p. 4 (1862).

Falco communis, *Grand. Rev. et Mag. de Zool.* 1867, p. 7; *Schl. & Poll. Faun. Madag. Ois.* p. 31 (1868).

Falco barbarus, *Blanf. Geol. & Zool. Abyss.* p. 288 (1870).

Young. Forehead whitish; head blackish brown, with obsolete rufous margins, the nape and hind neck deep rufous, mottled with black; cheeks, region of the eyes, and upper margin of ear-coverts black; rest of the side of the face rufous white; upper surface of body deep blackish brown, with rufous margins to the feathers,

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* Levaillant's plate 28 answers, as Professor Sundevall well remarks, to this species, if its prominent crest did not force the conviction of its being a manufactured bird. Thus it must remain doubtful; but should it ever be fully identified (a fact very improbable to be consummated, as M. Jules Verreaux believes it to have been a doctored *Baza*), the synonymy will be as follows:—

Le Faucon huppé. *Levaill. Ois. d'Afr.* i. p. 121, pl. 28 (1799).

Falco frontalis, *Daud. Traité*, ii. p. 118 (1800, *ex Levaill.*); *Strickl. Orn. Syn.* p. 84 (1855).

Falco galericulatus, *Shaw, Gen. Zool.* vii. p. 149, pl. 20 (1809).

more distinct on the upper wing-coverts, and paler on the upper tail-coverts, which are also barred with ashy white; tail blackish brown, with creamy buff tip, barred with rufous, the bars on the outer tail-feathers not parallel; throat creamy white; rest of the under surface clear tawny, with central black markings down each feather, broader on the flanks and more zigzag in shape on the under tail-coverts; bill horn-brown, mottled with yellowish. Total length 12 inches, culmen 1·1, wing 9·1, tail 5, tarsus 1·6.

Hab. Southern and North-eastern Africa.

a. Juv. st.	South Africa.	M. Verreaux.
b. Ad. sk.	South Africa.	J. Rocke, Esq. [P.].
c. ♀ ad. sk.	Waliko, Anseba valley, July 21, 1868.	W. T. Blanford, Esq. [P.].

4. Falco cassini.

? Falco nigriceps, *Cass. U. S. Astr. Exped.* p. 176, pl. xiv. (1855).
Falco cassini, *Sharpe, Ann. N. H.* (4) xi. p. 223 (1873).

Adult male. Above dark bluish ashy, everywhere transversely spotted or barred with black, the bars very broad and closely set on the upper part of the back, further apart and more sagittate in shape on the lower back, rump, and upper tail-coverts; a frontal line tinged with whitish, very indistinct; entire head and hind neck, cheeks, ear-coverts, and moustachial streak deep black, extending on to the interscapulary region; least wing-coverts blackish like the latter, the others coloured and barred like the back; quills deep brownish black, the primaries with obsolete grey spots near the base, the inner secondaries uniform with the back; tail bluish ashy with black bars, which become merged towards the tip of the tail, so that this is conspicuously black for about a quarter of its length; throat itself creamy buff, unspotted; fore neck and chest pale buffy fawn-colour, with very narrow black shaft-lines, the shade of fawn extending slightly on to the breast; rest of under surface creamy white, with a very strong grey shade on the lower parts, thickly crossed with black bars; the inner web of the quills with numerous buffy white bars, becoming smaller and more obsolete towards the tips of the quills; bill orange at base, inclining gradually to bluish horn-colour towards the tip; feet yellow, claws horn-brown. Total length 15·5 inches, culmen 1·1, wing 12, tail 7, tarsus 2.

Female. Similar to the male, but larger, and without the bluish shade on the lower parts (being probably not so old a bird); head, neck, and sides of face black. Total length 20 inches, culmen 1·35, wing 13·5, tail 7·8, tarsus 1·9.

Young male. Above deep blackish brown, the nape tinged with chestnut, all the feathers more or less distinctly margined with the same colour, except the upper tail-coverts and inner secondaries, which are tipped with buff; quills blackish, the inner web half barred with clear rufous; tail blackish, tipped with creamy buff and crossed with several indistinct grey bars, becoming rufous on

the inner webs; forehead whitish, the feathers under the eye, fore part of cheeks, and moustachial stripe deep black; throat creamy buff; rest of under surface deep ferruginous, paler on the lower abdomen, all the feathers mesially streaked with a longitudinal black spot, much larger and more arrow-shaped on the flank-feathers. Total length 16 inches, wing 12.

Hab. Chili and adjacent countries of South America.

a. ♂ ad. st.	Straits of Magellan.	The Admiralty [P.].
b. ♀ ad. sk.	Chili.	H. Cuming, Esq. [C.].
c. ♀ imm. sk.	Chili.	H. Cuming, Esq. [C.].
d. ♂ juv. sk.	Santiago, Chili.	E. C. Reed, Esq. [C.].
e. ♂ ad. sk.	Chili.	Purchased.

5. Falco melanogenys.

Falco peregrinus, *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 183 (1826); *Diggles, Orn. Austr.* part 20 (1868).

Falco melanogenys, *Gould, P. Z. S.* 1837, p. 139; *id. Syn. B. Austr.* pt. ii. (1838); *Gray, Gen. of B.* i. p. 19 (1844); *Gould, B. Austr.* fol. i. pl. 8 (1848); *Sturt, Exp. C. Austr.* ii. App. p. 14 (1849); *Bp. Consp.* i. p. 23 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 536; *Strickl. Orn. Syn.* p. 56 (1855); *Gould, Handb. B. of Austr.* i. p. 26 (1865); *Blyth, Ibis*, 1866, p. 234; *Gray, Hand-l. of B.* i. p. 19 (1869); *Sharpe, Ann. N. H.* (4) xi. p. 224 (1873).

Falco macropus, *Swains. An. in Menag.* p. 341 (1837).

Falco communis, *Schl. Valkv. Ned. Ind.* pp. 2, 44, pl. 1. fig. 2 (1866).

Adult male. Head and nape deep black, including the entire sides of the face, cheeks, and ear-coverts; interscapulary region blackish, with a few obsolete transverse bars of bluish grey; rest of upper surface bluish ashy, barred all over with blackish, some of the bars, especially of the upper tail-coverts, assuming a triangular form; upper wing-coverts somewhat washed with brown, the grey shade being more perceptible on the greater series; quills black, the primaries outwardly shaded with grey, outer secondaries narrowly tipped with creamy white, the inner ones almost entirely bluish grey, with obscure blackish marblings and cross bars; tail blackish, with a narrow ashy white bar at the tip, the upper surface shaded with grey, clearer towards the base, bars on centre rectrices eleven in number, not including the broad subterminal black band; throat and upper breast deep creamy buff, the latter with a few median black shaft-stripes; rest of the under surface buffy white, closely but narrowly barred across with black, sides of body and thighs shaded with a bluish grey tinge; fore part of breast and under wing-coverts with a strong fawn-coloured shade; bill greenish at base, horny black at tip, under mandible deep orange; feet yellow, claws black; iris dark. Total length 14·8 inches, culmen 1·2, wing 11·8, tail 6, tarsus 2.

Adult female. Similar to the male, but larger and more richly coloured; underneath deep ferruginous, paler on the chest, the cross barring narrow and irregular, sometimes confined to a small

subterminal spot. Total length 16·5 inches, culmen 1·45, wing 13·3, tail 6·6, tarsus 2.

Young male. Above brownish, the feathers edged with fulvous, especially distinct on the wing-coverts and secondaries; hinder neck marked with pale tawny; lower back and rump alternately barred with ashy and dark brown, the subterminal bar being somewhat triangular in shape; tail brown, similarly barred with ashy and tipped with fulvous; quills dark brown, with paler edgings; under surface buffy white, inclining to deep fawn on the breast and abdomen, which are longitudinally streaked with blackish brown, the flanks, under wing-coverts, and axillaries barred with the same colour; cere, bill, and feet paler than in the adults.

Young female. Brown, head and cheeks blackish; feathers of upper surface spotted and tipped with rufous fawn; underneath deep buff, inclining to rufous on the abdomen, the streaks on the chest dart-shaped, on the abdomen oval, all very broad and distinct.

Hab. Australia, extending northwards through the Moluccas as far as Java.

a. ♀ ad. st.	New South Wales.	J. Gould, Esq.
b. ♀ juv. sk.	New South Wales.	J. Gould, Esq.
c, d. ♂ ♀ ad. sk.	Australia.	J. Gould, Esq.
e. ♀ juv. sk.	Australia.	Linnean Society.
f. ♂ ad. sk.	Australia.	Sir D. Cooper [P.].
g. ♂ juv. sk.	Queensland.	Purchased.

6. Falco barbarus.

The Barberry Falcon, *Albin, N. H. Birds, Suppl.* iii. p. 2, pl. 2 (1740).
Le Faucon de Barbarie, *Briss. Orn.* i. p. 343 (1760).
Falco barbarus, *Linn. S. N.* i. p. 125 (1766); *Bp. Consp.* p. 24 (1850); *Salvin, Ibis*, 1859, p. 184, pl. 6; *Tristr. t. c.* p. 289; *Schl. Mus. P.-B.* Falc. p. 5 (1862); *Gray, Hand-l. B.* i. p. 20 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 21 (1869); *Salvad. Faun. Ital. Ucc.* p. 18 (1871); *Shelley, B. of Egypt*, p. 187 (1872); *Hume, Stray Feathers*, i. p. 19 (1872); *Saunders, P. Z. S.* 1872, p. 356.
Falco pelegrinoides, *Temm. Pl. Col.* 479 (1824).
Falco lanarius alphanet, *Schl. Abhandl. Geb. Zool.* p. 16 (1841).
Falco peregrinoides, *Schl. & Susem. Vög. Eur.* Taf. 9. fig. 1 (1839); *Gray, Gen. of B.* i. p. 19 (1844); *Licht. Nomencl.* p. 5 (1854); *Fritsch, Vög. Eur.* tab. 2. fig. 3 (1858).
Falco punicus, *Levaill. jun. Expl. Algér., Ois.* pl. 1 (1850).
Gennaia barbarus, *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Loche, Expl. Algér.* p. 55 (1867).
Barbary Falcon, *Salvin & Brodr. Falconry*, pl. xvii. (1855).

Adult male. Above delicate bluish grey, with rather faint cross bars of dusky blackish, much broader on the interscapulary region, and gradually fading in depth towards the lower back; crown dusky brown, with a tinge of grey, the forehead buffy white, and the fore part of the crown slightly washed with rufous; hind neck entirely rufous, here and there mottled with the greyish brown of the head; feathers underneath the eye, fore part of the ear-coverts, and cheek-stripe blackish; hinder part of ear-coverts and sides of neck creamy

white, with a slight rufous tinge; wing-coverts like the upper back, the bars on the greater series less strongly pronounced; quills blackish, shaded externally with greyish, the inner web barred with pale rufous, the secondaries tipped with whitish, the inner ones coloured like the back; tail bluish grey, inclining to ashy near the base, tipped with creamy buff and barred across with black, the bars being nearly obsolete at the base, but gradually increasing in breadth towards the tip; throat entirely creamy white; upper part of breast pale buffy fawn, unspotted; rest of under surface a little deeper in colour than the breast, with a greyish lustre on the flanks; the abdomen unspotted, but the sides of the body marked with a few blackish spots, inclining to bars on the under tail-coverts; under wing-coverts creamy white, barred with blackish, the axillaries more strongly tinged with fawn, and streaked down the shafts; cere and base of bill yellow, horn-blue at tip; feet yellow; iris brown. Total length 13·5 inches, culmen 1·1, wing 11, tail 5·5, tarsus 1·6.

Young male. General colour dark brown, darker on the interscapulary region, all the feathers margined with rufous; the lower back, rump, and upper tail-coverts paler brown, with bars and edgings of paler rufous than the rest of the back; all the wing-coverts very dark brown, with narrow margins of rufous; crown of the head paler brown, with conspicuous margins of rufous, the forehead and fore part of crown inclining to whitish; nape and hind neck creamy white, slightly tinged with rufous and mottled with dark brown; sides of the face whitish, tinged with rufous, the feathers under the eye and cheek-stripe blackish brown; under surface of the body creamy white, the throat and abdomen unspotted, the rest of the feathers mesially streaked with brown, narrower on the breast, and much broader and more rufous on the flanks, the under tail-coverts with a narrow pale brownish shaft-stripe, with a faint indication of a cross bar here and there; under wing-coverts creamy white, barred and spotted with rufous brown; wing-coverts coloured like the back and edged with rufous in the same manner, the secondaries tipped with fulvous, all the quills broadly barred with pale rufous on the inner web; tail-feathers dark brown, with a slight greyish lustre, tipped with creamy buff, and all barred with rufous; the bars sometimes not being continuous; cere bluish yellow; bill pale blue; feet yellow; iris blue-black. Total length 13·5 inches, culmen 1·1, wing 11, tail 5·7, tarsus 1·6.

Hab. Northern and North-eastern Africa, as well as Senegambia on the west coast, ranging into N.W. India and the Himalayahs.

a. ♂ ad. st.	Nubia.	Soc. "Natura Artis Magistra," Amsterdam.
b. Juv. sk.	River Gambia.	Rev. D. F. Morgan [P.].
c. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].

7. Falco babylonicus.

Falco peregrinoides, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844); *Gray, Cat. Mamm. & Birds Nepal Hodgs.* p. 44 (1846).

Falco babylonicus, *Gurney, Ibis*, 1861, p. 218, pl. vii.; *Jerd. B. of India*, i. p. 32 (1862); *Blyth, Ibis*, 1863, p. 8; *Jerd. Ibis*, 1866,

p. 221; *Blyth, tom. cit.* p. 237; *Gould, B. of Asia*, pt. xx. (1868) *Hume, Rough Notes*, i. p. 79 (1869); *Gray, Hand-l. B.* i. p. 20 (1869); *Sharpe, Ibis*, 1870, p. 423; *Jerd. Ibis*, 1871, p. 240; *Radclyffe, tom. cit.* p. 366; *Shelley, B. of Egypt*, p. 189 (1872).

Adult female. Above bluish grey, the feathers with pale fulvescent margins, and having indistinct bars of darker grey; the lower back, rump, and upper tail-coverts paler and clearer blue-grey, transversely barred with dark grey, the bars somewhat irregular and arrow-shaped on the upper tail-coverts; wing-coverts coloured like the back, the greater series rather lighter grey; quills brown, externally shaded with grey, the secondaries margined and broadly tipped with buffy white, and barred across with darker grey, the bars very distinct on the lower surface of the wing, and especially numerous on the primaries; tail grey, tipped with fulvous and crossed with nine or ten bars of darker grey, the light-grey interspaces somewhat tinged with rufous, especially towards the base, the lower surface of the tail whitish, the bars being very distinct; head and hind neck clear rufous, the crown more or less inclined to greyish black, of which colour many of the feathers are composed, having only a slight margin of rufous; the plumes of the nape and hind neck also more or less mixed with greyish black; sides of face buffy white, tinged with rufous, the ear-coverts streaked with brown, collecting on the cheeks and forming there a distinct moustache; throat pure white; chest also white, with a few narrow central streaks of brown; remainder of under surface whitish, slightly tinged with buff, and numerously marked with arrow-head spots of brown in the centre of the body, and barred on the sides of the breast, flanks, and under wing-coverts with the same colour, the bars on the greater series of the latter very broad; the bars on the thighs and under tail-coverts very much narrower; cere, gape, and orbits bright yellow; bill blue, blackish at tip; feet bright yellow; iris deep brown. Total length 22·5 inches, culmen 1·3, wing 13·3, tail 7·7, tarsus 1·95.

Obs. The above measurements are from the skin. Mr. Hume gives those of an adult female as follows:—total length 17·25 inches, wing 13, tail 7·25, tarsus 1·75. A young male measured by him—total length 16 inches, wing 11·87, tail 6, tarsus 1·87.

Young male. Dark earthy brown; some of the feathers of the crown obscurely margined, the nape and hind neck mottled, the lower back and rump edged, and the upper tail-coverts also barred with rufous; tail dark brown, spotted on the outer web and banded on the inner one with rufous, the two centre feathers nearly obsoletely barred; quills dark brown, barred with pale buff on the inner web, the secondaries paler brown, edged and spotted on the outer web with rufous; feathers under the eye and cheek-stripe blackish brown; sides of the face and ear-coverts strongly tinged with rufous; throat whitish; rest of under surface earthy buff, with central dark brown streaks to the feathers, inclining to bars on the vent and under tail-coverts; under wing-coverts brown, spotted and barred with clear buff; cere pale sea-green; bill pale bluish green, blackish

on the culmen and at tip; feet bright yellow; iris dark brown. Total length 15·5 inches, culmen 1·5, wing 12, tail 6·6, tarsus 1·9.

Hab. N.E. Africa; Mesopotamia; Central Asia, Turkestan; N.W. India to Nepaul.

a. ♀ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
b. ♀ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
c. Sternum.		B. H. Hodgson, Esq. [P.].

8. Falco feldeggii *.

Falco feldeggii, *Schl. Abhandl. Geb. Zool.* p. 3, Taf. 10, 11 (1841); *id. & Susem. Vög. Eur.* Taf. 8 *a* (1841); *Mcht. Nomencl.* p. 5 (1854); *Brehm, Naum.* 1855, p. 268; *Fritsch, Vög. Eur.* tab. 5. figs. 1, 2 (1859).

Falco lanarius, *Schl. Crit. Uebers.* p. ii (1844); *Bp. Consp.* i. p. 24 (1850); *Tristr. Ibis*, 1859, p. 284; *Jaub. & Barth. Lap. Rich. Orn.* p. 54, pl. 5 (1859); *Schl. Mus. P.-B.* Falc. p. 14 (1862); *Gould, B. of Asia*, pt. xx. (1868); *Farm. Ibis*, 1868, p. 411; *Gray, Hand-l. B.* i. p. 19 (1869); *Borggr. Vogelf. Deutschl.* p. 55 (1869); *Salvad. Faun. Ital. Ucc.* p. 17 (1871); *Shelley, B. of Egypt*, p. 188 (1872); *Schl. Revue Accipitr.* p. 35 (1873).

Falco rubeus, *Thienem. Rhea*, i. p. 72 (1846).

Le Lanier hagard, *Schl. & Verst. Traité Fauc.* pl. 10 (1853).

Gennaia lanarius, *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Locke, Expl. Sci. Algér.* p. 53 (1867).

Lanner, *Salvin & Brodr. Falconry*, pl. xvi. (1855).

Falco peregrinoides, *Fritsch, Vög. Eur.* tab. 2. figs. 1, 2 (1858).

Falco biarmicus, *Taylor, Ibis*, 1859, p. 44; *Adams, Ibis*, 1864, p. 10.

Falco tanypterus, *Konig-Warth. Ibis*, 1860, p. 122.

Falco lanarius græcus, *Schl. Mus. P.-B.* Falc. p. 15 (1862).

Adult male. Above ashy brown, with fulvous margins to the feathers, some of which are also barred across with the same colour; lower part of the back, rump, and upper tail-coverts dark bluish grey, with black cross bars, the latter shading rather into fulvous; wing-coverts all coloured like the upper back, with a scarcely pronounced grey shade; quills dark brown, externally washed with ashy grey; the inner web so broadly barred with whitish that the alternate brown bars are imperfect and very small; secondaries tipped with buffy white, the innermost browner and more resembling the wing-coverts; tail ashy brown, with a distinct greyish shade on the centre feathers, these more obsoletely, the others distinctly

* Professor Schlegel named this bird as above, but afterwards reverted to the name of *Falco lanarius*, because he became convinced that it was the Lanner of old falconers. We have, however, to deal with the question of the proper title of this species according to the recognized rules of nomenclature. *Falco lanarius* is Gmelin's title, taken direct from Linnæus's bird of the same name (Faun. Suec. p. 22. no. 62). This is irrecognizable, but looks like a young Peregrine; it certainly is not the Falcon now known as the true Lanner. It is likewise mixed up with the Lanier of Buffon (Hist. Nat. Ois. i. p. 243), and the Lanneret of Albin (Nat. Hist. of Birds, ii p. 7, pl. 7). Considering the confusion in which the specific name is involved, it seems better to adopt the term of *Falco feldeggii*, which undoubtedly belongs to the species.

crossed with pale rufous bars; entire head light brick-red, the nape mottled with the greyish brown of the back; a patch on the forehead above each eye, feathers under the latter extending along the upper margin of ear-coverts, and a narrow cheek-stripe black, small shaft-lines of which also slightly streak the crown; frontal line whitish; ear-coverts and sides of the neck creamy white, tinged with rufous; under surface creamy white, with a tinge of fawn on the breast; throat and fore neck unspotted; the chest streaked, and the breast and abdomen dotted, with little round spots of brown, taking the form of bars on the flanks and under wing-coverts; under tail-coverts very pale fawn, with scarcely a mark of brown; cere and base of bill yellow, inclining to horn-blue at the tip; feet yellow; iris brown. Total length 17 inches, culmen 1·15, wing 13·2, tail 7·6, tarsus 1·95.

Adult female. Similar to the adult male, but a little larger. Total length 18 inches, culmen 1·25, wing 14·5, tail 8·5, tarsus 1·9.

Young male. Brown, with rufous edgings to the feathers, these being buff on the secondaries; head very pale rufous, forehead whitish; fore part of crown black, and the whole of the latter streaked with black, broader on the nape; sides of face whitish, with narrow lines of black; feathers over and under the eye, upper margin of ear-coverts, and cheek-stripe blackish; under surface whitish, inclining to buff on the lower parts; the throat unspotted, but the rest of the body covered with mesial dark brown centres to the feathers, more oval in shape on the flanks and narrower on the thighs; under tail-coverts buff, with only a narrow brown shaft-stripe; tail dark brown, broadly tipped with creamy white, the middle feathers spotted on both webs, the rest spotted on the outer and barred on the inner web with rufous; bill bluish at the base and tip, yellowish horn in the centre of both mandibles; feet yellowish. Total length 16 inches, culmen 1, wing 11·5 (not fully grown), tail 7, tarsus 1·9 *.

Hab. The countries bordering the Mediterranean, rarely extending into Central Europe or below Egypt into N.E. Africa.

a.	♀ ad. st.	Cairo.	Purchased.
b.	♀ ad. sk.	Egypt.	W. B. D. Turnbull, Esq. [P.].
c.	♂ juv. st.	Tunis.	L. Fraser, Esq.
d.	♀ juv. sk.	Kelamet, Habab, July 9th, 1868.	W. T. Blanford, Esq. [C.].

* For the description of a still younger bird, see Shelley's 'Birds of Egypt' (p. 189). This bird is more thickly blotched with brown on the breast, resembling in this respect the young of *Falco juggur*. It is, however, distinguished from this species by its pale rufous white head. The absence of rufous edgings to the dorsal feathers is another peculiarity; but I think there is no doubt that it is only a young Lanner. I think my friend Captain Shelley is wrong in supposing his bird with the whitish head and streaked breast to be the very old bird. It is, in my opinion, not aged, though nearly mature, as is shown by the brownish ashy colour of the tail, the bars across the dorsal plumes, the pale head, and the streaks on the breast, which disappear and merge into spots in the fully adult Lanner.

9. Falco tanypterus.

Falco biarmicus, *Rüpp. Neue Wirb.* p. 44 (1835); *Strickl. P. Z. S.* 1850, p. 215.
Falco tanypterus, *Schl. Abhandl. Geb. Zool. &c.* p. 8, Taf. 12, 13 (1841, *ex Licht. Mus. Berol.*); *Bp. Consp.* i. p. 25 (1850); *Licht. Nomencl.* p. 5 (1854); *Sel. P. Z. S.* 1864, p. 107; *Gray, Hand-l. B.* i. p. 20 (1869); *Blanf. Geol. & Zool. Abyss.* p. 289 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 67 (1870); *Finsch, Tr. Z. S.* vii. p. 203 (1871).
Gennaia tanypterus, *Bp. Rev. et Mag. de Zool.* 1854, p. 536.
Falco cervicalis, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 22 (1854); *Hartl. Orn. Westafr.* p. 261 (1857).
Falco lanarius nubicus, *Schl. Mus. P.-B.* Falc. p. 15 (1862).

Adult. Intermediate in plumage between *F. feldeggii* and *F. biarmicus*. When quite old, it never gets entirely unspotted on the breast like the latter, but is always less so than in true *F. feldeggii*. It is darker than either of its allies, and in size is slightly larger, as will be seen by the following measurements:—

	Male.		Female.	
	Total length. inches.	Wing. inches.	Total length. inches.	Wing. inches.
Falco feldeggii	17	13·2	18	14·5
,, *tanypterus*	17	13·5	19	15
,, *biarmicus*	15	12	16	14

Hab. N.E. Africa, from Nubia to Unyamuesi: W. Africa, on the Niger and in Aguapim.

a, b. ♂ ad. juv. st.	Shoa (*Harris*).	Secretary of State for India [P.].
c. ♀ ad. sk.	Mohaber, July 5, 1868.	W. T. Blanford, Esq. [C.].
d. ♂ ad. sk.	Wandash Pass, April 25, 1868.	W. T. Blanford, Esq. [C.].
e. ♀ ad. sk.	Bogos Land.	Herr Esler [C.].
f. ♀ juv. sk.	Bogos Land.	Herr Esler [C.].

10. Falco biarmicus.

Falco biarmicus, *Temm. Pl. Col.* i. pl. 324 (1825); *Gray, Gen. of B.* i. p. 19 (1844); *Gurney, Ibis*, 1860, p. 207; *Layard, B. of S. Afr.* p. 20 (1867).
Falco chicqueroides, *Smith, S. Afr. Q. Journ.* i. p. 233 (1830), *et P. Z. S.* 1833, p. 45.
Falco lanarius cervicalis, *Schl. Abhandl. Geb. Zool.* p. 17 (1841, *ex Licht. Mus. Berol.*).
Gennaia cervicalis, *Kaup, Contr. Orn.* 1850, p.55; *Bp. Rev. et Mag. de Zool.* 1854, p. 536.
Falco cervicalis, *Licht. Nomencl. Av.* p. 5 (1854); *Bp. Consp.* i. p. 24 (1850); *Gray, Hand-l. B.* i. p. 19 (1869); *Homeyer, J. f. O.* 1871, p. 47; *Gurney in Anderss. B. Damara Ld.* p. 13 (1872).
Falco lanarius capensis, *Schl. Mus. P.-B.* Falc. p. 16 (1862).

Adult male. Forehead rather broadly whitish; fore part of crown deep greyish black; rest of crown and nape deep brick-red, varied with black shaft-stripes, on the nape the black collecting in the centre and forming a nuchal spot, the rufous shade paler over the eye, forming an almost imperceptible eyebrow; cheek-stripe, feathers round the eye, and a line running along the upper margin of the ear-coverts to the nape black; ear-coverts and sides of neck rufous, slightly washed with buff; interscapulary region deep greyish black, some of the feathers slightly margined with brownish; rest of upper surface deep blue-grey, much paler on the rump and upper tail-coverts; the scapulars and inner secondaries slightly shaded with brownish ashy, all the feathers barred across with greyish black, these bars much narrower on the lower back, rump, and upper tail-coverts; least wing-coverts coloured like the interscapulary region, the median and greater series like the scapulars; quills blackish, primaries slightly washed with grey, secondaries narrowly tipped with whitish, otherwise coloured and barred like the back; tail ashy grey, tipped with white and barred across with greyish black; under surface clear cinnamon-buff, paler on the throat, in old birds entirely unspotted; the wing-coverts only marked with blackish, in others marked on the flanks and thighs with a few spots and bars of black; feet yellow; bill yellow at base, horn-blue at tip; iris lightish brown. Total length 15 inches, culmen 1·2, wing 12, tail 7, tarsus 1·9.

Adult female. A little larger than the male. Total length 16 inches, wing 14.

Young. Head rufous, as in the adults, and marked with black in the same manner, the whitish eyebrow plainer; upper surface dark brown, all the feathers edged with rufous, the margins of the secondaries and upper tail-coverts paler and more buff; tail greyish brown, tipped with pale rufous, and irregularly spotted and barred with the same colour; under surface deep fawn; the throat and chest paler and inclining to whitish, the latter longitudinally marked with blotches of brown, which become very broad on the lower breast; lower abdomen, under tail-coverts, and thighs clear cinnamon-buff, only the last marked externally with brown; under wing-coverts brown, broadly margined with fulvous, the greater ones and axillaries spotted with pale rufous.

Nestling. Only differs from the foregoing fully-grown young bird in having more distinct rufous margins to the dorsal feathers, and in having the tail banded with rufous, these bars evidently disappearing very soon; head rufous.

Hab. South Africa.

a. ♀ ad. st.	Latakoo, S. Africa.	M. Verreaux [C.].
b. Pull. st.	S. Africa.	M. Verreaux [C.].
c. ♂ ad. sk.	Eland's Post, S. Africa.	R. B. Sharpe, Esq. [P.].
d. ♂ juv. sk.	Eland's Post, S. Africa (*T. Atmore*).	R. B. Sharpe, Esq. [P.].

11. Falco juggur.

Luggur Falcon, *Lath. Gen. Hist.* i. p. 192 (1821).
Falco juggur, *J. E. Gray, Ill. Ind. Orn.* ii. pl. 26 (1833); *Schl. Abhandl. Geb. Zool. &c.* p. 13, Taf. 15 (1841); *G. R. Gray, Gen. of B.* i. p. 19 (1844); *J. E. Gray, Cat. Mamm. & Birds Nepal Hodgs.* p. 43 (1846); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 13 (1849); *Bp. Consp.* i. p. 24 (1850); *Gould, B. of Asia*, pt. i. (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* p. 20 (1854); *Strickl. Orn. Syn.* p. 79 (1855); *Blyth, Ibis*, 1863, p. 369; *Hume, Rough Notes*, i. p. 70 (1869); *Gray, Hand-l. of B.* i. p. 20 (1869).
Falco luggur, *Jerd. Madr. Journ.* x. p. 80 (1839); *id. Ill. Ind. Orn.* pl. xliv. (1847).
Falco thermophilus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Gennaia juggur, *Kaup, Contr. Orn.* 1850, p. 55; *Bp. Rev. et Mag. de Zool.* 1854, p. 536.
Falco cherrug, *Blyth, Ibis*, 1862, p. 387 (err.).
Pnigohierax juggur, *Cab. J. f. O.* 1872, p. 156.

Adult male. Lores, forehead, and a very distinct eyebrow white; crown of the head dull rufous, everywhere covered with central shaft-markings of ashy black, the nape rather paler rufous, mottled with black; upper surface of the back ashy brown, with a faint shade of clearer grey, all the feathers margined with pale fulvous, the lower part of the back much clearer grey, the feathers not conspicuously paler-edged; wing-coverts coloured like the back, the carpal margin white; quills greyish black, externally washed with clearer grey, narrowly margined with fulvous, the inner secondaries coloured like the back, obsoletely barred with ashy, the inner webs barred with white; tail clear ashy grey, with a white tip, the outer feathers darker and banded on the inner web with whitish ashy; sides of the face and underparts creamy white, a line of feathers under the eye extending along the upper ear-coverts, and a narrow moustachial streak, blackish; on the lower breast a few brown shaft-streaks, and the flanks and thighs ashy brown, some of the former slightly tipped with white; under wing-coverts for the most part white, some of the lower ones dark brown, broadly margined and spotted with white; cere and gape bright yellow; bill bluish, black at tip; feet yellow; iris rich brown. Total length 15·5 inches, culmen 1, wing 11·8, tail 7, tarsus 1·95.

Adult female. Similar to the male, but larger. Total length 17 inches, culmen 1·35, wing 13·6, tail 8·5, tarsus 1·95.

Young. Above dull chocolate-brown, the wing-coverts washed with rufous on their margins, this colour not seen on the dorsal plumes; quills barred on inner web with rufous buff, the small secondaries tipped with fulvous; tail-feathers ashy brown, with a conspicuous creamy white tip, the inner webs barred with pale rufous; forehead and distinct eyebrow whitish; crown dark brown, varied with rufous margins to the feathers; sides of the face whitish, streaked with dark brown; under surface deep chocolate-brown, the sides of the body and under wing-coverts slightly washed with rufous, some of the breast-feathers margined with whitish, giving a somewhat striped appearance; under tail-coverts creamy white,

with irregular bars of dark brown; feet pale plumbeous or dull greenish grey; iris pale brown or brownish yellow. Total length 15·5 inches, culmen 1·2, wing 12, tail 7·5, tarsus 1·95.

Intermediate birds between the two stages described have more distinct pale margins to the upper plumage, and have more or less brown stripes on the chest and upper breast.

Hab. Indian peninsula.

a. Ad. st.	India.	J. R. Reeves, Esq. [P.].
b. Ad. sk.	India.	J. Gould, Esq.
c. Ad. sk.	India.	
d. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
e. Juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
f. Juv. st.	Madras.	Dr. Jerdon [P.].
g. Skeleton.		Zoological Society.
h. Sternum.		B. H. Hodgson, Esq. [P.].

12. Falco hypoleucus.

Falco hypoleucus, *Gould, P. Z. S.* 1840, p. 162 (*descr. orig.*); *Schl. Abhandl. Geb. Zool. &c.* p. 16 (1841); *Gray, Gen. B.* i. p. 19 (1844); *Gould, B. Austr.* fol. i. pl. 7 (1848); *Sturt, Exp. C. Austr.* ii. App. p. 13 (1849); *Bp. Consp.* i. p. 24 (1850); *Strickl. Orn. Syn.* p. 80 (1855); *Gould, Handb. B. Austr.* i. p. 24 (1865); *Gray, Hand-l. B.* i. p. 18 (1869).

Gennaia hypoleucus, *Kaup, Contr. Orn.* 1850, p. 55.

Hierofalco hypoleucus, *Bp. Rev. et Mag. de Zool.* 1854, p. 536.

Adult. Above ashy, with a fulvous tinge, especially at the edges of the feathers, with a shade of clearer grey on the wing-coverts, all the feathers of the upper surface distinctly centred with a blackish shaft-stripe; head decidedly darker and more bluish, with very numerous black shaft-stripes showing conspicuously; nape whitish, with broader stripes and a tinge of rufous at the sides; frontal line and sides of the face whitish, the lores black, and the upper margin of the ear-coverts tinged with greyish; quills blackish brown, with leaden-grey shafts, the secondaries tipped with buffy white and shaded with ashy grey; tail-feathers ashy, with a broad fulvous tip, with a few nearly obsolete bars of black towards the tip, the subterminal one being more distinct, the shafts leaden grey; under surface of the body entirely white, with a slight shade of buff on the flanks and under tail-coverts, the throat unspotted, but the rest of the feathers narrowly centred with a blackish shaft-stripe, almost obsolete on the thighs and under tail-coverts; under wing-coverts white, rather more distinctly marked with blackish; cere, orbits, and gape orange-yellow; bill yellow at base, black at tip; feet brilliant orange-yellow; iris dark brown. Total length 12 inches, culmen 1, wing 10·6, tail 5·5, tarsus 1·75.

Hab. Australia.

a. ♂ ad. st.	Champion Bay, Australia.	Purchased.

13. Falco subniger.

Falco subniger, *Gray, Ann. N. H.* xi. p. 371 (1843); *id. Gen. B.* i. p. 19, pl. 8 (1844); *Gould, B. Austr.* fol. i. pl. 9 (1848); *Sturt,*

Exp. C. Austr. ii. App. p. 14 (1849); *Bp. Consp.* i. p. 24 (1850); *Strickl. Orn. Syn.* p. 80 (1855); *Schl. Mus. P.-B.* Falc. p. 18 (1862); *Gray, Hand-l. B.* i. p. 18 (1869); *Diggles, Orn. Austr.* pt. 9 (1869).

Hierofalco subniger, *Kaup, Contr. Orn.* 1850, p. 56; *Bp. Rev. et Mag. de Zool.* 1854, p. 536.

Adult male. Everywhere dark brown, merging into black; forehead, feathers below the eye, on the ear-coverts, and sides of the neck more or less mottled with whitish; throat white, streaked with brown; on the breast a few spots of buff here and there; under tail-coverts transversely barred with buffy white; wings and tail faintly barred underneath with very pale rufous; cere yellow; bill lead-colour; legs and feet leaden yellow, claws black; iris dark brown. Total length 17 inches, culmen 1·25, wing 14·3, tail 8·8, tarsus 2.

Female. Similar to the male, but a little larger. Total length 19·5 inches, culmen 1·25, wing 15·8, tail 10·5, tarsus 2·3.

Hab. Australia.

a. ♂ ad. st.	Australia.	Purchased.
b. ♀ ad. sk.	Australia.	John Gould, Esq.
c. ♀ ad. sk.	Australia.	John Gould, Esq.

14. Falco subbuteo.

The Hobby, *Albin, N. H. Birds*, i. p. 6, pl. 6 (1738).

Le Hobreau, *Briss. Orn.* i. p. 375 (1760).

Falco subbuteo, *Linn. S. N.* i. p. 127 (1766); *Temm. Man. d'Orn.* i. p. 25 (1820); *Naum. Vög. Deutschl.* i. p. 296, pl. 26 (1822); *Werner, Atlas*, Rapaces, pl. 9 (1827); *Gould, B. Eur.* i. pl. 22 (1837); *Yarr. Hist. Brit. B.* i. p. 40 (1843); *Schl. u. Susem. Vög. Eur.* Taf. 10. fig. 1 (c. 1845); *Kjærb. Orn. Dan.* Afb. iii. fig. 1 (1851); *Schl. Vog. Nederl.* pl. 8 (1854); *Strickl. Orn. Syn.* p. 85 (1855); *Hewits. Eggs Brit. B.* i. p. 26, pl. ix. fig. 1 (1856); *Fritsch, Vög. Eur.* tab. iii. figs. 1, 2 (1858); *Radde, Reis. Sibir.* ii. p. 100 (1863); *Blyth, Ibis*, 1863, p. 9; *More, Ibis*, 1865, p. 9; *Gould, B. Gt. Br.* pt. viii. (1865); *Farm. Ibis*, 1868, p. 412; *Sundev. Sc. Fogl.* p. 215, pl. xxvi. fig. 4 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 33 (1869); *Salvad. Faun. Ital. Ucc.* p. 20 (1871); *Swinh. P. Z. S.* 1871, p. 340; *Saunders, Ibis*, 1871, p. 59; *Sharpe & Dresser, B. Eur.* pt. iv. (1871); *Godman, Ibis*, 1872, p. 165; *Schl. Revue Accipitr.* p. 38 (1873).

Falco barletta, *Daud. Traité*, ii. p. 129 (1800).

Hypotriorchis subbuteo, *Boie, Isis*, 1826, p. 976; *Gray, Gen. of B.* i. p. 20 (1844); *Kaup, Contr. Orn.* 1850, p. 54; *Bp. Consp.* i. p. 25 (1850); *Jerd. B. Ind.* i. p. 33 (1862); *Tristr. Ibis*, 1865, p. 258; *Degl. & Gerbe, Orn. Eur.* i. p. 85 (1867); *Layard, B. S. Afr.* p. 21 (1867); *Hume, Rough Notes*, i. p. 85 (1869); *Gray, Hand-l. B.* i. p. 20 (1869); *Gurney in Anderss. B. Dam. Ld.* p. 14 (1872).

Falco hirundinum, *Brehm, Vög. Deutschl.* p. 65 (1831).

Dendrofalco subbuteo, *Gray, List Gen. of B.* p. 3 (1840).

Dendrofalco hirundinum, *Brehm, Naum.* 1855, p. 269.

Dendrofalco arboreus, *Brehm, ut suprà.*

Hypotriorchis cuvieri, *Gray, Hand-l. B.* i. p. 20 (1869, *nec Smith*).

Adult male. Above dark slaty grey, inclining to blackish on the

head, much clearer on the lower back and rump; wing-coverts like the back; quills blackish, tail slaty grey, both barred on the inner web with rufous; forehead and eyebrow whitish, nape tinged with rufous; cheek-stripe, feathers below the eye, and along the upper margin of ear-coverts black; hinder part of cheeks, sides of neck, throat, and entire breast creamy white, with a rufous tinge, the latter broadly streaked with black down each feather, with a greyish shade on the flanks and vent; thighs, vent, and under tail-coverts rich ferruginous; under wing-coverts buffy white, with blackish cross markings; cere, orbits, and feet yellow; bill bluish black, yellow at base; iris dark brown. Total length 11·6 inches, culmen 0·7, wing 9·6, tail 5·5, tarsus 1·25.

Adult female. Similar to the male, but larger. Total length 13·5 inches, culmen 0·7, wing 10·6, tail 6·5, tarsus 1·4.

Young. Greyish black, with fulvous edgings to the feathers, especially broad and distinct on the secondaries, rump, and crown; forehead and eyebrow fulvous white; cheek-stripe and line under the eye black; sides of neck, nape, and throat rich creamy buff; under surface creamy buff, with a rufous tinge on the thighs and under tail-coverts, the median markings being very broad and distinct on the breast, more narrow on the thighs, and confined to a long streak on the under tail-coverts; under wing-coverts rufous, with numerous black cross bars; quills and tail black, both banded on the inner web, and the latter tipped with rufous.

Hab. The whole of Europe and Northern Asia, extending to India and N. China, and migrating in winter to S. Africa.

a. ♂ juv. st.	England.	J. Scales, Esq. [P.].
b, *c*. Pull. st.	England.	Mr. J. Baker [P.].
d. ♂ juv. st.	Devonshire.	Col. Montagu [P.].
e. ♂ juv. st.	Turnham Green.	Mr. J. Baker [C.].
f. ♀ ad. st.	Turnham Green.	Mr. J. Baker [C.].
g. ♀ ad. sk.	Sussex, April 1867.	J. E. Harting, Esq. [P.].
h. ♂ ad. sk.	Fontainebleau.	
i. ♂ juv. sk.	Fontainebleau.	
k. ♂ ad. sk.	Belgium, July 27, 1842.	Brussels Museum [P.].
l. ♂ ad. st.	Northern Asia.	
m. ♀ ad. sk.	Irtysch River.	Moscow Museum [P.].
n. ♂ ad. st.	Archangel.	R. B. Sharpe, Esq. [P.].
o. ♀ juv. st.	Archangel.	R. B. Sharpe, Esq. [P.].
p. ♀ ad. st.	Athens.	C. W. L. Merlin, Esq. [P.].
q. ♂ juv. sk.	Turkey, Oct. 2, 1871 (*Robson*).	R. B. Sharpe, Esq. [P.].
r. ♀ ad. sk.	Sicily.	J. Gould, Esq. [P.].
s. ♀ ad. st.	Natal.	Purchased.
t. ♀ juv. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
u. ♀ juv. sk.	Darjiling.	J. Gould, Esq. [P.].
v. ♂ ad. sk.	China.	J. R. Reeves, Esq. [P.].
w. Skeleton.		Purchased.
x. Sternum.		Purchased.
y. Sternum.		W. Yarrell, Esq. [P.].
z. Sternum.		J. Rae, Esq. [P.].
a'. Skull.	Würtemberg.	Dr. Günther.
b', *c'*. Skull.		J. Rae, Esq. [P.].

15. Falco severus.

Falco severus, *Horsf. Tr. Linn. Soc.* xiii. p. 135 (1822); *Strickl. Orn. Syn.* p. 87 (1855); *Schl. Mus. P.-B.* Falc. p. 23 (1862); *Blyth, Ibis*, 1863, p. 8; *Schl. Vog. Nederl. Ind. Valkv.* pp. 4, 45, Taf. 2. figs. 2, 3 (1866); *Radcl. Ibis*, 1871, p. 366; *Schl. Revue Accipitr.* p. 46 (1873).
Falco aldrovandii, *Temm. Pl. Col.* i. pl. 128 (1823); *Less. Traité d'Orn.* p. 91 (1831).
Falco rufipedoides, *Hodgs. Calc. Journ. N. H.* iv. p. 283 (1844).
Falco guttata, *Gray, Cat. Accipitr. Brit. Mus.* p. 26 (1844).
Hypotriorchis severus, *Gray, Gen. of B.* i. p. 20 (1844); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 14 (1849); *Kaup, Contr. Orn.* 1850, p. 54; *Bp. Consp.* i. p. 25 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 23 (1854); *Jerd. B. Ind.* i. p. 34 (1862); *Wall. Ibis*, 1868, p. 5; *Gray, Hand-l. B.* i. p. 20 (1869); *Hume, Rough Notes*, i. p. 87 (1869); *Wald. Tr. Z. S.* viii. p. 33 (1872).

Adult female. Above black, with a slight slaty grey shade, more distinct on the lower back, rump, and tail, the bars on the latter being obsolete; cheeks and ear-coverts entirely black, like the head; under surface of body uniform bright chestnut; throat and sides of neck creamy white, the latter with a slight wash of chestnut; under wing-coverts chestnut like the breast, some of the lower ones barred with black; primaries black, with a few rufous bars near the base; cere, orbits, and feet yellow; bill bluish black, yellow at base; iris dark brown. Total length 13·5 inches, culmen 0·95, wing 9·1, tail 4·6, tarsus 1·4.

Adult male. Similar to, but smaller than, the female. Total length 11·7 inches, wing 8·5, tail 4·5, tarsus 1·15.

Young. Similar to the adult, but the breast covered with median tear-shaped black spots on each feather, the tail broadly banded and tipped with rufous, as also are the primaries; nape slightly varied with rufous; throat purer white than in the adult.

Obs. Mr. Hume describes a bird he got in very similar plumage, which turned out to be a female. The Museum specimen is a female also; and that this is an immature plumage is proved by the fact that another specimen from Nepal, though adult, still retains traces of the bars on the tail.

Hab. Himalayas, the whole Indo-Malayan subregion, extending to Celebes and New Guinea.

a. ♂ ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
b. ♀ juv. st.	Philippine Islands.	H. Cuming, Esq. [C.]. (Type of *F. guttatus*.)
c. ♀ ad. sk.	Manilla.	John Gould, Esq. [P.].
d. ♀ ad. st.	Makassar, Celebes.	A. R. Wallace, Esq. [C.].
e. ♂ ad. sk.	Makassar, Celebes.	A. R. Wallace, Esq. [C.].
f. ♂ ad. sk.	Salwatti, New Guinea.	A. R. Wallace, Esq. [C.].

16. Falco religiosus.

Falco frontatus, *Schl. Vog. Nederl. Ind. Valkv.* pl. 2. figs. 5, 6 (1866, *nec* fig. 4).

Immature female (Southern Gilolo, *coll. Bernstein in Mus. Lugd.*).

Upper surface, including sides of face, entirely black, with narrow whitish tips to the secondaries; throat and sides of neck rich buffy white; rest of under surface rich chestnut, with broad streaks of black, which become narrower on the thighs, abdomen, and under tail-coverts; under wing-coverts black, edged and streaked with chestnut; quills and tail black, with rufous bars on the inner web. Total length 11·8 inches, wing 9·2, tarsus 1·35.

Adult female (marked a male in the Leiden Museum, but probably in error: type of the species). Smoky black above and below, some of the scapulars imperceptibly shading off into dull ashy brown, very indistinct; secondaries very narrowly tipped with buffy white; throat creamy white, streaked on the lower part with black; under surface of body black, with a few remains of chestnut edgings to the feathers of the abdomen and flanks; thighs chestnut, streaked with black; under tail-coverts black, broadly spotted and tipped with rufous; tail black, tipped with rufous, with a few rufous bars on the under surface, and also a few on the inner webs of the primaries; under wing-coverts black, tipped with deep chestnut. Total length 12·4 inches, culmen 0·9, wing 9·6, tail 5·7, tarsus 1·45.

Hab. Ceram, Gilolo.

Obs. Professor Schlegel has figured this bird (*l. c.*) in its two stages as above described, and he now places them in the Leiden Museum along with *F. severus* instead of *F. lunulatus*. Whether it is merely an accidental melanism which takes place in the southern habitat of *F. severus*, as Prince Bonaparte and Prof. Schlegel consider, we shall wait for a larger series to determine. At present it seems to me to be a distinct bird, replacing *F. severus* in Gilolo and Ceram, the latter bird not reaching beyond Celebes. The title is derived from Temminck's MS. name in the Leiden Museum (*cf.* Bp. Consp. p. 25, sub *F. severus*).

17. Falco lunulatus.

Lunated Falcon, *Lath. Gen. Syn. Suppl.* ii. p. 54 (1801).
Falco lunulatus, *Lath. Ind. Orn. Suppl.* ii. p. xiii (1801); *Strickl. Orn. Syn.* p. 89 (1855); *Gould, Handb. B. Austr.* i. p. 29 (1865); *Schl. Revue Accipitr.* p. 39 (1873).
Sparvius lunulatus, *Vieill. N. Dict. d'Hist. Nat.* x. p. 324 (1817).
Falco longipennis, *Sw. An. in Menag.* p. 341 (1837).
Falco frontatus, *Gould, P. Z. S.* 1837, p. 139; *id. Syn. B. Austr.* pl. 3. fig. 1 (1838); *id. B. Austr.* fol. i. pl. 10 (1848); *Schl. Vog. Nederl. Ind.* pp. 5, 146, pl. 2. figs. 4–6 (1866); *Diggl. Orn. Austr.* pt. ii. (1869).
Hypotriorchis frontatus, *Gray, Gen. of B.* i. p. 20 (1844); *Bp. Consp.* p. 25 (1850); *Kaup, Contr. Orn.* 1850, p. 55.
Falco subbuteo frontatus, *Schl. Mus. P.-B.* Falc. p. 22 (1862).
Hypotriorchis lunulatus, *Wall. Ibis*, 1868, p. 5; *Gray, Hand-l. B.* i. p. 20 (1869).

Adult male. Above slaty blue, lighter on the back and rump, darker and browner on the head, the nape tinged with rufous; quills brown, secondaries inclining to slaty blue like the back, primaries barred with rufous on the inner web; tail bluish grey, banded with

black, all but the two centre feathers barred on the inner web and tipped with rufous, these bars sometimes extending slightly on to the inner web; forehead and lores white; sides of face, fore part of the cheeks, and ear-coverts brownish black; hind part of cheeks, sides of neck, and throat white, slightly tinged with rufous; under surface of the body pale dingy rufous, with a few shaft-stripes on the breast and the remains of obsolete grey cross bars on the flanks; under wing-coverts dingy rufous, obsoletely barred with brown and tipped with fulvous; cere and base of upper mandible yellow; bill bluish lead-colour, black at tip; feet yellow, claws black; iris blackish brown. Total length 11·5 inches, culmen 0·8, wing 9·7, tail 5·9, tarsus 1·3.

Adult female. Similar to the male, but larger. Total length 13·5 inches, culmen 0·85, wing 10·5, tail 6, tarsus 1·45.

Young. Above slaty blue, with broad rust-coloured margins to the feathers, the secondaries plainly tipped with buffy white; the crown and upper tail-coverts rusty, being quite obscured by the margins to the feathers; forehead whitish; fore part of cheeks, region of the eye, and ear-coverts brownish black; hinder part of cheeks, sides of neck, and throat creamy white; chest creamy buff, tinged with rufous, with several dark brown streaks down the centre of the feathers; remainder of under surface deep rufous; the lower abdomen, vent, and under tail-coverts tawny buff, with a few rufous shaft-stripes and bars; under wing-coverts dull rufous, with oval spots of creamy buff; primaries dark brown, tipped with whitish and barred on the inner web with rufous; tail greyish above, browner beneath, all the feathers barred across and tipped with rufous.

Obs. The birds above described are certainly the adults and young of one and the same species. In the Museum, however, are three specimens, one of which is from Tasmania, and the two others simply marked "Australia," but agreeing in every respect with each other: all the other specimens are from various parts of the Australian continent, as noticed below. I cannot help thinking that these three birds belong to a different species. They are slightly smaller than the male described (wing 9·4) and are very much darker, being black with a slight greyish shade; the throat and chest are thickly streaked with black, and the sides of the body mottled with blackish cross bars. These are, perhaps, only in the intermediate stage before assuming the adult dress; and this idea is favoured by the presence of the cross bars on the sides, remains of which are seen even in quite adult birds.

Hab. The whole of Australia and Van Diemen's Land; Flores.

a. ♂ ad. st.	Australia.	Linnean Society [P.].
b. ♂ juv. st.	Australia.	Sir D. Cooper [P.].
c. ♀ ad. sk.	Australia.	Ronald Gunn, Esq. [P.].
d. ♂ ad. st.	Van Diemen's Land.	Sir George Grey [P.].
e. ♂ ad. st.	South Australia.	J. Gould, Esq. [P.].
f. ♂ juv. sk.	Yarrundi River, N.S.W.	Captain Sturt [P.].
g. ♀ ad. sk.	Interior of S. Australia.	Captain Sturt [P.].
h. ♂ ad. sk.	Interior of S. Australia.	J. R. Elsey, Esq. [P.].
i. Juv. sk.	N.W. Australia.	

k. Ad. sk.	N.E. Australia.	Purchased.
l. ♂ ad. sk.	Flores.	A. R. Wallace, Esq. [C.].

18. Falco cuvieri.

Falco cuvieri, *Smith, S.-Afr. Q. Journ.* i. p. 392 (1830); *Sharpe, Ibis*, 1871, p. 486.
Falco boschii, *Schl. Nederl. Tijdschr.* i. p. 123 (1861); *id. Mus. P.-B.* Falc. p. 23 (1862).
Falco severus (pt.), *Schl. Mus. P.-B. Revue Accipitr.* p. 39 (1873).

Adult male. Above dark slaty grey, inclining to black on the interscapulary region, the scapulars and inner secondaries edged with paler grey, primaries dark brown; tail-feathers dark brown, with a slight greyish shade above, barred with fulvous underneath on the inner web and tipped with pale rufous; forehead inclining to buffy white; fore part of the cheeks, as well as a short malar stripe and a line under the eye along the upper ear-coverts, greyish black; rest of the cheeks, sides of neck, and throat white, washed with rufous; remainder of under surface rich rusty red, the thighs and under tail-coverts unspotted, the breast and sides marked with central streaks of black to the feathers; under wing-coverts buff, streaked with black; cere, orbits, and feet orange; bill dark horn-blue, yellow at base of lower mandible. Total length 11 inches, culmen 0·8, wing 8·5, tail 5, tarsus 1·2.

Hab. South and West Africa.

a. ♂ ad. sk.	Accra, July 1872.	Captain G. E. Shelley [P.].

19. Falco fusco-cærulescens.

Alconcillo aplomado, *Azara, Apunt.* i. p. 175 (1802).
Alconcillo obscuro azulejo, *Azara, Apunt.* i. p. 179 (1802).
Falco fusco-cærulescens, *Vieill. N. Dict. d'Hist. Nat.* xi. p. 90 (1817).
Falco thoracicus, *Licht. Verz. Doubl.* p. 62 (1823).
Falco femoralis, *Temm. Pl. Col.* i. pls. 121, 343 (1823); *Spix, Av. Bras.* i. p. 18 (1824); *D'Orb. Voy. Am. Mérid., Zool.* p. 116 (1835); *Tschud. & Cab. Faun. Peruan.* p. 108 (1845); *Hartl. Ind. Azar.* p. 3 (1847); *Strickl. Orn. Syn.* p. 88 (1855); *Burm. Reis. La Plata*, ii. p. 437 (1861); *Schl. Mus. P.-B.* Falc. p. 20 (1862); *Cooper, B. Calif. ed. Baird*, p. 460 (1870); *Schl. Revue Accipitr.* p. 38 (1873).
Hypotriorchis femoralis, *Gray, Gen. of B.* i. p. 20 (1844); *Cab. in Schomb. Reis. Guian.* iii. p. 724 (1848); *Bp. Consp.* i. p. 26 (1850); *Scl. & Salv. Ibis*, 1859, p. 219; *Pelz. Reis. Nov., Vög.* p. 8 (1865); *Léot. Ois. Trinid.* p. 24 (1866); *Scl. P. Z. S.* 1867, pp. 330, 338; *Scl. & Salv. t. c.* pp. 590, 988; 1868, p. 143; 1869, pp. 155, 252; *Gray, Hand-l. B.* i. p. 21 (1869); *Pelz. Orn. Bras.* p. 5 (1871); *Scl. & Salv. Nomenel.* p. 121 (1873).
Æsalon femoralis, *Kaup, Contr. Orn.* 1850, p. 54; *Bp. Rev. et Mag. de Zool.* 1854, p. 536.
Hypotriorchis aurantius, *Heerm. Pr. Philad. Acad.* 1854, p. 177.

Adult male. Above dull slaty, lighter on the rump and upper tail-coverts, the latter barred and tipped with whitish; crown greyish black; lores and forehead whitish; from behind the eye a broad streak running down each side of the head and joining on the hind

neck white, tinged on the latter part with tawny; cheek-stripe and a line of feathers from under the eye, running along the upper margin of the ear-coverts, along the sides of the neck, greyish black; throat and chest, along with the hinder part of cheeks and ear-coverts and sides of neck, buffy white; sides of breast black, varied with narrow white lines, meeting across the centre of the body; remainder of underparts clear tawny buff; quills brown, externally washed with greyish, internally barred with white; secondaries conspicuously tipped with whitish; tail blackish brown, tipped with white and crossed with about six white bands; under wing-coverts black with white bars, all the external ones bordering the carpal bend pale tawny; cere and feet yellow; bill horn-brown, yellow at base. Total length 13·5 inches, culmen 0·85, wing 10, tail 7, tarsus 1·9.

Adult female. Similar to adult male, but larger and more richly coloured; the stripe on the side of the head and the underparts rich tawny; the black on the breast not meeting across the centre (apparently an older specimen than the male). Total length 15·5 inches, culmen 1·2, wing 10·5, tail 8·3, tarsus 2.

Young. Browner than the adults; the feathers edged with paler brown, the chest streaked and mottled with brown centres to the feathers.

Hab. From Mexico southwards throughout S. America to Peru and the Argentine Republic.

a. ♀ juv. st.	South America.		
b. ♀ juv. st.	East Patagonia.	Sir W. Burnett and Admiral Fitzroy [P.].	
c. ♀ ad. sk.	Ccachuapata, Peru.	H. Whitely, Esq. [P.].	
d. ♀ ad. st.	Arequipa, Peru, July 2nd, 1867.	H. Whitely, Esq. [C.].	
e. ♀ ad. sk.	Island of Mexiana.	A. R. Wallace, Esq. [C.].	
f. ♀ juv. sk.	Island of Mexiana.	A. R. Wallace, Esq. [C.].	
g. ♂ ad. st.	Mexico.	John Taylor, Esq. [P.].	

20. Falco albigularis.

Falco aurantius, β, γ, *Lath. Ind. Orn.* i. p. 48 (1791).
Falco albigularis, *Daud. Traité*, ii. p. 131 (1800, *ex Lath. var.* β).
Falco rufigularis, *Daud. Traité*, ii. p. 131 (1800, *ex Lath. var.* γ); *Gray, Cat. Accipitr.* 1848, p. 54; *Strickl. Orn. Syn.* p. 88 (1855).
Falco aurantius, *Licht. Verz. Doubl.* p. 61 (1823); *Burm. Th. Bras.* ii. p. 98 (1856); *Schl. Mus. P.-B.* Falcones, p. 24 (1862); *Elliot, B. N. Am.* ii. pl. xxxii. (1869); *Schl. Revue Accipitr.* p. 40 (1873).
Falco thoracicus, *Donov. Nat. Rep.* pl. 45 (1823).
Bidens aurantius, *Spix, Av. Bras.* p. 17 (1824).
Falco cucullatus, *Sw. An. in Menag.* p. 340 (1837).
Hypotriorchis rufigularis, *Gray, Gen. B.* i. p. 20 (1844); *id. Hand-l. B.* i. p. 21 (1869); *Pelz. Orn. Bras.* pp. 5, 397 (1871); *Scl. & Salv. Nomencl.* p. 121 (1873).
Hypotriorchis aurantiacus, *Kaup, Mus. Senck.* iii. p. 257 (1845).
Falco hæmorrhoidalis, *Hahn u. Kust. Vög.* Lief. xv. pl. 1 (1850).
Hypotriorchis aurantius, *Bp. Consp.* i. p. 25 (1850).

Adult male. Above black, with a slaty grey tinge on the back and secondaries, clearer on the rump and upper tail-coverts; quills black, with a narrow whitish tip to the outer secondaries; tail black, narrowly tipped with whitish and with three or four indistinct narrow bands of grey, inclining to white on the outer feathers; sides of the face entirely black, cheeks and ear-coverts not separated; throat and sides of the neck white, washed with rufous, especially on the latter; entire breast black, crossed with fine white bars, a little broader on the flanks; thighs, abdomen, and under tail-coverts deep chestnut; under wing-coverts black, barred with white; bill deep bluish black, yellowish at base; feet yellow. Total length 9 inches, culmen 0·8, wing 7·3, tail 4, tarsus 1·3.

Adult female. Similar to the male, but larger. Total length 12 inches, culmen 0·95, wing 8·9, tail 5·4, tarsus 1·5.

Hab. From Mexico southwards to the Argentine Republic. Said to occur in the extreme south of the United States.

a. ♂ ad. sk.	South America.		
b. ♂ ad. sk.	Brazil.		
c. ♂ ad. sk.	Brazil.	Major-General Hardwicke [P.].	
d. ♀ ad. sk.	Tocantins River.	A. R. Wallace, Esq. [C.].	
e. ♀ ad. sk.	Pebas, E. Peru, Feb. 2, 1872.	J. La Mert, Esq. [C.].	
f. ♂ ad. st.	British Guiana.	Royal Geographical Society [P.].	
g. ♂ ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].	
h. ♀ ad. st.	Trinidad.		
i. ♂ ad. st.	Bay of Panama.	Capt. Kellett and Lieut. Wood [P.].	
k. ♀ ad. st.	Bay of Panama.	Capt. Kellett and Lieut. Wood [P.].	

21. Falco aurantius.

Orange-breasted Hobby, *Lath. Gen. Syn.* i. p. 105 (1781).
Falco aurantius, *Gm. S. N.* i. p. 283 (1788, *ex Lath.*); *Strickl. Orn. Syn.* p. 89 (1855).
Falco deiroleucus, *Temm. Pl. Col.* i. pl. 348 (1825); *Gray, Gen. B.* i. p. 19 (1844); *Schl. Mus. P.-B.* Falcones, p. 24 (1862); *Scl. & Salv. Nomencl.* p. 121 (1873).
Hypotriorchis aurantius, *Gray, Hand-l. B.* i. p. 21 (1869).
Hypotriorchis deiroleucus, *Pelz. Orn. Bras.* p. 397 (1871).

Adult. Above black; the feathers of the lower back, rump, and upper tail-coverts, as well as the scapulars and wing-coverts, conspicuously bordered with clear slaty grey; cheeks black, like the head; throat white; entire chest, abdomen, thighs, and under tail-coverts rich chestnut; lower breast as well as the under wing-coverts black, broadly tipped and largely spotted with rufous buff, the latter as well as the axillaries with conspicuous rounded buff-coloured spots; quills black, secondaries slightly tipped with whitish, and scantily barred with white on the inner web; tail black, slightly tipped and crossed with three bars of greyish white. Total length 12·5 inches, culmen 1·2, wing 9·45, tail 5, tarsus 1·55.

Adult female. Similar to the male, but larger. Total length 15 inches, wing 11, tarsus 1·9.

Young. Above black; a narrow eyebrow of dull ochre; nape slightly mixed with rufous; feathers of the upper surface narrowly edged with pale ochraceous buff, broader and whiter on the upper tail-coverts; quills black, the outer secondaries conspicuously tipped with white, with oval spots of rufous white on the inner webs; tail black, tipped with white, and having three or four V-shaped bands of white; sides of the face black, like the crown; throat and sides of neck white, washed with ochre; chest ochre, with median stripes of black; breast black, the feathers margined and spotted with ochre; thighs and abdomen ochre, with black centres to the feathers; under tail-coverts white, tinged with ochre and broadly barred with black; under wing-coverts and axillaries black, the former edged, the latter spotted with ochre. Total length 15 inches, culmen 1·2, wing 11·2, tail 6·2, tarsus 1·65.

Hab. From Guatemala southwards through Guiana and Brazil.

a. ♀ juv. st.	Bahia.		
b. ♂ ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].	

22. Falco chicquera.

Le Chicquera, *Levaill. Ois. d'Afr.* i. p. 30 (1799).
Falco chicquera, *Daud. Traité*, ii. p. 121 (1800, *ex Levaill.*); *Less. Traité*, p. 90 (1831); *Gould, Cent. B. Himal. Mts.* pl. 2 (1832); *Blyth, Cat. B. Mus. As. Soc. Beng.* p. 14 (1849); *Bp. Consp.* i. p. 25 (1850); *Strickl. Orn. Syn.* p. 87 (1855); *Sundev. Krit. om Levaill.* p. 26 (1857); *Schl. Mus. P.-B. Falc.* p. 20 (1862).
Chicquera Falcon, *Lath. Gen. Syn. Suppl.* ii. p. 27 (1801).
Fasciated Falcon, *Lath. Gen. Hist.* i. p. 189 (1821).
Hypotriorchis chicquera, *Gray, Gen. B.* i. p. 20 (1844); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 23 (1854); *Jerd. B. Ind.* i. p. 36 (1862); *Gray, Hand-l. B.* i. p. 22 (1869).
Æsalon chicquera, *Kaup, Class. Säug. u. Vög.* p. 111 (1844); *id. Contr. Orn.* 1850, p. 54.
Chicquera typus, *Bp. Rev. et Mag. de Zool.* 1854, p. 536.
Turumtia chicquera, *Blyth, Ibis*, 1863, p. 9.
Lithofalco chicquera, *Hume, Rough Notes*, i. p. 91 (1869); *Anders. P. Z. S.* 1871, p. 681.

Adult male. Entire head and hind neck chestnut; forehead and sides of the face and neck, as well as the throat, white, with faint indications of a chestnut moustache; a few feathers below the eye and a small eyebrow black; entire upper surface clear slaty blue, with remains of blackish cross bars, especially numerous on the wing-coverts; tail slaty blue, narrowly barred with black, tipped with white, before which a broad subterminal black band; quills blackish brown, barred with greyish white on the inner web, the inner secondaries slaty blue like the back; under surface of body white, with a very few minute black shaft-lines on the chest, the breast thickly crossed with black transverse bars, a little wider on the under tail-coverts; under wing-coverts white, barred in the same manner as the breast; cere, orbits, and feet yellow, the claws black; bill greenish yellow at base, black at tip; iris rather light brown. Total length 11·5 inches, culmen 0·85, wing 8·25, tail 6, tarsus 1·5.

Adult female. Similar to the male, but larger. Total length 13 inches, culmen 0·95, wing 9, tail 6·5, tarsus 1·5.

Hab. Indian peninsula.

a.	Ad. sk.	India.	Dr. Babington [P.].
b.	Ad. sk.	Meerut.	J. Gould, Esq. [P.].
c.	Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
d.	Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
e.	Ad. sk.	Rajkote, Kattiawar, June 7, 1871.	Major J. Hayes Lloyd [P.].

23. Falco ruficollis.

Tawny-headed Falcon, *Lath. Gen. Hist.* i. p. 200 (1821).

Falco ruficollis, *Sw. B. W. Afr.* i. p. 107, pl. 2 (1837); *Strickl. Orn. Syn.* p. 87 (1855); *Hartl. Orn. W.-Afr.* p. 8 (1857); *Finsch & Hartl. Vög. Ostafr.* p. 72 (1870).

Falco macrodactylus, *Sw. Classif. B.* ii. p. 212 (1837).

Falco chicquera, *Vierth. Naum.* 1852, p. 48; *Heugl. Orn. N.O.-Afr.* p. 36 (1869); *Schl. Revue Accipitr.* p. 38 (1873).

Chicquera ruficollis, *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Gurney, Ibis*, 1868, p. 141; *Ayres, Ibis*, 1869, p. 288; *Anderss. B. Damara Ld. ed. Gurney*, p. 14 (1872).

Hypotriorchis ruficollis, *Heugl. Ibis*, 1860, p. 409; *Gray, Hand-l. B.* i. p. 22 (1869).

Chicquera macrodactylus, *Loche, Expl. Sci. Algér., Ois.* p. 58 (1867).

Adult male. So similar to *F. chicquera* that it is probable that it may yet prove to be the same. It seems to be a little paler in colour, and to have the bars on the breast rather closer together; orbits, cere, tarsi, and feet yellow; bill bluish horn-colour, yellow at base; iris dark brown. Total length 11·5 inches, culmen 0·8, wing 8·6, tail 5·8, tarsus 1·5.

Hab. The whole of Africa.

a.	♂ ad. sk.	Transvaal.	R. B. Sharpe, Esq. [P.].
b.	Ad. st.	Africa.	

24. Falco eleonoræ.

Falco eleonoræ, *Gené, Rev. Zool.* 1839, p. 105, *et Mem. R. Accad. Tor.* ser. 4, tom. ii. Taf. 1*a*, 2 (1840); *Temm. Man. d'Orn.* iv. p. 593 (1840); *Bp. Faun. Ital. Ucc.* tav. 1 (1841); *Schl. Rev. Crit.* p. iii (1844); *Schl. & Susem. Vög. Eur.* Taf. 53, 54 (c. 1845); *Strickl. Orn. Syn.* p. 86 (1855); *Jaub. & Barth. Rich. Orn.* p. 57, pl. 6 (1859); *Schl. Mus. P.-B.* Falc. p. 25 (1862); *Tristr. Ibis*, 1865, p. 258; *Bree, B. Eur.* i. p. 44 (1866); *Degl. & Gerbe, Orn. Eur.* i. p. 86 (1867); *Salvad. Faun. Ital. Ucc.* p. 19 (1871); *Dresser, B. Eur.* pt. xvi. (1873); *Schl. Revue Accipitr.* p. 40 (1873).

Falco arcadicus, *Linderm. Isis*, 1843, p. 329, Taf. 1; *Strickl. Orn. Syn.* p. 86 (1855).

Falco concolor, *Mühle, Orn. Griechenl.* p. 14 (1844).

Hypotriorchis arcadicus, *Gray, Gen. B.* i. p. 20 (1844).

Hypotriorchis eleonoræ, *Gray, Gen. B.* i. p. 20 (1844); *Bp. Consp.* i. p. 25 (1850); *Kaup, Contr. Orn.* 1850, p. 55; *id. Cat. Ois. Eur. Parzud.* p. 2 (1856); *Tristr. Ibis*, 1859, p. 25; *Salvin, t. c.* p. 189;

Heugl. Ibis, 1860, p. 408; *Loche, Expl. Sci. Algér., Ois.* p. 60 (1867); *Gurney, Ibis*, 1867, p. 380, *et* 1869, p. 445, pl. xvi.; *Gray, Hand-l. B.* i. p. 21 (1869); *Saund. Ibis*, 1871, p. 58.
Dendrofalco eleonoræ, *Bp. Rev. Crit.* p. 131 (1850).
Dendrofalco arcadicus, *L. Brehm, Naum.* 1855, p. 268.
Falco plumbeus, *L. Brehm, Naum.* 1856, p. 236.
Falco dichrous, *Erhard, Naum.* 1858, p. 25.
Falco radama, *Roch & Newt. Ibis*, 1862, p. 266; *Maill. Réun.* p. 100 (1862).

Adult. Everywhere dark brown, inclining to black, the quills blackish; tail brown, with pale rufous bars on the inner webs; cere yellowish blue, orbits yellow; feet yellow, claws black; bill black, yellow at base of lower mandible; iris dark brown. Total length 15·5 inches, culmen 1·1, wing 13·3, tail 7·5, tarsus 1·5.

Young. Above brown, the hind neck varied with rufous; forehead and feathers over the eye whitish; throat and sides of the face and neck yellowish white, the cheek-stripe, as well as the feathers under the eye and along the upper margin of ear-coverts, dark brown; quills dark brown, some of the secondaries notched with rufous buff; tail banded alternately with pale rufous and black cross bars, almost obsolete on the two centre rectrices; under surface of body rufous, with median patches of brown on each feather, giving a somewhat striped appearance, some of the feathers, especially the flanks and thighs, washed with fulvous; the under tail-coverts less spotted; under wing-coverts dark brown, spotted and banded with rufous buff; cere pale greenish yellow; feet lemon-yellow; bill horn-colour, lighter at base; iris dark hazel-brown. Total length 13·5 inches, culmen 0·95, wing 11·8, tail 6, tarsus 1·35.

Intermediate stages are often seen, when the young or "hobby" plumage is being gradually obscured by the approaching sooty brown dress of the adult.

a, b, c. ♂ ♀ ad. juv. st.	Algeria.	Purchased.
d. Skeleton.		Zoological Society.

25. Falco concolor.

Falco concolor, *Temm. Pl. Col.* texte to pl. 330 (1825); *Gould, B. Eur.* i. pl. 25 (1837); *Schl. u. Susem. Vög. Eur.* Taf. 9. fig. 1 (1839); *Fritsch, Vög. Eur.* tab. 3. fig. 3 (1858); *König-Warth. Ibis*, 1860, p. 124; *Hartl. Beitr. Orn. Madag.* p. 18 (1861); *Dubois, Ois. d'Eur.* p. 22, pl. 22 (1862); *Schl. Mus. P.-B.* Falc. p. 25 (1862); *Degl. & Gerbe, Orn. Eur.* i. p. 88 (1867); *Schl. & Poll. Faun. Madag., Ois.* p. 31, pl. 12. fig. 1 (1868); *Heugl. Orn. N.O.-Afr.* i. p. 31 (1869); *Gray, Hand-l. B.* i. p. 21 (1869); *Finsch u. Hartl. Vög. Ostafr.* p. 69, Taf. 1 (1870); *Shelley, B. of Egypt*, p. 192 (1872); *Schl. Revue Accipitr.* p. 40 (1873).
Hypotriorchis concolor, *Gray, Gen. B.* i. p. 20 (1844); *Bp. Consp.* i. p. 25 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 23 (1854); *Heugl. Ibis*, 1860, p. 409; *Gurney, Ibis*, 1869, p. 445; *Gray, Hand-l. B.* i. p. 21 (1869).
Tinnunculus concolor, *Rüpp. Syst. Uebers.* p. 11 (1845).
Æsalon tibialis, *Kaup, Contr. Orn.* 1850, p. 54.
Dendrofalco concolor, *Brehm, Naum.* 1855, p. 268.

Falco eleonoræ, *Heugl. Syst. Uebers.* p. 9 (1856, *nec Gené*).
Falco horus, *Heugl. Syst. Uebers.* p. 9 (1856).
Falco cyanostolos, *A. Brehm, Naum.* 1856, p. 234.
Falco gracilis, *A. Brehm, Naum.* 1856, p. 232.
Hypotriorchis horus, *Heugl. Ibis*, 1860, p. 409.
Æsalon ardosiacus, *Brehm, Reis. Habesch.* p. 207 (1863, *teste Heuglin*).

Adult male. Uniform leaden grey, with black shaft-stripes to the feathers; quills dark brown, with whitish bands on the inner web, the secondaries leaden grey like the back; tail leaden grey above, much paler beneath, with obsolete whitish bars on the inner webs; cere and orbits bright orange-yellow; bill dark leaden blue, yellowish at the base; feet bright yellow; iris umber-brown. Total length 12·5 inches, culmen 0·9, wing 10·4, tail 5·4, tarsus 1·35, middle toe 1·35.

Female. Similar to the male, but slightly larger. Total length 13 inches, culmen 0·95, wing 11·2, tail 6, tarsus 1·4, middle toe 1·3.

Obs. Very old examples become leaden black. Birds not fully adult have remains of bars on the inner web of the tail-feathers, with often some remains of rufous on the breast.

Young male. Above slaty grey, the wing-coverts and sides of face darker, the feathers of the lower back and upper tail-coverts tipped with dull white, the nape tinged with buffy white; quills black above, greyish black below, the secondaries slaty grey like the back, tipped with whitish; tail slaty grey, tipped with creamy white, the inner web with eight or nine notches of pale rufous white; throat and sides of face and of neck pale rufous buff; ear-coverts, feathers under the eye, and moustachial streak slaty black; rest of under surface ochraceous buff, with slaty grey centres to the feathers, producing a more or less striped appearance, except on the sides of the upper breast, which are almost uniform slaty grey; under wing-coverts dull slaty, the lower ones barred with pale rufous, those along the carpal joint margined with dull ochre. Total length 11·5 inches, wing 10·2, tarsus 1·3. (*Mus. Lugd.*)

Hab. The coast of Eastern Africa, from the Red Sea to Madagascar, in rocky localities.

a. ♂ ad. Efat (*Harris*). Secretary of State for India.

26. Falco regulus.

Le Faucon de Roche, ou Rochier, *Briss. Orn.* i. p. 349 (1760).
L'Emerillon, *Briss. Orn.* i. p. 382 (1760); *Buff. Pl. Enl.* i. pl. 468 (1770); *Schl. & Verst. Traité Fauc.* pl. ix. (1853).
Le Rochier, *Buff. Pl. Enl.* i. pl. 447 (1770).
Falco regulus, *Pall. Reis. Russ. Reichs.* ii. Anhang, p. 707 (1773); *Gm. S. N.* i. p. 285 (1788).
Falco lithofalco, *Gm. S. N.* i. p. 278 (1788); *Roux, Orn. Prov.* p. 53 (1825); *Less. Traité*, p. 94 (1831); *Brehm, Vög. Deutschl.* p. 67 (1831); *Kaup, Mus. Senckenb.* iii. p. 258 (1845); *Kjærb. Orn. Dan.* Afb. iii. fig. 2 (1851); *Degl. & Gerbe, Orn. Eur.* i. p. 91 (1867); *Salvad. Faun. Ital. Ucc.* p. 21 (1871).
Falco æsalon, *Gm. S. N.* i. p. 284 (1788); *Temm. Man.* i. p. 27 (1820); *Naum. Vög. Deutschl.* i. p. 303, Taf. 27 (1822); *Werner*,

Atlas, Rapaces, pl. 10 (1827); *Gould, B. Eur.* i. pl. 24 (1837); *Macgill. Brit. B.* iii. p. 317 (1840); *Yarr. Hist. Brit. B.* i. p. 48 (1843); *Thomp. B. Irel.* i. p. 51 (1849); *Midd. Sibir. Reis., Vög.* p. 129 (1851); *Schl. Vog. Nederl.* pls. 6, 7 (1854); *Strickl. Orn. Syn.* p. 90 (1855); *Hewits. Eggs Brit. B.* i. p. 30, pl. 10. fig. 1 (1856); *Fritsch, Vög. Eur.* tab. 3. fig. 7 (1858); *Schl. Dier. Nederl. Vog.* pl. 1. figs. 5, 6 (1861); *id. Mus. P.-B.* Falc. p. 19 (1862); *Radde, Reis. Sibir.* ii. p. 101 (1863); *Newt. Ooth. Wolley.* p. 105 (1864); *Gould, B. Gt. Br.* pt. vii. (1865); *Sundev. Sv. Fogl.* p. 213, pl. xxvi. fig. 3 (1869); *Borggr. Vogelf. Norddeutschl.* p. 55 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 35 (1869); *Newton, ed. Yarr. Brit. B.* i. p. 74 (1871); *Shelley, B. of Egypt*, p. 191 (1872); *Schl. Revue Accipitr.* p. 37 (1873).

Falco falconiarum, *Gm. S. N.* i. p. 284 (1788).

Falco smirillus, *Savign. Ois. d'Egypte*, p. 279 (1808).

Falco sibiricus, *Shaw, Gen. Zool.* vii. pt. 1, p. 207 (1809).

Falco cæsius, *Meyer, Taschenb. Deutschl. Vogelk.* i. p. 60 (1810).

Hypotriorchis æsalon, *Gray, Gen. B.* i. p. 20 (1844); *Bp. Consp.* i. p. 26 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 24 (1854); *Powys, Ibis*, 1860, p. 7; *Godman, t. c.* p. 79; *Jerd. B. Ind.* i. p. 35 (1862); *More, Ibis*, 1865, p. 10; *Tristr. t. c.* p. 258; *Farm. Ibis*, 1868, p. 412; *Gray, Hand-l. B.* i. p. 21 (1869); *Saund. Ibis*, 1871, p. 59.

Æsalon æsalon, *Kaup, Contr. Orn.* 1850, p. 54.

Asalon lithofalco, *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Brehm, Naum.* 1855, p. 269; *Sundev. Sv. Fogl.* pl. xxvi. fig. 3 (1869); *Gurney, Ibis*, 1872, p. 327.

Merlin, *Salvin & Brodr. Falconry*, p. 79, pls. vii., viii. (1855).

Æsalon orientalis, *Brehm, Naum.* 1855, p. 269.

Æsalon regulus, *Blyth, Ibis*, 1863, p. 9.

Lithofalco æsalon, *Hume, Rough Notes*, i. p. 89 (1869); *Jerd. Ibis*, 1871, p. 242.

Adult male. Above clear slaty blue, paler on the rump and upper tail-coverts, the black shafts on all the feathers distinctly indicated; head dark slaty, with broad shaft-stripes; forehead, lores, and sides of the face whitish, with black median lines to the feathers; eyebrow and nape strongly mixed with rufous; ear-coverts tinged with grey on the hinder part; throat pure white; sides of the neck and entire underparts white, strongly washed with rufous, with distinct median shaft-stripes of black, these being more narrow and indistinct on the thighs, and rather broader on the under tail-coverts; under wing-coverts white, spotted and barred with black; quills black, barred with greyish white on the inner web, and washed with bluish grey near the base of the outer, the inner secondaries bluish like the back, with black shafts; tail slaty blue, tipped with white, before which is a broad subterminal band of black on the inner web, underneath remains of other black bands; cere yellow; bill bluish horn-colour, darkest at tip; feet yellow, claws black; iris dark brown. Total length 10 inches, culmen 0·7, wing 7·9, tail 4·5, tarsus 1·45.

Adult female. Similar to the male, but a little larger. Total length 12 inches, culmen 0·9, wing 8·8, tail 5·5, tarsus 1·5.

Young. Above brown, with a very slight shade of ashy grey, clearer on the rump, all the feathers margined with pale sandy

rufous, of which colour there are concealed bands on the secondaries, the black shaft-stripes rather indistinct, but broader on the head; nape mixed with white; forehead, eyebrow, and ear-coverts whitish, narrowly streaked with black; hinder part of ear-coverts brown, washed with rufous, and also a slight moustachial streak of the same colour; throat creamy white, with narrow indistinct brown shaft-markings; rest of under surface whitish, with very broad reddish brown streaks, varied by distinct black shaft-stripes, the thighs marked with smaller brown spots, the lower abdomen and under tail-coverts only sparsely marked with brown; sides of the body for the most part reddish brown, with very distinct rounded spots of white, giving a marbled appearance; under wing-coverts dark rufous brown, marbled like the flanks with white spots, some of the feathers also edged with whitish; quills dark brown, spotted on the outer and notched on the inner web with rufous, secondaries tipped with whitish; tail dark brown, with a whitish tip, barred across with pale rufous.

Hab. The whole of Europe and Northern Asia, extending into India and China.

a. Pull. sk.	Orkneys.	J. Gould, Esq.
b,*c*,*d*. Pull. st.	Orkneys.	Purchased.
e. ♂ juv. sk.	Freshwater, Isle of Wight, Oct. 3, 1871.	Baron A. von Hügel [P.].
f. ♀ juv. sk.	Freshwater, Sept. 14, 1872.	Baron A. von Hügel [P.].
g. ♀ juv. sk.	Christchurch, Hants, Jan. 1, 1872.	Baron A. von Hügel [P.].
h. ♂ ad. st.	Devonshire.	Colonel Montagu.
i. ♀ juv. st.	Somersetshire.	Colonel Montagu.
k,*l*. ♂ juv. st.	Turnham Green.	
m. ♀ juv. st.	Monmouthshire.	Dr. Günther [P.].
n. ♀ ad. st.	England (*Lord Saye*).	Zoological Society.
o. ♂ ad. sk.	Europe.	
p. ♂ ad. st.	Goodwick, Haverfordwest.	
q. ♂ ad. st.	Archangel.	R. B. Sharpe, Esq. [P.].
r. ♂ juv. sk.	Antwerp.	R. B. Sharpe, Esq. [P.].
s. ♀ juv. sk.	Valencia, Spain, Oct. 6, 1872.	R. B. Sharpe, Esq. [P.].
t. ♂ ad. sk.	Egypt, April 6, 1868.	Capt. G. E. Shelley [P.].
u. ♂ juv. st.	Trebizond.	
v. Juv. st.	Shanghai.	
w. ♂ ad. sk.	Fokien, China.	J. Gould, Esq. [P.].
x,*y*. ♀ juv.	River Ussuri (*Dybowski*).	Warsaw Museum.
z. Skeleton.		Purchased.
a'. Sterna.		T. Ingall, Esq. [P.].

27. Falco columbarius *.

The Pigeon-Hawk, *Catesby, N. H. Carolina*, i. p. 3, pl. 3 (1731).
L'Epervier de la Caroline, *Briss. Orn.* i. p. 378 (1760).

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* I am unacquainted with the following species:—

FALCO RICHARDSONII.

Hypotriorchis richardsonii, *Ridgw. Pr. Phil. Acad.* 1870, p. 147.

Male. Much lighter (than *H. æsalon* or *H. columbarius*), more *earthy* brown than females of these two species. Head very light-coloured above, approach-

Falco columbarius, *Linn. S. N.* i. p. 128 (1766, *ex Catesby*); *Wils. Am. Orn.* ii. p. 107, pl. xv. fig. 3 (1810); *Sw. & Rich. Faun. Bor.-Am.* p. 35 (1831); *Audub. B. Am.* i. p. 88, pl. xxi. (1839); *Dekay, N. Hist. N. Y.* p. 15, pl. 4. fig. 9 (1843); *Gosse, B. Jamaica*, p. 17 (1847); *Strickl. Orn. Syn.* p. 92 (1855); *Cass. in Baird's B. N. Am.* p. 9 (1860); *Blakist. Ibis*, 1861, p. 315; *Schl. Mus. P.-B.* Falc. p. 19 (1862); *Dresser, Ibis*, 1865, p. 323; *Cooper, B. Calif. ed. Baird*, p. 460 (1870); *Allen, Bull. Harv. Coll.* ii. p. 317 (1871); *Ross, B. Calif.* p. 2 (1871); *Schl. Revue Accipitr.* p. 37 (1873).

Dusky Falcon, *Penn. Arctic Zool.* p. 213 (1785).

Falco obscurus, *Gm. S. N.* i. p. 281 (1788, *ex Penn.*).

Falco intermixtus, *Daud. Traité*, ii. p. 141 (1800).

Tinnunculus columbarius, *Vieill. Ois. Amér. Sept.* i. p. 39, pl. 11 (1807).

Falco temerarius, *Audub. Orn. Biogr.* i. p. 381 (1831).

Falco auduboni, *Blackwall, Researches Zool.* p. 193 (1834).

Hypotriorchis columbarius, *Gray, Gen. of B.* i. p. 20 (1844); *Bp. Consp.* i. p. 26 (1850); *Cass. B. Calif.* p. 90 (1855); *Léot. Ois. Trinid.* p. 27 (1866); *Gray, Hand-l. B.* i. p. 21 (1869).

Æsalon columbarius, *Kaup, Contr. Orn.* 1850, p. 54; *Bp. Rev. et Mag. de Zool.* 1854, p. 536.

Young female. Above deep brown with a slight shade of grey, the feathers of the crown and the wing-coverts slightly margined with rufous, the nape mottled with fulvous spots, a few of which are also visible on the scapulars; the upper tail-coverts with distinct fulvous edgings; quills deep brown, slightly tipped with buffy white, the inner face of the quills greyish brown, with a few rufous spots on the inner webs; tail blackish, tipped with buffy white, and crossed with indications of three rufescent bands, more distinct underneath; lores, eyebrow, and sides of face deep ochre, streaked with blackish, and forming a distinct moustache on the cheeks; throat buffy white, with narrow blackish streaks; rest of under surface ochraceous, very broadly streaked with blackish brown centres to the feathers, becoming smaller on the thighs and under tail-coverts; under wing-coverts and axillaries blackish, marked with oval spots of buffy white, the edge of the wing varied with rufous. Total length 13 inches, culmen 0·8, wing 8·6, tail 5·8, tarsus 1·6.

Adult male. Above dark slate-colour, with distinct black shaft-stripes, the head and wing-coverts blackish slate-colour, darker than rest of upper surface; hind neck mottled with rufous buff; quills brown, externally shaded with ashy, the secondaries narrowly tipped with whitish, the innermost slaty grey, like the scapulars, the inner webs of all the quills broadly banded with whitish buff, showing

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ing white anteriorly; cheeks with the streaks exceedingly fine and scattered; tail crossed with *six* sharply defined, perfectly continuous bands of ashy white; inner webs of primaries with eight whitish spots; pectoral markings broad, sharply defined, *clear light ochraceous brown*, with black shaft-lines, stripes broadest on the flanks.

Female. Generally similar to the male. All the feathers above with pairs of rounded ochraceous spots on opposite webs; *secondaries crossed with three bands of ochraceous*; bands of the tail pure white, *six* in number. Measurements of ♀:—wing 9, tail 6·10, tarsus 1·40, middle toe 1·51.

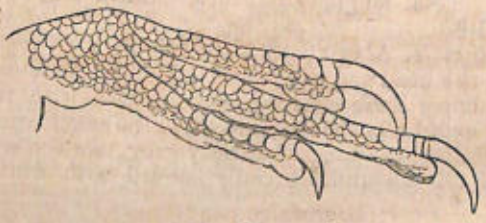
very distinctly underneath; upper tail-coverts pale slaty grey, with distinct black shaft-stripes; tail slaty grey, tipped with fulvous, and crossed with four black bands, the subterminal one double the breadth of any of the others; forehead, eyebrow, and sides of face fulvous, with narrow streaks of black, broader on the cheeks; throat fulvous; rest of under surface ochraceous buff, with shaft-streaks of dark brown, those on the flanks broader, and here mottled with fulvous spots; under wing-coverts coloured like the breast, streaked and mottled with brown; cere, orbits, and feet yellow, claws black; iris brown. Total length 11 inches, culmen 0·7, wing 8·2, tail 5·4, tarsus 1·4.

Hab. The whole of North America as far southwards as Venezuela.

a. ♂ juv. sk.	N. America.	Dr. Ridgway [P.].
b. ♂ juv. st.	N. America.	Dr. Ridgway [P.].
c. ♂ juv. sk.	Quebec.	D.W. Mitchell, Esq. [P.].
d. ♀ ad. sk.	Fort Good Hope, Mackenzie-River district, May 23, 1861.	Bernard H. Ross, Esq. [P.].
e. ♂ ad. sk.	Fort Simpson, May 11, 1862.	Bernard H. Ross, Esq. [P.].
f. ♂ juv. sk.	Off Malpelo Island.	Capt. Kellett and Lieut. Wood [P.].
g. ♂ juv. sk.	At sea, lat. 13° 22′ N., long. 102° 4′ W., about 300 miles off land.	Capt. Kellett and Lieut. Wood [P.].
h. Skeleton.		Purchased.
i. Skeleton.		Zoological Society.
k. Sternum.		P. H. Gosse, Esq. [P.].

76. HIEROFALCO.

	Type.
Hierofalco, *Cuv. Règne An.* i. p. 312 (1817)	H. candicans.
Pnigohierax, *Cab. J. f. O.* 1872, p. 156	H. sacer.



Foot of *Hierofalco candicans*.

Range. The whole of Europe and Northern Asia, the whole of North America as far as Mexico.

Key to the Species.

a. Thighs pure white, or white *streaked*, but never *barred*, with brown.

a′. Tail white, with no complete bars on any of the feathers.

a''. Head and entire underparts pure white, without any spots or streaks ..... *candicans* ad., p. 411.
b''. Head, neck, and under surface of body white, with narrow brown streaks ..... *candicans* ad., p. 411.
b'. Tail white, with more or less remains of distinct bars.
c''. Upper surface of body white, distinctly barred across with black; breast pure white ..... *candicans* ad., p. 411.
d''. Upper surface light brown, the feathers broadly margined with white, spotted or barred near the base with the same colour ..... *candicans* juv., p. 411.
c'. Tail brown, barred on inner web with fulvous.
e''. Larger; head white, streaked with brown; wing in ♂ 13·2 inches, in ♀ 16·1 .... *saker* ad., p. 417.
f''. Smaller; head brown, the feathers with rufous margins; wing in ♂ 12·3 inches, in ♀ 14·25 ..... *mexicanus* ad., p. 420.
b. Thighs white, barred with black or grey.
d'. Head and chest pure white ..... *holboelli* ad., p. 415.
e'. Head white, streaked with black.
g''. Larger; chest white, streaked with black *islandus* ad., p. 414.
h''. Smaller; chest pure white, not streaked *holboelli* ad., p. 415.
f'. Head uniform bluish grey ..... *gyrfalco* ad., p. 416.
g'. Head brown, streaked with rufous; back banded with rufous; nape rufous..... *saker* ad. (=*milvipes*), p. 417.
c. Thighs grey, margined and barred across with white ..... *gyrfalco* ad., p. 416.
d. Thighs greyish or rufous brown, these colours prevailing and occupying the centre of the feathers, which are more or less broadly margined, spotted, or notched with white.
h'. Tail ashy brown, with regular narrow fulvous bars across the feathers..... *gyrfalco* juv. p. 416. *islandus* juv, p. 414. *holboelli* juv. p. 415.
i'. Tail nearly uniform ashy brown, with a few indications of spots near the tip ..... *holboelli* juv., p. 415.
k'. Tail rufous brown, broadly notched or barred with fulvous on the inner web, and having large rounded spots of the same colour on the outer web ..... *saker* juv., p. 417.

1. Hierofalco candicans*.

Le Gerfaut, *Briss. Orn.* i. p. 370, pl. xxx. fig. 2 (1760).
Gerfaut blanc des Pays du Nord, *Buff. Pl. Enl.* i. pl. 446 (1770).

* Gmelin appears to have derived his species from the "Gerfaut" of Brisson. The latter seems to have had a very good idea of the differences of the Gerfalcons, as also had Brünnich. Buffon (and from him Gmelin) at first mixed the three species hopelessly together, though he afterwards came to think that there were three different races. In the 'Planches Enluminées' I can find no evidence that he was personally acquainted with the Greenland and Iceland Falcons; and I cannot help thinking that the figures in his large work were not

Falco islandicus, var. albus, *Gm. S. N.* i. p. 271 (1788, *ex Brünn.*).
Falco candicans, *Gm. S. N.* i. p. 275 (1788); *Schl. Abhandl. Geb. Zool. &c.* p. 14 (1841); *id. Rev. Crit.* p. 1 (1844); *Bp. Rev. Zool.* 1850, p. 484, *et Consp. Av.* i. p. 23 (1850); *Strickl. Orn. Syn.* p. 77 (1855); *Reinh. Ibis*, 1861, p. 4; *Schl. Mus. P.-B.* Falc. p. 7 (1862); *Pelz. Verh. z.-b. Wien*, xiii. p. 597 (1863); *Newt. Ooth. Wolley.* p. 85 (1864); *Gray, Hand-l. B.* i. p. 18 (1869); *Newt. ed. Yarr. Brit. B.* i. p. 36 (1871); *Harting, Handb. Brit. B.* p. 85 (1872); *Gould, B. Gt. Br.* part xxii. (1872); *Sharpe, P. Z. S.* 1873, p. 417, pl. xxxix.; *Schl. Revue Accipitr.* p. 34 (1873).
Falco islandicus, *Lath. Ind. Orn.* i. p. 32 (1790); *Sw. & Rich. Faun. Bor.-Am.* p. 27 (1831); *Gould, B. Eur.* i. pl. 19 (1837); *Aud. B. Am.* fol. pl. 366, et ed. 8vo, i. p. 81, pl. xix. (1839); *Holböll, Faun. Grœnl.* p. 18 (1854).
Falco gyrfalco, *Pall. Zoogr. Rosso-As.* i. p. 324 (1811); *Bp. Comp. List B. Eur. & N. Am.* p. 4 (1838).
Hierofalco candicans, *Cuv. Règne An.* i. p. 312 (1817); *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Cass. Pr. Phil. Acad.* 1855, p. 278; *Degl. & Gerbe, Orn. Eur.* i. p. 73 (1867).
Falco grœnlandicus, *Hancock, Ann. N. H.* ii. p. 247 (1839).
Hierofalco gyrfalco, *Kaup, Contr. Orn.* 1850, p. 56.
Le Groenlandais, *Schl. & Verst. Traité Fauc.* pl. 5 (1853).
Falco islandicus candicans, *Holböll, Zeitschr. Ges. Naturw.* iii. p. 426 (1854).
Greenland Falcon, *Salvin & Brodr. Falconry*, pls. xii. & xiii. (1855).

Adult female. Snowy white, without any markings at all underneath; head likewise unspotted, with a slight greyish shade under the eye, and a few narrow blackish shaft-stripes on the nape; all the rest of the back scantily marked with blackish spots of irregular form, some oval, some tear-shaped, and some longitudinal; quills white, with a large subterminal patch of brownish black, the shafts black, all the feathers more or less irregularly spotted or notched with blackish on the outer web, less on the inner one, which is white for the greater part of its length; tail pure white, the shafts white, excepting on the two centre feathers, where they are blackish, inclining gradually to white towards the tips; cere and orbits pale yellow; bill pale yellow, bluish at tip; feet pale yellow; iris dark brown. Total length 23 inches, culmen 1·5, wing 16·2, tail 9·5, tarsus 2·35.

Young male. White, mottled all over with pale brown, which occupies the centre of the feathers of the upper surface, and takes the form of spots and irregular bars on the wing-feathers; head and sides of the face streaked with brown, and the under surface covered with longitudinal streaks of pale brown; tail white, with brown cross bands on the centre feathers, breaking up into irregular

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drawn from the birds themselves, but were taken from other engravings (perhaps Brisson's), with the contour slightly altered to suit his page, and then coloured from descriptions. The Norway Falcon he expressly mentions as having been sent to him. In the 'Histoire Naturelle,' which was published after the 'Planches Enluminées,' he appears to have become acquainted with the Iceland Falcon, as this work contains an excellent figure (pl. xiii.) of the bird, as good, indeed, as the coloured figures in his other work are bad.

mottlings on the other rectrices. Total length 20 inches, culmen 1·2, wing 14·5, tail 9, tarsus 2·1.

Obs. The following is submitted as an explanation of the sequence of plumage in the Greenland Falcon, for further particulars and figures of which see P. Z. S. 1873, p. 417:—From the stage above described the young bird moults and takes a white plumage, with broad blackish centres to the feathers, and the stripes on the head rather distinct. The breast has a few spots of black, while the tail is white with black shafts and a few blackish mottlings, excepting the two centre feathers, which are barred across. In this stage it is figured by Mr. Gould as a supposed "dark race." In gaining the fully adult plumage the markings on the dorsal feathers gradually absorb themselves, first into a broad crescent, and then by degrees into an arrow-shaped or ovate spot. The head loses its stripes and the tail its mottling and bars, becoming pure white, even the shafts of the latter participating in this change. There is no apparent difference in the colouring of the sexes; but the female is always the larger. There appears likewise to be no regular sequence observed by the different parts in change; sometimes the back is further advanced than the tail or breast, or, again, these may have more completely taken their adult plumage than the back. In its old stage the bird is figured by Mr. Gould as a "light race," the hinder figure in his plate being only a trifle less aged than the one in the foreground.

Hab. Greenland, migrating into North-western Europe; North America.

a. ♂ ad. st.	Greenland.	Governor Holboell [C.].
b. ♀ juv. st.	Greenland.	Governor Holboell [C.].
c. ♀ ad. st.	Greenland.	Governor Holboell [C.].
d. ♀ ad. st.	Greenland.	Governor Holboell [C.].
e. ♀ ad. st.	Greenland.	Governor Holboell [C.].
f. ♀ juv. sk.	Greenland (*Holböll*).	J. Gould, Esq.
g. ♀ ad. sk.	Greenland.	J. Gould, Esq.
h. ♂ juv. sk.	Lichtenfels, S. Greenland, Dec. 5th, 1871.	R. B. Sharpe, Esq. [P.].
i. ♂ ad. sk.	Lichtenfels, S. Greenland, Octr. 11th, 1871.	R. B. Sharpe, Esq. [P.].
k. ♀ juv. sk.	Lichtenfels, S. Greenland, Sept. 16th, 1871.	R. B. Sharpe, Esq. [P.].
l. ♀ ad. sk.	Fiskenaesset, Greenland, Dec. 21st, 1872.	R. B. Sharpe, Esq. [P.].
m. ♂ juv. sk.	Fiskenaesset, Greenland, Feb. 16th, 1873.	R. B. Sharpe, Esq. [P.].
m'. ♂ imm. st.	Greenland.	
n. ♀ ad. sk.	Labrador.	J. Gould, Esq.
o. ♂ juv. sk.	Labrador.	J. Gould, Esq.
p. ♂ juv. sk.	Labrador.	J. Gould, Esq.
q. ♀ juv. sk.	N. America.	Admiral Sir G. Back [P.].
r. ♂ juv. st.	Repulse Bay.	J. Rae, Esq. [P.].
s. ♂ juv. st.	Pembrokeshire.	Earl of Cawdor [P].

2. Hierofalco islandus.

Le Gerfaut d'Islande, *Briss. Orn.* i. p. 733, pl. xxxi. (1760).
Gerfaut d'Islande, *Buff. Pl. Enl.* i. pl. 210 (1770).
Spotted Iceland Falcon, *Lath. Gen. Syn.* i. pt. 1, p. 71 (1781).
Falco islandus, *Gm. S. N.* i. p. 271 (1788, *ex Brünn.*); *Newt. ed Yarr. Brit. B.* i. p. 46 (1871); *Gould, B. Gt. Br.* part xxii. (1872).
Falco islandicus, *Hancock, Ann. N. H.* ii. p. 247 (1839); *Bp. Rev. Zool.* 1850, p. 484, *et Consp.* i. p. 24 (1850); *Strickl. Orn. Syn.* p. 77 (1855); *Pelz. Verh. z.-b. Wien*, xiii. p. 598 (1863); *Newt. Ooth. Wolley.* p. 86 (1864); *Gray, Hand-l. B.* i. p. 18 (1869); *Harting, Handb. Br. B.* p. 86 (1872); *Schl. Revue Accipitr.* p. 34 (1873).
Falco gyrfalco, *Keys. u. Blas. Wirb. Eur.* p. 135 (1840).
Falco candicans islandicus, *Schl. Abhandl. Geb. Zool. &c.* p. 14 (1841); *id. Rev. Crit.* p. 1 (1844).
Hierofalco islandicus, *Gray, List Gen. of B.* p. 4 (1841); *Bp. Rev. et Mag. de Zool.* 1854, p. 7; *Cass. Pr. Phil. Acad.* 1855, p. 279; *Degl. & Gerbe, Orn. Europ.* i. p. 74 (1867).
Le Tiercelet hagard du Faucon d'Islande, *Schl. & Verst. Traité Fauc.* pl. 6 (1853).
Iceland Falcon, *Salvin & Brodr. Falconry*, pls. x., xi. (1855).
Falco sacer, *Cass. B. Calif.* p. 89 (1856); *Brewer, N. Am. Ool.* pt. 1, p. 11.
Falco gyrfalco islandicus, *Schl. Mus. P.-B.* Falc. p. 14 (1862).

Adult male. Entire head white, with blackish shaft-streaks, very narrow on the forehead and broader on the nape, under the eye and over the ear-coverts a slight greyish shade; upper surface of body greyish brown, clearer on the rump, all the feathers tipped and barred across with white, these bars sometimes not continuous; quills dark brown, with narrow white tips, the feathers barred on the inner but notched and freckled on the outer web with white; tail ashy, with white tip, alternately barred with blackish, the intermediate spaces ashy white, sometimes freckled with blackish; under surface white, the throat almost unspotted, the chest covered with central streaks developing into tear-drop spots at the end; rest of under surface spotted with blackish, taking the form of bars on the sides of the body, under tail-coverts, and flanks, being rather numerous and close-set on the latter; under wing-coverts white, spotted or half-barred with blackish; bill pale horn-blue, yellow at base of lower mandible; cere, orbits, and feet yellow; iris dark brown. Total length 22 inches, culmen 1·4, wing 14·6, tail 9, tarsus 2·3.

Adult female. Similar to the male, but larger. Total length 24 inches, culmen 1·4, wing 16, tail 9, tarsus 2·4.

Young. Brown, with whitish margins to the feathers of the upper surface; the upper tail-coverts conspicuously marked with oval spots of white; tail brown, broadly banded across with whitish; head whitish, the feathers mesially streaked with dark brown, the hind neck more conspicuously mottled; under surface white, the throat unspotted; all the rest of the feathers conspicuously brown in the centre, these markings rather oval in form, excepting on the flanks,



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Hierofalco holboelli.

where they are irregular, the brown occupying the greater portion of the feather; cere, orbits, and feet bluish grey.

Hab. Iceland, migrating into North-western Europe.

a. Ad. st.	Iceland.	Purchased.
b. Juv. st.	Iceland.	Purchased.
c. ♀ ad. sk.	Iceland.	J. Gould, Esq.
d. ♂ ad. sk.	Iceland (*Proctor*).	J. Gould, Esq.
e. ♂ juv. sk.	Iceland (*Proctor*).	J. Gould, Esq.
f. ♀ juv. st.	Reikjavik, Iceland.	Professor A. Newton [P.].
g. ♀ ad. st.	Great Britain.	
h. Skeleton.		Zoological Society.

3. Hierofalco holbœlli. (Plate XIII.)

Falco arcticus (*nec Gm.*), *Holboell, Zeitschr. ges. Naturw.* iii. p. 426 (1854); *Blasius, Naumannia*, 1857, p. 238; *id. Nachtr. Naum. Vög. Deutschl.* p. 19 (1860, *nec* Taf. 390. fig. 2).

Iceland Falcon (light variety), *Salvin & Brodr. Falconry*, p. 87, pl. x. (1855).

Falco gyrfalco grœnlandicus, *Schl. Mus. P.-B.* Falcones, p. 13 (1855).

Falco holbœlli, *Sharpe, P. Z. S.* 1873, p. 415.

Adult male. Head white, with blackish shaft-stripes, a little broader on the nape; rest of upper surface greyish brown, with more or less of a bluish shade according to the light, transversely banded and tipped with white; quills brown, edged and tipped with white and freckled on the outer webs; on the smaller secondaries are indistinct bands of brown, alternating with bars of greyish white, the latter plentifully freckled with brown; tail ashy grey, tipped with white, plentifully freckled with brown and showing transverse cross bars on the outer feathers; under surface white, the throat and chest entirely unspotted, the rest of the body sparingly spotted with blackish, taking the form of bars on the flanks, thighs, and under tail-coverts; under wing-coverts white, spotted with black; inner face of wing whitish, barred with black; cere and orbits yellow; bill bluish, yellow at base of lower mandible; feet yellow; iris dark. Total length 19 inches, culmen 1·3, wing 14, tail 7·5, tarsus 2·1.

Adult female. Similar to the male, but larger, and having the tail regularly barred across as in adult *H. islandus*. Total length 20 inches, culmen 1·4, wing 15, tail 5·5, tarsus 2·2.

Young male. Above brown, shaded with ashy, all the feathers margined with ashy white; quills ashy brown, the secondaries with distinct whitish margins, much narrower on the primaries; all the primaries notched with buffy white on the inner web, dissolving on the inner ones and absent on the secondaries; lower back, rump, and upper tail-coverts ashy brown, the margins on the two former slightly rufescent, on the latter white, some of the outermost upper tail-coverts notched with white; tail brown, shaded with ashy, tipped and barred (not across) with fulvous, these bars about thirteen in number and often obscured by greyish mottlings; head ashy brown, with pale greyish margins; forehead whitish; nape much mottled with white; ear-coverts whitish, streaked with brown

and shaded with fulvous brown on their hinder margin; cheek-stripe ashy brown, long and narrow; throat white, with a few narrow streaks of brown; rest of under surface of body ashy brown, everywhere mottled with buffy white, taking the form of rounded or oval indents to the feathers and occupying a great part of the margins of all; the flank-feathers more decidedly greyish brown, with irregularly shaped spots or notches of fulvous; centre of the body, abdomen, and under tail-coverts white; the centres of the feathers brown, producing a longitudinal streak; under wing-coverts ashy brown, mottled with white like the breast.

Hab. Greenland.

a.	♀ ad. sk.	Greenland.	J. Gould, Esq. Type of species.
b.	♀ ad. sk.	Fiskenaesset, Greenland, Feb. 10, 1873.	R. B. Sharpe, Esq. [P.].
c.	♂ juv. st.	Fiskenaesset, Greenland, Feb. 10, 1873.	R. B. Sharpe, Esq. [P.].
d.	♀ ad. sk.	Greenland.	J. Gould, Esq.
e.	♂ juv. sk.	Godhavn, N. Greenland, Sept. 26, 1872 (*Whymper*).	Howard Saunders, Esq. [P.].
f.	Juv. sk.	Greenland.	Howard Saunders, Esq.
g.	♂ ad. st.	Greenland.	Governor Holboell [C.].

4. Hierofalco gyrfalco.

Falco gyrfalco, *Linn. Syst. Nat.* i. p. 130 (1766); *Schl. Abhandl. Geb. Zool. &c.* p. 15 (1841); *id. Rev. Crit.* p. ii (1844); *Bp. Consp.* i. p. 24 (1850); *Schl. Vog. Nederl.* pls. 4, 5 (1854); *Strickl. Orn. Syn.* p. 78 (1855); *Blasius, Nachtr. Naum. Vög. Deutschl.* xiii. Taf. 391 (1860); *Schl. Dierk. Nederl. Vog.* p. 11, pl. 1. fig. 3 (1861); *id. Mus. P.-B.* Falc. p. 12 (1862); *Blas. Ibis*, 1862, p. 65; *Newt. Ooth. Wolley.* p. 87, pl. C (1864); *Sundev. Sv. Fogl.* p. 209, pl. xxvi. fig. 1 (1869); *Gray, Hand-l. B.* i. p. 18 (1869); *Gould, B. Gt. Br.* pt. xxii. (1872); *Schl. Revue Accipitr.* p. 34 (1873).

Gerfaut de Norwège, *Buff. Pl. Enl.* i. pl. 462 (1770).

Falco labradora, *Audub. B. Am.* pl. cxcvi. (1831).

Le Tiercelet hagard du Gerfaut, *Schl. & Verst. Traité Fauc.* pl. 7 (1853).

Falco gyrofalco, *Thien. Abbild. Vogeleiern*, Taf. li. figs. 3 *a–d* (1854).

Hierofalco gyrfalco, *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Degl. & Gerbe, Orn. Europ.* i. p. 76 (1867).

Norway Falcon, *Salvin & Brodr. Falconry*, pl. xv. (1855).

Falco norvegicus, *Tristr. Ibis*, 1859, p. 24.

Falco gyrfalco norwegicus, *Schl. Mus. P.-B.* Falcones, p. 12 (1862); *Bree, B. Eur.* i. p. 21 (1866).

Adult male. Above blue-grey, with broad greyish black cross bands, the bars alternating; lower back, rump, upper tail-coverts, and tail itself (which is minutely freckled) much clearer blue-grey, with narrow cross bars of greyish black, not increasing in width towards the tip of the tail, which is therefore not darker at its extremity than at the base; lores and forehead whitish; crown grey, mottled with black; the sides of the head from behind the eye

and the nape varied with whitish; cheek-stripe, feathers under the eye and on the upper line of the ear-coverts, as well as the sides of the neck, greyish black, rest of the side face whitish, with median lines of black; wing-coverts like the back; quills dark brown, externally freckled and mottled with grey, which does not form regular bars, the inner secondaries exactly like the back; under surface of the body white, the throat unspotted, the chest longitudinally streaked with black, which widens out towards the apex of the feather; rest of the body rather scantily spotted with greyish black, taking the form of bars on the flanks, under tail-coverts, and axillaries; the under wing-coverts white, with black markings, scarcely to be called bars; bill blue, black at tip; feet yellow; iris dark brown. Total length 20 inches, culmen 1·3, wing 14·5, tail 8, tarsus 2.

Adult female. Similar to the adult male, but larger. Total length 21 inches, culmen 1·4, wing 15, tail 9·5, tarsus 2·15.

Young. Brown, with fulvous spots and mottlings on the edges of the scapulars and inner secondaries, rather more distinct on the upper tail-coverts; tail dark brown, with imperfect bands of fulvous; all the wing-coverts and quills externally dotted with minute fulvous spots, the latter internally barred with buff; head brown, mottled with buffy white on the eyebrow, cheeks, sides of neck, and especially on the nape and hind neck; under surface white, with central dark brown patches on each feather, narrower on the throat; bill horn-blue, yellow at base of lower mandible.

Hab. The whole of Northern Europe, extending across northern Asia and North America, migrating southwards in both continents.

a. Vix ad. st.	Norway.	Professor Newton [P.].
b, c. ♂ ♀ ad. sk.	Lapland (*Wolley*).	J. Gould, Esq. [P.].
d. ♀ juv. sk.	Lapland (*Wolley*).	J. Gould, Esq.
e. ♀ juv. sk.	E. Finmark, Sept. 20, 1872.	Purchased.
f. ♂ juv. sk.	Labrador.	Purchased.
g. ♀ juv. st.	Kotzebue's Sound.	
h. ♀ juv. st.	Gulf of California.	Captain Kellett [P.].

5. Hierofalco saker *.

Le Sacre, *Briss. Orn.* i. p. 337 (1760); *Buff. Hist. Nat. Ois.* i. p. 246 (1770, *nec* pl. xiv.).

Falco sacer, *Gm. Syst. Nat.* i. p. 273 (1788, *ex Briss.*); *Schl. Rev. Crit.* p. ii (1844); *Gray, Gen. B.* iii. App. p. 2 (1849); *Bp. Consp.* i. p. 24 (1850); *Strickl. Orn. Syn.* p. 79 (1855); *Tristr. Ibis*, 1859, p. 284; *Simps. Ibis*, 1860, p. 375, pl. xii.; *Bree, B. of Eur.* i. p. 31 (1862); *Jerd. B. of Ind.* i. p. 29 (1862); *Schl. Mus. P.-B.* Falc.

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* This name is derived from Brisson's *Sacre*, which in turn is taken from Belon and the older writers, who seem to have known the true species (*cf.* Schlegel, 'Traité de Fauconnérie,' p. 18). Professor Schlegel thinks that Buffon's plate in the 'Histoire Naturelle' represents the Saker; but to me it looks more like a young *Falco islandicus*; and if the specific title were founded on this alone, I should have rejected the name.

p. 16 (1862); *Blyth, Ibis*, 1863, p. 8; *Tristr. Ibis*, 1865, p. 258; *Farm. Ibis*, 1868, p. 409; *Gould, B. of Asia*, pt. xx. (1868); *Gray, Hand-l. B.* i. p. 20 (1869); *Hume, Rough Notes*, i. p. 62 (1869); *Elw. & Buckl. Ibis*, 1870, p. 73; *Salvad. Faun. Ital. Ucc.* p. 16 (1871); *Jerd. Ibis*, 1871, p. 238; *Radcl. t. c.* p. 365; *Swinh. P. Z. S.* 1871, p. 340.

Falco lanarius, *Pall. Zoogr. Rosso-As.* i. p. 330 (1811); *Temm. Man. d'Orn.* i. p. 20 (1820); *Werner, Atlas*, Rapaces, pl. 7 (1827); *Gould, B. of Eur.* i. pl. 20 (1837); *Bp. Comp. List B. Eur. & N. Am.* p. 4 (1838); *Schl. u. Susem. Vög. Eur.* Taf. 7 *a* (1839); *Cara, Orn. Sard.* p. 6 (1842); *J. E. Gray, Cat. Mamm. & Birds Nepal Hodgs.* p. 43 (1844); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* p. 22 (1854); *Fritsch, Vög. Eur.* tab. 2. figs. 6, 7 (1858); *Taylor, Ibis*, 1859, p. 43.

Falco cherrug, *J. E. Gray, Ill. Ind. Orn.* ii. pl. 25 (1833).

Falco milvipes, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844); *Jerd. Ibis*, 1271, p. 240.

Falco cyanopus, *Thienem. Rhea*, i. p. 62, Taf. 1, 2 (1846); *id. Abbild. Vogeleiern*, Taf. 51. figs. 2 *a*, *d* (1854).

Le Sacre hagard, *Schl. & Verst. Traité Fauc.* pl. 9 (1853).

Gennaia sacer, *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Loche, Expl. Sci. Algér.* p. 50 (1867).

Saker, *Salvin & Brodr. Falconry*, pl. xv. (1855).

Falco saqer, *Heugl. N.O.-Afr.* i. p. 27 (1869).

Falco hendersoni, *Hume, Ibis*, 1871, p. 407; *id. & Henders. Lahore to Yark.* p. 171, pl. 1 (1873).

Pnigohierax lanarius, *Cab. J. f. O.* 1872, p. 156.

Adult male. Head pale rufous, sometimes bleached quite white, with narrow blackish shaft-stripes; upper surface pale earthy brown, all the feathers margined with rufous; quills brown, deeply indented with white or rufous-white notches or bars, fewer in number on the secondaries; tail pale brown, barred with whitish on on the inner web, and ovally spotted on the outer one, these not being continuous or forming bars, sides of the face and throat pure white, with a few little dusky streaks on the hinder ear-coverts, the moustache scarcely indicated; under surface of body whitish, the chest very slightly, the breast and flanks more thickly, streaked down the centre with brown, these streaks somewhat widening towards the tip of the feather; thighs distinctly streaked with brown, the abdomen and under tail-coverts unspotted; under wing-coverts and axillaries white, streaked with brown, the latter brown in the centre, white on the margins, with a few bars at the base of the feather; cere, orbits, and feet yellow; bill pale greenish horn-colour, darker at tip, the lower mandible pale yellow at base; iris brown. Total length 18·5 inches, culmen 1·2, wing 13·2, tail 7·3, tarsus 2.

Adult female. Similar to the male, but larger. Total length 24·7 inches, culmen 1·3, wing 15·8, tail 9·8, tarsus 2·1.

Young male. Above brown, some of the feathers shaded with greyish and edged with rufous, which is more conspicuous on the feathers of the lower back, rump, and upper tail-coverts; the feathers which are appearing on the inner secondaries have conspicuous rufous

margins, with one or two creamy buff spots, as have also the old feathers which remain; quills dark brown, the secondaries margined with whitish near the tip, and coloured as above described, the feathers white underneath at the base, notched with greyish near the shaft, the notches developing into bars towards the tip; tail greyish brown, tipped and spotted with white on the outer web, these spots being rather more oval on the inner, the middle feathers scarcely marked at all with faint white or buff spots, which are quite obsolete near the base; top of the head dark brown, slightly tinged with rufous and streaked with white; frontal band and a broad line over the ear-coverts and the hinder neck white, the two latter mottled with dark brown; lores, feathers under the eye, and upper margin of ear-coverts greyish brown; a narrow cheek-stripe dark brown; sides of face and neck white, the former narrowly streaked with brown, the latter plainly dotted with triangular spots of the same; throat, vent, and under tail-coverts white; rest of under surface white, with conspicuous rounded spots of dark brown on the breast, becoming more oval and longitudinal in shape on the lower breast and sides of the body; under wing-coverts brown in the centre, with broad white edges. Total length 17 inches, culmen 1·3, wing 14·7, tail 12·5, tarsus 2·1.

Obs. The adult bird described is an ordinary old Saker, the fully adult or aged bird being very rare indeed. When in its complete dress this Falcon looks like a gigantic Kestrel, all the feathers of the upper surface, as well as the tail, being barred with pale rufous; the under parts are rich creamy white, with a few blackish spots on the lower breast and abdomen, taking the form of bars on the flanks; the under wing-coverts are also spotted and barred with blackish. The head is rufous, with blackish central streaks to the feathers; forehead and cheeks whitish, the ear-coverts tinged with rufous, the feathers under the eye and a moustachial stripe blackish brown; on the upper surface there is a slight shade of grey, especially on the inner secondaries and upper tail-coverts. In this state of plumage the bird is *H. milvipes* of Hodgson and *H. hendersoni* of Hume.

Hab. South-eastern Europe; N.E. Africa, extending thence through Central Asia to Northern China.

a. ♀ ad. sk.	South Hungary.	Baron A. von Hügel [P.].
b. ♀ juv. sk.	Asia Minor.	
c. ♂ ad. sk.	River Volga.	R. B. Sharpe, Esq. [P.].
d. ♂ ad. sk.	Southern Ural.	R. B. Sharpe, Esq. [P.].
e. ♂ juv. st.	Egypt.	
f. ♂ ad. sk.	Yarkand.	Dr. Henderson [C.]. Type of *F. hendersoni*.
g. ♀ juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
h. ♂ juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
i. ♀ juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
k. ♂ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.]. Type of *F. milvipes*.
l. Skeleton.		Purchased.
m. Skeleton.		Zoological Society.

p. 16 (1862); *Blyth, Ibis*, 1863, p. 8; *Tristr. Ibis*, 1865, p. 258; *Farm. Ibis*, 1868, p. 409; *Gould, B. of Asia*, pt. xx. (1868); *Gray, Hand-l. B.* i. p. 20 (1869); *Hume, Rough Notes*, i. p. 62 (1869); *Elw. & Buckl. Ibis*, 1870, p. 73; *Salvad. Faun. Ital. Ucc.* p. 16 (1871); *Jerd. Ibis*, 1871, p. 238; *Radcl. t. c.* p. 365; *Swinh. P. Z. S.* 1871, p. 340.

Falco lanarius, *Pall. Zoogr. Rosso-As.* i. p. 330 (1811); *Temm. Man. d'Orn.* i. p. 20 (1820); *Werner, Atlas*, Rapaces, pl. 7 (1827); *Gould, B. of Eur.* i. pl. 20 (1837); *Bp. Comp. List B. Eur. & N. Am.* p. 4 (1838); *Schl. u. Susem. Vög. Eur.* Taf. 7*a* (1839); *Cara, Orn. Sard.* p. 6 (1842); *J. E. Gray, Cat. Mamm. & Birds Nepal Hodgs.* p. 43 (1844); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* p. 22 (1854); *Fritsch, Vög. Eur.* tab. 2. figs. 6, 7 (1858); *Taylor, Ibis*, 1859, p. 43.

Falco cherrug, *J. E. Gray, Ill. Ind. Orn.* ii. pl. 25 (1833).

Falco milvipes, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844); *Jerd. Ibis*, 1271, p. 240.

Falco cyanopus, *Thienem. Rhea*, i. p. 62, Taf. 1, 2 (1846); *id. Abbild. Vogeleiern*, Taf. 51. figs. 2*a*, *d* (1854).

Le Sacre hagard, *Schl. & Verst. Traité Fauc.* pl. 9 (1853).

Gennaia sacer, *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Loche, Expl. Sci. Algér.* p. 50 (1867).

Saker, *Salvin & Brodr. Falconry*, pl. xv. (1855).

Falco saqer, *Heugl. N.O.-Afr.* i. p. 27 (1869).

Falco hendersoni, *Hume, Ibis*, 1871, p. 407; *id. & Henders. Lahore to Yark.* p. 171, pl. 1 (1873).

Pnigohierax lanarius, *Cab. J. f. O.* 1872, p. 156.

Adult male. Head pale rufous, sometimes bleached quite white, with narrow blackish shaft-stripes; upper surface pale earthy brown, all the feathers margined with rufous; quills brown, deeply indented with white or rufous-white notches or bars, fewer in number on the secondaries; tail pale brown, barred with whitish on on the inner web, and ovally spotted on the outer one, these not being continuous or forming bars, sides of the face and throat pure white, with a few little dusky streaks on the hinder ear-coverts, the moustache scarcely indicated; under surface of body whitish, the chest very slightly, the breast and flanks more thickly, streaked down the centre with brown, these streaks somewhat widening towards the tip of the feather; thighs distinctly streaked with brown, the abdomen and under tail-coverts unspotted; under wing-coverts and axillaries white, streaked with brown, the latter brown in the centre, white on the margins, with a few bars at the base of the feather; cere, orbits, and feet yellow; bill pale greenish horn-colour, darker at tip, the lower mandible pale yellow at base; iris brown. Total length 18·5 inches, culmen 1·2, wing 13·2, tail 7·3, tarsus 2.

Adult female. Similar to the male, but larger. Total length 24·7 inches, culmen 1·3, wing 15·8, tail 9·8, tarsus 2·1.

Young male. Above brown, some of the feathers shaded with greyish and edged with rufous, which is more conspicuous on the feathers of the lower back, rump, and upper tail-coverts; the feathers which are appearing on the inner secondaries have conspicuous rufous

margins, with one or two creamy buff spots, as have also the old feathers which remain; quills dark brown, the secondaries margined with whitish near the tip, and coloured as above described, the feathers white underneath at the base, notched with greyish near the shaft, the notches developing into bars towards the tip; tail greyish brown, tipped and spotted with white on the outer web, these spots being rather more oval on the inner, the middle feathers scarcely marked at all with faint white or buff spots, which are quite obsolete near the base; top of the head dark brown, slightly tinged with rufous and streaked with white; frontal band and a broad line over the ear-coverts and the hinder neck white, the two latter mottled with dark brown; lores, feathers under the eye, and upper margin of ear-coverts greyish brown; a narrow cheek-stripe dark brown; sides of face and neck white, the former narrowly streaked with brown, the latter plainly dotted with triangular spots of the same; throat, vent, and under tail-coverts white; rest of under surface white, with conspicuous rounded spots of dark brown on the breast, becoming more oval and longitudinal in shape on the lower breast and sides of the body; under wing-coverts brown in the centre, with broad white edges. Total length 17 inches, culmen 1·3, wing 14·7, tail 12·5, tarsus 2·1.

Obs. The adult bird described is an ordinary old Saker, the fully adult or aged bird being very rare indeed. When in its complete dress this Falcon looks like a gigantic Kestrel, all the feathers of the upper surface, as well as the tail, being barred with pale rufous; the under parts are rich creamy white, with a few blackish spots on the lower breast and abdomen, taking the form of bars on the flanks; the under wing-coverts are also spotted and barred with blackish. The head is rufous, with blackish central streaks to the feathers; forehead and cheeks whitish, the ear-coverts tinged with rufous, the feathers under the eye and a moustachial stripe blackish brown; on the upper surface there is a slight shade of grey, especially on the inner secondaries and upper tail-coverts. In this state of plumage the bird is *H. milvipes* of Hodgson and *H. hendersoni* of Hume.

Hab. South-eastern Europe; N.E. Africa, extending thence through Central Asia to Northern China.

a. ♀ ad. sk.	South Hungary.	Baron A. von Hügel [P.].
b. ♀ juv. sk.	Asia Minor.	
c. ♂ ad. sk.	River Volga.	R. B. Sharpe, Esq. [P.].
d. ♂ ad. sk.	Southern Ural.	R. B. Sharpe, Esq. [P.].
e. ♂ juv. st.	Egypt.	
f. ♂ ad. sk.	Yarkand.	Dr. Henderson [C.]. Type of *F. hendersoni*.
g. ♀ juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
h. ♂ juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
i. ♀ juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
k. ♂ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.]. Type of *F. milvipes*.
l. Skeleton.		Purchased.
m. Skeleton.		Zoological Society.

6. Hierofalco mexicanus.

Falco mexicanus, *Schl. Abhandl. Geb. Zool. &c.* p. 15 (1841, *ex Licht. Mus. Berol.*); *Bp. Consp.* i. p. 24 (1850); *Licht. Nomencl. Av.* p. 5 (1854); *Schl. Mus. P.-B.* Falcones, p. 18 (1862); *Gray, Hand-l. B.* i. p. 20 (1869); *Ridgway, Pr. Phil. Acad.* 1870, p. 140; *Scl. & Salv. Nomencl.* p. 121 (1873).

Falco polyagrus, *Cass. B. Calif.* p. 88 (1853); *id. Pr. Phil. Acad.* 1855, p. 277; *Strickl. Orn. Syn.* p. 85 (1855); *Dresser, Ibis*, 1865, p. 323; *Coues, Pr. Phil. Acad.* 1866, p. 42; *Gray, Hand-l. B.* i. p. 20 (1869); *Cooper, B. Calif. ed. Baird*, p. 458 (1870).

Hierofalco mexicanus, *Bp. Rev. et Mag. de Zool.* 1854, p. 536.

Pnigohierax mexicanus, *Cab. J.f. O.* 1872, p. 156.

Adult. General colour clear brown, the wings and tail of about the same colour as the back, the primaries darker brown, all the feathers of the upper parts margined with pale fulvous brown, broader and more whitish on the wing-coverts and secondary quills; tail-feathers and upper tail-coverts brown, the inner webs darker brown, all conspicuously tipped and obsoletely barred with buffy white; the two middle feathers scarcely marked at all, the rest half-barred across on the inner web, and slightly spotted on the outer web near the tip, the bars on the outermost feather narrower and more indistinct, but present on the outer web also near the base; feathers of the crown of the head and neck bordered with whitish, giving rather a distinct striped appearance, more especially on the hind neck, the forehead clearly whitish; sides of the face and neck whitish, with brown centres to the feathers; chin and top of the throat pure white; rest of the under surface white, with central markings of clear brown, rather oval in shape, giving a very distinctly striped appearance to this side of the body; flank-feathers darker brown, broadly margined with white on the outer web, and marked with a large spot of white about the middle of the inner one; cere, iris, legs, and feet light yellow, claws black; bill bluish black. Total length 19·5 inches, culmen 1·4, wing 13·7, tail 9, tarsus 2·5.

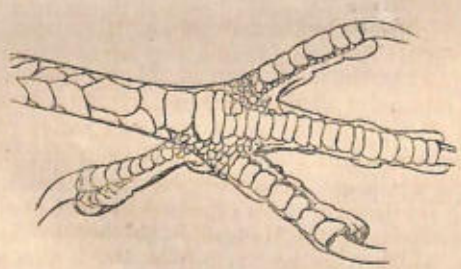
Hab. Mexico and the southern States of North America.

a. Ad. sk. Mexico. R. B. Sharpe, Esq. [P.].

77. HIERACIDEA.

Type.

Ieracidea, *Gould, P. Z. S.* 1837, p. 141 ..... H. berigora.



Leg of *Hieracidea berigora.*

Range. Australia.

Key to the Species.

a. Thighs rufous; general colour above rufous ..... *berigora*, p. 421.
b. Thighs brown; general colour above brown ..... *orientalis*, p. 422.

1. Hieracidea berigora.

Falco berigora, *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 184 (1827); *Schl. Revue Accipitr.* p. 47 (1873).
Hieracidea occidentalis, *Gould, P. Z. S.* 1844, p. 105; *Gray, Gen. B.* i. p. 20 (1844); *Gould, B. Austr.* i. pl. 12 (1848); *Bp. Consp.* i. p. 22 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 536; *Strickl. Orn. Syn.* p. 101 (1855); *Pelz. Verh. z.-b. Wien*, xiii. p. 621 (1863); *Gould, Handb. B. Austr.* i. p. 33 (1865); *Gray, Hand-l. B.* i. p. 22 (1869).
Falco berigora occidentalis, *Schl. Mus. P.-B.* Falc. p. 37 (1862).

Adult male. Upper surface sandy brown, strongly inclined to rufous, with which colour most of the feathers are edged, excepting the scapulars and inner secondaries, where the margins incline to fulvous; the feathers of the lower back, rump, and upper tail-coverts broadly tipped with rufous; head a little lighter than the back, with blackish shaft-stripes; forehead, lores, and an indistinct eyebrow whitish; nape scarcely at all mixed with white; sides of the face creamy white, the sides of the neck slightly washed with rufous and narrowly streaked with brown; a narrow supraorbital line of feathers, as well as a moustachial streak, from the fore part of eye down the cheeks and the hinder part of ear-coverts, dark brown; under surface of body creamy white, with brownish shaft-stripes; thighs, axillaries, and inner under wing-coverts chestnut; outer wing-coverts white; quills dark brown, with a slight tinge of ashy grey, the secondaries paler brown, with rufous-white tips, inner surface of wing white, the inner webs barred with rufous above, each bar being almost continuous with the preceding one on the primaries; tail brown, tipped with white and shaded with ashy, barred with rufous, the bars not being continued entirely across the feather; cere pale yellow; orbits bluish flesh-colour; bill bluish lead-colour, black at tip; feet light ashy grey, tarsal scales in front yellowish white; iris brown. Total length 15·5 inches, culmen 1·15, wing 13, tail 7·8, tarsus 2·55.

Adult female. Similar to the male, but a little larger. Total length 17 inches, culmen 1·1, wing 14, tail 8·8, tarsus 2·8.

Young. Similar to the adults, but plainly spotted and banded with rufous above, especially on the wing-coverts and inner secondaries; under surface of body for the most part pale sandy rufous, mottled with creamy white, where the plumage shows signs of approaching adolescence; thighs deep chestnut-brown, with faint cross bars of rufous; the facial features more pronounced than in the adult.

Obs. The possession by the Museum of the original types of *Hieracidea berigora*, which were received from the Linnean Society, enables me to prove that the *H. occidentalis* of Gould is the true *H.*

berigora. Both these species are very distinct one from the other, in their adult and in their young plumages.

Hab. Australia.

a, b. Ad. sk.	Australia.	Linnean Society [P.]. Types of species.
c. Ad. sk.	Australia.	Sir D. Cooper [P.].
d. ♂ ad. sk.	Murray River, S. Australia.	Sir George Grey [P.].
e. Ad. sk.	S. Australia.	Sir George Grey [P.].
f. Ad. st.	West Australia.	Sir George Grey [P.].
g. Ad. st.	West Australia.	J. Gould, Esq. [C.].
h, i. Ad. sk.	N.W. Australia.	J. R. Elsey, Esq. [P.].

2. Hieracidea orientalis.

Cream-bellied Falcon, *Lath. Gen. Hist.* i. p. 230 (1821).
Hieracidea berigora, *Gray, Gen. of B.* i. p. 20 (1844); *Gould, B. Austr.* i. pl. 11 (1848); *Bp. Consp.* i. p. 22 (1850); *Kaup, Contr. Orn.* 1850, p. 56; *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Strickl. Orn. Syn.* p. 101 (1855); *Pelz. Verh. z.-b. Wien*, xiii. p. 621 (1863); *Gould, Handb. B. Austr.* i. p. 31 (1865); *Pelz. Reis. Nov. Vög.* p. 8 (1865); *Gray, Hand-l. B.* i. p. 22 (1869).
Falco berigora orientalis, *Schl. Naum.* 1855, p. 254.
Falco berigora, *Schl. Mus. P.-B. Falc.* p. 37 (1862).

Adult male. Above brown, the feathers very slightly inclining to rufous on their edges, these margins being a little more distinct on the inner secondaries; crown slightly paler brown, with indistinct blackish shaft-stripes, the nape mixed with white; forehead and a distinct eyebrow, as well as the sides of the face and of the neck, creamy or buffy white; a narrow streak above the supraorbital ridge, as well as a scant stripe from the fore part of eye across the cheek, and another running under the eye along the upper margin of ear-coverts, blackish brown, collecting a little behind the latter; quills dark brown, the primaries and outer secondaries tipped with whitish, spotted on outer web and barred on the inner one with rufous, the inner face of the quills whitish, owing to all but the terminal bars being joined together; tail brown, with an ashy gloss on the upper surface, slightly tipped with white, barred with rufous on the two centre feathers, but not right across the feather, the others barred on the inner and spotted with rufous on the outer web, the latter marks gradually becoming less on the outer feathers; under surface of body creamy buff, the sides of the body and outer face of thighs brown, converging towards the centre of the lower breast, some of the feathers edged with fulvous; under wing-coverts rich creamy buff, the lower ones and the axillaries marked with brown; cere and orbits pale bluish lead-colour; feet very light lead-colour; iris very dark brown. Total length 15·3 inches, culmen 1·1, wing 13, tail 8, tarsus 2·5.

Adult female. Similar to the adult male, but larger. Total length 17·5 inches, culmen 1·2, wing 13·9, tail 8·5, tarsus 2·65.

Young. Warmer and more chocolate-brown than the adults, from

which they are at once distinguished by the brown on the underparts, which in the nestling covers the whole of the breast, and as the bird advances in age gradually disappears, leaving the chest striped with brown, and the flanks much spotted with fulvous; throat and sides of the face ochraceous buff; forehead very indistinctly indicated, the moustache and feathers below the eye and behind the ear-coverts deep chocolate, and broader than in the adults; feathers of the upper surface edged with rufous, and spotted and half-barred with the same colour, the bars on the tail a little narrower and more rufous than in the adults.

Hab. Australia and Van Diemen's Land.

a. Ad. sk.	Australia.	Mrs. Mauger [P.].
b. Ad. sk.	Australia.	A. Cunningham, Esq. [P.].
c. Juv. sk.	Australia.	A. Cunningham, Esq. [P.].
d. Ad. sk.	Van Diemen's Land.	Ronald Gunn, Esq. [P.].
e. Ad. sk.	Van Diemen's Land.	J. Gould, Esq. [C.].
f, *g*. Juv. sk.	Van Diemen's Land.	J. Gould, Esq. [C.].
h. ♂ ad. sk.	Van Diemen's Land.	The Admiralty [P.].
i. ♀ ad. sk.	Van Diemen's Land.	The Admiralty [P.].
k. Ad. sk.	N.W. Australia.	J. R. Elsey, Esq. [P.].
l. Pull. sk.	N.E. Australia.	Sir T. Mitchell [P.].

78. CERCHNEIS.

	Type.
Cerchneis, *Boie, Isis*, 1826, p. 976	C. rupicola.
Erythropus, *Brehm, Isis*, 1828, p. 1270	C. vespertina.
Ægypius, *Kaup, Natürl. Syst.* p. 20 (1829, *nec Savign.*)	C. tinnuncula.
Pannyschistes, *Kaup, Natürl. Syst.* p. 87 (1829)	C. vespertina.
Falcula, *Hodgs. J. A. S. B.* 1837, p. 365	C. tinnuncula.
Tichornis, *Kaup, Classif. Säug. u. Vög.* p. 108 (1844)	C. naumanni.
Pœcilornis, *Kaup, t. c.* p. 108 (1844)	C. sparveria.
Dissodectes, *Sclater, P. Z. S.* 1864, p. 248	C. dickersoni.

Range. The whole of the Old and New Worlds, excepting Oceania.

Key to the Species.

a. Tail uniform, with one subterminal band only.
  a'. Tail blue.
    a''. Back spotted or barred with black.
      a'''. Head blue or washed with blue.
        *a*⁴. Under wing-coverts white, spotted with black.
          *a*⁵. Underneath rufous, streaked with black; throat and under tail-coverts fulvous ..... *tinnuncula* ♂, p. 425.
          *b*⁵. Underneath deep rufous, streaked with black; throat and under tail-coverts deep buff ..... *rupicola* ♂, p. 429.
        *b*⁴. Under wing-coverts pure white, unspotted ..... *cenchroides* ♂, p. 431.
      b'''. Head deep rufous, like black, streaked with black ..... *moluccensis* ♂, p. 430.
    b''. Back uniform.

c'''. Wing-coverts rufous, only the outermost of greater and median series blue ..... *naumanni* ♂, p. 435.
d'''. Wing-coverts blue, the innermost greater coverts narrowly margined with rufous ..... *pekinensis* ♂, p. 437.
b'. Tail rufous.
c''. Head rufous, narrowly streaked with black. *cenchroides* ♀, p. 431.
d''. Head marked with blue, or entirely of the latter colour.
e'''. Back rufous, or rufous banded with black.
e^4. Under surface of body with black spots.
c^5. Centre of crown rufous.
a^6. Wing-coverts blue, spotted with black ..... *sparveria* ♂, p. 437.
b^6. Wing-coverts banded with rufous and black ..... *dominicensis* ♂, p. 439.
d^5. Crown entirely blue ..... *cinnamomina* ♂, p. 439.
d^4. Under surface of body unspotted.
e^5. Crown all blue; under surface of body pale tawny ..... *isabellina* ♂, p. 441.
f^5. Crown rufous in centre; under surface white ..... *leucophrys* ♂, p. 442.
f'''. Back entirely blue, like head ..... *sparverioides* ♂, p. 443.
b. Tail regularly banded.
c'. Head rufous, with no blue.
e''. Tail banded with black and greyish white. *rupicoloides* ♀ ad., p. 432.
f''. Tail rufous, banded with black.
g'''. Under wing-coverts white, unspotted.. *cenchroides* ♂ juv., p. 431.
h'''. Under wing-coverts white, streaked or spotted with black.
e^4. Breast rufous or rufous buff, streaked with fulvous.
g^5. Larger: wing 10·2 ..... *tinnuncula* ♀, p. 425.
h^5. Smaller: wing 9·3 ..... *naumanni* ♀, p. 435.
f^4. Breast pure white, with rounded spots of black on the chest, changing to bars on the flanks ..... *punctata* ad., p. 434.
i'''. Under wing-coverts entirely rufous like breast, and finely streaked with black in the same manner ..... *alopex* ad., p. 432.
g''. Tail bluish grey, banded with black.
k'''. Interscapulary region uniform rufous.
g^4. Underneath white, with small spots of black ..... *newtoni* ad., p. 433.
h^4. Underneath rufous.
i^5. Below uniform ..... *gracilis* ad., p. 435.
k^5. Below spotted with black..... *newtoni* ♀, p. 433.
l'''. Interscapulary region rufous, banded with black.
i^4. Tail banded for entire length below.. *rupicola* ♀ ad., p. 429.
k^4. Tail very slightly and irregularly barred below, only the subterminal band distinct..... *moluccensis* ♀ ad., p. 430.

m'''. Interscapulary region grey, banded with black ..... *vespertina* ♀, p. 443.
d'. Head grey or bluish, or at least marked with blue.
h''. Back greyish, banded with black ..... *amurensis* ♀, p. 445.
i''. Back rufous, banded with black ..... *sparveria* and allies, ♀, p. 443.
c. Tail bluish or blackish grey, distinctly banded with white when spread.
e'. Interscapulary region uniform.
k''. Tail uniform above ..... *ardesiaca*, p. 446.
l''. Tail banded with white for two thirds of its length ..... *dickersoni*, p. 447.
i'. Interscapulary region banded ..... *zoniventris*, p. 447.
d. Tail perfectly uniform. [p. 443.
k'. Under wing-coverts blue-grey like breast.. *vespertina* ♂ ad.,
l'. Under wing-coverts white ..... *amurensis* ♂ ad., p. 445.

1. Cerchneis tinnuncula.

L'Epervier des Alouettes, *Briss. Orn.* i. p. 279 (1760).
La Cresserelle, *Briss. Orn.* i. p. 393 (1760); *Buff. Pl. Enl.* i. pls. 401, 471 (1770).
Falco tinnunculus, *Linn. S. N.* i. p. 127 (1766); *Temm. Man. d'Orn.* i. p. 29 (1820); *Naum. Vög. Deutschl.* i. p. 323, Taf. 30 (1822); *Werner, Atlas*, Rapaces, pl. 12 (1827); *Gould, B. Eur.* i. pl. 26 (1837); *Schl. u. Susem. Vög. Eur.* Taf. 11 (1839–45); *Macgill. Hist. Brit. B.* iii. p. 325 (1840); *Yarr. Brit. B.* i. p. 52 (1843); *Kjærb. Orn. Dan.* Afb. iii. fig. 4 (1851); *Schl. Vog. Nederl.* pls. 9, 10 (1854); *Hartl. Orn. W.-Afr.* p. 9 (1857); *Fritsch, Vög. Eur.* tab. 4. figs. 6, 7 (1858); *Schl. Mus. P.-B.* Falc. p. 25 (1862); *Degl. & Gerbe, Orn. Eur.* i. p. 93 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 40 (1869); *Sundev. Sv. Fogl.* p. 216, pl. xxvi. figs. 5, 6; *Blanf. Geol. & Zool. Abyss.* p. 290 (1870); *Sharpe & Dresser, B. Eur.* pt. 2 (1871); *Newt. ed. Yarr. Brit. B.* p. 79 (1871); *Salvad. Faun. Ital. Ucc.* p. 22 (1871); *Shelley, B. Egypt*, p. 194 (1872); *Schl. Revue Accipitr.* p. 41 (1873).
Falco alaudarius, *Gm. S. N.* i. p. 279 (1788, *ex Briss.*).
Falco fasciatus, *Retz. Faun. Suec.* p. 70 (1800).
Falco brunneus, *Bechst. Orn. Taschenb.* p. 38 (1802).
Cerchneis tinnuncula, *Boie, Isis*, 1828, p. 314; *Brehm, Vög. Deutschl.* p. 73 (1831).
Cerchneis murum, *Brehm, Vög. Deutschl.* p. 70 (1831).
Cerchneis media, *Brehm, ut suprà.*
Falco architinnunculus, *Brehm, ut suprà.*
Tinnunculus alaudarius, *Gray, Gen. of B.* i. p. 21 (1844); *Bp. Consp.* i. p. 27 (1850); *Kaup, Contr. Orn.* 1850, p. 53; *Gould, B. Gt. Br.* pt. ii. (1862); *Jerd. B. Ind.* i. p. 38 (1862); *Pelz. Verh. z.-b. Wien*, xiii. p. 623 (1863); *Blyth, Ibis*, 1863, p. 9; *Newt. Ooth. Wolley.* p. 80 (1864); *More, Ibis*, 1865, p. 9; *Tristr. t. c.* p. 259; *Hume, Rough Notes*, i. p. 96 (1869); *Gray, Hand-l. B.* i. p. 22 (1869); *Finsch, Tr. Z. S.* vii. p. 205 (1870); *Sharpe, Ibis*, 1870, p. 486.
Cerchneis tæniura, *Brehm, Naumannia*, 1855, p. 269.
Cerchneis intercedens, *Brehm, ut suprà.*
Cerchneis accedens, *Brehm, ut suprà.*
Cerchneis fasciata, *Brehm, ut suprà.*
Cerchneis guttata, *Brehm, ut suprà.*
Tinnunculus tinnunculus, *Heugl. Peterm. Mitth.* 1861, p. 20.

Adult male. Upper parts brick-red, with a few arrow-head markings of black, larger on the inner secondaries; primary coverts and quills dark brown, the former narrowly margined with rufous, the primaries notched with white for about two thirds of their length, the inner primaries and outer secondaries narrowly edged and tipped with buffy white; head and neck clear blue-grey, with narrow black shaft-stripes; forehead and narrow eyebrow buffy white; cheeks silvery grey, inclining to blackish below the eye and on the fore part of cheeks, forming a tolerably-distinct moustache; lower back, rump, upper tail-coverts, and tail clear blue-grey, the latter tipped with ashy white, before which is a broad subterminal band of black; throat and under tail-coverts buff, unspotted; remainder of under surface rufous fawn; the chest-feathers mesially streaked with black, these dark centres being larger and more oval in shape on the flank-feathers; the thighs clear rufous, unspotted; under wing-coverts white, spotted with black; bill bluish horn-colour, black at tip, yellowish at base; cere, orbits, and feet yellow; iris brown. Total length 12·5 inches, culmen 1·75, wing 9·2, tail 6·7, tarsus 1·6.

Adult female. Similar to the male underneath, but not so deeply coloured. Upper surface entirely rufous, banded with black, with a faint bluish shade on the rump; the upper tail-coverts inclining to buff; head rufous, streaked with black; tail rufous, banded with black, the bars not being strictly continuous, tipped with buffy white, before which is a conspicuous broad band of black; facial features and soft parts as in the male. Total length 12·5 inches, culmen ·75, wing 9·2, tail 6·5, tarsus 1·6.

Young male. Resembling the old female, but rather paler and more distinctly striped on the breast. The tail first changes, becoming blue like that of the old male; and thus birds are often seen in partial plumage, having the blue tail of the adult male, but retaining the rufous head of the old female dress.

Hab. The whole of Europe and Northern Asia, migrating in winter into N. China, the Indian peninsula, and N.E. Africa, occasionally wandering into Western and Southern Africa and the Seychelles.

Obs. In certain countries along the southern habitat of the common Kestrel occurs a dark resident form which has by some authors been considered to be a distinct species. To the westward the dark race is first found in Madeira and the Canaries, and does not seem to occur in Europe proper. In Senegambia it may also occur, as suggested by Mr. Godman ('Ibis,' 1872, p. 165), as it was probably a dark Kestrel that Swainson named *Falco rufescens*. Again, in Abyssinia the same dark-coloured form occurs, and has received the name of *Falco rupicolæformis*; and it is not until we get to the Himalayas that another intensified race is met with: here it is the *F. interstinctus* of M'Clelland. Mr. Blyth seems to have seen a similar race from Burmah, as a Kestrel is mentioned on his authority by Mr. G. R. Gray (Hand-l. B. i. p. 23) under the name of *Tinnunculus atratus*; but I have not yet succeeded in unearthing Mr. Blyth's own reference. In China and Japan the largest and darkest race of

Common Kestrel occurs; and some remarks of mine on Mr. Swinhoe's excellent series will be found in Dresser's 'Birds of Europe.'

Throughout all these dark races of Kestrel one character is predominant in addition to the richer and more intense coloration of the male bird, viz. that the female has more or less of a shade of blue on the rump and tail, which sometimes overspreads the whole of the latter.

a. ♀ ad. st.	Great Britain.	A. Cooper, Esq., R.A. [P.].
b. Pull. st.	Great Britain.	Mr. Bullock.
c, *d*. Pull. st.	Great Britain.	Major-Gen. Hardwicke [P.].
e, *f*. ♂ ♀ ad. st.	Cambridgeshire.	Mr. J. Clark.
g, *h*. ♂ ♀ ad. st.	Wiltshire.	Colonel Montagu [P.].
i. ♂ ad. st.	Devonshire.	Colonel Montagu [P.].
k. ♂ juv. sk.	Aboyne, Aberdeenshire.	R. B. Sharpe, Esq. [P.].
l. ♂ ad. sk.	Belgium, Jan. 10, 1840.	Brussels Museum [P.].
m. ♂ ad. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
n. ♂ ad. st.	Hebron.	Canon Tristram [C.].
o. ♀ ad. sk.	Nazareth.	Canon Tristram [C.].
p. ♂ ad. sk.	Egypt, March 7, 1868.	Captain Shelley [P.].
q, *r*. ♂ juv. sk.	Egypt.	W. B. D. Turnbull, Esq. [P.]
s. ♂ ad. sk.	Annesley Bay, Feb. 5, 1868.	W. T. Blanford, Esq. [C.].
t. ♂ juv. sk.	Egypt.	Sir S. Baker [P.].
u, *v*. ♂ ♀ ad. st.	Bagdad.	K. Loftus, Esq. [P.].
w. ♀ ad. sk.	Bagdad.	K. Loftus, Esq. [P.].
x. ♂ juv. sk.	Bagdad.	K. Loftus, Esq. [P.].
y. ♂ juv. sk.	Matheran, Jan. 28, 1871.	Major J. Hayes Lloyd [P.].
z. ♀ ad. sk.	Kattiawar, Feb. 22, 1871.	Major J. Hayes Lloyd [P.].
a', *b'*. ♂ ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
c'. ♀ ad. sk.	Behar.	B. H. Hodgson, Esq. [P.].
d'. ♂ juv. sk.	Behar.	B. H. Hodgson, Esq. [P.].
e'. ♂ ad. sk.	Northern Asia.	Mr. Montairo [C.].
f'. ♂ ad.	E. Siberia (*Dybowski*).	Warsaw Museum [E.].
g'. ♂ juv.	Ussuri River (*Dybowski*).	Warsaw Museum [E.].
h', *i'*. Skeletons.		Purchased.
k', *l'*. Skeletons.		Purchased.
m', *n'*. Skulls.		Dr. Günther.
o'. Skull.		W. Yarrell, Esq. [P.].
p'–*w'*. Sterna.		

a. Dark race.

a. Ad. sk.	Madeira.	J. H. Gurney, Esq. [P.].
b. ♂ ad. sk.	Adigrat, Tigre, April 25, 1868.	W. T. Blanford, Esq. [C.].
c. ♀ juv. sk.	Adigrat, Tigre, April 22, 1868.	W. T. Blanford, Esq. [C.].
d. ♀ ad. sk.	Adigrat, Tigre, April 23, 1868.	W. T. Blanford, Esq. [C.].
e. ♂ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
f, *g*. ♂ juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
h, *i*. ♂ juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
k. ♀ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].

l. ♀ ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
m. ♀ juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
n, o, p. Pull. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
q. ♂ ad. sk.	Fokien, China.	J. Gould, Esq. [P.].
r. ♂ ad. sk.	Fokien, China.	J. Gould, Esq.
s. ♀ ad. sk.	Fokien, China.	J. Gould, Esq.
t. ♀ juv. sk.	Fokien, China.	J. Gould, Esq.
u. ♂ juv. sk.	Amoy, China, Oct. 15, 1866.	R. Swinhoe, Esq. [C.].
v. ♂ ad. sk.	Amoy, China, Nov. 1866.	R. Swinhoe, Esq. [C.].
w. ♂ ad. sk.	Amoy, China, Dec. 1866.	R. Swinhoe, Esq. [C.].
x. ♀ ad. sk.	Amoy, China, Jan. 1867.	R. Swinhoe, Esq. [C.].
y. ♀ juv. sk.	Amoy, China, Feb. 1867.	R. Swinhoe, Esq. [C.].
z. ♂ ad. sk.	Japan.	
a'. ♀ ad. sk.	Japan.	

β. C. neglectus.

a. ♂ juv. sk.	St. Iago, Cape-Verd archipelago.	M. A. Bouvier [C.].
b. ♀ juv. sk.	St. Iago, Cape-Verd archipelago.	M. A. Bouvier [C.].

The Museum contains two specimens of the Kestrel from the Cape-Verd Islands, recently described as *Falco neglectus* by Professor Schlegel. The type specimen comes from St. Vincent, where it was collected by Mr. Keulemans; and the birds in the Museum are from St. Iago, obtained by Mons. A. Bouvier. The latter do not bear out the characters which Professor Schlegel assigns to the species, at least as regards the banding of the underparts; but the size is certainly remarkably small, and the plumage very dark. In my opinion it is only a small dark-coloured race; and although the size is unusually reduced, it is approached by other specimens. Witness the following measurements:—

		Total length.	Wing.	Tail.	Tarsus.
♂ juv.	Egypt (*Shelley*)	14·0	9·8	7·0	1·55
♂ ad.	N. Asia (*Montairo*)	13·8	10·2	6·9	1·6
♀ ad.	Nazareth (*Tristram*).....	15·0	9·5	7·0	1·6
♂ ad.	Adigrat (*Blanford*)	13·8	9·5	6·8	1·45
♂ ad.	Nepaul (*Hodgson*).....	13·5	9·3	7·0	1·6
♂ juv.	St. Iago (*Bouvier*).....	12·5	8·8	6·1	1·6
♀ juv.	St. Iago (*Bouvier*).....	12·7	9·0	6·0	1·6

Should a larger series show other differences, whereby to distinguish the species, the synonymy will be as follows:—

Cerchneis neglecta.

Falco tinnunculus, *Keulem. N. T. D.* iii. p. 364 (1866); *Dohrn, J. f. O.* 1871, p. 4.

Falco neglectus, *Schl. Mus. P.-B. Revue Accipitr.* p. 43 (1873).

Hab. Cape-Verd archipelago.

2. Cerchneis rupicola.

Le Montagnard, *Levaill. Ois. d'Afr.* i. p. 144, pl. 35 (1799).
Falco rupicolus, *Daud. Traité*, ii. p. 135 (1800, *ex Levaill.*); *Smith, S.-Afr. Q. Journ.* i. p. 237 (1830); *Grill, Zool. Anteckn.* p. 47 (1858); *Schl. Mus. P.-B.* Falc. p. 27 (1862); *id. Revue*, p. 41 (1873).
Falco capensis, *Shaw, Gen. Zool.* vii. p. 192 (1809, *ex Levaill.*).
Cerchneis rupicola, *Boie, Isis*, 1828, p. 314.
Cerchneis capensis, *Boie, ut suprà.*
Tinnunculus rupicolus, *Gray, Gen. of B.* i. p. 21 (1844); *Bp. Consp.* i. p. 27 (1850); *Kaup, Contr. Orn.* 1850, p. 53; *Bp. Rev. et Mag. de Zool.* 1854, p. 537; *Strickl. Orn. Syn.* p. 97 (1855); *Gurney, Ibis*, 1859, p. 240; *Mont. Ibis*, 1862, p. 335; *Pelz. Verh. z.-b. Wien*, xiii. p. 624 (1863); *Layard, B. S. Afr.* p. 22 (1867); *Bocage, Jorn. Lisb.* 1867, pp. 132, 331, 1869, p. 337; *Gray, Hand-l. B.* i. p. 23 (1869); *Sharpe, P. Z. S.* 1869, p. 570; *Gurney, in Anderss. B. Damara Ld.* p. 18 (1872).

Adult male. Head and hinder neck dull blue-grey, with black shaft-stripes; back, scapulars, and wing-coverts clear rufous, with a few black spots rather oval in shape; quills brown, the inner primaries and outer secondaries tipped with buffy whitish; the inner secondaries brown externally, internally rufous, the innermost ones entirely rufous like the back, with a few arrow-head spots of black; rump, upper tail-coverts, and tail pale bluish grey, the latter tipped with buffy white and crossed by a broad subterminal bar of black; lores whitish; sides of face dull blue-grey like the head, streaked with black in the same manner; under surface of body deep fawn; the chest striped and the sides of the body scantily spotted with black; the thighs, abdomen, and under tail-coverts unspotted, the latter a little paler; throat rufous white; under wing-coverts white, with a few scattered longitudinal spots of black; cere, orbits, and feet dull yellow; bill horn-black, yellowish at base of both mandibles; iris dull brown. Total length 12·5 inches, culmen 0·8, wing 10, tail 6·5, tarsus 1·65.

Female. Similar to the male, and having the tail blue-grey, banded with black and tipped with pale rufous, the subterminal bar being very broad; head rufous, streaked with black; the back and wing-coverts broadly banded with arrow-head bars of black; cheeks dusky black, indistinctly streaked on the lower margin with pale rufous; under surface of body as in the male, but streaked, rather than spotted, with black. Total length 14 inches, culmen 0·8, wing 9·9, tail 6·6, tarsus 1·7.

Hab. South Africa.

a.	Pull. st.	Cape of Good Hope.	M. J. Verreaux [C.].
b.	♂ juv. st.	Cape of Good Hope.	J. Gould, Esq. [P.].
c.	♂ ad. sk.	Cape of Good Hope.	J. Gould, Esq. [P.].
d.	♂ ad. sk.	South Africa.	Earl of Derby [P.].
e.	♂ ad. sk.	Angola.	J. J. Monteiro, Esq. [C.].
f.	♀ ad. sk.	Angola.	J. J. Monteiro, Esq. [C.].
g.	♀ ad. sk.	River Loge, Angola.	J. J. Monteiro, Esq. [C.].

3. Cerchneis moluccensis.

Falco tinnunculus, *Horsf. Tr. Linn. Soc.* xiii. p. 135 (1822); *Vigors, Life Raffl.* App. p. 650 (1830); *Müll. Nat. Gesch. Land u. Vogelk.* p. 209 (1839–44).

Tinnunculus moluccensis, *Hombr. & Jacq. Voy. Pôle Sud, Zool.* Atlas, pl. 1. fig. 1 (1842), et texte, iii. p. 46 (1853); *Bp. Consp.* i. p. 27 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 537; *Strickl. Orn. Syn.* p. 96 (1855); *Pelz. Verh. z.-b. Wien*, xiii. p. 625 (1863); *Wall. Ibis*, 1868, p. 5; *Gray, Hand-l. B.* i. p. 23 (1869); *Walden, Tr. Z. S.* viii. p. 33 (1872).

Cresserelle des Moluques, *Temm. & Schl. Faun. Jap. Aves*, p. 3 (1850).

Tinnunculus alaudarius, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 13 (1854).

Falco moluccensis, *Schl. Mus. P.-B.* Falc. p. 28 (1862); *id. Vog. Nederl. Ind. Valkv.* pp. 6, 47, pl. 1. figs. 3–5 (1866); *id. Revue*, p. 42 (1873).

Adult male. Above deep bay, nearly chestnut, with rather broad arrow-head spots of black, almost amounting to bands on the scapulars and inner secondaries; the head and hind neck streaked with black; quills blackish brown, deeply notched or barred with rufous or rufous white on the inner web; the inner primaries tipped with rufous white, the secondaries deep rufous like the back; rump, upper tail-coverts, and tail bluish grey, the latter paler beneath, tipped with buffy white, before which is a broad subterminal bar of black; forehead rufous white; cheeks silvery whitish, streaked with black; throat rufous white; rest of under surface deep bay; the thighs, vent, and under tail-coverts unspotted; the breast longitudinally streaked with black, which gradually widens out into arrow-head bars on the flanks and sides of the body; under wing-coverts paler rufous, with black spots and cross markings; cere and orbits pale yellow; bill deep horn-blue, lighter at base of upper and yellowish at base of lower mandible, the tip black; feet bright pale yellow; iris dark brown. Total length 11·5 inches, culmen 0·7, wing 8·9, tail 5·7, tarsus 1·65.

Female. Very similar to the male, but has a more banded upper surface; head rufous and the tail blue, as in the male, but with more or less distinct bars on the latter; on the under surface of the body a little more broadly banded than the male. Total length 13 inches, wing 9·85, tarsus 1·6.

Hab. Molucca Islands, extending to Java.

a. ♂ ad. st.	East Timor.	A. R. Wallace, Esq.	[C.].
b. ♀ ad. sk.	East Timor.	A. R. Wallace, Esq.	[C.].
c, d, e. Ad. sk.	Flores.	A. R. Wallace, Esq.	[C.].
f. ♂ ad. sk.	Makassar, Celebes.	A. R. Wallace, Esq.	[C.].
g. ♂ ad. sk.	Gilolo.	A. R. Wallace, Esq.	[C.].
h. Ad. st.	Batchian.	A. R. Wallace, Esq.	[C.].
i. ♂ ad. st.	Batchian.	A. R. Wallace, Esq.	[C.].

4. Cerchneis cenchroides.

Falco cenchroides, *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 183 (1826); *Schl. Mus. Pays-Bas*, Falc. p. 29 (1862).

Tinnunculus cenchroides, *Gray, Gen. of B.* i. p. 21 (1844); *Gould, B. Austr.* i. pl. 13 (1848); *Sturt, Exp. Centr. Austr.* App. p. 14 (1849); *Bp. Consp.* i. p. 27 (1850); *Kaup, Contr. Orn.* 1850, p. 53; *Bp. Rev. et Mag. de Zool.* 1854, p. 527; *Strickl. Orn. Syn.* p. 98 (1855); *Pelz. Verh. z.-b. Wien*, xiii. p. 626 (1863); *Gould, Handb. B. Austr.* i. p. 35 (1865); *Diggles, Orn. Austr.* pt. 8 (1869); *Gray, Hand-l. B.* i. p. 23 (1869).

Adult male. Above pale rufous, almost unspotted, excepting a few central black markings to the scapular feathers and innermost secondaries; primaries blackish brown, toothed with white on the inner web, the inner ones narrowly margined with whitish at the tip; head pale bluish grey, washed with rufous, the black shaft-stripes rather distinct; rump, upper tail-coverts, and tail-feathers clear blue-grey, the latter slightly tinged with rufous on their edges, tipped with white, before which is a broad subterminal band of black; forehead, feathers over the eye, and sides of the face whitish, the latter tinged with greyish; under surface of body pale tawny buff, inclining to clear tawny, the breast and sides of the body narrowly streaked with black shaft-stripes, absent on the thighs, abdomen, and under tail-coverts, which are much paler and more fulvous; under wing-coverts and lining of wing-feathers pure white, occupying the greater part of the primaries, which are notched and tipped with greyish black towards the apex only; cere and orbits yellowish orange; bill horn-coloured near the base, black towards the tip, base of under mandible yellowish; feet orange; iris dark. Total length 11·5 inches, culmen 0·7, wing 9·3, tail 6·2, tarsus 1·5.

Adult female. Similar to the male, but without the bluish shade on the head, and no blue tail, though the upper tail-coverts are strongly washed with blue-grey in old birds. The head is pale rufous like the back, with narrow linear black shaft-streaks to the feathers; and the tail is also pale rufous, tipped with white and barred across with narrow black bands, excepting the subterminal one, which is very broad; the outer tail-feathers much paler, almost inclining to whitish. Total length 12 inches, culmen 1·75, wing 9·8, tail 6·2, tarsus 1·5.

Hab. Australia.

a, b. Ad. sk.	Australia.	Linnean Society [P.]. Types of species.
c. Ad. sk.	S. Australia.	Sir D. Cooper [P.].
d, e. Ad. sk.	S. Australia.	C. D. E. Fortnum, Esq. [P.].
f, g. Ad. sk.	Interior of S. Australia.	Capt. Sturt [P.].
h. Ad. sk.	Bourke, River Darling.	J. Gould, Esq. [P.].
i. Ad. st.	S. Australia.	J. Gould, Esq. [C.].
k. Ad. sk.	Australia.	Mrs. Wise [P.].
l. Skeleton.		Sir G. Grey [P.].

5. Cerchneis rupicoloides.

Falco rupicoloides, *Smith, S. Afr. Q. Journ.* i. p. 238 (1830); *id. Ill. Zool. S. Afr.* pl. xcii. (1849); *Schl. Mus. P.-B.* Falc. p. 29 (1862); *Finsch u. Hartl. Vög. Ostafr.* p. 76 (1870).

Tinnunculus rupicoloides, *Gray, Gen. of B.* i. p. 21 (1844); *Kaup, Contr. Orn.* 1850, p. 53; *Bp. Consp.* i. p. 27 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 537; *Strickl. Orn. Syn.* p. 98 (1855); *Pelz. Verh. z.-b. Wien*, xiii. p. 625 (1863); *Layard, B. S. Afr.* p. 23 (1867); *Gurney, Ibis*, 1868, p. 142; *Ayres, Ibis*, 1869, p. 288; *Gray, Hand-l. B.* i. p. 23 (1869); *Gurney, in Anderss. B. Dam. Ld.* p. 19 (1872).

Falco smithii, *Schl. Mus. P.-B. Revue Accipitr.* p. 43 (1873).

Adult male. Above tawny rufous, with very broad cross bars of black, some of the feathers also tipped with fulvous, the wing-coverts coloured like the back, the bars on the primary coverts being broader and darker; quills blackish brown, the inner webs almost entirely white at the base, notched with rufous on the inner feathers, some of which are also spotted with rufous on the outer web as well; rump and upper tail-coverts blackish, with bars and margins of fulvous; tail alternately barred with black and ashy rufous, the former broad, the latter narrow, all the feathers tipped with white, before which a broad subterminal band of black, some of the whitish bands shaded with greyish; head and hind neck rufous, streaked instead of barred with black; forehead, eyebrow, and sides of the face whitish buff, narrowly lined with black; under-parts dull tawny rufous, the throat, vent, thighs, and under tail-coverts unspotted, the breast mesially streaked with brown shaft-markings, broader on the flanks; under wing-coverts white, the axillaries washed with rufous, with black shaft-stripes; cere and eyelid yellow; bare space round eye and basal part of bill livid yellowish, remainder of bill horn-colour; iris whitish, deeply impregnated with brown. Total length 13·5 inches, culmen 0·8, wing 11, tail 6·5, tarsus 1·75.

Adult female. Very similar to the male, but the flanks more barred with black. Total length 13·5 inches, culmen 0·9, wing 11·4, tail 6·5, tarsus 1·85.

Hab. South Africa.

a. ♀ ad. sk.	South Africa.	S.-African Museum. Type of species.
b. Pull. st.	Black River, S. Africa.	M. J. Verreaux [C.].
c. Ad. sk.	Transvaal (*Ayres*).	R. B. Sharpe, Esq. [P.].
d. Ad. st.	South Africa.	D. W. Mitchell, Esq. [P.].

6. Cerchneis alopex.

Falco alopex, *Heugl. Syst. Uebers.* p. 10 (1856); *id. Orn. N.O.-Afr.* i. p. 41 (1869); *Salvad. Atti R. Accad. Tor.* v. p. 727 (1870); *Finsch, Nachtr. Heugl. Orn. N.O.-Afr.* p. xvii (1871).

Tinnunculus alopex, *Heugl. Ibis*, 1861, p. 69, pl. 3; *Pelz. Verh. z.-b. Wien*, xiii. p. 625 (1863); *Gray, Hand-l. B.* i. p. 23 (1869).

Tinnunculus rupicolus, *Antin. Cat. Descr. Ucc.* p. 15 (1865, *nec Daud.*).



Keulemans del.

Mintern Bros. Lith.

1. *Cerchneis alopex.*
2. ——— „ ——— *zoniventris.*

Adult male. Everywhere foxy red, the head narrowly and the back and wing-coverts a little more broadly streaked with black down the centre, the greater wing-coverts with remains of blackish bars; quills black, narrowly margined and broadly tipped with pale foxy red, becoming whitish on the extreme margin, the secondaries coloured like the rest of the back, and mesially streaked and irregularly barred with black; tail foxy red, deeper than the back, crossed with about fifteen narrow bars of black; throat uniform pale foxy red; rest of under surface foxy red, with very narrow central streaks of black, becoming rufescent on the thighs and under wing- and tail-coverts; under surface of quills creamy white at base of inner web, shading into pale rufous, with remains of blackish bars, the apical portion blackish, with foxy red tips; bill bluish horn-colour, the under mandible yellowish; orbits and cere violet lead-colour; feet yellow. Total length 15 inches, culmen 0·8, wing 10·6, tail 7·8, tarsus 1·85.

Hab. N.E. Africa.

a. ♀ ad. sk. Bogos Land, July 21, 1871 (*Antinori*). R. B. Sharpe, Esq. [P.].

7. Cerchneis newtoni.

Falco gracilis, *Hartl. Faun. Madag.* p. 18 (1861); *Roch & Newt. Ibis*, 1862, p. 267.
Falco punctatus, *Schl. Mus. P.-B.* Falc. p. 28 (1862).
Tinnunculus newtoni, *Gurney, Ibis*, 1863, p. 34, pl. ii.; *Newton, t. c.* p. 336; *Grand. Rev. et Mag. de Zool.* 1867, p. 319; *Gurney, Ibis*, 1869, p. 447; *Gray, Hand-l. B.* i. p. 23 (1869).
Falco newtoni, *Schl. P. Z. S.* 1866, p. 420; *Schl. & Poll. Faun. Madag. Ois.* p. 32, pl. 11. figs. 1, 2 (1868); *Schl. Mus. P.-B. Revue Accipitr.* p. 43 (1873).

Adult. Above light rufous, the head and hinder neck streaked with narrow linear black shaft-stripes; the scapulars, wing-coverts, and inner secondaries spotted with arrow-head black markings, obsolete on the interscapulary region, which is rufous, with only a few black shaft-markings; rump and upper tail-coverts dark bluish grey, with black arrow-head central markings, larger on the latter; primaries blackish, notched with white or rufous white on the inner web; secondaries coloured like the back; tail-feathers alternately barred with dark bluish grey and black, the subterminal band being very broad; forehead, as well as a narrow eyebrow and sides of the face, white, the ear-coverts inclining to silvery white; under surface of body creamy white, slightly washed with rufous on the chest, on which the central black spots on the feathers are elongated; on the breast and flanks they are more oval in shape, larger on the latter; the throat, abdomen, thighs, and under tail-coverts unspotted; under wing-coverts white, streaked with black, the greater ones and axillaries marked with oval black spots, like the flanks; cere orange-yellow; bill horn-blue, yellowish at the base; orbits and feet orange-yellow; iris hazel. Total length 10·2 inches, culmen 0·75, wing 7·4, tail 5, tarsus 1·4.

Adult female. Similar to male, but larger. Total length 11 inches, wing 8·2, tarsus 1·55.

Nestling (*Mus. Lugd.*). Deep rufous, broadly streaked on the head and neck, and barred on the back with black; tail deep rufous, broadly tipped with creamy buff, and barred with black, the subterminal band very broad; sides of face and neck pale rufous; the throat, thighs, and under tail-coverts buffy white; the chest streaked and the breast spotted or barred with black.

Obs. The rufous colour on the underparts is shown by the foregoing bird to be a sign of youth; and remains of it are to be found on some of the white-breasted birds. As, however, examples of both sexes of white and rufous-tinted birds are killed at the same seasons of the year (as is shown by the carefully collected series in the Leiden Museum), the only way to account for these differences is by supposing that it is some time before the bird attains maturity, and probably breeds in the rufous dress. It should be noticed that the rufous individuals have more grey on the head than the white-breasted ones.

Hab. Madagascar.

a. ♀ ad. st.	Madagascar.	Purchased.
b. ♀ ad. sk.	Madagascar.	S.-African Museum.
c, d. ♀ ad. sk.	Madagascar.	Mr. Lormier [C.].
e. ♂ ad. sk.	Nossi-Bé.	Heer Van Dam [C.].

8. Cerchneis punctata.

Falco punctatus, *Temm. Pl. Col.* i. pl. 45 (1823); *Schl. & Poll. F. M. Ois.* p. 33, pl. 11. fig. 3 (1868); *Schl. Revue Accipitr.* p. 44 (1873).
Tinnunculus punctatus, *Gray, Gen. of B.* i. p. 21 (1844); *Bp. Consp.* i. p. 27 (1850); *Strickl. Orn. Syn.* p. 98 (1855); *Newt. Ibis*, 1861, p. 271; *Pelz. Verh. z.-b. Wien*, xiii. p. 626 (1863); *Gurney, Ibis*, 1869, p. 447; *Gray, Hand-l. B.* i. p. 23 (1869).

Adult female. Above dull foxy rufous, with rather broad transverse bars of black, the head streaked with blackish shaft-stripes; wing-coverts and secondaries coloured like the back, the latter slightly inclining to whitish at the tip; primaries blackish brown, deeply notched with rufous white on the inner web, and indistinctly margined with rufous on the outer one; tail deep bay, with a paler tip, crossed by six narrower bands of black; forehead and sides of the face whitish, with narrow blackish shaft-lines; sides of neck, throat, and entire underparts white, the former unspotted, the latter very distinctly marked with large oval spots of brownish black, tinged with rufous, these spots smaller and more longitudinal on the centre of the breast and flanks; cere and orbits light yellow; bill horn-brown, yellowish at base; feet straw-yellow, claws nearly black; iris dark brown. Total length 13 inches, culmen 0·7, wing 7·6, tail 5·8, tarsus 1·55.

Adult male. Similar to adult female, but much smaller. Total length 11·5 inches, wing 7, tail 5·5, tarsus 1·5. (*Mus. A. Newton.*)

Hab. Mauritius.

a. Ad. st.	Mauritius.	
b. Ad. sk.	Mauritius.	E. Newton, Esq. [P.].

9. Cerchneis gracilis.

Falco gracilis, *Less. Traité*, p. 93 (1831); *Des Murs, Iconogr. Orn.* pl. 25 (1846); *Pucher. Rev. et Mag. de Zool.* 1850, p. 214; *Hartl. Faun. Madag.* p. 18 (1861); *Schl. & Poll. Faun. Madag., Ois.* p. 34, pl. 11. figs. 4, 5 (1868).

Tinnunculus gracilis, *Gray, Gen. B.* i. p. 21 (1844); *Strickl. Orn. Sym.* p. 101 (1855); *E. Newt. Ibis*, 1867, p. 341; *Gray, Hand-l. B.* i. p. 23 (1869).

Adult male. Above deep maroon-chestnut, with a few black shaft-lines and spots on the feathers, a little larger and more distinct on the wing-coverts and scapulars; quills blackish, notched on inner web with white, tinged with rufous, the secondaries alternately barred with rufous and black, the innermost entirely rufous, with a few subterminal spots or bars of black; rump and upper tail-coverts blue-grey; tail also blue-grey, crossed with five bands of black, the subterminal one very broad; head dark bluish grey, the lores and a narrow eyebrow whitish; sides of face light bluish grey, streaked with white, forming a moustache, the centre of the ear-coverts fulvescent; entire under surface of body isabelline fawn-colour, a little darker on the thighs, the under tail-coverts shaded with greyish; under wing-coverts white, slightly spotted with brown; inner lining of quills greyish brown, the inner webs notched with white, the bases being entirely white; cere and orbital skin lemon-yellow; bill greyish horn-colour; feet lemon-yellow, claws black; iris brown. Total length 9·5 inches, culmen 1·65, wing 5·6, tail 4·4, tarsus 1·2. (*Mus. A. Newton.*)

Adult female. Similar to the male, but having rather broader tail-bands, and being slightly larger. Total length 10 inches, wing 6·3, tail 4·7, tarsus 1·2. (*Mus. A. Newton.*)

A young male bird, also in Professor Newton's collection, differs in having its head rufous, and having the upper surface broadly banded with black, the under surface being also deeper rufous than in the adults, and spotted with black.

Hab. Seychelles.

a. Juv. st.	Seychelles.	Purchased.
b. ♂ ad. sk.	Seychelles (*Ward*).	E. Newton, Esq. [P.].

10. Cerchneis naumanni.

Falco naumanni, *Fleisch in Fischer, Jahrg.* 1818 (*teste Naumann*).

Falco tinnunculoides, *Temm. Man. d'Orn.* i. p. 30 (1820, *ex Natt. MS.*); *Werner, Atlas*, Rapaces, pl. 12 (1827); *St.-Hilaire, Expl. Sci. Morée, Zool.* p. 47, pls. ii., iii. (1833); *Gould, B. Eur.* i. pl. 27 (1837); *Schl. in Susem. Vög. Eur.* Taf. 12 (1839–45); *Sperl. Ibis*, 1863, p. 273; *Bree, B. Eur.* i. p. 48 (1866).

Falco xanthonyx, *Naum. Vög. Deutsch.* i. p. 323 (1822, *ex Natt. MS.*).

Falco tinnunculariu, *Roux, Orn. prov.* i. p. 60, pls. 40, 41 (1825); *Vieill. Faun. Franç.* p. 36, pl. 16. fig. 3 (1828).

Falco cenchris, *Cuv. Règne An.* i. p. 322 (1829, *ex Frisch*, 1739); *Naum. Vög. Deutschl.* i. p. 318, Taf. 29 (1822); *Fritsch, Vög. Europa's*, tab. 4. fig. 2 (1858); *Schl. Mus. P.-B.* Falc. p. 29 (1862);

Blasius, Ibis, 1862, p. 65; *Wright, Ibis*, 1864, p. 49; *Degl. & Gerbe, Orn. Europ.* i. p. 94 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 43 (1869); *Salvad. Faun. Ital. Ucc.* p. 22 (1871); *Sharpe & Dresser, B. Eur.* part 3 (1871); *Schl. Revue Accipitr.* p. 45 (1873).

Cerchneis cenchris, *Brehm, Vög. Deutsch.* p. 74 (1831); *Bp. Comp. List of B. Eur. & N. Am.* p. 5 (1838).

Tinnunculus cenchris, *Bp. Cat. Met. Ucc. Eur.* p. 21 (1842); *Gray, Gen. of B.* i. p. 21 (1844); *Bp. Consp.* i. p. 27 (1850); *Strickl. Orn. Syn.* p. 97 (1855); *Pelz. Verh. z.-b. Wien*, xiii. p. 624 (1863); *Newt. Ooth. Wolley.* p. 82 (1864); *Tristr. Ibis*, 1865, p. 259; *Layard, B. S. Afr.* p. 22 (1867); *id. Ibis*, 1869, p. 362; *Gray, Hand-l. B.* i. p. 23 (1869); *Blanf. Geol. & Zool. Abyss.* p. 318 (1870); *Gurney, in Anderss. B. Dam. Ld.* p. 17 (1872).

Tichornis cenchris, *Kaup, Classif. Säug. u. Vög.* p. 108 (1844); *Bp. Rev. et Mag. de Zool.* 1854, p. 537.

Pœcilornis cenchris, *Kaup, Contr. Orn.* 1850, p. 53.

Cerchneis paradoxa, C. ruficeps, C. ruficauda, *Brehm, Naum.* 1855, p. 269.

Adult male. Upper surface of body rich cinnamon-rufous; entire head and hind neck, lower back, rump, upper tail-coverts, and tail blue-grey, the latter tipped with white, and crossed by a broad subterminal band of black; lores and a few streaks on the cheeks whitish; lesser and median wing-coverts cinnamon-rufous, like the back, a few of the outer ones of the latter series washed with blue-grey; the greater coverts and inner secondaries blue-grey, washed with rufous externally, primaries dark brown; throat deep fulvous white; breast pale cinnamon or vinous, with a few blackish spots on the breast, becoming larger on the sides of the body; thighs paler rufous, unspotted; abdomen and under tail-coverts yellowish white; under wing-coverts white, with a few tiny blackoval spots larger on the axillaries; bill lightish blue, yellow at base, and blackish at tip; cere, orbits, and feet beautiful yellow, the claws generally white, very rarely inclining to blackish; iris dark brown. Total length 12·5 inches, culmen 0·75, wing 9·1, tail 6, tarsus 1·2.

Adult female. Dissimilar to the male. Above tawny rufous, transversely crossed by bars of blackish brown, narrower and more obscure on the lower back, rump, and upper tail-coverts, the latter of which are strongly inclined to grey; tail rufous, barred with black, tipped with whitish, before which a broad subterminal band of black; head and neck rather paler rufous, the former broadly, the latter more narrowly, streaked with blackish shaft-stripes; forehead and a distinct eyebrow whitish; cheeks and ear-coverts silvery white, with narrow shaft-lines of black; primaries dark brown, barred on the inner web with rufous, secondaries coloured like the back, the outer ones narrowly margined with white at the tip; throat, vent, and under tail-coverts fulvous white, unspotted; breast inclining to rufous fawn-colour, all the feathers mesially streaked with blackish, these stripes being broader on the flanks, and very tiny on the thighs, which are also paler rufous. Total length 12·5 inches, culmen 0·7, wing 9·3, tail 5·9, tarsus 1·2.

Young male. Like the old female, but somewhat paler rufous.

The blue tail is assumed by a moult, the blue head being, on the other hand, gained by a change of feather. Birds in intermediate stages are often thus seen.

Hab. Southern and South-eastern Europe, migrating in winter to South Africa.

a. ♂ ad. sk.	S. Europe.	E. Wilson, Esq. [P.].
b. ♂ ad. sk.	Spain.	Capt. Cook [P.].
c. ♂ ad. st.	Nazareth.	Canon Tristram [C.].
d. ♀ ad. st.	Nazareth.	Canon Tristram [C.].
e. ♂ juv. sk.	Red Sea, Oct. 13, 1873.	E. L. Layard, Esq. [C.].
f. ♂ ad. sk.	Adigrat, Tigré, April 27, 1868.	W. T. Blanford, Esq. [C.].

11. Cerchneis pekinensis.

Tinnunculus cenchris, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 14 (1854); *Irby, Ibis*, 1861, p. 220.
Erythropus cenchris, *Jerd. B. of Ind.* i. p. 38 (1862); *Blyth, Ibis*, 1863, p. 10; *Hume, Rough Notes*, i. p. 103 (1869).
Falco cenchris, var. pekinensis, *Swinh. P. Z. S.* 1870, pp. 442, 448.
Tichornis pekinensis, *Swinh. P. Z. S.* 1871, p. 341.
Erythropus pekinensis, *Jerd. Ibis*, 1871, p. 242.

Adult male. Very similar to *C. naumanni*, but darker and more vinous red above; underneath also darker-coloured and unspotted when adult. The principal distinction is in the wing-coverts, which are almost entirely blue-grey, only the very innermost being slightly washed with rufous. Total length 12 inches, culmen 0·8, wing 9·6, tail 5·8, tarsus 1·45.

Hab. N. China; Himalayas.

a. ♂ ad. sk.		
b. ♂ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
c. ♂ juv. sk.	India.	J. Gould, Esq. [P.].
d. Sternum.		B. H. Hodgson, Esq. [P.].

12. Cerchneis sparveria.

The Little Hawk, *Catesby, Nat. H. Carol.* i. p. 5, pl. 5 (1731).
Falco sparverius, *Linn. S. N.* i. p. 128 (1766, *ex Catesby*); *Wils. Am. Orn.* ii. p. 117, pl. 16. fig. 1 (1810); *Sw. & Rich. Faun. Bor.-Am.* p. 31, pl. 24 (1831); *Aud. B. Am.* fol. pl. xxii., et ed. 8vo, i. p. 94, pl. 22 (1839); *Dekay, N. Hist. N. Y. Birds*, p. 16, pl. vii. fig. 6 (1843); *Cass. in Baird, B. N. Am.* p. 13 (1860); *Schl. Mus. P.-B.* Falc. p. 30 (1862); *Baird, Ibis*, 1867, p. 288; *Salv. P. Z. S.* 1867, p. 158; *Cooper, B. Calif. ed. Baird*, p. 462 (1870); *Schl. Revue Accipitr.* p. 45 (1873).
New York Merlin, *Lath. Gen. Syn.* i. pt. 1, p. 107 (1781).
Falco noveboracensis, *Gm. S. N.* i. p. 284 (1788, *ex Lath.*).
Tinnunculus sparverius, *Vieill. Ois. Am. Sept.* pls. 12, 13 (1807); *Gray, Gen. B.* i. p. 21 (1844); *Bp. Consp.* i. p. 27 (1850); *Cass. B. Calif.* p. 92 (1855); *Strickl. Orn. Syn.* p. 99 (1855); *Scl. P. Z. S.* 1856, p. 285; *Cass. U. S. Expl. Exp.* p. 89 (1858); *Scl. & Salv. Ibis*, 1859, p. 219; *A. & E. Newton, t. c.* pp. 63, 378, pl. xii. fig. 7;

Dresser, Ibis, 1865, p. 323; *Gray, Hand-l. B.* i. p. 21 (1869); *Ridgw. Pr. Phil. Acad.* 1870, p. 148; *Ross, B. Canad.* p. 2 (1871); *Scl. P. Z. S.* 1871, p. 273; *Salv. Ibis*, 1872, p. 323; *Scl. & Salv. Nomencl.* p. 121 (1873).

Cerchneis sparverius, *Bp. Comp. List B. Eur. & N. Am.* p. 5 (1838).

Pœcilornis sparverius, *Kaup, Contr. Orn.* 1850, p. 53; *Bp. Rev. et Mag. de Zool.* 1854, p. 537.

Adult male. Hind part of the crown rufous; forehead and lores whitish, fore part and sides of head as well as nape slaty blue, encircling the rufous crown; back vinous cinnamon, marked on the lower scapulars and inner secondaries with a few black cross bars; lower back, rump, upper tail-coverts, and tail clearer cinnamon, tipped with greyish white, before which is a subterminal black band, the outer feather also greyish white on the outer web; wing-coverts entirely bright slaty blue, mesially marked with elongated oval spots of black; quills blackish brown, narrowly margined with paler brown, the inner primaries and the secondaries tipped with greyish white, all the quills broadly barred with white on the inner web; the secondaries slaty blue, like the wing-coverts, black at the base, and barred with black on the inner web, though this is generally concealed, the innermost secondaries spotted conspicuously with black; cheeks and ear-coverts silvery white, somewhat shaded with greyish, and tinged with buff; a moustachial streak from the fore part of eye along the cheeks black, as well as a patch behind the ear-coverts, and another on the sides of the neck; throat white, unspotted; rest of under surface pale rufous, inclining to cinnamon on the sides of the breast, and much paler on the flanks; the thighs, abdomen, and under tail-coverts clear buff, unspotted, the chest slightly streaked, the breast and flanks spotted with black; under wing-coverts white, spotted and streaked with black; feet orange; bill horn-blue, yellowish at base and black at tip; iris yellow. Total length 10·5 inches, culmen 0·6, wing 7·4, tail 5, tarsus 1·4.

Adult female. Different from the male. Rufous, banded with greyish black, the inner primaries and secondaries greyish white at the tip; quills black, barred with rufous on the inner web, the inner secondaries uniform with the back; tail deep cinnamon, crossed with black bars, the tip whitish, the outer feather much paler, the bars narrower and not continuous on the outer web, which has only obsolete dark indications of them; crown rufous, with blackish shaft-streaks, the forehead and feathers encircling the crown dull slaty blue; facial features as in the male; throat white; under surface of body fulvous, the abdomen and under tail-coverts unspotted, the breast mottled with dull brownish cinnamon, the centres to the feathers being of this colour, the edges fulvous; under wing-coverts mottled like the breast. Total length 11·2 inches, culmen 0·65, wing 7·9, tail 5·5, tarsus 1·45.

Younger males have more bars on the upper surface, the remains of their immature dress, which resembles the old female. Considerable difference exists in the shade of the cinnamon back, this colour appearing to me to fade from exposure.

Hab. The whole of North America, extending to Central America and the Antilles.

a. ♂ ad. sk.	North America.	J. Gould, Esq.
b, c. ♀ juv. sk.	Fort Simpson.	B. H. Ross, Esq. [P.].
d. ♀ ad. sk.	S. Juan Island.	Dr. Lyall [P.].
e. ♂ ad. sk.	Vancouver's Island.	
f. ♂ ad. sk.	Vancouver's Island.	J. K. Lord, Esq. [C.].
g. ♂ juv. sk.	Vancouver's Island.	J. K. Lord, Esq. [C.].
h. ♀ ad. sk.	Vancouver's Island.	J. K. Lord, Esq. [C.].
i. ♂ ad. sk.	British Columbia.	J. K. Lord, Esq. [C.].
k. ♂ ad. sk.	West side of Rocky Mountains.	J. K. Lord, Esq. [P.].
l, m, n. ♀ ad. sk.	West side of Rocky Mountains.	J. K. Lord, Esq. [P.].
o, p. ♂ ♀ ad. st.	Mexico.	Purchased.
q, r. Skeletons.		

13. Cerchneis dominicensis.

L'Emerillon de St. Domingue, *Briss. Orn.* i. p. 389, pl. xxxii. fig. 2 (1760).
St. Domingo Falcon, *Lath. Gen. Syn.* i. pt. 1, p. 288 (1781, *ex Briss.*).
Falco dominicensis, *Gm. S. N.* i. p. 288 (1788, *ex Lath.*).
Tinnunculus dominicensis, *Strickl. Orn. Syn.* p. 100 (1855); *Gray, Hand-l. B.* i. p. 24 (1869).
Falco sparverius, *Sallé, P. Z. S.* 1857, p. 231.
Tinnunculus sparverius, var. dominicensis, *Ridgw. Pr. Philad. Acad.* 1870, p. 149.

Adult. Crown of the head deep rufous with blackish shaft-stripes, encircled on all sides with dull slaty grey; forehead and a narrow eyebrow whitish; sides of the face white, with the moustachial and other black streaks as in *F. sparverius*; upper surface of body dull ferruginous, everywhere transversely banded with black, the tail a little brighter, banded with black like the back; quills black, banded with rufous or rufous white, paler beneath, the inner secondaries uniform with the back and similarly barred; throat white; rest of under surface creamy white, with a rufous tinge, the chest streaked, the breast spotted with black, the spots rather large; under wing-coverts buffy white, with pale brown shaft-stripes. Total length 11 inches, culmen 0·65, wing 6·9, tail 5·7, tarsus 1·4.

Obs. I do not know this Kestrel well, having only seen the one specimen described; but, as far as I have been able to make out the species, the sexes are both banded (*cf.* Ridgway, Pr. Phil. Acad. 1870, p. 149).

Hab. St. Domingo and St. Thomas.

a. Ad. sk. St. Thomas, W. I. (*R. Swift*). Smithsonian Institution [P.].

14. Cerchneis cinnamomina.

Bidens sparverius, *Spix, Av. Bras.* p. 16 (1824).
Bidens dominicensis, *Spix, Av. Bras.* p. 16 (1824).
Falco sparverius, *Max. Beitr. Orn. Bras.* iii. pt. 1. p. 116 (1830);

Cab. & Tschudi, Faun. Peruan. Vög. p. 110 (1845); *Burm. Th. Bras.* ii. p. 93 (1856); *id. Reis. La Plata-St.* ii. p. 437 (1861).
Falco gracilis, *Swains. An. in Menag.* p. 281 (1837, *nec Less.*).
Falco cinnamominus, *Swains. An. in Menag.* p. 281 (1837).
Tinnunculus sparverius, *Darw. Voy. Beagle, Zool. Birds*, p. 29 (1838–41); *Bridges, P. Z. S.* 1843, p. 109; *Scl. P. Z. S.* 1858, p. 556, et 1867, pp. 330, 338; *Scl. & Salv. P. Z. S.* 1867, p. 988, et 1868, p. 142; *id. Ibis*, 1868, p. 188, et 1870, p. 499; *Hudson, P. Z. S.* 1871, p. 260; *Pelz. Orn. Bras.* p. 5 (1871); *Wyatt, Ibis*, 1871, p. 382.
Tinnunculus cinnamominus, *Gray, Gen. B.* i. p. 21 (1844); *Strickl. Orn. Syn.* p. 100 (1855); *Gray, Hand-l. B.* i. p. 24 (1869).
Tinnunculus cinnamomeus, *Bp. Consp.* p. 27 (1850).
Pœcilornis cinnamominus, *Bp. Rev. et Mag. de Zool.* 1854, p. 537.
Tinnunculus sparverius, var. cinnamominus, *Ridgw. Pr. Philad. Acad.* 1870, p. 149.
Tinnunculus sparverius, var. australis, *Ridgw. Pr. Phil. Acad.* 1870, p. 149.

Adult male. Head entirely slaty blue, with blackish shaft-stripes; lores, forehead, an indistinct eyebrow and sides of the face white; a streak from the fore part of eye, down the cheeks, as well as one running behind the ear-coverts and another on the side of neck, black; nape black, nearly joining the last-mentioned black stripe on the sides of the neck; upper surface of body rich cinnamon, with a few blackish bars on the scapulars, broader on the lower ones; wing-coverts dark slaty blue, spotted with black, the primary coverts barred with black; quills black, barred with white on the inner web, the secondaries black at base, slaty blue at tip, the innermost barred with black on the inner web; tail deep cinnamon, tipped with greyish white, before which a broad black band, the outer feather greyish white, barred with black on the inner web to a little beyond the shaft on the outer one, and cinnamon only for about half of the inner web; under surface of body buffy white, more or less inclining to dull cinnamon on the chest (though often only yellowish); the sides of the body thickly sprinkled with pear-shaped or oval spots of black; under wing-coverts and axillaries white, the former spotted, the latter barred with black; cere, orbits, and feet deep yellow, claws black; bill horn-blue, yellowish at base of lower mandible. Total length 10·4 inches, culmen 0·65, wing 7·4, tail 5·1, tarsus 1·4.

Adult female. Head entirely blue like the male, or with only a slight tinge of rufous on the occiput; nape black as in male; upper plumage and tail cinnamon, barred across with black; under surface whitish, the chest narrowly streaked with pale rufous shaft-stripes, these being broader on the breast and sides of the body. Total length 11 inches, culmen 0·65, wing 7·7, tail 5·5, tarsus 1·4.

Obs. Peruvian examples, as well as two from New Granada in the Museum, are not so thickly spotted on the flanks, and are rather stouter in appearance. The males measure 7·3–7·85 in the wing, the females 7·7, so that there is no real difference in the proportions.

Hab. South America, from the Straits of Magellan and Patagonia

throughout Brazil and Peru to New Granada, but not in Venezuela or Guiana.

a. ♂ ad. sk.	S. W. America.	Capt. Kellett and Lieut. Wood [P.].
b. ♀ ad. sk.	Straits of Magellan.	The Admiralty [P.].
c. ♂ ad. st.	Valparaiso.	Sir W. Burnett and Admiral Fitzroy [P.].
d. ♀ ad. st.	Patagonia.	Sir W. Burnett and Admiral Fitzroy [P.].
e, f, g. ♂ ad. sk.	Brazil.	M. Claussen [P.].
h. ♀ ad. sk.	Brazil.	M. Claussen [P.].
i. ♂ ad. sk.	Brazil.	Lieut. Maw [P.].
k. ♂ ad. sk.	Bahia.	Dr. Wucherer [P.].
l, m. ♂ ♀ ad. sk.	Tambo valley, Peru, Oct. 21, 1867.	H. Whitely, Esq. [C.].
n. ♂ ad. sk.	Tambo valley, Peru, June 2, 1868.	H. Whitely, Esq. [C.].
o. ♂ ad. sk.	Bogotá.	Purchased.
p, q. ♂ ♀ ad. sk.	New Granada.	T. K. Salmon, Esq. [C.].
r. ♀ ad. sk.	New Granada.	T. K. Salmon, Esq. [C.].
s. ♀ juv. sk.	New Granada.	T. K. Salmon, Esq. [C.].

15. Cerchneis isabellina.

Emerillon de Cayenne, *Buff. Pl. Enl.* i. pl. 444 (1770).
Falco isabellinus, *Sw. An. in Menag.* p. 281 (1837).
Pœcilornis isabellinus, *Bp. Rev. et Mag. de Zool.* 1854, p. 537.
Tinnunculus sparverius, *Scl. & Salv. P. Z. S.* 1869, p. 254.
Tinnunculus sparverius, var. isabellinus, *Ridgw. Pr. Philad. Acad.* 1870, p. 149.
Falco sparverius, *Finsch, P. Z. S.* 1870, p. 556.

Adult male. Head entirely clear slaty blue, forehead and lores whitish; back and scapulars pale cinnamon, the latter somewhat barred with black, the lower ones more distinctly; lower back, rump, upper tail-coverts, and tail deep cinnamon, the latter tipped with ashy white, before which a broad subterminal bar of black, the outer feather marked alternately with greyish white and black for about two thirds of its outer web, and irregularly spotted with the same on the inner one, the second feather also a little variegated; wing-coverts slaty blue, indistinctly marked with black down the centre of the feathers; primaries black, barred with white on the inner web; secondaries black at the base, slaty grey towards the tip, which is white, the innermost conspicuously barred with black on the inner web; sides of face and throat pure white; a streak from the fore part of eye down the cheeks, another behind the ear-coverts, and another on the sides of the neck, black; sides of neck and under surface of body pale fawn, shading into buffy white on the flanks and thighs, sides of body greyish, with a few remains of black spots on the sides of the breast; under wing-coverts white, the lower ones half barred with black; bill horn-blue, yellowish at base of both mandibles. Total length 9·5 inches, culmen 0·65, wing 7, tail 5, tarsus 1·3.

Female. Head blue, with sometimes a very faint tinge of rufous on

the hind part of crown; all the upper surface as well as the tail rufous, barred with black; facial features as in male; under surface dull fawn-colour, inclining to buffy white on the abdomen and thighs, the breast narrowly streaked with brown down the centre of the feather. Total length 10·2 inches, culmen 0·7, wing 7·3, tail 5·2, tarsus 1·3.

Obs. This species, when fully adult, gets a totally blue head, like the southern *C. cinnamomina*; but it is rather smaller, more clearly coloured, and differs especially in the unspotted under surface.

Hab. Guiana and Venezuela.

a. Juv. st.	South America.	Type of species.
b. ♂ ad. sk.	British Guiana.	Sir R. Schomburgk [P.].
c. ♂ ad. sk.	British Guiana.	Sir R. Schomburgk [C.].
d. ♂ ad. st.	British Guiana.	Sir R. Schomburgk [C.].
e, *f*. ♂ ad. sk.	Venezuela.	Mr. W. Dyson [C.].
g. ♀ ad. sk.	Venezuela.	Mr. W. Dyson [C.].
h, *i*. ♀ ad. sk.	Caracas, Venezuela.	Mr. W. Dyson [C.].

16. Cerchneis leucophrys *.

Falco sparverius, *D'Orb. in Ramon de la Sagra, Hist. Nat. Cuba, Ois.* p. 25 (1829).
Tinnunculus sparverioides, *Lawr. Ann. Lyc. N. Y.* vii. p. 247 (1860, *pt.*).
Falco leucophrys, *Ridgway, Pr. Philad. Acad.* 1870, p. 147.
Tinnunculus leucophrys, *Ridgw. tom. cit.* p. 149; *Scl. & Salv. Nomencl.* p. 121 (1873).

Young male (*nearly adult*). Head slaty blue, with a conspicuous patch of rufous extending from the centre part of the crown to the occiput, the shafts blackish; forehead, lores, eyebrow, and sides of the face white; a scarcely perceptible moustachial streak, as also a patch running behind the ear-coverts, and another on the sides of the neck blackish; upper surface of body rufous, banded with black, the transverse bars nearly obsolete on the interscapulary region and rump; quills blackish, barred on the inner web with white or rufous white, tipped with fulvous white, the secondaries barred with blackish like the back; tail chestnut, barred with black; under surface of body white, washed with rufous on sides of neck, and having a few indications of pale rufous stripes on the upper breast and under wing-coverts; cere, orbits, and feet yellow; claws black; bill dark horn-blue, yellowish at base; iris dark brown. Total length 9·5 inches, culmen 0·7, tail 4·6, tarsus 1·4.

Hab. Cuba.

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* It seems to me that this species is the Caribbee Merlin of Latham, in which case it would stand as *Cerchneis carribbearum*, with the following synonymy:—

L'Emerillon des Antilles, *Briss. Orn.* i. p. 385 (1760).
Caribbee Merlin, *Lath. Gen. Syn.* i. pt. 1, p. 108 (1781).
Falco carribbearum, *Gm. Syst. Nat.* i. p. 284 (1788, *ex Lath.*).
Falco æsalon, var. β, *Lath. Ind. Orn.* i. p. 49 (1790).

At present, however, I have not a sufficient series to determine the question.

a. ♂ imm. sk.	Monte Verde, Cuba, July 18, 1867 (*C. Wright*).	Smithsonian Institution.

17. Cerchneis sparverioides.

Falco sparverioides, *Vig. Zool. Journ.* iii. p. 436 (1828); *D'Orb. in Ramon de la Sagra, N. H. Cuba, Ois.* p. 30, pl. 1 (1839); *Fraser, Zool. Typ.* pl. 30 (1849); *Ridgw. Pr. Phil. Acad.* 1870, p. 149.

Tinnunculus sparverioides, *Gray, Gen. of B.* i. p. 21 (1844); *Bp. Consp.* i. p. 27 (1850); *Strickl. Orn. Syn.* p. 100 (1850); *Scl. & Salv. Nomencl.* p. 121 (1873).

Pœcilornis sparverioides, *Kaup, Contr. Orn.* 1850, p. 53; *Bp. Rev. et Mag. de Zool.* 1854, p. 537.

Adult. Above entirely dull slaty blue, with a tinge of rufous on the interscapulary region; lower rump, upper tail-coverts, and tail deep bay, the latter tipped with ashy, before which is a tolerably broad bar of black; quills black, inner secondaries slaty grey like the back; under surface of wings whitish, with a few obsolete remains of bars on the primaries; sides of the face and throat whitish; under surface of body deep chestnut-fawn, inclining to fulvous on vent and base of under tail-coverts; flanks somewhat shaded with greyish, with indications of one or two faint blackish spots; under wing-coverts white, spotted with black. Total length 10 inches, culmen 0·65, wing 6·8, tail 4·8, tarsus 1·4.

Hab. Cuba.

a. Ad. sk.	Cuba.	

18. Cerchneis vespertina.

Variété singulière du Hobreau, *Buff. Pl. Enl.* i. pl. 431 (1770).

Falco vespertinus, *Linn. S. N.* i. p. 129 (1766); *Roux, Orn. Prov.* i. p. 56, pls. 35–38 (1825); *Macgill. Hist. Brit. B.* iii. p. 313 (1840); *Strickl. Orn. Syn.* p. 93 (1855); *Schl. Mus. P.-B.* Falc. p. 33 (1862); *Blas. Ibis*, 1862, p. 65; *Newt. Ooth. Wolley.* p. 110 (1864); *Degl. & Gerbe, Orn. Europ.* i. p. 89 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 39 (1869); *Salvad. Faun. Ital. Uce.* p. 21 (1871); *Newt. ed. Yarr. Brit. B.* i. p. 69 (1871); *Sharpe & Dresser, B. Eur.* part 1 (1871); *Shelley, B. Egypt*, p. 193 (1872); *Schl. Mus. P.-B. Revue Accipitr.* p. 46 (1873).

Ingrian Falcon, *Lath. Gen. Syn.* i. pt. 1, p. 102 (1781).

Falco rufus, *Scop. Del. Faun. et Flor. Insubr.* ii. p. 36, pl. xix. (1786).

Falco rufipes, *Beseke, Vög. Kurl.* p. 20, t. 3, 4 (1792); *Temm. Man. d'Orn.* i. p. 33 (1820); *Naum. Vög. Deutschl.* i. p. 311, Taf. 28 (1822); *Werner, Atlas*, Rapaces, pl. 13 (1827); *Kittl. Kupf. Vög.* p. 4, pl. 3. fig. 1 (1832); *Gould, B. Eur.* i. pl. 23 (1837); *Schl. u. Susem. Vög. Eur.* Taf. 13 (1839–45); *Yarr. Brit. B.* i. p. 44 (1843); *Kjærb. Orn. Dan.* Afb. iii. fig. 3 (1851); *Fritsch, Vög. Eur.* tab. 3. figs. 8, 9 (1858).

Falco erythrourus, *Rafin. Caratt. Nuovi Gen. Avium*, p. 5 (1810).

Cerchneis vespertinus, *Boie, Isis*, 1828, p. 314.

Pannyschistes rufipes, *Kaup, Natürl. Syst.* p. 87 (1829).

Erythropus vespertinus, *Brehm, Isis*, 1830, p. 796, et *Vög. Deutschl.* p. 76 (1831); *Bp. Consp.* i. p. 26 (1850); *id. Rev. et Mag. de Zool.* 1854, p. 537; *Pelz. Verh. z.-b. Wien*, xiii. p. 629 (1863); *Loche*,

Expl. Sci. Algér., Ois. i. p. 69 (1867); *Bocage, Jorn. Lisb.* 1868, p. 47; *Gould, B. Gt. Br.* part xvi. (1869); *Gurney, in Anderss. B. Dam. Ld.* p. 15 (1872).
Falco rubripes, *Less. Traité*, p. 93 (1831).
Tinnunculus rufipes, *Kaup, Classif. Säug. u. Vög.* p. 108 (1844).
Tinnunculus vespertinus, *Gray, Genera of B.* i. p. 21 (1844); *id. Hand-l. B.* i. p. 23 (1869).
Erythropus pallidus, *Brehm, Naum.* 1855, p. 269.
Erythropus minor, *Brehm, ut suprà.*

Adult male. Above leaden grey, a little paler on the wing-coverts, the greater series of which are conspicuously silvery grey; primary coverts and quills silvery grey, the secondaries darker and approaching the colour of the back; tail brownish black; under surface bluish grey, with faint indications of blackish shaft-stripes; lower abdomen, vent, under tail-coverts, and thighs rich chestnut; under wing-coverts leaden grey; inner lining of wing brownish black; cere, orbits, and feet bright brownish red; claws yellowish white, horn-coloured at points; bill yellowish horn-colour, blackish at tip; iris light brown. Total length 11·5 inches, culmen 0·75, wing 9·8, tail 5·6, tarsus 1·15.

Adult female. Different from the male. Above bluish grey, with transverse black bars on all the feathers, the interscapulary region a little darker and more ashy; tail also bluish grey, with narrow black bars, the subterminal one much broader, the tip a little paler grey; quills brownish, externally ashy grey, barred on the inner web with whitish; head, hind neck, and underparts rufous, inclining to buff on the under tail-coverts; forehead whitish; lores and feathers round the eye greyish black; sides of the face and neck as well as the throat yellowish white, with faint indications of a pale rufous moustachial streak; soft parts as in the male, but less bright. Total length 11 inches, culmen 0·7, wing 9·7, tail 5·6, tarsus 1·15.

Young. In general colour similar to the adult female, having the tail barred with black. The fore part of the head is whitish; and there is a strong tinge of rufous on the edgings to the interscapulary region, the bases to the feathers being blackish; feathers round the eye and on the upper part of ear-coverts greyish black, with faint indications of a moustachial streak; throat and sides of neck creamy white; under surface rufous, paler than in the old female, and streaked with blackish centres to the feathers, these developing into spots towards the end of the feather; cere, orbits, and feet reddish yellow; claws yellowish white, with dark grey tips.

Hab. Eastern and Southern Europe, rare in the western portions, migrating to South-western Africa.

a.	Pull. st.	Europe.	
b.	♀ ad. st.	Archangel.	R. B. Sharpe, Esq. [P.].
c.	♂ ad. sk.	Archangel.	R. B. Sharpe, Esq. [P.].
d.	♂ ad. st.	Athens.	C. W. L. Merlin, Esq. [P.].
e.	♀ ad. st.	Athens.	C. W. L. Merlin, Esq. [P.].
f.	♂ juv. st.	Athens.	C. W. L. Merlin, Esq. [P.].
g.	♂ ad. sk.	Turkey, Oct. 19, 1870 (*Robson*).	R. B. Sharpe, Esq. [P.].
h.	♂ juv. sk.	Asia Minor, Oct. 20, 1871 (*Robson*).	R. B. Sharpe, Esq. [P.].

i. ♀ ad. sk.	Egypt.	W. B. D. Turnbull, Esq. [P.].
k. ♂ juv. sk.	Egypt.	W. B. D. Turnbull, Esq. [P.].
l. ♂ ad. st.	Tunis.	L. Fraser, Esq. [C.].
m. ♂ ad. sk.	Tangiers, June 1871 (*Olcesse*).	R. B. Sharpe, Esq. [P.].
o, p. Skeletons.		Purchased.
q, r. Skeletons.		Zoological Society.

19. Cerchneis amurensis.

Falco vespertinus, *Schrenk, Reis. Amurl., Vög.* p. 230 (1860).
Erythropus vespertinus, *Swinh. Ibis*, 1861, pp. 253, 327, et *P. Z. S.* 1862, p. 315; *Jerd. B. of Ind.* i. p. 40 (1862); *Swinh. P. Z. S.* 1863, p. 260; *Kirk, Ibis*, 1864, p. 316; *Hume, Rough Notes*, i. p. 106 (1869); *Jerd. Ibis*, 1871, p. 243.
Falco vespertinus, var. amurensis, *Radde, Reis. Sibir.* ii. p. 102, Taf. 1. figs. 1–3 (1863).
Hypotriorchis concolor, *Gurney, Ibis*, 1866, p. 127.
Falco amurensis, *Homey. J. f. O.* 1868, p. 251.
Erythropus amurensis, *Gurney, Ibis*, 1868, p. 41, pl. 2; *Swinh. P. Z. S.* 1870, pp. 436, 448, 1871, p. 340, et *Ibis*, 1873, p. 96; *Gurney, in Anderss. B. Dam. Ld.* p. 17 (1872).
Tinnunculus amurensis, *Gray, Hand-l. B.* i. p. 23 (1869).
Falco raddei, *Finsch u. Hartl. Vög. Ostafr.* p. 74 (1870).

Adult male. Above leaden black, a little paler on the lower back and secondaries; the greater wing-coverts and primaries clearly washed externally with silvery grey; tail greyish black above, paler beneath; under surface of body pale grey; lower abdomen, thighs, vent, and under tail-coverts bright chestnut; under wing-coverts pure white; cere, orbits, and feet dark orange, claws whitish; bill yellowish horn-colour, blackish at tip; iris hazel. Total length 9·5 inches, culmen 0·75, wing 9, tail 5·3, tarsus 1·15.

Adult female. Above dull leaden grey, inclining to blackish on the interscapulary region, clearer on the scapulars, lower back, and rump, all the feathers crossed by bars of black, nowhere very distinct; tail bluish grey, with narrow black bars, excepting the subterminal one, which is much broader; quills brownish black, externally washed with grey and barred with white about halfway up the inner web; crown of the head dull blackish, as also are the lores, feathers round the eye, and a slightly indicated moustachial streak; sides of the face and neck, as well as the throat, creamy white, unspotted; entire breast white, streaked with central blotches of black down each feather, taking the form of bars on the flanks; thighs, vent, and under tail-coverts very pale rufous; under wing-coverts white, spotted with black. Total length 10·5 inches, culmen 0·75, wing 9·5, tail 5·3, tarsus 1·1.

Young. Brownish, the feathers indistinctly margined at the tip with dull fulvous; the lower scapulars, inner secondaries, rump, and upper tail-coverts inclining to greyish, all tipped with fulvous and barred with dull black; tail grey, with distinct transverse bars of black; sides of the face and throat white, the nape also mixed with white; the lores and feathers of the eye, as well as the indistinct

moustache, brown; rest of under surface of body white; the breast thickly covered with blackish central streaks to the feathers; the thighs and under tail-coverts buffy white, the former tinged with rufous.

Obs. The adult female of this bird closely resembles the male of the Common Hobby, but may be distinguished unfailingly by the black bars on the upper surface and on the tail, which the Hobby never has. The young birds are also liable to be confounded together; but the immature of the present species, besides having black bars on the secondaries and lower back, has a grey tail with conspicuous black transverse bars, whereas in the young Hobby the tail is blackish, with rufous cross bars.

Hab. Amoor Land, North China, Nepaul, migrating along the east coast of Africa to Natal and the Zambesi; Damara Land.

a. ♂ ad. sk.	Peking, June 1868.	R. Swinhoe, Esq. [P.].
b, c. ♂ ♀ ad. sk.	Chefoo, May 1873.	R. Swinhoe, Esq. [P.].
d, e. Pull. sk.	Chefoo, Aug. 18th, 1873.	R. Swinhoe, Esq. [P.].
f. ♂ ad. sk.	Chefoo, Sept. 29th, 1873.	R. Swinhoe, Esq. [P.].
g, h. ♂ juv. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
i. ♀ ad. st.	Zambesi.	Dr. Livingstone [C.].
k, l. ♂ ♀ ad. sk.	Zambesi.	Dr. Kirk [P.].
m. ♂ ad. st.	Natal.	J. H. Gurney, Esq. [P.].

20. Cerchneis ardesiaca.

Falco ardosiacus, *Bonn. et Vieill. Enc. Méth.* i. p. 1238 (1823); *Hartl. Orn. W.-Afr.* p. 9 (1857).
Falco concolor, *Temm. Pl. Col.* i. pl. 330 (1825, *nec descr.*); *Sw. B. W. Afr.* i. p. 112, pl. 3 (1837).
Falco unicolor, *Swains. Classif. B.* ii. p. 212 (1837).
Hypotriorchis ardesiacus, *Bp. Consp.* i. p. 26 (1850); *Gray, Hand-l. B.* i. p. 21 (1869).
Falco ardosiacus, *Fritsch, Vög. Eur.* tab. 3. fig. 4 (1858); *Schl. Mus. P.-B.* Falc. p. 21 (1862); *Heugl. Orn. N.O.-Afr.* i. p. 34 (1869); *Schl. Revue Accipitr.* p. 38 (1873).
Dissodectes ardesiacus, *Scl. Ibis*, 1864, p. 306.
Æsalon ardosiacus, *Bp. Rev. et Mag. de Zool.* 1854, p. 536; *Souza, Cat. Lisb. Mus.* p. 44 (1869).

Adult male. Slaty grey, with dark shaft-stripes to the feathers, especially distinct on the head and neck; quills dark brown, the inner secondaries slaty grey like the back, the outer ones clearer grey towards the tips; tail slaty grey, paler towards the tip, with whitish bands on the inner webs; under surface pale slaty grey, with black shaft-stripes to the feathers; the throat and sides of the face whitish; cere, orbits, and feet yellow; bill dark leaden blue; iris dark. Total length 14 inches, culmen 1, wing 8·9, tail 6·4, tarsus 1·6.

Hab. Western and North-western Africa.

a. Ad. st.	W. Africa.	Captain Sabine [P.].
b. Ad. sk.	W. Africa.	Captain Sabine [P.].
c. Ad. sk.	River Gambia.	Purchased.
d. Ad. sk.	Bogos Land.	Herr Esler [C.].

21. Cerchneis dickersoni.

Falco dickinsonii, *Scl. P. Z. S.* 1864, p. 249; *id. Ibis*, 1864, p. 305, pl. viii.; *Kirk, Ibis*, 1864, p. 316; *Finsch u. Hartl. Vög. Ostafr.* p. 71 (1870).
Dissodectes dickinsoni, *Scl. P. Z. S.* 1864, p. 248, et *Ibis*, 1864, p. 306.
Hypotriorchis dickinsonii, *Gray, Hand-l. B.* i. p. 21 (1869).
Æsalon dickinsonii, *Bocage, Jorn. Lisb.* ii. p. 337 (1869).

Adult male. Head and neck whitish ashy, with distinct blackish shaft-stripes to the feathers; rest of upper surface deep brown, inclining to black; the quills much darker brown, banded on the inner web with white; rump and upper tail-coverts white, with a slight greyish shade; tail banded alternately with black and greyish white, the subterminal black bar being very broad, the tip white; throat whitish; rest of under surface ashy brown, with a slight greyish shade; under wing-coverts whitish ashy, with distinct shaft-stripes; cere, orbits, and feet yellow; bill bluish black, yellow at base of lower mandible; iris dark brown. Total length 11 inches, culmen 0·95, wing 8·3, tail 5, tarsus 1·6.

Hab. E. Africa, Zambesi; S.W. Africa, Mossamedes.

a. ♂ ad. st.	Lower Shiré valley.	Dr. Kirk [C.].
b. ♂ ad. st.	Zambesi.	Dr. Kirk [C.].

22. Cerchneis zoniventris.

Hypotriorchis zoniventris, *Peters, Sitz. k. Pr. Akad. Wiss. Berlin*, 1853, p. 7; *Hartl. Orn. Madag.* p. 17 (1861); *Gray, Hand-l. B.* i. p. 21 (1869).
Dissodectes zoniventris, *Scl. Ibis*, 1864, p. 306; *Gurney, Ibis*, 1869, p. 446.
Falco zoniventris, *Schl. & Poll. Faun. Madag., Ois.* p. 165 (1868); *Schl. Mus. P.-B. Revue Accipitr.* p. 37 (1873).

Adult female. Above ashy grey, the head and neck as well as the interscapulary region nearly uniform, with strongly pronounced black shaft-stripes; scapulars, wing-coverts, and inner secondaries barred across with greyish black, the latter slightly tipped with whitish; quills blackish brown, with narrow whitish tips, barred with rufous or greyish white on the inner web, all the feathers barred with pure white underneath; lower back, rump, and upper tail-coverts deep bluish grey, the latter inclining to ashy at the tips, all with distinct black shaft-stripes; tail black, tipped with white, the two centre feathers not barred, all the others more or less distinctly barred with greyish white; forehead and an indistinct eyebrow whitish, with narrow brownish streaks; sides of face ashy grey, with dusky streaks; throat white, the lower part rather broadly streaked with ashy brown; rest of under surface dull white, broadly barred with ashy brown, a little darker on the flanks and under wing-coverts; bill horn-blue, the under mandible yellow; feet yellowish, claws black. Total length 12·8 inches, culmen 1, wing 9·1, tail 6·35, tarsus 1·5, middle toe 1·1.

Adult male. Similar to the female, but a trifle smaller. Total length 12 inches, wing 8·75, tarsus 1·45.

Young. Browner than the adult, the hind neck more streaked with white; a rather distinct whitish eyebrow narrowly streaked with blackish, as also the cheeks and sides of neck; wing-coverts and secondaries externally spotted with rufous, the spots on the latter somewhat tinged with grey; the cross markings on the back pale fulvous; primaries black, all the quills barred with white on the inner web; tail black, barred with rufous, inclining to white on the inner web, the markings almost obsolete on the centre tail-feathers; under surface of tail paler, the bars whitish; under surface of body dull white, streaked on the chest and barred on the breast; abdomen and under wing- and tail-coverts with pale brown.

Hab. Madagascar.

a. ♀ ad. st. Mouroundava, S.W. Madagascar. Herr Van Dam [C.].

Suborder PANDIONES.

Outer toe reversible; toes devoid of feathers; eyes placed laterally in the head; no facial disk; plumage very close and compact; nostrils not concealed by bristles.

Key to the Genera.

a. Distance between tips of primaries and tips of secondaries greater than length of tarsus 79. PANDION, p. 448.
b. Distance between tips of primaries and secondaries less than length of tarsus ..... 80. POLIOAETUS, p. 452.

79. PANDION.

	Type.
Pandion, *Savign. Descr. Egypte, Ois.* p. 272 (1809)	P. haliaetus.
Triorches, *Leach, Syst. Cat. Mamm. &c. Brit. Mus.* p. 10 (1816)	P. haliaetus.
Balbusardus, *Fleming, Brit. An.* p. 51 (1828)	P. haliaetus.



Leg of *Pandion haliaetus*.

Range. The whole of the Old and New Worlds, excepting the southern parts of South America.

1. Pandion haliaetus*.

The Fishing Hawk, *Catesby, N. H. Carol.* i. pl. 2 (1731).
Le Faucon pescheur de la Caroline, *Briss. Orn.* i. p. 362 (1760).
Aigle de Mer, *Briss. Orn.* i. p. 440 (1760).
Falco haliaetus, *Linn. S. N.* i. p. 129 (1766); *Naum. Vög. Deutschl.* i. p. 241, pl. 16 (1822); *Werner, Atlas,* Rapaces, pl. 19 (1827); *Schl. u. Susem. Vög. Eur.* Taf. 24 (1839).
Le Balbuzard, *Buff. Pl. Enl.* i. pl. 414.
Falco arundinaceus, *Gm. S. N.* i. p. 263 (1788).
Falco carolinensis, *Gm. S. N.* i. p. 263 (1788).
Falco cayennensis, *Gm. S. N.* i. p. 263 (1788).
Aquila americana, *Vieill. Ois. Am. Sept.* i. p. 31 (1807).
Aquila piscatrix, *Vieill. Ois. Am. Sept.* i. p. 29, pl. 4 (1807).
Pandion fluvialis, *Savign. Descr. Egypte, Ois.* p. 272 (1809).
Aquila haliaetus, *Meyer in Mey. u. Wolf, Taschenb.* i. p. 23 (1810).
Accipiter haliaetus, *Pall. Zoogr. Rosso-As.* i. p. 355 (1811).
Triorches fluvialis, *Leach, Syst. Cat. Mamm. &c. B. M.* p. 10 (1816).
Aquila balbusardus, *Dumont, Dict. Sci. Nat.* i. p. 351 (1816).
Pandion americanus, *Vieill. et Oud. Gal. Ois.* pl. 11 (1825).
Balbusardus haliaetus, *Fleming, Brit. An.* p. 51 (1828).
Pandion haliaetus, *Less. Man. d'Orn.* i. p. 86 (1828); *Sw. & Rich. Faun. Bor.-Am., Birds,* p. 20 (1831); *Gould, B. Eur.* pl. 12 (1837); *Gray, Gen. B.* i. p. 17, pl. 7. fig. 5 (1845); *Bp. Consp.* i. p. 16 (1850); *Schl. Vog. Nederl.* pl. 30 (1854); *Strickl. Orn. Syn.* p. 63 (1855); *Hartl. Orn. W.-Afr.* p. 7 (1857); *Fritsch, Vög. Eur.* tab. 9. fig. 1 (1858); *Schrenck, Reis. Amurl., Zool.* p. 227 (1859); *Jerd. B. Ind.* i. p. 80 (1862); *Schl. Mus. P.-B.* Aquilæ, p. 22 (1862); *Radde, Reis. Sibir., Ois.* p. 97 (1863); *Newt. Ooth. Wolley.* p. 58 (1864); *Sundev. Sv. Fogl.* pl. xxix. fig. 1 (1866); *Degl. & Gerbe, Orn. Eur.* i. p. 47 (1867); *Layard, B. S. Afr.* p. 16 (1867); *Hume, Rough Notes,* i. p. 234 (1869); *Gray, Hand-l. B.* i. p. 15 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 54 (1869); *Gould, B. Gt. Br.* pt. xvii. (1870); *Finsch u. Hartl. Vög. Ostafr.* p. 40 (1870); *Newt. ed. Yarr. Brit. B.* i. p. 30 (1871); *Pelz. Orn. Bras.* p. 4 (1871); *Swinh. P. Z. S.* 1871, p. 340; *Coues, Key N. Am. B.* p. 219 (1872); *Holdsw. P. Z. S* 1872, p. 412; *Salvad. Faun. Ital. Ucc.* p. 9, 1872; *Shelley, B. Egypt,* p. 203 (1872); *Schl. Mus. P.-B. Revue Accipitr.* p. 123 (1873).
Pandion alticeps, *Brehm, Vög. Deutschl.* p. 33 (1831).
Pandion planiceps, *Brehm, Vög. Deutschl.* p. 33 (1831).
Pandion carolinensis, *Audub. B. N. Am.* pl. 81, et *Orn. Biogr.* i. p. 415 (1831); *Bp. Comp. List B. Eur. & N.-Am.* p. 3 (1838); *id. Consp.* i. p. 16 (1850); *Cassin, B. Calif. & Texas,* p. 112 (1855); *Strickl. Orn. Syn.* p. 64 (1855); *Cass. in Baird's B. N. Am.* p. 45 (1860); *Dall & Bann. Tr. Chic. Acad.* p. 272 (1869); *Gray, Hand-l. B.* i. p. 15 (1869); *Cooper, B. Calif. ed. Baird,* p. 454 (1870).
Pandion indicus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).

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* I cannot at present see any grounds for separating the American Osprey as a distinct species, or even as a subspecies or "variety," as Mr. Ridgway is inclined to do (B. N. Am. iii. p. 182).

Pandion albigularis, *Brehm, Naum.* 1855, p. 268.
Pandion minor, *Brehm, l. c.*
Pandion fasciatus, *Brehm, l. c.*
Pandion haliaetus, var. carolinensis, *Ridgway in Baird, Brewer & Ridgw. B. N. A.* iii. p. 182 (1874).

Nestling. Covered with down of a sooty brown colour, except along the centre of the back, along the carpal bend of the wing, on the breast and flanks, where it is dusky white; all the feathers of the back are dark brown, with a broad tip of ochraceous buff; crown and ear-coverts blackish; eyebrow and throat white.

Young. Glossy chocolate-brown, all the feathers terminally margined with buffy white, these margins somewhat tinged with rufous, and broadest on the secondary quills and upper tail-coverts; crown of head black, with white or fulvous margins to the feathers, giving a distinctly streaked appearance; nape white, not streaked; from behind the eye a broad line of white runs down the side of the neck, slightly streaked with black; below this another line of black feathers, including the ear-coverts, is conterminous; sides of face and entire underparts pure white, somewhat tinged here and there with yellowish buff; under wing-coverts white, the outer ones strongly washed with tawny buff, and crossed with broad bars of dark brown; primaries black, secondaries chocolate-brown like the back, and tipped in the same manner, all of them whitish at base of inner web, indistinctly barred with pale brown; tail-feathers alternately barred with dark sepia-brown and ashy brown, tipped with whitish, and having whitish shafts; the bars six in number, and more distinct on the inner web, which is buffy white.

Adult. Above brown, most of the feathers with obsolete margins of paler brown, more distinct on the wing-coverts; primaries black, secondaries brown like the back, the primaries pale, but uniform whity brown below, the secondaries whitish on the inner web, with indistinct bars of ashy brown; tail almost uniform brown, tipped with whity brown, and shaded with ashy externally, the inner web obsoletely barred with ashy brown, a little more distinct below, where the interspaces are whitish; head brown, with white bases to the feathers; a broad white streak from behind the eye running down the sides of the neck; ear-coverts blackish brown; sides of neck uniform with the back; sides of face and entire underparts white, the breast varied with brown centres to the feathers of more or less extent, the chin and fore part of cheeks also slightly streaked with dark brown; axillaries and a few of the flank-feathers also marked with rufous brown like the breast; under wing-coverts buffy white, with dark brown centres, the outermost almost entirely brown, with whitish tips; cere blue; bill black; feet blue; iris yellow. Total length 24 inches, culmen 1·75, wing 19·8, tail 9·5, tarsus 2·4.

Obs. Ospreys seem to get whiter on the head with age; but the mottling on the breast is at present unintelligible to me. It appears to be strongly marked in all old birds; but the brown centres to the feathers, which give the bird its mottled appearance, are never

exactly similar, there being a continued alteration in the pattern of the feather itself. At the same time two young birds, distinguished by the fulvous margins to the upper surface, have not a similar amount of brown on the breast; for in one it is almost entirely absent, while the other has very few markings indeed. The tail becomes more uniform brown with age, so that a strongly barred tail is a sure sign of immaturity.

I notice that American examples are often of a darker and richer brown than European examples, and are sometimes rather larger.

Hab. The whole of Europe and Africa; northern Asia, extending to India and China; North America and the Antilles, ranging as far as the northern parts of S. America.

a, b. Ad. st.	Europe.	
c. Ad. st.	Devonshire.	Colonel Montagu [P.].
d. Ad. st.	Lincolnshire.	Hon. C. Pelham [P.].
e. Pull. st.	Denmark.	J. Gould, Esq.
f. Ad. sk.	Darjiling.	R. B. Sharpe, Esq. [P.].
g. Ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
h, i, k. Ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
l. Ad. st.	Japan.	Purchased.
m. Ad. sk.	N. America.	J. Rae, Esq. [P.].
n. Juv. sk.	N. America.	Major-Gen. Hardwicke [P.].
o. Juv. sk.	Nootka Sound.	Admiral Sir E. Belcher [P.].
p. Ad. sk.	Sumass Prairie, B. C.	J. K. Lord, Esq. [C.].
q, r. ♂ ♀ ad. sk.	West side of Rocky Mountains.	J. K. Lord, Esq. [P.].
s. Ad. sk.	500 miles off Cape S. Lucas.	Captain Kellett and Lieut. Wood [P.].
t. Ad. sk.	Honduras.	Mr. Dyson [P.].
u. Skeleton.		Purchased.
v. Skeleton.		Zoological Society.
w. Sternum.		B. H. Hodgson, Esq. [P.].
x–b'. Sterna.		Purchased.

Subsp. *a.* **Pandion leucocephalus.**

Pandion leucocephalus, *Gould, Syn. B. Austr.* pt. iii. pl. 6 (1838); *Gray, Gen. B.* i. p. 17 (1845); *Gould, B. Austr.* i. pl. 6 (1848); *Bp. Consp. Av.* i. p. 16 (1850); *Strickl. Orn. Syn.* p. 65 (1855); *Gould, Handb. B. Austr.* i. p. 15 (1869); *Schl. Vog. Nederl. Ind.* pp. 12, 52, pl. 3. fig. 3 (1866); *Wall. Ibis*, 1868, p. 15; *Gray, Hand-l. B.* i. p. 15 (1869).

Pandion gouldi, *Kaup, Isis*, 1847, p. 270.

Similar to *P. haliaetus*, but very much smaller; cere bluish lead-colour; bill black; feet pale bluish white; iris primrose-yellow in some, bright orange in others. Total length 20 inches, wing 16·3. A specimen killed by Mr. Wallace in New Guinea had the wing 17 inches long.

Hab. Australia and the Moluccas.

a. Ad. sk.	Australia.	J. Gould, Esq. [P.].
b. Ad. st.	Port Essington.	Dr. Sibbald, R.N. [P.].
c. Ad. st.	Port Essington.	Capt. W. Chambers, R.N. [P.].
d. Ad. sk.	New Guinea.	A. R. Wallace, Esq. [P.].

80. POLIOAETUS.

Type.

Ichthyaetus, *Lafr. Rev. Zool.* 1839, p. 196 *.
Polioaetus, *Kaup, Contr. Orn.* 1850, p. 73 ..... P. ichthyaetus.

Range. India; extending throughout the Indo-Malayan region as far as Celebes. Supposed to occur also in Oceania †.

Key to the Species.

a. Larger; wing 18–20·5 inches long ..... *ichthyaetus*, p. 452.
b. Smaller; wing not exceeding 16·5 inches ..... *humilis*, p. 454.

1. Polioaetus ichthyaetus.

Falco ichthyaetus, *Horsf. Tr. Linn. Soc.* xiii. p. 136 (1822); *id. Z. Res. Java*, pl. 34 (1824).
Pandion ichthyaetus, *Vig. Zool. Journ.* i. p. 321 (1824); *Gray, Cat. Accipitr.* 1848, p. 23; *Bp. Consp.* i. p. 16 (1850); *Schl. Vog. Nederl. Ind., Valkv.* pp. 13, 62, pl. 5. figs. 1, 2 (1866); *Gray, Hand-l. B.* i. p. 15 (1869).
Haliaetus ichthyaetus, *Cuv. Règne An.* i. p. 327 (1824); *Schl. Mus. P.-B.* Aquilæ, p. 18 (1862).
Haliaetus unicolor, *Gray & Hardw. Ill. Ind. Zool.* i. pl. 19 (1830).
Haliaetus plumbeus, *Hodgs. J. A. S. B.* vi. p. 367 (1837).
Ichthyaetus bicolor, *Gray, List Gen. B.* i. p. 4 (1841); *Strickl. Orn. Syn.* p. 66 (1855).
Ichthyaetus horsfieldi, *Blyth, J. A. S. B.* xi. p. 110 (1842).
Ichthyaetus plumbeus, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Ichthyaetus hucarius, *Hodgs. in Gray's Zool. Misc.* p. 81 (1844).
Pontoaetus ichthyaetus, *Gray, Gen. B.* i. p. 17 (1845); *Blyth, Cat. B. Mus. A. S. B.* p. 30 (1849); *id. Ibis*, 1863, p. 22, et 1865, p. 28.
Polioaetus ichthyaetus, *Kaup, Contr. Orn.* 1850, p. 73; *Jerd. B. Ind.* i. p. 81 (1862); *Blyth, Ibis*, 1866, p. 243; *Beav. & Tytl. Ibis*, 1867, p. 316; *Wall. Ibis*, 1868, p. 14; *Hume, Rough N.* ii. p. 1 (1870); *Jerd. Ibis*, 1871, p. 336; *Blyth, Ibis*, 1872, p. 88.

Young. Above brown, glossed with chocolate, most of the feathers of the upper surface with paler brown margins; feathers of the head and hind neck mesially streaked with fulvous; sides of face a little paler than the head, but streaked in the same manner; under surface of body pale brown, inclining to rufous, and longitudinally streaked with whitish down the centre; the thighs white, much mottled with rufous brown; lower abdomen, vent, and under tail-coverts pure white; under wing-coverts pale brown, plainly streaked with white, the greater series almost entirely white, with a few brown markings; quills brown, white at base of inner web, the

* This genus, employed by many eminent ornithologists, is inadmissible, as there is not the slightest indication of a type.

† I am not personally acquinted with the following species:—

POLIOAETUS SOLITARIUS.

Pandion solitarius, *Peale, U. S. Expl. Exp. Birds*, 1848, p. 62; *Cass. op. cit.* p. 97, pl. iv. (1858); *Gray, Hand-l. B.* i. p. 15 (1869).

Hab. Sandwich Islands.

white extending further on the secondaries, which have also ashy brown cross bars; tail fulvous brown, mottled all over with dark brown, except at the tip, which is uniform dark brown, forming a very distinct band.

The bird above described, though full-grown, is evidently immature as regards its plumage. The second stage is very similar to the adult hereafter described, but is by no means so grey on the head and throat; and the tail is nearly uniform brown in a specimen of Mr. Hodgson's in the Museum; only on the inner web are the mottlings apparent which indicate the gradual approach of the white tail. As will be seen in the description, the young specimen was further advanced as regards its tail, so that it is possible that the changes from first to second plumage are not effected in any regular sequence, as is the case also in other *Accipitres*.

Adult male. Above brown, paler on the interscapulary region and darker on the wings, the primaries blackish; under surface of wing leaden brown, with a whitish spot at base of primaries; tail white, with a broad terminal bar of brown; entire head and neck all round clear ashy grey; breast brown, a little lighter than the back; belly, vent, thighs, lower flanks, and under tail-coverts pure white; under wing-coverts uniform ashy brown; cere and bill blackish; feet dirty yellowish white; iris brown. Total length 26 inches, culmen 2·3, wing 18, tail 10, tarsus 3·75.

Adult female. Similar to the male but larger. Total length 29 inches, wing 20·4, tarsus 3·9.

After a careful examination of Mr. Hodgson's plates, I have not been able to distinguish his *H. plumbeus*. In size and general appearance it would appear to resemble *P. humilis*; but I have never seen a specimen of either of these species at all approaching a uniform leaden grey like the bird represented, and the drawing is, perhaps, unfinished. The hinder figure on the plate of *H. plumbeus* I am able to identify among Mr. Hodgson's specimens, as also all the other Hawks figured by him, excepting the grey one in question. Although the uniform tail he figures more resembles *P. humilis* (which is now known to extend to Assam, and may therefore well occur in Nepal), there is not a specimen in Mr. Hodgson's collection; and as all his other birds of these species are in the Museum, and as he also figured a true *P. ichthyaetus* on the same plate, I consider *H. plumbeus* to be probably an unfinished picture of the large species.

Hab. India, Nepal, Malacca, Sumatra, Java, Borneo, Celebes.

a. ♂ ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
b. ♀ ad. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
c. ♀ juv. st.	Nepaul.	B. H. Hodgson, Esq. [P.].
d, e. ♀ ad. sk.	Nepaul.	B. H. Hodgson, Esq. [P.].
f. ♀ ad. st.	Java.	J. R. Reeves, Esq. [P.].
g. ♀ ad. sk.	Java.	Hon. East-India Co. [P.].
h. ♂ ad. sk.	Sumatra.	A. R. Wallace, Esq. [C.].
i. Sternum.		

2. Polioaetus humilis.

Falco humilis, *Müll. & Schl. Verz. Nat. Gesch. Zool.* Aves, p. 47, pl. 6 (1839–44).
Ichthyaetus nanus, *Blyth, J. A. S. B.* xi. p. 202 (1842); *Strickl. Orn. Syn.* p. 66 (1845).
Pandion humilis, *Gray, Gen. B.* i. p. 17 (1845); *Bp. Consp.* i. p. 16 (1850); *Schl. Vog. Nederl. Ind., Valkv.* pp. 13, 53, pl. 5. fig. 3 (1866); *Blyth, Ibis*, 1866, p. 244; *Gray, Hand-l. B.* i. p. 15 (1869).
Pontoaetus nanus, *Gray, Gen. B.* i. p. 18 (1845); *Blyth, Cat. B. Mus. A. S. B.* p. 30 (1849); *id. Ibis*, 1863, p. 22.
Polioaetus humilis, *Kaup, Contr. Orn.* 1850, p. 73; *Wall. Ibis*, 1868, p. 14; *Walden, Tr. Z. S.* viii. p. 35 (1872).
Haliaetus humilis, *Schl. Mus. P.-B.* Aquilæ, p. 18 (1862).

Adult female. Above ashy brown, the back and wings darker and more chocolate-brown, the feathers of the crown and hinder neck slightly fulvescent towards their tips; lores and an indistinct eyebrow whitish; cheeks and entire throat and breast, as well as under wing-coverts, entirely ashy brown, the throat and fore part of cheeks slightly varied with whitish streaks; lower abdomen, thighs, vent, and under tail-coverts white; primaries black, whitish at base of inner web, secondaries brown, like the back; tail pale brown at base, gradually becoming darker brown towards the tip, which is not very broadly white; a few whitish feathers on the bend of the wing; bill and cere dusky lead-colour; feet pale bluish white; iris light yellow. Total length 23 inches, culmen 2·05, wing 16·2, tail 8·8, tarsus 2·85, middle toe 1·95.

Young male (type in Mus. Lugd.). Above brown, with margins of fulvous brown to the feathers of the upper surface; the lower back and rump varied with white, showing at the base of the feathers; forehead, eyebrow, sides of face, and hind neck white, with pale brown margins to the feathers, giving a slightly streaked appearance to these parts; quills dark brown, secondaries pale brown, like the back; tail above brown, very slightly tipped with white, the middle feathers and the ends of the others darker brown, with remains of indistinct bars of blackish brown, all the rectrices white at base and on the inner web, showing very plainly underneath; under surface of body pure white, the breast-feathers with irregular margins of very pale ashy brown, a little darker on the greater under wing-coverts; inner lining of quills white at base. Total length 18·5 inches, culmen 1·8, wing 13·8, tail 7·6, tarsus 2·85, middle toe 1·7.

Hab. From Assam down the Malayan peninsula to Sumatra and Celebes.

a. ♂ ad. st.	India.	Dr. Gray [P.].
b. ♂ ad. sk.	Assam.	J. Gould, Esq. [P.].
c. ♂ ad. sk.	Malacca.	
d. ♀ ad. sk.	Macassar, Celebes.	A. R. Wallace, Esq. [P.].

ZOOLOGICAL GARDENS
1875.
CALCUTTA

ADDENDA.

In the following pages short references are made to Mr. Ridgway's new synopsis of American Hawks, published in Baird, Brewer, and Ridgway's 'History of North-American Birds' (vol. iii.). Some of my genera published in the present volume are anticipated in Mr. Ridgway's work, which only arrived in this country a few days ago, too late for quotation or for correction of names, as the sheets of this work were nearly all printed off.

Page 18. **Neophron pileatus.**

b is the type of *N. carunculatus*, Smith.

Page 25. **ŒNOPS.**

This genus becomes a synonym of *Rhinogryphus*, Ridgway, B. N. Am. p. 337; and the species will be *R. aura*, *R. falklandica*, *R. pernigra*, and *R. urubitinga*.

Page 25. **Œnops aura.**

k, *l*, *m*. Ad. sk.	California.	J. H. Gurney, Esq. [P.].

Page 28.

Œnops californiana is the type of Mr. Ridgway's new genus *Pseudogryphus* (B. N. Am. p. 338). I do not see at present why this Vulture should be separated from *Rhinogryphus*; and the species will probably stand as *R. californianus*.

Page 35. **Ibycter americanus.**

f. ♀ ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].

Page 39. **Ibycter chimachima.**

For spec. *a*. S. America, *read*

a. Ad. sk.	British Guiana.	Sir R. Schomburgk [C.].

Add:—

i. Juv. sk.	Demerara.	R. B. Sharpe, Esq. [P.].

Page 52. **Circus cyaneus.**

c'. ♂ ad. sk.	Thuringia, autumn of 1873.	R. R. Sharpe, Esq. [P.].
d'. ♀ juv. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].

Page 56. **Circus cinereus.**

l. ♀ juv. sk.	Cosnipata, Peru, May 6, 1871.	H. Whitely, Esq. [C.].
m, n. ♂ ♀ ad. sk.	Peru (*Jelski*).	Warsaw Museum [E.].

Page 60. **Circus maurus.**

f. Pull. sk.	Cape Colony.	S.-African Museum.

Page 62. **Circus maculosus.**

e. Ad. sk.	Demerara.	R. B. Sharpe, Esq. [P.].
f. Juv. sk.	Demerara.	R. B. Sharpe, Esq. [P.].

Page 64. **Circus pygargus.**

v. ♂ ad. sk.	Thuringia, autumn of 1873.	R. B. Sharpe, Esq. [P.].
w. ♂ juv. sk.	Thuringia, autumn of 1873.	R. B. Sharpe, Esq. [P.].
x, y. ♀ juv. sk.	Thuringia, autumn of 1873.	R. B. Sharpe, Esq. [P.].

Page 69. **Circus æruginosus.**

a'. ♂ ad. sk.	Thuringia, autumn of 1872.	R. B. Sharpe, Esq. [P.].

Page 76. **Micrastur ruficollis.**

Type of *Nothierax*, Sundev. Œfv. K. Vet. Akad. Förh. 1874, p. 25.

Page 82. **Geranospizias niger.**

b. Ad. sk.	Panama.	Purchased.
c. Ad. sk.	Panama.	Purchased.

Page 84. **ERYTHROCNEMA.**

This becomes a synonym of *Antenor* or *Parabuteo*, Ridgway, B. N. Am. pp. 248, 249; and the species will stand as *Antenor unicinctus*.

Page 92.

Add as synonym to genus *Astur* :—

Nisastur, *Blyth, Ann. N. H.* xiv. p. 35 (1844) .... *Type* A. badius.

Page 97. **Astur atricapillus.**

Mr. Ridgway (B. N. Am. p. 240) mentions a western form as *A. atricapillus*, var. *striatulus*.

Page 110.

For Accipiter poliopsis, *Hume, Stray Feathers*, 1874, *read* Micronisus poliopsis, *Hume, Str. F.* ii. p. 325 (1874).

Page 112. **Astur sphenurus.**

l. Ad. sk.	River Gambia.	Purchased.

Page 122. **Astur griseogularis.**

Type of *Chirospizias*, Sundev. Œfv. K. Vet. Akad. Förh. 1874, p. 24.

Page 132. **Accipiter nisus.**

a. ♂ ad. sk.	Fordingbridge, Hants, May 1, 1873.	Baron A. von Hügel [P.].
β. ♀ ad. sk.	Taplow, Berks.	Baron A. von Hügel [P.].
γ. ♂ ad. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
δ. ♀ ad. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
ε, ζ. ♂ juv. sk.	Thuringia.	R. B. Sharpe, Esq. [P.].
η. ♂ ad. sk.	Shanghai, Feb. 21, 1873.	R. Swinhoe, Esq. [C.].
θ. ♂ juv. sk.	South side of Lake Baikal (*Dybowski*).	Warsaw Museum [E.].

Page 135. **Accipiter fuscus.**

p. ♀ juv. sk.	Toronto, Canada.	Purchased.
q. ♂ ad. sk.	Panama.	Purchased.

Page 137. **Accipiter cooperi.**

Type of *Leptohierax*, Sundev. Œfv. K. Vet. Akad. Förh. 1874, p. 24.

Page 139. **Accipiter tinus.**

c. Juv. sk.	Demerara.	R. B. Sharpe, Esq. [P.].

Page 148. **Accipiter rufiventris.**

f. ♀ ad. sk.	South Africa.	Purchased.

Page 154. **Accipiter bicolor.**

i. ♀ ad. sk.	Panama.	Purchased.

Page 160. **Heterospizias meridionalis.**

g. Juv. sk.	Bolivia.	Mr. Brydges [C.].

Page 167 (21 lines from bottom).

For *montanus*, juv. (*varius*), read *borealis*, juv. (*ventralis*).

Page 170. **Buteo galapagensis.**

Type of *Dromolestes*, Sundev. Œfv. K. Vet. Akad. Förh. 1874, p. 27.

Page 175. **Buteo augur.**

Type of *Pterolèstes*, Sundev. Œfv. K. Vet. Akad. Förh. 1874, p. 27.

k. ♀ var. sk. Lake Ashangi. W. T. Blanford, Esq. [C.].

Page 188. **Buteo borealis.**

Mr. Ridgway (B. N. Am. p. 258) describes new forms under the following names:—*Buteo borealis*, var. *krideri*. *Hab.* Texas to Minnesota. *B. borealis*, var. *leucasanus*. *Hab.* Cape S. Lucas. *B. borealis*, var. *costaricensis*. *Hab.* C. America.

Page 205. **Asturina ruficauda.**

d. Ad. sk. Panama. Purchased.

Page 210.

Prof. Sundevall names a new genus *Plangus*. Type *P. neogæus*, sp. n., from Brazil. (Œfv. K. Vet. Akad. Förh. 1874, p. 28.)

Page 216. **Urubitinga albicollis.**

c, *d*. ♀ ad. sk. Cayenne (*Jelski*). Warsaw Museum [E.].

Page 255. **Lophotriorchis kieneri.**

Lord Walden has kindly lent me a specimen of the young bird, which I describe.

Young. Above dark brown, the feathers lighter on their margins; wing-coverts coloured like the back, but the greater series with narrow white margins; hind neck paler than back, rufous brown, with dark brown longitudinal centres, causing a slightly streaked appearance; quills blackish, with whity brown shafts; the secondaries paler brown, like the scapularies, all the quills narrowly banded with black, nearly obsolete on the primaries, but more distinct on the secondaries, especially underneath, where the lining of the wing is whitish; tail dark brown, whitish at tip, and crossed with seven or eight rather narrow bands of black; crown of head dark brown, with tiny cream-coloured tips to the feathers; the occipital crest black, and 1·9 inch long; forehead and eyebrow very broad, rich creamy buff; cheeks and entire underparts creamy white, as also the tarsal feathers and under wing- and tail-coverts, the greater under wing-coverts with a few indistinct blackish bars. Total length 20·5 inches, wing 13·3, tail 8·5, tarsus 2·5.

Page 258. **Spiziastur melanoleucus.**

c. ♀ ad. sk. Panama. Purchased.

Page 289. **Spilornis melanotis.**

a. Juv. sk. Godavery valley. W. T. Blanford, Esq. [P.].

Page 291. **Spilornis elgini.**

b. Juv. sk. Andaman Islands. Viscount Walden [P.].

Page 291. Insert:—

Spilornis minimus, sp. n., from Camorta, Nicobars, Hume, Str. F. i. p. 464 (1873).

Page 325. Insert:—

Mr. A. Anderson has recently identified another small Indian Kite, which he calls *M. palustris*. Of this species I have not yet seen an example.

Milvus palustris.

Milvus palustris, *Anders. Pr. A. S. B.* 1873, p. 142.

"The Kite for which I have proposed this name is somewhat smaller than *M. govinda*, Sykes; but in point of coloration it is very nearly a facsimile of *M. major*, Hume—in fact a perfect miniature of that species. While the amount of white under the wings, extending in some examples to two thirds of the length of the primaries (confined, however, to the inner webs), and the rich rufous tone of the plumage generally tend to assimilate *M. palustris* to *M. major*, these characters tend equally to separate the former from either of the other two species, viz. *M. govinda* and *M. affinis*—*i. e.* supposing the latter to be really worthy of specific distinction as an Indian bird. There is also a considerable amount of white and pale buff about the head and neck of the new bird which is never present in its common congener *M. govinda*, from which it has not hitherto been discriminated."

"♂. Total length 20–20½ inches, wing 16. ♀. Total length 21–22 inches, wing 16¾–17." (*Anderson, l. c.*)

Page 328. **Rosthramus leucopygus.**

Mr. Ridgway (B. N. Am.) separates the Florida bird as *R. sociabilis*, var. *plumbeus*.

Page 357. **Baza subcristata.**

c. ♀ ad. sk. Queensland. Purchased.

Page 365. **Ictinia mississipiensis.**

a. Ad. st. N. America. Purchased.

Page 370. **Poliohierax semitorquatus.**

a, b. ♂ ♀ ad. st. South Africa. Sir A. Smith [C.]. Types of species.

Page 376. **Falco communis.**

Mr. Ridgway names a bird *F. communis*, var. *pealei*. *Hab.* Oregon to Sitka (B. N. Am. p. 129.

Page 400. **Falco fusco-cærulescens.**

Mr. Ridgway (B. N. Am. p. 155) makes this the type of a new subgenus *Rhynchofalco*.

Page 402. Falco aurantius.

c. ♀ ad. sk. Venezuela. Purchased.

Page 408. Falco columbarius.

Mr. Ridgway (B. N. Am. p. 143) adds another variety, which he calls *Falco lithofalco*, var. *suckleyi*.

Hab. Oregon to Sitka. *F. richardsoni* is now thought not to be so thoroughly distinct from the other varieties.

Page 411. Hierofalco candicans.

Under the head of his *Falco* (*Hierofalco*) *gyrfalco* (B. N. Am. iii. p. 111) Mr. Ridgway treats of three races or varieties, which he calls var. *candicans*, var. *islandicus*, var. *sacer*, var. *labradora*.

Page 420. Hierofalco mexicanus.

Mr. Ridgway (B. N. Am. p. 109) makes two races of this bird—var. *polyagrus*, var. *mexicanus*, in addition to var. *juggur*, all of which he considers to be varieties of *F. lanarius*.

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ZOOLOGICAL GARDENS
1875.
CALCUTTA

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