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A Description of the Birds inhabiting the South of Africa. By ANDREW SMITH, M.D. Member of the Wernerian Natural History Society of Edinburgh; Honorary Member of the Mineralogical Society of Jena, &c.

[Continued from p. 120.]

ACCIPITER GABAR. *Klein Spervel* of the Colonists.

Falco Gabar, *Shaw's Zoology*, vol. 7, p. 202.—Red-legged Falcon, *Latham's General History of Birds*, vol. 1, p. 212.—Epervier Gabar, *Daud.* 2, p. 87.

A. capite, dorso, gula pectoreque cæsiis, abdomine et femoribus nigro et albo transverse fasciatis; remiges nigro-brunneæ, pogniis internis nigro-brunneo et sordido albo fasciatis; cauda nigro brunnea fasciis tribus subalbidis transversis notata, apices plumarum albæ.

Bill dark horn colored; cere deep red; eyes light crimson; head, neck, interscapular, back, and shoulders dirty brownish or reddish gray; chin, throat, sides of neck, and breast, light bluish gray or pale slate color; belly and thighs banded lightish black and clear white. Primary quill feathers nearly a uniform dark brown on the outer vanes, whilst the inner ones are marked by alternate bands of blackish brown and dirty light white; secondaries nearly similarly colored, and all tipped with white. Tail slightly rounded, feathers brownish black, crossed by three transverse bands which appear, when viewed above, of a pale dusky white or grayish white, and, when seen below, of a pure white; the tips of all pure white; legs and toes red; claws horn coloured. Length from bill to base of tail six inches; length of latter six inches and a quarter.

Female.—Length from bill to base of tail seven inches; length of latter seven and a half. The color of back, throat, and breast less clear than in the male; the black lines of the belly rather broader, and the tarsi and toes of a duller yellow.

Young.—Bill nearly as in mature specimens; cere and

eyes yellow; head and neck variegated blackish brown and rufous, the latter most abundant on the sides of the last named part; interscapulars and back an uniform dark brown, with the exception of some very slight variegations, occasioned by many of the feathers being indistinctly tipped with rufous; shoulder feathers dark brown, tipped and edged more broadly with light rufous; tail coverts white. Chin, throat, and breast light rufous, more or less variegated by longitudinal stripes of dark brown or blackish brown; belly and thighs marked by alternate narrow bands of dirty black and pale rufous; primary and secondary quill feathers nearly as in old specimens; tail blackish brown, crossed by four white bands, besides each feather having a white tip and some spots of a like color near quill; legs and toes yellow; claws horn coloured.

This bird occurs, though not very abundantly, throughout the whole of the known parts of South Africa. Le Vaillant found a nest in the month of September, which contained three young ones. It was constructed, externally, of small flexible twigs; internally, it was lined with feathers, and occupied the cleft of a Mimosa tree. It is, perhaps, more common about the banks of the Oliphant River, in the district of Clan William, than in any other part of the colony.

ACCIPITER MINULLUS.

Falco Minullus, Latham.—Le Minule, Le Vaillant Ois d'Afr. pl. 34.

A. supra, cæruleo-niger; subtus, albus nigro-fusco fasciatus; crissum album maculis cordiformibus subnigris notatum; remiges nigro brunneæ, pogoniis internis fasciatis; rectrices ad apicem albæ et pogoniis internis tribus maculis albis notatis.

Male.—Bill black; cere yellow; head, neck, and interscapulars shining bluish black or deep slate color, with, in some lights, a tinge of green; back less shining, though of the same color; shoulders varied with light tints of olive; upper tail coverts white, with transverse blackish bands or spots, the one nearest the tip of each feather somewhat triangular. Chin and throat white, slightly mottled or indistinctly rayed with brownish black; breast and anterior part of belly pure white, transversely rayed with close set brownish black bands, sides of former, indeed sometimes of both, a little tinged with rufous or tawny; hinder part of belly and under tail coverts also banded, but with the lines much more apart. Primary and secondary wing coverts dark brown; primary wing feathers brownish, the inner vanes banded transversely with dusky black; secondaries brownish, with the exception of a little white on the inner edges of inner vanes, which last are distinctly crossed by dusky black bands; insides

of shoulders, light tawny, inclining to white, and variegated with irregular narrow brownish lines. Tail slightly rounded, with the outer vanes of all the feathers brownish black, spotted or irregularly banded with reddish brown, and the inner ones nearly pure black, and partially crossed by pure white in three different places; tips of all the feathers white; legs and toes yellow; claws black. Length from bill to base of tail five inches; length of tail four and a half inches.

Female.—The colors of the head, neck, and interscapulars are duller, and exhibit less lustre than those of the male. Length from bill to base of tail about six inches and a half; length of latter five and a half.

Young.—Color above blackish brown, much variegated about the back and sides of neck with white, arising from the feathers in those situations being, with the exception of brown tips, of a white tinge; interscapulars and shoulders mottled by the feathers having rufous tips; upper tail coverts nearly marked as in mature specimens; chin and throat light tawny white, with some longitudinal brown streaks; breast and centre of belly white, with oblong or roundish brown or black spots, and many of the feathers narrowly tipped with white; sides of belly white, with broad brown bands, and a more or less general tinge of rufous; under tail coverts white, with some heart-shaped blackish spots; thighs rufous white, with irregular transverse brownish bands. Primary wing feathers brownish, with the inner vanes towards quill marked in a dentated form by tawny; secondaries brown, with a large proportion of tawny disposed as in the primaries, and with the edges of outer vanes and the tips of the feathers marked by the same color. Tail a little rounded, the outer vanes of all the feathers dull brown, the inner ones dusky black and tawny white in alternate transverse bands; the tips of all the feathers white; legs, toes, and base of bill yellow; claws black; "eyes orange yellow."

This bird is met with in the forests of Sitsikamma, and also about the Bavarian's River, and other situations where forests occur in the eastern districts of the colony. Its food consists usually of the smaller birds, but when those are not procurable it devours grasshoppers and some other insects. According to Le Vaillant, it constructs its nest externally of flexible twigs, together with moss and dried leaves, internally with wool and feathers, and lays about five eggs.

Obs.—It will readily be seen by those who have an opportunity of consulting the beautiful work of Le Vaillant, that the bird figured in it under the name "*Le Minulé*," is what has just been described as a young bird. The evidence I possess, leaves no doubt as to its being the plumage of the first

year which he describes and represents; and, therefore, forces me to dissent from an authority I so much admire.

ACCIPITER TACHIRO.

Speckled Sparrowhawk, Latham.—Le Tachiro, *Le Vaillant Ois d'Afrique*, pl. 29.

A. supra brunneus; infra albus faciei nigro-brunneis transversis variegatus. Remiges brunneæ, pogoniis internis nigro fasciatis et versus bases variegatis; rectrices brunneæ faciei latis nigris notatæ; tarsi et digiti flavæ.

Male.—Bill bluish black, with a small yellowish spot on the edge of the tooth of upper mandible, and another opposite it on base of lower; cere yellow; front, crown, back of neck, interscapulars, back, upper tail coverts, and shoulders dull brown; the feathers of nape all white towards quills, thereby giving rise, in certain position, to a mottled appearance. Chin and throat pure white; sides of neck white, with narrow transverse brown bands; breast and belly white, banded transversely with brown, the bands few towards the middle, but numerous on the sides; under tail coverts white, irregularly crossed by a few narrow brownish lines; thighs tawny white, with broadish transverse brown bands. Primary wing feathers brown, banded on the inner vanes by black towards their tips, and by black and nearly clear white towards quills; secondaries the same as primaries, with the exception of the white being more abundant on the inner vanes. Tail slightly rounded, of a light brown color, and crossed by four broad blackish bands*, and the tips of all the feathers more or less white; legs and toes yellow; claws black. Length from bill to base of tail seven inches; length of tail seven and a half inches.

Female.—Length from bill to base of tail nine inches; length of latter eight inches; body considerably larger than in the male, and the colors similarly disposed as in it, only they are of a duller tint.

Young.—Above brown, but of a lighter tint than in mature specimens, and the feathers of the back and shoulders edged and tipped with clear rufous; chin and throat tawny white, the former with a longitudinal black streak towards its centre; breast and belly tawny white or pure tawny, and each feather marked in the middle by a large oval or oblong blackish spot; under tail coverts tawny white, variegated by cordiform or

* It will often be observed that in the same bird the number of bands are not alike in all the tail feathers, particularly about the moulting season, which will generally be found to arise from old and new ones existing in the same specimen.

roundish dusky blotches; thighs rufous, with transverse brown bands or irregular cordiform or roundish spots. Primary wing feathers dirty brown, inner vanes banded towards tips by black, and towards quills by white and black; secondaries brown, with the inner vanes banded by black, and their edges irregularly and broadly marked by white, the outer edges and tips rufous. Tail slightly rounded, with four broad blackish transverse bands, and the spaces between these tawny or rufous, tips of all the feathers whitish; legs and toes greenish yellow; claws black. The colors of the male and female are nearly alike, and there exists the same difference in size between them when young as when old.

Le Vaillant found this bird in the forests of Auteniqualand, and I have seen several which were killed in the eastern districts of the colony, as well as in Cafferland. Its nest, according to the author just named, is placed upon trees, and constructed externally of small twigs and moss, and internally of feathers. From some small portions of shell which he found about a nest, he considered the eggs as white, with red spots. In the nest itself, as well as on the branches of the tree on which it was placed, were found the remains of grasshoppers, &c.

Obs.—Though "Le Tachiro," as figured in the work upon African birds is considered by its author as an adult specimen, yet I have every reason to be satisfied that it is only the young of the species just described.

ACCIPITER MELANOLEUEUS.

A. niger; remiges nigræ, pogoniis internis albo maculatis aut fasciatis; cauda sordido-fusca fasciis transversis nigris quatuor.

Bill black, with the exception of the tooth of the upper mandible, and a small portion of the lower directly opposite it, which are yellowish; cere yellowish; color above black, with a faint tint of brown, beneath pure deep black; primary and secondary wing coverts black; primary wing feathers black, with their inner vanes towards quills spotted, or irregularly banded with white; secondaries dusky brown clouded with black, and the inner vanes spotted with white; scapulars brown, with some white blotches on both vanes. Tail slightly rounded, with four broad black transverse bands, the intermediate spaces dirty tawny brown, and the outer vane of the outermost feather of each side with some oblique short white stripes towards quill, and internally with white blotches; the two next with blotches on the inner vanes, and the centre ones without such marks; legs and toes greenish

yellow; claws black. Length from bill to base of tail eleven inches; length of latter nearly the same*.

Young.—Bill nearly as in mature specimens; head rufous, with the centres of all the feathers black; back and sides of neck similarly marked, but the spots largest on the former, whereby the latter exhibits a greater proportion of rufous; interscapulars, back, shoulders, and tail coverts brown, the latter broadly tipped with rufous: the feathers of the back and shoulders with narrow edgings and tips of the same color. Chin and throat tawny, variegated by a few black longitudinal streaks; breast and belly similarly colored, but the streaks considerably larger and more numerous; under tail coverts and thighs tawny, without, or with but very few variegations. Primary and secondary wing coverts brown, tipped with tawny; primary wing feathers dark brown, the inner vanes towards tips banded with black, and towards quills with black and white or pale tawny; secondaries brown, banded with black on their inner vanes, and mottled towards the edges of latter with tawny white, all the tips tawny. Tail slightly rounded, each feather with four or five transverse bands of black, and between these brown, finely mottled with white, some of the black bands are, in some specimens, somewhat arrow-shaped, and have a line of tawny white on the edge most distant from the body. Instead of a uniform brown between the black bands, there is, in several of the lateral feathers a mixture of white, either in the form of blotches or partial bands, the tips of all the feathers are tawny white; legs and toes greenish yellow; claws black.

The only specimen of this species which I have seen exhibiting the mature plumage was shot on the Baviaans River, and the two young ones which I have had the means of comparing with it, were killed near Wynberg.

Obs.—Though there are many and strong points of similarity between the three specimens just viewed as belonging to the same species, yet there are some others also, which warrant the existence of doubt; and, therefore, till more satisfactory evidence can be obtained, the fact of identity or non-identity must remain undecided. The great approximation, however, does not appear to me to sanction their being described as two species, more particularly as two out of the three are decidedly young, and not referable to any other species I have yet met with here.

* As the history of the bird described is not well known, I have purposely avoided referring it to either sex, though a minute comparison with two young specimens would incline me to view it as a female.

ACCIPITER RUEIVENTRIS.

A. supra brunneus; infra subfulvus; remiges brunneæ, pognitis internis nigro fasciatis, cauda fuscis quinque nigris et quatuor cæruleo-griseis notata.

Falco rufiventris, Latham's History of Birds, vol. 1, p. 284. —Daud. Orn. tom. 2, p. 86. —Epervier bleuâtre, Voy. d'Azara, 3, No. 26.

Male.—Bill, with the exception of a small yellow spot near base of upper mandible, and another opposite it on the lower, black; head, hinder part of neck, back, upper tail coverts, and shoulders brown, with a tinge of deep slate color, which is particularly strong soon after moulting; sides of neck, chin, throat, breast, anterior part of belly, and thighs light rufous, the three first the palest; hinder part of belly dirty white, banded transversely with rufous; under tail coverts white. Primary wing feathers dirty brown, the inner vanes banded with black, and towards quill marked on their inner edges between the bands by pure white; secondaries brown, with the inner vanes banded with dusky black, and varied with white in the same situations as the primaries. Tail slightly rounded, and marked by five broad transverse bands of dusky black, and four of a dusky or pure bluish gray, tips of all the feathers white; legs and toes yellow; claws black. Length from bill to base of tail five inches and a half; length of tail four and a half.

Female.—Length from bill to base of tail seven inches; length of tail seven inches; colors more dull above, and rather deeper beneath.

Young.—Color above brown, without the dark slate tint of the mature bird, and varied particularly about the shoulders, head, neck, &c. by each feather being narrowly edged with rufous; legs pale yellow; claws dark horn colored.

This species occurs along the South-east coast and to some very considerable distance inland, at least I have seen several specimens from the neighbourhood of Baviaans River, and from the country towards the southern branches of the Orange River; I have also seen examples of the same bird which were killed near Constantia, and between that and Cape Town.

Obs.—This appears to agree with the description of the *Falco rufiventris* of Shaw; and, though he describes his bird as being a native of Cayenne, it might possibly have been obtained from the Cape, or the species may be an inhabitant of both countries.

Stirps. FALCONINA. (FALCONS.)

Rostrum breve à basi aduncum; alæ longæ; remex secunda longissima.

Beak short, hooked from the base; wings long; the second quill feather longest.

Genus. FALCO Auctorum. FALCON.

Rostrum breve; mandibula superior fortiter dentata, inferiore emarginata. Acrotarsia reticulata. Remex secunda longissima, prima et secunda propè apicem internè fortiter emarginata.

Beak short, the upper mandible strongly dentate, the under emarginate. Acrotarsia reticulated. Wings with the second quill longest, the first and second strongly emarginate internally near the tip.

FALCO FRONTALIS. Daud.

Falco galericulatus, Shaw, vol. 7, p. 149.—Le Faucon Huppe, Le Vaillant, Ois d'Afrique, pl. 28.

F. cristatus, *crista brunnea, dorsum plumbeum et plumæ lineis longitudinalibus nigris; subtus albo, flavescens et fasciis brunneo nigris transversis notatus; cauda grisea, nigro fasciata.*

Male.—Bill bluish at base, and black at tip; cere yellow; eyes orange yellow; head crested, the latter of a brownish color; behind the angle of the mouth on each side a longitudinal blackish brown streak or blotch; back bluish gray, the feathers each with a dark streak in the course of the vane, and with transverse dusky bands, besides light bluish white edgings and tips; sides of neck dirty white, with a slight tinge of tawny; chin and throat tawny white; breast and belly the same, and crossed by narrow black bands, as are also the feathers of the thighs. Primary quill feathers blackish; secondaries deep bluish gray, with blackish transverse bands, and all broadly tipped with the same color as the back. Tail grayish, with seven or eight transverse narrow black bands, and all the feathers tipped with light grayish white; legs and toes yellowish; claws black. Size that of the common pigeon.

Female.—Crest shorter than that of the male, and her size nearly a fourth larger.

Young.—All the colors exhibit somewhat of a yellowish tinge, and the dirty white of the chin, throat, and breast is variegated with red and grayish brown; the crest does not appear till some months after it leaves the nest.

This bird inhabits the borders of lakes, the sea shore, and the banks of rivers abounding with fish; which last, together

with crabs, forms its favorite food. It builds its nest amongst rocks, or on trees upon the banks of rivers, and lays four eggs of a whitish red color.

FALCO TIBIALIS. Shaw.

Le Faucon a culotte noire, *Le Vaillant, Ois d'Afrique*, pl. 29.

F. griseo-fuscus; gula alba; corpore subtus rufescente striis longitudinalibus nigro-brunneis, femoribus fasciis longitudinalibus nigris.

Male.—Bill yellow at base, horn colored elsewhere; cere yellow; eyes bright hazel; head blackish brown; interscapulars and shoulders grayish brown, with a deeper colored streak along the middle of each feather; throat white; breast, belly, and under tail coverts reddish white, with brown blotches, which are smaller behind than before; thighs blackish brown, with the feathers edged and tipped with whitish. Primary wing feathers and tail also blackish brown, with whitish edgings and tips; tarsi feathered to within a little distance of the toes; bare part yellow, as are also the toes; claws black; wings, when folded, considerably shorter than tail. Size between that of the *Accipiter Musicus* and the last described species.

Le Vaillant killed a male, of which the foregoing is the description, while feeding upon a young hare, which it had just killed on the mountains of Great Namaqualand; and he says he was informed that the same species was very common on the *Sneeuwbergen*, in the District of Graaff-Reinet.

Obs.—Though the shortness of the wings, and the partially feathered tarsi, might appear to establish this as a separate species from the last, yet there are many circumstances which suggest the identity of the two, and that the present is the description of a young bird. As I have neither met with the one nor the other, the descriptions given are copied nearly verbatim from Le Vaillant.

FALCO CHIQUEROIDES.

capite rufo, nigro variegato; dorso et humeris griseis, lineis obscuris transversis fasciatis; duabus fasciis longitudinalibus sub oculis; infra subfulvus aut rubro-albus; remigibus brunneis pogoniis interitis maculis subfulvis notatis; cauda subgrisea fasciis decem aut undecim transversis nigris, et apicibus plumarum albis.

Male.—Bill bluish, with shades of black, and the base of the lower mandible yellow; cere yellow; eyes dark brown;

front and anterior part of crown black, rest of crown and nape rufous, the last with some dark variegations, or a transverse black band extending from the black of the cheeks; back of neck, interscapulars, back, upper tail coverts, and shoulders hoary bluish gray, with dark slate colored or blackish blue transverse bands; from the eye, on each side, extends a black stripe as far as the nape, and another from each angle of the mouth for a short way down the side of the neck; sides of latter pale tawny white, which is also the color of the chin, throat, breast, belly, under tail coverts, and thighs. Primary and secondary wing coverts hoary blue, with dusky grayish white transverse bands; primary wing feathers brownish, with the inner vanes, for the greater part of their length, partially crossed by somewhat conical white spots; secondaries the same; tail hoary white, with ten or eleven moderately-broad black bands, and the intermediate spaces thinly sprinkled with minute brownish black dots or lines; tips of the feathers all white; legs and toes yellow; claws black. Length from bill to base of tail eight inches; length of latter seven inches.

Female.—Length from bill to base of tail nine inches and a half; length of tail seven inches and a half; front, and nearly all the crown black; the two black bands on sides of head less deep, and smaller than in the male; the rufous of head less clear, and the back with its colors duller, and its transverse bands more inclined to brownish black.

Young.—Head rufous, with the front and nape a little variegated with black; back of neck and interscapulars blackish, with the feathers finely tipped with rufous; back, upper tail coverts, and shoulders blackish brown, with the feathers all broadly tipped with rufous; the black stripes on sides of head less strongly marked than in full grown specimens; sides of the neck rufous; chin and throat tawny white; breast and anterior part of belly pale rufous, with a roundish or oviform black blotch towards the middle of each feather; hinder part of belly, under tail coverts, and thighs pale rufous, without variegations. Primary and secondary wing coverts blackish brown, clearly tipped with rufous; primary wing feathers blackish, with the inner vanes marked by transverse oviform pale tawny spots, the extremities of which neither reach their shafts nor inner edges; all the feathers finely tipped with light rufous; secondaries similarly colored, marked as the primaries, and all broadly tipped with rufous. Tail blackish, with seven or eight irregular transverse rufous bands, and all the feathers broadly tipped with the last color; bill bluish green, with shades of black, and the lower mandible with a very faint tinge of greenish yellow at base;

cere dusky greenish yellow; eyes dark brown; legs and toes yellowish white; claws a dark horn color.

- Specimens of this hawk are not unfrequently found along the western coast, and I have also met with some about the Langekloof, at least three hundred miles to the eastward of Cape Town. In those situations it is often seen resorting, in the evenings, to the poplar and other trees in the vicinity of farm-houses, and upon such also it often builds its nest. The latter is constructed externally of dry twigs, and within of hair and feathers, and in it are deposited from three to four eggs, during the months of August or September. It preys on small birds, young hares, &c., and, when in search of such, or in defence of its young, it evinces a most amazing degree of ferocity and courage.

FALCO PEREGRINOIDES.

F. capite saturate cæseo, dorso, subgriseo fasciis transversis nigris notato; macula nigra sub oculum; gula alba; pectore albo striis longitudinalibus nigris variegato; abdomine griseo maculis striis et fasciis transversis nigris variegato; tursis et digitis flavis.

Male.—Bill blackish at tip, orange yellow at base of lower mandible, and bluish green elsewhere; cere yellow; eyes dark brown; front, crown, and nape dark grayish blue, with each feather marked by a narrow longitudinal black streak towards its centre; back of neck blackish, with the feathers tipped by dark bluish gray; interscapulars dark bluish gray, with transverse narrow dusky black bands; back light gray, with black bands; upper tail coverts the same; shoulders bluish gray, with more or less distinct dusky bands; under each eye, and commencing at base of bill a black irregular blotch; side of the neck, chin, and throat white; breast white, or slightly tinted with tawny, and variegated by fine black longitudinal streaks; belly pale bluish gray, with small black spots, streaks, or transverse short bands; under tail coverts tawny white, with narrow black transverse bands. Primary and secondary wing coverts a deep tawny slate color, with narrow white tips; primary wing feathers blackish, with a tinge of hoary, which is most distinct upon the outer vanes; inner vanes with many transverse oxiform white blotches; tips white; secondaries blackish, with the inner vanes mottled or distinctly banded with white; tips, and a little of edges of outer vanes, white; scapulars grayish, each with a narrow longitudinal black streak towards the middle, and with several blackish transverse bands crossing it. Tail bluish gray, with about ten transverse narrow black bands, and all the feathers broadly tipped with white; the spaces be-

tween bands also finely, and some, at least, closely mottled with black; legs and toes yellow; claws black. Length from bill to base of tail eight inches; length of latter five inches.

Female.—Length from bill to base of tail nine inches; length of latter six inches; the bluish colors are darker; the blotch on the side of the head is not of so deep a black; and the white of the under parts is less pure.

Young.—Base of lower mandible with a slight tinge of yellow, rest of bill bluish black; cere yellow; eyes brown; head blackish brown, feathers finely edged and tipped with rufous; nape and back of neck variegated blackish brown and tawny white; lower part of neck behind, together with the interscapulars, deep blackish brown, with all the feathers tipped with rufous; back feathers black, with rufous tips. Upper tail coverts banded brown and tawny; shoulders blackish brown, the feathers tipped with rufous; blotch or streak under the eye blackish brown, and smaller than in old birds; chin and throat pure white; breast and belly tawny, with the feathers variegated by oblong black spots, which are largest on the flanks, in which situations they sometimes contain a light colored spot towards the centre of the black; many of the variegations on the thighs are somewhat arrow-shaped; under tail coverts tawny, with arrow-shaped black spots. Primary and secondary wing coverts blackish brown, with shades of bluish gray, and the inner vanes spotted with tawny or rufous; primary wing feathers blackish brown, with the inner vanes nearly crossed by rufous oviform blotches, and all finely tipped with white; secondaries marked in the same way, but with the proportion of white at tips a little greater. Tail brownish black, with seven or eight transverse narrow rufous bands, which extend directly across some of the feathers, and only partially in others, tips white; legs and toes greenish yellow; claws black.

The majority of the specimens of this falcon, which I have seen, were killed near Cape Town, particularly about Wynberg and Constantia. I have also seen one which was obtained near Uitenhage, and have been told that it occurs not unfrequently in that part of the colony. Those that were procured near Cape Town exhibited the remains of small birds, rats, lizards, &c. in their stomachs.

Obs.—The first specimen of this species which I obtained exhibited an immature plumage, and, from the general appearances, I set it down, without hesitation, as the young of the *Falco Peregrinus*. More extended observations have, however, now induced me to view it as different, and to place it next to that, from the great similarity there exists between them. I am much afraid we are too anxious to discover iden-

tities; and the search after such is materially retarding the advance of the science. It is much easier to get rid of a name than to detect the existence of two species, when embodied in one description, and therefore it appears to me best, when a doubt can justly exist as to identity, to consider the objects, especially if their habitats be very apart, as distinct species.

FALCO RUPICOLUS. Daud. Roodevalk. Steenvalk, of the Colonists.

Falco capensis. Shaw, vol. 7, p. 192.—Le Montagnard, *Le Vaillant Ois. d'Afrique*, pl. 35.

F. capite saturate cæruleo-griseo, dorso et humeris rufis nigro maculatis; gula alba; pectore, rufa lineis longitudinalibus nigris variegato, abdomine rufa maculis nigris notato; remigibus subnigris, pogonius internis alba lineatis, cauda rotundata, grisea fasciis nigris transversis variegata.

Male.—Bill bluish black towards tip, bluish white at base; cere yellow; eyes brown; head, together with the back and sides of neck, dark slate color, with each feather marked along the centre by a longitudinal slender black streak; interscapulars and back deep rufous, with small black spots or longitudinal streaks; shoulders and scapulars deep rufous, with irregular or somewhat triangular black spots; chin tawny; breast rufous, variegated with longitudinal black lines; belly rufous, with black spots; vent and thighs tawny, without variegations. Primary and secondary wing coverts black, with irregular tawny white transverse bands; primary wing feathers black, with the inner vanes nearly completely crossed by numerous white indentations; secondaries blackish, with both vanes crossed by irregular rufous bands. Tail dark bluish gray, with seven or eight black bands, all very narrow, except the last, which is nearly an inch in width; on the three outermost feathers of each side the black only appears upon the inner vanes, but on the rest it crosses both; all the feathers are broadly tipped with white; legs and toes yellow; claws black. Length from bill to base of tail six inches and a half; length of tail five inches.

Female.—Length from bill to base of tail eight inches; length of latter six inches; head brownish gray; back tawny rufous, with the variegations less numerous than in the male; chin and throat tawny white; breast and belly tawny brown, the former with longitudinal black streaks, and the latter with similar colored spots. In other respects nearly the same as the male.

Young.—Head and neck rufous tawny, with indistinct longitudinal black streaks; back and shoulders light rufous, with large irregular or triangular black spots; chin nearly white; throat light tawny rufous, with irregular streaks like those on the head; belly with the same ground color as breast, and streaked or spotted in front, but behind like the vent and thighs, without variegations; wing feathers all distinctly tipped with white, with the black tinge stronger, and the yellow of the feet, toes, and cere is less clear.

This hawk occurs very frequently in all parts of the colony, as well as in the country both to the eastward and northward of it. When in search of its prey it is generally seen soaring about in open country, but when disposed to rest it retreats towards mountains or rocky knolls, and there passes the night. In such situations, also, it constructs its nest, which it forms externally with dried twigs, and internally with hair and feathers: according to Le Vaillant, the eggs are of a rufous color, and often six or eight are found in the same nest. It feeds upon the smaller quadrupeds, lizards, &c.

FALCO RUPICOLORIDES

F. supra, subfulvus, capite colloque in longum nigro lineatis dorso et humeris fasciis brunneis transversis latis; infra flavo-albus, pectore lineis longitudinalibus nigris variegatis; abdomine lineis nigris aut maculis et hypochondriis fasciis transversis nigris; remigibus subnigris pogonius internis albo denticulatis; cauda grisea-alba sex aut septem fasciis nigris transversis notata.

Female.—Bill bluish black at tips, yellow at base of lower mandible, and bluish white elsewhere; cere dusky yellow; eyes a grayish sand color; head and neck tawny yellow; each feather with a narrow longitudinal black streak along its centre; interscapulars, back, and shoulders with a clear tinge of rufous, and the feathers crossed by broad dark brown bands, the tips all tawny yellow; tail coverts dirty white, with broad brown bands; inside of shoulders white, with here and there a minute black streak; sides of neck tawny yellow, varied by longitudinal black streaks; breast and belly tawny yellow, with the former marked by black longitudinal streaks, and the latter by streaks or roundish spots towards the centre, and by transverse blackish bands on the sides; thighs tawny; under tail coverts yellowish white. Primary and secondary wing coverts pale fulvous, with transverse black bands; primary wing feathers blackish, and the inner vanes with many white serratures or indentations; secondaries brownish black, with transverse fulvous bands upon both vanes, and all tipped with dirty white. Tail slightly rounded,

grayish white, with six or seven broad transverse black bands; all the feathers broadly tipped with white; legs and toes yellowish; claws black. Length from bill to base of tail nine inches; length of latter seven inches.

The only specimen of this species which I have seen, was killed on the banks of the Groene river, in little Namaqualand. In manners it resembles the last described species, and was observed to resort during the night to similar situations.

GENUS. BUTEO, Auctorum, BUZZARD

<i>Rostrum mediocre, subdebile;</i>	Beak mediocral, rather weak;
<i>nares subrotundatae. Tarsi breves; acrotarsia scutellata.</i>	nostrils somewhat rounded. Tarsi short; acrotarsia scutellated.
<i>Remex quarta longissima.</i>	Fourth quill longest.

BUTEO JACKAL. Jakhalsvogel of the Colonists.

Falco Jackal, Shaw, vol. 7, p. 173.—Le Rounoir, *Le Vaillant*, p. 73, pl. 16.

B. supra nigricans, gula nigra; pectore caudaque rufis; abdomine nigro albo lineato, tarsis flavis.

Male.—Bill black, with the exception of a little of the lower mandible at its base, which, with the cere, is a dull yellow; eyes dark brown; head, neck, back, and shoulders black, or blackish brown; chin and throat of the same color; breast deep chestnut or ferruginous red; belly, under tail coverts, and, thighs black, all the feathers broadly tipped with white or ferruginous red. Primary and secondary wing coverts black; primary wing feathers black, with a tint of hoary upon the outer vanes, and the inner ones towards quills broadly edged with, if not altogether, white; secondaries bluish gray, with many transverse narrow black bands; the very tips of some of the feathers are white, and in all, immediately behind that, an inch or an inch and a half of uniform clear black. Tail short, nearly even, and deep chestnut or ferruginous red, each feather marked by a black blotch close to tip, and all more or less mottled with white towards quills; legs and toes dull yellow; claws dark horn colored. Length from bill to base of tail twelve inches; length of latter eight inches.

Female.—Size rather greater than that of the male, and, if any thing, the colors are less deep and clear; and the extent of red below is usually greater.

Young.—Bill black, with a very slight appearance of yellow at base of lower mandible; cere dull yellow; eyes grayish brown; head, neck, back, and shoulders dark brown, most

of them with blackish brown centres, and tawny edges and tips. Below pale tawny or clear chestnut, with the throat and sides of the neck marked by longitudinal black blotches; primary wing feathers black, with more or less of a hoary tinge upon outer vanes; secondaries blackish brown, with the inner vanes broadly edged towards quills with grayish white; tail reddish gray, with each feather crossed by ten or eleven narrow blackish transverse bands, and with a reddish white tip; the inner vanes towards quills nearly pure white. When viewed below the whole of the feathers appear nearly of an uniform white. Length of tail eight inches.

This species occurs throughout the whole of the colony, and also, at least to a considerable distance, beyond it. It is usually seen in the vicinity of inhabited places, and generally resorts to trees or bushes about such spots, to rest during the night. The male and female are most commonly seen together, or at least in the same neighbourhood. Their food consists of the smaller quadrupeds, birds, lizards, &c., and they very often prove destructive to the poultry of the African colonists. The female builds her nest upon trees commonly at no great distance from the resorts of man, construct it externally of dry twigs, leaves, &c., internally of feathers, hair, and such like materials, and lays from three to four eggs, which are about the size of those of the common domestic hen.

Obs.—As scarcely any two specimens of this buzzard exhibit even nearly the same tints or distribution of colors; it is difficult to give such a description as will enable the reader to detect the bird if found in the intermediate stages between youth and maturity, when the diversities are most strikingly exhibited. In specimens a little advanced, the most ready means of detecting the species will be a reference to the tail; which, in all, after a certain age, has the ground color of a deep chestnut or ferruginous red; and each feather either marked by a black blotch near the tip, or by transverse black bands. When less advanced, the ground color, though it be not as just described, yet evidently inclines to that, and exhibits, particularly towards the quill, a strong ferruginous tinge. The inner vanes of the feathers, particularly towards quills, will also be found to have a considerable share of white, more or less pure, and the whole of the under parts of the body to be of a rufous or tawny tint, of different depth in different parts; and only, if at all, variegated by irregular blackish or brownish black blotches.

BUTEO LAGOPUS.

Falco Lagopus, Gmel. Syst. 1, p. 260, sp. 53. — Lath. Ind.

Orn. vol. 1, p. 19.—*Merey Tasschenb. Deut.* vol. 1, p. 37.—*Falco Olumpipes*, *Daud. Orn.*—*Falco Selavonicus*, *Lath. Ind.* vol. 1, p. 26, sp. 54.—*Buse Gantée*, *Le Vaill. Ois. d'Afrique*, vol. 1, pl. 18.

(To be continued.)

Contributions to Physical Geography.

(From the *Edinburgh Journal of Science*, No. III.)

1. Description of the Falls of Gersuppah in North Canara.

The following description of the falls of Gersuppah, in North Canara, appears in a letter, published in a Madras paper; they are represented to be the grandest in the world.

"The falls are situated at the distance of a mile to the west of a small village called Kodakainy, which forms the boundary of the Bilghy Talook, in North Canara, and lies contiguous to the Sagara district of Mysore, receiving a continual supply of water from twelve streams, which conjoin, as the name implies, at Baringee, in Mysore; five of these pursue their course from Ramachendapoorah; four from Eutty Pettah, or the town of Victory, so named by Hyder; and the remaining three at Koodolee; and after being precipitated down the cataract, and then gently winding the current through a rugged way, which it has forced through the base of the mountains at the verge of their declivity, widens at Gersuppah, and forms a beautiful river, called Sarawati, navigable for sixteen miles for boats to the town of Honore, where it falls into the sea.

"Like most other places to which the natives have given names from something remarkable in their soil or site, this was called *Gersuppah*, because the ground, before the buildings had been erected, was covered with cashew-nut trees; *Ger*, signifying in Canarese, the tree of this description; and *Sooppah*, a leaf.

"It was asserted by the bramin who accompanied me, in their usual exaggerated style, that the old city here contained, in its flourishing state, a lakh of houses, and I have no doubt, from the extent of the ruins, that its population may have been above half that number. Out of seventy-four temples called *Burty*, there remains but one, well constructed of granite, covered with a stone roof, where the *Chatour Mookee*, or four-fronted idol of the Jain caste (the then inhabitants) sits, surviving the homage of its long silent worshippers, a prey to the moles and to the bats.

"On leaving Gersuppah, we commenced the arduous undertaking of ascending the Ghauts. The pass here is neither so