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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; and Corresponding Member of the Zoological and Horticultural Societies of London.

For the botanist, South Africa has long formed a favorite retreat, and has been one of the sources from whence he has for years past been accustomed to gather many of the finest and rarest productions of the vegetable kingdom. Fashion, together with such decided liberality towards that the least offensive of nature's departments, have tended hitherto to maintain the superiority so much in favor thereof, that the riches of the other kingdoms have, in a great measure, been overlooked. Indeed, were it not for the writings of the indefatigable and accurate Le Vaillant, the world would scarcely have yet the means of ascertaining whether life existed there in any other form than that in which it occurs in plants. The revolutions which have lately taken place in the scientific world, or, at least, in a part thereof, give us reason now to hope that inquiry will be more divided and equalized, and that every branch will receive that degree of consideration which their common origin equally demands from those who are ambitious of understanding the general scheme of creation.

The naturalist who selects Southern Africa for the site of his exertions, can scarcely err in the choice of a department, as all are prolific in the extreme, and it is only by the observer who is unacquainted with the characters of diversities, that any thing like limitation or deficiency can be experienced. The native quadrupeds already known amount to a very considerable number, but are yet imperfectly described, particularly the smaller species. Of such also there is scarcely a part of the country that does not still contain nondescripts, and we have only to observe where vegetable or animal productions occur of a description different to those we have found constituting the food of species already known, to enable us to extend discovery. Solitary changes appear inconsistent with the design of nature, so that whenever a novelty is discovered it follows almost as a matter of course, that others exist upon which the one or the other depends. Thus a change in the character of vegetation is generally attended with a change in the insect tribes, and a change of those again with a corresponding one in the smaller quadrupeds or birds.

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In the feathered race the variety is still more conspicuous, and, taking Temminck as a guide in estimating the number of European birds, it will suffice to support our conclusion, simply to state that within the British colony at the Cape of Good Hope, there are to be found at least one hundred more species of birds than in the whole of the quarter of the globe he alludes to. The plumage of those in our domain cannot certainly be held out as in general particularly splendid, yet at the same time there are not wanting instances of great beauty; but if the diversity and adaptation of characters and instincts in the various individuals be only considered, there will be found sufficient to entice and engage attention without the really less important and interesting commendation, that of fine feathers. In the class of reptiles, here are the means of making numerous additions to science; not only as regards the description of non-descript species, but also as to classification. The diversity of forms under which they occur, and the peculiar characters and habitats which each variety appears to maintain, furnish good hints for divisions; and, if such alone be regarded, they will enable the naturalist to decide upon proper positions, without direct reference to formation, though that will be found upon inquiry, to support the conclusions deduced from such like observations. Hence exist two methods of arranging the objects of animated nature, and whether the one or the other, or both, be followed, the conclusions of the accurate observer will, I am convinced, be the same.

Of insects there are a very great variety, and the principal portion of them is marked by much beauty of coloring, as well as by numerous interesting characters. From the huge elephant to the smallest flower, all here furnish the entomologist with specimens, and there is scarcely an object upon which he can cast his eye, or to which he can direct his research, that will not supply him with the means of increasing his collection. Besides this extreme multiformity in the land productions, the ocean is not less prolific, and to survey the variety of fishes and other marine productions which present themselves in our seas and about our shores, is almost enough to petrify exertion, and generate a belief of the impossibility of ever unravelling all the mysteries of creation. Let us, however, take spirit and console ourselves in knowing that if we do but little, that little will assist in rendering the labour of our successors less difficult, and will concur towards illustrating the beauty and wisdom, connection and dependence, which a thorough knowledge of the animal kingdom will doubtless one day display. The results, upon such being attained, will prove the utility of the study, and will doubtless dispense knowledge and benefits to society of which we cannot at pre-

sent even form the slightest conception. The study of nature, as a popular author* remarks, even when viewed apart from science, "is one of the most pleasing occupations that can engage the attention of reasonable beings. The naturalist reflects upon hidden things, investigates by comparison, and testifies by experience. Perhaps none of the amusements of human life are more satisfactory than the investigation and survey of the workings and ways of Providence in this created world of wonders, filled with his never absent power. The study of nature occupies and elevates the mind, is inexhaustible in supply, and, while it furnishes meditation for the closet of the studious, gives to the reflections of moralizing rambles admiration and delight, and is an engaging companion that will communicate an interest to every rural walk." Such then entitles the birds of South Africa as a portion of the grand system to a share of our consideration, and to them I shall now proceed.

Ordo I. RAPTORES. III.

Fam. VULTURIDÆ.

Caput collum que plus minusve nuda; rostrum præcipue forte, ad apicem aduncum basè lati cerigerum glabrum aut pilorum, simplex aut carunculatum, nares laterales in ceromate posita, ovales, interdum, elongatæ, plerumque apertæ; pedes nuda; tarsi reticulati. Digiti externi membrano connexi. Ungues validi subincurvi, vix retractiles.

Head and neck more or less divested of feathers; bill very strong, hooked at the point, and with a broad cere at the base, which is either bald or hairy, simple or carunculated; nostrils lateral, situated in the cere, sometimes elongated, for the most part open; feet naked; tarsi reticulated; outer toes connected by membrane; claws strong, slightly curved, and scarcely retractile.

Genus. VULTUR. Auct.

<i>Caput collum que implumes;</i>	Head and neck naked;
<i>rostrum basi rectum, supra</i>	straight at the base; convex
<i>convexum, haud carunculatum.</i>	above and without caruncles.
<i>Nares transversæ, basales;</i>	Nostrils transverse and basal;
<i>pedes fortes.</i>	feet strong.

1. VULTUR FULVUS.—White Assvogel of the Colonists.

Vultur fulvus Gmel. Syst. 1, p. 249, sp. 11.—*Vultur Lenccephalus Meyer Tasschenb Deut. v. 1, p. 7.*—*Vultur perenopterus Daud. Ois. v. 2, p. 13, sp. 7.*—*V. trencalos, Bech. Naturg Deut. v. 2, p. 479, sp. 2.*—*Le Perenoptere Buff. Ois.*

* The Journal of a Naturalist, page 51.

v. 1, p. 149, pl. enl. 426. — Le Griffon Buff. Ois. v. 1, p. 151, tab. 5. — Savigny Syst. d. Ois d'Eg. p. 11. — Vultur Kolbis Lath. Ind. Orn. Supp. vol. 2, p. 1. — Le Chasse-ciente Le Vaill. Ois d'Afriq. vol. 1, pl. 10.

V. griseus seu albus, capite nuchaque setis subalbidis tectis; parte inferiore cervicis nuda, remigibus primioribus nigris, secundariis præcipue subgriseis; rectricibus nigris griseo umbratis, rostro, pedibusque lividis; unguibus nigris; oculis subrutilis.

Head and nape covered with dirty short whitish hairs, or bristles; lower part of cervix bare, and of a bluish colour; lower part of throat, and middle of breast, covered with short bristly grayish brown feathers; rest of throat, sides of neck, and upper part of cervix, with fine whitish down, and bristles resembling those of the head. Skin, as seen through these coverings, between livid blue and purple; lower part of neck behind with a frizzy ruff of short white feathers: plumage of upper and under parts white, or a pale blossom color; primary quill feathers black; secondaries grayish, shaded with black towards their vanes; tail rounded, and composed of fourteen black feathers, tinted with gray. Bill, legs, and toes, livid blue, with shades of dirty green; claws black; eyes light yellowish red; length from three feet, to three feet six inches; breadth from tip to tip of wings, about eight feet. The feathers of the back, shoulders, breast, belly and legs, have their tips rounded or semicircular. The male and female are of the same colour, and the latter considerably exceeds the former in size.

Young.—During the first year the prevailing color is dark brown, variegated by narrow longitudinal streaks of light reddish yellow or pale fulvous, one along the centre of each feather; the head is covered with a dusky white down, as is likewise the upper part of the cervix and sides of the neck; the throat and centre of the breast are dark brown; the primary and secondary quills, together with the tail, are brownish black; the bill and legs are blackish; the eyes are dark brown, and the skin of the head is a dirty sulphur yellow. The ruff on the back of the neck is distinctly marked, and composed of long, narrow, pointed, soft, and silky brown feathers, many of which are re-curved towards the head. After the first moulting, the plumage, which is that of the second year, is considerably lighter in color, and commonly the centres of all the feathers, but particularly of the breast and belly are much less dark than the other parts thereof. From this stage each successive annual change is marked by a diminution of the depth of the color; yet, nevertheless, it requires several years to pass from the tint of the first feathers, to that of the faint issabella hue, which announ-

ces the approach of maturity. As age advances, the front, and from that the head, become covered with hair, and about the time when the white feathers begin to make their appearance, the last named part, and more or less of the neck, exhibit the mixed coating alluded to in speaking of the old bird.

Obs.—Having never had an opportunity of comparing the species just described with specimens of the *Vultur Fulvus* of Europe, I follow the example of the illustrious Temminck* in viewing them as identical. At the same time however, it must be acknowledged, that a variety of circumstances concur to create doubts as to the justness of the conclusion; such as—In the Cape bird, the eyes in adult specimens, are light reddish or reddish yellow, in those of Europe, as stated by the author just mentioned,† they are hazel; in ours the cere is livid, in his it is flesh colored; in ours the extreme length rarely exceeds three feet eight inches, in his it usually measures four feet; in ours the centre of the breast is covered with short grayish brown feathers, in his with white down; in ours the head is covered with a dirty dusky hair, in his with short white down. In our young specimens the color is dark brown, with reddish yellow variegations, in his a very clear tawny, with grayish white blotches, or sometimes pure white tints. The *Chassfiente* of Levaillant,§ is certainly an immature example of the Cape species, and in or near that stage in which the greatest number of South African specimens are obtained.

Its food consists of carrion and offal of every description, and thus often life can scarcely be said to have left an animal before it is consumed by a flock of Vultures. They build their nests in crevices of rocks, lay one or two eggs, and occur in great abundance throughout the whole of the South of Africa.

2. VULTUR AURICULARIS.—Zwarte Aasvogel of the Colonists.

Vultur Auriculatus, Shaw's *Zoology*, vol. 1, p. 24. *V. Ponticerianus*, Shaw, vol. 7, p. 25, pl. 10, Temminck, *planch*, vol. 2. *L'Oricou Le Vaill.* tom. 1, pl. 1.

V. fuscus seu nigrofuscus; collo nudo, cute auriculari pro-ducta torque cervicali, purpuria aut rubra.

Bill strong; tip of upper mandible yellow; rest of that and the lower greenish yellow or horn color; cere bluish; eyes dark brown; skin of head, and unfeathered portion of neck, vermilion or livid purple, with white variegations; the head thinly covered with a brownish white down and some black

* Manuel d'Ornithologie, tom. 1, fol. 6, seconde edition.

† *Id.*

§ Les Oiseaux d'Afrique, par M. le Vaillant, tom. 1, fol. 44,

hairs; the neck bare, or with a still more scanty covering of the like materials; and on each side thereof a thin fold of loose skin, extending downwards and forwards several inches below the ears, usually about one inch in breadth, and similar in color to the head. Throat, and middle of breast, covered with fine short black feathers; back of neck with a ruff of long narrow coarse brownish feathers, many of which are turned forwards; lower part of cervix, back, and shoulders, dark brown, many of the feathers margined with a lighter tint; quills and tail black, with the latter consisting of twelve feathers. Under parts brownish black, the feathers long, narrow, somewhat curved, and broadly edged with white towards their bases, and narrowly with dirty light brown elsewhere; thighs with a few brownish feathers on their outer sides, but their principal covering is a fine reddish brown down; legs and toes pale bluish, with a tinge of green; claws dark horn coloured, inclined to black; length about three feet four or six inches; expanse of wings ten feet. In this species the back and shoulders are generally mottled by an intermixture of white feathers, having the tips more or less semicircular,* which circumstance, together with the other feathers being to a certain extent pointed, renders it probable that the plumage of the mature bird is nearly all white, and that the specimen seen by Burchell† was one of the present species in that stage.

Young.—In immature specimens the bill is more of a dark horn colour; the eyes are a more deep brown; the upper part of the head and neck have a more dense coating of brownish white down; the throat, and centre of the breast, are nearly the same at all ages; the color of the skin, neck, and auricles is less bright, and the latter are rather smaller. The back of the neck is without the ruff, at least the feathers are not longer there than elsewhere, though a little more frizzy; the plumage above is dark brown, the feathers edged and tipped with dirty rufous; the quills and tail are of a less dense black than in aged specimens; the feathers of the breast and belly are narrower and straighter, of a lighter tinge, and with the edges and tips of a dirty light brownish white; the thighs are covered with a whitish down;‡ the legs and toes are of a fainter bluish green, and the claws are more horn coloured. Before the feathers appear, the bird is covered

* Having observed that a change in the form of the tips of feathers usually takes place in various Vultures, and other birds of prey, at times when they are in their most vigorous and perfect state, I am inclined to believe that, eventually, such will enable us to discriminate between mature and immature specimens; at least, of certain genera.

† Burchell's Travels in South Africa, vol. 2, page 194.

‡ The color of the down of the legs seems to vary without any regular rule, and, therefore, requires more observation in order to decide in what stage, or in what sex, it exhibits the one hue or the other.

with a fine, short, white down, which never leaves the breast and belly.

This species builds its nest sometimes in trees, and at other times in rocks, lays one or two eggs, and that in the months of October or November. It occurs throughout the whole of South Africa, but much less abundantly than the last described, and though considerably superior in size to it, is, nevertheless, inferior in point of courage and strength. It is often seen where carrion exists, yet rarely ventures to approach thereto, till those of the other species have deserted it, which happens only when they are satiated, or the flesh becomes putrid and very scanty.

3. VULTUR OCCIPITALIS. Burchel.*

Corpus supra fusco-nigrum subtus album. Caput lanugine alba tectum occipitali reversa. Colli pars superior nuda posterior plumis patentibus nigris et anterior depressis brevissimis albis tecta. Remiges rectrices que nigrae; rachidibus supra nigris subtus albis. Tibiae (femora) plumis albis dense vestita; rostrum et pedes incarnata. Orbita denudata colli pars et cera alba, unguis nigri. Lingua brevis integra apice rotundata basi sagittata laciniata.

Bill and feet flesh coloured; bare part round the eyes white; irides of the color of burnt umber; top of the head covered with a white feathery wool, which, at the back part, is longer and stands in a reversed position. Color above blackish brown, but the thighs, and under parts of the body and neck are white; quill feathers, and those of the tail black. The part of the neck which is bare, together with the base of the beak, white; the expanse of the wing is seven feet.

A Vulture of a different species to either of the two first described, is not unfrequently met with in the northern and eastern parts of the colony, and though I have often seen examples thereof, yet I have never been able to procure one for examination. From the description of the species procured by Burchell in the Bechuana country, I am inclined to believe it is identical with the one under consideration, and, from the lack of a more detailed description, I have introduced his mostly in his own words. Were I satisfied that the species to which Burchell's trivial name is applied by Rupell,† was the same, I should have no difficulty in supplying from the description of the latter, whatever might be wanting in that of the former. But, as the reverse is the case, I shall, until such time as I have an opportunity of comparing the characters of the South African species, consider the two as distinct.

* Burchell's Travels in South Africa, vol. 2, page 329.

† 16.

† Atlas zu der Reise im Nordlichen Afrika von Eduard Rupell, erste Abtheilung Zoologie, page 33, tal. 23.

Genus. **NEOPHRON.** *Savigny.*

*Caput antcrius nudum; col-
lum plumosum, rostrum per-
gracile elongatum, mandibula
inferiore deorsum curvata go-
nyde nullo. Nares longitudi-
nales, ovaies antrorsum spec-
tantes; remes, 3tia. longissima,
rectrices quatuordecem.*

Anterior part of head naked;
neck feathered; bill slender
elongated; lower mandible in-
clined downwards, without go-
nys. Nostrils longitudinal,
oval, directed forwards; third
quill feather longest; tail com-
posed of fourteen feathers.

*Vultur Lin. Lath. Gin. Gypaetos Bechstein. — Cathartes
Meyer, Temminck. — Peronopterus Cuvier. — Catharista Vieillot.*

1. **NEOPHRON AEGYPTIACUS.** *Sav. — Witte Kraai of the Colonists.*

*Vultur Peronopterus Gin. Syst. 1. 249, sp. 7. Lath. — Vultur
Leucocephalus Lath. Ind. orn. v. 1. sp. 2. — L'Ourigourap. Vaill.
Ois. d'Afrique, pl. 14. — Le Peronoptere. Cuv. Reg. Animal, v. 1.*

*V. albus; remigibus nigris; crista occipitali, cauda albida,
cuneata.*

Bill horn coloured; cere, forehead; space round the eyes;
cheeks, ears, chin, and part of the throat bare, and of a yellow
or saffron color; eyes light reddish brown; plumage white,
usually tinted with yellow; feathers of nape narrow, elongated,
and pointed; primary quill feathers black; secondaries gray-
ish black, with the outer vanes more or less broadly margined
with white; tail fan shaped, and pure white; legs and toes
dirty greenish white, sometimes inclined to reddish yellow;
claws dark horn coloured; length, from one foot ten to two feet
two; expanse of wings about five feet. The female is a little
larger than the male, but of the same color.

Young.—The prevailing color varies between a black and a
brown. In all the specimens I have yet seen, the feathers of
the neck, particularly of the cervical portion, have been of a
deep black tinge, and of a long narrow pointed form. Those
of the shoulders and interscapular region blackish brown,
with, in some instances, chesnut coloured spots towards tips;
and in others, large whitish or grayish red blotches. The
back and rump feathers are usually of a lighter tint than the
parts just mentioned, and the breast and belly vary, being
brown, rufous brown, or blackish brown in different speci-
mens. The crown of the head, and the skin and upper part of
the breast, when the bird has just acquired its feathers, are
covered with a dirty whitish down, and that becomes more or
less interspersed after a few weeks with black hairy feathers.
The bare parts of the head are a livid red, varying in many
places to a fine yellow; the cere is yellowish; the upper man-
dible is livid horn coloured, and the lower greenish yellow;
the tarsi and toes are bluish yellow; the claws black, and the
eyes dark brown.

Wherever travellers have penetrated, specimens of this bird have been met with, and though nowhere congregated in numbers, yet the individuals are so numerous, that there is scarcely a farm-house in the colony, or a kraal, or a temporary resting place for travellers beyond it, which are not once or oftener in the course of the day visited by one or more of them. In their flight they are constantly in search of carrion, which forms their only food; and it is with a view of procuring such that they resort to the localities just mentioned. They build their nests in crevices of rocks of difficult access, and lay one or two eggs.

2. NEOPHRON CARUNCULATUS.—*Smith.**

N. obsкуро-fuscus; caput et pars superior gutteris purpurea et nudata, ultimum carunculis parvis transversis albis octo aut decem; irides fuscae.

Bill greenish black towards base, dark horn colored near tip; eyes dark brown; front, crown, sides of head, and upper part of throat bare, and of a purple color, with eight or ten white transverse caruncles on the latter; nape, upper part of neck, and lower part of throat covered with a light reddish brown down, and between that of the latter and the caruncles already mentioned, a large oval patch of black down; lower part of cervix, interscapulars and back deep brown; the feathers all edged and tipped with a lighter tint; shoulders nearly the same; primary quill feathers blackish, with a grayish tinge towards quills; secondaries blackish brown, with the color of the tips and edges lighter than that of the centres; thighs covered with a white down in addition to some long brown feathers on the outer sides; legs and toes pale greenish blue; claws black. Length two feet two inches; breadth from tip to tip of wing five feet six inches. Inhabits the North-East frontier of the colony, and is not uncommon towards the sources of the Orange River.

Obs.—This species in most of its characters resembles the genuine Neophron, whilst, in the want of feathers on the throat, it approaches the Vultures. The Vultur Occipitalis of Ruppelt is described as having slight transverse caruncles upon the upper part of the throat, but the form of its bill, and its other characters, clearly bespeak its position to be in another genus.

(To be continued.)

* *South African Advertiser*, May 13, 1829.

† *Atlas zu der Reise im Nordlichen Afrika von Eduard Ruppelt, erste Abtheilung Zoologie*, page 33, taf. 22.