

NORTHERN ZOOLOGY.

PART II.

A V E S.

RAPTORES.

VULTURIDÆ.—VULTURES.

[1.] 1. SARCORAMPHUS CALIFORNIANUS. (Vigors.) *Californian Vulture.*

GENUS. *Sarcoramphus*. DUMERIL.

Vultur Californianus. SHAW. *Nat. Mis.*, ix., pl. 301.

Californian Vulture. LATH. *Syn. Suppl.*, ii., p. 3.

Vultur Californianus. IDEM. *Ind. Suppl.*, p. 2.

Buzzard. LEWIS & CLARK. *Journ., &c.*, iii., p. 48, No. 4.

Cathartes Vulturinus. TEMM. *Pl. col.* 31.

Cathartes Californianus. BONAP. *Syn.*, p. 22.

Sarcoramphus Californianus. VIG. *Zool. Journ.*, ii., p. 375.

Vultur Californianus. DOUGLAS. *Zool. Journ.*, iv., *January*, 1829, p. 328.

THIS great Vulture is an inhabitant of the shores of the Pacific, and was first introduced to the notice of naturalists by Mr. Menzies, who brought a specimen from California, and deposited it in the British Museum. It has not been discovered to the eastward of the Rocky Mountains, and I can, consequently, make no addition to its history from personal observation; but Mr. David Douglas has given an interesting account of the habits of the species in the *Zoological Journal*, from which the following notices are extracted. He represents it as a common bird in the woody districts of California, which he met with in the summer as far north as the forty-ninth degree of latitude; but nowhere so abundantly as in the valley of the Columbia, between the Grand Rapids and the sea. "They build," he says, "in the most secret and impenetrable parts of the pine forests, invariably selecting the loftiest trees that overhang the precipices on the deepest

and least accessible parts of the mountain valleys. The nest is large, composed of strong thorny twigs and grass, in every way similar to the nests of the eagle tribe, but more slovenly constructed. The same pair resort for several years to the same nest, bestowing little trouble or attention in repairing it. They lay two nearly spherical jet-black eggs, about the size of those of a goose. They hatch generally about the first of June, and the period of incubation is twenty-nine or thirty-one days. The young are covered with thick whitish down, and are incapable of leaving the nest until the fifth or sixth week. Their food is carrion, or dead fish: in no instance will they attack any living animal, unless it be wounded and unable to walk. Their senses of smelling* and seeing are remarkably keen. In searching for prey, they soar to a great altitude, and on discovering a wounded deer, or other animal, they follow its track until it sinks, when they descend precipitately on their object. Although only one bird may be at first in possession of the carcass, few minutes elapse before the prey is surrounded by great numbers, and it is then devoured to a skeleton within an hour, even should it be one of the larger animals, a stag, for instance, or a horse. Their voracity is almost insatiable, and they are extremely ungenerous, suffering no other animal to approach them while feeding. After eating they become so sluggish and indolent, as to remain in the same place until urged by hunger to go in quest of another repast. At such times, they perch on decayed trees, with their heads so much retracted, as to be with difficulty observed through the long, loose, lanceolate feathers of the collar. The wings, at the same time, hang down over the feet. This position they invariably preserve in dewy mornings, or after rains. Except after eating, or while guarding their nest, they are so excessively wary, that the hunter can scarcely ever approach sufficiently near even for buck-shot to take effect on them, the fulness of the plumage affording them a double chance of escaping uninjured. Their flight is slow, steady, and particularly graceful, gliding along with scarcely any apparent motion of the wings, the tips of which are curved upwards in flying. They are seen in greatest numbers, and soar highest, before hurricanes or thunder-storms. Their quills are used by the hunters as tubes for tobacco-pipes."

DESCRIPTION

Of *male* and *female* specimens shot by Mr. Douglas, in lat. $45\frac{1}{2}^{\circ}$ N., and now in the Museum of the Zoological Society. The sexes are alike in plumage, but the female is a size larger.

COLOUR of the plumage in general brownish-black. On the back and lesser wing-coverts the feathers have narrow margins of pale umber-brown. A white band crosses the wing on

* Mr. Audubon, in a highly interesting paper published in the *Edin. Ph. Journal*, states, that the Vultures are entirely guided by sight, and not by smell, in the discovery of their food.

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the tips of the greater coverts. The tail is black to the extremity. The feathers clothing the lower part of the neck, and those on the breast, have each a narrow, pale, shining streak along its shaft, which contributes to give them a more pointed appearance. There is a white longitudinal band on the flank, and a broader one, opposite to it, on the lining of the wing, that includes the whole of the greater inner coverts. Thighs black. *Bill* glossy yellow. "*Irides* pale red, and the pupils light green." A triangular space, between the nostrils and crown of the head, is rather thinly clothed with short black hairy feathers; and there are also a few feathers on the lores, but the rest of the head and neck is covered with smooth naked skin, which, on the former, "has a deep orange colour, and on the latter a brownish-yellow, with bluish changeable tints." *Legs* bluish-black.

FORM, &c.—The *head* is small, scarcely exceeding the neck in diameter. The *bill* is three inches and a half long; the ridge of the upper mandible is straight, and is produced to its hooked tip, nearly in the same line with the flattish crown of the head; its cutting margin is undulated, there being an obtuse lobe immediately anterior to the cere; and another smaller one, but equally well marked, on the horny part of the mandible. The line of union of the point of the bill with the cere, is deeply indented, the former sending an angular process backwards towards each nostril. The angle of the mouth does not extend quite so far back as the orbit. The *nostrils*, of an oblong-oval form, are longitudinal, with a slight degree of obliquity, and are situated rather nearer the ridge of the mandible than to its cutting margin. The *auditory opening* is semi-oval and naked. The feathers on the base of the neck have lengthened lanceolate tips, and those immediately adjoining the naked skin stand out, so as to form a kind of ruff, from which there is a gradual transition to the smooth-lying plumage of the breast. All these feathers have detached flexible barbs, their tips alone being more compact. The naked skin extends down to the crop on the forepart of the neck, but it is not so conspicuous below as in the Black Vulture (*Cathartes atratus*), being nearly concealed by the ruff just mentioned. The folded *wings* reach a little beyond the tail; the third quill feather is the longest. The *tail* is even, and consists of fourteen feathers, which are rounded at the ends. The *tarsi* are naked, and are protected anteriorly by large oblong transverse scales, or *scutelli*. The *toes* are long and slender, and are scutellated above, nearly their whole length. The middle one is the longest, and it is connected to the lateral ones at the base by webs. The hind toe is short. The nails are short, and slightly curved.

DIMENSIONS,
Copied from Mr. Douglas.

| | Inches. | | Inches. |
|-------------------------------------|---------|---|---------|
| Length | 56 | Circumference of the neck | 9 |
| Circumference of the body | 40 | Length of the body | 24 |
| Length of the beak | 3½ | Extent between the tips of the wings, (9 ft. 8 in.) | 116 |
| Circumference of the head | 9 | Length of the tarsus | 4¾ |
| Length of the neck | 11 | „ of the tail | 15 |

DIMENSIONS
Of the larger specimen when mounted.

| | | | |
|--|----|---|---|
| Length from the tip of the bill to the end of the tail | 48 | Length of the bill, following its curve from tip to | |
| „ of the tail | 16 | nostrils | 3 |
| „ of the bill from the angle of the mouth | 3 | | |

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[2.] 1. CATHARTES AURA. (Illiger.) *Turkey-Vulture.*

GENUS. Cathartes. ILLIGER.

Turkey-Vulture, or Turkey-Buzzard. (*Vultur aura.*) WILSON, ix., p. 96, pl. 75, f. 1.Cathartes Aura. ILLIGER. *Prod.*, p. 236. BONAP. *Syn.*, p. 22.Wannah-kæoo (*Bald-head*). CREE INDIANS.

Wilson informs us, that in the northern and middle sections of the United States, the Turkey-Vultures are partially migratory, the greater part retiring south on the approach of cold weather; but that considerable numbers remain all winter as far north as New Jersey. They breed, he says, in the month of May, among the secluded swamps of that State; the female laying two or four eggs of a soiled-white colour, splashed all over with chocolate mingled with blackish touches, particularly towards the great end. The place selected for the nest is generally the decayed stump of a tree; the male watches while the female sits; and, if not disturbed, they will occupy the same breeding-place for several years. The young are clothed with a whitish down, and have the habit, when handled, of vomiting the offensive contents of their stomachs upon their incautious disturber. The Turkey-Vulture is said to be an occasional visitant of Nova Scotia, and Lewis and Clark observed it on the banks of the Columbia*. In the interior of the continent, however, its summer migrations reach a considerably higher latitude than they do either on the Atlantic or Pacific coasts, owing, probably, to the greater warmth of the summer in the inland districts more speedily producing the necessary putrefaction in the animal substances on which it feeds. Following the direction of the Prairie Lands lying on the eastern side of the Rocky Mountains, it reaches the banks of the Saskatchewan, in the fifty-third parallel of latitude, late in the month of June, after the arrival of most of

* The following is an extract of a letter from Mr. David Douglas:—

“The *Vultur Aura*, or Common Turkey-Buzzard, is an exceedingly rare bird on the North-west coast of America. The few that I saw were on the low plains of the Multnomah, in the autumn and winter of 1826. Apparently it disappears at all other seasons; and, consequently, can be regarded as merely a bird of passage in that country. Lewis and Clark more than once mention this bird in their narrative; but, great as their authority ought to be respecting this common bird of the United States, I am induced to think that they mistook the *Vultur Atratus* for it, as the latter is one of the most common birds west of the mountains. On the low marshy islands of the Columbia, a solitary *Vultur Aura* is sometimes seen shunning and shunned by all others of his kindred. The Black Vulture, though a smaller bird, is bolder, masters the Turkey-Buzzard, and drives him away from the carrion. These two birds are assuredly distinct species, not varieties, as some have supposed. In Upper Canada, near Sandwich and Lake St. Clair, in 1823, I saw vast numbers of the *V. Aura*, and had every opportunity of watching their habits, to say nothing of the evident differences in their size and colour, and their dissimilar modes of nesting.”—D. D.

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the other summer birds. In the southern districts, where the Turkey Vultures are permanent residents, they are gregarious, roost in flocks, and are often seen in companies, soaring to an immense height; but on the banks of the Saskatchewan seldom more than one pair are seen at a time; and they were described to me as being in the habit of sailing along with great rapidity, in undulated lines, under the high banks of the river. I quitted that part of the country too early in the season to have an opportunity of seeing them; but the species has been identified by a specimen from thence preserved in the Museum of the Hudson's Bay Company.

The food of the Turkey Vulture is carrion, which it discovers from a great distance; and, when it has an opportunity, it will gorge itself to such a degree, as to be incapable of rising. It seldom or never attacks living animals, and is highly beneficial to the districts it frequents, by removing putrid substances.

DESCRIPTION

Of the Specimen in the Hudson's Bay Museum.

COLOUR, brownish-black, deepest on the neck, breast, belly, and between the scapularies. There are some purplish reflexions on the dorsal aspect, with a considerable degree of metallic lustre. The scapularies, secondaries, and greater and lesser wing-coverts, have paler margins. The quill feathers are brownish-black, with light umber-brown shafts; underneath they are lead-coloured. The tail is blacker. The naked parts of the head and neck are reddish, the legs are flesh-coloured, and the claws have a dark horn-colour.

FORM, &c.—The *bill* measures, from the angle of the mouth, two inches and a quarter, and is moderately thick and straight from its base to beyond its middle. The upper mandible is covered by cere for more than half its length, and its ridge is slightly arched; its horny point, an inch long, swells out a little, and has a more decided curvature; the cutting margin is undulated, the hook which terminates it is rather small. The under mandible has a deep spout-shaped cavity for the lodgment of its grooved tongue, and its tip is rounded. The *nostrils*, large, oval, naked, and pervious, are longitudinal, and placed nearer to the ridge of the mandible than to its cutting edge*. The wrinkled skin of the head and upper part of the neck is thinly clothed with short black hairs, mixed, on the upper aspect, with down of the same colour. The plumage of the lower part of the neck is full and compact, like that of the back, the feathers being rounded and closely tiled, not pointed and forming a ruff, as in the Californian Vulture; and the line of junction of the naked skin directly encircles the neck; while, in the Black Vulture, it descends obliquely in front. The crop is naked and wrinkled, but is concealed by the plumage of the neck swelling over it.

The tips of the folded *wings* reach to the end of the tail; the third and fourth quill feathers are the longest; the second and fifth are half an inch shorter; and the first is shorter than

* The Egyptian Vulture has a more slender bill, with an even cutting margin, and oblong transverse nostrils. The Black Vulture has a bill of an intermediate form, between that of the Turkey Vulture and Egyptian species.

the sixth, but considerably longer than the seventh. The inner webs of the first four quill feathers are narrowed or sinuated from near their middles; and the outer webs, from the second to the fifth inclusive, are also narrowed. The *tail* is rounded, the exterior feathers being an inch and a half shorter than the middle ones. The *tarsi* are naked, strong, and not very long, and are covered with small rounded convex scales. The *toes* are long, particularly the middle one, which is covered above to the base by transverse shield-shaped scales; the first phalanx of the outer toe is reticulated; the lateral toes are nearly equal to each other in length, and more than an inch shorter than the middle one, to the first phalanx of which they are connected by webs, the outer web being most conspicuous. The posterior toe is more slender and shorter than any of the anterior ones. The *nails* are moderately strong, short, and slightly curved.

DIMENSIONS.

| | Inches. | Lines. | | Inches. | Lines. |
|--|---------|--------|--|---------|--------|
| Length from the point of the bill to the end of the tail | 31 | 0 | to the tip of the bill, in a straight line | 2 | 3 |
| „ of the bill from the angle of the mouth | 2 | 3 | Length of the longest quill feather | 17 | 0 |
| „ of the bill, measured along its ridge | 2 | 6 | „ of the tarsus | 2 | 6 |
| „ of the horny tip of the bill | 1 | 0 | „ of the middle toe and its claw | 3 | 3 |
| „ of the long diameter of the nostrils | 0 | 6 | „ of the claw alone | 0 | 9 |
| „ from the anterior margin of the orbit, | | | „ of the hind-toe and claw | 1 | 2 |

[3.] 2. CATHARTES ATRATUS. (Nobis.) *Black Vulture*.

GENUS. Cathartes. ILLIGER.

Black Vulture, or Carrion Crow (*Vultur Atratus*). WILSON, ix., p. 104, pl. 75, fig. 2.Cathartes Iota*. BONAPARTE, *Syn.* p. 22, sp. 5.L'URUBU. (*Sub-genus, Les Percnoptères.*) CUVIER. *Regn. An.*, i., p. 317.

Carrion Crow. UNITED STATES.

I did not meet with this bird, nor have I seen specimens of it brought from the districts to which this work is confined; but it is introduced here on the authority of Mr. David Douglas, who says,—“Throughout the whole of the country that I visited to the west of the Rocky Mountains, the Black Vulture was, I might say, daily seen. In the upper countries around Spokane, Oakanagan, and on Lewis and Clark’s River, the plains of the Multnomah, and at Puget Sound, near camps or Indian villages, on the banks of rivers abounding with fish, or in

* We have not considered it expedient to apply to this bird the specific name of *Iota*, given by Molina to a Black Vulture of Chili. In the first place, there is no evidence to prove that it is the same as the Turkey-Buzzard of North America; and secondly, it must be remembered that the work of this author was “*fait de mémoire en Italie, et fort suspect en plusieurs endroits.*” (CUVIER, *Reg. An.*, iv., p. 143.) SW.

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places where deer are numerous, this bird is common * ” Mr. Ord informs us, that “ the Black Vultures are indolent, and may be observed in companies, loitering for hours together in one place. They do not associate with the Turkey Vultures, and are much darker in their plumage ; their mode of flight also varies from that of the latter. The Black Vulture flaps its wings five or six times rapidly, then sails with them extended nearly horizontally ; the Turkey Buzzard seldom flaps its wings, and when sailing they form an angle, with the body upwards. The latter, though found in the vicinity of towns, rarely ventures within them, and then always appearing cautious of the near approach of any one. It is not so impatient of cold as the former, and is likewise less lazy. The Black Vulture on the ground hops along very awkwardly ; the Turkey Buzzard, though seemingly inactive, hops along with an even gait. The latter, unless pressed by hunger, will not eat of a carcass until it becomes putrid ; the former is not so fastidious, but devours animal food without distinction.”—“ The Black Vulture builds its nest in the large trees of low wet swamps, to which places they retire every evening to rest.”

DESCRIPTION,

From Wilson's American Ornithology.

“ The Black Vulture is twenty-six inches in length, and four feet four inches in extent. The bill is two inches and a half long, of a dark horn-colour for near an inch ; the remainder, the head, and a part of the neck, are covered with a black, wrinkled, caruncled skin, beset with short black hairs, and downy behind. Nostril an oblong slit. Irides reddish-hazel. The throat is dashed with yellow ochre. The general colour of the plumage is of a dull black, except the primaries, which are whitish on the inside, and have four of their broadened edges below of a drab, or dark cream colour, extending two inches, which is seen only when the wing is unfolded ; the shafts of the feathers white on both sides. The wings, when folded, are about the length of the tail, the fifth feather being the longest ; the secondaries are two inches shorter than the tail, which is slightly forked, the exterior feathers three-quarters of an inch longer than the rest. The legs are limy, three inches and a half in length, and, with the feet, are thick and strong ; the middle toe is four inches long, side toe two inches, and considerably webbed ; inner toe rather the shortest ; claws strong, but not sharp, like those of the *Falco* genus ; middle claw three-quarters of an inch long. The stomach is not lined with hair, as reported. When opened, this bird smells strongly of musk.”

* See Note, p. 4.

FALCONIDÆ.—FALCONS.

In contemplating the *diurnal birds of prey*, arranged by Linnæus under the genus *Falco*, we can be at no loss to discover the two typical forms in the *Toothed-billed Falcons* and the *Sparrow-hawks*. Their peculiarities did not escape the notice even of the earliest systematic writers, and the moderns have only confirmed the justness of the distinction. But, with regard to the remaining groups, much diversity of opinion still exists; not, indeed, as regards the leading divisions, for here likewise the ancients had long ago anticipated our distinctions between the *Eagles*, *Kites*, and *Buzzards*. It is not, therefore, to these groups, taken *per se*, that any doubts can attach on their respective peculiarities, but rather as to their relative rank with those that are considered typical. These doubts can only be solved by analysis. Were our national or public museums sufficiently rich in species of this family, to allow of this being done, we might hope to gain just conceptions of nature; but such materials are not at present within the reach of our ornithologists. Indeed, so lamentably deficient are our sources of information on this head, “that, of near three hundred described species, not a sixth part is to be consulted in the national repository of this kingdom*.” In such a state of things, it is obvious that all attempts to characterize the minor types of form, or to detect the true series of natural affinities, must be viewed with great caution, and lie open to much objection, particularly when opposed to other opinions, founded upon an intimate acquaintance with forms, not in our museums. But if our ideas on the characters and value of the different groups, and on their natural combinations, are, from necessity, so imperfect, still more hazardous is it to attempt the location of species from the mere descriptions and figures to be found in books. We may, indeed, make some approximation to truth, by thus bringing together species which, in many cases, are obviously allied; but the situation of by far the greater portion must be problematical: and, unless we distinctly state how far we have been guided by actual examination, and how far by mere supposition, the reader who wishes to know upon what points he may place reliance, and upon what he may safely doubt, is left completely in the dark.

It is from an attentive consideration of these difficulties, that we have been

* *Zool. Journ.*, i., p. 311.

induced to dissent from several modern writers in our opinions upon this family. That the various forms of which it is composed, exhibit, as a whole, a circular succession of affinities, has been sufficiently proved; but the true series of the secondary groups, among themselves, has not yet been made out. The reason is obvious:—the British school of naturalists, as before stated, want the means, while those of the continent (possessing, in their superb museums, the greatest advantages) have not the inclination to undertake the enquiry. Yet our inability to state in what way the Falcons or Hawks form their own respective circles, cannot militate against the belief, that such is their true distribution. It remains, therefore, to be considered, whether there is presumptive evidence to believe that the three remaining divisions, namely, the *Buzzards*, *Kites*, and *Eagles*, form one circular group, independent of their affinity to the two former. The true Buzzards, of which the *Vulgaris* and the *Lagopus* may probably be types, are slender, long-winged birds; the bill is small, short, and considerably curved: in this structure they agree with the true Falcons, yet they are well known to be distinguished from them, by wanting the toothed-bill, and by the shortness and graduated abbreviation of the exterior quill-feathers. Now, if Nature had proceeded in a simple course, from the Buzzards to the Falcons, we should have had birds uniting the distinctions of both, variously modified. Both these groups being composed, in their typical examples, of slender long-winged birds, with short bills, any species exhibiting the reverse of such characters, and intervening between the two forms, would certainly appear anomalous, on the supposition of a simple series of affinities being aimed at. Yet, that such birds are to be found, even among the few that we are subsequently to notice, is unquestionable. Let us, then, take the *Buteo borealis*, which, as being more allied to the Falcons than to the Kites, may be considered an intervening form between the *Buteo vulgaris* and *Falco*. We here see a large-sized, heavy bird, with shortened wings, not reaching to more than half the length of the tail; while the elongated bill, unlike either that of *Buteo* or *Falco*, obviously assimilates to that lengthened form which belongs to the Eagles. Now, upon the supposition that a bird so constructed is intended to fill up the interval between *Buteo* and *Falco*, and at the same time to unite the former with the *Eagles*, the singularity of its structure is no longer surprising: but if we consider it with a simple reference to the passage between *Buteo* and *Falco*, we are almost tempted to suspect that, in this instance, a real *saltus* has been made. While upon this subject, we may cite an acute observation made by Prince C. Buonaparte, that “the *Borealis* is almost as much an *Astur* of the first section, as a *Buteo* ;” a

proof, at least, that its affinities to *Astur* and to the aberrant Eagles adjoining that group, have not escaped observation. Our idea, that the Buzzards are truly united to the Eagles, is still further strengthened by the *Buteo pterocles*, TEMM., of which a fine series of specimens, from Mexico, has been submitted to our inspection by John Taylor, Esq., F.R.S., &c. In this species, the wings, as in *Buteo*, are remarkably long, but the bill is so considerably lengthened, that were we to judge alone from this member, we should have no scruple in placing the bird among the *Aquilæ*. On the other hand, it must be remembered, that as every group, from the highest to the lowest denomination, when perfect, contains a representation of the other four, united to a form peculiar to itself; so we might naturally expect that one division of the Buzzards would represent the true Eagles. To ascertain, therefore, whether the resemblances above stated are those of analogy, or of real affinity, recourse must be had to strict analysis. Now this, in our present state of knowledge, cannot be done, at least from the resources to be found in this country. We have thought it advisable to cite the above facts, drawn from the structure of the birds themselves, as likely to awaken the attention of ornithologists to a further investigation of the subject; they will, at least, show that our opinion on the unity of the three aberrant groups, is not entirely without foundation.

In regard to the relative value of the whole group, we consider it equivalent to that of *Vultur* or of *Strix* in its own order, and to the families composing the *Rasores*, *Grallatores*, and *Natatores*. We shall, therefore, in conformity with this impression, contemplate the five principal divisions as *genera*, arranging the subordinate forms, which have been by some naturalists elevated to that rank, as *sub-genera*;—an uniformity of nomenclature between groups of the same apparent rank will thus be preserved. But it is not this consideration alone which has influenced our decision. Diversified as are the forms among the *Falconidæ*, they are certainly not more so than what may be observed among the *Trochilidæ*. Both these families are so strongly marked, that the veriest tyro in the science can never mistake them; but the Falcons, from their imposing size, by which their peculiarities are rendered more apparent, have attracted more attention, and have been divided and subdivided, until one-half of the modern genera contain but a single species: while the *Trochilidæ*, exhibiting among themselves a much greater diversity of structure, have only lately been arranged under their primary groups*. If, then, we are to adopt, as *genera*, all the minor divisions that have been proposed

* *Zool. Journ.*, iii., p. 357.