

*Professor Jamieson's Philosophical Journal
with the Editor's Compliments*

No. I. of Part III.]

[PRICE 10s.]

THE
ZOOLOGY

OF

THE VOYAGE OF H.M.S. BEAGLE,

UNDER THE COMMAND OF CAPTAIN FITZROY, R.N.,

DURING THE YEARS

1832 to 1836.

PUBLISHED WITH THE APPROVAL OF
THE LORDS COMMISSIONERS OF HER MAJESTY'S TREASURY.

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BIRDS,

BY

JOHN GOULD, ESQ. F.L.S. &c.

WITH A NOTICE OF THEIR HABITS AND RANGES,

BY CHARLES DARWIN, ESQ.

LONDON:

SMITH, ELDER AND CO. 65, CORNHILL.

MDCCLXXXVIII.

Birds by Gould



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A NOTICE OF THEIR HABITS AND RANGES,

BY CHARLES DARWIN, Esq. M.A. F.R.S. Sec. Geolog. Soc.

AND WITH AN ANATOMICAL APPENDIX,

BY T. C. EYTON, ESQ. F.L.S.

ILLUSTRATED BY NUMEROUS COLOURED ENGRAVINGS.

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ADVERTISEMENT.

WHEN I presented my collection of Birds to the Zoological Society, Mr. Gould kindly undertook to furnish me with descriptions of the new species and names of those already known. This he has performed, but owing to the hurry, consequent on his departure for Australia,—an expedition from which the science of Ornithology will derive such great advantages,—he was compelled to leave some part of his manuscript so far incomplete, that without the possibility of personal communication with him, I was left in doubt on some essential points. Mr. George Robert Gray, the ornithological assistant in the Zoological department of the British Museum, has in the most obliging manner undertaken to obviate this difficulty, by furnishing me with information with respect to some parts of the general arrangement, and likewise on that most intricate subject,—the knowledge of what species have already been described, and the use of proper generic terms. I shall endeavour in every part of the text to refer to Mr. G. R. Gray's assistance, where I have used it. As some of Mr. Gould's descriptions appeared to me brief, I have enlarged them, but have always endeavoured to retain his specific character; so that, by this means, I trust I shall not throw any obscurity on what he considers the essential character in each case; but at the same time, I hope, that these additional remarks may render the work more complete.

The accompanying illustrations, which are fifty in number, were taken from sketches made by Mr. Gould himself, and executed on stone by Mrs. Gould, with

that admirable success, which has attended all her works. They are all of the natural size with the exception of four raptorial birds, a goose and a species of Rhea. As the dimensions of these latter birds are given, their proportional reduction will readily be seen. I had originally intended to have added the initial letter of my name to the account of the habits and ranges, and that of Mr. Gould's to the description of the genera and species; but as it may be known that he is responsible for the latter, and myself for the former, this appeared to me useless; and I have, therefore, thought it better to incorporate all general remarks in my own name, stating on every occasion my authority, so that wherever the personal pronoun is used it refers to myself. Finally, I must remark, that after the excellent dissertation, now in the course of publication, on the habits and distribution of the birds of South America by M. Alcide D'Orbigny, in which he has combined his own extended observations with those of Azara, my endeavour to add anything to our information on this subject, may at first be thought superfluous. But as during the Beagle's voyage, I visited some portions of America south of the range of M. D'Orbigny's travels, I shall relate in order the few facts, which I have been enabled to collect together; and these, if not new, may at least tend to confirm former accounts. I have, however, thought myself obliged to omit some parts, which otherwise I should have given; and, after having read the published portion of M. D'Orbigny's great work, I have corrected some errors, into which I had fallen. I have not, however, altered any thing simply because it differs from what that gentleman may have written; but only where I have been convinced that my means of observation were inferior to his.

July 1852

B I R D S.

FAMILY—VULTURIDÆ.

SARCORAMPHUS GRYPHUS. *Bonap.*

Vultur gryphus, *Linn.*

_____, *Hamb. Zoolog.* p. 31.

Sarcoramphus Condor, *D'Orbigny. Voy. Ois.*

Condor of the inhabitants of South America.

THE Condor is known to have a wide range, being found on the west coast of South America, from the Strait of Magellan, throughout the range of the Cordillera, as far, according to M. D'Orbigny, as 8° north latitude. On the Patagonian shore, the steep cliff near the mouth of the Rio Negro, in latitude 41°, was the most northern point where I ever saw these birds, or heard of their existence; and they have there wandered about four hundred miles from the great central line of their habitation in the Andes. Further south, among the bold precipices which form the head of Port Desire, they are not uncommon; yet only a few stragglers occasionally visit the sea-coast. A line of cliff near the mouth of the Santa Cruz is frequented by these birds, and about eighty miles up the river, where the sides of the valley were formed by steep basaltic precipices, the Condor again appeared, although in the intermediate space not one had been seen. From these and similar facts, I believe that the presence of this bird is chiefly determined by the occurrence of perpendicular cliffs. In Patagonia the Condors, either by pairs or many together, both sleep and breed on the same overhanging ledges. In Chile, however, during the greater part of the year, they haunt the lower country, near the shores of the Pacific, and at night several roost in one tree; but in the early part of summer they retire to the most inaccessible parts of the inner Cordillera, there to breed in peace.

With respect to their propagation, I was told by the country people in Chile, that the Condor makes no sort of nest, but in the months of November and December, lays two large white eggs on a shelf of bare rock. Certainly, on the Patagonian coast, I could not see any sort of nest among the cliffs, where the young ones were standing. I was told that the young Condors could not fly for a whole year, but this probably was a mistake, since M. D'Orbigny says they take to the wing in about a month and a half after being hatched. On the fifth of March (corresponding to our September), I saw a young bird at Concepcion, which, though in size only little inferior to a full-grown one, was completely covered by down, like that of a gosling, but of a blackish colour. I can, however, scarcely believe that this bird could have used, for some months subsequently, its wings for flight. After the period when the young Condor can fly, apparently as well as the old birds, they yet remain (as I observed in Patagonia) both roosting at night on the same ledge, and hunting by day with their parents: but before the young bird has the ruff round its neck white, it may often be seen hunting by itself. At the mouth of the Santa Cruz, during part of April and May, a pair of old birds might be seen every day, either perched on a certain ledge, or sailing about in company with a single young one, which latter, though full fledged, had not its ruff white.

The Condors generally live by pairs; but among the basaltic cliffs of the plains, high up the river Santa Cruz, I found a spot where scores must usually haunt. They were not shy; and on coming suddenly to the brow of the precipice, it was a fine sight to see between twenty and thirty of these great* birds start heavily from their resting place, and wheel away in majestic circles. From the large quantity of dung on the rocks, they must have long frequented this cliff; and probably they both roost and breed there. Having gorged themselves with carrion on the plains below, they retire to these favourite ledges to digest their food in quietness. From these facts, the Condor must, to a certain degree be considered, like the Gallinazo (*Cathartes atratus*), a gregarious bird. In this part of the country they live almost entirely on the guanaco, which either have died a natural death, or, as more commonly happens, have been killed by the pumas. I believe, from what I saw in Patagonia, that they do not, on ordinary occasions, extend their daily excursions to any great distance from their regular sleeping places.

The condors may oftentimes be seen at a great height, soaring over a certain spot in the most graceful spires and circles. On some occasions I am sure that they do this for their sport; but on others, the Chileno countryman tells you, that they are watching a dying animal, or the puma devouring its prey. If the condors

* I measured a specimen, which I killed there: it was from tip to tip of wing, eight and a half feet; and from end of beak to end of tail four feet.

glide down, and then suddenly all rise together, the Chileno knows that it is the puma, which, watching the carcass, has sprung out to drive away the robbers. Besides feeding on carrion, the condors frequently attack young goats and lambs. Hence the shepherds train their dogs, the moment the enemy passes over, to run out, and looking upwards, to bark violently. The Chilenos destroy and catch numbers; two methods are used: one is to place a carcass within an enclosure of sticks on a level piece of ground, and when the condors have gorged themselves to gallop up on horseback to the entrance, and thus enclose them: for when this bird has not space to run, it cannot give its body sufficient momentum to rise from the ground. The second method is to mark the trees in which, frequently to the number of five or six, they roost together, and then at night to climb up and noose them; they are such heavy sleepers, as I have myself witnessed, that this is not a difficult task. At Valparaiso I have seen a living condor sold for sixpence, but the common price is eight or ten shillings. One which I saw brought in for sale, had been lashed with a rope, and was much injured; but the moment the line was cut by which its bill was secured, it began, although surrounded by people, ravenously to tear a piece of carrion. In a garden at the same place, between twenty and thirty of these birds were kept alive; they were fed only once a week, yet they appeared to be in pretty good health.* The Chileno countrymen assert, that the condor will live and retain its powers between five and six weeks without eating: I cannot answer for the truth of this fact, but it is a cruel experiment, which very likely has been tried.

When an animal is killed in this country, it is well known that the condors, like other carrion vultures, gain the intelligence and congregate in a manner which often appears inexplicable. In most cases, it must not be overlooked, that the birds have discovered their prey, and have picked the skeleton clean, before the flesh is in the least degree tainted. Remembering the opinion of M. Audubon on the deficient smelling powers of such birds,† I tried in the above mentioned garden, the following experiment. The condors were tied, each by a rope, in a long row at the bottom of a wall. Having folded a piece of meat in white paper, I walked backwards and forwards, carrying it in my hand at the

* I noticed that several hours before any of the Condors died, all the lice with which they are infested, crawled to the outside feathers. I was told, that this always happened.

† In the case of the *Cathartes Aura*, Mr. Owen, in some notes read before the Zoological Society, (See Magazine of Nat. Hist. New Ser. vol. i. p. 638.) has demonstrated from the developed form of the olfactory nerves, that this bird must possess an acute sense of smell. It was mentioned on the same evening, in a communication from Mr. Sells, that on two occasions, persons in the West Indies having died, and their bodies not being buried till they smelt offensively, these birds congregated in numbers on the roof of the house. This instance appears quite conclusive, as it was certain, from the construction of the buildings, that they must have gained the intelligence by the sense of smell alone, and not by that of sight. It would appear from the various facts recorded, that carrion-feeding hawks possess both senses, in a very high degree.

distance of about three yards from them ; but no notice whatever was taken of it. I then threw it on the ground within one yard of an old cock bird ; he looked at it for a moment with attention, but then regarded it no more. With a stick I pushed it closer and closer, until at last he touched it with his beak : the paper was then instantly torn off with fury, and at the same moment every bird in the long row began struggling and flapping its wings. Under the same circumstances, it would have been quite impossible to have deceived a dog.

When the condors in a flock are wheeling round and round any spot, their flight is beautiful. Except when they rise from the ground, I do not recollect ever to have seen one flap its wings. Near Lima, I watched several of these birds for a quarter and half-an-hour, without once taking off my eyes. They moved in large curves, sweeping in circles, descending and ascending without once flapping. As several glided close over my head, I intently watched, from an oblique position, the separate and terminal feathers of the wing ; if there had been the least vibratory movement, their outlines would have been blended together, but they were seen distinct against the blue sky. The head and neck were moved frequently, and apparently with force. If the bird wished to descend, the wings were for a moment collapsed ; and then, when again expanded with an altered inclination, the momentum gained by the rapid descent, seemed to urge the bird upwards, with the even and steady movement of a paper kite. It was a beautiful spectacle thus to behold these great vultures hour after hour, without any apparent exertion, wheeling and gliding over mountain and river.

In the garden at Valparaiso, where so many condors were kept alive, I observed that all the hens had the iris of their eyes bright red, but the cocks yellowish-brown. In a young bird, whose back was brown, and ruff not white, (but which must have been at least nearly a year old, as it was then the spring) I observed that the eye was dark brown : upon examination after death, this proved to be a female, and therefore I suppose the colour of the iris changes at the same time with the plumage.

1. CATHARTES ATRATUS. *Rich. and Swain.*

Cathartes urubu, *D'Orbigny*. *Voy. Ois.*

Vultur atratus, *Bartram*, p. 287.

——— *jota*, *Jardine's* *Wilson*, vol. iii. p. 236.

———, *Bonaparte's* *List*, p. 1.

Gallinazo or Cuervo of the Spanish inhabitants of America; and Black Vulture or Carrion Crow of the English of that continent.

THESE birds, I believe, are never found further south, than the neighbourhood of the Rio Negro, in latitude 41°: I never saw one in southern Patagonia, or in Tierra del Fuego. They appear to prefer damp places, especially the vicinity of rivers; and thus, although abundant both at the Rio Negro and Colorado, they are not found on the intermediate plains. Azara* states, that there existed a tradition in his time, that on the first arrival of the Spaniards in the Plata, these birds were not found in the neighbourhood of Monte Video, but that they subsequently followed the inhabitants from more northern districts. M. Al. D'Orbigny, in reference to this statement, observes that these vultures, although common on the northern bank of the Plata, and likewise on the rivers south of it, are not found in the neighbourhood of Buenos Ayres, where the immense slaughtering establishments are attended by infinite numbers of Polybori and gulls. M. D'Orbigny supposes that their absence is owing to the scarcity of trees and bushes in the Pampas; but this view, I think, will hardly hold good, inasmuch as the country near Bahia Blanca, where the Gallinazo (together with the carrion-feeding gull) is common, is as bare, if not more so, than the plains near Buenos Ayres. I have never seen the Gallinazo in Chile; and Molina, who was aware of the difference between the *C. atratus* and *C. aura*, has not noticed it; yet, on the opposite side of the Cordillera, near Mendoza, it is common. They do not occur in Chiloe, or on the west coast of the continent south of that island. In Wilson's Ornithology it is said that "the carrion crow (as this bird is called in the United States) is seldom found on the Atlantic to the northward of Newbern, lat. 35° North Carolina." But in Richardson's "Fauna Boreali-Americana," it is mentioned, on the authority of Mr. David Douglas, that on the Pacific side of the continent, it is common on the marshy islands of the Columbia, and in the neighbourhood of Lewis's and Clark's rivers (45°—47° N.) It has, therefore, a wider range in the northern

* Voyage dans l'Amérique Méridionale, vol. iii. p. 24.

than in the southern half of the continent. These vultures certainly are gregarious; for they seem to have pleasure in each other's society, and are not solely brought together by the attraction of a common prey. On a fine day, a flock may often be seen at a great height; each bird wheeling round and round in the most graceful evolutions. This is evidently done for their sport; or, perhaps, is connected (for a similar habit may sometimes be observed during the breeding season amongst our common rooks) with their matrimonial alliances.

2. CATHARTES AURA. *Ill.*

Vultur aura, *Linn.*

———, *Jardine's Wilson*, vol. iii. p. 226.

Vultur jota, *Molina*, Compendio de la Hist. del Reyno de Chile, vol. i. p. 296.

Turkey-buzzard and Carrion Crow of the English in America.

This bird has a wide geographical range, being found from 55° S. to Nova Scotia (according to Wilson, in Jardine's edition, vol. iii. p. 231, in 45° N.; or exactly one hundred degrees of latitude. Its lesser range in Northern than in Southern America is probably due to the more excessive nature of the climate in the former hemisphere. It is said to be partly migratory during winter, in the Northern and even in the Middle States, and likewise on the shores of the Pacific. The *C. aura* is found in the extreme parts of Tierra del Fuego, and on the indented coast, covered with thick forests, of West Patagonia, (but not on the arid plains of Eastern Patagonia,) in Chile, where it is called Jote, in Peru, in the West Indies; and, according to Wilson, it remains even during winter, in New Jersey and Delaware, latitude 40°. It and one of the family of Polyborinæ are the only two carrion-feeding hawks, which have found their way to the Falkland Islands. The Turkey buzzard, as it is generally called by the English, may be recognized at a great distance from its lofty, soaring and most graceful flight. It is generally solitary, or, at most, sweeps over the country in pairs. In Tierra del Fuego, and on the west coast of Patagonia, it must live exclusively on what the sea throws up, and on dead seals: wherever these animals in herds were sleeping on the beach, there this vulture might be seen, patiently standing on some neighbouring rock. At the Falkland Islands it was tolerably common; but sometimes there would not be a single one near the settlement for several days together, and then many would suddenly appear. They were usually shy; a disposition which is remarkable, as being different from that of almost every other bird in this Archipelago. May we infer from this that they are migratory, like those of the northern hemisphere? In a female specimen killed there, the skin of the head was intermediate in colour between

“scarlet and cochineal red,”* and the iris dark-coloured. D’Orbigny describes the iris as being bright scarlet; whilst Azara says it is “jauné léger.” Is this difference owing to the sex and age, as certainly is the case with the condors? As a considerable degree of confusion has prevailed in the synonyms of this and the foregoing species, caused apparently by a doubt to which of them Molina applied the name of *Jote*, I would wish to call attention to the fact, that at the present time the *C. aura* in Chile goes by the name of *Jote*. Moreover, I think Molina’s description by itself might have decided the question; he says, the head of the *Vultur jota* is naked, and covered only with a wrinkled and reddish (roxiza) skin.

FAMILY—FALCONIDÆ.

SUB-FAM. POLYBORINÆ, *Swains.*

(Caracaridæ, D’Orbigny.)

POLYBORUS BRASILIENSIS. *Swains.*

Polyborus vulgaris, *Viellot.*

Falco Brasiliensis Auctorum; Caracara of Azara; Tharu of Molina; and Carrancha of the inhabitants of La Plata.

THIS is one of the commonest birds in South America, and has a wide geographical range. It is found in Mexico and in the West Indies. It is also, according to M. Audubon, an occasional visitant to the Floridas; it takes its name from Brazil, but is no where so common as on the grassy savannahs of La Plata. It generally follows man, but is sometimes found even on the most desert plains of Patagonia: in the northern part of that region, numbers constantly attended the line of road between the Rio Negro and the Colorado, to devour the carcasses of the animals which chanced to perish from fatigue. Although abundant on the open plains of this eastern portion of the continent, and likewise on the rocky and barren shores of the Pacific, nevertheless it inhabits the borders of the damp and impervious forests of Tierra del Fuego and of the broken coast of West Patagonia, even as far south as Cape Horn. The Carranchas (as the *Polyborus Brasiliensis* is called in La Plata) together with the *P. chimango*†, attend in great numbers the estancias and slaughtering houses in the neighbourhood of the Plata. If an

* In this work, whenever the particular name of any colour is given, or it is placed within commas, it implies, that it is taken from comparison with Patrick Syme’s edition of Werner’s Nomenclature of Colours.

† *Mileago Chimango* of this work.

animal dies in the plain, the *Cathartes atratus* or Gallinazo commences the feast, and then these two carrion-feeding hawks pick the bones clean. Although belonging to closely allied genera, and thus commonly feeding together, they are far from being friends. When the Carrancha is quietly seated on the branch of a tree, or on the ground, the Chimango often continues flying backwards and forwards for a long time, up and down in a semicircle, trying each time, at the bottom of the curve, to strike its larger relative. The Carrancha takes little notice, except by bobbing its head. Although the Carranchas frequently assemble in numbers, they are not gregarious; for in desert places they may be seen solitary, or more commonly by pairs. Besides the carrion of large animals, these birds frequent the borders of streams and the sea-beach, for the sake of picking up whatever the waters may cast on shore. In Tierra del Fuego, and on the west coast of Patagonia, they must live almost exclusively on this last means of supply.

The Carranchas are said to be very crafty, and to steal great numbers of eggs; they attempt also, together with the Chimango, to pick the scabs off the sore backs of both horses and mules. On the one hand, the poor animal, with its ears down and its back arched; and, on the other, the hovering bird, eyeing at the distance of a yard, the disgusting morsel, form a picture which has been described by Captain Head with his own peculiar spirit and accuracy. The Carranchas kill wounded animals; but Mr. Bynoe (the surgeon of the Beagle) saw one seize in the air a live partridge, which, however, escaped, and was for some time chased on the ground. I believe this circumstance is very unusual: at all events there is no doubt that the chief part of their sustenance is derived from carrion. A person will discover their *necrophagous* habits by walking out on one of the desolate plains, and there lying down to sleep: when he awakes, he will see on each surrounding hillock, one of these birds patiently watching him with an evil eye. It is a feature in the landscape of these countries, which will be recognised by every one who has wandered over them. If a party goes out hunting with dogs and horses, it will be accompanied during the day, by several of these attendants. The uncovered crow of the Carrancha, after feeding, protrudes from its breast; at such times it is, and indeed generally, an inactive, tame, and cowardly bird. Its flight is generally heavy and slow, like that of the English carrion crow, whose place it so well supplies in America. It seldom soars; but I have twice seen one at a great height gliding through the air with much ease. It runs (in contradistinction to hopping), but not quite so quickly as some of its congeners. At times the Carrancha is noisy, but is not generally so; its cry is loud, very harsh and peculiar, and may be compared to the sound of the Spanish guttural *g*, followed by a rough double *rr*. Perhaps the Spaniards of Buenos Ayres, from this cause, have called it Carrancha. Molina, who says it is called Tharu in Chile, states, that when uttering this cry, it elevates its head

higher and higher, till at last, with its beak wide open, the crown almost touches the lower part of the back. This fact, which has been doubted, is true; for I have myself several times seen them with their heads backwards, in a completely inverted position. The Carrancha builds a large coarse nest, either in a low cliff, or in a bush or lofty tree. To these observations I may add, on the high authority of Azara, whose statements have lately been so fully confirmed by M. D'Orbigny, that the Carrancha feeds on worms, shells, slugs, grasshoppers, and frogs; that it destroys young lambs by tearing the umbilical cord: and that it pursues the Gallinazos and gulls which attend the slaughtering-houses, till these birds are compelled to vomit up any carrion they may have lately gorged. Lastly, Azara states that several Carranchas, five or six together, will unite in chase of large birds, even such as herons. All these facts show that it is a bird of very versatile habits and considerable ingenuity.

I am led to suppose that the young birds of this species sometimes congregate together. On the plains of Santa Cruz (lat. 50° S. in Patagonia), I saw in the month of April, or early autumn, between twenty and thirty Polybori, which I at first thought would form a species distinct from *P. Brasiliensis*. Amongst those I killed, there were some of both sexes; but the ovarium in the hens was only slightly granular. The plumage of the different individuals was nearly similar; and in none appeared like that of an adult bird, although certainly not of a very young one. Having mentioned these circumstances to Mr. Gould, he likewise suspected it would form a new species; but the differences appear so trifling between it and the specimens of young birds in the British Museum and in the Museum of the Zoological Society, and likewise of the figure of a young bird given by Spix, (*Avium Species Novæ*, vol. i. p. 3.), that I have thought it advisable merely to allude to the circumstance. In my specimen, which is a cock, the head, instead of being of a dark brown, which is the usual character of even very immature birds, is of a pale rusty brown. The bill and cere are less produced than in the adult *P. Brasiliensis*; and the cere is of a brighter colour, than what appears to be usual in the young of this species. In other respects there is such a perfect similarity between them, that I do not hesitate to consider my specimen as a young bird of the *P. Brasiliensis* in one of its states of change;—and to be subject to great variation of plumage during growth, is known to be a character common to the birds of this sub-family. It may, however, possibly be some variety of the *P. Brasiliensis*, for this bird seems subject to variation: Azara (*Voyage dans l'Amérique Méridionale*, vol. iii. p. 35.) remarks, “Il y a des individus dont les teintes sont plus faibles, ou d'un brun pâle, avec des taches sur la poitrine, et d'autres qui ont des couleurs plus foncées; j'ai décrit ceux qui tiennent le milieu entre les uns et les autres.”

I have myself more than once observed a single very pale-coloured bird, in

form like the *P. Brasiliensis*, mingled with the other carrion-feeding hawks on the banks of the Plata; and there is now in the British Museum a specimen, which may be considered as partly an albino. Spix, on the other hand, (*Avium Species Novæ*, p. 3.) has described some specimens from the coast of Brazil, as being remarkable from the darkness of the plumage of their wings.

MILVAGO, Spix.

Several new genera have lately been established to receive certain species of the sub-family of *Polyborinæ*, and consequently great confusion exists in their arrangement. Mr. George R. Gray has been kind enough to give me the following observations, by which it appears he has clearly made out, that Spix's genus *Milvago*, is that which ought to be retained. M. D'Orbigny has made two sections in the genus *Polyborus*, according as the craw is covered with feathers, or is naked, and he states that the *P. Brasiliensis* is the only species which comes within the latter division; but we shall afterwards see that the *Falco Novæ Zelandiæ*, Auct. (the *Milvago leucurus* of this work) has a naked craw, which is largely protruded after the bird has eaten. M. D'Orbigny has also instituted the genus *Phalcobænus*, to receive a bird of this sub-family, with the following characters:

“Bec fortement comprimé, sans aucune dent ni sinus, à commissure très-arquée à son extrémité; cire allongée et droite; un large espace nu entourant la partie antérieure et inférieure de l'œil, et s'étendant sur toute la mandibule inférieure; tarses emplumés sur un tiers de leur longueur, le reste réticulé; doigts longs, semblables à ceux des gallinacés, terminés par les ongles longs, déprimés et élargis, très-peu arqués, toujours à extrémité obtuse ou fortement usée; ailes de la famille, la troisième plume plus longue que les autres.”

Mr. George R. Gray, however, has pointed out to me that Spix, (in his *Avium Species Novæ*) ten years since, made a division in this sub-family, from the rounded form of the nostril of one of the species, namely, the *M. ochrocephalus* of his work, or the *Chimachima* of Azara. And Mr. Gray thinks, that all the species may be grouped much more nearly in relation to their affinities by this character, than by any other: he further adds;—“The only difference which I can discover between this latter genus (*Milvago*), and D'Orbigny's (*Phalcobænus*), is, that in the latter the bill is rather longer, and not quite so elevated in the culmen as in the former; and these characters must be considered too trivial for the foundation of a generic division. I, therefore, propose to retain Spix's genus, *Milvago*, for all those *Polyborinæ* which possess rounded nostrils with

an elevated bony tubercle in the centre. They were once considered to form three distinct genera, viz.—*Milvago*, *Spix*. (*Polyborus*, *Vieill.* *Haliaëtus*, *Cuv.* *Aquila*, *Meyen.*)—*Senex*, *Gray.* (*Circaëtus*, *Less.*)—*Phalcobænus*, *D'Orb.* but a careful comparison of the several species, shows a regular gradation in structure from one to the other, which induces me to consider them as only forming two sections of one genus. Those which have the bill short, with the culmen arched, and are of small size, slender form, and with the tarsi rather long and slender, are—

1. *Milvago ochrocephalus*, *Spix.*
Polyborus chimachima; *Vieill.* (young).
Falco dogener, *Licht.*
Haliaëtus chimachima, *Less.*
2. *Milvago pezoporos*, *nob.*
Aquila pezopora, *Meyen.*
3. *Milvago chimango*, *n.*
Polyborus chimango, *Vieill.*
Haliaëtus chimango, *Less.*

Those which have a buteo-like appearance, and with rather short and stout tarsi, are,

7. *Milvago leucurus*, *n.*
Falco leucurus, *Forster's* Drawings No. 34.
Falco Novæ Zealandiæ, *Gm.*
 — *Australis*, *Lath.*
Circaëtus antarcticus, *Less.*
8. *Milvago albogularis*, *n.*
Polyborus (*Phalcobænus* ?) *albogularis*, *Gould.*
9. *Milvago montanus*, *n.*
Phalcobænus montanus, *D'Orbig.*
10. *Milvago megalopterus*, *n.*
Aquila megaloptera, *Meyen.*

1. MILVAGO PEZOPOROS.

Aquila pezopora, *Meyen.* Nov. Act. Phys. Med. Acad. Cæs. Leo. Car. Nat. Cur. suppl. 1834. p. 62. pl. VI.

I obtained two specimens of this bird, one from Port Desire, in Patagonia, and another at the extreme southern point of Tierra del Fuego. *Meyen** describes it as common on the plains of Chile, and on the mountains to an elevation of 4000 or 5000 feet. As M. D'Orbigny does not notice this species, I presume it is not found on the Atlantic side of the continent, so far north as the Rio Negro, where he resided for some time. The habits and general appearance of *M. chimango* and this bird are so entirely similar, that

* *Novorum Actorum Academiæ Casariæ*, Leopold. vol. xvi. p. 62. *Observations Zoologiques*, F. J. *Meyenii.*

I did not perceive that the species were different; hence I cannot speak with certainty of their range, but it would appear probable that the *M. pezoporius* replaces in Chile, Tierra del Fuego and Southern Patagonia the *M. chimango* of La Plata. In the same manner the *M. chimango* is replaced between the latitudes of Buenos Ayres and Corrientes by a third closely allied species, the *M. ochrocephalus*. D'Orbigny, (p. 614, in the Zoological part of his work) speaking of the Chimango, says, "Il n'est pas étonnant qu'on ait long-temps confondu cette espèce avec le *fulco degener*, Illiger, (the *M. ochrocephalus*) et qu'on l'ait cru de sa famille. Il est impossible de présenter plus de rapports de forme et surtout de couleur. Nous les avons, nous-même confondus au premier abord; mais, en remarquant, ultérieurement, que le sujet que nous regardions comme le mâle ne se trouvait qu'à Corrientes, tandis qu'il y avait seulement des femelles sur les rives de la Plata, l'étude plus attentive des mœurs de ces oiseaux, et les localités respectives qu'habite chacun d'eux, ne tarda pas à nous y faire reconnaître, avec Azara, deux espèces vraiment très-distinctes; mais qui, depuis, ont encore été confondues, sous la même nom, par M. la Prince Maximilien de Neuwied.*" I may observe that the figure given in Meyen's work, has the iris coloured bright red, instead of which it should have been brown.

2. MILVAGO CHIMANGO.

Polyborus chimango, Vieill.

Haliaëtus chimango, Less.

Chimango, Azar. Voyage, vol. iii. p. 35.

My specimen was obtained at Maldonado, on the banks of the Plata. In the following short account of the habits of this bird, it must be understood that I have confounded together, the *M. chimango* and the *M. pezoporius*; but I am certain that almost every remark is applicable to both species. From what has been said under the last head, it may be inferred, that both of these allied birds have comparatively limited ranges, compared with that of the *P. Brasiliensis*. Azara says the Chimango (and he first distinguished this species from the *M. ochrocephalus*, or *M. chimachima*) is rarely found so far north as Paraguay. D'Orbigny saw the Chimango (*M. pezoporius*?) at Arica in lat. 16°, and I killed the *M. pezoporius* in the extreme southern point of America, in lat. 55° 30' south.

The Chimango, in La Plata, lives chiefly on carrion, and generally is the last bird of its tribe which leaves the skeleton, and hence it may frequently be seen standing within the ribs of a cow or horse, like a bird in a cage. The Chimango often frequents the sea-coast and the borders of lakes and swamps, where it picks up small fish. It is truly omnivorous, and will eat even bread, when thrown out

* Tom. iii. p. 162.

of a house with other offal. I was also assured that in Chiloe, these birds (probably in this district the *M. pezoporos*) materially injure the potato crops, by stocking up the roots when first planted. In the same island, I saw them following by scores the plough, and feeding on worms and larvæ of insects. I do not believe that they kill, under any circumstances, even small birds or animals. They are more active than the Carranchas, but their flight is heavy; I never saw one soar; they are very tame; are not gregarious; commonly perch on stone walls, and not upon trees. They frequently utter a gentle, shrill scream.

3. MILVAGO LEUCURUS.

Falco leucurus, Forster's Drawings, No. 34. MS.

— *Novæ Zelandiæ*, Gm.

— *australis*, Lath.

Circæetus antarcticus, Less.

It will be observed in the above list of synonyms, which I have given on the authority of Mr. G. R. Gray, that this bird, although possessing well marked characters, has received several specific names. Mr. Gray's discovery of Forster's original drawing with the name *F. leucurus* written on it, I consider very fortunate, as it was indispensable that the names by which it is mentioned in most ornithological works, namely, *Falco* or *Polyborus Novæ Zelandiæ*, should be changed. There is not, I believe, the slightest reason for supposing that this bird has ever been found in New Zealand. All the specimens which of late years have been brought to England have come from the Falkland Islands, or the extreme southern portion of South America. The sub-family, moreover, to which it belongs, is exclusively American; and I do not know of any case of a land bird being common to this continent and New Zealand. The origin of this specific name, which is so singularly inappropriate, as tending to perpetuate a belief which would form a strange anomaly in the geographical distribution of these birds, may be explained by the circumstance of specimens having been first brought to Europe by the naturalists during Captain Cook's second voyage, during which New Zealand was visited, and a large collection made there. In the homeward voyage, however, Cook anchored in Christmas Sound, in Tierra del Fuego, and likewise in Staten Land: describing the latter place he says, "I have often observed the eagles and vultures sitting on the hillocks among the shags, without the latter, either young or old, being disturbed at their presence. It may be asked how these birds of prey live? I suppose on the carcasses of seals and birds, which die by various causes; and probably not few, as they are so numerous." From this description I entertain very little doubt that Cook referred to the *Cathartes aura* and *Milvago leucurus*, both of which birds inhabit these latitudes, as we shall hereafter show.

The plumage in the two sexes of this species differs in a manner unusual in the family to which it belongs. The description given in all systematic works is applicable, as I ascertained by dissection, only to the old females; namely, back and breast black, with the feathers of the neck having a white central mark following the shaft,—tetrices, with a broad white band at extremity; thighs and part of the belly rufous-red; beak "ash gray," with cere and tarsi "Dutch orange."

MALE of smaller size than female: dark brown; with tail, pointed feathers of shoulders and base of primaries, pale rusty brown. On the breast, that part of each feather which is nearly white in the female, is pale brown: bill black, cere white, tarsi gray. As may be inferred from this description, the female is a much more beautiful bird than the male, and all the tints, both of the dark and pale colours, are much more strongly pronounced. From this circumstance, it was long before I would believe that the sexes were as here described. But the Spaniards, who are employed in hunting wild cattle, and who (like the aboriginal inhabitants of every country) are excellent practical observers, constantly assured me that the small birds with gray legs were the males of the larger ones with legs and cere of an orange colour, and thighs with rufous plumage.

The YOUNG MALE can only be distinguished from the adult bird by its beak not being so black, or cere so white; and likewise in a trifling difference of plumage, such as in the markings of the pointed feathers about the head and neck, being more like those of the female than of the old cock. One specimen, which I obtained at the Falkland Islands, I suppose is a one-year-old female; but its organs of generation were smooth: in size larger than the male; the tail dark brown, with the tip of each feather pale colour, instead of being almost black with a white band; under tail-coverts dark brown, instead of rufous; thighs only partly rufous, and chiefly on the inner sides; feathers on breast and shoulder like those of male, with part near shaft brown; those on back of head with white, like those of adult females. Beak, lower mandible gray, upper black and gray (in the old female the whole is pale gray); the edge of cere and the soles of the feet orange, instead of the whole of the cere, tarsi, and toes being thus coloured. The circumstance of the young birds of, at least, one year and a half old, as well as of the adult males, being brown coloured, will, I believe, alone account for the singular fewness of the individuals with rufous thighs, a fact which at first much surprised me.

The *Mitago leucurus* is exceedingly numerous at the Falkland Islands, and, as an old sealer who had long frequented these seas remarked to me, this Archipelago appears to be their metropolis. I was informed, by the same authority, that they are found on the Diego Ramirez Rocks, the Il Defonso islands, and on some others, but never on the mainland of Tierra del Fuego. This statement I can corroborate to a certain degree, since I never saw one in the southern part of



Milvago albogularis.



Craxirex Galapagoensis.



Otus Galapagoensis.



Strix punctatissima



Ptygo modestus.



Tyrocephalus parvirostris.



Pyrocephalus nanus

Pl. 8



Tyrannula magnirostris.



Lichenops erythropterus



Fluvicola striata

