

PROCEEDINGS
OF THE
SCIENTIFIC MEETINGS
OF THE
ZOOLOGICAL SOCIETY OF LONDON.

January 12, 1864.

Dr. J. E. Gray in the Chair.

Mr. Buckland exhibited and made remarks on some specimens of Oysters from Prince Edward's Island, alluding especially to the probable advantages of introducing the American species *Ostrea virginica* into this country.

Mr. Leadbeater exhibited a young specimen of Owen's Apteryx (*Apteryx owenii*) from New Zealand.

Mr. Henry J. B. Hancock gave notice of his intention to try some experiments on the supposed electricity of *Octopus* in the Society's Gardens.

The following papers were read :—

1. A LIST OF BIRDS COLLECTED IN DAMARA LAND BY MR. C. J. ANDERSSON. BY J. H. GURNEY, M.P., F.Z.S.

In drawing up this list of birds, which I have received from my friend Mr. Andersson, and which bears full testimony to his well-known scientific assiduity as an ornithological collector, I have omitted those species which have already been enumerated, by Messrs. Strickland and Sclater in the 'Contributions to Ornithology' for 1852, as having been collected by Mr. Andersson in his first journey to Damara Land, and confine myself to the enumeration of species not mentioned in the above-named list, but which have been all collected by Mr. Andersson in that country.

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1. *FALCO BIARMICUS*, Temm.
2. *TINNUNCULUS RUPICOLoidES* (Smith).
3. *TINNUNCULUS CENCHRIS* (Frisch).
4. *ERYTHROPUS VESPERTINUS* (Linn.).

This is the first instance which has come to my knowledge of the occurrence of this species south of the equator. The specimens sent me are marked as having been obtained at Omatolo, January 2nd, 1860; they consist of two adult and one immature males, and one adult female.

5. *MELIERAX MONOGRAMMICUS* (Temm.).
6. *MELIERAX POLYZONUS* (Rüpp.).
7. *ACCIPITER TACHIRO* (Daud.).
8. *ACCIPITER MINULLUS* (Daud.).
9. *ACCIPITER POLYZONOIDES*, Smith.
10. *CIRCUS CINERARIUS* (Mont.).
11. *CIRCUS SWAINSONI*, Smith.
12. *BUBO LACTEUS* (Temm.).
13. *CORACIAS PILOSUS*, Lath.
14. *HIRUNDO MONTEIRI*, Hartl.
15. *IRRISOR SENEGALENSIS* (Vieill.).
16. *DRYMÆCA RUFICAPILLA*, Smith.
17. *DRYMÆCA CHINIANA*, Smith.
18. *DRYMÆCA SUBRUFICAPILLA*, Smith.
19. *EREMOMELA FLAVIDA*, Strickland.
20. *EREMOMELA FLAVIVENTRIS* (Burch.).
21. *CAMAROPTERA OLIVACEA*, Sundev.
22. *PHYLLOPNEUSTE TROCHILUS* (Linn.).

Dr. Hartlaub agrees with me in referring the specimen sent to this species, though the dimensions barely equal the average size of European specimens.

23. *AËDON LEUCOPHRYS* (Vieill.).
24. *BRADYORNIS MARIQUENSIS*, Smith.
25. *PARUS NIGER*, Vieill.
26. *ORIOlus AURATUS*, Vieill.

27. MUSCICAPA GRISOLA, Linn.
28. CAMPEPHAGA NIGRA, Vieill.
29. ENNEOCTONUS COLLURIO (Linn.).
30. TELEPHONUS TRIVIRGATUS (Smith).
31. BASANISTES CISOIDES (Smith).
32. PRIONOPS RETZII, Wahlberg.
33. PRIONOPS TALACOMA, Smith.
34. PHOLIDAUGES LEUCOGASTER (Gmel.).
35. PLOCEUS MARIQUENSIS, Smith.
36. ESTREDA BENGHALA (Linn.).
37. PASSER DIFFUSUS, Smith.
38. XANTHODIRA FLAVIGULA (Sundev.).
39. CRITHAGRA HARTLAUBII, Bolle.
40. FRINGILLARIA FLAVIVENTRIS (Vieill.).
41. OXYLOPHUS GLANDARIUS (Linn.).
42. CUCULUS CLAMOSUS, Lath.
43. CENA CAPENSIS (Linn.).
44. FRANCOLINUS SUBTORQUATUS, Smith.
45. CHETTUSIA LATERALIS (Smith).
46. TEREKIA CINEREA (Temm.).
47. PARRA AFRICANA, Gmel.
48. RALLUS AQUATICUS, Linn.
49. ORTYGOMETRA BAILLONI (Vieill.).
50. CORETHRURA DIMIDIATA (Temm.).
51. GALLINULA CHLOROPUS (Linn.).
52. GALLINULA PUMILA, Sclater, Ibis, 1859, pl. 7, p. 249.

Mr. Andersson has also, at my request, put together the following notes on the habits of some of the birds enumerated in this list and in that of Messrs. Strickland and Sclater above referred to, as observed by him in Damara Land and Namaqua Land.

FALCO BIARMICUS, Temm.

Not uncommon, but very wary and difficult of approach. Ob-

served both north and south of the Orange River (I always speak of the south-west coast). Found most abundant in the neighbourhood of the Okavango River. Flight very rapid and powerful.

ACCIPITER GABAR.

The commonest Sparrow-Hawk in Damara Land, especially abundant in some rainy seasons. Feeds on mice, lizards, locusts, moths, white ants, &c.

Anterior part of bill and legs bright reddish orange; nails of a dark horn-black; iris brilliant purple. Extreme length of a full-grown female* about 1 foot 1 inch 8 lines, the male being only 12 inches long.

MELIERAX POLYZONUS (Rüpp.).

Not uncommon in Damara and Great Namaqua Land, but not so numerous as *Accipiter gabar*. Food nearly similar to that of the preceding species. Iris dark brown; legs yellow, brightest beneath the toes; bill bluish black, approaching to the latter colour towards the extremities.

POLIOHIERAX SEMITORQUATUS (Smith).

Very rare in all parts from the Orange River on the south to the Okavango River to the north, and Lake Ngami to the east. I never personally observed above seven or eight specimens. Their flight appears short when disturbed; they just remove from one tree or bush to another. Usually found in pairs. At a distance they have scarcely the appearance of Hawks, and may easily be mistaken for some large species of Shrike.

ACCIPITER POLYZONOIDES, Smith.

I am inclined to think this Hawk a scarce bird; at all events, I have only obtained three or four specimens, and, to the best of my recollection, have seen but few more; however, from its great resemblance at a distance to one or two other species, it is probable I may have overlooked or confounded him with such. Iris bright orange; legs yellow; base of upper mandible yellow, remainder (except near the base, where it is bluish black) darkish.

ACCIPITER MINULLUS (Daud.).

Very rare; I do not remember to have met with it in Great Namaqua Land.

CIRCUS SWAINSONI, Smith.

Migratory. In favourably rainy seasons met with pretty numerous. Their haunts are the sides and banks of marshes and rivers and other humid places. I have observed very few old or mature

* All measurements given in these "notes" are taken from birds immediately after death. I divide my inch into 12 lines.

birds either in Damara or Great Namaqua Land. Food—lizards, mice, white ants, &c.

PRIONOPS TALACOMA, Smith.

I did not observe this elegant and interesting bird until I had passed the latitude of Omanboudi. To the northward of this it is not uncommon, being usually found in secluded spots, where it restlessly hops about from branch to branch amongst the brushwood (in flocks often consisting of numerous individuals). At times these fly slowly from tree to tree (or bush, as the case may be), and generally close to the ground. The moment they have reached their temporary destination, the first-arrived fix their gaze intently below them on the ground; and if any prey is within sight, down these alight as quick as thought. Thus some of the flock are always at once on the ground, perching or moving onwards.

PRIONOPS RETZII, Wahlberg.

I never but once observed this bird, and that was a few days south of the Okavango River. There were six individuals in a flock, all of which I secured—a rather fortunate event, since they were exceedingly wary and watchful, always perching on the loftiest and most exposed situations. These six individuals appeared to me to be all of one hatching, since I think I only obtained two adults (male and female), the remainder being evidently young birds of both sexes. They exactly resemble *P. talacoma* in their manners and habits.

TELEPHONUS TRIVIRGATUS (Smith),

TELEPHONUS SENEGALENSIS.

I have two specimens of these *Laniadæ* greatly resembling each other, as well as the one depicted in the 'Nat. Library' as *T. trivirgatus*. They differ from each other a trifle in size, and the bill of one is of a darker horn-colour, whilst that of the other is reddish brown (this is the colour of Dr. Smith's specimen). The two centre tail-feathers of mine are of a brownish grey, with numerous dark bars particularly conspicuous on the upper or outer surface. In Dr. Smith's, again, all the tail-feathers are broadly tipped with white, whilst in my specimens several of the centre feathers are without this edging. I never observed this bird till after I passed the northern frontier of Damara Land proper.

BRADYORNIS MARIQUENSIS, Smith.

Very common throughout Damara and Great Namaqua Land, and as far as the River Okavango to the northward. My experience of this bird differs considerably from that gained by Dr. Smith, who thinks it very similar in habits to the short-legged Thrushes. To me it is more of a Fly-catcher or even of a Shrike; for, like either of these, it watches for its prey from some elevated spot, from which it pounces with great rapidity on anything coming within reach. It

is very partial to burnt ground and localities singed by fire. Dr. Smith has given a good illustration of the young.

ORIOLOUS AURATUS (Vieill.).

I have only once or twice observed this splendid Oriole in the southern parts of Damara Land—that is, the mature bird. The young (at least I believe it to be the same bird) is pretty common, but only during the rainy season; for it is migratory. The old bird is extremely shy and wary, and always keeps to the thickest part of the jungle. On and in the neighbourhood of the Okavango River it is, however, more abundant, but still retains its shy habits.

In the young bird the iris is brown, legs lead-colour, bill reddish brown.

PARUS NIGER (Vieill.).

Never observed in Great Namaqua Land, and very rare in Damara Land. It is only as one approaches the Okavango River that it becomes of more frequent occurrence. Resembles the great European Titmouse in its habits.

PARUS CINERESCENS.

Found sparingly from the confines of the Okavango River to the Orange River on the south—that is, as regards the west coast. Iris dark brown.

PHOLIDAUGES LEUCOGASTER (Gmel.).

Common throughout Damara Land and parts adjacent (northward), but almost entirely as a migratory bird. A few isolated individuals probably remain all the year round, for I have observed such long after the general migration is over. Shy and wary.

CAMPEPHAGA NIGRA, Vieill.

First observed in the neighbourhood (and there very sparingly) of the Okavango River, and never in Damara or Great Namaqua Land. Its real home must be considerably north of the river in question, for I merely noticed it as a migratory bird. Exceedingly shy and difficult of approach; generally observed moving about in the upper parts of large trees.

PLOCEUS MARIQUENSIS, Smith.

Abundant in Damara and Great Namaqua Land. Most of the old birds appear to me to migrate. Builds its nest amongst reeds, or in small trees immediately overhanging water. Iris orange; legs, toes and claws, and lower mandible nearly flesh-red; upper mandible brownish red. Gregarious.

FRANCOLINUS SUBTORQUATUS, Smith.

I first observed this plain but pretty Francolin as I approached the Okavango River; indeed the few specimens obtained by myself

were secured within a few days' journey of it. It has a true Partridge's call. Dr. Smith describes its strongholds as rocky places, whereas I found it on grassy plains interspersed with large trees and a little brushwood.

ORTYGOMETRA BAILLONI (Vieill.).

Found sparingly (necessarily on account of the scarcity of suitable localities) in Damara Land, also on the River Okavango. At Omanboudi I found it plentiful, where it also bred. I found the nest repeatedly. It usually contained as many as seven eggs of a dull olive-brown colour, or rather a yellowish brown, indistinctly marked with a confusion of brownish freckles. The size of the eggs is enormous—if anything, larger than those of European Starlings. This species will take the wing for a short distance when hard pressed and when beyond the immediate refuge of reeds and rushes, its usual stronghold.

GALLINULA CHLOROPUS.

Common in Damara and Great Namaqua Land—that is, wherever there is a swampy spot.

PARRA CAPENSIS, Smith.

Never but once saw this bird in Damara Land, and that was at Omanboudi; but it is common in the lake regions, and on the River Okavango, where it also breeds.

LAMPROCOLIUS PHÆNICOPTERUS, Sw.

This is to Damara Land and parts adjacent what the Starling is to many parts of Europe. In manner, habits, mode of life, &c., it is precisely similar. Eggs of a similar colour, though scarcely of so deep a blue. Irides bright orange. My friend Layard thinks there may be two species; but this I think doubtful. Entire length 9 inches 8 or 9 lines.

CRATEROPUS BICOLOR.

Pretty common throughout Damara Land. I fancy there may be two distinct species. Irides light reddish brown; legs bluish brown; bill black. Is, like others of the species, very noisy but, as a rule, shy. A full-grown specimen measures 10 inches.

DRYMÆCA CAPENSIS.

Pretty common in the southern parts of Great Namaqua Land; not observed in Damara Land; abundant in the Cape Colony.

AMADINA ERYTHROCEPHALA.

I had been several years in this country (Damara Land) before I knew of the existence of this pretty Finch, or rather Sparrow. Could I possibly have overlooked it? I scarcely think so. A few

isolated specimens may have escaped me. Lately, at all events, I have discovered it in considerable numbers, particularly this year (1863). Numerous families were reared at my residence at Otjimbingue. They build a nest like that of the common European House-Sparrow; indeed, like that bird, they are partial to the eaves and corners of dwelling-houses and out-houses. In Great Namaqua Land I have found it more numerous, and I have reason to think it is not uncommon in some of the northern parts of the Cape Colony and the Orange River Free States; but of this latter circumstance I am not positive. In specimens supposed to have come from the Colony side, the red on the head is clearer, and the colours throughout considerably darker. There is also, in particular, a strong rusty-brown tint about the breast, wings, &c., not so perceptible in my Damara Land specimens.

CUSCUBIA BICINCTUS.

Sparingly scattered over Damara and Great Namaqua Land. This year (1863), I have found it particularly abundant in the south of Damara Land. Entire length probably about $8\frac{1}{2}$ inches.

LANIUS SUBCORONATUS.

Common in Damara and Great Namaqua Land, but I am not sure that it is found as far south as the Orange River. I think not. Where it ceases, *Lanius collurio* takes its place. It resembles the rest of the true Shrikes in its habits. Pounces upon its prey from some elevated situation.

CORETHRURA DIMIDIATA (Temm.).

I found this pretty little Rail first and only at Omanboudi (Central Damara Land), where it was not uncommon, but very shy and retired in its habits. It bred at Omanboudi; but I did not succeed in procuring the nest.

2. LIST OF A COLLECTION OF BIRDS FROM HUAHEINE, SOCIETY'S ISLANDS. BY P. L. SCLATER, M.A., PH.D., F.R.S., SECRETARY TO THE SOCIETY.

Mr. J. H. Gurney having received a small collection of birds from Mr. James H. Wodehouse, H. B. M.'s Consul at Raiatea, Society Islands, has requested me to look them through and to determine the species, which I have had great pleasure in doing.

The series only embraces ten species, but some among them are of much interest. Our best information on the Pacific avifauna is derived from Mr. Cassin's volume on the 'Mammalogy and Ornithology of the U. S. Exploring Expedition under Commodore Wilkes,' to which I have given references in most cases.

1. TATARE OTAÏTIENSIS, Less.: Cassin, U. S. Expl. Exp. p. 159.
A single specimen of this characteristic Pacific form.

2. TODIRAMPUS TUTUS (Gm.): Cassin, *l. c.* p. 206.

Two examples of this species, one of which is not quite mature, the blue on the head and back being tinged with greenish, and the white below with yellowish.

3. EUDYNAMIS TAÏTENSIS (Sparrm.): Cassin, *l. c.* p. 248.

One example of this Cuckoo.

4. PTILONOPUS CHRYSOGASTER, G. R. Gray, P. Z. S. 1853, p. 48, pl. 54.

It is very satisfactory to have an ascertained locality for this beautiful little Fruit-Pigeon, which is closely allied to *P. purpuratus* (Gm.), of the neighbouring island of Tahiti. Other species of the same form are *P. fasciatus* of the Samoan Islands, and *P. coralensis* of the Paumotu group. Indeed every island-group of the South Pacific appears to have one or more representatives of this genus of Fruit-Pigeons.

5. HERODIAS JUGULARIS (Forster): Gould, B. Austr. vi. pl. 60.

One specimen in the bluish-grey plumage of this widely spread species.

6. TOTANUS INCANUS (Gm.).—*T. oceanicus*, Less. et Cass. *l. c.* p. 318.

One example of this widely distributed Pacific species.

7. ANAS SUPERCILIOSA, Gm.: Gould, B. Austr. vii. pl. 9.

One example of this Australian Duck, which has a wide range in the Southern Pacific.

8. STERNA POLIOCERCA, Gould, B. Austr. vii. pl. 24.

9. ANOUS STOLIDUS (Linn.): Gould, B. Austr. vii. pl. 34.

A very widely distributed species.

10. TACHYPETES PALMERSTONI (Gm.): Cassin, U. S. Expl. Exp. p. 359.

One example of the Pacific Frigate-bird, if really distinct from *T. aquila*, as maintained by Cassin, *l. c.*

The following extracts from Mr. Wodehouse's letter to Mr. Gurney (dated Raiatea, September 3rd, 1863) give some particulars concerning these birds. I have inserted the scientific name after the native name in each case:—

“I forwarded in May last from here, per ‘John Williams,’ bound

for Sydney, a box containing some specimens of birds, inhabitants of this group. It so happened that at the time they arrived from the neighbouring island of Huaheine, we were busily engaged packing up two boxes of things for England, *via* Sydney, and I had no time to do more than pin on to each of the birds its native name, reserving an account of their habits, &c., for a future time.

"The 'John Williams,' missionary barque, would have had to perform a circuitous voyage to Sydney, where the box was to be transferred to a homeward-bound Australian trader. It may perhaps reach you a little before this letter.

"The only birds which will interest you at all will be the raptorial, but only after a fashion, as their food is chiefly fish.

"1. 'Otaha,' or Man-of-War Hawk (*Tachypetes palmerstoni*), so called, as you know, from its swift and dashing habits. The Otaha does not alight on the surface of the sea, being neither able to swim nor dive; but it hovers over the ocean with unwearied assiduity. Sailors believe it sleeps on the wing. Their flight is easy and graceful, and has the charm of variety. Sometimes the bird may be seen balanced in mid-air, its wings spread apparently motionless, its long forked tail expanding and closing with a quick alternate action, and its head inquisitively turned from side to side to inspect the ocean beneath; sometimes it wheels rapidly, or darts to the surface of the water, in pursuit of its prey, and at others soars to such a great height that it is lost to sight amongst the clouds of heaven. When the ocean is turbulent, they fare well; but when calm, they live by plundering other birds, whose ocean-food they compel them to disgorge by repeated blows, and, when ejected, the Otaha seizes it with great dexterity before it falls into the sea.

"They are very numerous in these islands. The Otaha builds its nest on the *motus* or verdant islets near the reef, amongst the leaves of the 'wild palm.'

"I believe the female lays no more than three eggs.

"The above description of the Otaha is chiefly taken from a book; it is a faithful one.

"2. The 'Tarapapa,' or Blue Heron (*Herodias jugularis*). This bird is very common here, and takes its prey after the usual Heron fashion, walking along the shores of the lagoon, or, as I have often seen them, sitting motionless on a low coral-rock for hours. The 'Tarapapa,' I am told, makes its nest in the low coral-rocks, which here and there just show their heads above water, close to the shores of the lagoon.

"3. 'Otino' (*Sterna poliocerca*). White Reef-bird, also a species of Heron, as you will have seen. This gentleman passes his time on the 'barrier-reef' amidst the foam of the broken wave, which brings with it from the ocean the small fish which constitutes his food. His home is, too, the 'wild palm' of the 'green motu,' close to his beloved reef, on whose wave-beaten surface he passes his life. I do not know how many eggs the female lays.

"4. 'Torea' (*Totanus incanus*). This bird seeks its food along the shore, like the Heron.

"5. 'Otatare' (*Todiramphus tutus*). A white bird, which builds its nest in the mountains. This gentleman is the terror of the little native girls, as he swoops down on their little pet pullets. (Two specimens.)

"6. 'Ooea' (*Eudynamis taitensis*). A speckled bird with a long tail—a land-bird.

"7. 'Moora,' or Wild Duck (*Anas superciliosa*). Builds on the hillside in the trees.

"8. 'Omamao' (*Tatare otaitiensis*). A sort of Sparrow.

"9. 'Ohio' (*Anous stolidus*). A singing-bird, so called from its peculiar note.

"10. 'Uupa' (*Ptilonopus chrysogaster*). Pigeons (two specimens).

"The gentleman who, at my request, shot and preserved the above specimens is residing in Huaheine, one of the islands of the group, and is a collector of mountain and other Mollusca. As he understands preserving birds, I furnished him with materials out of your box. I only asked for the birds of prey; but as he sent the others, I thought you might as well have them all.

"There is no Owl here; but there is a species of Owl at the Sandwich Islands; and Mr. Garrett, the gentleman who sent these specimens, is visiting the Sandwich Islands, and will bring back some specimens. I do not know if there are any other birds of prey there."

3. NOTES ON CERTAIN SPECIES OF TORTOISES FROM THE ASIATIC ISLANDS TRANSMITTED TO THE BRITISH MUSEUM BY DR. BLEEKER. BY DR. J. E. GRAY, F.R.S., ETC.

Dr. Bleeker has kindly sent to the British Museum a series of specimens of the Tortoises which he has lately named, but I believe not described, in the 'Natuurkundig Tijdschrift voor Nederlandsch Indie,' xiii. 1857, p. 470. I have compared these with the specimens in the British Museum, which I have at various times described, and herewith send the result of the comparison.

I have done so because I think it is very important that there should be a uniformity between the names used in the British Museum and those adopted in the museums on the Continent, more especially as I am desirous of conforming to the rule of priority, and quite willing to adopt the names used by any continental naturalist, if they are given and described before those described in this country.

It is more important that a concordance should be established as regards Dr. Bleeker's species, as I believe that he has sent specimens to several of the larger continental and American collections.

I take this opportunity of stating how much I consider myself indebted to Dr. Bleeker's kindness in contributing original typical specimens of these and other reptiles to the Museum, which has enabled me to make the comparisons.

I believe that Dr. Bleeker has only paid a limited attention to the study of reptiles: his great object has been to collect, to figure while living, and to preserve the fish of the Indian Ocean; and he has succeeded in forming a very extensive collection, the largest, I believe, that has ever been formed, and in discovering a very large number of new and most interesting species, and in establishing numerous new genera. Moreover he has most kindly furnished the British Museum with types of the greater part of these, thereby greatly enriching our collection, which, I believe, was, before that addition, the largest and best-preserved series of fish yet formed.

1. Under the name of *Cistudo bankanensis*, Bleeker, evidently from Banka Island, we have received a young specimen of a terrestrial Emydide, with moderately stout, rather short toes, united by a distinct web nearly to the tips. The toes are covered above with small scales like those on the webs, and there are only two or three very small, triangular, rather broader and more band-like scales on the upper surface of each of the toes near the claws, which are most developed and numerous on the inner toes or thumbs of each foot. The fore legs are covered in front with very thin membranous band-like shields; the hind legs are covered with small scales.

This specimen agrees in almost every particular with a young specimen of *Geoemyda grandis*, which I described in the 'Annals and Magazine of Natural History' for September 1860 (vol. vi. p. 218), from Camboja and Siam; so that I am inclined to think that it may be a variety of that species.

It differs in the underside being plain yellow, and very obscurely mottled with some smaller rather dusky spots.

There are also on the side of the head two yellow streaks—one from the upper, and the other from the lower hind angle of the eye—which are extended on to the temple. These are not visible in our dried specimen of the Tortoise from Siam, but they may be there in the living state.

2. CYCLEMYS OVATA?

There is a young specimen of a fluviatile Tortoise named *Cistudo diardii*, Bleeker, but it is in too young and imperfect a state to decide which of the three species of the genus *Cyclemys* it may belong to. The back is rather more oblong than in the very young specimens I have seen of *Cyclemys orbiculata*, so that it may belong to either *Cyclemys ovata* of Sarawak or *Cyclemys oldhami* of Siam—most probably the former, but I have never seen the young state of these species.

3. CUORA AMBOINENSIS.

There are, in the collection of Dr. Bleeker, a small half-grown specimen of this species under the name of *Cistudo amboinensis*; a very dark young specimen of about the same size as the former, called *Emys melanogaster*, Bleeker; and a large adult specimen named *Emys hypselonotus*, Bleeker.



J. Wolf del. et lith.

M & N Hanhart Imp

SCIURUS ORNATUS.

These all three seem to belong to *Cuora amboinensis*, Gray, Cat. Shield Rept. B. M. 41; Proc. Zool. Soc. 1863, p. 176.

Dr. Bleeker states that this species is found in Batchian and Boero (Nat. Tijdschr. Nederl. Ind. 1857, p. 473).

Dr. Bleeker, in the paper above-cited, has called a species *Cistudo borneensis*, from Borneo and Sintang; but I have not seen any specimen so named.

4. CHELONIA, sp.?

There are two young specimens of this genus in the collection, one named *Chelonia dubia*, Bleeker, and the other *Chelonia polyaspis*; but it is not possible to determine the species from specimens in this state: they may be distinct, but I greatly doubt it.

Dr. Bleeker, in the 'Nat. Tijdschr. Nederl. Ind.' 1857, p. 471, mentions *Sphargis coriacea*, Merrem, as found at Pidang, in Sumatra.

4. NOTICE OF A NEW SQUIRREL (*SCIURUS ORNATUS*) FROM NATAL. BY DR. J. E. GRAY, F.R.S., ETC.

(Plate I.)

Mr. W. Fosbrooke, who so kindly sent to the Museum the small Antelope (*Cephalophus bicolor*) which is described in the 'Proceedings' of this Society for 1862, p. 263, has now given to the Museum the skins of a male and female Squirrel, which is called the *Pocoluti* or Tree-Mouse by the Amazulus. The Zulus seemed to consider it a very rare animal, and the fact of a Squirrel being found in the district a discovery.

We have also received a very imperfect skin, in a bad state, of a Squirrel which appears to belong to the same species, from Capt. Speke, but without any special habitat.

SCIURUS ORNATUS.

Back dark blackish grizzled; hairs red, with a broad black sub-terminal band and a white tip. Head, legs and thighs, underside, and tail very bright red-bay; the hairs of the head, limbs, and belly red to the base; the hairs of the tail very vivid and dark red for more than half their length; the base, especially of those near the lower end of the tail, black, with two broad greyish bands.

The red colour of the female not quite so bright and dark, and the base of the tail grizzled, with shorter red tips to the hairs.

Hab. Natal (*W. Fosbrooke, Esq.*).

This species is about the size of the Common European Squirrel (*Sciurus vulgaris*).

5. ON THE VISCERAL ANATOMY OF THE SCREAMER (*CHAUNA CHAVARIA*). BY EDWARDS CRISP, M.D., F.Z.S., ETC.

Before I speak of the visceral anatomy of the *Chauna chavaria*, a few words respecting the habits of this bird will not be inappropriate. Linnæus calls it *Parra chavaria* (Syst. Nat. i. 260); Latham (Gen. Syn. v. 246), the Faithful Jacana—a name that throws some light upon one of its characteristics. Linnæus, according to Shaw (vol. xii. p. 272), on the authority of Jacquin, says “that its gait is solemn and slow, but it flies easily and swiftly; it cannot run unless assisted by the wings at the same time. When any part of the skin is touched by the hand, a crackling is felt, though it is very downy beneath the feathers; and this down adheres so closely as to enable the bird at times to swim, notwithstanding the length of its legs and of its cleft feet, which latter enable it also to walk on the aquatic plants of the pools.” He goes on to say “that by means of its four wing-spurs it can drive off even the Carrion-Vulture; and that it is used by the natives as a protector to the poultry, defending them against birds of prey, and returning home with its charge in the evening.” Cuvier, like Shaw, places this bird after the Jacanas, and before the Megapodes, Rails, Crakes, Coots, and Gallinules; he also alludes to the inflation of the skin and to the courage of the bird. Cuvier, in speaking of the Horned Screamer (*Palamedea cornuta*), says, “it has a bony box in the middle of the trachea, like that of the Velvet Pochard (*Edemia fusca*),” which may possibly occasion the difference in the voice of this and of the *Chauna* to be mentioned below.

I have had an opportunity of seeing the two above-mentioned birds alive in the Society’s collection. The sound emitted by the Horned Screamer that was in the Gardens for three or four years was a loud and sudden hoot—a noise that could always be elicited by imitating the sound of the bird; it had no resemblance to a scream. The voice of the bird, however, now in the Gardens (*Chauna chavaria*) is of a very different character, approaching that of a scream. Its food is chiefly vegetable, but the keeper tells me “that it will eat meat sometimes.” Through the kindness of Mr. Bartlett, I have examined the living specimen in the Gardens, and I find that the statement respecting the presence of air under the skin is correct.

I had an opportunity of examining two of the bodies out of the three that died recently, and also of inspecting the skeleton of one of them. These birds were male and female, and, with the exception of the difference in the generative organs, there was a great resemblance between them, both in the form and size of the viscera. As Mr. Parker is about to describe the skeleton, I will allude only to one circumstance connected with it. In my last paper “On the Presence or Absence of Air in the Bones of Birds,” I stated that I had not at that time met with the skeleton of a bird the bones of which were entirely permeated with air. This bird, however, has nearly every bone filled with air; and a few other birds that I have since

examined—the Gannet, Pelican, and Adjutant—have very light and airy skeletons.

As I have said on a former occasion, the body of a bird, as regards a part of its mechanism, is not unlike a balloon. When the Gannet and the Pelican descend with the rapidity of an arrow upon a shoal of fish, which their quick sight enables them to see at a great distance, the abdominal and thoracic air-cells are compressed by the abdominal and other muscles, and the greater part of the air is thus expelled and the bird descends with greater rapidity. The bird in question (*Chauna chavaria*) is no doubt one of rapid flight; but probably the great benefit it derives from the presence of air in its bones and under its skin is to enable it to walk with greater facility upon the aquatic plants, and thus obtain its food, which probably in a state of nature consists chiefly of Mollusca, judging from the form of its intestinal tube.

The visceral anatomy of this bird presents some points of especial interest, and, judging from the reference to my notes of the dissections of a great many birds (British and foreign), there are some peculiarities in its organization that I have not before met with. The tongue is fleshy, thick, and rather pointed. The trachea is large above and small below; but the greater part of the tube is uniform in size, and the rings firm and unyielding; the rings number 129. Two pairs of muscles are present at the lower part—the *sterno-tracheales* and *broncho-tracheales*; these are of large size. The eyes are large; irides of a light yellow colour. The lungs, heart, kidneys, thyroids, spleen, pancreas, generative organs, and renal bodies present no remarkable deviation from the ordinary type, except that the generative organs and renal bodies are of a deep orange colour. The lobes of the liver (in both specimens) are connected by a very small, narrow isthmus, much smaller than I have seen it in any other bird of the same size. But the intestinal tube of this bird, as shown by the drawings on the table, offers some of the most curious anomalies. The œsophagus is of uniform size and of moderate capacity; the proventriculus thick and capacious; the glands large and flask-shaped; the gizzard thin, its parietes of nearly the same thickness in every part; the calibre of the small intestines moderate, that of the rectum very large. The mucous lining of this gut forms forty-two transverse folds, so as to extend greatly the absorbing surface. The subjoined is the length of the canal:—

	inches.
Æsophagus	12
Gizzard	2½
Small intestines	50
Appendices, three	6
Large intestine	13
	—
	83½

The intestinal tube holds 14 ozs. 3 drachms of water. The appendices, although short, are very capacious, and, like the large intes-



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