# THE DODO
## AND KINDRED BIRDS

*or*

## THE EXTINCT BIRDS OF THE MASCARENE ISLANDS

*By*

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The length of the tibiotarsus is 117 mm. and that of the metacarpal 55 mm. They are preserved in the Mauritius Museum.

### *Bubo leguati* Rothschild

### Leguat's Owl

*Strix* sp. Milne-Edwards, *Ann. Sci. Nat. Zool.*, ser. 5, vol. xix., p. 13 (art. 3), 1874.
*Bubo* (?) *leguati* Rothschild, *Extinct Birds*, p. 71, 1907.
*Bubo* (?) *leguati* Lambrecht, *Handb. der Palaeornith.*, p. 617, 1933.

**Distribution.**—Rodriguez.

**Description.**—Milne-Edwards had only a single tibiotarsus of this species and described this bone, but refrained from giving it a specific name, though he stated it was probably a small *Bubo*, in the hope of getting more material.

As, however, we have no further specimens, Lord Rothschild is justified in naming it after Leguat.[1] Milne-Edwards' description of this tibiotarsus is that it is equal in length to the corresponding bone of the Short-eared Owl, *Asio flammeus*, but was distinguished from the latter by the strong inward curvature and the great development in width of its distal extremity. The following table gives its various measurements:—

| *Tibiotarsus* | mm. |
|---|---|
| Total length | 77 |
| Length from the proximal extremity to the top of the peronial ridge | 25 |
| Width at distal extremity | 10·5 |
| Width at proximal extremity | 9 |
| Width of shaft | 3·7 |

The Eagle Owls, Genus *Bubo*, one of the largest members of its tribe inhabiting the colder climates, are larger than those in the tropics. There are about half a dozen species belonging to this genus in Africa and the smaller members of the Eagle Owl are found in the Pacific Islands. *Nesasio solomonensis* is known from the Solomon Islands. *Pseudoptynx philippensis* is confined to the Philippine Islands, while the smallest of all the Eagle

[1] Rothschild writes: "Leguat is the first who mentioned the Owls on Rodriguez"; I have, however, been unable to trace this mention. The contemporary author who recorded the Owl from Rodriguez is anonymous, and the bird he records is referable to *Athene murivora*.

Owls, a monotypic genus which I proposed, is *Mimizuku gurneyi*, also from the Philippine Islands. The Leguat's Owl, which is about the size of the Short-eared Owl, appears to be much the same in size as *M. gurneyi*; the latter is very aberrant.

I am quite sure that the modern classification will not allow *leguati* under *Bubo*; however, I am unable to do anything further than to point out the fact at present.

## *Tyto sauzieri* (Newton and Gadow)

### Sauzier's Grass Owl

*Strix sauzieri* Newton and Gadow, *Trans. Zool. Soc.*, pp. 286–288, pl. xxxiii., figs. 11–18, 1893.
*Strix sauzieri* Rothschild, *Extinct Birds*, p. 80, 1907.
*Strix Sauzieri* Lambrecht, *Handb. der Palaeornith.*, p. 614, 1933.

**Distribution.**—Mauritius.

**Description.**—Newton and Gadow described this species from four metatarsi, three tibiæ, and two humeri. They state that the relative length of the tibia to the metatarsus is very constant and characteristic of the various families and genera of Owls. In the present instance this comparison indicates a species of *Tyto*.

The longer and higher cnemial process of the tibia and the shortness of the humerus serve amply to justify the specific separation of this Mauritian Owl.

The specimens of humerus, tibiotarsus, and tarso-metatarsus are in the Mauritius Museum.

The following is the table of measurements in comparison with other genera and species of Owls:—

| | Humerus | Tibia | Metatarsus | Quotient $\frac{\text{Tibia}}{\text{Metatarsus}}$ | |
|---|---|---|---|---|---|
| | mm. | mm. | mm. | mm. | |
| *Tyto sauzieri* | 71 | 90, 92, 93 | 63, 63, 64, 64, 66 | 1·42 | ↑Longest Metatarsus |
| *Tyto* sp. | — | — | 56 pair | — | |
| *Tyto soumagnii* | 72 | 87 | 57–60 | 1·52 | |
| *Asio flammeus* | 84 | 85 | 60 | 1·42 | |
| *Athene murivora* | 64–69 | 69–76 | 41–46 | 1·65–1·70 | |
| *Asio capensis* | — | 95 | 56 | 1·70 | |
| *Scops rutilus* | 47 | 50 | 28 | 1·80 | |
| *Sceloglaux albifacies* | 58 | 64 | 35 | 1·83 | |
| *Bubo virginianus* | 163 | 146 | 75 | 1·94 | |
| *Bubo madagascariensis* | 80 | 82 | 41 | 2·0 | ↓Shortest Metatarsus |

*Tyto newtoni* (Rothschild)
Newton's Barn Owl

*Strix* sp. Newton and Gadow, *Trans. Zool. Soc.*, vol. xiii., p. 287, 1893.
*Strix newtoni* Rothschild, *Extinct Birds*, p. 79, 1907.
*Strix Newtoni* Lambrecht, *Handb. der Palaeornith.*, p. 614, 1933.

**Distribution.**—Mauritius.

**Description.**—Newton and Gadow give the measurements of, and describe a pair of, metatarsi procured with the remains described as *Tyto sauzieri*, and state that they do not fit in with that species. For, as they are fully adult bones, it is impossible to attribute their much smaller size to youth. They then add a sentence of which this is the first part: "Unless we assume, what is unlikely, that the island of Mauritius possessed two different species of *Tyto*, we have to conclude that the short pair of metatarsals belonging to a small individual of *Tyto sauzieri*." Evidently Gadow and Newton, when they wrote this, did not remember the fact that, throughout a very large portion of the range of Barn Owl, *Tyto alba*, its various geographical races are found side by side with another species of the group of *Tyto*, namely, *T. longimembris* and *T. capensis*, popularly called Grass Owls; these in nearly every case have considerably longer legs than the true Barn Owls (*Tyto alba* and its races). As Lord Rothschild considers that it is possible to expect that two species of *Tyto* inhabited Mauritius, namely, the Grass Owl and the Barn Owl, the small metatarsi are referable to the Barn Owl, which he named in honour of Sir Edward Newton.

In my opinion, Lord Rothschild's view is justified by the fact that in Mauritius two kinds of Flightless Rails, Pigeons, and three species of Parrots had existed.

The tarso-metatarsus is preserved in the Mauritius Museum. The length is 56 mm.

*Athene murivora* (Milne-Edwards)
The Rodriguez Little Owl

"Very like the brown owl"—Anonymous, *Relation de l'Île Rodrigue, Voyage of François Leguat*, Hakluyt Soc., vol. ii., p. 336, 1891, prior to 1730.
*Strix* (*Athene*) *murivora* Milne-Edwards, *Ann. Sci. Nat. Zool.*, ser. 5, vol. xix., p. 13 (art. 3), 1874. (Type, male, smaller bone.)
*Carine murivora* Günther and Newton, *Philos. Trans.*, vol. clxviii (extra vol.), p. 424, 1879.
*Athene murivora* Rothschild, *Extinct Birds*, p. 75, 1907.
*Carine murivora* Lambrecht, *Handb. der Palaeornith.*, p. 617, 1933.

**Distribution.**—Rodriguez.

**Description.**—The anonymous author of *Relation de l'Île Rodrigue*

writes: "A bird is seen which is very like the brown owl, and which eats the little birds and small lizards. They live almost always in the trees; and when they think the weather fine, they utter at night always the same cry. On the other hand, when they find the weather bad they are not heard." This "brown owl" is not specifically clear; however, its diet is only of small birds and lizards; this Owl must be one of those small types nearest to the European Little Owl, *Athene noctua*. We have no other evidence that these birds were seen alive.

Prof. Milne-Edwards described this bird from a tibiotarsus and a tarso-metatarsus collected by Sir Edward Newton, and says that he considers it to belong to genus *Athene*, because the proportions of the tibiotarsus and tarso-metatarsus agree with those of that genus. The most remarkable specific characters appear to be that the ridge to which the fibula is articulated is stout, and extends very far along the outer edge of the bone. The diaphysis is large and nearly straight; the distal extremity is furnished with two equal condyles separated by a deep channel.

Günther and Newton, who examined further materials collected by the Rev. H. H. Slater, write as follows:—

"Milne-Edwards recognized two tibiæ and one metatarsus as belonging to two species of owls, one of which he named *Strix* (*Athene*) *murivora*, the other (represented by one tibia only) he left unnamed. This last was 6 mm. longer than that of *A. murivora* and said to be distinguished by a shorter and less projecting peroneal crest . . . the former one evidently those of females and the latter males, according to the difference in size which obtained between the sexes of nearly all the nocturnal birds of prey. . . .

"In this [generic affinity] we were not successful, chiefly for the reason that the genera of owls adopted by some ornithologists do not by any means coincide with osteological modifications, and that the Rodriguez owl shows a combination of osteological characters which we have not found in any of the *Surnia*, *Carine* [*Athene*], *Ninox*, and *Glaucidium*."

The discovery of part of the cranium and the pelvis enables us to obtain a fairly accurate idea of the size of the Rodriguez Owl. Its body was rather larger than that of *Ninox novæseelandiæ boobook* of Australia, but considerably smaller than that of *Asio flammeus* of Europe. The wing was clearly somewhat shorter and a little less developed than in either of those Owls, though the power of flight of this bird cannot have been much impaired.

On the other hand, the length and strength of its legs, as compared with the size of the body, and especially with the length of the wing, was much more than in many of the species of Owls.

| *Tibiotarsus* | mm. |
|---|---|
| Total length | 71 |
| Length from proximal extremity to end of peroneal ridge | 25 |
| Width of distal extremity | 10 |
| Width of proximal extremity | 9 |
| Width of shaft | 4 |
| *Tarso-metatarsus* | |
| Total length | 46 |
| Width at proximal extremity | 10 |
| Width at distal extremity | 15 |
| Width of shaft | 5 |

The specimens of tibiotarsus, tarso-metatarsus, and mandibular are preserved in the British Museum.

### *Scops commersoni* Oustalet
### Commerson's Scops Owl

*Scops commersoni* Oustalet, *Ann. Sci. Nat. Zool.*, ser. 8, vol. iii., p. 35, fig. 3, 1896.
*Scops commersoni* Rothschild, *Extinct Birds*, pp. 73–74, 1907.

**Distribution.**—Mauritius.

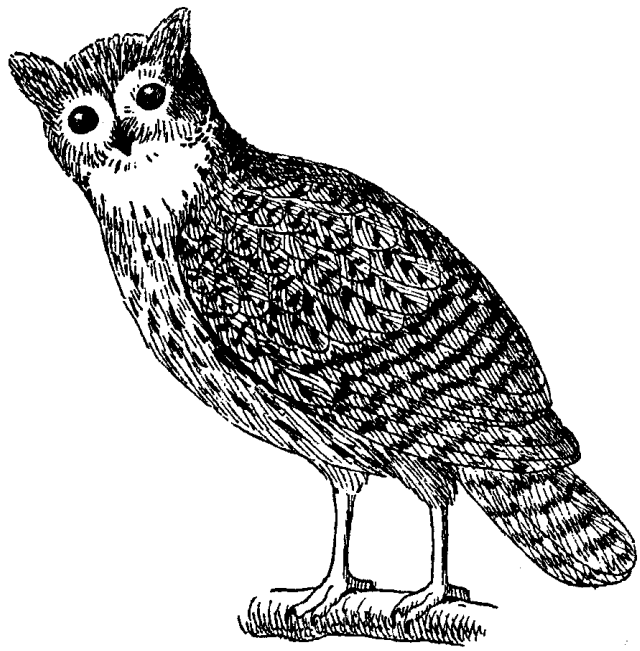
**Description.**—"The digits and even the tarsi are not feathered, only on the front portion of these latter one sees some short, stiff feathers running down to a point nearly to the centre. The digits are very strong, being armed with hooked nails.

"The beak is very stout, arched from its base; the upper mandible, which is much longer than the other and covering it, is as if cut square at the point. The nostrils pierce the bill pretty high up in the horny portion. The eyes, of which I could not see the colour, are round, and placed, as in the entire family, in front. They are surrounded by a circle or disc of stiff, thread-like feathers, which is interrupted at the sides. A sort of collar is perceptible on the throat. Two very apparent tufts, similar to those of the Eagle Owl and Eared Owl, arebehind the eyes and towards the top of the occiput.

"The wings are a little longer than the tail, the fourth and fifth primaries being the longest, the third and sixth are shorter, and the second still shorter, being equal to the eighth, and the first is shortest of all. The tail reaches to the end of the digits; it is rounded and not much lengthened: all the

rectrices are equal in length. The ear-tufts are brown with some slight buff shading, the distal plumes being white marked with buff. All the upper side is of a dark brown colour, the feathers of the head, the neck, and the back are edged with rufous, but not very distinctly so; this rufous colour is more apparent on the scapulars, and some of these even have on the outer web one or two whitish patches surrounded with brown.

"The large tail-feathers are less brown and more rufous in colour, with lighter rufous marbling mixed with brown.



Commerson's Scops Owl. The only evidence of the Scops Owl from Mauritius rests upon the testimony of the celebrated traveller, Philibert Commerson, and Julien Desjardins in 1837.

"The tertials and secondaries have a darker brown bar towards the centre, and their outer web is pleasantly marked with somewhat square ocelli or irregular bands of white, pale buff, and brown. The large primaries or flight feathers present the same ornamentation, but more strongly developed, and the blotches are buffy white on the inner web, which produces a regular spotting on a brown ground-colour; the tip of these large feathers is finely stippled with brown on a fairly pale ground; and there is a large patch of white on the wings in addition.

"The throat and abdomen are nicely adorned with dark buff feathers, which have a black-brown centre and two to four large round white spots. The large feathers on the flanks are whitish, with a brown shaft-line and marked with buff. All the well-feathered parts, underneath the feathers, are covered by a very thick black down."

The first mention of the Owls on Mauritius was made in the year 1606, when Admiral Matelief stated that Owls were common on the island. However, we have no way of determining whether it belonged to the present species or to the genus *Tyto*. The only evidence of the Scops Owl from Mauritius rests upon the testimony of the celebrated traveller, Philibert Commerson, and Julien Desjardins in 1837.

The above description of the bird is translated from the manuscript of the latter author. The same author writes that the specimen he described was killed at the end of October 1836, in the forest crowning the hills close to "Bamboo Creek." In 1837 several were still seen near "La Savane," and one was killed at Curepipe by Dr. Dobson of the 99th Regiment. This latter is believed to have been one of, if not the last of, this species.

The excellent figure reproduced here is re-copied from Oustalet's article, who made a scientific study of this bird and finally named it after the discoverer. A full account of Commerson's life, adventures, and manuscript has been given by Dr. Oustalet in his memorable essay, *Notice sur la Faune Ornithologique Ancienne et Moderne des Îles Mascareignes et en particulier de l'Île Maurice, d'après des documents inédits.*

Lord Rothschild, in his *Extinct Birds*, considered the Commerson's Scops Owl much too large to be classified as a true Scops although he did not suggest another generic classification.

## *Phœnicopterus* sp.

### The Flamingo

Flamingo, Clark, G., *Ibis*, 1866, vol. ii., p. 144.
*Phœnicopterus* sp. Milne-Edwards, *Bull. École Haut. Étud. Sect. Sci. Nat.*, ix., art. 3, S. 27, 1873.
*Phœnicopterus* sp. Newton and Gadow, *Trans. Zool. Soc.*, vol. xiii., p. 282, 1893.
*Phœnicopterus* sp. Lambrecht, *Handb. der Palaeornith.*, p. 345, 1933.

**Distribution.**—Mauritius.

**Description.**—With the Dodo remains, George Clark found the Flamingo bones from Mare aux Songes, and later Sauzier also found the corresponding bones from the same marsh. However, neither of them identified the species, or they simply referred it to the common species, *Phœnicopterus antiquorum*, found in Europe.

Flamingos were formerly very common, and many authors, including Strickland, confused Leguat's *Géans* with a Flamingo, which is entirely erroneous. The distribution of the Flamingos is very interesting; some are migratory, while others are quite sedentary, as on the Galapagos Islands.

The length of the tarso-metarsus preserved in the Tring Museum is 260 mm.