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NOTES ON AUSTRALIAN MAMMALS.

No. 1.

BY

ELLIS LE G. TROUGHTON,

Assistant in charge of Mammals, Australian Museum.

(Figures 1-6).

The following notes record extensions in the range of two Australian mammals, together with remarks on a resting place of the "Little Bat," *Eptesicus pumilus*, Gray, and an extended description of the "Allied Rat," *Epimys assimilis*, Gould.

I wish to express my thanks to my colleague, Mr. J. R. Kinghorn who kindly prepared the accompanying figures, and Mr. A. R. McCulloch for his helpful advice since handing over the Department of Mammals to my charge and during the preparation of this paper.

Family VESPERTILIONIDÆ.

CHALINOLOBUS MORIO, Gray, and *EPTESICUS PUMILUS*, Gray,

The only indigenous mammal hitherto listed from Lord Howe Island is the bat recorded by Etheridge¹ as *Chalinolobus morio*, Gray. His record was based upon a single specimen collected by his party in 1889, and which does not appear to have been preserved, since it cannot now be found although I have searched carefully through the Microchiroptera in the collection of the Australian Museum. As *Chalinolobus morio* is found in both New Zealand and Australia, however, it probably occurs at the intermediate locality, Lord Howe Island.

After carefully comparing a series of six bats in the Australian Museum collection from Lord Howe Island, which do not differ from a large series of *Eptesicus pumilus*, Gray², from various localities in Australia, I am able to definitely record the occurrence of this species on the island.

It may be noted here that, on a recent expedition in South Australia I collected two specimens of *Eptesicus pumilus* from Tulka, near Proper Bay, which is eight miles from Port Lincoln on Eyre's Peninsula. Both specimens were found under the loose bark of the native "She Oak" (*Casuarina glauca* or *suberosa*), about six feet above the ground, and not far from a road bordered by blossoming trees which provided a surfeit of insect-food. When finished hunting the bats apparently sought shelter on trees of which the bark curled out sufficiently loosely from the trunk

¹ Etheridge—Mem. Austr. Mus., ii., 1889, p. 6.

² Vide Gould—Mamm. Austr., iii., 1863, pl. xlvi.

to provide adequate room without exposing them to the weather. This choice of shelter was probably due to the fact that the Mallee scrub in this locality did not provide any large hiding places, or the rock formation any caves. The resting places were probably chosen at random, there being nothing to indicate that they were regularly inhabited.

Family MURIDÆ.

EPIMYS ASSIMILIS, Gould.

As stated by Mr. Edgar R. Waite; very few of our native rats have been described by other than external characters and a revision of the Australian Muridæ is so greatly needed that any effort towards the completion of specific descriptions will be welcomed. To this end Mr. Waite published his "Extended description of *Mus fuscipes*, Waterhouse,"³ and with his excellent example before me I venture to supply additions to our knowledge of the characters and range of *Epimys assimilis*, Gould.

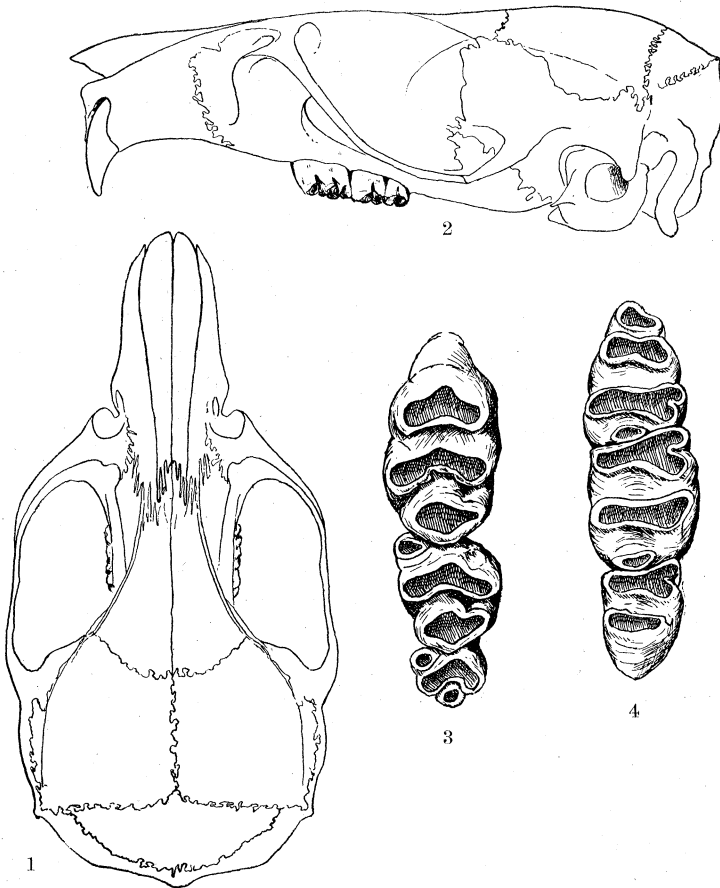
Description.—Fur long, soft and extremely thick; on the back it is an admixture of slate-coloured fur tipped with light brown and longer hairs which are brightly iridescent in sunlight; the bases of the long hairs are light greenish-grey to the length of the fur, and the remaining portions are either wholly black or tipped with pale brown. The light brown tips of the fur and the black and brown of the longer hairs produce the "light brown pencilled with black" effect described by authors. The sides are lighter, merging into the greyish-buff under surface which is produced by the lighter slate-colour of the basal fur with its dull white tips. Feet covered with fine, silvery-white hairs.

Ears larger than those of *fuscipes*; laid forward they reach to, or a little beyond the posterior margin of the eye; pinna thin, covered sparsely but evenly with light brown hairs externally, and silvery to light brown hairs internally. Comparative measurements of twenty-four specimens show the tail to be extremely variable in length; in measurements of fresh specimens, taken from the rump at a point where the tail can be bent upwards, to its tip, three specimens have it from 1.8 mm. shorter than the head and body, while in twenty-one specimens it is from 1.26 mm. longer than the head and body; it is sparsely but evenly covered with short hairs which are dark brown with lighter tips and are generally longer than two scales but not concealing them.

Skull.—Rounded compared with *E. norvegicus* but not so stout as *fuscipes*, the nasal region appearing more slender than in the latter species. Supraorbital ridge not very marked and not forming a pronounced ridge. The anterior palatina foramina extend backwards to the centre of the first cusp of the first molar. Interparietal comparatively longer than that of *fuscipes*, its length being generally about half its breadth. Though, when comparing skulls of *assimilis* and *fuscipes*, the stouter appearance of the latter is quite obvious, a comprehensive series of comparative

³ Waite—Rec. Austr. Mus., iii., 1900, p. 190, figs. 1-4.

measurements of both species prove the bones of the skull to be most variable, the apparent differences merging into one another, so that a detailed list of measurements seems superfluous.



Epimys assimilis.

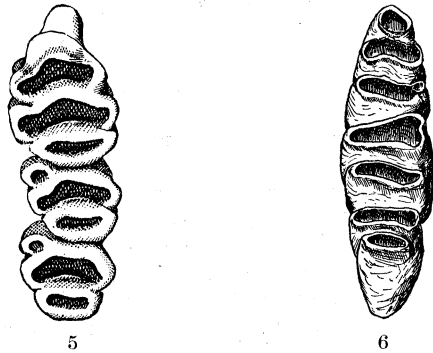
Figs. 1 and 2. Skull of adult.

Fig. 3. Upper molar teeth of same specimen.

Fig. 4. Lower molar teeth of same specimen.

Teeth.—Anterior edges of upper incisors orange, the colour varying in intensity; lower incisors paler. The molars are relatively finer than those of *fuscipes*, the tooth rows of *assimilis* being actually shorter and narrower than those of the former species in skulls of equal length. Upper molars tapering from the first to a comparatively small third molar; there is a distinct external lobe on the third cusp of m^1 and m^2 , formed by an angular fold of the anterior margin of each; there is no

sign of this lobe or fold in *fuscipes*. Mandible and teeth decidedly more delicate than those of *fuscipes* in skulls of equal length. The lower molars afford a striking and consistent difference between the two species in the following character: on the posterior margin of m^1 there is a small facet or subsidiary cusp (Fig. 4) pressing closely against the anterior margin of the following molar, and there is a similar facet on the posterior margin of m^2 ; there is no trace of any such facets on the posterior margins of these teeth of *fuscipes* (Fig. 6).



Epimys fuscipes.

Fig. 5. Upper molar teeth (after Waite).

Fig. 6. Lower molar teeth of another specimen.

Comparison of external characters with those of E. fuscipes.—The fur of *assimilis* is much thicker, the basal colour lighter, and it is not so harsh to the touch as that of *fuscipes*; it has no trace of the yellowish tinge of the latter species. Ears of *assimilis* longer, reaching to the posterior margin or middle of the eye instead of half way to it as in *fuscipes* (vide Waite). The tail of *fuscipes* is noticeably shorter than that of *assimilis* and is consistently shorter than the head and body in the specimens I have examined; measurements of three specimens given by Waterhouse⁴ and Waite show the tail to be 57 mm. shorter than the head and body while in a specimen measured by myself, the tail measured from the rump, is 30 mm. shorter; it is therefore proportionately much shorter than the shortest tail of *assimilis* in comparison with its head and body. There are 30 caudal vertebræ in the only skeleton of *assimilis* examined, counting from behind the two broad sacral vertebræ articulating with the ilia, and possibly including several pseudo-sacral vertebræ; under the same conditions I count 27 caudal vertebræ in a skeleton of *fuscipes*.

Range.—*E. assimilis*, hitherto considered quite rare, was originally recorded from the Clarence River, New South Wales, and King George's

⁴ Waterhouse—Zool. Voy. Beagle, i. 2, 1839, p. 66, pl. xxv.

Sound, Western Australia, by Gould⁵ and its known range has since been extended to south-west of Rockhampton, Queensland, by Collett⁶. Specimens, in the Australian Museum, collected by myself and others enable me to note the occurrence of this rat at several intermediate localities. I recently collected a fine series on Kangaroo Island, South Australia, which enables me to record the occurrence of the species, hitherto only known from the mainland, on the island. These specimens do not exhibit any striking differences from the mainland specimens. They were caught in traps baited with raisins, on a rocky hillside near Birchmore Lagoon, a stretch of brackish water about 15 miles from Kingscote, and along the banks of a dry watercourse, known as Deep Creek, 20 miles from Kingscote.

Two specimens collected on the Tulka sand dunes, in very dry country, about 10 miles South of Port Lincoln, Eyre's Peninsula, South Australia, reflect their sandy environment in a slightly lighter colouration.

Unlike *E. fuscipes*, water does not seem essential to *E. assimilis*, as the localities in which both the Kangaroo Island and Eyre's Peninsula specimens were secured were generally some considerable distance from it, which suggests that the species goes for long periods, if not altogether, without water. I have also trapped it in the Megalong Valley, about two miles from Blackheath, on the Blue Mountains, New South Wales, where it favoured damper surroundings than in South Australia, being on a hillside and near a creek where there is considerable soakage of water at times. Other specimens are in the Australian Museum collection from Jerriwangler Creek, Wandandian, New South Wales, collected near water by Mr. A. R. McCulloch; Mount Kosciusko (5,600 ft.), New South Wales; the Herberton District, Queensland.

⁵ Gould—Proc. Zool. Soc., 1857, p. 241, and Mamm. Austr., iii., 1863, pl. xv.

⁶ Collett—Zool. Jahr. (Syst.), ii., 1887, p. 838.