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TWO NEW RATS FROM CENTRAL AUSTRALIA.

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(Plate I.)

The two new rats described below were kindly handed over with other mammals by the Zoology Department of Melbourne University, and are part of the late Sir W. Baldwin Spencer's Horn Expedition Collection, which is now completely housed in the National Museum.

When the late Edgar R. Waite dealt with the Horn Expedition Muridae (1) he assigned one form to *Rattus greyi* Gray but said, "I am scarcely satisfied with the identification." Wood Jones (2) has since pointed out that Gray's original description of the species is quite unlike that of Ogilby (3); Ogilby's description was used by Waite in his identification and it is obvious that the Horn Expedition specimens cannot be associated with Gray's species. They are, in fact, very closely allied to *Rattus tunneyi*. The latter was described by O. Thomas (4) in 1904 from specimens collected by J. T. Tunney on the Mary River, about eighty miles south-east of Darwin, where tropical conditions exist and there is a rainfall of between 50 and 60 inches yearly. As might be expected, Central Australian specimens from Alice Springs, in true desert with a rainfall of about 10 inches, exhibit discrepancies. They are therefore described as

Rattus tunneyi dispar subsp. nov.

Mus greyi Waite (nec. Gray), Rept. Horn Expdn., ii, p. 401, pls. 25 and 26, fig. 3, 1896; id. Proc. Roy. Soc. Vict., vol. x, p. 124, 1897.

? *Rattus greyi* Wood Jones, Mamm. Sth. Aust., iii, p. 305, 1925.

A densely furred rat; general colour about sayal brown. Dorsal fur (16 mm.) vinaceous slate for more than two-thirds of its length, subterminal band clay-colour with hazel tips. Side of body lighter. Head as body; cheeks lighter, upper lip white. Mystical vibrissae sparse and short (longest 30 mm.); mixed white and brown hairs. Ears small, rounded in outline; inner surface with a few silvery hairs, outer surface with sparse adpressed hair coloured as body. Ventral surface of body creamy white, hair white to base. Tail shorter than head and body, brown above, whitish below, not contrasted; uniformly clothed with hairs two scales in length not sufficiently

numerous to hide scales. Manus and pes white, well covered with silvery white adpressed hair.

Skull.—Smaller but otherwise identical with that of the northern species.

Teeth.—The type is an aged male with well-worn molar crowns. The antero-external cusp of M^2 is very small, but is perceptible.

Habitat.—Central Australia. Type locality, Alice Springs.

Type.—Skin and skull in National Museum, Melbourne; male, R.12642.

Dimensions of Type (measured from spirit).—Head and body, 131 mm.; tail, 114 mm.; hind foot, 37 mm.; ear, 16 mm.

Skull.—Greatest length, 34.8 mm.; basal length, 32 mm.; greatest breadth, 19.5 mm.; nasals, 13×3.5 mm.; interorbital breadth, 5 mm.; greatest divergence of parietal ridges, 12 mm.; palate length 16.3 mm.; palatal foramina, 7.3 mm.; diastema, 9.8 mm.; upper molars, 7 mm.

Twelve specimens were examined from Alice Springs and unspecified localities Central Australia. There is nothing to denote the female from Tennant's Creek noted by Waite.

My thanks are due to Mr. L. A. Glauert, Curator of the Western Australian Museum, for the loan of one of Thomas's original series of *tunneyi* for the comparison with the above. The following differences may be noted:

Size.—The type of the new subspecies is the largest animal in the series (average head and body length, 126 mm.), and though these measurements, taken after prolonged immersion in alcohol, must differ from those of the freshly-killed animal, Waite's dimensions show that the largest male is smaller than the female type of the northern *tunneyi*. Skull dimensions, which are not affected by alcohol, are considerably less (greatest length of largest female in present series 32.5 mm.) so that the inland form is undoubtedly smaller in size.

Teeth.—Waite did not show an anterior-external cusp on M^2 in his figure, and this is not perceptible in some specimens. In others a similar cusp is present on M^3 .

Pelage.—The difference in the fur of animals from the two localities is very marked. The Mary River specimen agrees with Thomas's type in being "thinly haired," and in many places on the sides and ventral surface of the body the brown of the dried skin shows through. The Central Australian rats, on the other hand, are densely clothed with fur which, even on the ventral surface, measures 9 mm. in length.

Colour.—The Central Australian specimens are richer in tone, being reddish rather than "sandy-buffy." Waite mentioned that the basal grey of the fur showed through "somb-

ring the whole," but this is not the case in a dry skin though it applies to wet (spirit) specimens.

The subspecies may therefore be described as being a small, brightly-coloured, long-haired, desert form of the northern species.

Also present amongst the additions to the Spencer mammals are two examples of a new Jerboa Mouse. Equally as large as *Podanomalus longicaudatus*, the new species has a glandular area as in *Notomys* (5). Its large size, comparatively short tail, and extremely long ears, at once separate it from all known species except possibly *N. mordax*, which was described from a skull only. With the latter it does not agree either in character or dimensions, and is therefore described as

Notomys amplus sp. nov.

Size.—Largest of the genus. General colour about sayal brown scarcely grizzled with darker hairs and almost uniform over the whole of the dorsal surface. Dorsal fur (16 mm.) deep mouse grey for a little more than half its length, then cinnamon-buff darkening to clay at the tip. Head paler; cheeks and upper lip almost white. Ears very long and bluntly pointed; sparsely clothed on outer surface with adpressed tawny hair, inner surface with a few scattered silvery hairs towards the tip. Gular glandular area well marked but without a fold of skin at the lower border. Sides of body very little lighter; well marked line of demarcation between the dorsal and ventral colouration. Ventral surface yellowish white; hairs basally smoky-grey, paler on chest and throat. Tail yellowish-brown above almost to tip; underside and tip white. Manus and pes white; poorly clothed with silvery adpressed hair. Pes heavy (6 mm. at base of toes 2.3.4); hallucal pad present.

Skull.—Generally conforming to generic characters, but with a heavy muzzle and a small narrow braincase. Bullae medium (anterior-posterior length three-fourths of diastema).

Teeth.—Crown pattern of molars typical of genus. Incisors heavy and markedly opisthodont (index of incisors 50°).

Habitat.—Central Australia. Type locality, Charlotte Waters.

Type.—In National Museum, Melbourne; female, C.512.

Dimensions of Type (measured from spirit).—Head and body, 143 mm.; tail, 153 mm.; hind foot, 43 mm.; ear, 35 mm.

Skull.—Greatest length, 41 mm.; basal length, 35 mm.; greatest breadth, 21 mm.; nasals, 15.5 × 4 mm.; interorbital breadth, 6.8 mm.; palate length, 18 mm.; breadth outside M², 8.8 mm.; breadth inside M², 4 mm.; palatal foramina, 7.5 × 2 mm.; diastema, 9.3 mm.; upper molars, 7.5 mm.

The second specimen, also from Charlotte Waters, is a female.

The species should be easily identified by its large size and extremely long ears.

REFERENCES.

1. Edgar R. Waite. Report of the Horn Scientific Expedition to Central Australia: Muridae; Pt. II, p. 393, 1896.
2. F. Wood Jones. The Mammals of South Australia, Part III, p. 302. Adelaide; Govt. Printer, 1925.
3. J. D. Ogilby. Catalogue of Australian Mammals, p. 108. Australian Museum, Sydney; 1892.
4. Oldfield Thomas. On a Collection of Mammals made by Mr. J. T. Tunney in Arnhem Land, Northern Territory of South Australia. *Novitates Zoologicae*, Vol. XI, p. 222, 1904.
5. C. W. Brazenor. A Revision of the Australian Jerboa Mice. *Mem. Nat. Museum, Melbourne*, No. 8, p. 74, 1934.

EXPLANATION OF PLATE I.

- Fig. 1. *Rattus tunneyi dispar* subsp. nov.: *a*, worn molars, $\times 10$; *b*, unworn molars, $\times 10$.
- Fig. 2. *Notomys amplius* sp. nov.: *a*, lateral view of skull, $\times 1\frac{1}{2}$; *b*, ventral view of skull, $\times 1\frac{1}{2}$; *c*, dorsal view of skull, $\times 1\frac{1}{2}$; *d*, pes, $\times 2$; *e*, molar teeth, $\times 7$.



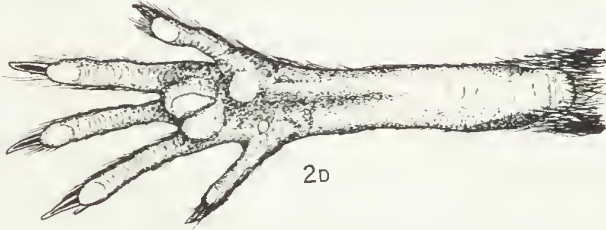
1A



2E



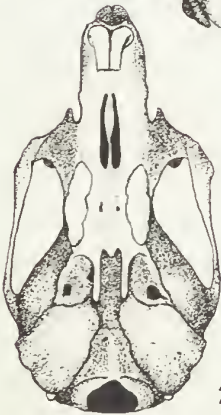
1B



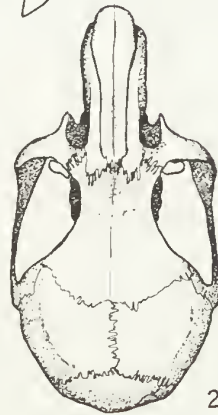
2D



2A



2B



2C

C.W.B.

1 a, b. *Rattus tunneyi dispar* s. sp. nov. 2 a-e. *Notomys amplus* sp. nov.