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DESCRIPTIONS OF SOME NEW GUINEA MAMMALS.

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SINCE the early days of exploration in New Guinea every opportunity has been taken, within limited resources, to acquire specimens of the remarkably interesting fauna for preservation in the Australian Museum. In 1876, Dr. E. Pierson Ramsay, when Curator, described a marsupial in the first volume of the *Proceedings of the Linnean Society of N. S. Wales*, and several small collections were dealt with prior to the 1885 expedition of the Royal Geographical Society of Australasia to New Guinea.

It is of interest to note that the Society was financed "almost wholly by funds contributed by various colonial Governments", and that some £4,000 was available almost at its inception. Exploration in New Guinea was given special consideration because of the general belief even then in the importance of its natural resources, and also because, though much was known of the coast line, nothing was accurately known of the geology and biology of the interior.

The interest taken by the Museum authorities in the expedition is indicated by the collecting directions supplied by the staff, and the list of "Special Desiderata of the Australian Museum" appearing in the record of arrangements for the exploration. Unfortunately the appointed taxidermist did not accompany the expedition into New Guinea, and the collection of mammals was therefore not very representative. The whole of the collecting and preservation, in addition to his special interest of entomology, fell upon the shoulders of the late W. W. Froggatt, and, as Dr. Ramsay wrote, the greatest praise was due even for the small collections made by him in other branches.

Over the past twenty years continuous efforts have been made to accumulate mammals from New Guinea and the south Pacific region, by enlisting both the aid of the Administration and the services of voluntary collectors, who are supplied with the necessary gear and advice. As a result, much interesting, if somewhat scattered, material has been gratefully acknowledged by the Museum authorities.

It is clearly desirable that such material should be described locally whenever possible, and these preliminary notes upon interesting New Guinea forms have been prepared, with grateful appreciation for the unselfish efforts of various collectors, not only that the results of their work under trying conditions shall not go unnoticed, but also for the assistance of local workers by whom such research unquestionably should be carried out if adequate funds were provided.

***Conoyces hageni eitape*, subsp. nov.**

Diagnosis.—Intermediate in size, coloration, and geographical range between the typical form of *Astrolabe* Bay and *caurina* of the Mamberamo River district of Dutch New Guinea.

Description.—Back of male much paler than described for *caurina*, but with the dorsal stripe extending to between the ears; the male lighter than female, but both sexes darker than typical form and paler than *caurina*, the male greyish fuscous, and the female fuscous rather than the seal-brown of the latter. Reversal of hair on back of neck pronounced in male, from a whorl on each shoulder to a single one on the crown; the fur softer and reversal less distinct in young female, and but faint traces of the dorsal line on the nape and occiput. Below, in the male the stronger whitish hairs of the throat are definitely reversed forward from the upper chest to the angle of the jaws. Forearms of male greyish-white, contrasting with back.

Skull relatively smaller and broader than in either allied race, as further indicated by the nasal proportions. Ear relatively larger, that of a young female (43.5 mm.) being almost as long as that of the adult male holotype of *hageni*, and the ear of the young male only 4.5 mm. shorter than that of the adult male holotype of *caurina* with a 33 mm. longer skull.

Dimensions of Holotype.—Young adult male in spirits, with trunk removed: Head and body c. 570; tail 410; pes 141; ear 49.5 × 33 mm.

Skull: Greatest length 111; basal length 97; zygomatic breadth 54; nasals 40.5 × 13.2; p⁴ 15; molars¹⁻³ 19.9 mm.

Habitat.—Eitape district, Territory of New Guinea.

Holotype.—Young adult male No. M.6211 in the Australian Museum collection, with paratype young female M.6098, collected during 1936 by Mr. A. J. Marshall, Honorary Ornithologist.

Note.—As confirmed in Sherborn, *Conoyces* of Lesson, 1842, has priority of *Dorcopsis* Schlegel and Müller, which is quoted in the British Museum Catalogue as 1839-44, but was not published until 1845.

The Status of *Protemnodon* Owen, 1873.

It is notable that the adoption of *Protemnodon* to replace *Wallabia* by Raven¹ was obviously due to misapprehension of essential facts, and it seems unfortunate that Tate and Archbold² should have followed him without adequate consideration. Consultation of the original reference clearly shows their discussion of type designation to be unnecessary, as it is there plain that *anak* is the only species available, the other three named being undescribed at the time.

Protemnodon was founded solely upon portion of a left mandibular ramus showing the molar series to belong, as the specific name indicates, to a giant form of kangaroo, and the generic name cannot be made applicable to the group of wallabies. This conclusion was recognized by Owen himself when originally separating *Protemnodon* very widely from *ualabatus*, which he placed in the genus *Halmaturus* when misusing that name for the true wallabies, and by his figures of the teeth given at the time to emphasize the diagnostic differences.

It is obviously unwise to attempt the adoption of names founded upon such fragmentary material for the replacement of well-founded ones applied to living genera. The diagnosis of coloration and external proportions allotted to *Protemnodon* by Raven, and Tate and Archbold, needless to state, refers actually to *Wallabia*, and has nothing whatever to do with the fossil *Protemnodon*.

¹ Raven.—Encycl. Britt., 14th Ed., xiii, 1929, p. 255.

² Tate and Archbold.—Bull. Am. Mus. Nat. Hist., lxxiii, 1937, p. 410.

Rattus gestri Thomas.

Mus gestri Thomas, Ann. Mus. Civ. Genova (2), xviii, 1897, p. 611: Kapa Kapa, between Port Moresby and Hood Point, Central Division of Papua.

Notes.—A recently skinned topotypical adult male, and spiritous female, from Rigo, Central Division of Papua, agree closely with the original description, although the uniformly larger dimensions of the male, coupled with the statement of Thomas that the aged size is a little less than *R. rattus*, suggests that young specimens were chosen for his cotypes. Should examination of the typical series support this explanation of the apparent disparity, the close agreement of the topotypes with the descriptions of both *gestri* and *brachyrhinus* of Tate and Archbold leads to the conclusion that the species are probably synonymous.

It is notable that the Rigo male has the narrow interorbital, zygomatic plate "well thrown forward", and long palatal foramina "reaching one-third the length of m", and large bullae of Thomas's description, which are also given as diagnostic of *brachyrhinus*. The cranial measurements of the female cotype of *gestri* and the Rigo male are also within the range given for *brachyrhinus*, while the variable nature of the mammae accounts for any discrepancy between a 10-12 formula.

The pelage and coloration in each description accord with the Rigo topotypes of *gestri*, and the general similarity is confirmed geographically by the southern series of *brachyrhinus* from the Loloki River, 20 miles east of Port Moresby, which only differed slightly from the typical Angabunga (St. Joseph's) River series. Whether examination of the types of *gestri* confirms the identity of *brachyrhinus* with it or not, there is no doubt that *R. vanheurni* of northern Dutch New Guinea is specifically distinct.

A new delta form of *gestri* is apparently represented by a male and female in the Australian Museum from the Aramia River district, and the dimensions of the topotypical adult male of *gestri*, No. M.4968, collected and presented by Mr. A. C. English, are here supplied for comparison with those listed for *brachyrhinus*, as well as with the following subspecies:

Head and body (in spirit) 177; tail 139; pes 30.5; ear 17.5 mm.

Skull: Greatest length 38.5; basal length 35; zygomatic breadth c. 21; interorbital 5.4; nasals 14.7 × 4.8; breadth brain case 15.3; zygomatic plate 4.1; diastema 10.8; palatilar length 18.7; palatal foramina 8.7; bulla length 7.9; upper molar crowns 6.7 mm.

Rattus gestri aramia, subsp. nov.

Diagnosis.—A uniformly smaller race of *gestri*, with a non-projecting zygomatic plate, wider interorbital, relatively heavier molar row, and larger and more inflated bulla in the male.³

Description.—Pelage closer and relatively more spinous, darker in mid-dorsal area owing to the finer light tipping and consequent density of darker tips; sides clearer and decidedly warmer, streaked with ochraceous-buff, contrasting with dark back and paler undersurface, which varies from pale pinkish-buff in the female to palest olive-buff in the male. Pes relatively large, and ear small. Mammae 3-3 = 12.

³ In view of the diagnostic importance of the bulla, it is unfortunate that Tate and Archbold have not followed the well-founded practice of supplying ear dimensions with which bulla-size is often correlated.

Skull much as in typical *gestri*, but the nasals proportionately shorter and much more broadly wedge-shaped, the interorbital wider, and the zygomatic plate not projecting boldly above as in *gestri*, but comparatively wider owing to the oblique instead of recurved profile. Palatal foramina relatively shorter and narrower, barely reaching the first lamina of m^1 instead of its rear margin. Bulla of male proportionately longer and more inflated.

Dimensions of Types.—Holotype adult male (female in brackets) before skinning: Head and body 157 (136.5); tail 117.5 (98.5); pes 30.5 (27); ear 16 mm.

Skull: Greatest length 38 (33.8); basal length 33.7 (30.2); zygomatic 19.5 (18.1); interorbital 5.5 (5.3); nasals 13.8×5.1 (11.7×4.5); breadth brain case 15.7 (14.3); zygomatic plate 4.2 (4); diastema 9.9 (8.8); palatilar length c. 17.6 (16.5); palatal foramina 7.6 (7); bulla length 8.1 (6.8); upper molar crowns 7 (6.7); width of m^1 2 mm.

Habitat.—The swampy Aramia Lakes district near the mouth of the Aramia River in the Western Division of Papua; observed living amongst the long swamp grasses about Totani village. Native name "Totoda".

Type Specimens.—Adult male holotype, No. M.4893, and young adult allotype, No. M.4895, in the Australian Museum, collected by the late Allan R. McCulloch, Ichthyologist to the Museum, while accompanying Captain Frank Hurley's expedition in Papua.

Remarks.—Hitherto undescribed because of the general similarity to *gestri*, comparison of the Aramia pair with the recently acquired topotype warrants the description of this delta form to assist in clarifying the relative status of *brachyrhinus*, while providing a small tribute to the initiative of a well-remembered colleague.

Quite apart from the possible merging of *brachyrhinus* with *gestri*, various cranial features distinguish the Aramia form from either species and, with the external characters, doubtless reflect the contrast of its swampy sea-level habitat with "the drier coastal lowlands" habitat given for *brachyrhinus*, and also typical of true *gestri*. The relatively much shorter tail, smaller foot and broader nasalia distinguish this form from *vanheurni*, apart from the obvious geographical separation.

***Rattus mordax hageni*, subsp. nov.**

Diagnosis.—A small highland form, with smaller dimensions and softer and thicker pelage than the typical form from the south-east coast of the Northern Division of Papua, and the subspecies *tramitius* from the Mamberamo River region of Dutch New Guinea; coloration intermediate.

Description.—General colour of back less tawny than in typical form, more buffy-ochraceous, especially in female, the light ticking much finer in accordance with the softer and thicker pelage; evidently warmer than the "blackish-grey, very finely ticked with buffy" of *tramitius*, but paler below. Belly fur much softer than in typical *mordax*, almost lacking spinous hairs, also darker grey basally, with the much paler tips washed with olive-buff instead of the rich clay to ochraceous tone of the allied races. Tail and pes definitely shorter than in the allies, the tail-rings finer than in typical *mordax*, 11-12 against 9-10. Ear relatively large. Mammae 2-2 = 8.

Skull distinguished from the typical form by the less rugged, shorter, but relatively wider build, comparatively short and rounded palatal foramina, which

barely attain instead of surpass the alveolar edge, and the definitely smaller bullae and molar row. Published dimensions of the skull of *tramitius* are inadequate, but those given for the adult female holotype suggest that a similar, if less marked, difference in proportions supports the external ones noted.

Dimensions of Types.—Holotype adult male (female in brackets) before skinning: Head and body 170 (157); tail — (129); pes 32.5 (31.5); ear 18 × 14.5 (18 × 13.5) mm.

Skull: Greatest length 40.8 (37); condylo-incisive length 38.2 (35.9); front angle of interparietal to tip of nasals 35.9 (32); zygomatic breadth 20 (19.3); breadth brain case 16.5 (15.1); interorbital 6.1 (5.9); nasals 15.3 × 4.3 (13.5 × 4.1); palatilar length 19.6 (17.8); palatal foramina 7.2 × 2.8 (6.9 × 2.9); bulla length 5.8 (5.9); upper molar crowns 6.7 (6.8); width of m^1 2 (2.1) mm.

Habitat.—Altitude of 5–6,000 ft., in the upper Wahgi River valley on the southern slopes of Mt. Hagen, in the south-east corner of the Sepik Division, Territory of New Guinea. Taken by natives from holes amongst the “pit pit” or cane grass, and said not to enter habitation.

Type Specimens.—Holotype adult male, No. M.6102, allotype adult female, M.6103, in the Australian Museum, collected and presented by Dr. G. A. M. Heydon, of the School of Public Health and Tropical Medicine, Sydney.

Remarks.—It seems evident from the dimensions in the description of the typical *mordax* that the holotype was a young female. The cranial dimensions of an excellent series collected in the Mt. Lamington district by Mr. C. T. McNamara, however, agree very well and confirm the distinction of this small upland and geographically intermediate race.

***Rattus browni praecelsus*, subsp. nov.**

Diagnosis.—A highland form allied to the insular *browni*, but distinguished by the relatively longer tail and larger ear, much thicker and softer, less spinous pelage, narrower more lightly built skull, and short broad palatal foramina. Coloration of back much as in the insular typical race, but lacking the coarse pale grizzling of the spinous hairs. Fore-back, head, and sides of the male washed with ochraceous-tawny, the same areas of the female paler, about cinnamon-buff. Undersurface in both sexes with dark grey basal fur, with buffy-white tips.

Dimensions of Holotype.—Adult male (in spirit): Head and body 122; tail 128; pes 25.5; ear 16 × 12.3 mm.

Skull: Greatest length 31.4; basal length 26.9; zygomatic breadth 14.5; breadth brain case 12.8; interorbital 4.9; nasals 11.7 × 3.2; palatal length 16; palatal foramina 5.5 × 2.2; bulla length 5.6; upper molar crowns 5.1; width m^1 1.5 mm.

Habitat.—The upper Wahgi River valley, about 15 miles south-east of Mt. Hagen, altitude 5–6,000 ft., in the south-east of the Sepik Division, Territory of New Guinea. In grass, swamp, and cane tree country.

Holotype.—Skin and skull of adult male, No. M.6110, in the Australian Museum, collected and presented by Dr. G. A. M. Heydon; also a series collected and presented by Mr. J. L. Taylor, Assistant District Officer in the Morobe District of New Guinea.

Remarks.—The colour and comparative absence of spinous bristles distinguish this species from insular and lowland forms of true *browni*, to which it is allied by the mammary formula and general features of the skull.

Rattus browni aitape, subsp. nov.

Diagnosis.—A relatively large-skulled, long-tailed, short-eared form, with warmly coloured moderately spinous dorsal pelage, contrasting with the pale undersurface, and comparatively large nasalia.

Description.—Pelage short, sparse, and moderately spinous, lacking the close and very coarse bristle-hairs of the typical insular form. General colour of back of a similar but much lighter mixture of brown, the head washed with cinnamon-buff, becoming cinnamon on the shoulders and mid-back, and ochraceous-tawny on the lower back; cheeks palish olive-buffy, and sides of body and rump washed with cinnamon. Under surface basally light mouse-grey, tipped with pale olive-buff, contrasting with upper surface. Tail proportionately very long, and ear short and broad, barely reaching to within 2.5 mm. of the posterior canthus of the eye, when pressed forward.

Skull large and cranium broadly rounded, nasals proportionately long and narrow, the zygomatic plate wide and boldly convex, palatal foramina widely rounded, and mesopterygoid fossa narrowed. Mammae 2-2 = 8.

Dimensions of Holotype.—Adult female (in spirit): Head and body 119; tail 134; pes 25.5; ear 15.5 × 12.5 mm.

Skull: Greatest length 32.6; basal length 27.5; zygomatic breadth 15.8; breadth brain case 13.8; interorbital 4.9; nasals 12.5 × 3.2; palatal length 16.7; palatal foramina 6.1 × 2.3; bulla length 5.7; upper molar crowns 5.1 mm.

Habitat.—Aitape, on the north coast of the Sepik Division of the Mandated Territory of New Guinea.

Holotype.—Skin and skull of adult female, No. M.3721, in the Australian Museum, collected and presented by Mr. R. F. Armstrong while Health Officer in the Aitape District in 1925.

Remarks.—This comparatively well-marked form is distinguished from *lassacquerei* and *manoquarius*, described as races of *R. concolor* from the Manokwari district of northern Dutch New Guinea, by the relative body and tail proportions, shorter ear, and longer but narrower nasalia. The relatively large proportions of the female, differences of pelage and coloration, and much longer nasalia distinguish this coastal race from the high altitude Mt. Hagen form. Cranial dimensions, including those of the nasalia and bullae, coloration, and lack of very coarse bristle-hairs distinguish it from the typical insular *browni*.

Rattus browni suffectus, subsp. nov.

Diagnosis.—A warmly coloured race with pelage of medium coarseness, with a general suffusion of cinnamon-rufous to tawny on the back, and washed with cinnamon below in both sexes. Mammae 2-2 = 8.

Description.—Pelage above harsher than in *praecelsus*, more closely and coarsely bristled, much as in *aitape*, but not nearly as coarse as in the typical insular *browni*. Cinnamon-rufous to tawny wash of back changing to cinnamon on the sides, which contrasts with the greyish olive-buff belly, though the chest and upper belly are washed with cinnamon. Manus and pes buffy-white, but with dark mark pronounced on manus; a dark fuscous line extends along the outside of pes almost to the toes. Ear relatively short and narrow. Tail equalling or slightly exceeding the head and body in males, slightly longer in females; scales fine, 13 to cm. in males, 14 in a female. Skull of medium size, somewhat wider and more robust than in *praecelsus*, and with relatively shorter and

broader nasalia and smaller palatal foramina than in *aitape*; much as in *tibicen*, but the palatal foramina much narrower posteriorly, and with smaller and less projecting nasalia.

Dimensions of Holotype.—Adult male (in spirit): Head and body 124.5; tail 124.5; pes 25; ear 14.5 × 11 mm.

Skull: Greatest length 31.9; zygomatic breadth 15.6; breadth brain case 13.6; interorbital 4.7; nasals 11.4 × 3.3; palatal length 16.4; palatal foramina 6.1 × 2.2; upper molar crowns 4.8 (5.1 in one female) mm.

Habitat.—The Mount Lamington district, on the southern border of the Northern Division of Papua.

Type Series.—Skins and skulls of holotype adult male, No. M.4156, allotype, No. 4153, and series of paratypes in the Australian Museum, collected and presented by Mr. C. T. McNamara during 1929, when Government Resident in the Mount Lamington district.

Rattus browni tibicen, subsp. nov.

Diagnosis.—A small-bodied short-tailed form with rather large skull, and relatively small pes and ear. The pelage short, sparse, and softly spinous, not as coarsely bristled as in *suffectus*, more like *praecelsus* from which it differs in density of pelage, colour, shorter tail, with finer scaling, and various cranial dimensions; scales 15 to cm. General tone of back much as in *suffectus* but without the strong cinnamon-rufous suffusion, the general colour above about drabby prout's brown and lacking the pronounced blackish ticking of *praecelsus*; sides of head, limbs and body washed with cinnamon- to olive-buff, blending into the deep olive-buff of the underparts.

Skull proportions much as in the *suffectus* series, but the palatal foramina tapered anteriorly and remarkably widened posteriorly, and the nasalia relatively wider than in any known New Guinea form, about as in Ramsay's type of *echymyoides* from Duke of York Island, with nasals 12 × 3.6 mm.

Dimensions of Holotype.—Adult male, dried skin: Head and body 106; tail 114; pes 23.4; ear 12 mm.

Skull: Greatest length 32; zygomatic breadth c. 16; breadth brain case 13.6; interorbital 5; nasals 11.5 × 3.5; palatal length c. 15.5; palatal foramina 6 × 2.5; upper molar crowns 5 mm.

Habitat.—Fyfe Bay, near Isudau, on the southern coast towards the eastern extremity of Papua.

Holotype.—Adult male skin and skull, No. M.2483, in the Australian Museum, collected some forty years ago by the Rev. H. P. Schlencker, of the London Missionary Society, and presented by the late Thomas Steel, F.L.S.

Melomys muscalis froggatti, subsp. nov.

Diagnosis.—A somewhat larger race, with the undersurface toning instead of contrasting with the sides, larger pes, and smaller ear.

Description.—Pelage short and dense. General coloration of back a buffy-brown grizzled with sayal to prout's brown tipping on the head and mid-back, the cheeks, limbs, and sides washed with cinnamon-buff, which blends with the grey underfur and extends across the mid-belly; throat, chest and inguinal areas pale olive-buff to roots. Pes longer than recorded for typical form, and ear apparently shorter; tail but slightly lighter brown below, with coarser scaling, 13 to cm., the three hairs varying from a little over half to about a scale length.

Skull of similar delicate build and proportions, but somewhat larger, and therefore intermediate between true *muscalis* and *lutillus*, but the interorbital region broadly concave, so that the cranium is more abruptly rounded anteriorly than sloping as in *lutillus*, and the nasalia are broader anteriorly and much more acutely tapered posteriorly. Molar row slightly exceeding the maximum for typical *muscalis*.

Dimensions of Holotype.—Adult male, dried skin: Head and body 115; tail 120; pes 25; ear c. 12 mm.

Skull: Greatest length 29.1; condylo-incisive length 26.5; zygomatic breadth c. 15.7; breadth brain case 13.2; interorbital 4.4; nasals 10.3 × 3.4; palatilar length 12.4; palatal foramina 4.6 × 1.8; upper molar crowns 5.1 mm.

Habitat.—Banks of the Strickland River, about 100 miles above the junction with the Fly River, Western Division of Papua.

Holotype.—Adult male skin and skull, No. M.2377, in the Australian Museum, collected by the late W. W. Froggatt, subsequently Government Entomologist for New South Wales, during the expedition of the Royal Geographical Society of Australasia in 1885.

Remarks.—This form is somewhat intermediate in dimensions and coloration between typical *muscalis* and *lutillus*, thereby probably confirming the original suggestion by Thomas that the small Torresian and Papuan species (with three-haired tail-scales) may represent races of the one variable species. The more inland western Papuan habitat and comparative features, however, appear to warrant subspecific distinction from the nearer ally, and it has been named in honour of its distinguished collector, who had only recently supplied details of the habitat.

Melomys hageni, sp. nov.

Diagnosis.—A bright tan coloured species, apparently allied with *gracilis*, but with shorter tail and ear, rather smaller foot, smaller molar row, brighter coloration above, and with the colour of the sides extending across the belly.

Description.—General tone of back a bright buckthorn-brown, which is clearest on the nape, lightly pencilled with cinnamon-brown, the head a lighter grizzling of warm-buff and grey. Sides of limbs and body clearer ochraceous-buffy, mingling with the grey of the underfur to extend across the middle of the belly; hair of undersurface only entirely white in patches on the throat, upper chest, and inguinal area. Manus whitish, with thin brown mark, pes buffy-brown, with whitish edging. Ear short and broadly rounded. Tail relatively long, but proportionately much shorter than in *gracilis*, in which the type body-measurement was evidently increased by skinning; 14 single-haired scales to the cm. Skull dimensions much as in *gracilis*, but with relatively wider interorbital, and the well-worn molar row smaller.

Dimensions of the Holotype.—Adult male (in spirit): Head and body 124; tail 154; pes 26.5; ear 14 × 11.5 mm.

Skull: Greatest length 33; condylo-incisive length 29.2; zygomatic breadth c. 16.1; interorbital 5.6; nasals 10.9 × 3.1; palatilar length 14.8; palatal foramina 4.2 × 1.9; upper molar crowns 5.9; width of m¹ 1.9 mm.

Habitat.—Taken from "grass nest well up in 'pit pit' or cane grass" in the upper Wahgi River valley, altitude 5–6,000 ft., near Mt. Hagen, in the south-east corner of the Sepik Division, Territory of New Guinea.

Holotype.—Adult male skin and skull with well-worn teeth, No. M.6113, in the Australian Museum, collected and presented by Dr. G. A. M. Heydon during 1936.

Remarks.—The remarkably bright coloration, noted by the collector, darker belly, and the shorter tail and ear, and the cranial features which would doubtless be emphasized in comparison of series in view of the geographical separation, distinguish this species from *gracilis* of the Angabunga River region of the Central Division of Papua.

Uromys papuanus Ramsay.

Hapalotis papuanus Ramsay, Proc. Linn. Soc. N.S.W., viii, 1883, p. 18, pl. 11.

Uromys ductor Thomas, Ann. Mag. Nat. Hist. (8), xii, 1913, p. 213.

Uromys prolixus Thomas, Ann. Mag. Nat. Hist. (8), xii, 1913, p. 213.

Review of Characters.—In discounting the validity of *papuanus*, while describing *ductor* and *prolixus* from the same faunal area, Oldfield Thomas referred to the disappearance of the type, uncertainty of locality, and inconsistency of some dimensions. Some years ago an unsuccessful search was made for the type in both the Australian and Macleay Museum collections, and again this year during the visit of Mr. G. H. H. Tate, Mammalogist of the American Museum of Natural History. There is no reason, however, to doubt the locality given in Ramsay's introduction as "collected at the foot of, and on the slopes of, Mount Astrolabe Range . . . inland from Port Moresby", which definitely embraces the habitat of *prolixus*, from Haveri in the mountains near the Astrolabe Range.

Regarding the diagnostic dimensions of *papuanus*, it is notable that the upper molar measurement of 0.49 in. = 12.5 mm., allowing for alveolar length, agrees with the 12.2 mm. given for *prolixus*. The external head length of 2.7 in. = 68.5 mm. also accords with the total cranial length of 66.6 mm. given for *prolixus*, the excessive condylo-incisive length in Ramsay's description therefore doubtless being due to a printer's error.

Concerning the status of *ductor*, which is allied geographically with *papuanus* rather than *validus*, it is notable that inconsistencies occur in descriptions by Thomas similar to those upon which he discounted Ramsay's species. The pes length of *prolixus* is given as 64 mm. in the description, and 61 mm. in the dimensions list, which is more likely to be correct, thus reducing the disparity in size with *ductor*. Likewise, the skull of *prolixus* was described as much longer than in *ductor* and more slender because of the similar zygomatic width, but one finds that the difference in greatest cranial length between the holotypes is merely 1.6 mm., as listed by Thomas.

It is notable that the external dimensions of *ductor* were from a dried skin, accounting for the greater head and body length and shorter pes in comparison with the spiritous dimensions of *prolixus*. Therefore, as Thomas remarked that little dependence could be placed upon the coloration of the holotype *prolixus*, there remains apparently only the slightly shorter molar row of *ductor*, given as 11.2 mm., to distinguish it from *papuanus*, with which *prolixus* is synonymous.

Additional Note.—Since writing the above, a copy of Tate's important review of "Some Muridae of the Indo-Australian Region" became available, in which it is noted that *Hapalotis papuanus*⁴ fits only the genus *Uromys*, and must therefore be assigned to the *validus* group. The measurements and notes provided by Tate

⁴ Tate.—Bull. Amer. Mus. Nat. Hist., lxxii, art. 6, 1936, p. 600.

indicate considerable variation and intergradation in material fairly topotypical of *validus* and *ductor*, in view of which *ductor* is regarded by him as a subspecies of *validus*, embracing *papuanus* as well as *prolixus*. In view of the acceptance of *papuanus* as an *Uromys*, however, and the intermediate range of *ductor*, Ramsay's species must be considered before either of the later described ones of the same group, irrespective of full or subspecific status.

Regarding the status of *U. barbatus*, the comparatively high habitat given as from 3-7,000 ft. in the upper Aroa Basin, coupled with cranial features given by Thomas (*loc. cit.*, p. 212) on examining the holotype, suggests that it is representative of a definite and comparatively short-tailed mountain form, rather than the probable equal of *ductor*, as suggested by Tate.

In contrast with the extremely variable representation of the genus from the southern coast of Papua, the following well marked species is now described from the Mount Lamington district of the Northern Division.

***Uromys lamington*, sp. nov.**

Diagnosis.—A proportionately small-bodied, long-tailed species, with correspondingly short but broad skull, which has decidedly smaller nasalia and palatal foramina than any of the known Papuan allies.

Description.—General tone of short pile of back tawny-olive, grizzled with some shining ochraceous and buffy tips, and the blackish-brown longer hairs which are closest on the mid-back but not dense enough to form a dark line; shoulders tinged with smoky grey and head lighter than back, owing to lack of dark hairs and shining ochraceous-buff tipping. Cheeks and sides of body paler, grizzled greyish avellaneous to wood-brown. Basal fur of back dark mouse grey. Short sparse fur of entire undersurface whitish ivory yellow to the skin. Manus and pes buffy-white, a pale mummy-brown mark extending down front of forearm onto the manus; a brownish tinge on outside of pes. Entirely yellowish part of tail slightly less than half its length, but underneath the mottling of yellow extends to within 2 in. of the root.

Skull of adult male delicately built, relatively short and with wide arches, but narrow rostrum, the nasals and palatal foramina smaller than in allied species. Bullae short but well rounded. Molar row short and broad.

Dimensions of Holotype.—In spirit: Head and body 250; tail 270; pes 58.5; ear 25.5 mm.

Skull: Greatest length 62; condylo-incisive length 53.1; zygomatic breadth 31.5; nasals 22.6 × 6.6; interorbital 10; breadth brain case 20; palatilar length 29.8; palatal foramina 6.4 × 3.2; mesopterygoid fossa 5; bulla length 5.5; upper molar crowns 11.2; width m^1 3.2 mm.

Habitat.—Mount Lamington district, on the southern border of the Northern Division of Papua.

Holotype.—Skin and skull of adult male, No. M.4684, in the Australian Museum, collected and presented by Mr. C. T. McNamara during 1929, when Government Resident in the Mount Lamington district.

Remarks.—The coloration of this proportionately long-tailed, short-skulled species is intermediate between the rusty-blackish backed and the paler cinnamon-buff to brownish allied forms. It is readily distinguished from nearer geographical allies by the small nasals, associated with the relatively very small rostrum and

palatal foramina, and from *U. scaphax* of western Dutch New Guinea by its longer, more equally bicoloured tail, and larger pes and molar row.

Hydromys oriens, sp. nov.

Diagnosis.—A robust fulvous species, with bright coloration and dimensions distinguishing it from the other New Guinea species (*esox*) and allying it with the longer-tailed north Australian forms.

Description.—General tone of back prout's brown (Ridgway), grizzled with ochraceous-tawny and mummy-brown tips; face and crown darker, mummy-brown speckled with ochraceous-buff. Fur of undersurface unusually pale to the base, softer than pale smoke grey, the tips unevenly washed with bright ochraceous-tawny. Manus and pes paler than in Australian forms, about light-buff, the extension of the dark forearm-mark restricted to a narrow bar not covering the manus, and in the holotype ceasing at the wrist on one side and continuing to the outer digits on the other. A little less than half the short-haired part of tail black, instead of one-third in *H. beccarii* of Kei Islands, and three-fifths in the typical *H. esox*.

Distinguished cranially from *esox* by the relatively greater zygomatic width, and larger nasalia and dentition, and from the insular *H. moae* by the generally more robust, much wider skull, shorter, broader, more truncated nasalia, and larger bullae.

Dimensions of Holotype.—Adult male (in spirits): Head and body 276; tail 257; pes 60; ear 18.5×15.5 mm.

Skull: Greatest length 53.8; basal length 49.4; zygomatic breadth 28; nasals 17.2×5.9 ; interorbital 6.5; brain case width 20.2; palatilar length 25.4; palatal foramina 5×2.9 ; upper molar row 8.7; breadth m^2 3.1; bulla length 7.3 mm.

Habitat.—Mount Lamington district, on the southern border of the Northern Division of Papua.

Holotype.—Skin and skull of an adult male, No. M.4683, in the Australian Museum, collected and presented by Mr. C. T. McNamara during 1929, when Government Resident in the Mount Lamington district.

Remarks.—Distinguished from *esox* of the south and north-west coast, and the insular *moae*, by its much longer tail, and cranial proportions. General dimensions nearest *H. longmani* of the Atherton Tableland, north Queensland, but with relatively longer pes, smaller palatal foramina, wider nasals, and heavier molar row.