

## FOUR NEW MAMMALS FROM JAVA.

By

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A small collection of Javan mammals sent to me for examination by Dr. MAX BARTELS contains some very striking novelties. It also adds two genera (*Otomops* and *Glischropus*) to the known mammal fauna of Java, and I am grateful to Dr. BARTELS for the privilege of studying such interesting material.

### *Petinomys bartelsi* sp. nov.

A small species with very flattened bullae, nearest to *P. vordermanni* (Billiton), and *P. phipsoni* (Tenasserim), but much larger than either, and with the whiskers and aural tufts strongly developed as in *P. genibarbis*.

*Cotypes*. — (a). Subadult male, skin and skull, collected at Tjilondong, Mt. Pangrango, West Java, about 900 metres, on 19th April, 1938. BARTELS' Coll. No. 2000.

(b). A second specimen is the skin of an adult female, without skull, taken on 2nd September 1902, also on Mt. Pangrango, about 1000 metres. BARTELS' Coll.

*External measurements*. — Head and body, 133 (145); tail, 119 (130); hind-foot (s.u.) 28 (28); ear, not perfect —, (17) mm. The first measurements given are those of the male taken in the flesh; the figures in brackets are a rough estimation of the measurements of the female made by me from the dried, flat skin.

*Skull*. — Total length, 34.5 (27); condylo-basilar length, 29.8; zygomatic width, 20.5 (17); interorbital width, 7.5; diastema, 7.5 (5.5); palatilar length, 14.6; upper molar row, 6.5 (5.5); length of nasals, 9.4 (7) mm. Although the teeth of the male cotype are scarcely worn, and the skull is obviously not that of an aged animal, it has probably reached its maximum size. The measurements in brackets are those of the type of *P. vordermanni*, taken from JENTINK. The only specimens available for comparison are from the Riouw Archipelago; they are, therefore, not strictly topotypical. Comparing the skulls of *bartelsi* and *vordermanni* we find that the former has relatively longer nasals and, although there is so much difference in size between the skulls, actually smaller bullae. The molars of *bartelsi* are also rather simpler in character and their external accessory cusps are hard to discern. The incisors are very pale yellow.

*Colour.* — Except that the tail is markedly bi-coloured at the base the colour probably does not differ from that of *P. vordermanni*, for the only differences I can see between the adult cotype and several specimens of "*vordermanni*" from the Riouw Archipelago could well be due to slight individual variation. Top of the head and the back, fulvous, but with the broadly dull black base of the fur showing through everywhere except on the crown: parachute, almost entirely black, although the extreme edge seems to have been white. Hands, brownish buff; feet, much darker and near blackish brown. Tail, brown, parti-coloured at the base in the manner of most small flying squirrels, the pale portion creamy-buff; under side of tail, pale cinnamon-rufous paling to creamy buff at the base. Under parts, now creamy white, but probably once quite white. Cheeks, orange-buff. A continuous black line runs over the point of the muzzle and encircles each eye. Whiskers etc., black, or nearly so.

The young male is quite different and is in an immature pelage differing rather widely in colour from that of the adult. This immature pelage I have not observed in *P. vordermanni* in which species even very young juveniles are much like adults in appearance. General appearance of the upper parts, dull black, the hairs finely tipped with drabby brown, producing little more than a heavily grizzled effect, the colour being most solid on the crown and middle of the back. Hands and feet, blackish brown. Under parts of body, white; cheeks tinged with orange-buff; sides of the neck greyish. Parachute black, above and below, tinged with brownish buff below; the extreme edge, white. Tail, dull black, paling to dirty white tinged with brown-buff at the base.

*Remarks.* — No squirrel of this group has hitherto been recorded from Java. In view of the great difference in size, the remarkable development of the whiskers, and the characteristic features of the skull noted above, I can as yet find no justification for regarding *bartelsi* as the local representative of the *vordermanni* group. The black whiskers of the adult cotype are plentiful and measure about 30 mm in length. There is also a very conspicuous broad pencil of softer hairs, about 21 mm long, on the cheek at the anterior base of the ear, and another, rather shorter tuft, originating near the posterior base of the ear. Tail, distichous, but not conspicuously so when seen from above.

*P. bartelsi* needs no detailed comparison with the very much larger *P. genibarbis* of Java. It is probably exclusively a forest-living species. One specimen was caught when a big tree (*Altingia excelsa*) was felled, and the other taken during the making of a forest clearing.

#### **Otomops formosus** sp. nov.

A large bat of the *Nyctinomus* association with skull characters ( $m^3$  complete, premaxillae united, basi-occipital pits well defined, a prominent vertical projection on the zygoma) falling into the genus *Otomops* (Thos., 1913) which has hitherto not been recognized from any part of Malaysia. Not closely allied to any other Malaysian species, but with the external facies of *Chaerephon* rather than *Mops*. Apparently most closely allied to *O. wroughtoni* Thos.

(Journ. Bombay Nat. Hist. Soc. XXII, 1913, p. 87) of South India, and showing all the general characters of that form, but the forearm shorter (59.7 against 68 mm), and the skull slightly smaller.

*Type.* — Adult male, skin and skull, collected at Tjibadak, West Java, 400 (c.) metres, on 9th April, 1938. BARTELS' Coll. No. 1998.

*External measurements* (in the flesh, *vide* M. BARTELS). — Head and body, 86; tail, 43; ear from base of outer border, 30; forearm, 59.7 mm. In the skin the lower leg and hind-foot (c.u.), measure about 29 mm.

*Skull.* — Greatest length, 24; condyle to front of canine, 21; zygomatic breadth, 12.8; breadth of braincase, 10.9; front of canine to back of  $m^3$  8.5 mm.

*Colour etc.* — Upper parts, deep blackish brown, the crown much paler and nearer greyish buff; a broad, well defined, grey collar across the hind neck; upper back adjacent to the collar, grizzled with whitish. Under parts, paler brown, the throat and forearm, drabby whitish grey continuous with the nuchal collar. Fur, short and like velvet; the ears, forearms and membranes furred as in *wroughtoni*. Anterior edge of the ear finely pectinated with small horny points.

*Remarks.* — The type and another very similar male (which I have not seen) were taken from a hole, probably an old nesting hole of a barbet, or woodpecker, in the decayed branch of a rubber tree. Dr. BARTELS informs me that in life the now broad grey collar was apparent only as a very narrow band.

#### ***Glischropus javanus* sp. nov.**

General appearance as in *G. tylopus* of the Malay Peninsula, Sumatra and Borneo (typ. loc.), but the forearm and lower leg longer; the skull shorter, slightly narrower, and much less flattened, the braincase being conspicuously more inflated and the profile of the skull therefore very noticeably less straight; the small anterior, upper premolar even more displaced internally, and the corresponding lower tooth smaller than in *tylopus*. Fur of the underparts less frosted owing to smaller pale tips to the hairs. Tragus, broader. No basal pits.

*Type.* — Adult male, skin and skull, collected at Tjiparaj on the south-west slopes of Mt. Pangrango, West Java, about 900-1000 metres, on 28th December, 1934. BARTELS' Coll. No. 1185.

*External measurements* (in the flesh, *vide* M. BARTELS). — Head and body 40 (39); tail, 40 (36); forearm, 32.7 (29.5); width of tragus at widest part, about 2 (1 c.); lower leg, foot and claw, 21.5 (19.5) mm.

*Skull.* — Total length, 12.6 (13.3); condyle to front of canine, 11.5 (12.2); mastoid width, 7 (7.3); zygomatic width, 8 c. (8.7); breadth of braincase, 6.5 (7); height of braincase, including bullae, 5.9 (5.5); back of  $m^3$  to front of *c*, 4.7 (4.7) mm. The measurements given in brackets are those of an average adult of *G. tylopus*.

*Remarks.* — The genus *Glischropus* has not hitherto been recorded from Java. *G. javanus* may be the geographical representative (subspecies) of *G.*

*tylopus*, but when the two forms are compared the skulls look so different that in the present imperfect state of our knowledge I do not use a trinomial.

*G. batjanus* MATSCHIE from Batjan Island is a slightly differentiated form of *tylopus* distinguished by smaller average size (forearms of adults *vide* MATSCHIE, 28.4-29 mm).

The type of *javanus* was taken from the hollow top of a broken off and partially dead bamboo stem in cultivated country, but not far from the mountain forest.

***Rhinolophus importunus* sp. nov.**

Like *R. javanicus* from the south coast of Central Java, but larger.

*Type*. — Adult female, skin and skull, collected at Tjiawitali near Wijnkoopsbaai on the south coast of West Java, on 23rd May, 1935. BARTELS' Coll. No. 1574.

*External measurements*. — Head and body, 50; tail, 26.5; ear, from base of outer border, 20, from base of inner border, 18.5, from crown, 16; forearm, 45.4 mm (from the flesh *vide* M. BARTELS). Forearms of a series, 44.2-46.7 mm.

*Skull*. — Total length, 19.8; length to front of canine, 19; mastoid width, 9.2; width of braincase, 8; zygomatic width, 9.6; nasal swellings, 5.4; *c.-m*<sup>3</sup>, 7.2.

*Remarks*. — In 1909 some bats collected at Pangandaran, Dirk de Vries Bay on the south coast of Java were identified by THOMAS and WROUGHTON as *Rhinolophus borneensis* (Proc. Zool. Soc. Lond., p. 376). The same animals were afterwards separated as *R. javanicus* by ANDERSEN (Ann. Mag. Nat. Hist. (9), II, 1918, p. 375). In addition to the characters given by ANDERSEN (lancet, peculiarly shortened; nasal swellings, smaller; tooth-row, shorter) *javanicus* is characterised by its peculiar grey-brown colour.

*R. importunus* is very like *javanicus* in external characters. In colour the two forms are much alike, but the broad pale chevron on the mantle is obsolete or absent in *importunus* which also has the underparts very slightly darker, more uniform, and rather more heavily frosted than in *javanicus*. *R. importunus*, however, is larger in all its dimensions (forearms of *javanicus*, 40-43; skull to canine about 18.2 mm). From topotypical *borneensis* it differs in colour, larger body size, and shortened lancet. The skull is like that of full-sized adults of *borneensis* down to the smallest details. Although they are so obviously very closely related, contrary to my usual custom, I am reluctant to unite any of the Bornean and Javan bats of this group in a trinomial nomenclature. It seems that they replace each other geographically, in Java decreasing in size from west to east, but actually we know very little about them, and it may well be that *importunus* will be found in other parts of Java. According to Dr. BARTELS it occurs in its type locality in great numbers in an old mining shaft together with other leaf-nosed bats. The measurements and colour of a good series show little variation and the form cannot be placed with *javanicus* of which exact topotypes are available for comparison.