SIX NEW INDO-MALAYAN RATS

by **H. J. V. SODY.**

Rattus maxi n. sp. (Java).

Type: ♂ ad., Tjiboeni, Bandoeng, W. Java, 1350 m, 9-VIII-1932, coll. Sody.

Specimens examined: 2, both from the type locality.

These specimens were collected by the well known ornithologist, Mr. Max Bartels Jr., who presented them to me, after he himself having at once recognised them as belonging to a species new for Java. Therefore in all respects the honor of having enriched — so shortly after his return from Europe — the Java list of mammals with such an extremily fine and interesting species belongs to the collector.

Diagnosis: This large species shows a superficial likeness with the bandicoot-rats and with *Rattus mulleri*. In reality, however, it is so well distinguished from both these forms, that no special distinguishing characters need to be given here. Amongst all the known rats of the Soenda isles and of the Malay Peninsula there appears to be only one, which seems to approach this new rat rather closely, viz. *Rattus infraluteus* Thos. from Kina Balu, Borneo. Unfortunately our knowledge of this species is not very thorough. Besides the type only one other specimen has been mentioned in literature, viz. by Gyldenstolpe. Besides the characters in common, however, there are also rather large differences between the two forms. I cannot decide with certainty whether these differences are of specific or of subspecific significance, and therefore, for the present, the Javanese form may be considered as a distinct species.

Fur: Rather dense, long and soft, somewhat curly. Consisting of two kinds of hairs: woolly ones, which, on the hind back, exceed a length of 2 cm and on the belly reach a length of 1 cm, and bristles, richly distributed over the whole of the body, even numerous on head and legs, whilst also on the belly many such „straight hairs" occur. On the hind back they are up to 4 cm in length, on the belly 1-2 cm.

Colour: General colour dark speckled grey on the dorsal side (darkest on the middle of the back and especially on the head), the belly lighter grey, not sharply defined. The woolly hairs on the back are dark grey from the base up to 3—6 mm from the tip. The extreme tip is black over 1 mm. The area between is light yellowish. These yellowish rings are shortest on the middle of the back, growing longer towards the sides. The bristles on the back are black with a slightly lighter base. On the belly the woolly hairs are light grey, in the straighter hairs on that part of the body this colour may be mixed with a very slightly yellowish tinge. Feet clad with dark brown hairs. Tail blackish with the extreme tip whitish (the skin) and there also the hairs are white over a distance of ½ cm from the tip (compare Hardwicke's *„Mus giganteus"*. Trans. Linn. Soc., VII, 1804, p. 306). Whiskers black.

Rings of the tail: ± 9 per cm.

Palate ridges: 3 + 5.

Measurements of type (with in parentheses those of the second specimen, also a male): Head and body 253 (246); tail 302 (309); hindfoot 53 (51); ear 24 (26); skull: greatest length 61.7; occipito-nasal length 61.7; condylo-basal length 54.0; palatal length 32.3; zygomatical breadth 30.2 (31.0); breadth of braincase — (21.7); least interorbital breadth 8.0; least postorbital breadth 8.9 (8.4); length of a nasal 25.5; breadth of combined nasals 6.2; upper toothrow 10.4 (10.6); diastema 17.0; palatal foramina 10.4 mm.

Remarks: Some of the differences with *R. infraluteus*, most easy to point out, are thus: 1. the fur is more distinctly „soft" rather than „coarse and harsh" (Thomas); 2. the general colour is not „dark greyish *brown*" (Thomas) or „uniform dark *brown*" (Gyldenstolpe); 3. the tips of the straighter hairs of the undersurface are not „dull orange" (Thomas; for this rat the name of *„infraluteus"* would be quite impossible); 4. the nasals are distinctly longer (25.5 mm, against 20.1-21.8 in *infraluteus*).

Rattus thysanurus n. sp. (Celebes).

Type: ♀ ad., Toemaratas, Sapoetan Mountains, Minahassa, N. Celebes, coll. Sody, No. P 59.

Specimens examined: One, the type.

Diagnosis: The measurements of the teeth, the extremely long and penicillated tail, together with the spininess of the ventral fur, are sufficient to distinguish this rat from all other rats living in the same or neighbouring faunal areas.

Fur: Above 3 kinds of hairs occur: woolly hairs, rather many spines and a number of long bristles. Belly with 2 kinds of hairs: woolly ones and rather many spines! Tail clad with short hairs, becoming longer towards the end where (for about 4 cm) a very distinct pencil is formed, quite like (or perhaps even more pronounced than) in *Chiropodomys gliroides*.

Colour: On the back, the woolly hairs being grey, the spines whitish with dark (blackish or brownish) tips, the bristles black with white tips, the whole of the surface seems grey, with a brownish hue over the middle of the back. The eyes are bordered by a narrow blackish ring. The ventral side, including the innerside of the forelegs and partly the innerside of the hindlegs, is creamy white, all separate hairs being white to their bases. Line of demarcation between ventral and dorsal colours not very sharply defined. Hands and feet white with a small, slightly darker area over the middle. Tail unicoloreus, rather light grey. Whiskers black (the long ones) or partly white (the short ones).

Tail rings: ± 11 per cm.

Palate ridges: 3 + 5.

Mammae: 1 + 2 = 6.

Measurements: Head and body 123; tail 186;

hindfoot 25 ; ear 20 ; skull : greatest length 33.5 ; occipito-nasal length 33 ; condylo-basal length 28; palatal length 16 ; zygomatic breadth 16.5 ; greatest breadth of braincase 15 ; interorbital breadth 5 ; length of a nasal 12 ; breadth of combined nasals 3.5 ; upper toothrow 4.7 ; diastema 9.5 ; palatal foramina 6 mm.

Remarks : Perhaps this species is a *Haeromys !* The skull is somewhat *Chiropodomys*-like, with the postero-internal cusp of the molars missing. Also the very long tail reminds the species of the genus *Haeromys* and the strongly penicillated tail is quite the same as in the related genus *Chiropodomys*. Unfortunately, I am not able to determine the structure of the feet in the dried skin ! In any case, however, the species does not agree with any of the already described species of *Haeromys*.

I was struck by a special resemblance in some points with the descriptions of Jentinks' *Mus beccarii*. Besides having about the same measurements of the teeth and the same white colour of the under surface, there is in both species the same spininess of the ventral fur, a character, which, as far as I know, is rather uncommon in rats ! However, the differences with *beccarii* are distinct enough, both known specimens of *beccarii* (described by Jentink and by Matschie) having a tail, measuring only 100 and 110 % of the length of head and body (against 151 % in *thysanurus* !), the colour of the back in *beccarii* being „grayish brown" (Jentink) or even „schön braun" (Matschie), etc.

Rattus taerae n. sp. (Celebes).

Type : ♂ ad., Lembean, E. of Tondano, N. Celebes, coll. Sody, No. P 72.

Specimens examined : 5, all from the neighbourhood of Tondano.

Diagnosis : Externally extremely much resembling *Rattus callitrichus*, described by Jentink in Notes Leyden Mus., I, 1879, p. 12, but slightly differing from it in the colour of the belly (more purely grey, less brownish) and by the shorter hindfoot. In the skull, however, there are many large differences : 1. shorter and especially much less broad molars, whilst also the incisors are much less heavy ; 2. longer muzzle (nasals longer and more tapering towards both the ends) ; 3. bullae somewhat more curved and less triangular in snape ; 4. upper incisors markedly opisthodont (about between *R. dominator* and *R. marmosurus*) whilst in *R. callitrichus* they are nearly perfectly orthodont (as is well demonstrated in Jentink's fig. of the skull in Weber : Zool. Ergebn., I, 1890, Pl. X. fig. 5).

Fur : Composed of 2 kinds of hairs : woolly ones, closely set, on the back nearly up to 2 cm in length, shorter (to 1 cm) on the belly, and bristles, especially on backside (surpassing 2½ cm in length), though also on the belly there are some „straighter hairs".

Colour : Slightly speckled brownish-grey above, light grey, with the darker bases shining through, beneath, sometimes washed with a very little yellow-brownish. The woolly hairs on the back are rather dark grey with short light brownish tips, the bristles are grey with long black tips, often the short extreme tips light brownish. Below the hairs are medium dark grey at the bases, the rather long tips whitish, sometimes light yellow-brownish. Hindfeet rather dark, hands sometimes lighter (white in one specimen). Tail black for its basal $^2/_5$, rest white. Nails of hands and feet, which are covered with long overhanging white hairs, whitish or *light* yellow (much darker yellow in *callitrichus*).

Mammae : 1 + 2 = 6.

Tail rings : ± 9—10 per cm.

Measurements : Head and body 221 ; tail 217 ; hindfoot 42.5 ; ear 26.5 ; skull : greatest length 52.0 ; occipito-nasal length 51.3 ; condylo-basal length 45.0 ; palatal length 27.5 ; zygomatical breadth 24.5 ; breadth of braincase 18.8 ; least interorbital breadth 7.1 ; length of a nasal 22.3 ; breadth of combined nasals 5.5 ; length of upper toothrow 9.4 ; diastema 13.9 ; palatal foramina 9.2 mm.

In 5 specimens the combined teeth measure 9.3-9.8 mm ; the tail is 98—112 % of the length of head and body.

Name : The name was given after my daughter.

Remarks : Apparently this is not the first time this species has been collected and examined by a zoologist. There can be little doubt that the Menado specimen described at length by Matschie (Abh. Senckenb. Naturf. Ges., XXV, 1900, p. 280) under the name of *„Mus (Gynomys) callitrichus"* was this species and not *R. callitrichus*. True Matschie himself says : „Ich bin nicht ganz sicher, ob ich mit dieser Bestimmung das Richtige getroffen habe". Indeed, most of the differences from *callitrichus* were observed by Matschie, who, however, possessed but one specimen of *taerae* and none of *callitrichus* and therefore could not well estimate the value of the differences so accurately observed by him.

Rattus tondanus n. sp. (Celebes).

Type : ♂ ad., Tondano, N. Celebes, coll. Sody, No. P 89.

Specimens examined : One, the type.

Diagnosis : A member of the *xanthurus* group. The resemblance of the skin of this rat with that of *R. marmosurus* is astonishingly large. Externally there are no other noticeable differences than a somewhat longer tail and longer hindfoot, whilst the fur on the hindback is a little softer in the new species (it is much easier to make a permanent „division" in these hairs in *tondanus* than in *marmosurus*). This nearly perfect resemblance is remarkable because in *marmosurus* the nature of the fur, especially on the hindback and the root of the tail, is very specific. In the skull, however, large differences appear to exist, though the teeth are of the same smallsize. The skull of *tondanus* is relatively much shorter or broader and the nasals end very broad anteriorly, the incisors are less episthodont, the lachrymal notches are very prominent, the palatal foraminae do not reach as far backwards, etc.

Fur: Just like in *R. marmosurus:* very long and soft (even softer than in *marmosurus)*, the ordinary hairs (on the back more than 25 mm in length) intermixed with long, but not excessively elongated, piles (up to 35 mm). Fur trepassing on the base of the tail.

Colour: Also like in *R. marmosurus:* general colour above near cinnamon-brown, beneath dirty white, insharply defined. The individual common hairs on the back are grey with brown tips, the piles grey at their bases, then dark ringed up to shortly below the end, the extreme tips usually light coloured (also on the middle of the back, which forms a slight difference with *marmosurus,* in which species the entire ends of these piles are black). Hands and feet brown with white digits. Tail black for its basal 30 %, rest white. Whiskers black.

Tail rings: ± 10—11 per cm.

Measurements: Head and body 193; tail 257; hindfoot 41; ear 21; skull: greatest length 44.1; occipito-nasal length 44.1; condylo-basal length 38.8; palatal length 22.7; zygomatical breadth 20.9; breadth of braincase 17.3; interorbital breadth 6.9; length of a nasal 16.3; breadth of combined nasale 7.0; length of upper toothrow 7.3; diastema 12.1; palatal foramina 8.0.

Rattus rattus santalum n. subsp. (Soemba).

Type: ♂ ad., Waingapoe, Soemba, 1-II-1931, coll. Sody.

Specimens examined: One, the type and the description of 4 other ones, also from Soemba.

Diagnosis: In Treubia, X, 1928, p. 309, Dammerman discusses 4 houserats from Soemba, which he determines as *„Rattus rattus diardi",* that means; as belonging to quite the same form as the Javanese houserat. However, the measurements given by himself clearly show that there exists a very considerable and splendidly constant difference in size, most obviously demonstrated by the length of the upper toothrows. For *diardi* of Java my own measurings of this length show that it varies between 6.1—7.1 mm (60 specimens). For the 4 Soemba specimens in the Buitenzorg Zoological Museum Dammerman gives 8—8.5! Even if we take into consideration that Dammerman's measurings were done with an exactness of ½ mm, the exacter limits still remain at least 7.8—8.3. The type from Waingapoe, the only specimen in my collection, has a toothrow of 7.8. Thus it seems to me that one glance is sufficient to see that the Soemba houserat is not identical with *diardi.* It needs a new subspecifical name for its distinction.

Measurements of the type: Head and body 190; tail 189; hind foot 40; ear 23; skull: greatest length 46; occipito-nasal length 45; condylo-nasal length 41; palatal length 15.5; zygomatic breadth 21; greatest breadth of braincase 17; postorbital breadth 6.5; length of a nasal 17; breadth of combined nasals 5; upper toothrow 7.8; diastema 13; palatal foramina 9.7 mm.

It appears that the tail of *santalum* is relatively shorter than that of *diardi* (averagely exactly 100 % of the length of head and body in 5 specimens, against 107 % in 50 specimens of *diardi*).

Colour: A „dark bellied houserat". In the type the grey belly with darker median throatline reminds rather strongly *Rattus rattus brevicaudatus* of Java.

Name: The Latin name („Sandel-houserat") is given in connection with the second name for the island of Soemba: „Sandelwood island" (after the Sandelwood tree, *Santalum album.*

Remark (on *Rattus rattus sumbae* Sody): Formerly I already named the white bellied form of *Rattus rattus* from Soemba *(R. r. sumbae).* This was done after one specimen in the Buitenzorg Zoological Museum, determined by Dammerman (l. c., p. 308) as *Rattus rattus jalorensis!* In the Zool. Med. of the Leiden Museum, XIV, 1931, p. 47, I find an argumentation of de Raadt, who explains at length that my name is wrong and that the Soemba rat ought to be called *„Rattus alexandrinus rufescens"!* In the next number (l.c., p. 187) he „corrects" this singular name into another, still more peculiar one, viz. *„Rattus rattus alexandrinus rufescens"!* Now I think it is quite superfluous to waste many words in disproving this idea (besides the fact that *Rattus rattus rufescens* is a name for a British Indian *houserat,* with *dark* belly, different measurements, etc., even the formation of both de Raadt's names is inacceptable). However, there is one point in de Raadt's argumentation, which might deceive the reader and even the general insider. De Raadt points out that my Soemba specimen was a single one and will surely prove to be only an exceptionally large specimen of a quite normally large form. (Even in that case it should not be called *Rattus alexandrinus rufescens* or something like that, but *Rattus rattus roquei!).* If de Raadt had looked up the literature cited by me, he could have seen that, already of old, in total 5 specimens of *Rattus rattus* (the species!) were known from Soemba, which *all show the same large tooth measurements.*

Rattus rattus samati n. subsp. (Bali).

Type: ♂ ad., Boeleleng, N. Bali, coll. Sody, No. E 123.

Specimens examined: 19 all from Bali.

Diagnosis: The Balinese form of the houserat appears to be a kind of intermediate from between *Rattus rattus diardi* of Java and *Rattus rattus santalum* of Soemba. However, it is not at all intermediate *within* any of the characters itself, in which the two named forms are differing, but only by the *distribution* of these deviating characters! The teeth are just as small as in *diardi* (averagely 6.69 mm in 14 specimens, agreeing exactly with 6.69 mm in 60 specimens of *diardi,* but contrasting with about 8.2 mm in 5 specimens of *santalum),* the tail, however, has the same relative shortness as in *santalum* (101 % of the length of head and body in 18 specimens, agreeing with 100 % in 5 specimens of *santalum,* but against 107 % in 50 specimens of *diardi).*

Colour: Just like in *Rattus rattus diardi.*

Measurements of type: Head and body 181;

tail 172 ; hindfoot 33 ; ear 19 ; skull : greatest length 40.0 ; occipito-nasal length 39.8 ; condylo-basal length 35.4 ; palatal length 21.3 ; zygomatic breadth 18.3 ; greatest breadth of braincase 15.3 ; least interorbital breadth 5.0 ; least postorbital breadth 6.3 ; length of a nasal 14.6 ; breadth of combined nasals 4.3 ; upper toothrow 6.6 ; diastema 11.0 ; palatal foramina 7.7 mm.

Name : The name was given after my valued native assistant, Samat.

CONTRIBUTION A L'ÉTUDE DE LA FAUNE NÉPENTHICOLE

Art. II.

par **H. SCHMITZ S. J. (Valkenburg) et le Dr. J. VILLENEUVE DE JANTI (Rambouillet).**

1. Dans notre premier article (Natuurh. Maandblad 1932 p. 116) nous disions, p. 117, que plusieurs puparіums de *Wilhelmina* avaient été aussi trouvés par Mr. v. d. Meer-Mohr à Sumatra. Quelques détails à ce sujet ne nous semblent pas superflus. Ces puparіums ont été rencontrés dans les urnes d'une espèce de Népenthès que Mr. v. d. Meer-Mohr a étiquetée : *Nepenthes* (? *Rafflesiana*). Il les a découverts au mois de septembre 1931 à Bonan Dolok, Tapanoeli. Plusieurs de ceux-ci étaient vides, deux cependant n'étaient pas encore éclos. Après en avoir ouvert un, nous découvrimes une imago dont le développement était déjà assez avancé. Pour autant que les caractères qui s'y manifestent nous permettent d'en juger, il s'agit de la même espèce que celle dont Mr. Schuitemaker fit le découverte à Bornéo, c'est à dire : *Wilhelmina nepenthicola*. Comme nous l'avons vu, cette espèce, à Bornéo, vit dans les urnes de plus d'une espèce de Népenthes, entre autres de *Nepenthes Rafflesiana*.

2. Description d'une espèce nouvelle népenthicole : *Succingulum fransseni* n. sp. par le Dr. Villeneuve de Janti. *(Diptera, Tachininae)*.

♂. Yeux nus presque joints, les orbites blanches n'étant séparées que par une étroite bande frontale linéaire ; gênes blanches ; péristome pas plus large que l'orbite. Antennes noires, assez longues (3e article = 4 fois environ le 2e) ; chète antennaire noirâtre, nu, long et fin, épaissi à sa base seulement. Palpes d'un roux sale.

Thorax : pleures d'un gris blanchâtre ; tergum à enduit jaunâtre, mat, montrant, au-devant de la suture, 4 lignes noires qui, derrière la suture, sont réunies par une bande noire ininterrompue s'étendant en largeur jusqu'à la deuxième soie dorsocentrale postsuturale.

Scutellum tout noir, sauf à l'apex ; la coloration noire s'étend aux callosités postalaires.

Abdomen d'un jaune orangé plus ou moins lavé de rougeâtre, sauf le dernier segment qui est d'un gris blanchâtre. Segment I rembruni ; les segments II et III présentant une bande marginale noire égale. Ventre jaunâtre aussi sous les trois premiers segments.

Aile d'un gris hyalin ; nervures II et III divergeant à leur terminaison ; 1ère cellule postérieure ouverte, subapicale ; coude obtus ; transverse postérieure sinueuse sensiblement rapprochée du milieu de ladite cellule. Epine costale nulle. Cuillerons amples, d'un blanc crême ; balanciers entièrement d'un jaune pâle.

Pattes noires ; griffes des tarses I non allongées.

Chétotaxie : Soie verticale externe inexistante ; soies ocellaires rudimentaires c'est à dire très courtes et piliformes ; 2—3 soies frontales réclives développées ; les autres soies frontales moins longues sont ou croisées ou proclives ; 2—3 soies au-dessous de l'insertion des antennes. Bord inférieur du péristome n'ayant que 2 soies : une longue suivie d'une courte, sises à la partie médiane. Thorax : soies acrosticales au complet — 3 dc. — une soie intraalaire présuturale faible — st. = 1 + 1 longues — une soie ptéropleurale moyenne. Scutellum : sans soies apicales — 3 longues soies latérales divergentes. Abdomen : segments I, II et III ayant 4 soies marginales distantes, soit 2 dans la région médiane, et une soie latérale à droite et à gauche ; segments II et III avec une paire de discales ; le segment IV a aussi des soies discales; le ventre montre de nombreuses soies sur la ligne médiane ; toutes ces soies abdominales sont longues. Tibias II n'ayant qu'une soie médio-dorsale.

Taille : 5 millim.

Cette description est faite d'après un individu unique conservé dans l'alcool et trouvé vivant dans l'urne d'un *Nepenthes mirabilis* à Mandor, le 14 avril 1932 (legit J. P. Schuitemaker). Il est curieux de constater combien la coloration générale de cette nouvelle espèce se rapproche de celle de *Wilhelmina nepenthicola* ; y a-t-il là l'influence du biotope, une harmonie en rapport avec ce milieu spécial ? Sans doute est-il plus exact de dire avec le Prof. P. Stein, comme pour le génotype *Succingulum transvittatum* Pand. : „die Zeichnung erinnert an die vieler Anthomyiden und Tachiniden der äthiopischen Fauna...".

Le genre *Succingulum* Pand. (= *Gymnamedoria* T. T.) est rangé par Tyler-Townsend dans sa tribu des *Elodiini*, laquelle fait partie de ma section *Erythrocera*, groupement très naturel que j'ai défini dans une communication au Congrès de Paris en 1932, et qui appartient lui-même à la subdivision des *Eutachininae*.

L'espèce décrite est dédiée à Mr. le Dr. C. Franssen. Nous avons tenu à inscrire le nom de ce zélé et dévoué naturaliste sur l'aile diaphane d'un diptère, messager de notre estime très sympathique.