STUDIES ON THE FAUNA OF SURINAME
AND OTHER GUYANAS: No. 13.

ON BLARINA PYRRHONOTA AND ECHIMYS MACROURUS:

Two Mammals Incorrectly Assigned to the Suriname Fauna.

by

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When revising the Suriname mammals preserved in the collection of the Leiden Museum I also examined the type specimens of *Echimys macrourus* and *Blarina pyrrhonota*, described from Suriname by JENTINK in 1879 and 1910, respectively. As a result of this investigation I reached the conclusion that the two types are apparently incorrectly labelled as to locality. For *Blarina pyrrhonota* strongly resembles *Sorex araneus* Linnaeus from Europe, while *Echimys macrourus* shows a close resemblance to one of the forms of *Rattus sabanus* (Thomas), which has a wide distribution in the Malaysian subregion (see CHASEN, 1940, p. 164–167). In the literature dealing with Neotropical mammals, the systematic position of both *Blarina pyrrhonota* and *Echimys macrourus* has been the subject of much discussion, mainly based on assumptions, as no mammalogist since JENTINK has examined the types in question. Accordingly it seems of interest to give here a survey of these various discussions, and to render account of my own point of view.

I am much indebted to Dr. R. G. VAN GELDER, Chairman and Assistant Curator of the American Museum of Natural History, New York, who was so kind as to send me on loan one of the specimens from the Mt. Duida region, Venezuela, which the late Dr. G. H. H. TATE provisionally considered to belong to JENTINK's *Echimys macrourus*.

Blarina pyrrhonota Jentink, 1910

The type specimen of *Blarina pyrrhonota* was mentioned for the first time by JENTINK in his 'Catalogue systématique' (1888, p. 131), in the following words: "a. Individu adulte monté, type de l'espèce. Surinam." The description of this specimen was not published till 1910, and hence *Blarina pyrrhonota* Jentink, 1888, is a nomen nudum. JENTINK's 1910 description is based on a mounted specimen, of which the heavily damaged skull (see Pl. 1) had been extracted and cleaned, probably after 1888, since JENTINK (1887) did not list it in his 'Catalogue ostéologique.' The history of JENTINK's type is entirely unknown; even the original label has been lost, the present one being in the handwriting of JENTINK himself. TATE's suggestion (1932, p. 223) that JENTINK's *Blarina* may be identical with the specimen on which GMELIN (1789, p. 114) based his *Sorex surinamensis*, is in no way supported by the label of the type of *Blarina pyrrhonota*, or by other evidence. According to TATE (1932, p. 223) GMELIN's description of *Sorex surinamensis* points to a true shrew, while according to other authors, e.g., THOMAS (1888, p. 357) and CABRERA (1919, p. 42), GMELIN's species is identical with the marsupial *Didelphis brevicaudata* Erxleben, 1777. Recently, however, CABRERA (1958, p. 47) placed *Sorex surinamensis* in the insectivorous genus *Cryptotis*, at the same time considering *Blarina pyrrhonota* to be a junior synonym of that species.

As pointed out by several authors, e.g., CABRERA (1925, p. 135, footnote 1; 1958, p. 47), CABRERA & YEPES (1940, p. 52 and 55) and TATE (1932, p. 224), the occurrence of a *Blarina* in Suriname is hardly likely, in view of the geographical distribution of that genus which, so far, is known only from the eastern part of North America. If any shrews occur at all in Suriname they must belong to the genus *Cryptotis*, which has a wide distribution in North and Central America, extending southwards into the Andean region of South America as far as Venezuela and southern Ecuador (see TATE, 1932, p. 225, fig. 1). Another possibility, which was accepted by TATE, is that JENTINK's *Blarina* constitutes a hitherto undescribed insectivorous genus.

Examination of the skull fragments of the type specimen of *Blarina pyrrhonota* Jentink leads to the following conclusions:

a. the presence of five unicuspids in the upper jaw of *Blarina pyrrhonota* excludes the possibility that the specimen belongs to the genus *Cryptotis*, which is characterized by four unicuspid teeth in each half of the upper jaw;

b. according to HALL & KELSON (1959, p. 23), the 3rd and 4th unicuspids in *Blarina* are subequal and each is less than a quarter the size of the 1st and 2nd unicuspids. In *Blarina pyrrhonota* the 3rd and 4th unicuspids are unequal in size and each is more than a quarter the size of the 1st and 2nd unicuspids, as in the genus *Sorex;* the specimen is therefore not a *Blarina* either;

c. the size and shape of the skull fragments of *Blarina pyrrhonota* correspond so closely with the skulls of the Netherlands specimens of *Sorex araneus* that I feel entirely justified in considering the type specimen of *Blarina pyrrhonota* to belong to *Sorex araneus* Linnaeus.

The few measurements which could be taken from the damaged skull of *Blarina pyrrhonota* are: breadth of the palatinum, about 4.8 mm; length of the maxillary tooth-row (from the anteriormost border of the first unicuspid to the posteriormost border of the last molar), 7.1 mm; length of the mandible (from the anteriormost border of the second tooth to the posteriormost border of the processus condylicus), 9.2 mm. In 96 skulls of *Sorex araneus* from the Netherlands the breadth of the palatinum varies from 4.7 to 5.4 mm, the length of the maxillary tooth-row from 6.5 to 7.5 mm, and the length of the mandible from 8.8 to 9.7 mm.

JENTINK (1910, p. 168) noted that the angular process of the lower jaw is "still more slender than the same part f.i. in our common shrew [= *Sorex araneus*]." However, I cannot agree with JENTINK that the angular process of *Blarina pyrrhonota* shows notable differences from that of the examined specimens of *Sorex araneus*. Unfortunately, during the process of cleaning the right mandible before taking a photograph (see Pl. 1) the angular process was broken off, while the last molar had fallen out and was later put back into place with glue. It must be noted that the left mandible consists of some fragments only. I am not familiar with the species of the genus *Sorex* occurring in North and Central America, the

range of which extends southwards into Guatemala; but, on the basis of the characters of these forms given by HALL & KELSON (1959, p. 23–50) I cannot find a species that agrees so perfectly with *Blarina pyrrhonota* as *Sorex araneus* from the Netherlands.

JENTINK's description of the coat colour of *Blarina pyrrhonota* is quite correct, but in my opinion the specimen is discoloured and resembles specimens of *Sorex araneus* in the Leiden Museum which have been preserved in alcohol for a long time, or have been bleached by sunlight. The external measurements given by JENTINK are from the mounted specimen, and for this reason they have approximate value only; "Length of head and body about 80 mm., that of tail without pencil about 36 mm., pencil 4 mm., hind foot [with claw] 13.5 mm." All these measurements, however, fall within the range of variation of *Sorex araneus* from the Netherlands.

Summarizing, we must conclude that *Blarina pyrrhonota* described in 1910 from Suriname by JENTINK belongs to the genus *Sorex*, which does not occur at all in South America. The characters of the type, the only specimen known of this species, make it certain that it is *Sorex araneus* Linnaeus from Europe, and hence the conclusion is justified that JENTINK based his species on a wrongly labelled specimen, as has already been supposed by TATE (1932, p. 224). Until now no shrews have been encountered in Suriname; in this respect it may also be of some interest to note that no remains of the skull of any shrew were found in about 100 pellets of the barn owl, *Tyto alba hellmayri* Griscom & Greenway, from Peperpot Plantation, south of Paramaribo, which were kindly sent to me by Mr. F. HAVERSCHMIDT of Paramaribo.

Echimys macrourus Jentink, 1879

In 1879 JENTINK described a long-tailed spiny rat-like animal under the name *Echimys macrourus*. The name *Echimys macrourus* was a manuscript name of C. J. TEMMINCK's, as is shown by the pencil note on the under side of the board on which the animal has been mounted: "*Echimys macrourus* Temm., Sp. Nov. par Dippering. Surinam." The name of the collector, Dippering, is evidently an incorrect spelling of the name DIEPERINK. HENDRIK HAAGEN

DIEPERINK (1794–1842) was a military apothecary in Paramaribo from 1816 to 1836. After 1824, he sent large collections of Suriname animals to the Leiden Museum; the mammals are well represented in these consignments. As a rule DIEPERINK's mammals are labelled only "Suriname," and carry no more precise indication as to locality and date.

It is obvious that JENTINK, guided (1) by TEMMINCK's previous identification of the specimen, (2) by the fact that the specimen was said to originate from Suriname, and (3) by the presence of flattened spine-like hairs in the fur of the animal, came to the conclusion that he had before him a specimen of a South American spiny rat belonging to the family Echimyidae. Since the skull was lacking (JENTINK, 1879, p. 98; 1888, p. 101), none of the most useful characters offered by it could be used by either TEMMINCK or JENTINK.

None of the later authors doubted that JENTINK's species was identical with an Echimyid. Some (e.g., TATE, 1939, p. 181; HERSHKOVITZ, 1948, p. 129) followed JENTINK in placing the species in the genus *Echimys*, while others (e.g., TATE, 1935, p. 394 and 399; ELLERMAN, 1940, p. 119) placed it in *Proechimys*. JENTINK (1888, p. 101) once used the generic name *Echinomys* for the species in question.

Although, as shown above, there are several instances of the species having been mentioned in the literature, only one author besides JENTINK actually assigned material to it: i.e., Tate (1939, p. 181), who provisionally used the name *Echimys armatus macrourus* for material from the Mt. Duida region, Venezuela, considering JENTINK's species to be only a subspecies of *Echimys armatus* (Is. Geoffroy, 1838). Through the kindness of Dr. R. G. VAN GELDER of the American Museum of Natural History, New York, I was able to examine one of TATE's specimens from the Mt. Duida region (A.M.N.H. no. 77040, ♂) and compare it directly with JENTINK's type. In the specimen from the Mt. Duida region the tail is not only shorter than the total length of head and body (according to the label these measurements are 187 mm and 219 mm, respectively), but the greyish under parts are not sharply set off from the upper parts, while the pelage with its spine-like hairs, the size and

shape of the ear, and the shape of the hind foot, agree perfectly with the typical *Echimys armatus*. In the type of *Echimys macrourus*, however, the tail is about one and a half times the total length of head and body (these measurements have been taken from the mounted specimen, and are about 320 mm and 220 mm, respectively), the cream-coloured ventral surface is sharply set off from the brownish dorsal surface, the flexible aristiforms (in the sense of MOOJEN, 1948, p. 305) are much shorter and narrower than in either *Echimys* or *Proechimys* from Suriname, while the hind foot and the ears are like those of a rat and unlike those of *Echimys*. In these characters *Echimys macrourus* agrees perfectly with *Rattus sabanus* from Sumatra, Indonesia. In other respects too, there is such a striking similarity between these two forms that, in my opinion, their specific identity is certain.

There can be little doubt that the type of *Echimys macrourus* is therefore incorrectly labelled as to locality and collector. At such a late date it is impossible to find out how this confusion occurred. It seems most probable that the word Sumatra was misread as Suriname, an error which is known to have been made before. There is also the possibility that material from Sumatra somehow or other got mixed up with Suriname specimens. In the period during which the Leiden Museum obtained DIEPERINK's Suriname collections, 1824–1836, it also received zoological collections from the region of Padang and Tapanuli, West Sumatra, which were made there by SALOMON MÜLLER between 1833 and 1835. However this may be, though it seems most probable that the type of *E. macrourus* came from Sumatra, there is no way of proving this beyond any doubt.

The type of *Echimys macrourus* is a young animal. It was compared with 14 specimens of *Rattus sabanus* from Sumatra and with 11 specimens from Java. Though the specimen is discoloured, the cream-coloured ventral surface agrees more perfectly with specimens from Sumatra than with those from Java, in which (at least in my material) the ventral surface is pure white. As mentioned above, the ventral surface is sharply set off from the brownish dorsal surface. The aristiforms, which are present on the dorsal surface only, are very flexible, about 10 to 11 mm long and about 1/6 mm broad (in the examined specimen of *Echimys armatus* from the Mt. Duida

region, the aristiforms have a length of about 25 mm and a breadth of about 1 mm). The tail is about one and a half times the total length of head and body; in the mounted specimen these measurements are about 320 mm and 220 mm, respectively. The dorsal surface of the tail is somewhat darker than the ventral surface; the scale rings are 8 or 9 per centimetre, the length of the scale hairs is about equal to the scale length. Though JENTINK (1879, p. 98) noted that the length of the hind foot is 41 mm, the actual length, including the claw, is 42.5 mm (JENTINK did not state the way in which this length was measured by him).

The fact that *Echimys macrourus* Jentink, 1879, proves to be identical with *Rattus sabanus* (Thomas, 1887), originally described from Mt. Kinabalu, North Borneo, has several nomenclatural implications. JENTINK's name, being the oldest for the species, has to replace the name *sabanus*. If JENTINK's type really came from West Sumatra, the name *sabanus* could still be retained for the Bornean subspecies, while either the form now known as *Rattus sabanus tapanulius* Lyon, 1916 (type locality Tapanuli Bay, North-West Sumatra), or *Rattus sabanus ululans* (Robinson & Kloss, 1916) (type locality Siolak Dara, Korinchi valley, South-West Sumatra), should then become known as *Rattus macrourus macrourus* (Jentink, 1879), since this is the typical subspecies of JENTINK's species. It will be up to a reviser of this group of the genus *Rattus* to decide whether the specific and subspecific identity of *Rattus macrourus* can be ascertained from JENTINK's incorrectly labelled and faded type specimen, of which, moreover, the skull is not extant, or whether, in order to prevent confusion, it would be better to have the name *macrourus* suppressed under the Plenary Powers of the International Commission on Zoological Nomenclature.

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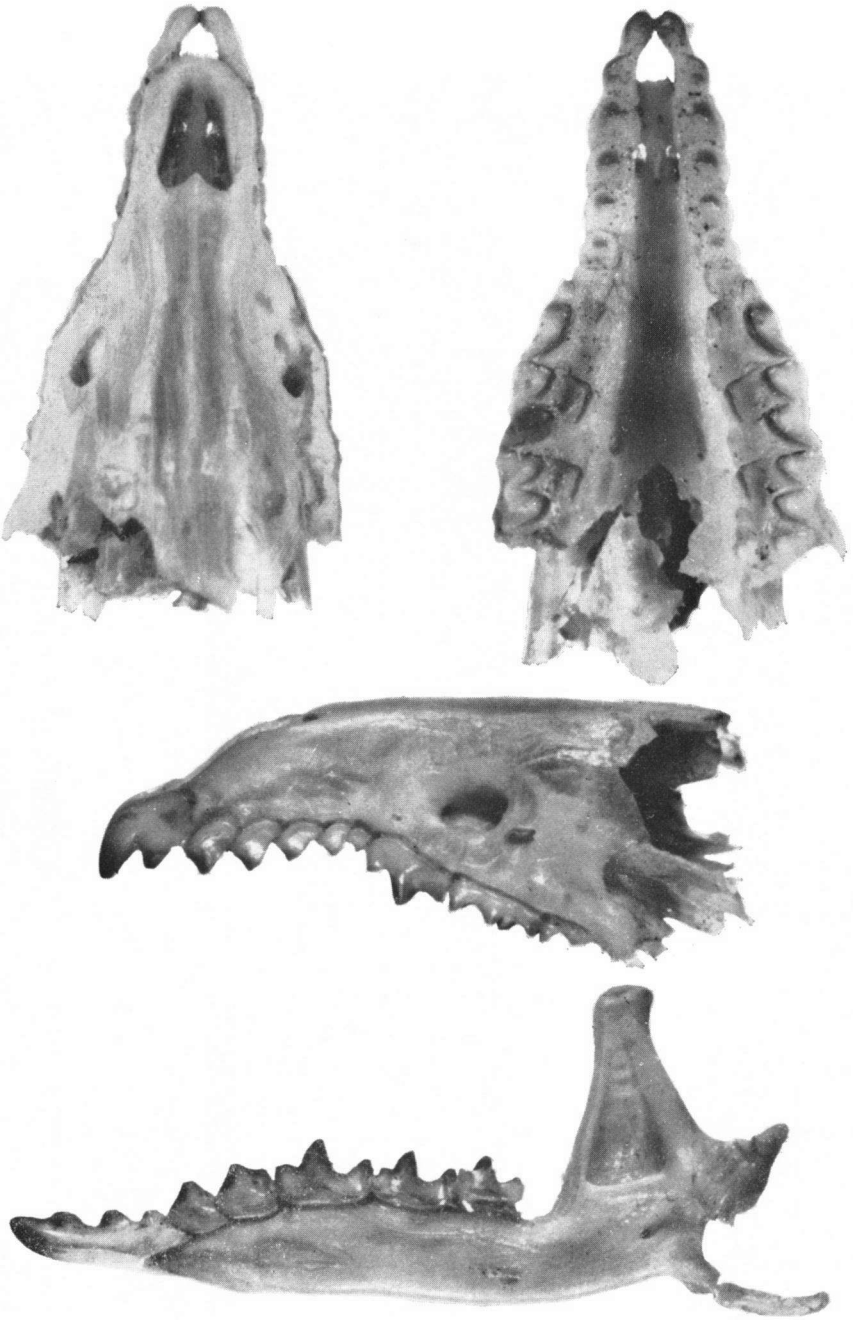

Plate I. Skull of *Blarina pyrrhonota* Jentink, 1910. – Leiden Mus., cat. a (new reg. no. 17214), type, Suriname.

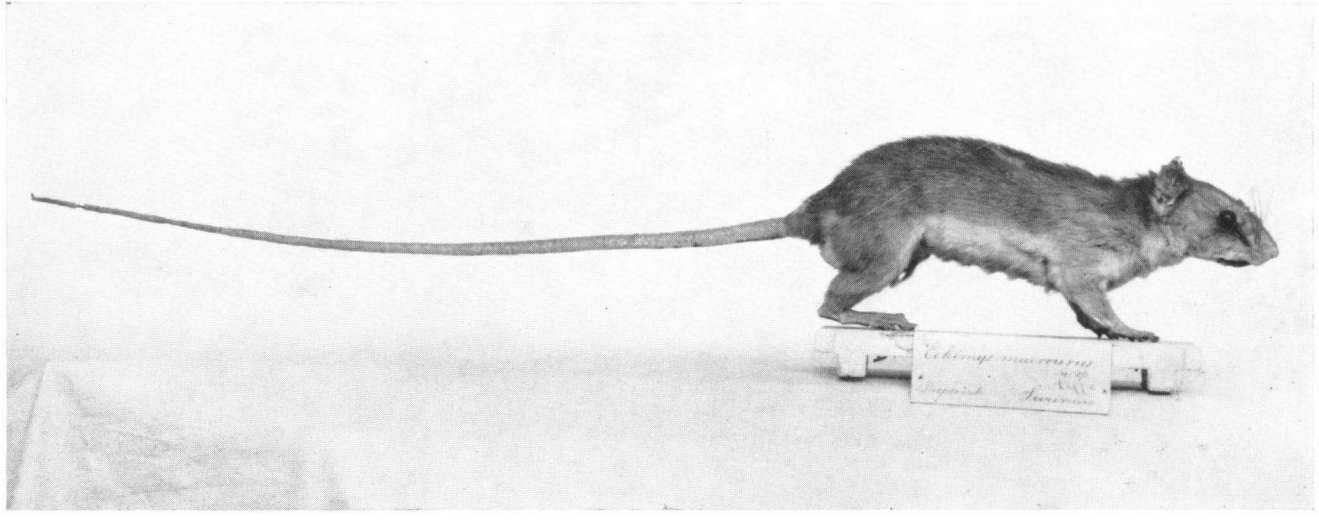

Plate II. Type specimen of *Echimys macrourus* Jentink, 1879. – Leiden Mus., cat. a (new reg. no. 17215), Suriname.