STUDIES ON THE FAUNA OF CURAÇAO AND OTHER CARIBBEAN ISLANDS: No. 43.

A NEW SPECIES OF THE RODENT BAIOMYS FROM ARUBA AND CURAÇAO

by

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In his paper on the mammals of the islands of Aruba, Curaçao, and Bonaire (situated off the north coast of Venezuela), WAGENAAR HUMMELINCK (1940 a, p. 69) mentioned a juvenile specimen of a cricetine rodent which was identified by Mr. M. A. C. HINTON and Mr. R. W. HAYMAN as probably belonging to the genus *Hesperomys*. In his zoogeographical remarks on the mammalian fauna of the islands, WAGENAAR HUMMELINCK (1940 b, p. 111) noted: "It is doubtful what significance may be attached to the occurrence of the small Cricetine *Hesperomys? (launcha* aff.) on Aruba, since this genus is southern in range, none being found in northern South America". This statement is, indeed, in accordance with the statement by ELLERMAN (1941, p. 446), who mentioned that *Hesperomys* occurs in Peru, Bolivia, Paraguay, Uruguay, S.E. Brazil, and central and northern Argentina (see also GYLDENSTOLPE, 1932, p. 72–76). Unfortunately the above-mentioned juvenile specimen, which was collected at Vader Piet, near Fontein, Aruba, on February 9, 1937, must be considered lost, since it could not be found either in the collections of the British Museum (Natural History), London, or in the Zoological Museum, Amsterdam, or in the Leiden Museum. However, a re-examination of all rodents collected in the Netherlands West Indian Islands from 1930 to the present day by Dr. P. WAGENAAR HUMMELINCK and others shows that, in these islands, a cricetine rodent does actually occur, which, in my opinion, is more

closely allied to the genus *Baiomys* than to *Hesperomys*. The characters of this rodent differ to such an extent from the described forms of the genus *Baiomys*, which ranges from Texas and Arizona through Mexico to west-central Nicaragua, that it is described here as a new species.

I wish to express my sincere thanks to Dr. P. WAGENAAR HUMMELINCK for suggesting that it might be interesting to study and re-examine his collections of mammals; to Mr. R. W. HAYMAN of the British Museum (Natural History), London, for the loan of some specimens belonging to several species of the genera *Baiomys* and *Hesperomys*, which enabled me to form a better opinion on the systematic status of the new form of *Baiomys;* and to Mr. P. J. H. VAN BREE of the Zoological Museum, Amsterdam, for allowing me to examine the Netherlands West Indian mammals in his care. Acknowledgments for the drawings are due to Mr. W. C. G. GERTENAAR, and for the photographs to Mr. H. F. ROMAN, both of the Leiden Museum.

Measurements of the skulls (see Table 6) are as taken by HOOPER (1952, p. 9–11, fig. 1) and by HALL (1946, p. 675 fig. 479, p. 679 fig. 483); by "the length of the mandible" is meant the greatest length with the exception of the incisors.

Baiomys hummelincki, nov. spec. Pls. VI–VII; Fig. 7

Type. — Leiden Mus., reg. no. 15994, adult female, from Klein Santa Martha, N.W. Curaçao, Netherlands Antilles, collected January 5, 1947, by A. B. Bitter (Coll. Wag. Humm. *Mus* 33). Dried skin and skull in good condition.

Description of the type. — The pelage is soft and silky, especially on the upper parts. The pelage of the dorsal surface is yellowish brown, while this colour gradually passes into the more yellowish tinge of the sides. The basal parts of the hairs are slaty gray, the median parts light yellowish brown, while the tips are darker brown. The hairs of the under parts are whitish or very light cream-coloured to the roots, the line of demarcation on the sides being well marked. The ears are thinly furred with appressed hairs both inside and out, the colour being that of the dorsal surface; the outline of the ears is, however, distinct. The upper surface of the hands and feet is densely furred with whitish hairs, the palms and the soles are naked and bright brownish in the dried skin; the number of pads is six (see fig. 7, d). Fore foot with the thumb reduced to a small tubercle with rudimentary appressed nail (see fig. 7, c). The tail, which is about four fifths the length of head and body, is bicoloured and less hairy on the dorsal surface than on the

ventral; the tail rings, about 20 per centimetre, are hardly visible because of the appressed whitish hairs; a true pencil is present. Unfortunately, I have been unable to determine the mammary formula for the type specimen and for the other females in the collection to hand.

For the shape and other pecularities of the skull reference is made to plates VI and VII. The rostrum is relatively short; the

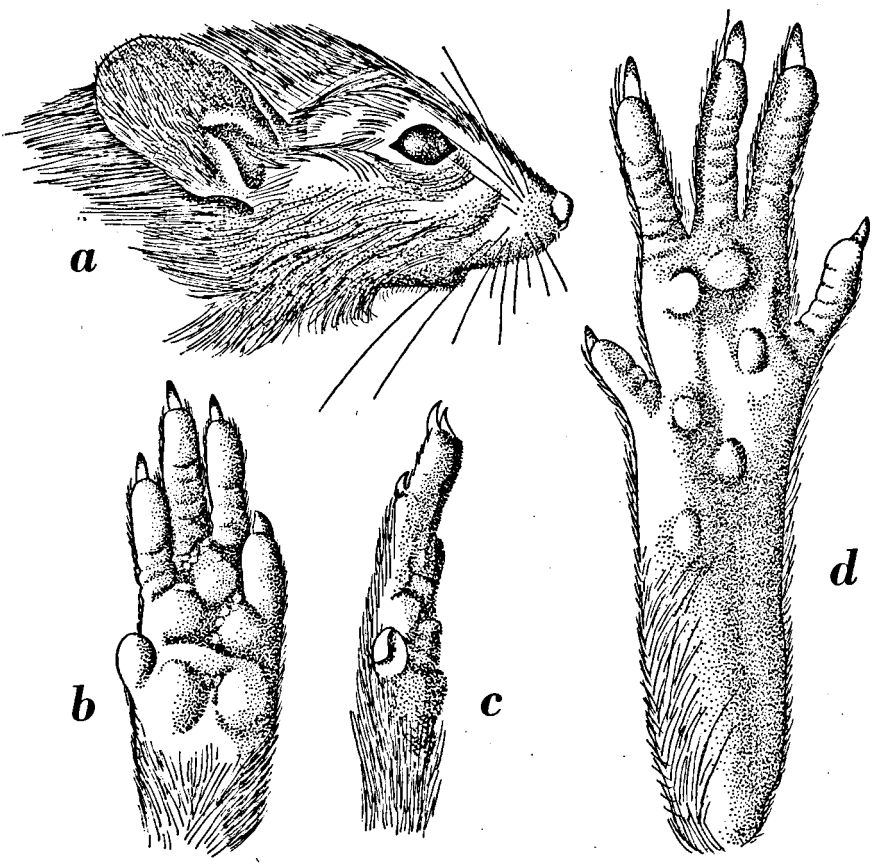

Fig. 7. *Baiomys hummelinchi* nov. spec. — *a*, head, right lateral view (about 3 ×); *b*, palmar surface of left hand; *c*, left hand, side view, showing the appressed nail of the thumb; *d*, plantar surface of left hind foot (*b*, *c*, and *d*, about 9.5 ×). Zool. Mus. Amsterdam, no. 1570, juvenile male, ARUBA.

supra-orbital edges are not ridged; the interparietal bone is very narrow antero-posteriorly, but stretches right across the skull. The foramina incisiva are considerably longer than the molar series, extending backwards to the anterior border of the first molars. The front cusp of the first upper molar is only indistinctly divided,

TABLE 6.

External and cranial MEASUREMENTS in millimetres of the type and five other specimens of *Baiomys hummelincki*, nov. spec., from Curaçao and Aruba.

Locality	*Curaçao*	*Curaçao*	*Aruba*	*Aruba*	*Aruba*	*Aruba*
Museum	Leiden	Leiden	Leiden	Leiden	A'dam	A'dam
Reg. number	15994, type	15988	16003	16009	1564	1570
Sexe	♀ dried skin	♂ skull only	♀ dried skin	♂ dried skin	♀ alcoholic	♂ alcoholic
Head and body	49	–	55	45	44	43
Tail, without tuft	41	–	–	–	38	35
Hind foot, without nail	12.5	–	–	–	12.5	11
Ear, from notch	–	–	–	–	8.5	8.5
Ear, breadth	–	–	–	–	6	6
Greatest length of skull	18.6	17.5	19.4	16.7	–	–
Condylobasal length [1]	17.3	16.1	17.9	14.6	14.7	–
Basal length [1]	15.8	14.5	16.6	13.5	13.4	–
Palatal length [1]	9.5	–	9.5	7.8	8.0	–
Length of palate (Hooper)	3.7	–	3.2	3.0	3.0	–
Length of foramen incisivum	3.6	3.6	4.1	3.0	3.3	–
Length of rostrum	6.5	5.9	6.7	5.5	5.4	–
Length of nasals	7.3	6.3	7.6	5.8	–	–
Diastema [1]	4.7	4.4	4.9	3.9	3.9	–
Zygomatic breadth	10.8	9.4	10.6	9.5	9.4	–
Breadth of braincase	9.1	8.8	9.1	8.9	8.7	–
Interorbital width	3.6	3.5	3.4	3.5	3.3	–
Breadth of rostrum	3.6	3.3	3.6	3.2	3.2	–
Breadth of zygomatic plate	2.0	1.9	2.0	1.7	1.7	–
Breadth of mesopterygoid fossa	0.8	0.8	0.9	0.6	0.6	–
Depth of cranium	7.2	7.0	7.0	7.0	6.4	–
Length of upper molar row	2.8	2.8	2.8	2.8	3.0	–
Length of lower molar row	3.0	2.9	3.0	2.9	3.0	–
Length of mandible	9.8	9.1	10.2	9.0	9.0	–

[1]) Measurements taken as figured by HALL (1946, p. 675 fig. 479, p. 679 fig. 483). All other cranial measurements have been taken as figured by HOOPER (1952, p. 10 fig. 1).

probably due to the fact that the teeth are moderately worn. The small last upper molar is more or less ring-shaped. The coronoid process of the mandible is relatively large and strongly recurved. For the cranial measurements see Table 6.

Specimens examined. — Besides the type from Klein Santa Martha, northwestern CURAÇAO, the following specimens of *Baiomys hummelincki* have been found in the material examined.

1. Leiden Mus., reg. no. 15988, young male, from Plantation Jongbloed, about 8 km west of Willemstad, CURAÇAO, obtained on Dec. 3, 1945, from St. Thomas College, Willemstad (Coll. Wag. Humm. *Mus.* 32). Skull only, in good condition.

2. Amsterdam Mus., no. 2480, skull fragment (rostrum and palate with molar rows), collected on Jan. 10, 1959, by J. H. Stock. This fragment was found in débris of the barn owl, *Tyto alba bargei* (Hartert), in the Cave of Savonet, northwestern CURAÇAO.

3. Leiden Mus., reg. no. 16003, adult female, from Shiribana, ARUBA, obtained on March 22, 1946, from the Frères de la Salle (Coll. Wag. Humm. *Mus* 34). The dried skin and the skull are in good condition.

4. Leiden Mus., reg. no. 16009, young female, from Dakota Airport, Baca Morto, ARUBA, collected on Oct. 10, 1948, by A. D. Ringma (Coll. Wag. Humm. *Mus* 35). The dried skin is in poor condition; the zygomata of the skull are broken off.

5. Amsterdam Mus., no. 1564, juvenile female, from west of Barranca Corrá, ARUBA, collected on July 4, 1930, by P. Wagenaar Hummelinck. Preserved in alcohol; skull extracted (the third molars are not developed at the level of the second molars).

6. Amsterdam Mus., no. 1570, juvenile male, from near Seroe Blanco at pt. 62.8, ARUBA, collected on July 1, 1930, by P. Wagenaar Hummelinck. Preserved in alcohol; skull not extracted.

Habitat. — The only information concerning the habitat of the present species is found on the labels of two specimens from Aruba (Amsterdam Mus., nos. 1564 and 1570). The specimen from west of Barranca Corrá was caught under a stone, that from Seroe Blanco was taken in a maize field, under a stone.

Distribution. — From the material examined it appears that the new form occurs throughout the islands of Curaçao and Aruba.

Remarks. — In Table 6 some external measurements of the new form of *Baiomys* are given. These measurements are approximate, since they are taken from dried skins (Leiden Mus., reg. no. 15994, type; reg. nos. 16003 and 16009) or from spirit specimens (Amsterdam Mus., nos. 1564 and 1570). It appears, however, that the new species belongs to the smallest forms of the genus *Baiomys* hitherto described. The tail is considerably shorter than the combined length of head and body. The coat colour shows no noticeable

differences in the material examined. In the dried skin from Shiribana, Aruba, the under parts are pure white to the roots of the hairs instead of whitish or very light cream-coloured, as in the type from Curaçao, while the upper parts of the Shiribana specimen are more washed with yellowish than in the type.

In the skull of the type specimen the foramina incisiva reach about to the tooth-row, but in the five other skulls to hand these foramina extend more backwards, as a rule not beyond the posterior border of the first lamina of the first molar. The front cusp of the first upper molar is more distinctly divided in some specimens than in others; in the young male from Plantation Jongbloed, Curaçao, this notch is well pronounced (see plate VII, lower figures). In all skulls the interparietal is of the same shape and size: very narrow antero-posteriorly, but stretching right across the braincase. The relatively short rostrum and the small ring-shaped last upper molar are to be observed in all specimens.

When the skulls of *Baiomys hummelincki* are compared with those of *Hesperomys laucha* (Desmarest) from Argentina (British Mus. 98.12.3.17, ♂: Goya; 98.12.3.16, ♀: Goya; 98.12.3.15, ♂: Goya; 26.1.9.17, ♂: Concepción) and with *Hesperomys lepidus* Thomas from Peru (British Mus. 85.4.1.18, ♀: Junin), the most striking differences between these species are found in the shape and structure of the last upper molar. In both species of *Hesperomys* the last upper molars are not evidently reduced in relation to the second upper molars, being of about equal width and more or less pronouncedly triangular, while the inner reëntrant angle is distinctly visible. In *Baiomys hummelincki*, however, the last upper molar is strongly reduced in relation to the width of the second upper molar, being more or less ring-shaped while the inner reëntrant angle is obliterated or altogether absent (?). In this respect *B. hummelincki* agrees very well with two specimens of *Baiomys taylori* (Thomas) from Texas (British Mus. 87.11.24.2, ♀; Leiden Mus., reg. no. 16686, ♀) and with four specimens of *Baiomys musculus* Merriam) from western Mexico (British Mus. 98.3.2.79, ♂; 98.3.2.80, ♂; 98.3.2.85, ♂; 98.3.2.89, ♂), in which the ring-shaped last upper molar is also reduced and the inner reëntrant angle is obliterated or absent. It is curious to note that, in shape and size, the interparietal of *Baiomys humme-*

lincki resembles that of the examined specimens of *Hesperomys laucha* and *H. lepidus;* in *Baiomys taylori* and *B. musculus*, however, the interparietal is relatively broad antero-posteriorly, and short (extending across the braincase but for about one half). Furthermore, it must be noted that the rostrum of the species of *Baiomys* examined is strikingly short compared with that of *Hesperomys*. As far as I can see all other skull characters mentioned by OSGOOD (1909, p. 252) and by ELLERMAN (1941, p. 401) as characteristic of the genus *Baiomys*, and mentioned by GYLDENSTOLPE (1932, p. 72) and ELLERMAN (1941, p. 446) as typical of the genus *Hesperomys*, are subject to a large amount of variation. Since in the case of *Hesperomys*, ELLERMAN (1941, p. 446) noted: "M3 moderately, or sometimes considerably, reduced", I wonder if the characters differentiating the genera *Baiomys* and *Hesperomys* are of generic value; *Baiomys* was originally described as a subgenus of *Hesperomys* by TRUE (1894), but it was given generic rank by MILLER (1912, p. 136). Since however, the last upper molar of *Baiomys hummelincki* is strongly reduced and ring-shaped, a character which is apparently rare in species of the genus *Hesperomys* but common in *Baiomys*, it seems to me most obvious to place the new cricetine form from the islands of Curaçao and Aruba in the genus *Baiomys*.

Externally the present form of *Baiomys* may at first be confused with individuals of the house-mouse occurring on Aruba, Curaçao, and Bonaire. According to SCHWARZ & SCHWARZ (1943, p. 64–65) the South and Central American house-mouse, introduced by Europeans, belongs to *Mus musculus brevirostris* Waterhouse, a commensal of the wild form *M. musculus wagneri* Eversmann. The specimens of *Mus musculus* from these islands examined by me are subject to great variation, especially as regards the coat colour of the under parts, which varies from pure white to bluish gray, occasionally washed with yellowish brown. In this respect it is worth while noting three specimens from Kralendijk, Bonaire (Leiden Mus., reg. nos. 16678–16680), collected in April 1947 by Frater M. ARNOLDO, in which the colour of both the upper parts and the under parts agrees perfectly with that of *Baiomys hummelincki*. However, *Mus musculus* can be distinguished with certainty from

Baiomys hummelincki by its greater body-length, the length of its tail (which is equal to or somewhat greater than the body-length), and the length of the hind foot (varying in the three specimens of *Mus musculus* from 16.5 to 17.5 mm, in *Baiomys hummelincki* from 11 to 13 mm).

I have great pleasure in naming the present species in honour of Dr. P. WAGENAAR HUMMELINCK, Curator of the Zoological Laboratory at Utrecht, who has continuously stimulated and encouraged the study of the fauna of the Netherlands West Indian Islands ever since 1930, and whose extensive collections of all groups of animals are invaluable to students of the fauna of these regions.

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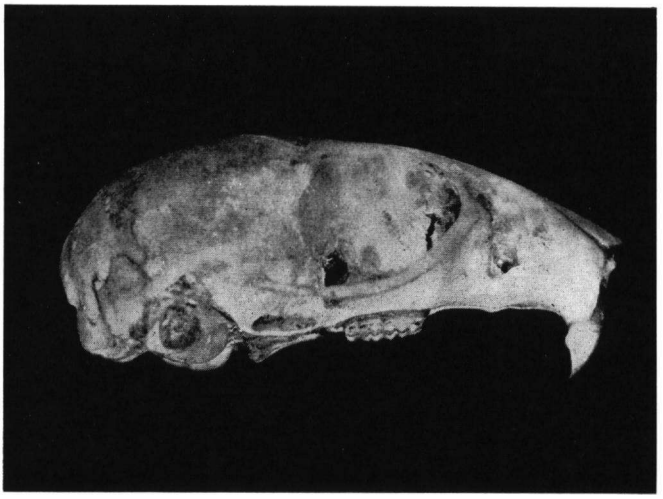
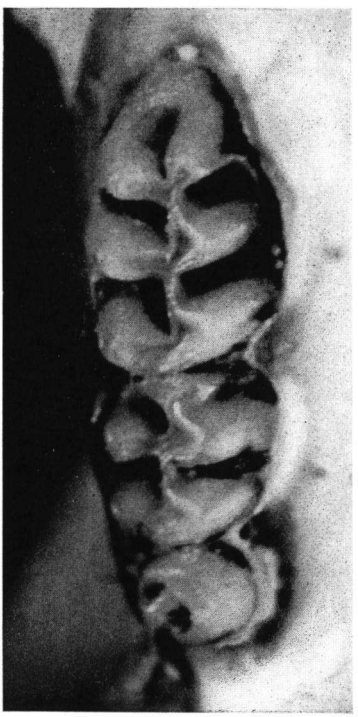
PLATE VI

Skull of *Baiomys hummelincki*, nov. spec. — Upper: dorsal view (left); ventral view (right). — Lower: inner side of left lower jaw (left); outer side of lower jaw (right), about 4 ×. Leiden Mus., reg. no. 15994, type, adult female, CURAÇAO.





Baiomys hummelincki, nov. spec. — Upper: right side view of skull, about 4 ×. Leiden Mus., reg. no. 15994, type, adult female, CURAÇAO. — Lower: right upper molar teeth (left); left upper molar teeth (right), about 27 ×. Leiden Mus., reg. no. 15988, young male, CURAÇAO.