

A BAT AND A NEW SHREW FROM KÔTÔ-SHÔ
(BOTEL-TOBAGO)

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TWO FIGURES

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Kôtô-shô (Botel-Tobago) is a small island situated off the south-eastern coast of Formosa. Of land mammals, *Rattus*, *Paradoxurus* and *Pteropus* have been the only known genera from the island up to this time. It is our pleasure to add two genera to this list. One of them, a bat of the genus *Rhinolophus*, is of the same species as that found in Formosa, while the other animal, of the genus *Crocidura*, seems to represent an undescribed species.

Genus *Rhinolophus* Lacépède

Rhinolophus monoceros Andersen, 1905

Nom., Jap.—Kikugashira-kômori.

- 1905. *Rh. monoceros* Andersen, Proc. Zool. Soc. London, Vol. 2, pp. 131-132.
- 1908. *Rh. monoceros* Årnbäck-Christie-Linde, Ann. Mag. Nat. Hist. Ser. 8, Vol. 2, pp. 237-238.
- 1931. *Rh. monoceros* Horikawa, Illustr. Mammal. Formosa, pp. 60-61.
- 1935. *Rh. monoceros* Kuroda, Journ. Mammal. Vol. 16, p. 289.

Specimens examined.—Six males and one female collected by T. Kano from a limestone cave at Nankôkaku in the south-eastern corner of the island. The bat has a vernacular name of "puipuigut."

This cave-dwelling small bat agrees very well both in external and

cranial dimensions with *Rh. monoceros* of Formosa. The horse-shoe is characteristically broad. The lancet and connecting process are of the "*Rh. subbadius* type" of Andersen (1905). The lancet is generally

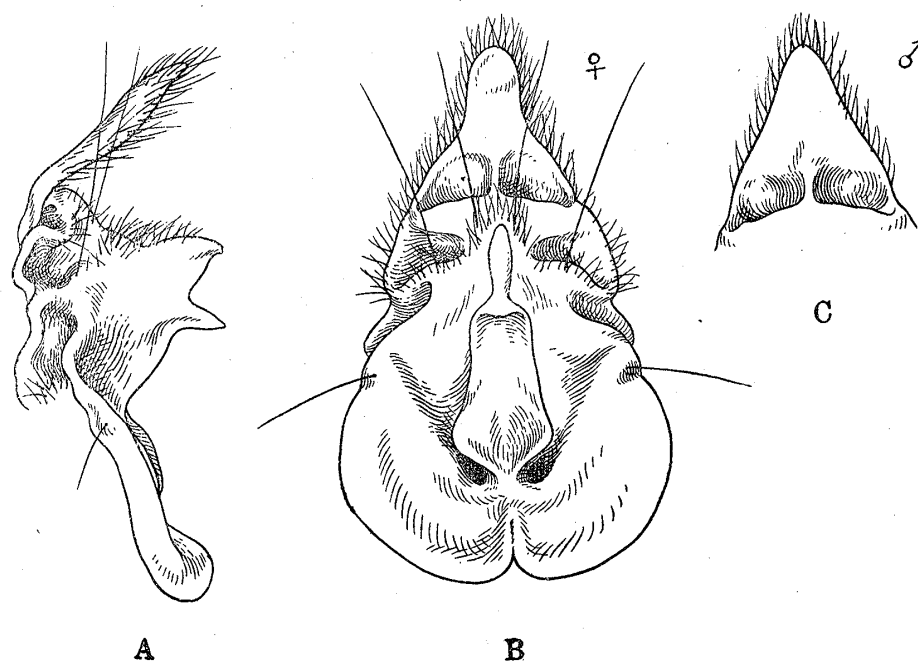


Fig. 1. Nose-leaves of *Rhinolophus monoceros* from Kôtô-shô ($\times 6$). A, side view (female); B, front view (female); C, lancet of a male.

short and broad, being almost in the shape of equilateral triangle. However, the only female specimen among the seven in total, has the lancet noticeably emarginated on its lateral margins. But, as the specimens are few, we are uncertain whether this represents a constant sexual distinction or not.

Measurements of *Rhinolophus monoceros* from Kôtô-shô (mm)

No. of specimens and sex	1 ♂	2 ♂	3 ♂	4 ♂	5 ♀	6 ♂	7 ♂
External dimensions:							
Total length	60.3	56	55.9	60	53.3	58.5	55.8
Head and body	40	37	36.7	39	36.3	39.5	38.8
Tail	20.3	19	19.2	21	17	19	17
Length of ear	15.6	15.2	15	16	14.7	15.4	15.3
Width of ear	—	11.8	11	11.5	10.5	10.5	11

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Nose-leaves, total length	—	10.8	10.1	10.7	10.9	10.5	10
Breadth of horse-shoe	—	6	6	6.6	6.3	6	6
Fore-arm	36	35.8	35.8	37	35.5	36	36.3
Metacarpal of second finger	29	28.5	29	29	28.5	29	28.5
Third finger:							
Metacarpal	27.5	27.3	27.2	29	27	27.5	27.5
First phalanx	10.8	10.4	10.4	10.8	10.8	10.6	10.4
Second phalanx	14.3	14	13.5	14	14	14	14
Fourth finger:							
Metacarpal	27.8	27.5	27.4	29	28	28	27.5
First phalanx	8.3	8	8.5	9	9	8	7.7
Second phalanx	9.8	9.4	9.4	9.8	9.8	9.3	9
Fifth finger:							
Metacarpal	29	28	27.8	28.5	28	27.5	28
First phalanx	8.8	9	9	9	9.6	8.4	8.3
Second phalanx	10	9.3	10	10	10	9	9.3
Lower leg	15.5	15.5	15.3	16.3	15.8	14.8	15.5
Foot and claws	7.5	—	7.5	7.7	7.3	7	7
Cranial dimensions:							
Total length	15.3	15.2	15.1	15.5	14.8	—	—
Width of braincase	7.3	7.2	7	7.1	6.9	—	—
Zygomatic breadth	7	6.9	6.8	6.8	6.6	—	—
Nasal swelling, width	42	4	4	4.1	3.8	—	—
Mandible, length	—	9.8	9.6	9.9	9.4	—	—
Upper tooth row with canine	5.5	5.6	5.7	5.7	5.5	—	—
Lower tooth row with canine	—	5.7	5.7	5.6	5.6	—	—

Genus *Crocidura* Wagler, 1832*Crocidura tadae* sp. nov.

Nom. Jap.—Kôtô-jinezumi (n.n.)

Holotype, 1 adult ♂, Allotype, 1 adult ♀, skin and skull, June, 1935 (in the collection of T. Kano); Paratopotype, 2 ♂♂, 2 ♀♀, skin and skull, June and July, 1935 (in the collection of M. Tokuda and T. Kano).

Type locality.—Imourod, Kôtô-sho.

External characters.—Much like *C. watasei*¹ of Amami-oshima. Size very diminutive. Snout produced, tip bare, divided by a deep groove. Anterior part of head very slender. Lip slightly thickened. Ear moderately long and broad. Vibrissae numerous, the longest extending beyond ear; their apical half white and basal half dark brown; a few short vibrissae on lower jaw. Body covered with dense short hairs of 4—5 mm in length. Tail covered with very short hairs and its annulations visible only on the distal half; towards the base, particularly on the underside, are a few, elongated hairs of 3 mm in length.

Color: Almost uniform grey throughout, with some individual variations from buffy brown to clove brown of Ridgway. On the ventral side the coloration is slightly paler and more silvery than on the dorsal side. The tail, also, is lighter below than above, but it cannot be said to be bicolored.

Skull and teeth: Skull small, rather long and narrow; of about the same length and structure as those of *C. watasei*; only distinguishable from the later species by its narrower pterygoid fossae. The crowns of teeth show rather remarkable differences from *C. watasei* as follows:

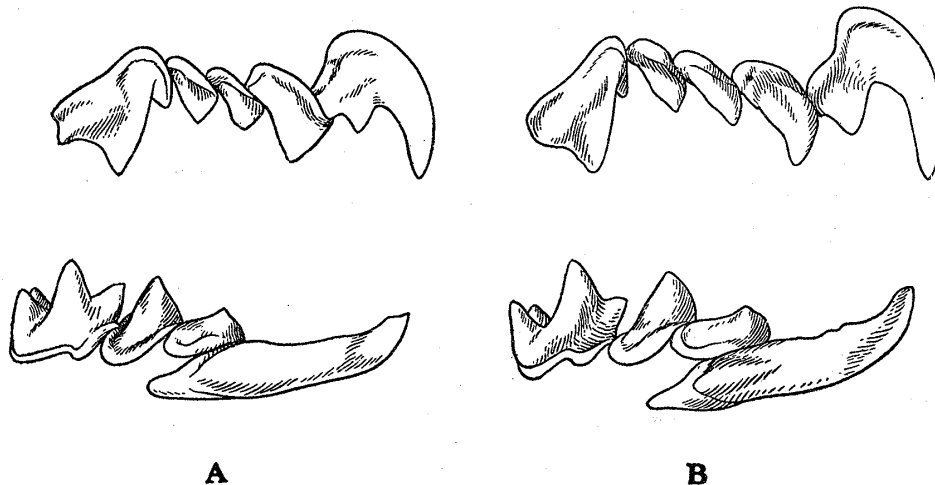


Fig. 2. A comparison of anterior teeth in profile of two species, *Crocidura tadae* sp. nov. (A) and *C. watasei* (B). (The figure B sketched from an original specimen by the permission of Dr. Kuroda).

the anterior upper incisor with main cusp not so long and slender, and

¹ Kuroda, N. 1924 On new mammals from the Riu Kiu Islands and the vicinity. Published by the author. Tokyo.

with basal lobe less developed; the upper premolar is larger and the lower canine is smaller.

Remarks.—This very small, dark grey shrew has no close relative in Formosa. While *C. paravacauda*² and *C. grisea*³, the smallest shrews in the Philippine Islands and in China, respectively, seem to have some relation to the present species. According to the descriptions given to these species, they seem to have coloration similar to the present specimens, although both species are of even a larger size than *C. tadae* or *C. watasei*. A study on the interrelations among these small dark-grey oriental shrews on plentiful material will be of great interest.

The specific name of the new shrew of Kôtô-shô is given in honor of the late Mr. T. Tada, who first studied the fauna of the island.

This shrew is, as far as the junior writer's observations go, rather rare in June and July, being found in the farmyard or in the stone walls near houses. "Aninigo" is the name for this shrew given by the native islanders.

Acknowledgment.—We are much indebted to Dr. N. Kuroda for sending us a specimen of *Rh. monoceros* from Formosa and a specimen of *C. watasei* which he originally described, and also to Mr. Y. Horikawa who kindly gave us a specimen of a Formosan bat. By their kindness we could compare the bat and shrew of Kôtô-shô under description with the specimens of adjacent localities.

Measurements of the type of *Crocidura tadae* sp. nov. (mm)

No. of specimens and sex	1	2	3	4	5	6
	♀	♂	♂	♀	♀	♂
External dimensions:						
Total length	91	98	94	101	94	—
Head and body	52	55	51	56	53	50
Tail	39	43	43	45	41	—
Snout to ear	—	—	14.5	15.5	15	14.5
Height of ear	7.8	8	8	8	7.5	7.6

² Taylor, E. H. 1934 Philippine land mammals. Manila.

³ Howell, A. B. 1926 Three new mammals from China. Proc. Biol. Soc. Washington. Vol. 39. pp. 137-138.

Width of ear	—	—	8	8	7.5	7
Hind foot to claw tip	12	12.6	12	12.8	11.5	12.2
Cranial dimensions:						
Condylobasal length	15.3	16.3	15.3	16.5	15.4	15.7
Width of braincase, approximate	8	8	8	8.3	8	8
Maxillary tooth row	7.8	8	7.4	8	7.5	7.7
Molars and premolars, upper,	4.1	4.7	4.6	4.7	4.2	4.4
Width of premaxillaries	2	2	2	2	1.8	2
Width between third molars, upper	2.2	2.4	2.4	2.5	2.2	2.3
Length of mandible to incisor tip	11	11.4	11.4	11.9	11	11.3
Length of lower tooth row	7	7.1	7	7.4	7	7.2
Length of lower molar row	3.8	4	3.9	4	3.6	3.8