

PRELIMINARY NOTES ON SOME SMALL MAMMALS
FROM SADO ISLAND

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ONE PLATE

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Sado Island lies in the Japan Sea, some 30 miles north of Niigata in Hondo. I visited this island in the summer of 1932 for the purpose of exploring the mammalian fauna. The flora and fauna of this island have been studied by several investigators fairly thoroughly. It has been found that there is no great difference between the flora and fauna of this island and those of Hondo. This may be due to the location of the island, which is rather near to Hondo. The mammals, though they have never been studied by any specialist, can hardly be expected to make any exception. The four kinds of mammals which I obtained in the island are practically the same as those common in Hondo. However, minute studies of these specimens have revealed that one of *Microtus* has enough distinctive characteristics to establish a new subspecies, and that the two other forms, a species of *Apodemus* and a *Mogera* show some local modifications. Unfortunately the specimens are too few to enable any thorough study, so that in the present paper I shall confine myself to give only the diagnosis of the new *Microtus* and the preliminary descriptions of the other forms. The collection was made in five days in July. Each catch was quite small, because weeds had grown over the nests of the small animals and gave much inconvenience for collection. Fortunately, however, by the kindness of two gentlemen Mr. S. and G. Watanabe, both residents of the island, I obtained some winter specimens of the mammals. I could thus compare the specimens of the two seasons. Here I wish to express my best thanks to the named gentlemen.

MURIDAE

Subfamily Microtinæ

Genus *Microtus* Schrank, 17981. *Microtus montebelli brevicorpus* subsp. n. (Pl. 11).

Type: Adult male (skin and skull in summer pelage).

Type locality: Sado Island, (July 16, 1932).

Specimens examined: 2 males and a female.

Size smaller than *Microtus montebelli montebelli* of Japan. General coloration considerably more reddish than the latter in both summer and winter pelages.

Color and external characters: In summer pelage dorsal hairs wear Cinnamon of Ridgway, while in *montebelli montebelli* the hairs are Bister and Tawny-Olive. The cinnamon hairs gradually become paler on both sides of the body and extend even to the under parts where they are mixed with whitish-grey hairs. In winter pelage these hairs are much paler in general effect and usually diminish before the boundary of the upper and under parts. The hairs everywhere have slaty bases. Size of the body very small; the full-grown adult may be 90-100 mm in head and body length, while in true *montebelli* the length is 111-120 mm. Tail proportionally shorter. In the female the number of the teats is normal: 2 pectoral and 2 pelvic.

Skull and teeth: Skull without any characteristic except for being proportionally smaller than that of *montebelli montebelli*. In a full-grown specimen the basilar length measures 25 mm as contrasted with 27 mm in the true *montebelli*. No slightest difference in the patterns of molars from the Hondo subspecies.

Dimensions: (mm)

(No.)	Head and body	tail	hind foot	ear
(156) ♂ Type	95	37	17	12.2 (July '32)
(155) ♂	100	39	19	12.5 (July '32)
(200) ♀	99	36	17	12.2 (March '33)

Remarks: *Microtus kishidai* Mori, 1930, a form allied to *Microtus montebelli montebelli* but with a slightly smaller body, has been recorded from Korea. The Korean form is further reported as even darker than *montebelli montebelli*, and to have a broader skull and a proportionally larger and more angular braincase as compared with the true *montebelli* of Hondo. The present specimens are distinguishable

from *M. kishidai* by the longer tail and feet, and also by the lighter color of the pelage. Moreover, they are lacking the peculiarities of the skull mentioned for the Korean form.

The present species is apparently not uncommon in Sado Island and has an economic significance equal to that of the field mice of Hondo. I observed many tracks and nests of this mouse in swampy places of the island. There is little conspicuous difference in the habit between this and the true *montebelli* of Hondo.

Subfamily Murinæ

Genus *Apodemus* Kaup, 1829

2. *Apodemus speciosus* subsp.

Two males; one in summer and the other in winter pelage.

Length of tail in proportion to the head and body slightly larger than the true *speciosus* of Hondo. In the summer pelage the blackened line of the dorso-median parts is entirely missing: the bristles with blackish tips present, but they are very thin on the back, and all the body is covered by the fulvous hairs only, so that the general appearance is much more reddish and brighter than that of *speciosus speciosus*. In winter pelage too, the blackish hairs are less numerous than in the true *speciosus* of Hondo.

The cranial or dental characteristics are identical with those of *speciosus speciosus*.

Remarks: In the length of the tail this subspecies comes between *speciosus* of Hondo and *speciosus peninsulæ* Thomas, 1905 of Korea. The tail is equal to, or a little shorter than, the head and body, while in *peninsulæ* the tail is usually longer, and in true *speciosus* it is always shorter than the head and body. More specimens are desirable for any conclusive decision of the affinity of the form of Sado.

Dimensions: (mm)

(No.)	Head and body	tail	hind foot	ear
(154) ♂	95	93.5	23.6	15.5 (July '32)
(201) ♂	107	105.0	25.0	15.0 (March '33)

Genus *Rattus* Fischer, 1803

3. *Rattus norvegicus norvegicus* (Erxleben, 1777)

Dimensions :

(No.)	Head and body	tail	hind foot	ear
(157) ♀	155	149	30	16.5
(158) ♀	176	155	38	19.0
(203) ♂	109	97.5	30	16.0

These were trapped in houses. Brown rats seem to be abundant throughout the island.

Talpidæ

Genus *Mogera* Pomel, 18484. *Mogera wogura* subsp.

The single specimen in the present collection is an adult male. In size it is intermediate between the large moles of *Mogera wogura kobeae* Thomas and the small true *wogura*; or it is almost equal to a large specimen of the latter. Externally, the present specimen seems to be distinguishable from both the forms by its proportionately longer tail. As compared with the former subspecies the tympanic bullæ is decidedly smaller. In color the specimen has rather closer similarity to the true *wogura*; dorsal hairs are Benzo Brown of Ridgway; ventral hairs somewhat whitish.

Cranial Measurements (mm)

	<i>M.m.b.</i> (Type) (200)	<i>A. s.</i> subsp. (154)	<i>M.w.</i> subsp. (159)
Greatest length	25.5	28.5	36
Basilar length	24.3	23.5	33
Zygomatic breadth	16	14.5	14(?)
Length of nasals	7	10.7	
Interorbital breadth	4	4.5	
Distema	8	8	
Palatilar length	12	13	16
Length of upper molar series (alveolar)	7	5	
Breadth of first upper molar	1.7	1.5	
From alveolar ridge of <u>m2</u> to supra-orbital ridge	7	7	

Dimensions : (mm)

(No.)	Head and body	tail		fore-hand	hind-foot
		from anus to tip of tail	tail vertebræ		
(159) ♂	120	32	24	18.5	20

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PLATE 11

Fig. 1. a, b. *Microtus montebelli montebelli*.

Fig. 2. a, b. *Microtus montebelli brevicorpus* subsp. n. showing the difference of size of skulls between picked specimens of both species and compared with the specimens of same worn patterns of molars (fig. 3).

Comparison of the main external and cranial measurements of these two specimens is as follows (mm):

	I	II
Head and body	115	99
Tail	48	36
Greatest length of skull	27	25.5
Basilar length	26	24.3

Fig. 4. a, b dorsal and ventral views of skull of *Mogera wogura* subsp.
(all natural size)

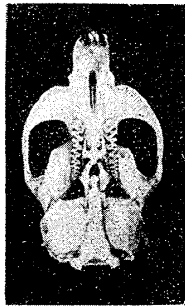
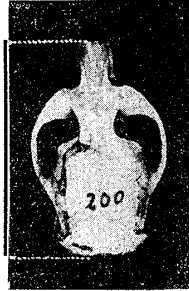
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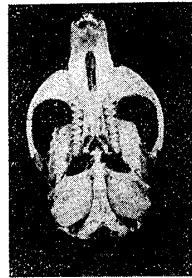
1 a



2 a



1 b

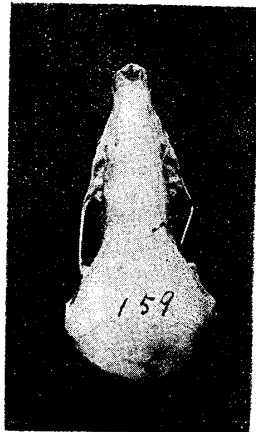


2 b

3



4 a



4 b

