

**Article XVII.—FURTHER NOTES ON MAMMALS FROM THE
ISLAND OF HAINAN, CHINA.**

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Since the publication¹ of my former paper on a collection of mammals from the Island of Hainan, an additional lot has been received, consisting of 45 specimens of the larger mammals of the island, and adding two species (indicated in the subjoined list by an asterisk) to those previously listed, raising the total number to 43. Two subspecies are described as new. This additional material in no way duplicates that previously sent, inasmuch as it illustrates species before represented by one or two specimens or not at all.

The present material was all collected on Mount Wuchi or in its immediate vicinity, and contains fine series of *Macacus*, *Mungos* (= *Herpestes*), *Paguma*, *Viverricula*, *Helictis*, *Ratufa*, and *Lepus*. Several of the Hainan representatives of these genera evidently differ more or less strongly from the continental species to which they have previously been referred.

Evidently these two collections, both received through Mr. Owston of Yokohama, do not fully represent the mammalian fauna of the island, since of the Muridae only a single specimen has been sent, and this was too immature for satisfactory identification.

1. ***Cervulus muntjac* (Zimmerman)**. One specimen, a young female, Mt. Wuchi, Nov. 15, 1905.

2. ***Lepus hainanus* Swinhoe**. Eight specimens, Hoichow, Dec. 20; Notai, Dec. 20–25, 1905.

3. ***Atherurus hainanus* Allen**. One specimen, Notai, Dec. 28, 1905. This is a young female about half grown. It differs from the type markedly in coloration, being entirely pale rufous instead of blackish, apparently indicating that the species is dichromatic.

4. ***Ratufa gigantea hainana* Allen**. Four specimens, Mt. Wuchi, Nov. 1, 5, and 10, 1905. Very uniform in coloration, and they agree in every way with the type.

5. ***Felis chinensis* Gray**. Two specimens, an adult male, and a young (about one fourth grown) female, Mt. Wuchi, Oct. 15 and 25, 1905.

6. ***Viverricula malaccensis* Gmelin**. Four specimens, all adult: Mt. Wuchi, 3 specimens, Oct. 15, Nov. 1 and 2; Notai (one specimen without date).

¹ Mammals from the Island of Hainan. This Bulletin, Vol. XXII, pp. 463–490, pl. lxix, Dec. 17, 1906.

7. * **Paradoxurus hermaphroditus** (Pallas). One specimen, about half grown, Mt. Wuchi, Nov. 18, 1905. First record for the island.

8. **Paradoxurus (Paguma) larvatus hainanus** subsp. nov.

Paguma larvata ALLEN (not of authors) Bull. Am. Mus. Nat. Hist., XXII, 1906, 479.

Type, No. 26599, ♀ ad., Cheteriang, Island of Hainan, China, Jan. 10, 1904.

Black and white markings as in *P. larvata*, but general coloration yellowish rufous instead of gray, as in the Chinese forms *Paguma larvata* (H. Smith) and *P. larvata taiwana* Swinhoe. Size apparently about the same, judging by the skulls; external measurements are unavailable for comparison. Skull (type), occipito-nasal length, 107 mm.; condylobasal length,—(basioccipital region broken); palatal length, 51; length of nasals (lateral border), 21; zygomatic breadth, 58; interorbital, 20.5; postorbital, 21; mastoid, 37.5; upper toothrow (including canine), 36.

Represented by two specimens, the type (adult female) and a young male, the latter from Mt. Wuchi, Nov. 15, 1905. The type has the general color of the upper parts yellowish fulvous, darker and more rufous over the middle and hinder part of the back, lighter or more yellowish on the sides, passing rather gradually into the fulvous white of the ventral surface; extreme tip of tail white. The other specimen is much more strongly colored—deep rufous over the whole dorsal region, yellowish rufous on the sides, and fulvous gray below; tail wholly black apically.

The original description of *Paguma larvata* (= *Gulo larvatus* Ham. Smith, ex Temminck MS., Griffith's An. Kingd., II, 1827, p. 281 and plate) was based on a drawing of a specimen "in M. Temminck's celebrated museum [Amsterdam], . . . named by him *Gulo Larvatus*, the Masked Glutton." No locality nor even country was indicated as being the home of the species. Four years later the species was redescribed by Gray (Proc. Zool. Soc. Lond., 1831, p. 95), from specimens brought from southern China by Reeves, and made the type of his genus *Paguma*. The *P. larvata* group appears to be restricted to southeastern China and the islands of Formosa and Hainan.

9. **Mungos¹ rubrifrons** sp. nov.

Herpestes griseus ALLEN (not of authors), Bull. Am. Mus. Nat. Hist., XXII, 1906, 479.

¹ *Mungos* Geoffroy & Cuvier, Mag. Encyclop., II, 1795, pp. 184, 187. (Cf. Palmer, Index Gen. Mamm., 1904, p. 434.) Type, by tautonomy, *Viverra mungo* Gmelin. If *Viverra mungo* be considered as indeterminable, the type will be *Viverra ichneumon* Linn., the only other species originally referred to the genus *Mungos*. While *Galera* Browne (1756 and 1789) is an earlier name for the group usually known generically as *Herpestes* Illiger (1811), it is of doubtful tenability, dating properly from 1756 and not from 1789. (On the case of *Galera* see this Bulletin, XXIV, 1908, pp. 586-589.)

General color of upper parts, limbs and tail gray with a faint shade of olivaceous, in some specimens faintly fulvous, darker on the median line, lighter and more fulvous on the flanks; underfur at base blackish, apically fulvous; individual hairs of the dorsal pelage blackish with two narrow bands of pale yellowish white; ventral surface dull fulvous, some of the hairs annulated with dusky, and the dark brown underfur usually more or less visible at the surface; nose in front of the eyes blackish washed with ferruginous, black often prevailing; whole top of the head and nape nearly to the shoulders bright ferruginous punctated more or less with black; edge of the upper lip ferruginous, broadening and intensifying posteriorly so as to form a broad patch of chestnut extending back nearly to the ear; chin and throat with a strong tinge of rusty; in effect the whole head, except the ears and a lateral space in front of them, is bright ferruginous varied with black-tipped hairs; upper surface of fore and hind feet more or less strongly tinged with reddish; tail above like the back, edged with yellowish rusty; below with a broad median area of rufous, and a rufous fringe, the prevailing color of the apical third being also rufous.

A well made skin gives a total length of about 600 mm.; tail vertebrae, 240; hind foot (s. u.), 60. Skull (♂, type), occipitonasal length, 68; condylobasal, 64; palatal, 36; zygomatic breadth, 31; postorbital, 12.5; mastoid, 24; upper toothrow (including canine), 26. Five adults, including the type (1 ♂, 4 ♀): Occipitonasal length, 67.5 (65.5–69); condylobasal, 63 (61–64); palatal, 35.8 (35–37); zygomatic breadth, 32.4 (31–33.2); postorbital, 10.8 (9–12.5); mastoid, 23.8 (23–24.2); toothrow, 25 (24–26).

Represented by 8 specimens, 2 ♂, 6 ♀, all adult except two, some of them with worn teeth and five of them with strongly developed sagittal and occipital crests. In some the gray of the upper parts is more fulvous and the rufous of the head stronger than in others; the ventral surface is quite strongly reddish fulvous in some and fulvous gray in others.

This species is about the size of *Mungos griseus* (*M. mungo*), or slightly larger, from which it differs in the strongly rufous head, tail-edges, and feet. The skull averages about 4 mm. longer and 2 mm. wider than in Jamaica specimens of *M. griseus*, with well-marked differences in the form of the upper carnassial and first molar teeth. The difference in size between Jamaica and Hainan examples of *Mungos* are shown in the subjoined table.

The Hainan form of Mongoose belongs to the *M. "javanicus"* group, of the Malay Peninsula, of which it may be an insular representative.

*Measurements of Skulls of Hainan and Jamaica Mongooses.**Hainan.*

	Occipito- nasal length.	Condyl- basal length.	Palatal length.	Zygomatic breadth.	Postorb. breadth.	Mastoid breadth.	Upper tooth row.
27596 ♂	68	64	36	31	12.5	24	26
27595 ♀	69	64	37	33	11	24	25
27599 ♀	67	—	36	33.2	9	24	24
25997 ♀	65.6	61	35	32	11.5	23	25
25600 ♀	68	63	35	33	10.2	24.2	25
Average	67.5	63	35.8	32.4	10.8	23.8	25

Jamaica.

	Occipito- nasal length.	Condyl- basal length.	Palatal length.	Zygomatic breadth.	Postorb. breadth.	Mastoid breadth.	Upper tooth row.
10432 ♂	65	61	35	30	12	25	24.2
10431 ♂	60	60.5	35	32	12	24.4	23.2
10430 ♀	63	58	32.4	28	11.8	23	23
10433a ♀	62	57.5	34	30	11.5	22	23
10433 ♀	61.5	56	32.3	29.5	9	22	22.3
Average	63.6	58.6	33.8	29.7	11.3	23.3	23.1

10. * **Mungos urva** (Hodgson). One specimen, a very old female with the teeth greatly worn, Mt. Wuchi, Nov. 15, 1905. First record for the island.

11. **Helictis moschata** Gray. Two specimens, an old female and a half-grown male, Mt. Wuchi, Oct. 10, 1905.

12. **Crocidura (Pachyura) "murina"** Auct. Two specimens, adult females, Tingan, May 25, Notai, Dec. 28, 1905.

13. **Macacus rhesus** (Audebert). Ten specimens, Mt. Wuchi, Oct. 1-10, 1905. This is a fine series of well made skins with skulls, including adults of both sexes and two young specimens, one of them apparently about one month old and the other about three months old. The young closely resemble the adults in coloration, but are paler; the adults present a surprisingly small amount of individual color variation.

These specimens are tentatively referred to *Macacus rhesus*, in the absence of authentic examples of that species for comparison, but they probably represent an insular form of that or some nearly allied mainland species.