

SEATO MEDICAL RESEARCH STUDY ON VERTEBRATE ECOLOGY

Principal Investigator: Joe T. Marshall, Jr., Ph.D.

Associate Investigators: Bruce Ross, SP5
Swart Chantarojvong
Vandee Nongnork

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OBJECTIVE

To study the rodents of Thailand and develop a taxonomic system which can provide a basis for ecologic studies of zoonoses involving rodents; to describe the species of gibbons in Thailand.

DESCRIPTION

See SMRL Annual Report of 1968 for a listing of rats and mice of Thailand. The following is a checklist of species in the family Muridae in Thailand plus changes or additions to last years report.

Rats and Mice of Thailand

I. Ground-dwelling rats and mice. Hallux has a claw.

A. Bandicoots, mole-rats.

1. Bandicota indica, greater bandicoot.

2. Bandicota bengalensis, lesser bandicoot. A domineering species generally found to the exclusion of other rats but shares the grass fields with mice.

B. Commensal rats and their wild counterparts (= genus Rattus, sensu stricto)

1. Rattus rattus, roof rat. Mainland races with whitish belly occur throughout Thailand and on some islands such as Koh Samui and Koh Kret Kao. There is no independent population of dark-bellied rats in cities, such as R.r. diardii in Malaya. There are some dark individuals in the polymorphic population of peninsular Thailand, but they crop up in forest just as often as in houses.

Geographic variation on the mainland consists of twinned postaxial mammae in the north, the normal 2 + 3 pairs everywhere else. Backs are plain light brown in the north, reddish or buffy brown in most of the rest of the country, plain dark brown on the peninsula and dark sooty brown in the extreme southeast (Trad). Ventral color is plain white in the north, creamy elsewhere, with dark bellies occurring with increasing frequency southward and surpassing 50% of the sample from Trad. The distinctive northern population thus defined is Rattus rattus Thai.

Geographic variation on islands is great enough to merit recognition of Rattus rattus rhionis as a distinctive race occupying many islands off the peninsula. It is characterized by a narrow cranium whose ridges enclose a lamp-glass or parenthesis shape rather than the lyre or pear-shape of mainland races. Three islands off the coast of Trad possess large rats with harsh fur and a heavily ridged, rugged skull with medium bullae and broad short rostrum. They may be called Rattus rattus rangensis and they may have approached the full species level of differentiation.

2. Rattus germaini remotus, island rat. Still more distinct is this inhabitant of forest on Koh Samui (8 specimens). Large size with large teeth but bullae small; mammae 3 + 3.

3. Rattus sladeni, Sladen's rat.

4. Rattus argentiventer, ricefield rat.

5. Rattus nitidus, Himalayan rat.

6. Rattus exiguus, garden rat. In Nongkhai we found it abundant in burrows in sandy loam of vegetable gardens near the banks of the Mekong. These members of the plain brown northern race, exiguus, lack the sooty color of those from the heavy rainfall area of Trad.
 7. Rattus exulans, Polynesian rat.
 8. Rattus norvegicus, Norway rat.
- C. Miscellaneous giant rats.
1. Rattus mülleri, Müller's rat.
 2. Rattus sabanus, noisy rat.
- D. Spiny forest rats with short anterior palatal foramina and very small bullae.
1. Rattus surifer, rajah rat.
 2. Rattus whiteheadi, little spiny rat.
- E. Maxomys group of small forest rats with spiny fur (in Thailand.)
1. Rattus cremoriventer, dark-tailed rat.
 2. Rattus fulvescens, long-tailed rat.
 3. Rattus huang, Hongkong rat.
 4. Rattus niviventer, white-bellied rat.
- F. Genus Berylmys, white-toothed rats.
1. Berylmys berdmorei, lesser white-toothed rat. Pronounced size variation in Trad.
 2. Berylmys bowersi, giant white-toothed rat. If not similarly variable in size as is the above, then the northern rats must consist actually of two sympatric species, the smaller known as: (below)
 3. Berylmys mackenziei, Mackenzie's rat. Four specimens including the type of kennethi, examined from Tak and Chlengmai.
- G. Genus Mus, ground-dwelling mice.
1. Subgenus Leggadilla of spiny mice with pronounced skull ridges as in rats. Hypothetical: Mus shortridgei has been collected on both sides of Thailand.
 2. Subgenus Coelomys of forest mice. Mus pahari, Sikkim mouse.
 3. Subgenus Tautatus of slender-nosed mice with long diastema.
 - a. Mus cervicolor, fawn-colored mouse. Pro-odont, long nasal; bicolored tail less than 65 mm pure white hind foot less than 17 mm. Locally abundant in grass fields (88 specimens).
 - b. Mus nitidulus, Burma mouse. A large edition of the above but with relatively longer tail and shorter palatal foramina. Three specimens from Nakorn Phanom and Nongkhai caught in rice field, garden and house.
 - c. Mus famulus cookii, Cook's mouse. Incisors curled back, teeth large (molar row 4 mm), tail long, hind foot dark. Grass of mountain clearings in the north (17 specimens including the types of rahengis and thai, the latter being the young of the former, which in turn is a synonym of cookii).
 - d. Mus caroli, Riukiu mouse. Size of cervicolor, with which it occurs in grass fields, and distinguished by larger dark gray hind foot greater than 17 mm, long bicolored tail exceeding 70 mm, very short nasal bones, short a. palatal foramina. Posterior palatal foramina set far to rear, unlike all other Mus. Abundant in lowland grass fields from Chiengrai and Nakorn Phanom south to Chonburi and Huahin (60 specimens).
 4. Subgenus Mus of snub-nosed commensal mice.

Mus castaneus, Asiatic house mouse.
- ii. Arboreal rats and mice. Hallux opposable and bears a flat nail.
- A. Chinomysus chiropus, Fea's tree-rat.
 - B. Hapalomys longicaudatus, marmoset rat. One specimen from Nakorn Sawan.
 - C. Chiropodomys gliroides, pencil-tailed tree-mouse.
 - D. Vandeleuria oleracea, long-tailed tree-mouse.

MAMMALS OF SAMUI ISLAND, THAILAND

Table 1 compares our collection with that of Robinson and Kloss (Journ. Fed. Malay states Mus. 5, 1915:128-139). New and interesting results are 1) the discovery of the ricefield rat, Polynesian rat and Norway rat on this island; 2) the roof rat's limitation to wild habitats there, and 3) proof that the island rat is the same species as that on Con Son (Pulo Condore), an island off the coast of Vietnam. This widely-distributed insular species, Rattus germaini, has no mainland representative.

THE SPECIES OF GIBBONS IN THAILAND

Hylobates pileatus is a different species from Hylobates lar. They are distinguished by differences in territorial song, pelage, coloration, dimorphism, and sequence of color patterns with age. The two species have for the most part independent distributions, the first being Cambodian, and intruding into southeast Thailand, the other being Thai-Malaysian. They overlap and maintain exclusive territories at the well-guarded Khao Yai National Park. Their prospects for survival anywhere else are indeed dim, due to rapid deforestation. We were unable to find evidence that a third species, H. concolor of Laos occurs in Thailand.

Table 1. FAUNA OF KOH SAMUI Specimens only

Common name	Collected by Robinson and Kloss in 1913	Current name	Collected by Vandee in 1968	Habitat
White-toothed shrew	<i>Crocidura negligens</i> 1		—	
Long tailed macaque	<i>Macaca irus</i> 2		—	
Tree-shrew	<i>Tupaia ferruginea oparosa</i> 12	<i>Tupaia glis</i>	1	Orchard, woods
Dog-faced fruit bat	<i>Cynopterus brachyotis angulatus</i> 8	<i>Cynopterus brachyotis</i>	2	Banana trees in village
Dawn bat	—	<i>Eonycteris spelaea</i>	1	"
Long-tongued fruit bat	—	<i>Macroglossus minimus</i>	1	"
Giant squirrel	<i>Ratufa melanopepla decolorata</i> 13		—	
Gray squirrel	<i>Sciurus concolor samuiensis</i> 40	<i>Callosciurus caniceps samuiensis</i>	1	Coconut palm, orchard
Roof rat	<i>Epimys rattus jalorensis</i> 39	<i>Rattus rattus robinsoni</i>	19	Orchard, woods
Island rat	<i>Epimys remotus</i> 6	<i>Rattus germaini remotus</i>	9	Forest
Ricefield rat	—	<i>Rattus argentiventer</i>	1	Ricefield
Polynesian rat	—	<i>Rattus exulans concolor</i>	2	House
Norway rat	—	<i>Rattus norvegicus</i>	2	House, market
White-bellied rat	<i>Epimys jerdoni pan</i> 5	<i>Rattus niviventer pan</i>	5	Woods, orchard
Rajah rat	<i>Epimys surifer spurcus</i> 23	<i>Rattus surifer spurcus</i>	2	Woods, orchard
Palm civet	<i>Paradoxurus minor</i> 2	<i>Paradoxurus hermaphroditus</i>	1	Purchased