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A New Species and a Redefinition of the Squirrel Genus *Prosciurillus* of Celebes

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Ellerman (1947, p. 259), in his preoccupation with what did appear to be the intercontinental relationship of *Prosciurillus murinus* with the Neotropical pygmy squirrel, somehow overlooked the fact that the characters of the new genus *Prosciurillus* that he was proposing for *murinus* are shared by the other Celebean squirrel species, *leucomus*, sufficiently to separate it also from *Callosciurus*. The improbability of the proposed relationship between *murinus* and *Sciurillus* of Brazil is being treated elsewhere, but it seems necessary here to point out the characters that unite *leucomus* and *murinus* in the common Celebean genus *Prosciurillus* and that separate them from their more probable relatives, the geographically close callosciurine squirrels of the Indo-Malayan region:

1. When the skull is viewed from the side and with the use of the line of the maxillary tooth row as a horizontal reference, in *Prosciurillus leucomus* and *P. murinus* the posterior edge of the suborbit¹ is either directly beneath or anterior to the postorbital process of the frontal. This is a descriptive means of comparing orbit length which Ellerman (1949, p. 5) expressed arithmetically as the ratio of orbit length to occipitonasal length. This character distinguishes *Prosciuril-*

¹ The presence of the zygomatic arch creates a dorsoventral fenestra between the arch and the skull itself. The space as a whole is called the orbit, but in the measurement of the orbit length or width, the dorsolateral rim is regarded as the orbit. It is the ventral rim that is here called the suborbit.

lus from all Indo-Malayan squirrel genera except *Nannosciurus*, *Glyphotes*, and *Hyosciurus*.

2. From the same view and with the same horizontal reference, the suborbit in *Prosciurillus* extends approximately as far forward as the orbit. This character distinguishes *Prosciurillus* from all the Indo-Malayan genera except *Nannosciurus*, *Hyosciurus*, *Rhinosciurus*, *Glyphotes*, and some species of *Lariscus* and *Dremomys*.

3. From the same frame of reference again, the line along which the maxillary plate (a buttress between the rostrum and the zygomatic arch) joins the rostrum is much closer to the vertical than in any Indo-Malayan squirrel genus except *Nannosciurus*, *Hyosciurus*, *Glyphotes*, and *Reithrosciurus*.

4. In the dorsal view the posterior edges of the nasals are proportionally farther forward of a line connecting the anterior edges of the orbits than in any Indo-Malayan squirrel genus except *Hyosciurus*, *Nannosciurus*, *Rhinosciurus*, and some species of *Dremomys* and *Lariscus*.

The above four characters amply distinguish *Prosciurillus* generically from *Callosciurus*. *Prosciurillus* is distinguished from *Nannosciurus* and *Hyosciurus* by having a highly developed, wing-like, ectopterygoid ridge of the alisphenoid which terminates abruptly just anterior to the foramen ovale. It is further distinguished from *Hyosciurus* by having proödont upper incisors and a rather ordinary length of rostrum, and from *Nannosciurus* by the projection laterad of the lateral lip of the infraorbital foramen as a masseteric tubercle, and by having midlateral processes well developed on the basioccipital.

From the "Mengkoka Geb." (Mekongga Gebirgte), a mountain range of the southeastern peninsula of Celebes, there are among the Archbold acquisitions of the American Museum of Natural History three kinds of olive, agouti squirrels of small or medium size. The largest of the three is *Prosciurillus leucomus sarasinorum* (Meyer, 1898, p. 1). There are five from Lalolai at 300 meters elevation, 12 from Wawo at 50 meters elevation, and six from Gunong Masembo at 550 meters elevation. Lalolai, at latitude 4° 03' S., longitude 121° 53' E., is only about 10 kilometers west of Mowewe, the type locality of *Sciurus mowewensis* Roux, which therefore lies between Lalolai and the coastal locality of Wawo (latitude 3° 41' S.). Inspection of the Archbold material, Roux's (1910, p. 519) description, and Meyer's (1899, pl. 5) colored plate of *sarasinorum* shows that Roux's squirrel is an obvious synonym of *sarasinorum*. The most reliable diagnostic characters of this subspecies are, however: the prominence of the subterminal white

band in the tail hairs (well shown, incidentally, in Meyer's plate), and the Apricot Buff¹ color of all four feet, instead of olive agouti. Only one of the five specimens from Lalolai has white ear tufts, and their ears are covered with short Apricot Buff pelage inside and out. The collection dates on these are December 3-8 and February 14. The one with white ear tufts is December 6. Roux's specimens were taken with white ear tufts well developed on February 23 and 26. Wawo material was taken January 16-22; Gunong Masembo (latitude 3° 48' S., longitude 121° 25' E.) material, January 25-28; all specimens had whitish ear tufts. The presence or absence of ear tufts, therefore, is apparently not seasonal. Finally, it should be noted that the ventral pelage, although slate gray at the bases of the hairs, is strongly tipped with Cinnamon Rufous, which covers and hides the gray bases rather well.

The smallest of these three olive-colored squirrel species is *Prosciurillus murinus*, of which there are two from Gunong Masembo and four from Wawo.

The third species, of which the size is intermediate but near that of *Prosciurillus murinus*, is represented by 30 specimens from Gunong Tanke Salokko, Mekongga Gebirgte, at 1500 and 2000 meters elevation. For the species so represented the following name is offered.

***Prosciurillus abstrusus*, new species**

TYPE: A.M.N.H. No. 101378, a parous female from 1500 meters elevation, Gunong Tanke Salokko, "Mengkoka Geb." [Mekongga Gebirgte], in the southeastern peninsula of Celebes, latitude 3° 40' S., longitude 121° 13' E., taken on January 4, 1932, by Gerd Heinrich.

MEASUREMENTS (IN MM.) OF TYPE: Taken by the collector: Head and body, 134; tail, 95; ear, 12 (evidently from notch); hind foot, 33 (evidently without claws). Claws are additional 3 mm. on dry skin. Skull of type: Occipitonasal length, 39.4; condylobasal length, 35.4; palatal length, 18.0; maxillary tooth row (without PM³), 6.2; diastema (without PM³), 9.6; zygomatic breadth, 24.4; mastoid breadth, 16.5; length of orbit, 10.0; width of orbit, 8.1.

DIAGNOSIS: *Prosciurillus abstrusus* has short white pelage on the backs of the ears which distinguish it from skins of the above-mentioned *Prosciurillus murinus*; otherwise only size distinguishes the stuffed skins. Hind foot (evidently without claw) is 33 mm. in 29 of the 30 *abstrusus*,

¹ Capitalized color terms are from Ridgway, "Color standards and color nomenclature," Washington, D. C., 1912.

27 or 28 mm. in five of the six *murinus* from that vicinity, and 38 to 41 mm. in the sample of 23 *Prosciurillus leucomus sarasinorum*. The ventral pelage of *abstrusus* is Slate Gray at the bases of the hairs and has short, colored tips of about Cream Buff. The tips do not hide the base color, and the grayish combined result is about Light Drab, which differs sharply from the Cinnamon Rufous of *P. l. sarasinorum*. The pelage of the feet of *abstrusus* is agouti like that of the general dorsal pelage.

DESCRIPTION: The dorsal pelage varies from about Citrine Drab on the side of the head to Brownish Olive elsewhere. The hairs of the tail of *abstrusus* are black-tipped, have a pale brown 2–3-mm. sub-terminal band, a 6-mm. band of black, then three 2–3-mm. bands of Buckthorn Brown alternating with black bands of similar size, and a 2–3-mm. black base. The skull is very similar to that of *P. leucomus sarasinorum*, but about 0.12 per cent smaller in linear dimensions. The postglenoid foramen in *abstrusus* seems rather consistently large, however, and the rostrum seems more slender in *abstrusus*. The nasal bones are proportionally shorter and broader in *P. l. sarasinorum* than in *P. abstrusus*, the ratio of greatest width of a single nasal bone to its length along the sagittal plane of the skull being close to 0.43 in *sarasinorum* and 0.34 in *abstrusus*. The lacrimals are substantially less than half extruded into the margin of the orbit, whereas those of *leucomus* and *murinus* are extruded. The frontals dip to the lacrimals instead of being flat across the dorsal surface of the skull from lacrimal to lacrimal as in *leucomus* and *murinus*.

The coordinates given for Gunong Tanke Salokko and Gunong Masembo are interpolated from the map of Gerd Heinrich's collecting localities published by Stresemann (1940).

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