

First South American record of *Isthmomys pirrensis* (Goldman, 1912) (Rodentia: Cricetidae: Neotominae)

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ABSTRACT: Information is provided about the only known South American specimens of the cricetid rodent species *Isthmomys pirrensis*, which is otherwise known only from eastern Panama.

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Isthmomys pirrensis, originally described as *Peromyscus pirrensis* by Goldman (1912) based on type material from eastern Panama, is a member of the cricetid rodent subfamily Neotominae. To date, the only neotomine definitely known to occur in South America is *Reithrodontomys mexicanus*, which has been collected at several localities in Colombia and Ecuador (Hooper, 1952). Although *I. pirrensis* has long been rumored to occur in Colombia, no locality information associated with museum-cataloged voucher material has yet been published to document any country record of this species. Apparently, the last reported collections of *I. pirrensis* were made in the course of a Panamanian ectoparasite survey almost fifty years ago (Handley, 1966).

In September of 1984 I discovered seven unidentified cricetid specimens in the mammal collection of the Laboratorio de Fauna of the Instituto Nacional de Recursos Naturales (INDERENA) in Bogotá, Colombia. This small series (bearing catalog numbers IND-M 3666–3670, 3760, and 3761) was collected by Luis Gualdrón, Horacio Echeverri, Américo Perea, and Victor Castro between 14 and 18 June 1980 at Alto Barrigonal in the Serranía del Darién of Departamento Chocó, Colombia. According to Anderson (1999), the peak known as Alto Barrigonal is near 8°03' N, 77°15' W in the headwaters of the Río Unguía. The locality data accompanying these specimens gave the elevation as 2400 m above sea level, but this may have been a *lapsus* (possibly for 1400 m), because the mountains along the Panamanian-Colombian frontier are not known to reach such heights (Myers, 1969).

Preserved as skins and skulls, the specimens from Alto Barrigonal included two that are identified in my notes as "*Oryzomys albigularis*" (*sensu lato*: IND-M 3666, 3668) and five of *Isthmomys pirrensis*. The former are presumably referable to *Nephelemys pirrensis* (Goldman, 1913)—formerly treated as a synonym of *Oryzomys albigularis* (Tomes, 1860)—but I recorded no information to document that identification. Of the five specimens of *Isthmomys pirrensis*, two (IND-M 3760, 3761) were juveniles with newly erupted and unworn third molars and dull immature pelage. The other three (IND-M 3667,

3669, 3670) were adults that exhibited all of the diagnostic external and craniodental characters of the genus and species (Goldman, 1912; Carleton, 1989), including reddish-brown dorsal pelage; gray-based whitish ventral fur; long (34–35 mm), narrow hind feet with white-furred digits and dark-furred metapodials; a long, slender rostrum; shallow zygomatic notches; a strongly beaded, anteriorly convergent interorbital region; primitive carotid circulation; well-developed alisphenoid struts; absence of a subsquamosal fenestra; and a very narrow and deeply bifurcated M1 anterocone. Craniodental measurements of the Alto Barrigonal adults (Table 1) fall within the range of variation in Panamanian material that I later measured at the U.S. National Museum of Natural History (USNM).

Although *Isthmomys pirrensis* was previously unknown from Colombia, the range extension represented by this material is biogeographically trivial. All previously known specimens of *I. pirrensis* are from the Panamanian side of the low mountains (Serranía del Darién, Serranía de Pirre) that form part of the border between Panama and Colombia. The new material at INDERENA was simply collected on the Colombian side. In fact, Alto Barrigonal is only about 8 km SW of Cerro Malí (8°07' N, 77°14' W), the nearest Panamanian collection locality.

Apparently based on my identification of the Alto Barrigonal specimens, Cuervo-Díaz et al. (1986) listed *I. pirrensis* as a member of the Colombian fauna, but those authors provided no supporting information. Other reports about the occurrence of this species in Colombia (Alberico et al., 2000; Cuartas-Calle and Muñoz-Arango, 2003) are based on Cuervo-Díaz et al. (1986) and contain no additional details. After three decades of unsubstantiated reports, it seems appropriate that relevant data be made available.

The Serranía del Darién and other mountains along the Colombian-Panamanian border are of significant conservation concern because they harbor a unique mammalian fauna that includes the easternmost populations of several Central American clades (e.g., *Isthmomys* and *Rheomys*) and the only Central American populations of several South American taxa (e.g., *Monodelphis*, *Neacomys*,

Rhipidomys, and possibly *Tremarctos*; Handley, 1966; Goldstein et al., 2008; Reid, 2009). Therefore, these splendid highlands—now increasingly vulnerable to colonization (Herlihy, 1989; Wege, 1996; Fernández and Robertson, 2011)—merit protection as an interesting piece of the biogeographic puzzle resulting from the Great American Biotic Interchange.

TABLE 1. Craniodental Measurements (mm) of Adult Specimens of *Isthmomys pirrensis* from Panama and Colombia. Tabulated data include the mean and observed range for each variable. See Voss (1991) for measurement definitions.

	Panama (N = 30)*	Colombia (N = 3)**
Condylo-incisive length	36.4 (33.2–38.8)	36.4 (34.5–37.8)
Length of diastema	11.5 (10.3–12.6)	11.7 (11.1–12.2)
Crown length of upper molars	5.8 (5.3–6.0)	5.9 (5.8–6.0)
Breadth of M1	1.8 (1.8–1.9)	1.9 (1.8–1.9)
Length of incisive foramina	7.6 (6.9–8.2)	8.0 (7.4–8.4)
Breadth of palatal bridge	4.1 (3.7–4.6)	4.0 (3.9–4.0)
Least interorbital breadth	5.8 (5.5–6.2)	6.2 (6.1–6.3)
Breadth of braincase	15.9 (15.2–17.1)	16.1 (15.6–16.5)

* From Cerro Malí (8°07' N, 77°14' W), Cerro Pirre (7°51' N, 77°44' W), and Cerro Tacarcuna (8°10' N, 77°18' W): USNM 178980–178982, 178984–178987, 178990, 179571, 179572, 338275–338277, 338281–338283, 338285, 338286, 338288, 338291, 338298, 338299, 338306–338308, 338313–338317.

** From Alto Barrigonal (ca. 8°03' N, 77°15' W): IND-M 3667, 3669, 3670.

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