

ON THE TYPE LOCALITY OF *Ctenomys bicolor* MIRANDA RIBEIRO, 1914 (RODENTIA: CTENOMYIDAE)

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ABSTRACT: We restrict the type locality of *Ctenomys bicolor* Miranda Ribeiro, 1914, to Rondônia state (Brazil) within these coordinates: 11° 50' 10" S and 12° 00' 00" S, and 60° 51' 35" W and 61° 19' 29" W.

RESUMEN: Sobre la localidad típica de *Ctenomys bicolor* Miranda Ribeiro, 1914 (Rodentia: Ctenomyidae). Restringimos la localidad típica de *Ctenomys bicolor* Miranda Ribeiro, 1914, al estado de Rondônia (Brasil) entre las siguientes coordenadas: 11° 50' 10" S and 12° 00' 00" S, and 60° 51' 35" W and 61° 19' 29" W.

Key words. Comissão Rondon. Mato Grosso. Rondônia. Two-colored tuco-tuco. Type locality.

Palabras clave. Comisión Rondon. Localidad típica. Mato Grosso. Rondônia. Tuco-tuco bicolor.

The South American genus *Ctenomys* (tuco-tucos) includes 62 Linnean species of subterranean rodents plus a number of forms of uncertain taxonomic position (Bidau, 2006, 2009). Other authors however, report different numbers of species (i.e. Woods and Kilpatrick, 2005) although in this case include names that have later been synonymized (Bidau, 2009). Despite the high number of species within the genus, most type localities are well defined mainly thanks to the work of the eminent taxonomist Oldfield Thomas who described 27 species and 8 subspecies of tuco-tucos today accepted as valid (Hill, 1990; Bidau, 2006, 2009). However, several problematic or imprecise type localities exist and

include: *C. bicolor* Miranda Ribeiro, 1914, *C. brasiliensis* Blainville 1826, *C. colburni* Allen, 1903, *C. dorsalis* Thomas, 1900, *C. fodax* Thomas, 1910, *C. frater barbarus* Thomas, 1921, *C. knighti* Thomas, 1919, *C. magellanicus fueguinus* Philippi, 1880, *C. magellanicus osgoodi* Allen, 1905, *C. minutus* Nehring, 1887, *C. nattereri* Wagner, 1848, *C. opimus* Wagner, 1848, *C. pontifex* Thomas, 1918, *C. porteousi* Thomas, 1916, *C. rondoni* Miranda Ribeiro, 1914, *C. saltarius* Thomas, 1912, *C. sericeus* Allen, 1903, *C. steinbachi* Thomas, 1907, and *C. torquatus* Lichtenstein, 1830. Some of these uncertain localities have been identified (e.g. *C. knighti*; see Bidau, 2006) or restricted (e.g. *C. steinbachi*; Ander-

son et al., 1987). Other localities remain enigmatic (*C. brasiliensis*, *C. torquatus*, *C. dorsalis*; Bidau, 2006, 2009).

Correct identification of type localities is of foremost relevance especially in cases where doubts on the taxonomic status of described biological entities arise. Two tuco-tuco taxa from Brazil described by Miranda Ribeiro (1914) have been the subject of taxonomic speculation and unjustified synonymization, in part because of the lack of precision of their type localities: *Ctenomys bicolor* and *C. rondoni*. In this paper, we produce evidence enough to restrict the type locality of *C. bicolor* (Mato Grosso, Brazil) to a relatively small territory of present-day Rondônia state.

The type specimen of *C. bicolor* (MN 2025) was collected on October 9, 1912 by the Comissão Rondon (probably by Alípio de Miranda Ribeiro, the expedition's zoologist) (Avila-Pires, 1968: 182). The description of the new species based on this single individual of unknown sex, appeared two years later (Miranda Ribeiro, 1914: 41) without mention of the type locality which was latter indicated by Moojen (in Miranda Ribeiro, 1955: 415) and Avila-Pires (1968: 182) as Mato Grosso. This was interpreted as the type locality of *C. bicolor* being somewhere in the present-day state of Mato Grosso, Brazil (Cabrera, 1961: 514).

The former is erroneous. The lack of precision probably derives, in part, from the fact that in 1912, Rondônia state did not exist. In 1943, the Território Federal de Guaporé was created by the fusion of lands excised from Amazonas and Mato Grosso states, reaching the status of state of Rondônia, only in 1981. In fact it is possible to localize the original type locality with much more precision using the dates of localities traversed and camps established, by the expedition of the "Comissão de Linhas Telegráficas Estratégicas de Matto-Grosso ao Amazonas" led by Col. Cândido Rondon, which are found in Viveiros (1958). On October 11, 1912, two days after the collection date of the type specimen, the expedition discovered the Pimenta Bueno river and according to Rondon, on that

date they were at 18° 7' W of Rio de Janeiro and 11° 49' 15" S latitude and at 354 km from Juruena (Viveiros, 1958: 302) where the expedition had officially started. The former coordinates (61° 19' 27" W and 11° 49' 15" S) correspond to present-day Rondônia state where the small locality of Primavera de Rondônia, on the left margin of Pimenta Bueno river, today exists. The previous registered date corresponds to September 5, 1912 where, from the camp named by Rondon as "Campos dos Palmares de Maria de Molina" (coordinates established by the expedition: 12° 07' 12" S and 60° 28' 56" [17° 16' 29" W of Rio de Janeiro], km 329 538 from Juruena) discovered by Lt. Lira, they moved nearby to the Cabeçeira dos Sete Índios where they established the José Bonifácio camp (Viveiros, 1958: 299), very near the present-day population of José Bonifácio in Rondônia. They stayed up to Independence Day (September 7) and then started West reaching the margins of Comemoração de Floriano river, on September 17 (Viveiros, 1958: 301). On September 21 Rondon found and named the "Cabeçeira Cacimba de Pedra", and on September 28 the expedition discovered the Barão de Melgaço river (Viveiros, 1958: 302). The next registered date is October 11, 1912 as previously mentioned.

Thus, two facts emerge from this simple analysis; first, it is erroneous to attribute the type locality of *C. bicolor* to Mato Grosso state: the type specimen was undoubtedly collected in present day Rondônia state. Second, the geographic extension of the area within which the type locality must be sought, is enormously reduced to a territory between the Barão de Melgaço river and the coordinates for the October 11 camp on the Pimenta Bueno. Furthermore, since the type specimen was collected on October 9 and considering the slow rate of progress of the expeditioners as narrated by Rondon (Viveiros, 1958), the actual locality should be placed very near the Pimenta Bueno river camp. A conservative estimation localizes *C. bicolor* type locality within a 1000 square km rectangle limited by the following coordinates: 11° 50' 10" S and

12° 00' 00" S, and 60° 51' 35" W and 61° 19' 29" W. This territory includes parts of the "municípios" Primavera de Rondônia and Pimenta Bueno but, as stated above, the actual area is possibly much smaller.

Considering the fact that tuco-tucos do not usually inhabit forests preferring sandy, loose and friable soils (Reig et al., 1990; Bidau, 2009), tuco-tuco colonies of *C. bicolor* should be looked for within this area, in sandy strips and river banks. Circumstantial evidence supports the former hypothesis: during the "Roosevelt-Rondon Expedition" of 1913-1914 (Roosevelt, 1914), Leo E. Miller, mammalogist of the expedition from the American Museum of Natural History, collected a single tuco-tuco specimen at José Bonifácio (12° 10' S 60° 15' W) (Miller, 1918: 238) which J.A. Allen later assigned, without explanation, to *C. nattereri* Wagner (Allen, 1916: 569) (AMNH 37121). According to Miller's own account (in Allen, 1916: 595), the expedition found sporadic tuco-tuco colonies along a 500 mile (800 km) traject from Tapirapoana (present-day Mato Grosso state, at 14° 51' 01" S/57° 46' 04" W) to José Bonifácio (Rondônia state, see above) at a "...strip of sandy country in which the animal seemed to be comparatively numerous... The country was treeless, with a growth of grass and patches of wild pineapples". Since the taxonomic status of *C. bicolor* is in need of revision (Bidau, 2009), especially its relationship to *C. rondoni* and *C. nattereri*, we hope this contribution will further new collecting trips to the area delimited in this paper.

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