

# Range extension of *Tympanoctomys barrerae* (Lawrence, 1941) (Rodentia: Octodontidae) in Patagonia and southernmost record

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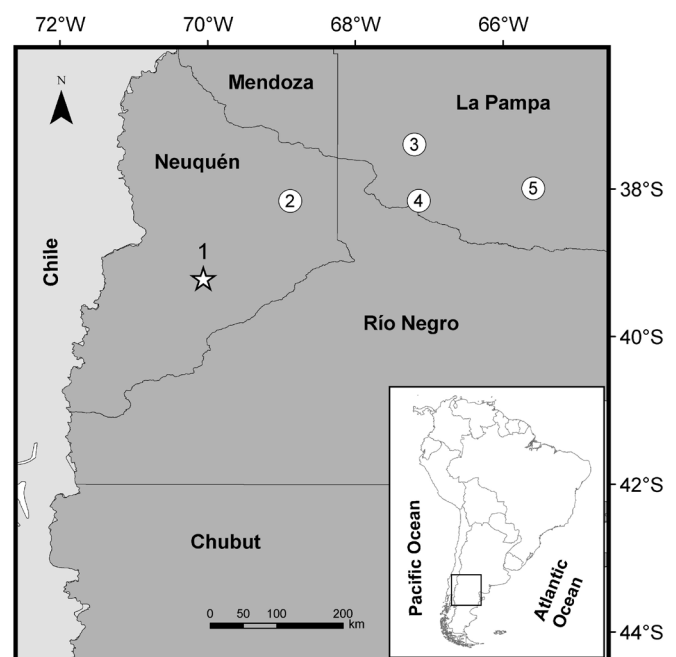
**ABSTRACT:** We report the southernmost record for the octodontid rodent *T. barrerae*, which is also the second recording locality for this species in Patagonia. The new locality is placed in S Neuquén province, extending the known range of the species about 150 km SW from the nearest previous record. Although *T. barrerae* is considered a highly specialized rodent of salar flats in Monte desert, the record reported here came from an arbustive rocky environment belonging to the Monte-Patagonia ecotone.

The Red Vizcacha Rat, *Tympanoctomys barrerae* (Lawrence, 1941), is endemic to the arid regions of central and western Argentina. This octodontid is a medium-sized rat (head and body = 128.92 mm; tail length = 145.15) and shows several adaptive traits to living in the desert, such as, hypertrophied bullae, specialized diet on halophytic vegetation and the ability to concentrate urine (Ojeda *et al.* 1996; Díaz *et al.* 2000). Its known geographic range is patchy and restricted to salt basins and sand dunes (Díaz *et al.* 2000). However, this species is -among living octodontids- the one with the greatest distributional range, covering about from 30° to 43°30' S (Gallardo *et al.* 2009). *Tympanoctomys barrerae* was recorded in 12 isolated localities mostly within the Monte desert biome in Argentina (Ojeda *et al.* 1996; Ojeda *et al.* 2007; Gallardo *et al.* 2009; see below). In this work we report the second recording locality for *T. barrerae* in the Argentinean Patagonia, which is also the southernmost record for the species.

The material reported here, cranial remains belonging to a single individual, was found in an owl pellet sample collected on February 2012 at Puente Picún Leufú (39°12'37.5" S, 70°3'32.9" W, 807 m), about 35 km S Zapala, Neuquén province, Argentina (Figure 1). The collection site is a rocky area close to the river Picún Leufú dominated by the shrubs *Colliguaja integerrima* and *Pappostipa* sp. The studied material was identified to the finest taxonomic level using specific literature (De Santis *et al.* 1991; Pearson 1995; Díaz *et al.* 2010); and the voucher material was housed at the Colección de Material de Egagrópilas y Afines "Elio Massoia" del Centro Nacional Patagónico (CNP-E; Puerto Madryn, Chubut, Argentina) under the reference number CNP-E 663. An additional 7 small mammal species were found together with *T. barrerae* on a total sample of 55 individuals; including the caviomorphs *Ctenomys* sp. (9.1%) and *Microcavia australis* (14.55%), the cricetids *Eligmodontia* sp. (56.36%), *Graomys griseoflavus* (1.82%), *Phyllotis* sp. (5.45%), and

*Reithrodon auritus* (5.45%), and the marsupial *Thylamys pallidior* (5.45%).

The studied material of *T. barrerae* is an incomplete skull and mandible, assignable to one adult individual (Fig. 2) and can be referred to this species based on the following combination of characters: 1) frontals divergent backwards, 2) molariform theeth "8"-shaped, 3) nasals posteriorly rounded, 4) mandible short and robust 5) masseteric ridges sharply demarcated 6) coronoid short and turned backward 7) lower m3 triangular-shaped (De Santis *et al.* 1991; Díaz *et al.* 2000; Teta *et al.* In press; Figure 2).



**FIGURE 1.** Southern recording localities for *Tympanoctomys barrerae* (after Ojeda *et al.* 2007); the new record reported here is highlighted with a star. 1) Puente Picún Leufú (new record), 2) Salar de Añelo, 3) Gran Salitral, 4) Casa de Piedra, 5) Lihue Calel. Province and neighbor country names are shown as well.



**FIGURE 2.** Remains of *Tympanoctomys barrerae* found at Puente Picun Leufú (Neuquén province, Argentina; CNP-E 663). From top to bottom, anterior fragment of skull in dorsal and ventral view, mandible in labial and occlusal view.

*Tympanoctomys barrerae* was previously cited for two localities in Patagonia: Añelo salt flat in Neuquén province (with two collection sites, referred as “Añelo Tero” and “Añelo Castillo” according to Gallardo *et al.* 2013; Ojeda *et al.* 2007) and Estancia La Porfía in Chubut province (Gallardo *et al.* 2009, 2013). However, there is a strong evidence supporting that the population of Chubut constitutes a new undescribed species (Gallardo *et al.* 2013; Teta *et al.* In press). Therefore, the record reported here is the second for *T. barrerae* in Patagonia and represents an extension of its range of about 150 km SW from Añelo. In addition, it is the southernmost locality for the species.

*Tympanoctomys barrerae* is a desert dweller associated to the periphery of salt flats and basins with a marked preference for halophytic chenopods endemic to the Monte desert (Gallardo *et al.* 2013). However, the record reported here, contrasting with the previously known, came from a shrubby rocky environment belonging to the Monte-Patagonia ecotone.

The importance of the owl pellet analysis in terms of detectability and advance on the knowledge of species distribution is remarkable (Formoso *et al.* 2010, 2011). This methodology brings the possibility to access information in a quick and effective way contributing to the best understanding of the distribution on poorly known species.

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