

## New record of *Abrocoma bennetti murrayi* (Rodentia, Abrocomidae) from the Atacama Region. Extension of distribution range in Chile

*Nuevo hallazgo de Abrocoma bennetti murrayi* (Rodentia, Abrocomidae) en la Región de Atacama. Extensión de su rango de distribución en Chile

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### ABSTRACT

The present note reports the first record of the rodent *Abrocoma bennetti* (Waterhouse 1837) for the Copiapó Valley, located between the cities of Copiapó and Caldera, Chile. Specimens were captured and then released to their natural environment. This record extends the northern and northwestern distribution limits of this rodent from Vallenar to Copiapó (ca. 145 km) and from Ramadilla to Copiapó (ca. 120 km), respectively. Other species collected were *Oligoryzomys longicaudatus* and *Abrothrix olivaceus*. We present a map of the new distribution range for this species based on taxonomic collections and previously published papers.

**Key words:** chinchilla rat, *Abrocoma*, Copiapó, distribution.

### RESUMEN

En la presente nota reportamos el primer registro de *Abrocoma bennetti* para el valle de Copiapó. Los especímenes fueron capturados y luego liberados a su ambiente natural en la localidad de Piedra Colgada. Este nuevo registro extiende su rango de distribución desde el valle de Vallenar a Copiapó en 145 kilómetros, y desde Ramadilla a Copiapó en 120 kilómetros, respectivamente. Otras especies colectadas en la zona fueron *Oligoryzomys longicaudatus* y *Abrothrix olivaceus*. Presentamos un mapa con el nuevo rango de distribución para la especie basada en la revisión de colecciones taxonómicas y artículos previamente publicados.

**Palabras claves:** ratón chinchilla, *Abrocoma*, Copiapó, distribución.

The genus *Abrocoma* was described by Waterhouse (1837); it has been placed in the subfamily Echimididae (Ellerman, 1940), and in the families Octodontidae (Landry, 1957) and Abrocomidae (Miller & Gidley, 1918; Cabrera, 1961; Glanz & Anderson, 1990). Eight species are recognized in the genus, *A. bennetti* (Waterhouse, 1837), *A. boliviensis* (Glanz & Anderson, 1990), *A. cinerea* (Ellerman, 1940), *A. budini* (Thomas, 1920a), *A. famatina* (Thomas, 1920b), *A. schistacea* (Thomas, 1921a), *A. uspillata* (Braun & Mares, 2002), and *A. vacarum* (Thomas, 1921b).

The genus *Cuscomys* (Emmons, 1999) is recognized in the Abrocomidae, with two species, *C. ashaninka* (Emmons, 1999) and *C. oblativa* (Eaton, 1916); these are only known from individuals found

in an Inca cemetery in Machu Picchu, there are no records of living individuals.

*Abrocoma bennetti* (Figure 1) is a medium-sized rodent whose fur is light gray ventrally and grayish-brown dorsally. The base of the hairs is generally darker, without white blotches; the extremities are darker than the rest of the fur. The tail has less fur than the rest of the species of *Abrocoma*, and is slightly shorter than the body. The occipital length of the cranium is greater than 42 mm (Glanz & Anderson, 1990). This species has a wide distribution in Chile, from Vallenar (28°32'00" S, 70°52'00" W) to the Baños de Cauquenes (34°18'00" S, 70°17'00" W) (Osgood, 1943), and from sea level to 2000 m (Mann, 1978) (Figure 2). Some authors have suggested that the distribution extends from Copiapó to the Bío Bio

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Figure 1. *Abrocoma bennetti* collected at Piedra Colgada, Región de Atacama, Chile. Photo by Gabriel Lobos.

River (Woods & Kilpatrick, 2005; D'Elia & Ojeda, 2008). However, the known northern distribution limit of the species is Ramadilla (28°06'00" S, 69°45'00" W), 120 km SE of the city of Copiapó, Provincia de Copiapó, and is based on fragments of a cranium found in the fecal pellets of the owl *Tyto alba* (Osgood, 1943).

Osgood (1943) recognized two subspecies, *A. b. bennetti* which inhabits the Coast Range of central Chile to the western base of the Andes range from 32°S to 34°S, and *A. b. murrayi* (Wolffsohn, 1916),

whose range is from the Provincia de Huasco to the Provincia de Elqui in the IV Región of Chile (Tamayo & Frassinetti, 1980). According to Osgood (1943), the subspecies of *A. bennetti* are easily distinguishable; *A. b. murrayi* has more abundant fur which is grayer, soft to the touch and longer, the cranium is smaller and arched, with a larger auditory bulla, narrower face and narrower teeth, including the incisors. There has been no further analysis of the taxonomic position of these two species, in spite of their substantial differences which may warrant specific status.

We installed grids of Sherman traps in four vegetation formations in the locality of Piedra Colgada (27°18'00" S, 70°29'00" W); agricultural, wetland, Chañar (*Geoffroea decorticans*) forest and riparian shrubland. This last formation is typically of anthropic origin, which results from the sustained agricultural use of a site (Gajardo, 1994); it is expressed in the large valleys and canyons in the north in the most favorable areas, in which intense cultivation and plantations are installed. In the Copiapó valley this formation is found beside the Pan-American Highway, which was deforested to widen the highway between Copiapó and Caldera. Traps were set on four occasions, in January, March, August and November, 2010; grids of 30 traps were set for two nights each time.

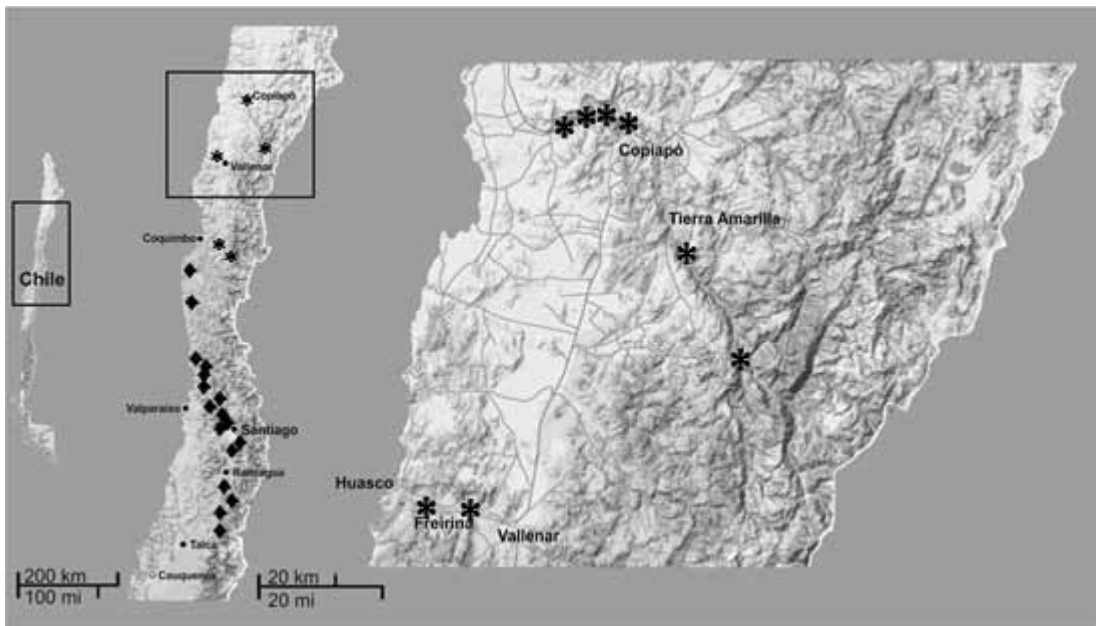


Figure 2. Map of Chile showing the known range of *Abrocoma b. bennetti* (rhombus) and *A. b. murrayi* (asterisk). Asterisk from Copiapó correspond to the last captures.



Figure 3. Habitat of *A. bennetti murrayi*. This is vegetation classified as a riparian scrub accompanied by native species such as *Atriplex atacamensis*, *Acacia caven*, *Baccharis sp.*, *Geoffroea decorticans* and *Schinus molle*.

We captured two adult individuals of *A. bennetti*, one male and one female; one individual was found in the Chañar forest and the other in the riparian scrubs, composed mainly of *Atriplex atacamensis*, *Baccharis sp.* and *Schinus molle* (Figure 3).

At the beginning of the deforestation of the riparian scrubland eight individuals were observed, a family composed of two adults (male and female) and six infant offspring. When a very large individual of *Atriplex* was removed, the male ran off to one side, while the female carried her six offspring to a nearby scrub, also *Atriplex*. In each trip she carried two offspring.

This record of *A. bennetti* in the Copiapó valley represents an extension of the distribution range of

145 km from the Vallenar valley and about 120 km from Ramadilla (southeast of Copiapó) to Copiapó. The distribution range of this species may extend along the Copiapó valley to the western border of the Andes Range. These authors mentioned that there did not appear to be a correspondence in the number of species in arid ecosystems in southern South America with that of North America. In Caldera and Vallenar only *A. olivaceus* and *Phyllotys darwini*, were collected, although also *Thylamys elegans*, *A. longipilis* and *Octodon degus* were expected. An exhaustive census of the mammal fauna in the Región de Atacama would be very desirable, since in addition to the species mentioned above *Chinchilla laniger* (Wolffsohn, 1923) and *Eligmodontia sp.* may be added (unpublished data).

Finally, a study of the taxonomy of the populations of the genus *Abrocoma* is recommended, since Wolffsohn (1916) described for the Región de Atacama *Abrocoma murrayi* with *Terra typica* in Vallenar. If the morphological and genetic characteristics indicate sufficient divergence within the species *A. bennetti*, a second taxonomic species could be identified, which would thus augment the list of endemic species of the Región de Atacama and Chile.

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