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First record of *Microcavia jayat* (Rodentia, Caviidae) in La Rioja province, northwestern Argentina

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ABSTRACT

The genus *Microcavia* includes five living species of caviomorph rodents endemic to southern South America. *Microcavia jayat*, the most recently described species, was recorded in only seven localities of Chaco Seco, in Santiago del Estero province, north-central Argentina. Based on cranial and mandibular remains, corresponding to 23 individuals recovered from owl pellets, we report the first record of this species in La Rioja province, Argentina. This new record implies a southwestern extension of approximately 390 km from the previously known nearest locality, and constitutes its first record in Chaco Serrano habitats within Chaco Seco ecoregion.

RESUMEN

El género *Microcavia* incluye cinco especies vivientes de roedores caviomorfos endémicos del sur de América del Sur. *Microcavia jayat*, la especie descrita más recientemente, se registró en sólo siete localidades del Chaco Seco de la provincia de Santiago del Estero, centro-norte de Argentina. Sobre la base de restos cráneo-mandibulares, correspondientes a 23 individuos recuperados de egagrópilas de lechuza, informamos el primer registro de esta especie en la provincia de La Rioja. Este nuevo registro implica una extensión de aproximadamente 390 km hacia el suroeste de la localidad más cercana previamente conocida y constituye su primer registro en ambientes de Chaco Serrano de la ecorregión del Chaco Seco.

The genus *Microcavia* H. Gervais and Ameghino, 1880 includes five living species of small (< 400 g), semi-fossorial and herbivorous caviomorph rodents endemic to southern South America (Teta et al. 2017). In Argentina, four species have been registered: *M. shiptoni* (Thomas, 1925), restricted to highland areas of Catamarca and Salta provinces; *M. maenas* (Thomas, 1898), extending up to 2,500 m along montane and hilly areas of Catamarca, La Rioja, Salta, San Juan and Tucumán provinces, and arid lowlands of western Córdoba, north-central Mendoza and northern San Luis provinces; *M. australis* (I. Geoffroy St. Hilaire & d'Orbigny, 1833), from highland areas (> 2,000 m) of Mendoza province in the west and southern Buenos Aires province

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in the east, south to Santa Cruz province; and *M. jayat* Teta, Ojeda, Lucero & D' Elía 2017, recorded from only seven localities of the thorn-scrub forests of the Dry Chaco ecoregion (Semi-arid Chaco subregion) in the province of Santiago del Estero, north-central Argentina.

In small mammal surveys conducted in La Rioja province during 2017 and 2018, we recorded *M. jayat* for the first time in this province. The species was identified on the basis of cranial and mandibular remains recovered from *Tyto furcata* pellets. The samples were collected in areas of Chaco Serrano environments (Chaco Seco ecoregion, sensu Burkart et al. 1999) in the south of the province, inside a man-made shed located in the Anzulón Dam (30° 51' 27" S; 66° 16' 5" W; 567 m), General Ocampo department (Fig. 1).

The recovered elements (MNI, minimum number of individuals = 23), consisting of 41 skull fragments and 42 hemi-mandibles (most of them corresponding to young specimens), were housed in the pellet collection of the Instituto Superior de Correlación Geológica (Facultad de Ciencias Naturales e Instituto M. Lillo- CONICET, Tucumán province, Argentina) under the number CEI 116-6. Several of the diagnostic characters of the species were observed in the recovered specimens, including expanded zygomatic arches with conspicuous paraorbital processes, jugals extended posteriorly behind the border of the glenoid fossa, and the suture between palatines occupied by a heart-shaped palatal cristae that surpasses the posterior border of the palate, which is nearly trapezoidal (Fig. 2).

This caviomorph coexists in the studied area with at least seven other species of small mammals (recorded in the same set of owl pellets), including the marsupial *Thylamys* sp. (MNI= 3), the caviomorphs *Ctenomys* sp. (MNI= 7) and *Galea leucoblephara* (MNI= 1), and the sigmodontines *Akodon dolores* (MNI= 2), *Calomys* cf. *C. laucha*-*C. musculus* (MNI= 8), *C. venustus* (MNI= 7), and *Graomys chacoensis* (MNI= 10) (Fig. 3).

This new record represents an extension in the known distribution of *M. jayat* of approximately 390 km to the southwest, relative to the nearest known locality informed by Teta et al. (2017) in Santiago del Estero, and constitutes the first mention of this species in Chaco Serrano environments. Teta et al. (2017) suggested the possibility that the range of *M. jayat* could include other dry Chacoan forests of the nearby provinces of Salta, Chaco, Córdoba and Santa Fé. Our record also supports its probable presence in Córdoba, and based on the environmental continuity and the proximity to other provincial boundaries, we hypothesize that the geographic distribution of this species could reach some regions of southern Catamarca and even northern San Luis provinces.

Our knowledge of the geographic distribution of some small terrestrial mammals in northwestern Argentina has grown notably in the last two decades (e.g., Flores et al. 2000; Jayat et al. 2011a, 2018; Ortiz & Jayat 2012; Teta et al. 2019). Notwithstanding, the delimitation of the geographical range for many species in the region continues to be sketchy. Small terrestrial mammals from La Rioja are among the least known of this environmentally heterogeneous area (Fariñas Torres et al. 2018), and several



new records have been published recently for them (Jayat et al. 2011b; Sanchez 2018). All these findings reveal how little we know about the small mammal faunas of certain regions of Argentina, confirming the need for additional intensive surveys.

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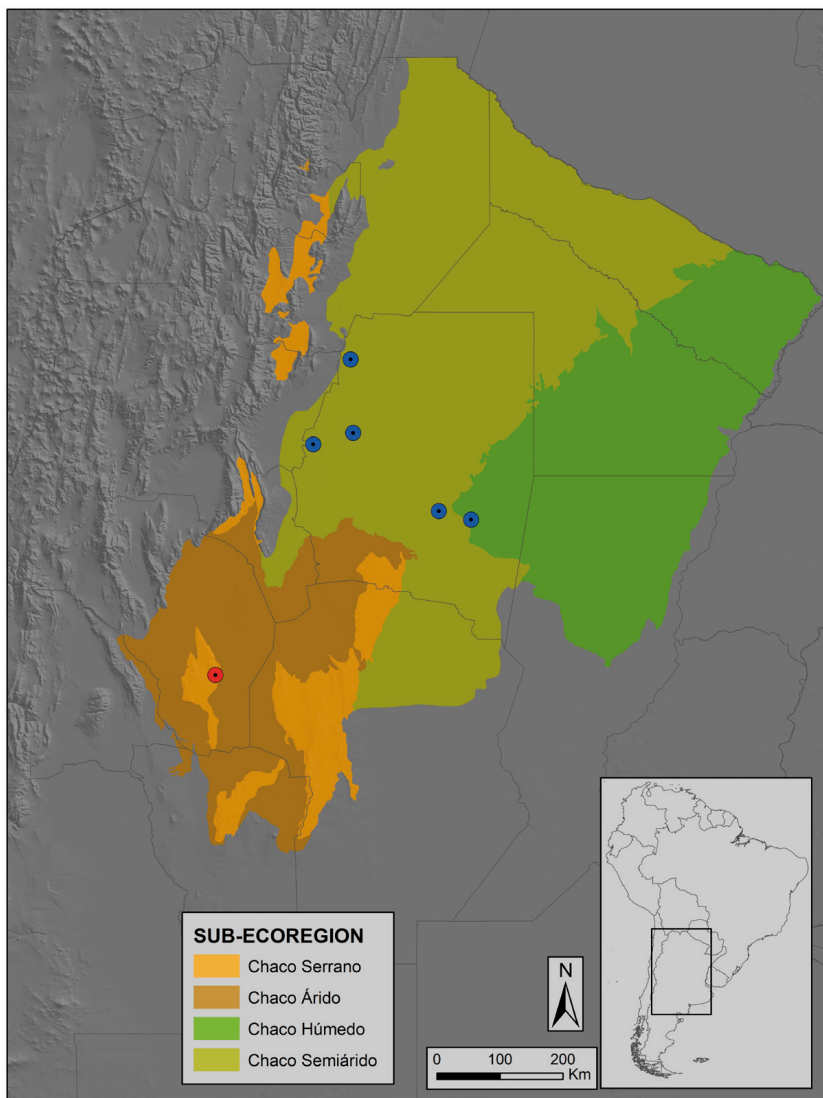


Figure 1: Localities of *Microcavia jayat* previously reported by Teta et al. (2017) (blue dots), and the new record (red dot) from the Anzulón Dam, La Rioja province, Argentina.

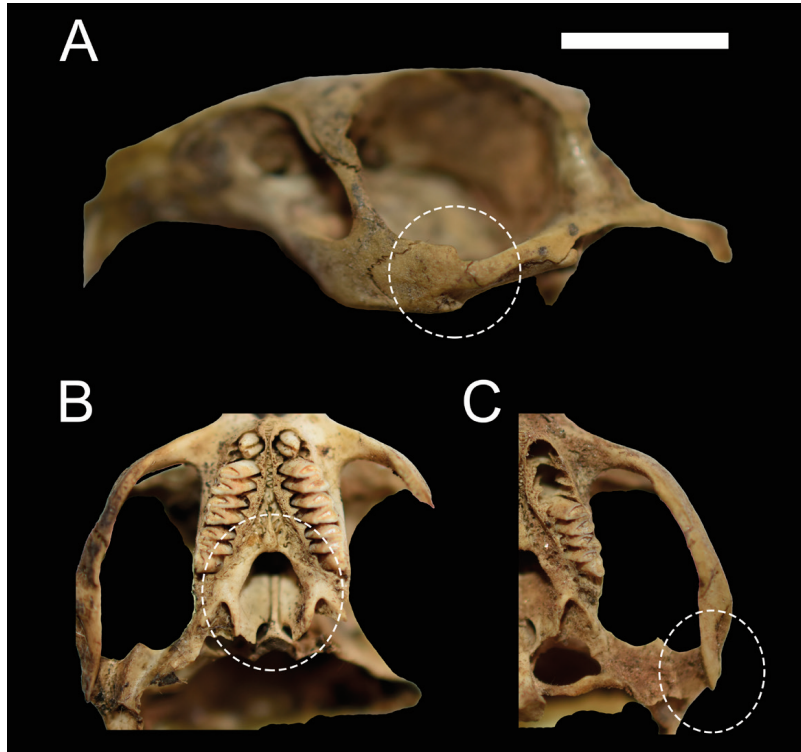


Figure 2: Details of the diagnostic characteristics of *Microcavia jayat* observed in the materials obtained in the Anzulón Dam (La Rioja province). A) conspicuous paraorbital processes; B) palatal crest with a “heart shape” and trapezoidal contour of the back edge of the palate; and C) jugal bones extended beyond the posterior edge of the glenoid fossa.

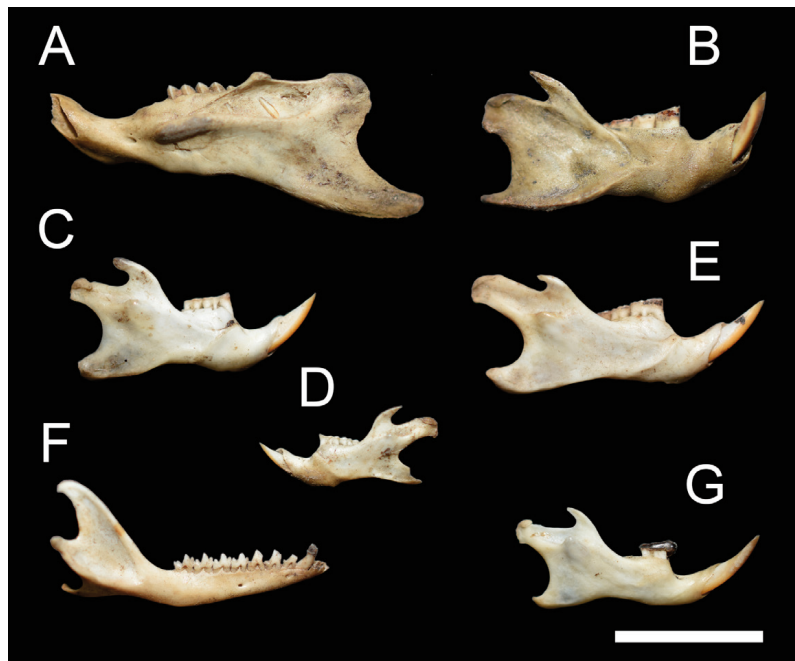


Figure 3: Other small mammals registered with *M. jayat* in the Anzulón Dam area. A) *Galea leucoblephara*; B) *Ctenomys* sp.; C) *Calomys venustus*; D) *Calomys* cf. *C. laucha*-*C. musculus*; E) *Graomys chacoensis*; F) *Thylamys* sp.; and G) *Akodon dolores*.

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