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New records of *Lagidium* cf. *L. wolffsohni* (Thomas, 1907) (Rodentia, Chinchillidae) in southern Chile

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ABSTRACT
Of the three species of viscachas present in Chile, Wolffsohn's viscacha *Lagidium wolffsohni* (Rodentia: Chichillidae) is the one with the most restricted distribution in South America, being found only in the regions of Aysén and Magallanes, in the extreme south of the country. Based on photographic records, we propose its potential presence in Puyehue National Park and Huinay, Hualaihué Commune, Los Lagos Region, southern Chile. These records would expand the species' northern distribution by 722 km.

Keywords: Argentina, Chilean north Patagonia, distribution, Huinay hill, Puyehue National Park.

RESUMEN – Expansión potencial del área de distribución de *Lagidium* cf. *L. wolffsohni* (Thomas, 1907) (Rodentia, Chinchillidae) en Chile. De las tres especies de vizcachas presentes en Chile, la vizcacha de Wolffsohn, *Lagidium wolffsohni* (Rodentia: Chichillidae), es la de distribución más restringida en América del Sur, encontrándose únicamente en las regiones de Aysén y Magallanes, en el extremo sur de este país. Con base en registros fotográficos, proponemos su potencial presencia en el Parque Nacional Puyehue y Huinay, comuna Hualaihué, Región de Los Lagos, sur de Chile. Esto ampliaría la distribución norte de la especie en 722 km.

Palabras clave: Argentina, Distribución, Huinay, Parque Nacional Puyehue, Patagonia chilena Norte.

At least three viscacha species of the genus *Lagidium* Meyen, 1833 are present in Chile (Spotorno et al. 2004, Spotorno & Patton 2015): *L. peruanum* Meyen, 1809 in the extreme north of the country (Pearson 1948); *L. viscacia* Molina, 1782 in much of the north-central and south-central regions, and *L. wolffsohni* Thomas, 1907 in the extreme south (Roach 2016; and see Teta & Lucero 2017 for Argentine distribution). This last

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species has been recorded only in Aysén Region (e.g., Chacabuco Valley and Cochrane, Patagonia National Park, Figueroa et al. 2000; C. Saucedo pers. comm.) and Magallanes and Chilean Antarctica Region (e.g., Cerro Guido and Última Esperanza, Johnson et al. 1990). The species is extremely rare both in Chile and Argentina, and both countries' populations are relatively close to each other.

Regarding its conservation status, *L. wolffsohni* is classified as Vulnerable (VU) in Chile (Chilean Supreme Decree No. 5 of year 1998) and internationally as Data Deficient (DD, Roach 2016). In Argentina, the species was classified as Endangered in 2000 by Díaz & Ojeda, but in the two last categorizations it was classified as Data Deficient (Ojeda 2012; Secretaría del Medio Ambiente y Desarrollo Sustentable de la Nación y Sociedad Argentina para el Estudio de los Mamíferos 2019).

Lagidium wolffsohni inhabits very steep areas with little vegetation in the Andes mountains. It lives from 800 to 2,500 m elevation. The species' reproductive season occurs in spring, and only a single litter is reared. Due to the extreme climatic and geographical conditions where it lives, its body is thick and muscular (Iriarte 2008, 2009; Muñoz-Pedreros & Yáñez 2009).

In the austral summer of 2017, one of us (A. de la Fuente) detected two colonies of *Lagidium* near (Pampa Frutilla, Anticura Development Area) and close (Cráter del Puma, Antillanca Development Area) to the tree line (*Nothofagus pumilio*) at Puyehue National Park, Los Lagos Region, southern Chile. Recently, a group of four mountaineers detected in the last 100 m before the summit of a virgin granite wall located within the Huinay hill, Hualaihué Commune, some scats characteristic of viscachas (Iriarte 2008, 2009; Muñoz-Pedreros & Gil 2009; Spotorno & Patton 2015), but it was only when they reached the summit that they sighted two individuals of this rodent genus (Fig. 1C and D). Viscachas are adapted to this type of extreme environment, with very steep slopes and very low vegetation coverage (Iriarte 2008, 2009; Muñoz-Pedreros & Yáñez 2009; Spotorno & Patton 2015).

The new records for *Lagidium* cf. *L. wolffsohoni* (Figs. 1 and 2) are all in Chile: Pampa Frutilla (latitude -40.766747; longitude -72.227654; 1,200 m a. s. l.; 23/2/2017) and Cráter del Puma (latitude -40.736128; longitude -72.079276; 1,225 m a. s. l.; 22/2/2017), Puyehue National Park, Antillanca Development Area, Los Lagos region, both recorded by Alejandro de la Fuente; and Huinay (latitude -42.3765238; longitude -72.41501675; 1,000 m a. s. l.; 25/2/2021), Hualaihué Commune, Los Lagos region, recorded by Nicolás Gutiérrez, Hernán Rodríguez, Sebastián Rojas, Francisco Herrera.

According to our field expertise with Chilean mammal biology and ecology, and specialized Chilean and Latin American Mammalogy textbooks on Neotropical mammals (Iriarte 2008, 2009; Muñoz-Pedreros & Yáñez 2009; Spotorno & Patton 2015), we assess that the individuals photographed in Puyehue National Park and Huinay are morphologically close to the Wolffsohn's viscacha. However, it is necessary to obtain more information (i.e., make captures or obtain tissue and/or skeletal vouchers) to confirm our records.

In relation to their congeneric species (i.e., *L. ahuacaense*, *L. moreni*, *L. peruanum*, and *L. viscacia*,), Wolffsohn's viscacha is larger and heavier, has shorter ears, and its tail is

conspicuously feathery. In addition, this species has an overall orangish coloration, which was darker on the individuals reported here (Iriarte 2008, 2009; Muñoz-Pedreros & Yáñez 2009; Spotorno & Patton 2015). The new records for *Lagidium* cf. *L. wolffsonhi* expand the known distribution of this species 722 km (Fig. 2) towards the north, beyond its last known presence (Patagonian National Park, Chacabuco Valley, Aysén Region, Fig. 2).

Our observations of *Lagidium* cf. *L. wolffsohni* are supported by 26 observations made until 21/10/2021 by 14 observers on the iNaturalist platform (http://www.inaturalist.org) for Chile and Argentina. Like the records reported here, the vast majority of photographs registered by others correspond to a single individual (we had photographs of young animals for Puyehue National Park and Huinay, not shown here but available upon request to authors). In addition to these northern records, we were also informed of a video of *Lagidium* cf. *L. wolffsohni* in Puelo, Los Lagos Region (see in the YouTube channel of Diego Olivos Achurra the video Proyecto Poicas 2014; https://www.youtube.com/watch?v=Z5vFxXDOYvw&t=237s). Both of these records are north of Huinay.

The most important threat for Wolffsohn's viscacha is its reduced geographical distribution, although locally there is also pressure due to preferences for its meat and pelt (Iriarte 2008; Muñoz-Pedreros & Gil 2009; Spotorno & Patton 2015). Future work to confirm these records should include the collection of specimens for morphological and molecular studies.

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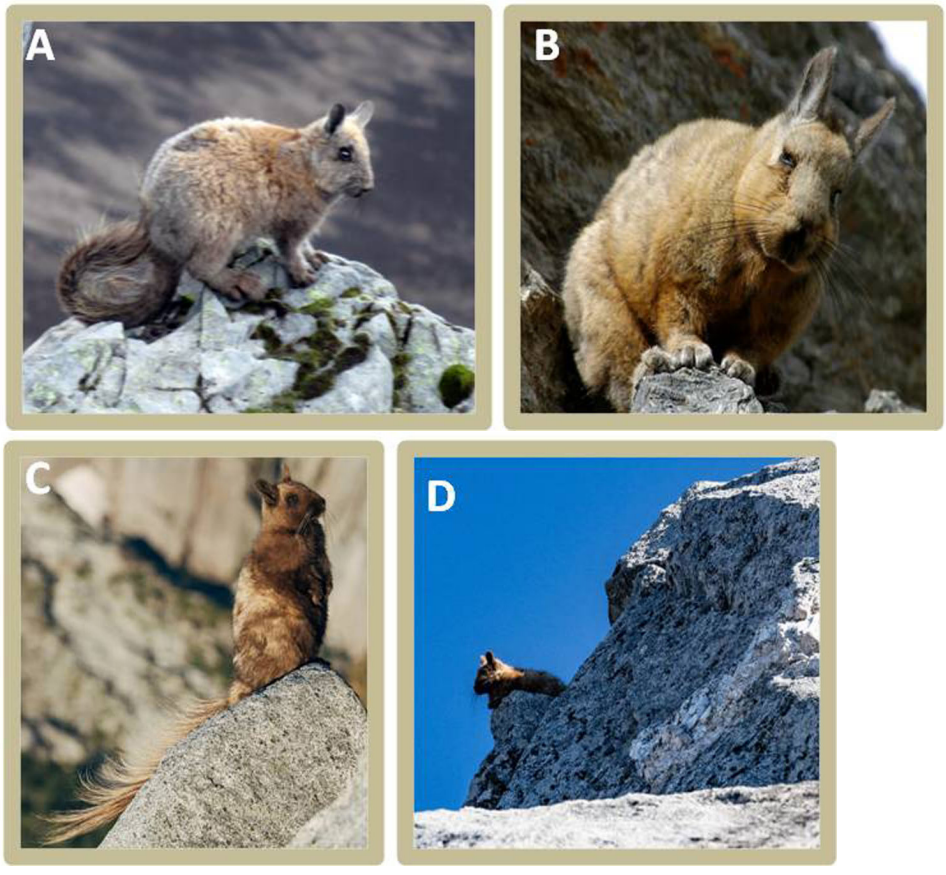

Figure 1. Different pictures of known (B) and new records (A, C, D) of *Lagidium* cf. *L. wolffsohoni* taken in Chile. Cráter del Puma (A), Antillanca, Puyehue National Park (photo by Alejandro de la Fuente), Parque Nacional Patagonia (Chacabuco Valley) (C), Aysén, austral Chile (photo by Cristian Saucedo), and Huinay (Hualaihué commune) (D), southern Chile (photos by Francisco Herrera).

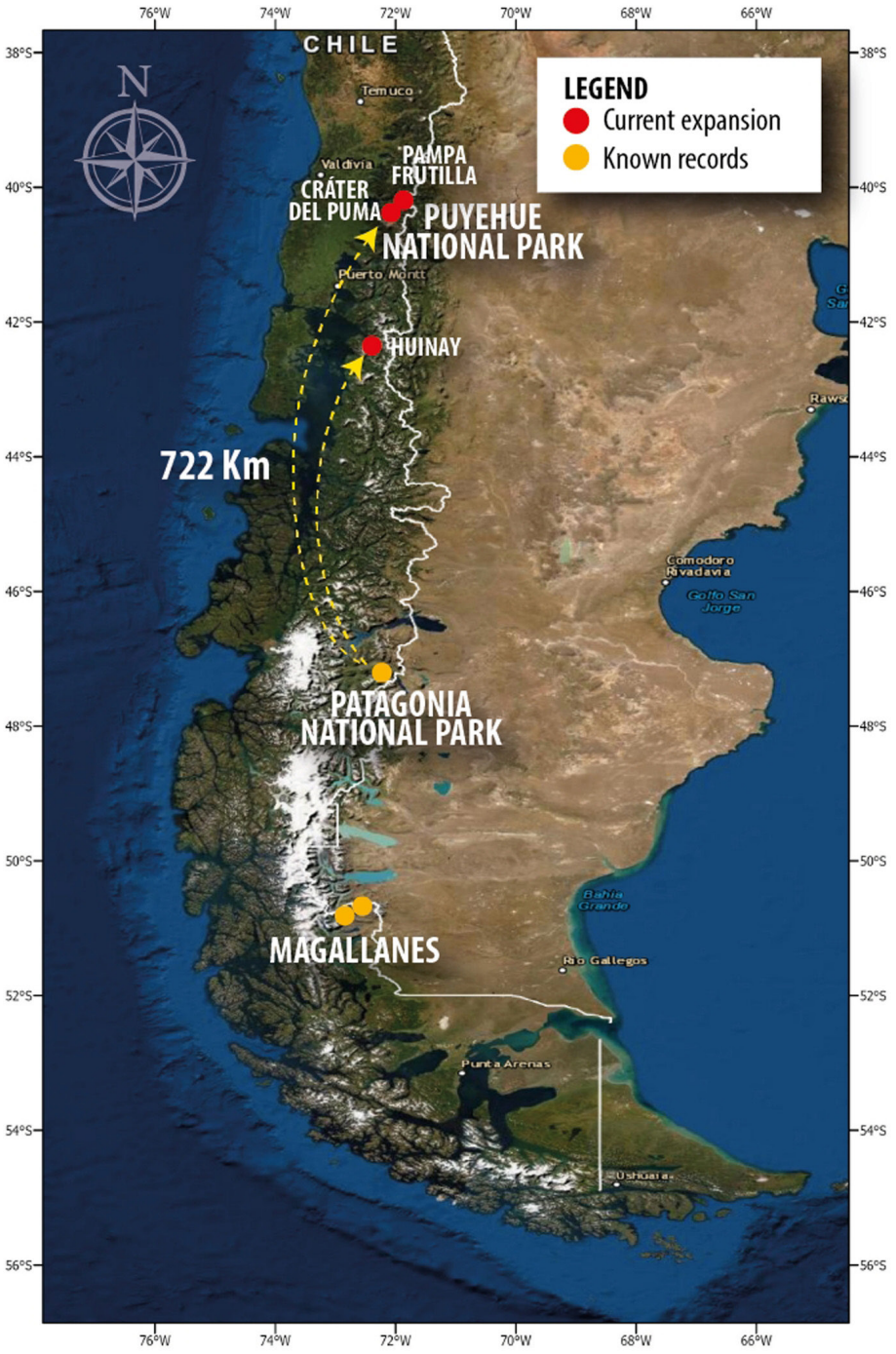

Figure 2. Map showing records of *Lagidium* cf. *L. wolffsohoni*: yellow dots (old records), Patagonia National Park (Chacabuco Valley), Los Lagos Region, and Magallanes Region; red dots, Puyehue National Park (Cráter del Puma and Pampa Frutilla) and Huinay, Hualaihué Commune, Los Lagos Region.