

# New record of the rare viscacha *Lagidium wolffsohni* (Thomas, 1907) in northern Patagonia, Chile

## Nuevo registro de la rara vizcacha *Lagidium wolffsohni* (Thomas, 1907) en Patagonia norte, Chile

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### ABSTRACT

Few records of *Lagidium wolffsohni* exist in both Chile and Argentina. Through camera traps, we obtained a new record of *L. wolffsohni* in northern Patagonia, Chile. We also describe its feeding activity and other behavioral aspects.

**Keywords:** Andes, camera traps, Chinchillidae, Cochamo, distribution.

### RESUMEN

Los registros de *Lagidium wolffsohni* son escasos en Chile y Argentina. A través de cámaras trampa, captamos un nuevo registro de *L. wolffsohni* en el norte de la Patagonia, Chile. Además, obtuvimos registros de su actividad alimentaria y comportamiento.

**Palabras claves:** Andes, cámaras trampa, Chinchillidae, Cochamó, distribución.

Viscachas are medium- to large-sized rodents that inhabit both sides of the Andes, ranging from Ecuador to southern Argentina and Chile (Spotorno & Patton 2015). This group of rodents is widely distributed in the Andes, where they inhabit high plateaus and mountains (Chebez *et al.* 2014). Viscachas are adapted to this type of environment, with steep slopes and low vegetation cover (Iriarte 2008; 2009; Muñoz-Pedrerros & Yáñez 2009; Spotorno & Patton 2015). Most authors recognize three species of viscachas: *Lagidium peruanum* (northern or montane viscacha), *L. viscacia* (southern or mountain viscacha), and *L. wolffsohni* (Wolffsohn's viscacha; Spotorno *et al.* 2004; Teta & Lucero 2017). The latter two inhabit Patagonia's rocky outcrops in both Argentina and Chile (Galende & Vega 2021).

Wolffsohn's viscacha is the largest species within the Chinchillidae, with adults weighing over 2 kg. This species can be identified by its distinctive orange coloration and its

shorter, darker ears in comparison to the southern viscacha (Chebez *et al.* 2014; Teta & Lucero 2017). Additionally, it features a tail covered in long, dense hairs along its dorsal side (Mann 1978; Muñoz-Pedrerros & Gil 2009). It inhabits elevations ranging from 800 to 4,000 m in rocky Andean environments with sparse vegetation both in mountain and pre-mountain ranges (Chebez *et al.* 2014; Iriarte *et al.* 2021). This species is known for its gregarious nature, living in colonies consisting of small groups. Its activity pattern includes diurnal and crepuscular habits (Mann 1978), establishing its burrows within rock crevices and fissures, often arranged at different levels with multiple entrances, typically spaced 5 to 10 m apart. These rodents move with great agility among rocks and boulders, using their tail as a balance aid (Mann 1978; Chebez *et al.* 2014). Due to climatic and geographical conditions of their habitat, their bodies are thick and muscular (Iriarte *et al.* 2021). The breeding season

occurs in spring (December), giving birth to a single newborn (Mann 1978). Their diet consists primarily of plant materials, including grasses, herbs, and leathery vegetables (Chebez *et al.* 2014; Iriarte *et al.* 2021).

Studies on rocky-habitat specialists such as viscachas are scarce due to the inaccessible topography and cold weather conditions of their habitat. Thus, little is known about the biology and ecology of Wolffsohn's viscacha. Further, only general observations have been made regarding its presence in the Andes Ranges (Galende & Vega 2021). In southern Patagonia, Wolffsohn's viscacha inhabits rocky cliffs and steep mountain areas. These conditions make studying this species a challenging endeavor. Wolffsohn's viscacha is exceptionally rare in both Chile and Argentina, with populations in both countries being relatively close to each other (Iriarte *et al.* 2021). Regarding its conservation status, Wolffsohn's viscacha in Chile is classified as Vulnerable (VU), according to Chilean Supreme Decree No. 5 of 1998. In Argentina, the species was initially classified as Endangered in 2000 by Díaz & Ojeda, but in the latter two assessments it was labeled 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). According to the International Union for the Conservation of Nature (IUCN), this species is categorized as "Data Deficient" (DD) due to its specialized habitat and the limited knowledge about its population status (Roach 2016; Teta & Austrich 2019; Galende & Vega 2021).

During the austral summer of 2023, we conducted wildlife monitoring using camera traps in the Cochamó commune of Los Lagos Region, Chile (Fig. 1). The study area is situated near the Argentinian border crossing at El León valley, approximately 37 km east of Cochamó town. The local vegetation consists of Andean temperate forests primarily comprising evergreen trees such as *Nothofagus dombeyi* (Oerst. 1871) and *Saxegothaea conspicua*, typically found at elevations between 500 and 1,100 m. Additionally, deciduous forests of *Nothofagus pumilio* (Krasser 1896) thrive on the steep slopes of the Andes, ranging from 1,000 to 1,700 m in elevation. The low shrub strata are characterized by species such as *Drimys andina* (R. Rodr. & Quezada 1991), *Maytenus magellanica* (Hook. F. 1845), *Empetrum rubrum*, *Ribes cucullatum* (Hooker & Arnott 1833), *Berberis serratodentata* (Lechl.), and *Berberis montana* (Luebert & Pliscoff 2004).

We installed 10 camera traps (Bushnell model 16MP Trophy Cam HD Essential E3) along the mountain range surrounding the El León Valley, covering a total area of 32 km<sup>2</sup>. The work area is delimited north by latitude 41°21'29.52" S, westward 71°56'1.52" W, and eastward

along the Argentine border. To the south, it borders the parallel 41°26'26.60" S. The minimum distance between two cameras was 300 m and the maximum distance was 5 km. The installation of the cameras was intended to cover one route in animal trails (based on footprints and other signs) to detect possible biological corridors within the valley studied. All camera traps were set to record videos for 10 seconds and take 3 photos in order to register behavior. The cameras remained active for 133 days and 133 nights, from 12 December 2022 to 24 April 2023.

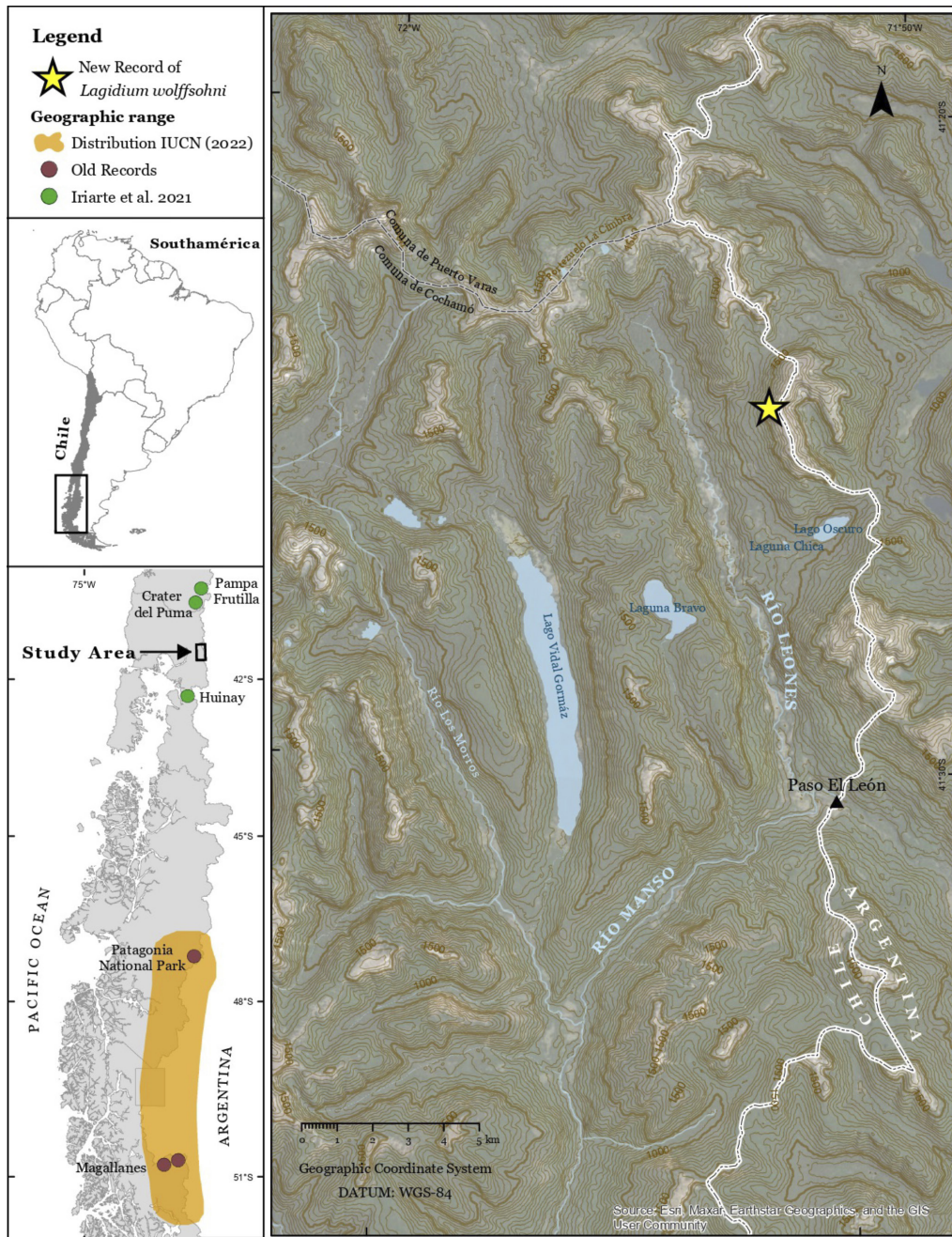
In one of those camera traps, we obtained two pictures of an individual of *L. wolffsohni* (Fig. 2; 41°24'30.81" S, 71°52'27.29" W). Due to the quality of the image, we are not sure if it is the same individual in the two recorded events, nor do we know the coloring. This species has an overall orangish coloration, but Iriarte *et al.* (2021) reported some individuals being darker. That camera trap was installed near a rocky sector at 1,572 m a.s.l. and operated during 41 nights over two months (Fig. 3).

The first event was on December 15, 2022, at 04:30-04:34 with an ambient temperature of 0 °C and the second was on January 16, 2023, at 04:13-04:15 with 6 °C (Fig. 2). The activity time coincides with that observed by Pendaries (2020), who described a peak of activity at dawn in *L. wolffsohni*, then remaining inactive until sunset. He concluded that *L. wolffsohni* exhibits nocturnal habits, with activity peaks at dusk and dawn. In contrast, *L. viscacia* is more active during the day. Our records showed the specimen feeding on low shrubs adjacent to the rocky area. According to Galende & Vega (2021), the diet composition of *L. wolffsohni* consists primarily of leaves of *Festuca pallescens*, *Poa* spp., and *Pappostipa* spp., and fruits of *Berberis microphylla*, in varying proportions. The high availability of *F. pallescens* near rocky outcrops implies a low cost in terms of search time, which aligns with the typical feeding behavior of rock specialists (Galende & Vega 2021). Pendaries (2020) described a strong correlation between the height of grasses located on rock faces and the presence of *L. wolffsohni*. If the grass is short, there is a high likelihood of finding *L. wolffsohni*. Studies of *L. viscacia* elsewhere have also found a strong association of this species with rocky substrates, concentrating their foraging activities within distances of 10 to 30 m and exerting high browsing pressure on grasses (Walker *et al.* 2000; Galende & Raffaele 2012; Galende & Vega 2021). In *L. viscacia* diet, *F. pallescens* and *Poa* spp. are also significant components, despite their low availability near rocky outcrops, and are heavily browsed (Puig *et al.* 1998; Galende & Raffaele 2012).

Previous records in Chile describe the presence of *L. wolffsohni* in Aysén Region, specifically near Cochrane (Figueroa *et al.* 2000) and in Magallanes Region, specifically

in Torres del Paine National Park (Cerro Guido, Sierra de Los Baguales y de Las Vizcachas; Thomas 1907; Iriarte 1988; Johnson *et al.* 1990). More recently, Iriarte *et al.* (2021) extended the distribution range of *L. wolffsohni* by 722 km northward, to Los Lagos Region, and described records from Pampa Frutilla and Cráter del Puma in Puyehue National Park, and from Huinay, Hualaihué Commune. The restricted

geographical distribution seems to be the most significant threat to *L. wolffsohni*, but locally there is also hunting pressure for its meat and pelt (Iriarte 2008; Muñoz-Pedros & Gil 2009; Spotorno & Patton 2015). The record informed here is important because of the limited geographical distribution described for *L. wolffsohni*.



**FIGURE 1.** Study area. The yellow star represents the new record of *L. wolffsohni*. / Zona de estudio. La estrella amarilla representa el nuevo registro de *L. wolffsohni*.



**FIGURE 2.** Record of an individual of *L. wolffsohni* feeding on low shrubs adjacent to the rocky area. / Registro de un ejemplar de *L. wolffsohni* alimentándose de arbustos bajos adyacentes a la zona rocosa.



**FIGURE 3.** The rocky sector where the camera trap was installed and where the two pictures of *L. wolffsohni* were obtained. / Sector rocoso donde se instaló la cámara trampa y se obtuvieron las dos fotos de *L. wolffsohni*.

## ACKNOWLEDGEMENTS

We thank the owners of the lands visited, in particular Marlen and Toto, who allowed us to research in El León Valley. FJN acknowledges the financial support of the Cape Horn International Center CHIC-ANID PFB210018.

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Received: 20.11.23

Accepted: 27.11.23

Editor: Fulgencio Lisón