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Predation of a Chilean Marked Gecko, *Garthia gaudichaudii* (Duméril & Bibron, 1836), by a Chilean Slender Snake, *Galvarinus chilensis* (Schlegel, 1837), in Coquimbo, Chile

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Geckos (Infraorder Gekkota) represent a diverse group of lizards found in various ecosystems across every continent except Antarctica (Bauer et al., 2013), comprising over 2400 species (Uetz et al., 2026). Geckos are important members of tropical and subtropical ecosystems, contributing to various ecological functions (Riedel et al., 2020), with one of the most important being their dual role in food webs, where they act both as prey and predators (Bauer, 2007, 2013; Reyes-Olivares et al., 2026). Predators of geckos include invertebrates (arachnids, centipedes, insects; McCormick and Polis, 1982; Reyes-Olivares et al., 2020), mammals, birds, snakes, large lizards, other geckos and conspecifics (cannibalism) (Bauer, 1990; Quah et al., 2022).

Garthia gaudichaudii (Duméril & Bibron, 1836) is a small-sized gecko (~30 mm snout-vent length) endemic to semi-arid coastal environments in north-central Chile (Mella, 2017). It is nocturnal and shelters under rocks, stones, or vegetation during the day (Mella, 2017). Although these geckos coexist with numerous potential predators such as mammals, birds, reptiles, and invertebrates, there are few documented cases of them being preyed upon (Demangel, 2016; Mella, 2017). The only known predators are invertebrates like tarantulas (Araneae: Theraphosidae), which are nocturnal and fairly large, making them its primary threats (Donoso-Barros, 1966), and kissing bugs (Hemiptera: Reduviidae: Triatominae), which feed on *G. gaudichaudii* as a blood source (Quiroga et al., 2022).

Galvarinus chilensis (Schlegel, 1837) is a small-sized snake, reaching up to 80 cm in length, that is native to Chile and Argentina. The species' broadest distribution is in Chile (Mella, 2017), spanning from the La Chimba National Reserve in the Antofagasta Region to Puerto Cisnes in the Aysén Region, at elevations from sea level to 3350 m (Mella Ávila, 2024). It exhibits cathemeral habits (Zañartu and Urra, 2021) and primarily inhabits humid shrubland environments (Mella, 2017). Its diet consists of amphibians and lizards (Greene and Jaksic, 1992). Among its lizard prey, only species of the genus *Liolaemus* are noted, such as *Liolaemus cyanogaster*, *L. pictus*, and *L. tenuis* (Greene and Jaksic, 1992). Here, we provide the first evidence of predation by the snake *G. chilensis* on an individual of the gecko *G. gaudichaudii*.

On 10 February 2026, at 13:19 h, we manually captured a juvenile of *G. chilensis* found under a boulder during an ongoing study near the coastal area of El Panul, Coquimbo Region, Chile (Fig. 1; 30.0048ºS, 71.4096ºW; elevation 135 m). The snake was transported in a plastic box (20 x 15 x 15 cm) enriched with refuges to a field laboratory, where it was measured (total length = 240 mm) and weighed (6 g). After approximately five hours of having been left unattended in the laboratory, we observed that the snake had regurgitated an adult *G. gaudichaudii*, which exhibited clear signs of digestion in its anterior part, while the posterior portion remained undigested (Fig. 1, 2), indicating that it had been eaten from this region. The prey was identified by distinctive morphological features of the only gecko species in the study locality (Mella, 2017): (i) small, round, subimbricate dorsal scales; (ii) legs with elongated toes, curved, retractile

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Figure 1. Juvenile individual of the Chilean Slender Snake, *Galvarinus chilensis*, alongside an adult individual of the Chilean Marked Gecko, *Garthia gaudichaudii*, which it regurgitated. Photo by Vicente Vásquez-Pinto.

claws hidden in a sheath, toes not widened at tips; (iii) cylindrical, thick tail; (iv) greyish-brown colour with transverse black bands, lighter posterior, dark tail rings (Fig. 2). The regurgitated individual was measured (~60 mm of total length), weighed (0.9 g) and fixed in 70 % ethanol. The snake was returned to its original capture site in good condition after a month of inclusion in behavioural studies.

This record documents the first known instance of *G. gaudichaudii* being consumed by *G. chilensis*, and the first report of a vertebrate predator for *G. gaudichaudii*. Despite coexisting with several potential predators in north-central Chile (Couve et al., 2016; Demangel, 2016; Mella, 2017), predation incidents are very rare, with only invertebrate predators previously recorded

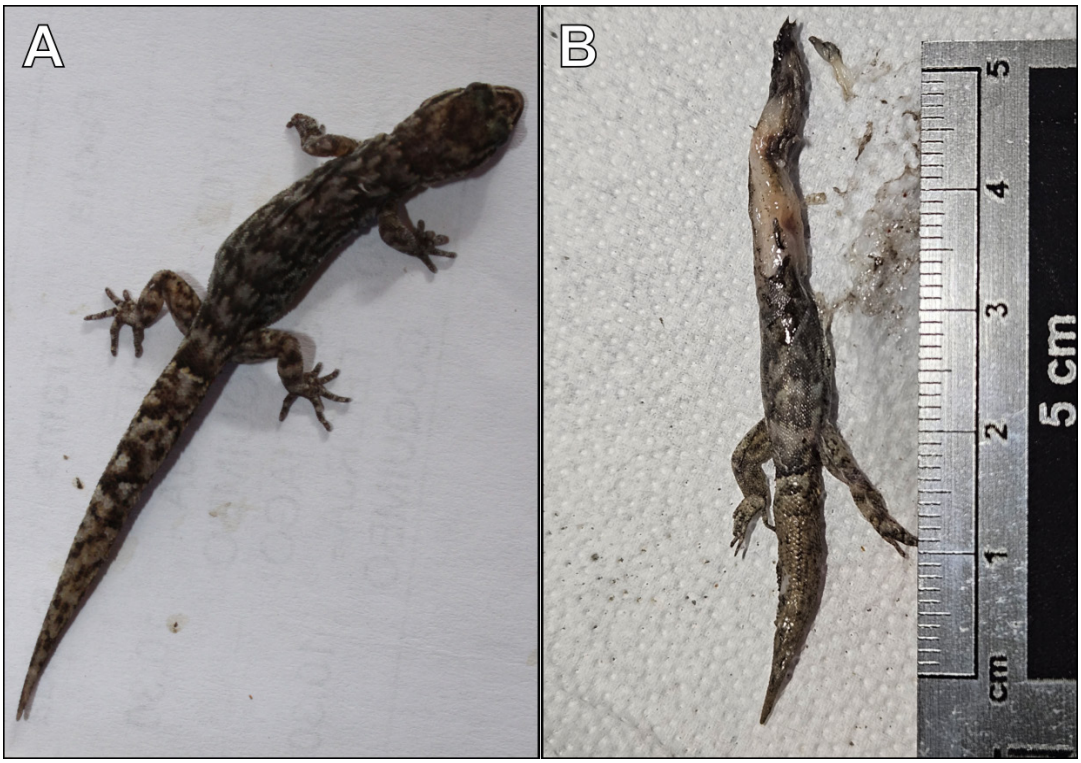

Figure 2. Comparison of the dorsal view of a (A) live individual of Chilean Marked Gecko, *Garthia gaudichaudii*, with (B) the individual regurgitated by the Chilean Slender Snake, *Galvarinus chilensis*. Photos by Claudio Reyes-Olivares (A) and Vicente Vásquez-Pinto (B).

(Donoso-Barros, 1966; Quiroga et al., 2022). This observation thus broadens our understanding of the trophic interactions involving this endemic gecko.

This finding also adds *G. gaudichaudii* to the known prey species of *G. chilensis*. Previous studies indicate that the diet of *G. chilensis* consists primarily of amphibians and, secondarily, lizards, particularly species of the genus *Liolaemus* (Greene and Jaksic, 1992). The predation of a *G. gaudichaudii* suggests that geckos may, at least occasionally, be exploited as prey when both species occur sympatrically. The predation event may have been facilitated by their overlapping habitat use, since both species frequently use rocky microhabitats as refuges (Marquet et al., 1990; Reyes-Olivares et al., 2022). However, additional observations are needed to determine whether *G. gaudichaudii* is an occasional or consistent prey item for *G. chilensis*.

Finally, regurgitation was probably caused by capture and handling, a phenomenon often observed in snakes (De Oliveira et al., 2015). As demonstrated here, these events can offer valuable insights into snake diets (Samson et al., 2023) and may serve as an additional data source for documenting trophic interactions between these and their prey in Chile. Due to limited information on its trophic interactions, future research should investigate whether snakes are occasional or regular predators, how predation varies across habitats and seasons, and how ecological factors affect predator-prey dynamics involving prey such as *G. gaudichaudii*.

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