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# Predation attempt of *Leptodactylus macrosternum* (Anura: Leptodactylidae) in *Boana albomarginata* (Anura: Hylidae) in Pernambuco State, Northeastern Brazil

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**Abstract:** Predation records are crucial for understanding trophic interactions, community ecology, and the evolutionary pressures shaping anuran defense mechanisms. Here we report the predation attempt of the treefrog Boana albomarginata by the frog Leptodactylus macrosternum in a permanent pond at the Universidade Federal de Pernambuco, Recife, Brazil, on August 12, 2025. The observation contributes to the natural history of both species, reinforcing the opportunistic and generalist predatory behavior of L. macrosternum, which includes anurophagy. The record also highlights the vulnerability of treefrogs to terrestrial predators in shared habitats.

**Keywords:** predation attempt; Anurophagy; natural history

**Resumo: (Tentativa de predação de *Leptodactylus macrosternum* (Anura: Leptodactylidae) sobre *Boana albomarginata* (Anura: Hylidae) no estado de Pernambuco, Nordeste do Brasil.)** Os registros de predação são cruciais para compreender as interações tróficas, a ecologia de comunidades e as pressões evolutivas que moldam os mecanismos de defesa dos anuros. Aqui, relatamos uma tentativa de predação da rã-arborícola Boana albomarginata pela rã Leptodactylus macrosternum em uma lagoa permanente na Universidade Federal de Pernambuco, em Recife, Brasil, em 12 de agosto de 2025. A observação contribui para a história natural de ambas as espécies, reforçando o comportamento predatório oportunista e generalista de L. macrosternum, que inclui a anurofagia. O registro também destaca a vulnerabilidade das rãs-arborícolas a predadores terrestres em habitats compartilhados

**Palavras-chave:** tentativa de predação; anurofagia; história natural

Amphibians play a fundamental role in ecosystems, primarily as predators of invertebrates and small vertebrates (Toledo et al., 2007; Hocking & Babbitt, 2014). Also, they usually serve as prey throughout their life stages for many arthropods (Castanho & Pinto-da-Rocha, 2005), snakes, birds, and mammals (Measey et al., 2015). Anurophagy and cannibalism are also commonly reported behaviors (da Costa et al., 2016; Souza et al., 2023). This constant predatory pressure is aligned with the evolution of diverse defense mechanisms to reduce predation events (Toledo & Haddad, 2009).

*Leptodactylus macrosternum* (Miranda-Ribeiro, 1926) is a small-bodied frog with a wide geographic distribution across South America, occurring from Venezuela to Argentina, including Brazil (Haddad et al., 2026). It is considered a generalist species well-adapted to disturbed areas, it inhabits open areas near water bodies, tropical forest environments and dry regions, its diet is primarily

based on insects and crustaceans, with the literature also reporting predation on other anurans, characterizing it as a foraging species (Sales et al., 2015; da Costa et al., 2016; Cavalheri et al., 2023). Additionally, the genus *Leptodactylus* (Leptodactylidae) is extensively documented and discussed particularly concerning predator-prey dynamics in anurophagy events within the Neotropical region. These large-scale observations are possible due to the wide distribution of these species in the area, the relationship between body size and gape width, as well as the increase in herpetological research (Souza et al., 2023).

*Boana albomarginata* (Spix, 1824) is an endemic species of the Atlantic Forest domain widely distributed along the coastal region of Brazil and found on coastal islands (Frost, 2026). Adult males and females measure approximately 55 mm and 60 mm, respectively (Freitas et al., 2022). This species is generally found near vegetation around temporary and permanent water bodies and exhibits arboreal and nocturnal habits (Pombal-Jr & Gordo, 2004; Haddad et al., 2013).

The observation occurred on August 12 2025 at 18:42 at Lago do Cavouco, Federal University of Pernambuco, Recife, Brazil (08°02'51.98" S, 34°57'09.70" W). Despite falling outside the typical breeding and rainy season for the species in this region the predation event occurred on a rainy day. An individual of *L. macrosternum* was sighted within a permanent pond under herbaceous vegetation, approximately 15 cm over the water, holding a live adult *B. albomarginata* by the leg in its mouth (Figure 1). The prey individual was still vocalizing and both remained immobile for about twenty minutes, perhaps due to the perception of nearby humans. The individuals were not collected.

The first record of predation by *L. macrosternum* on *B. albomarginata* was reported from a natural Caatinga area (Baracho et al., 2013). Here, we present the first predation record involving these species in the Atlantic Forest. Additionally, we highlight that this event occurred at a highly urbanized site, wich could alter predator-prey dynamics, often leading to increased predation pressure (Anderson et al., 2019). Predation by relatively large individuals is more common in tropical regions where high species diversity offers a wider range of potential prey, this diversity is shaped by evolutionary and historical factors, including extinction and diversification processes (Souza et al., 2023). Therefore, this record not only reinforces the understanding and importance of anuran predation by detailing the specific habitat characteristics of the event, but also underscores the role of prey abundance in shaping species' diets. It supports the notion that predators, even when selecting from their typical prey base, are influenced by the local availability of food resources (Toledo et al., 2007; Baracho et al., 2013).

**Figure 1:** *Leptodactylus macrosternum* preying on an adult *Boana albomarginata* tree frog.

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