Notas de História Natural & Distribuição Geográfica

Inside out: Unhappy feed of *Scapteriscus* sp. (Orthoptera: Gryllotalpidae) by *Leptodactylus macrosternum* (Anura: Leptodactylidae)

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Knowledge of species feeding habits is crucial for studies on organism interactions, community natural history, and energy flux through ecosystems (Falico et al. 2012; Linares et al. 2016). Amphibians have important roles in food webs because they represent an energy link between terrestrial and aquatic environments (Duré et al. 2009). The diet of anurans is generally based on arthropods (Vitt & Caldwell 1994, Ceron et al. 2019) and can be influenced by factors such as prey availability and habitat changes (Piatti & Souza 2010, Michelin et al. 2020). Large and medium-sized anurans usually are carnivorous, generalists and opportunistic predators, feeding on many prey species (Schalk et al. 2014; Ganci, et al. 2018).

The Leptodactylidae family is widely distributed in South America (Heyer et al. 2004; Acosta et al. 2005), and members of this family are opportunistic predators (Toledo et al. 2007). *Leptodactylus macrosternum* Miranda-Ribeiro, 1926 belongs to the *L. la-*

trans group and occurs in Northern Argentina, eastern Bolivia, Paraguay, northern Uruguay, and Brazil (Frost 2020). This large species is often found on the ground near ponds and flooded areas (Heyer 2004; Frost 2020). *Leptodactylus macrosternum* is a generalist sit-and-wait predator, and its diet is composed mainly of coleopterans and hymenopterans (ants) (Hamann et al. 2006, Schaefer et al. 2006).

The Mole Crickets, genus *Scapteriscus* (Gryllotalpidae), comprise two widely distributed species: *Scapteriscus didactylus* (Latreille, 1804) and *Scapteriscus borellii* (Giglio-Tos, 1894). Generalist predators, they live most of their life underground, feed mainly on small invertebrates and plants (Fowler 1987; Maros et al. 2005), and are consumed by a variety of generalist animals such as some anurans (Attademo et al. 2007) and some birds (Tozetti et al. 2011).

On 10 December 2017 at 19:40 h, during field work in a floodplain area in Corumbá municipality, State of Mato Grosso do Sul, Brazil (Base de Estudos do Pantanal - BEP, 19°34'37"S and 57°00'42"W), we observed an adult *Leptodactylus macrosternum* (SVL=38.05 mm) dead in the water, with its body perforated and the stomach also perforated and out of the body. A dead *Scapteriscus* spp. (SVL=24.35 mm) was found with its anterior body outside the stomach and posterior portion in the *L. macrosternum* stomach (Fig. 1). Both specimens were collected and deposited in the Coleção Zoológica de Referência da Universidade Federal de Mato Grosso do Sul (*L. macrosternum* ZUFMS-AMP11074 and *Scapteriscus* sp. ZUFMS-ORT00708; ZUFMS-ORT00709). Inside the *L. macrosternum* stomach we found another individual of *Scapteriscus* spp. (SVL=15.5 mm), an Orthoptera (SVL=0.58 mm) and a Coleoptera (SVL=0.24 mm). We believe that following ingestion by the *L. macrosternum*, the mole cricket was able to perforate the frog's stomach and body wall, causing death.

The outer part of the anuran body showed no signs of perforation from the exterior, as like the *Scapteriscus* spp., which discard the hypothesis that other animal may have injured the anuran. Another possibility is that the large number of prey items in the stomach of *L. macrosternum*, combined with the rigidity of their exoskeletons and the movement of the anuran, may have ripped the stomach. However, this is less likely to presume, because beyond the stomach, the anuran's skin would also have to be ripped. Still, the position in which the mole cricket was found suggests that the mole cricket was responsible for the death and opening of the stomach of *L. macrosternum*. *Scapteriscus* spp. has enlarged and flattened fore-tibia with blade-like pro-

jections called dactyls for digging in soil and two large toothed dactyls for feeding. These strong dactyls are used in predation, including eggs of marine turtles, indicating the potential for predation on other species (e.g. Auguste et al. 2003; Maros et al. 2005; 2006). These dactyls may have perforated the stomach, causing the death of the anuran, but not allowing the escape of the prey, possibly by the presence of water.

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Figure 1. Individual of *L. macrosternum* (SVL= 38.05 mm) dead by the own meal, *Scapteriscus* spp. (SVL=24.35 mm) in Corumbá municipality, state of Mato Grosso do Sul, Brazil (19°34'37"S and 57°00'42"W).



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