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Diet of *Physalaemus henselii* (Peters, 1872) (Anura, Leptodactylidae) in southern Brazil

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Studies that investigate feeding behavior provide important information about the natural history and the ecological niche of a species (Sih and Christensen, 2001). In the last decades, there has been an exponential increase in the number of studies on the diet of the Neotropical amphibians. This, for example, applies to many species of *Physalaemus.* However, there is a lack of information for some species, such as *Physalaemus henselii* (Peters, 1872), a small-sized anuran (average body size 25–32 mm) (Kolenc et al., 2006; Tomatis et al., 2009), occurring in southern Brazil, Uruguay and northeast Argentina (Cei, 1980; Maneyro et al., 2017). Our objective in this study was to describe the diet of *P. henselii* from a population in preserved habitats of the Atlantic Forest in southern Brazil.

We studied a population of *P. henselii* from Lami José Lutzenberger Biological Reserve (Witt, 2008), located in the city of Porto Alegre, state of Rio Grande do Sul (30.2356ºS, 51.0950ºW). Prey consumption data were obtained from individuals accidentally captured in pitfall traps (Campbell and Christman, 1982) installed for an entomological study. As the buckets were filled with a 70% ethanol solution, the accidentally captured anurans were preserved in a perfect condition for diet evaluation. The anurans were collected between November 2014 and January 2016 and deposited at the Laboratory of Ecology of Terrestrial Vertebrates (LEVERT - UNISINOS), where they were registered in the scientific collection (specimen registration numbers; CHLEVT 2211, 2229, 2245, 2291, 2292, 2295, 2297, 2300, 2301, 2305, 2307, 2308, 2310, 2328, 2338, 2339, 2340, 2341). Specimens were dissected to remove gastrointestinal contents (stomach and intestine), which were kept in 70% ethanol and sorted using a stereomicroscope. We calculated the number, volume and frequency of occurrence in absolute terms and percentages for each prey category (see Oliveira et al., 2015). We identified prey items until the level of order (with exception of the family Formicidae and the subclass Acarina), which was the highest level of taxonomic resolution available. We assessed the relevance of each prey in the diet by using the Index of Relative Importance (IRI), according to Pinkas et al. (1971), in percentage values. We calculated trophic niche breadth through the Levins' Standardized Trophic Niche Amplitude Index (Bsta) (Krebs, 1999), which allows comparisons between species.

A total of 18 adult individuals of *P. henselii* were examined, all of which presented prey in their stomach. We registered 154 prey items distributed in 10 prey categories. The most important category in the diet was Isopoda (IRI = 51.7%), followed by Formicidae (IRI = 34.9%). The remaining prey categories reached IRI values lower than 7% (Table 1). The observed high contribution of Isopoda in the diet of *P. henselii* is uncommon for other *Physalaemus* species, such as *P. lisei* (Becker et al., 2007; Moser et al., 2017), *P. gracilis* (Oliveira et al., 2015; Moser et al., 2017), *P. cuvieri* (Leivas et al., 2018) and *P. cicada* (Santana and Juncá, 2007). On the other hand, the high contribution of Formicidae is reported in several *Physalaemus* species (Becker et al., 2007; Santana and Juncá, 2007; Oliveira et al., 2015; Moser et al., 2017; Leivas et al., 2018). The trophic niche breadth of *P. henselii* was 0.32 (Bsta). This value is greater than that observed for other species such as *P. gracilis* (Bsta = 0.15, Moser et al., 2017), *P. lisei* (Bsta = 0.11, Moser et al., 2017), *P. ephippifer* (Bsta = 0.19, Rodrigues and Santos-Costa, 2014) and *P.*

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Table 1. Diet composition of *Physalaemus henselii* in southern Brazil. N = number of prey items found; V = total volume of prey in mm³; FO = frequency of occurrence; IRI = Index of Relative Importance; (%) percentage related to total.

Prey categories	N%	V%	FO%	IRI%
Isopoda	33.1	36.7	72.2	51.7
Formicidae	35.1	12.1	72.2	34.9
Acarina	11.0	2.0	50.0	6.7
Blattodea	3.9	8.4	16.7	2.1
Araneae	5.2	3.6	22.2	2.0
Coleoptera	5.2	2.0	16.7	1.2
Hymenoptera	1.9	1.4	16.7	0.6
Diptera	2.6	0.5	16.7	0.5
Orthoptera	1.3	0.6	11.1	0.2
Gastropoda	0.6	0.3	5.6	0.1
Plant material	-	-	-	-
Others	-	32.4	-	-

biligonigerus (Bsta = 0.04, Oliveira et al., 2015). This result suggests that the feeding behavior of *P. henselii* is more generalist than those species. This study presents a novel information on the diet of *P. henselii* showing some particularities regarding other *Physalaemus* species.

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