Predation on *Hypsiboas bischoffi* (Anura: Hylidae) by *Phoneutria nigriventer* (Araneae: Ctenidae) in southern Brazil

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Amphibians are attributed a considerable ecological value regarding their trophic level in the food chain since they are both prey and predators (Toft, 1980; Duellman and Trueb, 1994; Stewart and Woolbright, 1996; Feio et al., 1998), and can effectively control populations of invertebrates such as mosquitoes (Hagman and Shine, 2005). As ectotherms, they are highly efficient at converting energy from food into their own tissues. Therefore, they have an important role in the energy flow of the ecosystem as prey for invertebrates (Toledo, 2003; Toledo, 2005; Moura and Azevedo, 2011), birds (Toledo et al., 2005; Toledo et al., 2007; Andrade et al., 2013) and mammals (Santos, 2009; Shalk and Morales, 2012). Among invertebrates, spiders are an important group that prey upon amphibians (Menin et al., 2005; Toledo et al., 2007; Pombal Jr., 2007). Herein, we report *Phoneutria nigriventer* predating upon an individual of *Hypsiboas bischoffi*. The predation was observed on the 24 February 2013, during a field study in the National Forest of Pirai do Sul (24°34’S; 49°55’W). This National Park is located in the municipality of Pirai do Sul, State of Paraná, in the south of Brazil and comprises an area of around 150 ha, consisting mainly of Araucaria forest (Moro et al., 2009). The encounter was observed around 21:00h during a survey of breeding sites (Scoot and Woodward, 1994). The site was an old artificial tank, which now harbours a swamp. An agonistic call was emitted by the *H. bischoffi*, being a defensive strategy that has been reported many times before (Sazima, 1975; Hölzl and Gollmann, 1986; Azevedo-Ramos, 1995; Williams et al., 2000). The agonistic call made it possible to locate the frog while it was being predated by *Phoneutria nigriventer* (Figure 1). After the call, the frog was found completely paralyzed by the venom of *P. nigriventer*. The spider, standing on the branch of a herbaceous plant, held the frog by inserting its chelicerae into the frog’s dorsal region. This spider belongs to the Ctenidae family, known for preying

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Figure 1. *Phoneutria nigriventer* predating on *Hypsiboas bischoffi* in Araucaria Forest area in the State of Paraná, South of Brazil
on different species of anurans (Santana et al., 2009). The members of the Ctenidae family are nocturnal and wait for the prey to be close enough for capture (Rego et al., 2005). The hydil Hypsiboas bischoffi is a small, generalist species, widely distributed in the Atlantic Rainforests in southern Brazil (Frost, 2017). At the moment of observation, several males of H. bischoffi were vocalizing. These anurans have a small body size, gregarious behaviour and are present in abundance at breeding sites during the breeding season, which makes them an easy prey to different groups of vertebrates and invertebrates (Duellman and Trueb, 1994; Toledo et al., 2007). Hence, this report contributes to the knowledge of the P. nigriventer diet while denoting the role of frogs in the food chain.

References


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