

Predation on *Dendropsophus werneri* (Anura: Hylidae) by a lycosid in the Atlantic forest, southern Brazil

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Invertebrates are important prey items of anurans (e.g., Santos, Almeida and Vasconcelos, 2004). However, depending on their relative size to anurans, they can turn from prey into predators (reviews in Toledo 2005; Toledo, Ribeiro and Haddad, 2007). Predation events are not frequently observed in nature, but the presence of a wide range of potential predators may indicate that such events may be more common than observed (Pombal, 2007). Apparently, predation by spiders upon post-metamorphic anurans is a common interaction in the wild and, therefore, spiders have been claimed to be one of the most important anuran invertebrate predator (Menin, Rodrigues and Azevedo, 2005; Toledo, 2005).

During a field survey on 19th December 2009 in the Área de Proteção Ambiental de Guaratuba (municipality of São José dos Pinhais, Paraná state, southern Brazil) predation on an adult male of *Dendropsophus werneri* (Cochran, 1952) by a wolf spider (Lycosidae) was observed. Predation occurred at 2:32 am. in a flooded area with predominant *Brachiaria* sp. inside a pristine Atlantic Forest site (25°47'41.97" S, 48°54'43.62" W, about 299 m a. s.l.). While the male *D. werneri* was trying to release itself, holding the spider's legs and trying to escape, the spider was strongly attached to frog by the abdomen at the water surface (Figure 1A). The spider introduced its chelicerae into the frog's abdomen, and remained motionless, even with the frog's movements in an attempt to escape. After almost one and a half hour the wolf spider moved from the water surface to

about 10 cm up in the vegetation, carrying the dead frog and eating it (Figure 1B). Both spider and frog were not collected, but registered by photography and video images. The identification of the species is assured by the collection of several conspecific individuals in the same pond during another ongoing study.

The genus *Dendropsophus* is commonly preyed upon by spiders (Bernarde, Souza and Kokubum, 1999; Toledo, 2005; Pombal, 2007; Santana, Silva and Oliveira, 2009), and other invertebrates (Toledo, 2003; Castanho and Rocha, 2005; Forti, Fischer and Encarnaçao, 2007). Solitary and venomous predators usually prefer prey with similar size, and may select prey in regard to the energetic cost related to predation (Toledo, Ribeiro and Haddad, 2007). The case reported here may corroborate this prediction.

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Figure 1. Wolf spider (Lycosidae) preying upon a male *Dendropsophus weneri* in a flooded site of the Brazilian Atlantic Forest. A) Spider killing the frog by spiking chelicerae into frog's abdomen at water surface; B) Spider eating the frog on the vegetation upon the water.

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