Predation of *Scinax garbei* (Miranda-Ribeiro, 1926) (Anura: Hylidae) by the wandering spider *Ctenus villasboasi* Mello-Leitão, 1949 (Araneae: Ctenidae) in southeastern Peru

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Amphibians play a major role inside the trophic networks as both predators and prey (Whiles et al., 2006). Amphibians are prey for a great variety of predators, from carnivorous plants (Duellman and Trueb, 1994) to several vertebrates (Castro and Costa, 2017) and invertebrates such as arachnids (Menin et al., 2005; Toledo, 2005; Maffei et al., 2014; Amaral et al., 2015).

The Ctenidae are arachnids distributed around the world, except in New Zealand. They are large nocturnal wandering spiders that hunt their prey on the vegetation or at the soil level (Jocqué and Dippenaar-Schoeman, 2006). This family consists of important predators of terrestrial frogs, feeding primarily on juveniles and adults engaged in reproductive activity (Menin et al., 2005). There are reports of *Ctenus villasboasi* and *Ctenus* sp. attacking *Adenomera andreae* (Menin et al., 2005); predation of *Adenomera marmorata* by *Ctenus medius* (Barbo et al., 2009) and by *Ctenus ornatus* (Amaral et al., 2015); and *Phoneutria nigriventer* preying on *Dendropsophus elegans*, *Hypsiboa bischoffi* and *Scinax crospedospilus* (Santana et al., 2009; Oliveira et al., 2016; Foerster et al., 2017).

*Scinax garbei* inhabits tropical, flooded and even secondary forests (La Marca et al., 2004). It is an arboreal and nocturnal treefrog (Lima et al., 2012). Its diet includes orthopterans, spiders, Diptera and Coleoptera larvae (Duellman, 1978). Here, we present the first report of predation on *Scinax garbei* by the wandering spider *Ctenus villasboasi* (Ctenidae). In addition, with our study, the occurrence of *C. villasboasi* is officially recorded from Peru (World Spider Catalog, 2018).

On September 23, 2017, while searching for frogs on the leaf litter, we observed an adult female *Ctenus villasboasi* eating an individual of *Scinax garbei*. The spider bit the frog and paralyzed it. The place of the observation was near Chocoriari village, in the Echarate district, La Convencion province, Cusco department, in southeast Peru (11°57'35.69"S; 72°56'37.56"O; 404 m a.s.l.). The spider was collected and deposited in the scientific collection of the Museum of San Agustin National University (*Ctenus villasboasi* MUSA-AR 102). Although the amphibian was taxonomically determined, it could not be preserved due to its advanced stage of decomposition caused by the spider venom.

Only the spider was measured in situ (cephalothorax 12.8 mm; abdomen 11.3 mm; total length 24.1 mm). However, Figure 1 allowed us to estimate the snout-vent length of the frog (~33.2 mm), approximately 1.4 times larger than the spider. Predators that are smaller than their preys are commonly reported to make use of specialized tactics such as poisoning (Toledo et al., 2007), as we observed in this case. Little is known about the predators of *Scinax garbei*. Only Rocha et al. (2015) reported *Scinax cf. garbei* as an item in the diet of the bat *Thrachops cirropus* in Brazilian Central Amazon. Here, we provided the first account of predation of *S. garbei* by an invertebrate, adding knowledge about the biology of this neotropical anuran.

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References


Figure 1. (a) Dorsal view of the spider *Ctenus villasboasi* preying on *Scinax garbei* in Chocoriari village, southeastern Peru. (b) Dorsal view of the dead specimen of *Scinax garbei*. Photographs by Cinthya Salas.


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