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Predation by a Mygalomorphic Spider *Xenesthis immanis* (Araneae: Theraphosidae) on a Stream-dwelling Frog, *Rheobates palmatus* (Anura: Aromobatidae)

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Arachnids are known arthropod predators of vertebrates (e.g., Hayes 1983; Todelo 2006; Fonseca and Rodríguez-Cabrera 2014), and consumption of amphibians (specifically anurans) is well documented (e.g., Duellman and Trueb 1994; Barej et al. 2009; Maffei et al. 2010). Spiders can have an important impact on amphibian communities, because they prey upon a great diversity of species in larval, metamorphic, and adult stages (e.g., Menin et al. 2005; Toledo et al. 2005; Rojas-Morales and Escobar-Lasso 2013). In contrast, associations involving non-predator-prey interactions of anurans with potentially dangerous invertebrates also have been reported (e.g., Hunt 1980; Cocroft and Hambler 1989; Siliwal and Ravichandran 2008; Karunarathna et al. 2012).

At 1950 h, during a nocturnal herpetological survey carried out on 05 October 2015 for monitoring composition and species diversity in the Guarinó River, a tributary of the Magdalena River in the Central Cordillera of Colombia (5.31694°N, -74.94111°W; WGS84), we found a Colombian Lesserblack Tarantula, *Xenesthis immanis* (Ausserer 1875; Araneae: Theraphosidae), hunting a Palm Rocket Frog, *Rheobates palmatus* (Werner 1899; Anura: Aromobatidae) at the edge of a small creek (<50 cm from the water). The spider was biting the frog on the right hind leg and the middle of the body (Fig. 1A), and holding it while moving in and out of a rock crevice. The frog was still alive one hour after the attack, without apparent signs of poisoning (Fig. 1B).

Theraphosid spiders are nocturnally active generalist predators, which usually use a sit-and-wait strategy (Gallon 2000). Unlike many araneomorphs, theraphosids do not use silk to ensnare prey, using instead two large fangs supplied with venom to hold and kill the prey. However, the venom is relatively non-lethal for some animals. This could explain why the frog in this instance was still alive one hour after the initial attack.

The Colombian Lesserblack Tarantula is a burrow-dwelling spider that captures prey during twilight hours and into the night (Cocroft and Hambler 1989). In the Guarinó area, *X. immanis* is an abundant species commonly associated with bedrock along the edges of streams. In contrast, the Palm Rocket Frog is a diurnally active semi-aquatic species commonly found diving and swimming in puddles or streams or sitting on nearby rocks. These are very fast frogs (Lüddecke, 1999), difficult to capture during daytime when they are active, but much less so at night when they are sleeping under rocks (pers. obs.). Ramírez et al. (2014) published the first record of frog predation by *X. immanis* near the locality of this observation. They observed one spider carrying a Palmer's Treefrog (*Hyloscirtus palmeri* Boulenger 1908; Anura: Hylidae) in its chelicerae while moving between rocks along the creek. Such observations of predation by *X. immanis* on stream-dwelling frogs, such as *H. palmeri* and *R. palmatus*, suggest that these spiders actively forage for such prey, and could be important predators of anurans in this area.

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Fig. 1. Predation by a Colombian Lesserblack Tarantula (*Xenesthis immanis*) on a Palm Rocket Frog (*Rheobates palmatus*) in the Middle Magdalena River Valley, Department of Caldas, Colombia. Lateral (A) and frontal (B) views showing the prey one hour after the initial attack. Note that the frog is alive. Photographs by the senior author.

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