

Predation on *Elachistocleis bicolor* (Anura: Microhylidae) by *Lethocerus annulipes* (Heteroptera: Belostomatidae)

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A great variety of invertebrates prey on adult amphibians, especially when they are aggregated at breeding sites (Wells, 2007). A list of some invertebrate predators of amphibians can be consulted in Toledo (2005) and Wells (2007). Among the most important predators are arachnids, crabs, leeches and various insect groups (Toledo, 2005). Unfortunately, there is little information on the relative importance of amphibians in the diets of most insect species. For example, the giant water bugs can kill between 4% and 8 % of adult frogs in small breeding congregations on a single night (Merilä and Sterner, 2002).

The purpose of this note is to report an adult giant water bug (Belostomatidae) feeding on two adult microhylid frogs *Elachistocleis bicolor*.

On 3 March 2009 at ca. 01:30 h after a heavy rain (100 mm in the last 24 hours) in Ea. El Socorro (28° 41' S, 57° 26' W, datum: WGS84; elev. 65 m), Corrientes province, Argentina, I observed a water bug, *Lethocerus annulipes* (128 mm body length), preying simultaneously on a female and a male of *Elachistocleis bicolor* (SVL = 25 mm and 21 mm, respectively) (Figure 1).

The insect was grabbing the frogs with its raptorial forelimbs, one to each side (at the male with the left leg, and at the female with the right leg), and it punctured the ventral region of the female. When the water bug was disturbed with a pencil it released the male and moved away taking the female, 1 m approximately, and continued feeding on her. During the time of observation (around 15 min) the insect remained submerged, supported on the vegetation of the bottom. In the pond various males *Elachistocleis bicolor* were calling, and no other species of frogs or toads were observed or listened.

The air temperature and water temperature at the time of observation were 23.2 °C and 25.1 °C respectively, and the depth of pond was ca. 15 cm.

The belostomatid is housed at the collection of the Facultad de Ciencias Exactas y Naturales y Agrimensura, Universidad Nacional del Nordeste (UNNE-HET 0475) and the frogs are deposited at the herpetological collection of the Universidad Nacional del Nordeste-Corrientes (UNNEC 10937 and 10938).

Most invertebrate species are generalist predators that feed opportunistically on amphibians when they are available, but shift to other types of food when they are not present (Wells, 2007). Although there are several reports of belostomatids preying on anurans, repeated records may be beneficial as they provide more evidence for an actual predator-prey relationship, and may help determine if any geographic variation occurs in the predator-prey relationship (Toledo 2005).

In the Neotropical region, it have been documented predation by *Lethocerus* spp. on adults frogs *Rhinella ornata*, *Dendropsophus minutus*, *Leptodactylus ocellatus*, *Physalaemus* cf. *fuscumaculatus* (Toledo, 2005), *Barycholos ternetzi* (Oda et al., 2006), *Scinax eurydice* (Pezzuti et al 2008), *Physalaemus cuvieri* (Nenda et al., 2008), *Scinax x-signatus* (Figueiredo de Andrade et al., 2010) and *Hypsiboas faber* tadpoles (Almeida et al., 2008).

To my knowledge, this finding represents the first record of predation on *Elachistocleis bicolor* by belostomatids of genus *Lethocerus*.



Figure 1. *Lethocerus annulipes* preying on a couple of *Elachistocleis bicolor* (the female is upside down at the right of the bug).

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