PREDATION ON SCINAX FUSCOVARIUS (ANURA, HYLIDAE) BY SCOLOPENDRA SP. (CHILOPODA: SCHLOPENDRIDAE) IN THE STATE OF TOCANTINS, CENTRAL BRAZIL.

DEPREDACIÓN DE SCINAX FUSCOVARIUS (ANURA: HYLIDAE) POR SCOLOPENDRA SP. (CHILOPODA: SCHLOPENDRIDAE) EN EL ESTADO DE TOCANTINS, BRASIL.

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Abstract.— Some arthropods groups produce substantial mortality in some vertebrate populations and have complex ecological interspecific interactions with vertebrates. Amphibians are preyed by invertebrates at all life stages, however no invertebrate species is recognized as specialist predator of this group. This short communication reports the predation of anuran by a centipede.

Keywords.— Natural history, feeding, tree frog, Scolopendra.

Resumen.— Algunos grupos de artrópodos producen una mortalidad sustancial en algunas poblaciones de vertebrados y tienen complejas interacciones ecológicas interspecíficas con vertebrados. Los anfibios son depredados por invertebrados en todas las etapas de la vida. Sin embargo, ninguna especie de invertebrado es reconocida como depredadora especializada de este grupo. Esta breve comunicación informa sobre la depredación de la rana por un ciempiés.

Palabras clave. — Historia natural, alimentación, rana arborícola, Scolopendra.

Anurans have a key role in many food chains, acting as either important predators or significant prey, since they are prey for many organisms, such as invertebrates, fishes, other amphibians, reptiles, birds, and mammals (Toledo, 2003, Toledo et al., 2007) and link terrestrial and aquatic ecosystems (Wilbur, 1997; Duellman & Trueb, 1994; Whiles et al., 2006).

Scinax fuscovarius is a small nocturnal hylid with a wide distribution, occurs in Brazil, northern Argentina, Paraguay, and Bolivia, 150-1800 m elevation (e.g., Arrieta & Maneyro, 1999; Achaval & Olmos, 2003; Eterovich & Sazima, 2004; Baldo & Rosset, 2006; Brusquetti & Lavilla, 2006; Canelas & Bertoluci, 2007; Cruz et al., 2009). In Brazil, it occurs in all biomes except the Amazon rainforest (e.g., Morais et al., 2011; Haddad et al., 2013), and in areas with high anthropogenic impact, such as open area and residences (Santana et al., 2013).

There are records of predation of this species by several vertebrates such as snakes (Bernarde et al., 2000; Kokubum & Maciel, 2010; Silva et al., 2011), other anurans (Bezerra et al., 2015), lizards (Maffei et al., 2009); domestic cats (Oda et al., 2010) and birds (Morais et al., 2013); and also, invertebrates such as Odonata larvae (Fulan & Almeida, 2010), water bugs and spiders (Maffei et al., 2014).
Invertebrates are an important component of the food web, serving as prey for many vertebrate groups (McCormick & Polis, 1982; Johnson et al., 2004; Menin et al., 2005; Figueiredo-de-Andrade et al., 2010). However, some arthropods groups also produce substantial mortality in some vertebrate populations (McCormick & Polis, 1982; Toledo et al., 2007) and have complex ecological interspecific interactions with vertebrates (Menin et al., 2005). Amphibians are preyed by invertebrates at all life stages, however no invertebrate species is recognized as specialist predator of this group. Most species are generalist predators that feed opportunistically on available food items (Wells, 2007).

The Chilopoda class is found on every continent except Antarctica (Lewis, 1981; Edgecombe & Gribit, 2007). They have nocturnal habits and prefer damp places, hiding during the day and feeding at night. They are terrestrial, opportunistic, voracious and strictly carnivorous, feeding mainly on insects (Ruppert & Barnes, 1994; Hickman et al., 1997; Dugon & Arthur, 2012a, b; Vijayakumar et al., 2012). Giant centipedes (Scolopendridae) belong to the few terrestrial arthropods can also attack small frogs, toads, lizards, snakes, birds, bats, mice, voles and other small rodents, particularly juveniles (Cloudsley-Thompson, 1955, 1958; Shugg, 1961; Porter, 1973; Lewis, 1981; Easterla, 1975; Clark, 1979; McCormick & Polis, 1982; Carpenter & Gillinham, 1984; Bush et al., 2001; Molinari et al., 2005; Mirza & Ahmed, 2009; Charles & Smith, 2009; Araújo et al., 2012; Jestrzemski & Schutz, 2016; Chiacchio et al., 2017; Lindley et al., 2017).
The record was observed on November 9, 2017 at approximately 22:00h, in the Municipality of Gurupi, State of Tocantins. The predation by Scolopendra sp event occurred in a temporary pond (11.4733444°S, 48.8144°W, 275 m a.s.l WGS 84) while the male of Scinax fuscovarius was vocalizing. During the reported event, other individuals of the same species were also vocalizing. The observation was recorded in video and photography and is maintained in the media files at the Coleção Zoológica da Universidade Federal de Mato Grosso do Sul. The treefrog species was collected and is housed in the Coleção Zoológica da Universidade Federal de Mato Grosso do Sul, Municipality of Campo Grande, Mato Grosso do Sul state, Brazil (ZUFMS-AMP09776; Fig. 1). It was not possible to deposit the chilopodan in the collection, because it escaped soon after the recording.

Vertebrates may be particularly rewarding prey for centipedes because of their nutritional composition, and because the quantity of nutrients per individual prey exceeds that provided by invertebrates (Molinari et al., 2005). However, owing to their comparatively large body size, vertebrates could be dangerous prey for centipedes. Large centipedes do not necessarily avoid potentially combative prey, such as toads and snakes (Carpenter & Gillingham, 1984; Mirza & Ahmed, 2009). Predation on vertebrates is thought to be an occasional behavior among large scolopendrid centipedes.

Ours and previous reports imply that the choice of vertebrates as prey by large centipedes, though opportunistic, might be a relatively frequent behavior. This short communication improves the knowledge on the trophic interactions between arthropods and anurans in Brazil, reporting for the first time S. fuscovarius as a prey of a chilopodan.

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