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NATURAL HISTORY NOTES

PHYLLOMEDUSA IHERINGII: EGG PREDATION. *Phyllomedusa iheringii* Boulenger (1885) is a tree frog that occurs in the Pampa biome of Uruguay and state of Rio Grande do Sul, Brazil (Langone et al., 1985; Frost, 2011). The reproductive period of this anuran species extends from October to December (Achaval & Olmos, 2007). *P. iheringii* uses vegetation to vocalize and to spawn. Eggs of this species hatch into exotrophic tadpoles that drop into lentic water (mode 24 sensu Haddad & Prado, 2005).

Two events of clutch predation of *P. iheringii* were observed. In the first event (15 December 2011), the snake *Liophis jaegeri* Günther (1858) (Colubridae) was recorded consuming the clutch in a swamp edge in Santa Maria municipality, Rio Grande do Sul, Brazil (29°43'15.68"S, 53°43'35.58"O, 92 m). The clutch was deposited at 120 cm height, on leaves of *Eupatorium inulaefolium* (Asteraceae) in the water-body edge. The observation occurred during the night period (at 20:00 h) and there were no adult individuals of *P. iheringii* around the clutch. The snake was wrapped in the vegetation and was eating the clutch with its head into the leaf nest containing the eggs (Figure 1). With observer arrival the snake escaped into the water. We did not find any more clutches on the same vegetation. On the next day (16 December 2011), the snake was found in the same place at about 20:30h, coiled on exactly the same plant.

Clutch predation of *Phyllomedusa* spp. by snakes were reported for *Leptodeira annulata* and *Liophis miliaris* (Castanho, 1996; Martins & Oliveira, 1998). *Liophis jaegeri* occurs in southern Brazil and is associated with flooded environments

Figure 1. *L. jaegeri* eating the clutch of *P. iheringii*. The head of the snake is into the leaf nest containing the eggs, at 120 cm height, in a swamp edge in Santa Maria municipality, RS, Brazil.

Figure 2. Ants (*Camponotus* sp.) attacking eggs of *P. iheringii* in the leaf nest. The nest was in an herbaceous plant, at the margin of a pool, municipality of São Sepé, Rio Grande do Sul, Brazil.

(Lema, 1994). The diet of this snake is composed essentially of anurans (Achaval & Olmos, 2007). However, there is only one case of an anuran clutch predation by *L. jaegeri*, which was on the underground nests of *Leptodactylus plaumanni* (Solé & Kwet, 2003), since *Liophis jaegeri* occupy semiaquatic habitats and is not expected to be found suspended at 120 cm above the vegetation.

The second event of egg predation of *P. iheringii* was observed at 16:00 h on 5 November 2011, in the edges of a pool in the municipality of São Sepé, Rio Grande do Sul, Brazil (30º15'03.9"S, 53º35'05.1"W, 198 m). At least three clutches of *P. iheringii* were found in leaves of *Vernonia tweediana* (Asteraceae), about 20 cm above the water surface. The nests were partly open and the eggs were being attacked by ants (*Camponotus* sp.). The capsules of the eggs were broken and the ants were eating the yolk (Figure 2). The genus *Camponotus* belongs to the subfamily Formicinae and it is a very diverse group (Vittar, 2008). Species of this genus forage in the late afternoon and at night, feeding mainly on nectar and liquid substances (Alsina et al., 1988; Vittar, 2008). Most of the time, they are opportunistic, of a medium to large size and some species have arboreal habits (Silvestre & Silva, 2001; Vittar, 2008).

Amphibian reproductive modes with non aquatic eggs probably reduce predation by aquatic invertebrates, but they expose the eggs to attack from a variety of other predators (e.g. crabs, spiders, beetles, wasps, crickets, and dipteran larvae) (Wells, 2007). In fact, species of beetles, flies and mammals were observed preying on the eggs of two species of *Phyllomedusa* at Floresta Amazônica, where about 77% egg mortality was caused by phorid fly larvae and staphilinid beetles (Neckel-Oliveira & Wachlevski, 2004). These are the first records of clutches predation of *P. iheringii*. We do not know the real impacts of these predations in population dynamics, however ants of *Camponotus* sp. and the snake *L. jaegeri* can be important egg predators where these species coexist.

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HEMIDACTYLUS MABOUIA (Tropical House Gecko): PREDATION. The gekkonid *Hemidactylus mabouia* (Moreau de Jonnès, 1818) has been historically introduced into the New World, establishing itself in many countries of South and Central America (Howard et al., 2001; Anjos & Rocha, 2008), and southern United States (Meshaka, 2000). It presents nocturnal habits, and is often found in anthropic environments (Anjos et al., 2008). Despite its wide geographic distribution, few works have been done on the natural history and ecology of *H. mabouia*, according to Howard et al. (2001). The latest published records of predation of this lizard species were published by Wojnowski & Selempo (2005), which reported the predation of *H. mabouia* by the bat *Cardioderma cor* Peters, 1872, and Diniz (2011), which reported the predation of *H. mabouia* by the spider *Nephilengys cruentata* (Araneae: Nephilidae). This paper reports the predation of *Hemidactylus mabouia* by the bird *Crotophaga ani* Linnaeus, 1758, observed in an urban area.

The observation took place on 06 December 2011, at 13:00 h, within the municipality of Açailândia (4°57'22" S, 47°29'39" W; 248 m), Maranhão state, northeastern Brazil. An adult individual of *C. ani* was perched on a wall located on a vacant lot, when it flew to the ground, captured the lizard with the beak and flew back to the wall, and after to a tree, where predation occurred (Figure 1).

Figure 1. Predation on *H. mabouia* by *C. ani*, observed at Açailândia municipality, Maranhão state, northeastern Brazil. Photo by A. L. Silveira.

C. ani is known for feeding mainly on invertebrates, such as insects and arachnids (Repenning et al., 2009; Ramos et al., 2011). Nevertheless, Repenning et al. (2009) reported the predation of a bird by *C. ani*, indicating that this species can occasionally forage on vertebrates.

We suggest that *H. mabouia* could be an unusual item on the diet of *C. ani*, once this bird presents diurnal habits, contrariwise to this lizard species, which is nocturnal. Thus, the predation event related on this paper should be taken as opportunistic.

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GYMNODACTYLUS GECKOIDES (Naked-toed Gecko): PREDATION. The use of pitfall traps is extremely efficient in the sampling of vertebrates such as amphibians, reptiles and small mammals (Mengak & Guynn, 1987; Condez et al., 2009; Sousa et al., 2010). Several studies have reported the effectiveness of this method (Greenberg et al., 1994; Cechin & Martins, 2000), and others studies have exposed problems (Crosswhite et al., 1999) including mortality of animals inside the traps (Enge, 2001) by desiccation (Jenkins et al., 2003), predation by vertebrates (Ferguson et al., 2008) and invertebrates (Bocchiglieri & Mendonça, 2010). Predation events within pitfall traps are rarely published and until now ther are no reports of predation of *Gymnodactylus geckoides* by giant ants inside these pitfall traps.

Here we report the moment that a species of giant ant *Dinoponera quadriceps* (Hymenoptera, Formicidae: Ponerinae) was observed preying adults individuals of *G. geckoides* (Squamata, Phyllodactylidae) in an area of Caatinga in northeastern Brazil. The observations occurred on May 16, 2010 at 08:54 h and January 21, 2011 at 04:35 h in Monumento Natural Grota do Angico (9°39'50"S, 37°40'57"W; 200 m above sea level; Datum SAD-69) between the municipalities Poço Redondo and Canindé do São Francisco, Sergipe, Brazil. One of the lizards was dead inside the pitfall trap (Figure 1) and the other had its tail predated by ants. *D. quadriceps* is a typical queenless ponerine, a carnivore and solitary, occurring in biomes such as Caatinga, Cerrado and Atlantic Forest (Paiva & Brandão, 1995; Fourcassié & Oliveira, 2002). *G geckoides* is a small lizard that occurs in the Caatinga biome, has diurnal habits and feeds primarily insects (Vanzolini, 2004; Vitt, 1995). The distribution of *D. quadriceps* contrasts with the distribution of *G. geckoides* and can probably occur in interspecific encounters triggering the predation of this lizard by this ant in nature.

Predation of lizards by giant ants have already been reported by Sousa & Freire (2010) who observed that *Coleodactylus natalensis* had been

Figure 1. *G. geckoides* killed by giant ants in pitfall trap (Photo by CBD-Carvalho).

predated by *D. quadriceps* in an Atlantic Forest. Two other species of lizards, *Cnemidophorus ocellifer* and *Hemidactylus brasilianus*, have also been predated by this ant in a pitfall trap in the Caatinga region (Ribeiro et al., 2011). However many other invertebrates can prey on lizards within pitfall traps. Bocchiglieri & Mendonça (2010) report predation of *Tropidurus oreadicus* by *Lycosa erythrognatha* inside pitfall trap in the Cerrado region. This is the first record of predation of *G. geckoides* by giant ants to Caatinga and the state of Sergipe, Brazil.

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PSEUDACRIS STRECKERI ILLINOENSIS (Illinois chorus frog): LARGE WOUND IN HOLOTYPE. Injuries to anurans are relatively common and thus are now seldom reported in the literature. However, I found a healed wound of such a large magnitude in the holotype of *Pseudacris streckeri illinoensis* Smith, I feel it is worth reporting. This small, muscular frog is distributed in relictual populations in sand areas of the central Midwest, USA (Conant & Collins, 1998; Phillips et al., 1999). It is highly fossorial and makes exclusive use of its enlarged forelimbs in forward burrowing (Brown et al., 1972). The holotype (INHS 5982, deposited in the Illinois Natural History Survey) is a sexually mature male collected in the Pleistocene sand area near Meredosia in west-central Illinois, USA in 1950 (Brown & Rose, 1988). The wound is evident by a light yellow scar extending obliquely from behind the left forelimb dorso-anteriorly toward the midline (Figure 1). The scar is not mentioned in the lengthy holotype description by Smith (1951) even though it is quite obvious. The scar is long (8.7 mm) and nearly straight with an opening (2.1 mm in length) where the wound had not completely healed adjacent and somewhat posterior to the anterior region of the scar. Scar tissue lines the sides of this opening and the scar is widest in this area. The integument is quite swollen on the posterior side of the opening. Considerable alcohol emerged from the opening when slight pressure was applied, suggesting that the wound extends into the coelom, at least in this area. The frog otherwise appears quite normal externally and is not emaciated. Its SVL is 39 mm which is near the mean of 37.3 mm for 37 sexually mature males of *P. s. illinoensis* reported by Brown & Means (1984). The length of the wound of the holotype is 22.3% of its SVL. Many vertebrates would probably not be able to survive a wound of this magnitude.

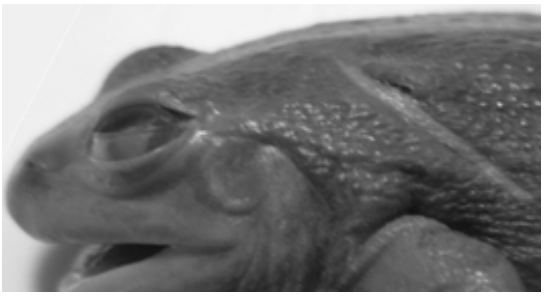

Figure 1. Holotype of *P. streckeri illinoensis* (INHS 5982) showing wound evidenced by long scar (pale gray) extending obliquely from behind forelimb dorso-anteriorly toward the midline. Photo by T. Cheung.

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