



FIG. 1. Amplexant pair of *Rhinella magnussoni* with their egg clutch inside a fruit capsule of the Brazilian Nut Tree (*Bertholletia excelsa*).

the specimens of *R. magnussoni* by the greater abundance of spiculated tubercles along dorsum and parotoid glands, as well as a more rounded snout in lateral view. This reproductive behavior is previously known only for *R. castaneotica* (Caldwell 1991. Pap. Avul. Zool. 37:389–400) and was not reported for *R. magnussoni* in the original description (Lima et al. 2007. Zootaxa 1663:1–15). This reproductive behavior may be more important for these small bufonids in the Amazon than previously acknowledged, indicating the importance of maintaining this ecological process through conservation of the multiple species involved, like *R. magnussoni*, *R. castaneotica*, *B. excelsa*, *C. paca*, and *D. croconota*.

LEANDRO JOÃO CARNEIRO DE LIMA MORAES, Instituto Nacional de Pesquisas da Amazônia - INPA, Manaus, AM, Brazil (e-mail: leandro.jclm@gmail.com); **LUIS FERNANDO STORTI**, Universidade Estadual de Londrina - UEL, Londrina, PR, Brazil; **DANTE PAVAN**, Ecosfera Pesquisa e Consultoria Ambiental, São Paulo, SP, Brazil.

RHINELLA SCITULA (Cope's Toad). **PREDATION**. Fish are considered major predators of amphibian larvae in aquatic environments (Petranka et al. 1983. Copeia. 1983:624–628; Hecnar and M'Closkey 1997. Biol. Conserv. 79:123–131). However, the vast majority of the reports of vertebrates preying on adult amphibians are about reptiles, with few fish species reported (Toledo et al. 2007. J. Zool. 271:170–177). *Rhinella scitula* is a toad species that occurs primarily on well-preserved riparian forests at the southwest of Mato Grosso do Sul state, and is the most abundant anuran on Serra da Bodoquena Plateau (Uetanabaro et al. 2007. Biota Neotrop. 7:279–289). Nevertheless, there are no reports of predation in this species.

Remnants of an adult *R. scitula*, such as the head, skin, ribs, and femurs, were found in the guts of two *Rhamdia quelen* (Silver Catfish) individuals that were captured on 27 October 2006 within Salobrinha stream (20.6852°S, 56.7788°W; datum WGS84). The toad remnants were photographed and deposited in the Coleção Zoológica de Referência da Universidade Federal de Mato Grosso do Sul (ZUFMS-IMG 0015), as were the two individuals of *R. quelen* (ZUFMS-PIS 3956). *Rhamdia quelen* is an omnivorous, nocturnal catfish whose natural range covers the whole neotropical region. Despite the well-known opportunistic feeding behavior of this catfish (Gomes et al. 2000. Cienc. Rural 30:179–185; Casatti 2002. Biota Neotrop. 2:1–14), this is the first published evidence that they prey upon anurans.

The identification of the toad was provided by Franco Leandro de Souza (Universidade Federal de Mato Grosso do Sul).

FRANCISCO SEVERO-NETO, Laboratório de Zoologia, Universidade Federal de Mato Grosso do Sul, Cidade Universitária, CEP 79070-900, Campo Grande, MS, Brazil (e-mail: netosevero@hotmail.com); **JOSÉ LUIZ MASSAO M. SUGAI**, Laboratório de Ecologia, Universidade Federal de Mato Grosso do Sul, Cidade Universitária, CEP 79070-900, Campo Grande, MS, Brazil (e-mail: jlmassao@gmail.com).

THELODERMA TRUONGSONENSE (Truongson Bubble-nest Frog). **FOOT-FLAGGING BEHAVIOR**. At 2200 h on 01 June 2011 following heavy rains during the day, a *Theلودerma truongsonense* was observed perched approx. 1 m above the ground on a fern along a forest trail through primary forest in a basin laced with creeks at the south end of the Annamite Cordillera, ca. 6.43 km S of the village of Lang Vo, Quang Ngai Province, central Vietnam (14.61502°N, 108.61502°E, datum WGS84; elev. 931 m). The frog was not calling and no other frogs were observed nearby. It was observed to raise and extend its left rear leg, spread its toes, and rotate the extended limb in a wide circular motion (Fig. 1). It repeated this motion a few seconds later. Foot flagging is a visual territorial display used by some frogs in environments where auditory signals would be drowned out by background noise (Richards and James 1992. Mem. Queensland Mus. 32:302; Davison 1994. Sarawak Mus. J. 33:177–178). However, this observation took place in a setting with virtually no noise, save the calling of insects. Prior to this observation, foot flagging has been noted only once before in Rhacophoridae for another species: *Theلودerma bambusicolum* (Orlov et al. 2012. Russ. J. Herpetol. 19:23–64). This new observation may indicate that foot-flagging behavior is more widely represented in the genus *Theلودerma* and perhaps the family Rhacophoridae than previously known.



FIG. 1. *Theلودerma truongsonense* rotating its left hind limb in a foot-flagging signal.

RANDALL D. BABB, Arizona Game and Fish Department, Region VI Office, 7200 E. University Dr., Mesa, Arizona 85207, USA; e-mail: rbabb@azgfd.gov.

TESTUDINES — TURTLES

CHELONOIDIS CHILENSIS (Chaco Tortoise). **PREDATION**. *Chelonoidis chilensis* is the southernmost continental tortoise in the world (CeI 1986. Reptiles del Centro, Centro-oeste y Sur de la Argentina. Herpetofauna de las Zonas Áridas y Semiáridas.

Museo Regionale di Scienze Naturali, Mongr. 4. Torino, Italy). It is distributed from southwestern Bolivia and western Paraguay to northern Chubut, Argentina (Richard 1999. *Tortugas de las Regiones Áridas de Argentina*. L.O.L.A., Buenos Aires. 200 pp.). This species is threatened by reduced availability of suitable habitat due to agricultural expansion, leading to the destruction and fragmentation of the Espinal and Chaco forest, which are replaced by crops or ranching. Other threats include competition with sheep and goats (Prado et al. 2012. *Cuad. Herpetol.* 26:375–387), soil compaction by livestock (degrading tortoise nesting sites) (Waller and Micucci 1997. *In* J. Van Abbema [ed.], *Proceedings: Conservation, Restoration and Management of Tortoises and Turtles—An International Conference*, pp. 2–9. New York Turtle and Tortoise Society, New York); fires set to promote the regrowth of pasture (Richard 1999, *op. cit.*), and the illegal pet trade, as this species is the most traded native reptile in Argentina. This species is included on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and is considered to have a conservation status of Vulnerable by the IUCN (The IUCN Red List of Threatened Species. Version 2014.2. <www.iucnredlist.org>, accessed 07 August 2014). During the juvenile stage, this species is especially vulnerable to attack by natural predators such as ferrets, skunks, small cats, *Tupinambis* lizards, and many species of birds. Adults have fewer natural predators, which include foxes, Cougars, and Crowned Eagles (Chebez 2008. *Fauna Argentina Amenazada* 1:219–231).

Here we report evidence of predation of *C. chilensis* by Wild Boars (*Sus scrofa*) in a natural environment located 45 km N of San Antonio Oeste, Río Negro Province, Argentina (40.396°S, 64.750°W, datum WGS84; elev. 125 m). Since the introduction of the Wild Boar in La Pampa province in the early twentieth century (Jaksic et al. 2002. *Biol. Invasions* 4:157–173), the Wild Boar population has expanded and become established in a variety of environments, and currently inhabits at least nine provinces of Argentina. In the study site, the presence of Wild Boar increased since 1972 with the construction of the Pomona Channel (pers. obs.), built to supply drinking water to San Antonio Oeste. Until that time, adult tortoise shells found were always intact. In contrast, following the establishment of Wild Boar at the site, we now find shells of adult tortoises with the plastron opened indicative of attack by Wild Boars.

We can include the Wild Boar as another potential threat to the Chaco Tortoise and urge that the presence of Wild Boar be considered during the development of strategies and priority actions to conserve this vulnerable species.

ERIKA KUBISCH, MARIA EUGENIA ECHAVE, and LUIS ALBERTO ECHAVE, Departamento de Zoología, Laboratorio de Ecofisiología e Historia de vida de Reptiles, INIBIOMA–CONICET, Centro Regional Universitario Bariloche, Universidad Nacional del Comahue, San Carlos de Bariloche (8400), Río Negro, Argentina (e-mail: erikubisch@gmail.com).

CHELYDRA SERPENTINA (Common Snapping Turtle). NESTING AGGREGATION. On the evening of 15 June 2014, I witnessed four adult female *Chelydra serpentina* digging nests simultaneously. I arrived at the site (described below), at 2102 h. The skies were overcast and it had recently rained. The air temperature was 11°C and sunset was at 2129 h; I stayed until 2145 h and made several observations. Conditions were similar the previous and following evenings, except that there had been no rainfall on those occasions.

The study site, Dingman's Marsh (45.7025°N, 84.6903°W), is an impoundment formed by a 360-m earthen levy (ca. 3 m

in height) built across Mill Creek by the Michigan Department of Natural Resources (MDNR) and Ducks Unlimited in 1959 to increase habitat for waterfowl. The area is managed by MDNR. It is a well-known birding site located ca. 20 km N of the University of Michigan Biological Station (Heinen and Vande Kopple 2003. *Nat. Areas. J.* 23:165–173), Cheboygan Co. Michigan, USA. The surface area of the marsh is ca. 3.5 km², and it drains an area of ca. 25 km².

The turtles ranged in size from ca. 26–33 cm total carapace length, estimated visually. The largest female was digging her nest in the middle of the two-track on top of the levy, and the other three were digging nests in short vegetation on the marsh side of the levy, in areas distant from nearby swamp forests such that they receive full sunlight throughout daytime. All four turtles allowed approach to within one meter without showing defensive behaviors (e.g., hissing or mouth gaping). Two of the turtles were nesting within 1 m of each other, and the third was about 10 m to the southwest of them. The fourth turtle, the largest, was another 15 m farther west along the levy two-track.

It was also apparent that all four turtles had dug in several places immediately adjacent to where I saw them. This behavior, described for other species, could be advantageous in odor-masking nests from predators (but see below), or an attempt to find appropriate incubation sites given the heterogeneity of soil particles (silts to coarse gravels) that comprise the levy.

Since I had visited at the same time the evening before, under generally similar weather conditions, and saw no nesting attempts or turtles, I suspect that this may have been a case of synchronous nesting. However, given the size of the marsh and the relative abundance of *C. serpentina*, I was surprised to see only four individuals. On another occasion several years earlier, I saw a simultaneous nesting event for *Chrysemys picta marginata* (Midland Painted Turtles) at the site, and counted over 50 individuals digging nests along the same short (ca. 100 m) stretch of levy two-track. Individual *Chelydra serpentina* are sometimes known to travel long distances overland to nest, and because the adjacent areas are mostly dense *Alnus* sp. (alder) and *Thuja occidentalis* (Northern White Cedar) swamps, other nesting turtles may have been overlooked. Other portions of the marsh are inaccessible except by boat.

Although synchronous nesting is known for a number of turtle species, there is little known about it in this species. Given the tendency of some individual *C. serpentina* to travel long distances overland to nest (Ernst and Lovich 2009. *Turtles of the United States and Canada*. 2nd ed. Johns Hopkins Univ. Press, Baltimore, Maryland. 827 pp.), it is difficult to conceive how this behavior could provide a predator satiation defense as hypothesized for some other species. Thus, an alternate explanation for this observation could be as simple as female turtles independently drawing on the same cue, such as day length coupled with recent rainfall (which may mask scents; Bowen and Janzen 2005. *J. Herpetol.* 39:649–652), to emerge and lay eggs.

I returned to the marsh the next night (16 June 2014) at 2050 h and stayed until well after sunset to see if there were any more nesting turtles. There were none observed, perhaps lending support to the previous day's event representing a synchronous nesting. The nests of the two largest turtles were destroyed and the eggs were eaten. From shell remnants, I counted 41 eggs from the largest female's nest, and 35 from the second largest female's nest. The areas were disturbed around the two smaller females' nests, but the chambers were not dug out, and there were no