

On 24 February 2005 a female *T. atacamensis* (SVL = 60.4 mm) was found in a small lateral pool (ca. 200 × 300 cm, 50 cm deep) that had lost contact temporarily with the stream Los Patos (24.3108°S, 66.2162°W, WGS84; 3945 m elev.), close to San Antonio de Los Cobres. The female was fixed 12 h after collection (FML SB0157). Upon examination of the female's stomach contents, a juvenile of the same species (SVL ca. 28 mm) was found. It was only partially digested at the anterior part of the head and therefore was perfectly recognizable. In the same pool, four adult *T. atacamensis* were found and many tadpoles and juveniles were observed.

This is the first case of cannibalism in *T. atacamensis*. Cannibalism has been recorded among species of *Telmatobius* so far only in *T. culeus* (Pérez Bejar 1998. Unpubl. dissertation Universidad de San Andres, Bolivia). Among the species of Ceratophryidae, a phylogenetically related group, cannibalism is common both in adults and larvae (Schalk et al. 2014. South. Am. J. Herpetol. 9:90–105). Cannibalism in aquatic environments has been associated with high concentrations of several cohorts in small bodies of water, a condition observed in our study site.

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**THELODERMA ASPERUM** (Hill Garden Bug-eyed Frog). **DEFENSIVE BEHAVIOR.** Amphibians exhibit a wide range of defensive behaviors that differ between taxonomic groups (Toledo et al. 2011. Ethol. Ecol. Evol. 23:1–25). Herein, we report the anti-predator behavior of a southeast Asian rhacophorid frog, *Theلودerma asperum*. This genus currently includes 23 recognized species (Frost 2014. <http://research.amnh.org/vz/herpetology/amphibia/>; 31 Mar 2015). *Theلودerma asperum* inhabits lowland to mountain forests from northeast India through Myanmar and adjacent China, upland Thailand, Laos, central and northern Vietnam to southwest Guangxi and south Indonesia (Sumatra).

At 2308 h on 27 June 2012, we captured an adult female *T. asperum* (SVL = 30 mm) on vegetation (ca. 2 m above the forest floor) near Sa Pa town in mountainous subtropical forest of Hoang Lien Mountains, northern Vietnam (22.328°N, 103.826°E, WGS84; 1266 m elev.). After its capture, the individual was put on the ground where it immediately curled up into an arched and rigid posture. The head was ventrally flexed, all limbs were bent and kept close to the body (Fig. 1). Eyes were closed the whole time and the individual remained in this position for at least 15 min (Fig. 1A) and remained arched and motionless during subsequent handling (Fig. 1B). No defensive call or smell was emitted.

We consider the defensive behavior shown in this case as "shrinking or contracting behavior" (sensu Toledo et al. 2010. J. Nat. Hist. 44:1979–1988; Toledo et al. 2011, *op. cit.*), a type of death feigning (or thanatosis) behavior. There is a published technical report that gives a similar description of this behavior in *T. asperum* (see Pawar and Birand 2001. A Survey of Amphibians, Reptiles, and Birds in Northeast India. Centre for Ecological Research and Conservation, Mysore, India. 120 pp.). The genus *Theلودerma* is well known for cryptic coloration and body shape (e.g., Vitt and Caldwell 2014. Herpetology: An Introductory Biology of Amphibians and Reptiles. 4<sup>th</sup> ed., Elsevier, San Diego, California; Rauhaus et al. 2012. Asian J. Conserv. Biol. 1:51–66), which are types of passive defense employed by anurans (Toledo et al. 2011, *op. cit.*). For example, *T. asperum* is a tree bark and potentially a bird-dropping mimic and *T. corticale* (Mossy Frog) is mottled green and brown and resembles moss growing on rock

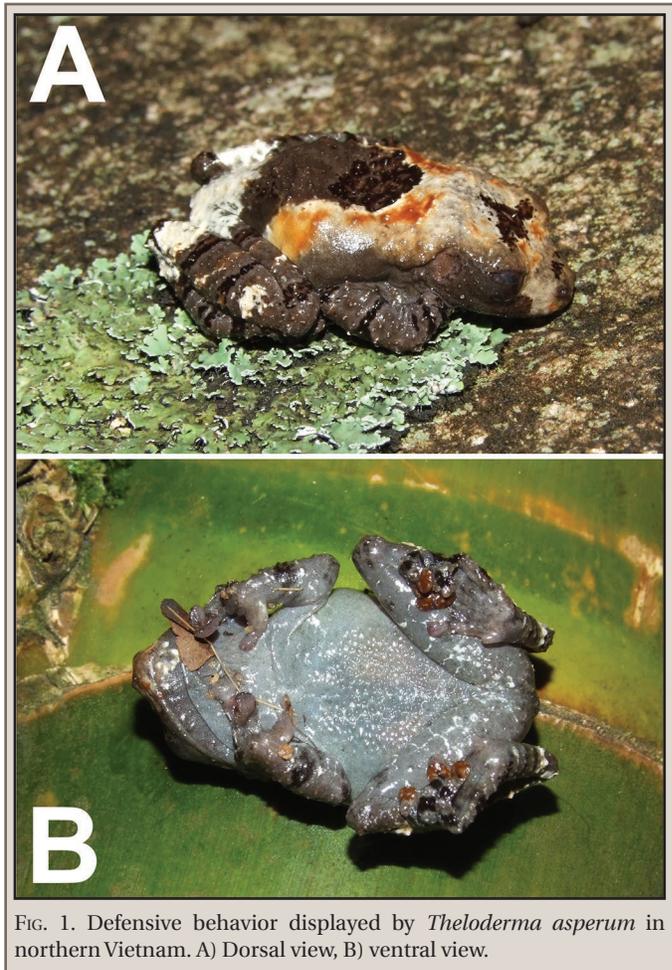


FIG. 1. Defensive behavior displayed by *Theلودerma asperum* in northern Vietnam. A) Dorsal view, B) ventral view.

(Vitt and Caldwell 2014, *op. cit.*). Therefore, they may use contracting behavior in addition to cryptic coloration to evade predation. A similar case of defensive behavior has been reported for another member of the family Rhacophoridae, *Rhacophorus feae* (Fea's Treefrog; Vinh et al. 2013. Herpetol. Rev. 44:129).

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**ZACHAENUS CARVALHOI** (Carvalho's Bug-eyed Frog). **DIET.** Frogs in the genus *Zachaenus* (Cycloramphidae) are associated with leaf litter in forested areas and are endemic to the Atlantic Forest of Brazil (Izecksohn 1982. Arq. Univ. Fed. Rural. R. de Janeiro 5:7–11). The information on diet for this genus is exclusive to *Z. parvulus* (Van Sluys et al. 2001. J. Herpetol. 35:322–325). Herein we present data on the diet of specimens of *Z. carvalhoi* present in the collections of the Universidade Federal de Juiz de Fora (UFJF 663, 674–678, 692, 708, 753, 760, 773, 781, 792–800, 819–830, 863–865) collected at three forest fragments in the municipality of Juiz de Fora, state of Minas Gerais, Brazil: Fazenda Floresta (21.7425°S, 43.2922°W; WGS84), Reserva Biológica Municipal Poço D'Anta (21.7541°S, 43.3108°W), and Parque Municipal da Lajinha (21.7922°S, 23.3808°W). We found identifiable items in 17 out of the 36 guts examined. The items were identified to the lowest possible taxonomic level. The primary items found were Coleoptera (76%) and Hymenoptera (ants; 58%), and occasional items were Myriapoda (11%), Arachnida