Oligacanthorhyncidae (Schmidt 1985. *In* Crompton and Nickol [eds.], Biology of the Acanthocephala, pp. 273–305. Cambridge University Press, Cambridge, UK). Development to the adult worm occurs when the amphibian is eaten by a suitable definitive host.

One female was infected with both *Mesocestoides* sp. and *O. pipiens* and one male (SVL = 70.0 mm) was infected with all four parasite species. Both *Mesocestoides* and *O. pipiens* have been reported in *Anolis carolinensis* (Green Anole) from Louisiana (Conn and Etges 1984. Proc. Helminthol. Soc. Washington 51:367–369) and in *S. hurterii* from Oklahoma previously (McAllister et al. 2005. Texas J. Sci. 57:383–389). *Cosmocercoides variabilis* has been reported from *Gastrophyrne carolinensis* (Eastern Narrowmouth Toad) from Louisiana (McAllister and Bursey 2005. Comp. Parasitol. 72:124–128) and from *S. hurterii* in Oklahoma (McAllister et al. 2005, *op. cit.*).

In summary, the acanthocephalan cystacanth represents a new paratenic host record for *S. hurterii* (HWML 64768), although not a new geographic record for the parasite in Louisiana (Elkins and Nickol 1983. J. Parasitol. 69:951–956). We suggest that additional *S. hurterii* from other parts of Louisiana be examined as new host and distributional records may be added to the growing list of helminths of this amphibian.

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***SCAPHIOPUS HURTERII* (Hurter's Spadefoot). REPRODUCTION.** *Scaphiopus hurterii* is considered an explosive breeder associated with torrential rainfall. Because of these requirements, they are seldom observed breeding. Between 11 March and 3 April 2012, we observed this species breeding three times during torrential rainfall events at a site in extreme northern Louisiana (3.8 km NE Spearsville, Union Parish, Louisiana, USA; 32.9562°N; 92.5718°W, WGS 84). On 11 March (ambient temperature 16.1°C), we discovered a breeding site (Fig. 1A), consisting of a temporary pool in a cattle pasture and were able to capture a total of eight toads (five males, three females). On 21 March (ambient temperature 12.2°C), we were able to document another breeding event at the same site and were able to capture 11 individuals (nine males, two females). Finally, on 03 April (ambient temperature 15.5°C), we observed another breeding event and were able to capture six individuals (five males, one female). The mean snout-vent length (SVL) for a small sample of adult individuals was 63.2 mm (range 57–68 mm) for six females and 67.4 mm (range 62–71 mm) for nine males. Our male-biased captures are likely the result of our sampling time (ca. 2200–2400 h), since males migrate to breeding site first and start calling to attract females. Both calling males and amplectant pairs were observed during all three of these events. Previously, the lowest air temperature for calling males in Louisiana was 16°C (Dundee and Rossman 1989. The Amphibians and Reptiles of Louisiana. Louisiana State University Press, Baton Rouge, Louisiana. 300 pp.); however, rainfall more so than ambient temperature is likely a predictor of breeding. We also collected six egg clusters that were laid on vegetation (Fig. 1B) and mean egg counts were 100.8 (range 49–131). This is comparable to mean egg cluster counts of 111.8 in Arkansas (Trauth and Holt 1993. Bull. Chicago Herpetol. Soc. 28:236–239). Voucher specimens were deposited within the Arkansas State University Museum of Zoology (ASUMZ) Herpetology Collection, State University, Arkansas as ASUMZ 32017–32025.

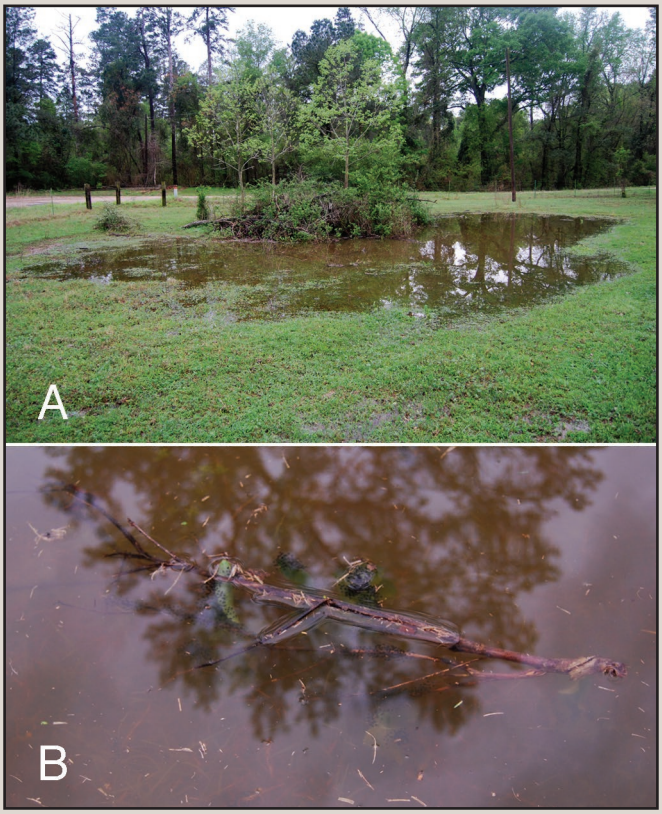


FIG. 1. A) *Scaphiopus hurterii* breeding site in Union Parish, Louisiana. B) *S. hurterii* egg clusters attached to vegetation in the temporary breeding pool in top photo.

This research was conducted under a Louisiana Department of Wildlife and Fisheries scientific collecting permit.

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***TELMATOBIUS ATACAMENSIS* (Atacama Water Frog). CANNIBALISM.** Among anurans, cannibalism has been documented both in tadpoles preying on conspecific eggs or tadpoles and in adults preying on those stages and/or on other postmetamorphic individuals (Polis and Myers 1985. J. Herpetol. 19:99–107). *Telmatobius atacamensis* is a medium-sized aquatic frog living in high altitude streams of a restricted area of the Puna Plateau of Salta Province, in northern Argentina (Lavilla and Barrionuevo 2005. Monogr. Herpetol. 7:115–165). As in most of the 62 species of *Telmatobius*, the diet of *T. atacamensis* is unknown, although some data exist for nine species (e.g., Lavilla 1984. Acta Zool. Lilloana 38:51–57; Wiens 1993. Occ. Pap. Mus. Nat. Hist. Univ. Kansas 162:1–76; Formas et al. 2005. Monogr. Herpetol. 7:103–114).

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 antipredator behavior of a southeast Asian rhacophorid frog, *Theloderma asperum*. This genus currently includes 23 recognized species (Frost 2014. http://research.amnh.org/vz/herpetology/amphibia/; 31 Mar 2015). *Theloderma 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 *Theloderma* is well known for cryptic coloration and body shape (e.g., Vitt and Caldwell 2014. Herpetology: An Introductory Biology of Amphibians and Reptiles. 4th 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 *Theloderma 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