

to 1980) or for relatively undisturbed sites (e.g., Ouellet et al. 1997. *J. Wildl. Dis.* 33:95–104; McCallum and Trauth 2003. *J. Wildl. Dis.* 39: 522–528; Eaton et al. 2004. *J. Herpetol.* 38:283–287). The two ponds (Spring Peeper and Olde Minnow) where we found deformities were also the ponds with the slowest tadpole growth rates, smallest metamorphs, and highest numbers of predators (mosquitofish and dragonfly nymphs) (G. R. Smith et al., unpubl. data).

Submitted by **GEOFFREY R. SMITH, CHRISTOPHER J. DIBBLE, ALLISON BOYD, MEGAN E. OGLE, ANDREW J. TERLECKY, and CHRISTOPHER B. DAYER**, Department of Biology, Denison University, Granville, Ohio 43023, USA (e-mail: smithg@denison.edu).

**BUFO TERRESTRIS** (Southern Toad). **ARBOREAL BEHAVIOR.** North American *Bufo* are highly terrestrial ground-dwellers. Only a few accounts describe climbing behavior: a *Bufo americanus* climbing a steep rocky incline in Tennessee, USA (G. Lepera, pers. comm.), *B. marinus* found in natural tree holes in Venezuela (Mijares-Urrutia et al. 1996. *Herpetol. Rev.* 27:138), and *B. valliceps* in arboreal refugia in Texas, USA (Neill and Grubb 1971. *Copeia* 1971:347–348). Here, I report an observation of a *B. terrestris* using an arboreal tree cavity as a refuge on Cumberland Island, Camden County, Georgia, USA.

At 2230 h on 23 Sept 2006, I found a funnel-shaped cavity (ca. 10 cm wide by 15 cm deep) at a height of ca. 1.6 m on a mature oak (*Quercus* sp.). The cavity likely originated from a branch that broke at its base, with subsequent decomposition of the heartwood. Inside the hollow, I found an adult *Bufo terrestris* resting about 10 cm from the entrance. The toad retreated inside the hollow, which slightly curved towards the trunk of the tree and stopped at what coincided with the middle of the branch. I probed the hollow with a piece of grass in an attempt to determine whether it continued past the curve, but I was unsuccessful in finding an opening. The toad inflated its body, raised its back, and pointed its paratoid glands at me, but did not retreat further.

I was unable to discern how the toad reached the cavity. Because of the relative remoteness of the locality, it is unlikely that humans put it there. Either the toad climbed up the outside of the vertical trunk until it reached the hollow's opening, or it used a vertical open space within the tree's trunk and followed it until it reached the cavity. However, no external opening to such an internal cavity was found at the base of the tree.

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Submitted by **YURI V. KORNILEV**, Department of Wildlife Ecology and Conservation, University of Florida, Gainesville, Florida 32611, USA; e-mail: yukornilev@gmail.com.

**BUFO WOODHOUSII** (Woodhouse's Toad). **CANNIBALISM.** Little information exists on the feeding habits of *Bufo woodhousii* although they are presumed to feed on a variety of invertebrates (Lannoo 2005. *Amphibian Declines. The Conservation Status of United States Species.* Univ. California Press, Berkeley. 1094 pp.). In Kansas, *B. woodhousii* has been reported to feed on bees, beetles,

insect larvae, spiders, and ants (Smith 1934. *Amer. Midl. Nat.* 15:377–528). Smith and Bragg (1949. *Ecology* 30:333–349) examined the stomach contents of 517 adult and 43 juvenile *B. woodhousii* from Oklahoma and reported no vertebrate remains. However, Smith and Bragg (*op. cit.*) reported the consumption of a small lizard by a juvenile *B. woodhousii* maintained in captivity. In Nebraska, *B. woodhousii* is reported to feed on beetles, ants, spiders, and other invertebrates (Hudson 1942. *Nebraska Cons. Bull.* 24:1–146).

During summer 2006, 56 *B. woodhousii* were collected at Beckius Pond (41.12529°N, 101.37276°W) Keith Co., Nebraska. Twenty-eight toads were collected during the night (2230–2330 h) on 23 July 2006 and 28 toads were taken during the day (1430–1530 h) on 27 July 2006. Toads were placed in refrigeration until dissection. Toads were euthanized and SVL and gape size were recorded to the nearest mm for each individual. The stomach, small intestine, and large intestine were removed, and the stomach was separated from the rest of the gastrointestinal tract. Each stomach was opened and preserved in 70% ethanol. The stomach contents were examined under a dissecting microscope, and identified into several broad categories and recorded as frequencies of organism ingested. Arthropods were identified to order according to Triplehorn and Johnson (2005. *Borror and DeLong's Introduction to the Study of Insects.* 7<sup>th</sup> ed. Thomson, Brooks/Cole. 864 pp.).

Toads ranged from 2.9–7.3 cm SVL (mean 4.5 ± 1.2 cm) and gape size 8–28 mm (mean 1.67 ± 0.47 cm). Toads fed on 11 different groups of arthropods; 1944 items were recovered from stomach contents, including Diptera (1440), ants and other Hymenoptera (378), Coleoptera (93), Orthoptera (10), Hemiptera (8), Odonata (6), Pseudoscorpiones (3), Araneae (2), Lepidoptera (2), Homoptera (1), and Isopoda (1). Additionally, three toads contained remains of four smaller *B. woodhousii*. A single male collected at night (SVL 6.7 cm) contained one partially digested *B. woodhousii* (ca. 2.5 cm), and two toads (one female SVL 6.1 cm; one male SVL 6.6 cm) collected during the day contained one and two partially digested *B. woodhousii* (ca. 2.0–2.5 cm), respectively.

Although there are reports of ranids feeding on bufonids (Pearl and Hayes 2002. *Am. Midl. Nat.* 147:145–152) and ranid cannibalism (Stuart and Painter 1993. *Herpetol. Rev.* 24:103) we are not aware of any reports of bufonid cannibalism. These are important observations as many bufonids are considered ant and beetle specialists (Clarke 1974. *Am. Midl. Nat.* 91:140–147; Smith and Bragg, *op. cit.*).

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Submitted by **MATTHEW G. BOLEK, KRISTIN K. BROTON, RACHELE. RUDOLPH, and JOHN JANOVY JR.**, School of Biological Sciences, Univ. Nebraska—Lincoln, Lincoln, Nebraska 68588-0118, USA (e-mail: mbolek@unlserve.unl.edu).

**CHAUNUS ARENARUM** (Argentine Toad). **ENDOPARASITES.** *Chaunus arenarum* ranges from northern Jujuy Province to the southern borders of Neuquén Province reaching 2400 m in La Rioja Province, Argentina. The species also occurs in southern Brazil, Uruguay, and Bolivia (Cochabamba) (Ceï 1980. *Amphib-*