vegicus. At time of death, the snake measured 645 mm SVL and 105 mm tail length. The size at time of collection, indicates that it likely hatched in 1978 or earlier, making this snake at least 29 years old when it died. Previous records for this species (Slavens 1981. Inventory of Live Reptiles and Amphibians in North American Collections, Current January 1, 1981. Woodland Park Zoological Gardens, Seattle, Washington; Snider and Bowler 1992. Longevity of Reptiles and Amphibians in North American Collections, 2nd ed. Herpetol. Circ. 21) do not indicate a specimen older than 22 years. The specimen is deposited in the Texas Natural History Collections (TNHC 66571).

Submitted by **STEPHEN J. MULLIN**, Department of Biological Sciences, Eastern Illinois University, Charleston, Illinois 61920, USA; e-mail: sjmullin@eiu.eiu.

SIBON LONGIFRENIS (Drab Snail-eater). **REPRODUCTION.** The genus *Sibon* is one of four groups of neotropical snake specialized for foraging on snails, slugs, and also amphibian eggs (Montgomery et al. 2007. Herpetol. Rev. 38:343). *Sibon longifrenis* is a small nocturnal and arboreal species previously found in Honduras, Costa Rica, and Panama. In Costa Rica it inhabits undisturbed Atlantic Lowland Wet and Moist Forests, Premontane Wet Forests, and Rainforest. It is a seldom seen snake that inhabits deep shady forest (Leenders 2001. A Guide to the Reptiles and Amphibians of Costa Rica. Zona Tropical, Miami, Florida. 305 pp.; Savage 2002. Amphibians and Reptiles of Costa Rica. University Chicago Press, Chicago, Illinois. 934 pp.).

On 14 November 2002, while conducting transect-based surveys, I found a female *S. longifrenis* (288 mm SVL, 135 mm tail, 9.7 g) in the forests of Caño Palma Biological Station, Tortuguero, Limón Province. The snake was moving across a palm tree leaf (*Manicaria saccifera*) at a height of ca. 2 m in an area of wet primary swamp forest (25.4°C, 97%RH). I captured the snake and held it overnight in order to verify identification and measure it. During the night the snake laid two elongate, white eggs (10.0 x 26.1 mm, 1.24 g; 10.1 x 24.8 mm, 1.25 g) in a terrarium. After laying her eggs, the snake weighed 7.1 g. The eggs were placed inside a small terrarium in conditions intended to mimic natural circumstances. Unfortunately by 25 December 2002 both eggs had brown fungi on their surfaces and inspection revealed partially developed dead embryos inside.

Guyer and Donnelly (2005. Amphibians and Reptiles of La Selva, Costa Rica and the Caribbean Slope. University of California Press, Berkeley. 367 pp.) reported *S. longifrenis* as 'presumably an egg-layer.' To the best of my knowledge, this is the first report of clutch size in *S. longifrenis*. Egg-laying has been reported for only a handful of *Sibon* species, but all previously reported clutch sizes range from 2–9 eggs (Kofron 1987. J. Herpetol. 21:210–225; McCoy 1990. Carib. J. Sci. 26:162–166; Campbell 1998. Amphibians and Reptiles of Northern Guatemala, the Yucatan, and Belize. University of Oklahoma Press, Norman, Oklahoma. 380 pp.). November and December are wetter periods for the Tortuguero region and Caño Palma Biological Station receives most of its rainfall around this time.

I thank the Canadian Organization for Tropical Education and Rainforest Conservation, Ministerio de Recursos Naturales Energia y Minas, and Farnborough College of Science and Technology for permissions and assistance.

Submitted by **TODD R. LEWIS**, 4 Worgret Road, Wareham, Dorset, BH20 4PJ, United Kingdom; e-mail: biotropical@gawab.com.

THAMNOPHIS ATRATUS ATRATUS (Santa Cruz Gartersnake). **DIET**. The interaction between the newt *Taricha granulosa* and the gartersnake *Thamnophis sirtalis* provides a model system for the study of predator-prey coevolution (e.g., Brodie and Brodie 1999. Bioscience 49:557–568). Newts of the genus *Taricha* possess tetrodotoxin (TTX) in their skin and other tissues (Mosher et al. 1964. Science 144:1100–1110; Wakely et al. 1966. Toxicon 3:195–203), which acts as a powerful chemical defense against nearly all potential predators (Brodie 1968. Copeia 1968:307–313). Despite the fact that TTX is a potent neurotoxin, *T. sirtalis* in a number of California and Oregon populations prey on *T. granulosa* (Brodie and Brodie 1990. Evolution 44:651–659; Brodie and Brodie 1991. Evolution 45:221–224). In fact, concentrations of TTX in *T. granulosa* and levels of resistance in *T. sirtalis* generally covary over much of the West Coast in a pattern consistent with an evolutionary arms-race of adaptation and counter-adaptation (Brodie et al. 2002. Evolution 56:2067–2082; Hanifin et al. 2008. PLoS Biol. 6:e60). Until recently, this TTX-mediated coevolution was thought to include only two ecological partners, *T. sirtalis* and *T. granulosa*. However, a similar interaction between gartersnakes and newts was recently discovered in the Sierra Nevada Mountains of California; *T. couchii* prey on both *T. torosa* (Brodie et al. 2005. J. Chem. Ecol. 31:343–356) and *T. sierrae* (Wiseman and Pool 2007. Herpetol. Rev. 38:344–345) and are resistant to TTX at levels concordant with toxicity in sympatric *T. torosa* (Brodie et al. 2005, *op. cit.*). Here we detail a field observation of a *T. atratus* preying on a *T. granulosa*. Our report is significant because it is the first to document predation by *T. atratus* on metamorphosed *Taricha* in the wild, and hints at yet a third arms-race between gartersnakes and newts.

On 13 October 2006 at 1411 h, at Monte Bello Pond (MB05) in the Santa Cruz Mountains, Santa Clara County, California (37.32108°N, 122.18548°W; 576 m elev.), RRG observed an adult *T. atratus atratus* (~ 75 cm SVL) swim ashore with a subadult *T. granulosa* (~ 5 cm SVL) firmly held in its mouth (Fig. 1). The snake settled on the south edge of the pond, characterized by a gentle grade and only sparse vegetation, where it held the newt high off the substrate (~ 15 cm) but kept the majority of its own body anchored in the shallows. The snake gripped the newt through the midsection and proceeded to manipulate the prey deeper into its mouth. The newt struggled to free itself and appeared to exude a milky white liquid along its dorsal surface (glandular secretions including TTX; Cardall et al. 2004. Toxicon 44:933–938), but by 1414 h (3 min) the snake had already succeeded in swallowing the newt tail-first. The snake briefly rested (1 min) before turning back into the pond and slowly swimming away, apparently unaffected by its prey.

Taricha larvae have been reported in the diet of *T. atratus* (Fitch 1940. Univ. California Publ. Zool. 44:1–150; Fitch 1941. California Fish Game 27:2–32; Fox 1951. Univ. California Publ. Zool. 50:485–530; Kuchta 2005. *In* Lannoo [ed.], Amphibian Declines: The Conservation Status of United States Populations

FIG. 1. An adult Santa Cruz Gartersnake (*Thamnophis atratus atratus*) consuming a subadult Rough-skinned Newt (*Taricha granulosa*) in Monte Bello Pond, Santa Clara County, California (MVZ 257750).

Vol. 2, pp. 904–908. Univ. California Press, Berkeley, California). However, newts possess little if any TTX before metamorphosis (Twitty and Johnson 1934. Science 80:78–79), so predation of newt larvae may occur commonly by sympatric gartersnakes and probably does not indicate physiological resistance to TTX. The only account that mentions consumption of transformed *Taricha* by *T. atratus* suggests this occurred in captivity and provides no information on the source of the specimens (Fox 1951, *op. cit.*). Even naïve gartersnakes that do not co-occur with some toxic amphibians will attempt to eat such deadly prey in the laboratory (e.g., Brodie at al. 1991. Biotropica 23:58–62), so captive observations are not especially revealing. Furthermore, because of extensive geographic variation in newt potency (Hanifin et al. 2008, *op. cit.*), locality information is critical in understanding the complex pattern of match and mismatch (hotspots and coldspots) between newt toxicity and TTX resistance across the landscape (Brodie et al. 2002, *op. cit.*). Our account of a natural predation event by *T. atratus* on a transformed *T. granulosa* suggests another parallel arms-race between gartersnakes and newts and could lead to a number of exciting evolutionary and ecological investigations. We hope other naturalists will continue to add pieces to this fascinating and unfolding coevolutionary puzzle (e.g., Fellers et al. 2007. Herpetol. Rev. 38:317–318).

We thank E. D. Brodie, Jr for verifying newt species, and C. L. Spencer for accessioning photo vouchers (MVZ 257749–257754).

Submitted by **RICHARD R. GREENE,** 221 Gladys Ave #7, Mountain View, California 94043, USA (e-mail: corvus@sbcglobal.net); and **CHRIS R. FELDMAN,** Department of Natural Resources & Environmental Science, University of Nevada, Reno, Nevada 89512, USA (e-mail: ophis@cabnr.unr.edu).

TROPIDOPHIS PAUCISQUAMIS (Brazilian Dwarf Boa)**. DIET AND CAUDAL LURING**. *Tropidophis paucisquamis* is a semi-arboreal snake typically found in bromeliads in the Atlantic forests of Brazil (Carvalho 1951. Rev. Bras. Biol. 11:239–248). However, basic aspects of its biology remain unknown, since it is rarely observed and specimens are rare in collections (Amaral 1930. Bol. Mus. Nac. 4; Hedges 2002. Bull. Nat. Hist. Mus. Lond. [Zool.] 68:83–90). Feeding and behavioral information are restricted to captive specimens or are speculative (Amaral 1978. Serpentes do Brasil: Iconografia Colorida. Brazilian Snakes: a Color Iconography. Melhoramentos/EDUSP, São Paulo, Brazil; Carvalho, *op. cit.*). Here, we present the first report of feeding and tail displays by two wild *T. paucisquamis* recorded on the same night and location.

On 17 December 2004 at 2030 h at Pilar do Sul Municipality, São Paulo State, Brazil (23.93ºS, 47.67ºW, 780 m elev.) we watched as an adult *T. paucisquamis* (315 mm SVL, 42 mm tail length) left the shelter of a leaf (*Bathyza* sp., ca. 1.5 m above ground) and defecated. The snake stayed perched and immobile we collected it at 0230 h on 18 December 2004. Upon collection, the snake regurgitated a *Hypsiboas caipora* (33 mm SVL, 2.5 g) which it had swallowed headfirst. It was raining and the air temperature was 18–19°C. The following day the snake was found coiled in a ball. The snake was photographed and released and the treefrog (CFBH 9336) was deposited in Célio Fernando Baptista Haddad collection, Laboratório de Herpetologia, Instituto de Biociências, Universidade Estadual Paulista, Rio Claro, São Paulo State, Brazil.

A second snake was foraging a few m away and we observed it from 2000 h on 17 December 2004 until 0230 h on 18 December 2004. This snake stopped on two occasions and lured with its tail. On the first occasion, the snake was stretched out on a leaf of *Calathea communis* (Marantaceae), except for the tail, which was elevated and undulated in a sinusoidal manner for ca. one minute. On the second occasion, the body was again stretched out. However, in this case the sinusoidal undulations of the tail were made while the tail was in contact with the plant stem, and the tail was dragged along the stem for ca. 30 seconds. In both cases tail movements were made from a stationary position and in the presence of two male *Hypsiboas caipora* (ca. 3 m from the snake). The contrasting color of the tail (with the body) and the observations of tail displays in the presence of prey by *T. paucisquamis* indicate that the species uses its tail as a lure, although additional observations are necessary to confirm this hypothesis.

Submitted by **ANDRÉ PINASSI ANTUNES** (e-mail: aapardalis@gmail.com) and **CÉLIO FERNANDO BAPTISTA HADDAD**, Laboratório de Herpetologia, Departamento de Zoologia, Instituto de Biociências, Universidade Estadual Paulista, 1515, Rio Claro, 13506-900, São Paulo, Brazil.

TYPHLOPS BRONGERSMIANUS (Blindsnake). **OWL PREDATION**. *Typhlops brongersmianus* is relatively small (ca. 300 mm total length as adults) and occurs from Uruguay to Venezuela (Lema 1982. Iheringia 61:3–7.; Lema 1987. Acta Biologica Leopoldensia 9:225–240). The fossorial *T. brongersmianus* occurs in different enviroments, but primarily in sandy soils. In this habitat, it feeds on small terrestrial invertebrates (Freitas 2003. Serpentes Brasileiras. Bahia, Brazil. 119 pp.).

On 3 February 2007, I encountered a road-killed adult (sex not determined) Tropical Screech Owl (*Megascops choliba*) south of Rodovia do Sol at kilometer 32 on route ES 060. The area around