

Photographs and video were taken of the event and the snakes were subsequently released at capture locations. Prior accounts of the defensive behavior of *R. septemvittata* have included flight, biting, and expelling musk, but to our knowledge, death-feigning has not previously been described (Layne and Ford 1984. *J. Herpetol.* 18:496–498; Gibbons and Dorcas 2004. *North American Water-snakes: A Natural History*. University of Oklahoma Press, Norman. 438 pp.).

We thank the University of Kentucky Department of Forestry, and the Kentucky Department of Fish and Wildlife Resources for support and permits.

**CHRISTIAN R. OLDHAM** (e-mail: christian.oldham@uky.edu) and **STEVEN J. PRICE** (e-mail: steven.price@uky.edu), Department of Forestry, University of Kentucky, Lexington, Kentucky 40546-0073, USA; **WADE A. BOYS**, Department of Biological and Allied Health Sciences, Ohio Northern University, Ada, Ohio 45810, USA (e-mail: s-boys@onu.edu); **LEO J. FLECKENSTEIN**, Department of Animal and Food Sciences, University of Kentucky, Lexington, Kentucky 40546-0215, USA (e-mail: leo.fleckenstein@uky.edu).

**SISTRURUS CATENATUS (Massasauga). CLIMBING BEHAVIOR.** A previous study noted six instances of *Sistrurus catenatus* climbing in a shrub-dominated, low-quality habitat (Shoemaker and Gibbs 2010. *J. Wildl. Manage.* 74:504–513). Those authors proposed that thermoregulation in a basking-site deficient habitat was the motive for this behavior. However, at 1109 h on 25 June 2012 (cloudy, 25.9°C), we observed and documented (Fig. 1) climbing behavior during a mark-recapture survey of *S. catenatus* in the same habitat, which as of 2011 had undergone management efforts by the New York State Department of Environmental Conservation (NYSDEC). The snake was basking ca. 1 m off the ground in a *Vaccinium corymbosum* (Highbush Blueberry) and remained coiled even after our initial approach, at which time we recorded an IR temp of 21.5°C. Upon capture, we noted that this snake was a gravid female (total length = 55.5 cm) initially tagged in 2006. The behavior was observed in habitat augmented by the NYSDEC by cutting vegetation to ground level in 32 plots, each 100 m<sup>2</sup> in area, based on recommendations made by Shoemaker and Gibbs (*op. cit.*). This treatment was followed by cutting of 12 additional 28 m<sup>2</sup> plots in 2012 after field surveys suggested that the rattlesnakes were using cut plots for basking (Johnson 2013. *Management and Status of an Endangered Massasauga Rattlesnake Population in New York State*. Thesis, SUNY-ESF). Because we observed climbing even after apparently suitable basking habitat had been created,

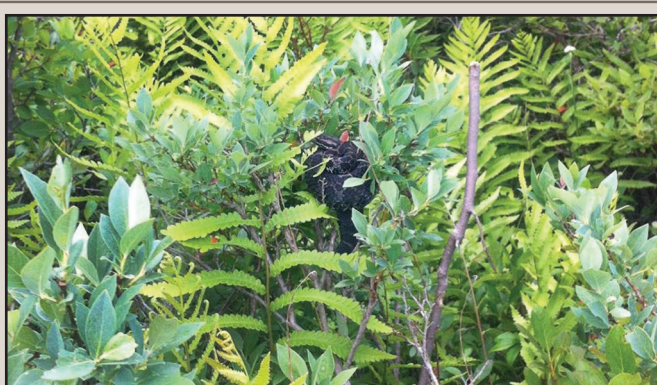


FIG. 1. Gravid female *Sistrurus catenatus* basking in a (~ 1 m tall) *Vaccinium corymbosum* bush.

further research is recommended to identify the motivation for this behavior.

I thank Brent Johnson for assistance and photo documentation of these observations.

**ALEXANDER J. ROBILLARD**, State University of New York College of Environmental Science and Forestry, 1 Forestry Drive, Syracuse, New York 13210, USA; e-mail: ajrobill@syr.edu.

**THAMNOPHIS SIRTALIS (Common Gartersnake). DIET.** On 30 April 2014 we found a *Thamnophis sirtalis* (SVL = 26 cm) beneath a board on an empty block at the corner of Vine St and Mulberry St, Cincinnati, Hamilton Co., Ohio, USA (39.11919°N, 84.51722°W; WGS84). We palpated the snake and it regurgitated an adult *Podarcis muralis* (European Wall Lizard; SVL = 5 cm; Fig. 1). *Podarcis muralis* was introduced to Cincinnati in 1951 from its native range in Europe and has subsequently established satellite colonies in British Columbia, Kentucky, and Indiana (Kraus 2009. *Alien Reptiles and Amphibians: A Scientific Compendium and Analysis*. *Invading Nature: Springer Series in Invasion Ecology*. Number 4. Springer, New York. 563 pp.). Within Cincinnati, *P. muralis* inhabits south-facing hillsides flanking the Ohio River and reaches high densities (Brown et al. 1995. *Am. Midl. Nat.* 133:344–359). Other known predators of *P. muralis* in the USA include *Felis silvestris catus* (Feral Cats; Brown et al. 1995, *op. cit.*) and *Mimus polyglottos* (Mockingbirds; Deichsel and Walker 2010. *Herpetol. Rev.* 41:228–229). *Thamnophis sirtalis* is a generalist predator, feeding on invertebrates, fish, amphibians, mammals, birds, and small snakes (Rossman et al. 1996. *The Garter Snakes: Evolution and Ecology*. University of Oklahoma Press, Norman. 332 pp.; Ernst and Ernst 2003. *Snakes of the United*



FIG. 1. *Thamnophis sirtalis* (Common Garter Snake) with a regurgitated *Podarcis muralis* (European Wall Lizard) collected in Cincinnati, Ohio, USA.

States and Canada. Smithsonian Books, Washington, DC. 668 pp.). To our knowledge, this is the first report of *T. sirtalis* preying upon a lizard; the only published report on this topic describes a *T. sirtalis* pursuing (but failing to capture) an Italian Wall Lizard (*Podarcis sicula campestris*) in New York (Mendyk 2007. Herpetol. Rev. 38:82).

**CRYSTAL KELEHEAR**, Smithsonian Tropical Research Institute, Balboa, Ancon, Republic of Panama (e-mail: crystal.kelehear@hotmail.com); **SEAN P. GRAHAM**, Department of Biology, Geology, and Physical Sciences, Sul Ross State University, Alpine, Texas 79832, USA (e-mail: sean.graham@sulross.edu).

**THAMNOPHIS SIRTALIS TETRATAENIA (San Francisco Gartersnake). UPLAND HABITAT USE.** Since *Thamnophis sirtalis tetrataenia* was listed as a federally-endangered species in 1967, unpublished descriptions of its natural history suggest that it prefers relatively open upland habitats in proximity to perennial ponds, but this may be the result of observer bias and lack of field study (U.S. Fish and Wildlife Service 1985. Recovery Plan for the San Francisco Garter Snake *Thamnophis sirtalis tetrataenia*. Portland, Oregon; U.S. Fish and Wildlife Service 2006. San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*) 5-year Review: Summary and Evaluation. Sacramento, California). Recent research detected *T. s. tetrataenia* up to 215 m away from ponds that provide appropriate prey, although no trap-lines were installed at greater distances and the upland consisted primarily of grassland and open scrub to promote managed burning (Halstead et al. 2011. J. Fish Wild. Manage. 2:41–48).

On 19 April 2012 ca. 2.5 km E of La Honda in the Santa Cruz Mountains, San Mateo Co., California, we hand-captured an adult female *T. s. tetrataenia* in mixed hardwood forest with a closed canopy and native understory (37.3159°N, 122.2377°W,

WGS84; 459 m elev.). The nearest known population of *T. s. tetrataenia* was at Mindego Lake, situated 450 m E of the site of capture. This pond, located at the margin of a non-native annual grassland and mixed hardwood forest, supported abundant prey, as well as a breeding population of *T. s. tetrataenia*. Based on the date, sex, and distance from the nearest source of prey, the adult female *T. s. tetrataenia* had likely recently emerged from hibernation and was migrating to a seasonal foraging habitat. It was observed within closed-canopy mixed evergreen forest, which has not been documented as a habitat association. The hibernaculum was presumably no less than 435 m from Mindego Lake, and the nearest secondary pond known to support the subspecies was Knuedler Lake, 1.26 km to the southwest. More research is needed to determine the preferred upland habitat associations and the amount of land necessary to support the life cycle of this cryptic snake. *Thamnophis s. tetrataenia* may travel long distances to reach specific microhabitats that provide hibernacula, and it may also benefit from certain vegetation associations to promote dispersal, migration, and predator avoidance.

We are grateful to the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service for issuing permits to support our research. We thank the Midpeninsula Open Space District for access and funding of the field study that provided the opportunity to report this observation.

**MARK L. ALLABACK** (e-mail: markallaback@sbcglobal.net) and **DAVID M. LAABS**, Biosearch Associates, P.O. Box 1220, Santa Cruz, California 95061, USA; **JEFF ALVAREZ**, The Wildlife Project, P.O. Box 188888, Sacramento, California 95818, USA (e-mail: Jeff@thewildlifeproject.com); **JULIE ANDERSEN**, Natural Resources Department, Midpeninsula Regional Open Space District, 330 Distel Circle, Los Altos, California 94022, USA (e-mail: jandersen@openspace.org).