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**SINOMICRURUS SAUTERI** (Taiwan Coral Snake). **DIET.** *Sinomicrurus sauteri* and *Achalinus niger* (Black Odd-scaled Snake) are both endemic to Taiwan (Miller et al. 2020. Copeia 108:796–808; Smart et al. 2021. J. Zool. Syst. Evol. Res. 59:2212–2277). *Sinomicrurus sauteri* is distributed in mainland Taiwan from elevations 80–1650 m (Ota et al. 1999. J. Herpetol. 33:675–687). *Achalinus niger* is distributed in mainland Taiwan from elevations 1000–3000 m (Lee 2005. Amphibia-Reptilia 26:325–332; Miller et al. 2020, *op. cit.*). Both species are cryptic and fossorial and spend most of their time in the leaf litter or crevices. Therefore, diets of both species remain unclear. Research suggests *S. sauteri* is a specialist preying on snakes, however, predators of *Achalinus* have barely been reported (Lee and Lue 1996. Biol. Bull. Na. Taiwan Normal Univ. 31:119–124; Miller et al. 2020, *op. cit.*). Here, we report the first evidence that *S. sauteri* feed on *A. niger*.

The naturalist Ming-Jie Zhang found a road-killed female *S. sauteri* (790 mm SVL, 11.44 mm head width, 65 mm tail length) at 2023 h on 8 July 2023 in Tongmen, Xiulin Township, Hualien County, Taiwan (R.O.C.) (24.02361°N, 121.39280°E; WGS 84; 1295 m elev.; Fig. 1A). We spotted an undigested prey item protruding out of the abdomen, which was later identified as the tail of an *A. niger* (Fig. 1B, C; 100 mm length). The *S. sauteri* had consumed the *A. niger* headfirst. This observation supports the idea that *Sinomicrurus* specialize on snake prey.

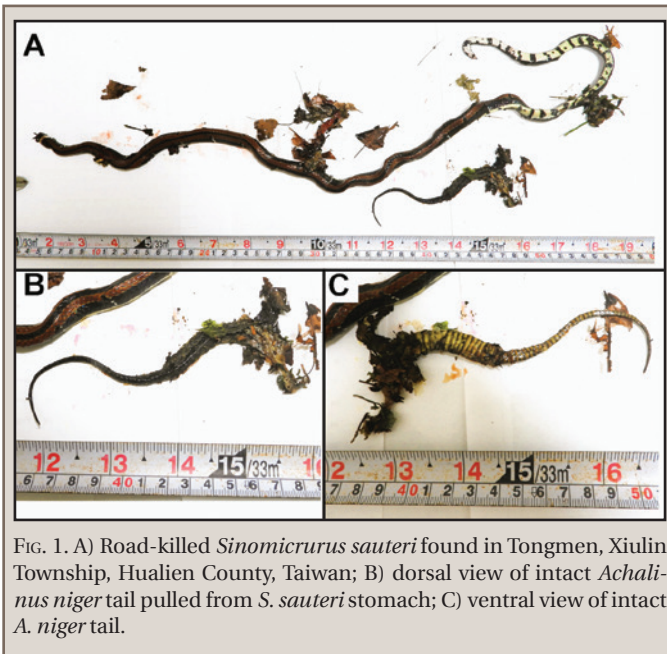


FIG. 1. A) Road-killed *Sinomicrurus sauteri* found in Tongmen, Xiulin Township, Hualien County, Taiwan; B) dorsal view of intact *Achalinus niger* tail pulled from *S. sauteri* stomach; C) ventral view of intact *A. niger* tail.

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**THAMNOPHIS HAMMONDII** (Two-striped Gartersnake). **DIET.** Although relatively little has been reported on the prey of *Thamnophis hammondi*, Rossman et al. (1996. The Garter Snakes: Evolution and Ecology. University of Oklahoma Press,



FIG. 1. A large, hand captured *Thamnophis hammondi*, prior to regurgitation of a presumed frog, at the Meling Ranch, Baja California, Mexico, May 2023.



FIG. 2. Remains of an adult *Rana draytonii* regurgitated by a large adult *Thamnophis hammondi* at the Meling Ranch, Baja California, Mexico, May 2023.

Norman, Oklahoma. 322 pp.) reported that the species targets small anurans and their larvae, as well as fish and their eggs, and worms. More recent reports include specific items such as adult *Anaxyrus punctatus* (Rodriguez-Robles and Galina-Tessaró 2006. Herpetol. Rev. 37:355), larval *Xenopus laevis* (Ervin and Fisher 2007. Herpetol. Rev. 38:345–346), and adult *Spea hammondi* and *Pseudacris regilla* (Ervin et al. 2003. Herpetol. Rev. 34:74–75). Jennings and Hayes (1994. Amphibians and Reptile Species of Special Concern in California. Final report contract no. 8023, California Department of Fish and Game. 255 pp.) also noted that *T. hammondi* will forage on small *Lithobates catesbeianus* and their larvae and on larval *Taricha torosa*. They also reported that this species will feed on the larvae and metamorphs of numerous syntopic anurans, including *Rana boylei*, *R. draytonii*, and *R. muscosa*. Herein, we report a *T. hammondi* that was syntopic with a robust (>300 individuals) population of *R. draytonii* and had ingested a large adult *R. draytonii*.

During surveys for *R. draytonii* at the Meling Ranch in Baja California Norte, Mexico (30.97532°N, 115.54350°W; WGS 84; 700 m elev.), on 3 May 2023, we encountered numerous *T. hammondi*. Nearly every snake ranged from ca. 30–60 cm, with all snakes being found in aquatic habitats. During a night survey for frogs, we hand captured a large adult female *T. hammondi*

and immediately noticed that it had consumed a large prey item. To minimize the likelihood of regurgitation, we limited our handling of the snake and forestalled any weighing and measuring of the specimen. We approximated the total length to be 90 to 100 cm and the weight to be 400 to 500 g (Fig. 1). Photo documentation of the snake was completed, and as we prepared to release it, it regurgitated its meal, a large, partially digested *R. draytonii* adult (Fig. 2). Because of its partially digested state, we estimated the snout-urostyle length to be 9–10 cm and the mass to be 150–175 g.

It is expected that smaller *T. hammondii* prey on post-metamorphic *R. draytonii*. In fact, we expect that a large percentage of post-metamorphic frogs succumb to mortality before reaching breeding age (Wilbur and Collins 1973. Science 182:1305–1314). We found this observation to be significant because the estimated maximum size of *T. hammondii* is 61–102 cm (McGinnis and Stebbins 2018. Field Guide to Western Reptiles and Amphibians. Houghton Mifflin Harcourt, Boston, Massachusetts. 560 pp.), which was near our estimated length. Larger snakes prey on breeding adult frogs, which are vital to the survival of frog populations, with potential to impact an already declining species.

In California, *T. hammondii* is a state-listed species of concern due to declining populations (Thomson et al. 2016. California Amphibian and Reptile Species of Special Concern. University of California Press, Oakland, California. 390 pp.). Managing predators in the presence of declining prey species (i.e., *R. draytonii*, *R. boylei*, *S. hammondii*) requires a balance that is functional for all species but may also require monitoring to determine if more common prey species (e.g., *Pseudacris*, *Anaxyrus*, worms, and fishes) are present and that prey communities include both common and declining species.

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**THAMNOPHIS SIRTALIS (Common Gartersnake). DIET.** *Thamnophis sirtalis* is a dietary generalist that is known to consume amphibians, fish, birds, snakes, mammals, and invertebrates (Ernst and Ernst 2003. Snakes of the United States and Canada. Smithsonian Books, Washington, D.C. 668 pp.). This species is known to eat adult and larval anurans (Surface 1906. Bull. Penn. St. Dpt. of Agri. Div. Zool. 4:114–208; Rossman et al. 1996. The Garter Snakes. University of Oklahoma Press, Norman, Oklahoma. 332 pp.; Ernst and Ernst 2003, *op. cit.*). Herein, we report on an observation of *T. sirtalis* foraging on larval *Spea bombifrons* (Plains Spadefoot).

On 5 June 2023, at 1618 h, we captured an adult *T. sirtalis* that regurgitated parts of a partially digested tadpole from a small earthen pond near a gravel road in Barber County, Kansas, USA

(37.0932°N, 98.9725°W; WGS 84). The pond contained many larval *S. bombifrons*, which the snake had been foraging on. At the time, tadpoles in the pond and the regurgitated individual had small hind legs. Scaphiopodidae (Spadefoot) species have been documented in the diets of *T. sirtalis* (Fitch 1941. Calif. Fish Game 27:2–32; Ernst and Ernst 2003, *op. cit.*). *Thamnophis sirtalis* has been recorded consuming tadpoles in a pond containing *Spea* (formerly *Scaphiophus*) *hammondii* (Western Spadefoot) and *Pseudacris* (formerly *Hyla*) *regilla* larvae (Feaver 1971. M.S. Thesis, Fresno State College, Fresno, California. 58 pp.). To our knowledge, this is the first documentation of *T. sirtalis* consuming *S. bombifrons*.

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**THAMNOPHIS SIRTALIS PALLIDULUS (Maritime Garter-snake). OVERWINTERING BEHAVIOR.** There is little life-history information on *T. s. pallidulus*, an apparently independently evolving North American gartersnake clade centred in Maritime Canada (DeGraff and Rudis. 1983. Amphibians and Reptiles of New England. University of Massachusetts Press, Amherst, Massachusetts. 85 pp.; Rye 2000. Ph.D. Dissertation, University of Guelph, Guelph, Ontario. 107 pp.). This is especially the case for overwintering behavior. Gorham (1970. The Amphibians and Reptiles of New Brunswick. New Brunswick Museum, Saint John, New Brunswick. 30 pp.) reported that in New Brunswick, *T. sirtalis* hibernates among rocks, under ledges, and in soil, as well as in other dry situations where the frost does not penetrate. However, this information is probably derived from generalized information for the species, as there is no primary literature specific to New Brunswick reporting terrestrial over-wintering sites for *T. s. pallidulus*. Gilhen (1984. Amphibians and Reptiles of Nova Scotia. Nova Scotia Museum, Halifax, Nova Scotia. 162 pp.) also does not provide any information on the overwintering ecology of *T. s. pallidulus*. However, McAlpine (2018. Herpetol. Notes 11:361–361) reported on several cases of *T. s. pallidulus* overwintering in cold springs in New Brunswick and observed the species under ice. Here, we report on several other cases that contribute to an understanding of overwintering site selection in *T. s. pallidulus*.

Between 14 December 2022 and 15 February 2023, Greg Knight collected ten *T. s. pallidulus* in the finished basement of his home in Quispamsis, Kings County, New Brunswick, Canada (45.49075°N, 65.90692°W; NAD 83). Seven of the snakes were available to us and ranged from 443–667 mm total length (mean = 554.4 mm) and 20.7–74.4 g (mean = 40.8 g) body weight and appeared at 3–4 day intervals. It appears that the snakes gained initial access to the home through a gap between the main building and a later addition (ca. 1990) set about 50 cm above the ground that had shifted on its concrete posts. Snakes seemed to emerge from under the flooring and from behind the walls. In one case a snake was found basking on a wall heater (Fig. 1). DFM observed a previous case in New Brunswick where multiple gartersnakes entered a partially finished basement (probably entering between the top of the foundation wall and the footer) and late in the winter entered the basement living space but also became apparent between the vapour barrier and the insulation.

On 25 December 2023, Ian Campbell observed two *T. s. pallidulus* in a dug well ca. 90 cm across on a natural spring