

ball-shaped configuration, they each actively sought cover, moving up to 4–5 cm in just a few seconds. The next day (6 October) four hatchlings remained and one California slender salamander (*Batrachoseps attenuatus*) sub-adult, in coiled position, was present 16 cm away from those hatchlings. Finally, on 14 October 2001 no salamanders were present at the brooding micro-site.

Samantha J. Hadden, Thomas A. Kirk, and Alexander Galeone assisted documenting these observations with photographs. In addition we thank the landowners, John and Carol Wiebe, for their support and enthusiasm for this project and for permission to conduct observations on their property.

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**HEMIDACTYLIUM SCUTATUM** (Four-toed Salamander).

**RECORD SIZE.** Conant and Collins (1998, Peterson Field Guide to Reptiles and Amphibians of Eastern and Central North America, 3<sup>rd</sup> Ed. Expanded, Houghton Mifflin, Boston, Massachusetts, xviii + 616 pp.) report maximum size for *Hemidactylium scutatum* as 4.0 in (102 mm) total length. Here we report a larger individual, 45.1 mm SVL and 113.6 mm TL. This individual was found on 23 October 2001 at Toft Point State Natural Area, Door County, Wisconsin, USA. After measurement, the salamander was photographed and released. The photograph (136-s) is deposited at the Richter Museum of Natural History, University of Wisconsin, Green Bay.

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**RHYACOTRITON VARIEGATUS.** (Southern Torrent Salamander). **PREDATION.** On 19 June 1996 at ca. 1400 h I observed a sub-adult northwestern garter snake (*Thamnophis ordinoides*) in the process of consuming a larval southern torrent salamander (*Rhyacotriton variegatus*) at a small east-facing seep at an elevation of 1049 m in Del Norte County, northwestern California. The seep ran adjacent to and through a culvert under U.S. Forest Service Rd 17N05 (T17N R3E SW1/4 Sec. 55). The seep drains the headwaters of the Siskiyou Fork of the Smith River at variable slopes of ca. 60–80%. Surface flow at the seep site was steady and constant during observations and the seep appeared permanent with heavy moss growth enclosing cobbles and gravels as well as larger more embedded regolith and unembedded finer sediments.

At the time of observation the head of the salamander was fully-engulfed by the snake. The snake was disturbed by my presence. When secured by hand the snake promptly regurgitated the salamander. In captivity, the snake later re-consumed the previously injured salamander within 24 h. Another larval *R. variegatus* from the same seep, also available as prey, was not consumed during the same time period.

The consumed larval *R. variegatus* measured 41.0 mm TL with incomplete tail tip, SVL was 31.0 mm (measured to the anterior edge of the cloacal opening), and a total mass of 0.8 g. The snake measured 130.0 mm TL, 73.0 mm SVL, and had a mass of 3.2 g.

Vouchers (BRN 1996-#016A and B) will be deposited in the Humboldt State University Vertebrate Museum Collection, Arcata, California, and were taken under California State Scientific Collecting Permit #9030 issued to the author.

Although *T. ordinoides* is considered a mostly terrestrial species (Brown et al. 1995, Reptiles of Washington and Oregon. Seattle Audubon Society, Seattle, Washington. 176 pp.; Stebbins 1985, A Field Guide to Western Reptiles and Amphibians, 2<sup>nd</sup> Ed. Houghton Mifflin Co., Boston, Massachusetts. 336 pp.), the snake reported herein was discovered while partially submerged within the flow of the seep during the initial consumption of the larval *Rhyacotriton*. Water temperature was 9.1°C and air temperature was 21.3°C at ca. 1500 h.

Unfortunately, a significant mass-wasting event occurred prior to spring 1997 observations at the site. This slide resulted in a dramatically altered seep course. Limited observations in 1997 did not detect any *Rhyacotriton variegatus* at the site after the slide had occurred (pers. obs. and unpubl. data). To my knowledge this is the first report of *T. ordinoides* preying upon a larval *Rhyacotriton* in a natural setting, although garter snakes have previously been suspected to possibly prey on *Rhyacotriton* (Nussbaum et al. 1983, Amphibians and Reptiles of the Pacific Northwest. Univ. of Idaho Press, Moscow. 332 pp.).

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**SIREN INTERMEDIA NETTINGI** (Western Lesser Siren).

**MIGRATION and LOCOMOTION.** On 13 and 14 April 2001, a total of 15 (six on 13 April and nine on 14 April) *Siren intermedia nettingi* were observed at Nashoba Park (Germantown, Shelby County, Tennessee, USA; 35°07'N, 89°48'W). The sirens were migrating upstream from one pond to another through a large (2 x 3 m) concrete culvert ca. 40 m long. The flow of water through the culvert is typically a trickle, but precipitation on 11 and 12 April resulted in a rapid flow of water (4–6 cm deep) from the upper to the lower pond. The salamanders were observed at night moving upstream by slowly crawling along the flat bottom of the concrete culvert, relying heavily upon the use of their forelimbs. Any individual that was disturbed by an observer would immediately release its grip on the concrete and be quickly washed downstream by the swift current. The observed difficulty in swimming against the current suggests that the migration may not have been possible without use of the forelimbs. Subsequent observations of a captured *S. i. nettingi* in captivity also suggest that the limbs are vital to the salamander's locomotion. These observations provide evidence contrary to the suggestion by Cochran and Goin (1970, The New Field Book of Reptiles and Amphibians. Putnam, New York. 359 pp.) that the forelimbs are useless in locomotion.

Our field observations coincide with dates reported for oviposition and nesting of *S. i. intermedia* in the Carolinas and *S. i. nettingi* in Arkansas (Petranka 1998, Salamanders of the United States and Canada. Smithsonian, Washington, D.C. 587 pp.). Thus, the animals we observed may have been searching out oviposition sites. The culvert separating the upper and lower ponds in Nashoba