female due to the absence of swollen vents. This observation coincides with the breeding season of this subspecies that occurs from November through May. Bishop (1943. A Handbook of Salamanders. Comstock Publ., Ithaca, New York. 555 pp.) found that a population of metamorphosing *A. t. tigrinum* averaged 104 mm TL. The sampled individuals in this population were nearly twice as long (mean SVL 89.3 ± 3.2 mm; mean TL 171.3 ± 5.5 mm; mean mass 25.12 ± 2.12 g). Each individual was marked subcutaneously with a PIT tag, photographed, and returned to the pond.

From the same sampling effort, five fully metamorphosed *Ambystoma t. tigrinum* were captured (mean SVL 104.4 ± 8.8 mm; mean TL 207.8 ± 23.4 mm; mean mass was 287.6 ± 84.3 g). All were identified as males by their conspicuously swollen vents.

Previous experiments with hormones have suggested that low activity levels in the hypothalamus, pituitary, and thyroid glands influence the retention of larval characteristics in sexually mature salamanders (Duellman and Trueb, *op. cit.*). It is also known that various agricultural chemicals may cause abnormalities in amphibians (Pough et al., *op. cit.*), however no pesticides or herbicides are used on the vegetation around this pond (A. Byboth, pers. comm.). Therefore, the retention of larval characteristics in this population is likely natural. It has been hypothesized that natural selection might favor paedomorphic individuals when the terrestrial environment is unfavorable (Whiteman 1994. Quart. Rev. Bio. 69:205–221). Lack of refugia or significant leaf litter needed to sustain moisture may create a strenuous habitat to traverse. Selection pressures might therefore favor those individuals that retain larval characteristics and remain in the pond.

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CRYPTOBRANCHUS ALLEGANIENSIS (Hellbender Salamander). **LARVAL DIET.** Several studies document the diet of adult *Cryptobranchus alleganiensis* as consisting primarily of crayfish, but include fishes and their eggs, aquatic insect larvae and adults, worms, mollusks, amphibians (including hellbenders and their eggs), aquatic snakes, and scavenged material (Bishop 1941. The Salamanders of New York. New York State Mus. Bull. No. 324:1–365; Nickerson and Mays 1973. The Hellbenders: North American Giant Salamanders, Milwaukee Pub. Mus. Publ. Biol. Geol No. 1:1–106; Peterson et al. 1989. Southwest. Nat. 34:438–441). Dietary data of larval *C. alleganiensis* are lacking, except for those raised in captivity, which have successfully been reared on brine shrimp and black worms including *Tubifex* (R. Goellner, pers. comm.). This study was conducted to investigate the diet of larval *C. alleganiensis* in the Little River, Tennessee.

Diurnal skin-diving surveys of the Middle Prong and main body of the Little River in the Great Smoky Mountain National Park were conducted from 14 June to 30 July 2003, for a total of 118 h. Surveys were conducted between 0900 and 1930 h and involved 2–10 surveyors. Underwater observations coupled with rock turning were implemented for surveys. Stomach contents of Hellbenders were collected non-lethally via stomach flushing with a 5-cc plastic canula filled with river water; stomach contents were preserved in 70% ethanol. Hellbender larvae were anesthetized in a 0.1% tricaine methylsulfonate (MS-222) solution, weighed with an Ohaus CS-2000 compact scale, measured using a metric ruler for total (TL) and snout–vent (SVL) lengths, and marked via subcutaneous injection of acrylic polymers (Johnson and Wallace 2002. Herpetol. Rev. 33:29–32). Needles were sterilized in 95% ethanol before each use. Larvae were allowed time to fully revive from anesthetization before being released at their capture site. Global positioning satellite (GPS) locations were recorded at each capture site. Qualitative macroinvertebrate samples from each site were collected using a D-frame dip net with 500 µm mesh. Rocks immediately upstream of the net were brushed for macroinvertebrates. All samples were preserved in 70% ethanol. Stomach and macroinvertebrate samples were analyzed using a Bausch and Lomb 0.7x–3x dissecting scope.

One large gilled larval *C. alleganiensis* (13 cm TL, 9 cm SVL, 17 g) was captured in 80 cm deep water, 205 cm from the bank, at 20°C water temperature. It was found between two rocks that were ca. 8 x 34 x 22 cm and 15 x 48 x 27 cm. Stomach contents included remains of Megaloptera, Ephemeroptera (Ephemerellidae and Heptageniidae), Diptera pupae, and wings from unidentifed aquatic insects. A second non-gilled larval *C. alleganiensis* (15 cm TL, 9.5 cm SVL, 18 g) had an empty stomach.

The stomach sample suggests larger larval and adult aquatic insects as the main prey for larval *C. alleganiensis* in Little River. Further sampling will be required to further elucidate the diet of larval hellbenders.

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HEMIDACTYLIUM SCUTATUM (Four-toed Salamander). **MORPHOLOGY/PHENOLOGY.** Prior to our study *Hemidactylium scutatum* larvae had not been recorded in Maine, where the species is listed as Special Concern. We describe field characteristics to improve discrimination between *H. scutatum* and larvae of a co-occurring species, Red-spotted Newts (*Notophthalmus viridescens viridescens*) in the field. *Hemidactylium scutatum* larvae are adapted to lentic, low oxygen environments and are classified as "pond-type larvae," defined by large, bushy external gills and a long fin fold that extends well up onto the body near the shoulder region (Petranka 1998. Salamanders of the United States and Canada. Smithsonian Institution Press, Washington. 587 pp.). *Ambystoma* spp. and *N. v. viridescens* are co-occurring species with pond-type larvae. *Ambystoma* spp. develop earlier than *H. scutatum* larvae in our area, but larval *N. v. viridescens* can co-occur with *H. scutatum* larvae, making field identification difficult. Newly-hatched *H. scutatum* lack balancers, distinguishing them from newly-hatched *N. v. viridescens* (Bishop 1941. The Salamanders of New York. New York State Mus. Bull. 324:11–17; 174–189; Richmond 1999. Ph.D. Diss. Univ.