classes utilizing seasonal stream channels, splash zones, and the margins of permanent streams (Fig. 1). Salamanders were observed making use of cover objects and debris just above the active channel, occasionally in contact with flowing water, and in channels where surface flow was absent. Localities include San Bruno Creek (37.62270°N, 122.44170°W; WGS 84) on 5 July 2009, South Fork San Mateo Creek (37.47250°N, 122.30860°W; WGS 84) on 29 May 2009, an unnamed stream (37.61180°N, 122.42490°W; WGS 84), Spring Creek (37.47290°N, 122.31730°W; WGS 84), Cherry Creek (37.55380°N, 122.35710°W; WGS 84), Pescadero Creek (37.27410°N, 122.30040°W; WGS 84), and Saratoga Creek (37.25300°N, 122.04300°W; WGS 84). At two sites, an unnamed creek in Belmont (37.50010°N, 122.30020°W; WGS 84) and at Dry Creek (37.42980°N, 122.25560°W; WGS 84), adults entered the water as I lifted the cover object. They sought cover among stones and surfaced at the margin without apparent urgency to exit the water. Slender salamanders were not the research focus at that time and thus information is limited to what is provided here.

In 1769, Spanish missionary explorers found the San Andreas Valley on the peninsula to be forest-grassland mosaic. It was maintained by fire practices of the native Ohlone peoples. This reduced chaparral and increased grasslands, which provided hunting and foraging benefits. The region was grazed until the turn of the 20th century when urbanization accelerated (Postel 1988. Peninsula Portrait: A Pictorial History of San Mateo County. Windsor Publications, Inc., Northridge, California. 160 pp.). Urban environs, oak-woodland, and chaparral have since replaced grasslands that dominated the landscape. Limited grassland is maintained in the valley via grazing and by mowing, and stream channels in the region could have served as refugia for slender salamanders.

My observations coincide with the phylogeographic region defined as the "Southern South clade" of *B. attenuatus* which includes localities 93–101 and 103 (Martínez-Solano et al. 2007. Mol. Ecol. 16:4335–4355). Satellite imagery of these localities indicates their specimens were collected upslope in terrestrial settings of urban parks and along roadsides. I deposited specimens from South Fork San Mateo Creek at the Museum of Vertebrate Zoology, University of California, Berkeley (MVZ Accession 14553).

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NICK D. WATERS, 5229 W Spur Drive, Phoenix, Arizona 85083, USA; e-mail: nickdwaters@gmail.com.

CRYPTOBRANCHUS ALLEGANIENSIS **(Hellbender). PREDATION ATTEMPT and ANTI-PREDATOR BEHAVIOR.** Few reports exist regarding predators of fully aquatic adult Hellbender salamanders, with the exception of River Otters (*Lontra canadensis*; Hecht 2014. Herpetol. Rev. 45:471). Potential additional predators of Hellbenders include turtles, American Mink (*Neovison vison*), Raccoon (*Procyon lotor*), and large predatory fish (e.g., Northern Pike [*Esox luciusi*] and Muskellunge [*E. masquinongy*]; Nickerson and Mays 1973. The Hellbenders: North American Giant Salamanders. Milwaukee Public Museum, Milwaukee, Wisconsin. 106 pp.). Adult Northern Watersnakes (*Nerodia sipedon*) are aquatic-feeding generalist predators known to consume non-fish vertebrates including several anuran and smaller salamander species such as *Desmognathus* and *Eurycea* and even larger *Necturus* (Himes 2004. Herpetol. Rev. 35:123–128; Gibbons and Dorcas 2004. North American Watersnakes: A Natural History. University of Oklahoma Press, Norman, Oklahoma. 496 pp.).


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Fig. 1. *Cryptobranchus alleganiensis* and *Nerodia sipedon* during a predation event in North Carolina, USA.

Moreover, larger individual water snakes are known to consume larger prey items which reflect local prey abundance (Bowen 2004. Am. Midl. Nat. 152:418–424). We found only two previous records of *N. sipedon* preying upon juvenile *C. alleganiensis* of unknown size (Rhoads 1895. Proc. Acad. Nat. Sci. Philadelphia 1:376–407; Surface 1913. Pennsylvania Dept. Agricult. Div. of Zool. Bull. 3:68–152). However, direct observations of *N. sipedon* predation attempts on adult *C. alleganiensis*, and their rate of success, are lacking.

At 1448 h on 4 June 2019, we observed an adult *N. sipedon* attempting to prey on an adult *C. alleganiensis*. The attempt took place in shallow water near the bank in a tributary of the Hiwassee River of Western North Carolina (specific locality on file with the North Carolina Wildlife Resources Commission and withheld due to conservation concerns). The snake had captured the salamander by the head, and both individuals engaged in a struggle. The salamander rolled (completely rotating its body; Fig. 1) in unison with the snake for ca. 10 min before the snake abandoned the predation event and fled to the stream, leaving the Hellbender on the shore. Both individuals were rolling at a frequency of 10 complete body turns per min. During the predation attempt, the snake successfully dragged the salamander from water onto the shore, moving ca. 0.5 m. The salamander continued to roll, occasionally opening its mouth, presumably in an attempt to escape. Upon examination immediately following the predation attempt, the Hellbender was producing a large amount of mucus skin secretion, and a small amount of blood was visible near the snake bite wound on its head, though bleeding stopped within 5 min.

This observation is unusual as both the salamander (male, 35.9 cm total length, 295 g) and snake (ca. 91 cm total length) were large adults, and very little is known regarding potential natural predators of adult Hellbenders and anti-predation behavior. The snake may have abandoned the predation attempt due to the presence of human observers or the challenge presented by such a large prey item, as water snakes swallow their prey alive (Tyning 1990. Stokes Nature Guides: A Guide to Amphibians and Reptiles. Little, Brown and Company, Boston, Massachusetts. 416 pp.). We suspect that the Hellbender's rolling behavior and mucosal secretions may have also prompted the snake to abandon the predation attempt. Similar behavioral mechanisms to avoid predation in salamanders include attempting to writhe and flip free (Brodie et al. 1989. Herpetologica 45:167–171). Moreover, it may be beneficial for snakes to periodically attack large or difficult prey even if these attacks are unsuccessful given the low cost to the snake of expending energy for a large potential energetic reward (Feder and Arnold 1982. Oecologica 53:93–97). Given their overlap in habitat and geographic range, it is likely *N. sipedon* consumes variously sized *C. alleganiensis*, possibly during summer months when adult Hellbenders are more active.

SHEM D. UNGER, Carolina Headwaters LLC, 3122 Laurelwood Drive, Matthews, North Carolina 28105, USA (e-mail: cryptobranchus11@gmail.com); **CATHERINE M. BODINOF JACHOWSKI** and **LAUREN DIAZ**, Department of Forestry and Environmental Conservation, Clemson University, Clemson, South Carolina 29634, USA; **LORI A. WILLIAMS**, North Carolina Wildlife Resources Commission, 177 Mountain Laurel Lane, Fletcher, North Carolina 28732, USA.

***EURYCEA NAUFRAGIA* (Georgetown Salamander). MORPHOLOGY.** *Eurycea naufragia* is a neotenic, federally threatened salamander restricted to 17 springs and caves in the San Gabriel River Basin in Georgetown, Williamson County, Texas, USA (U.S. Fish and Wildlife Service 2014. Fed. Reg. 79:10236–10293). However, recent phylogenetic and population genetic analyses suggest *E. naufragia* populations in the Berry Creek drainage and some within the North Fork San Gabriel drainage may be *E. chisholmensis* (Salado Salamander; Devitt et al. 2019. Proc. Natl. Acad. Sci. USA 116:2624–2633). *Eurycea naufragia*, along with *E. tonkawae* (Jollyville Plateau Salamander) and *E. chisholmensis* constitute the *Septentriomolge* clade of central Texas *Eurycea* that occupies the Northern segment of the Edwards Aquifer (Chippindale et al. 2000. Herpetol. Monogr. 14:1–80; Hillis et al. 2001. Herpetologica 57:266–280). In members of the *Blepsimolge* clade of central Texas *Eurycea*, there is a well-documented morphological continuum between epigean forms, that have pigmented skin and well-developed eyes, to subterranean (troglomorphic) forms that lack pigmentation and have reduced or vestigial eyes (Sweet 1984. Copeia 1984:428–441; Bendik et al. 2013. BMC. Evol. Bio. 13:201). *Eurycea naufragia* are typically pigmented, with a broad, short head and well-developed eyes (Chippindale et al. 2000, *op. cit.*). A previous report of troglomorphic individuals of this taxon is based on unpublished, anecdotal observations (U.S. Fish and Wildlife Service 2014, *op. cit.*), but some cave populations of closely related *E. tonkawae* exhibit subterranean morphology (Chippindale et al. 2000, *op. cit.*). However, neither the *E. naufragia* nor *E. tonkawae* reports include information regarding the extent of troglomorphism or a description of the character modification (e.g., eyes, pigmentation, head shape). In comparison to the other *Septentriomolge* species, *E. chisholmensis* has reduced eyes and a more flattened head, but we are unaware of any observations of subterranean morphology in this taxon (Chippindale et al. 2000, *op. cit.*).

Here, we report the capture of three *E. naufragia* salamanders with the reduction or absence of at least one eye. On 24 May 2017, we captured an eyeless *Eurycea* salamander (41.8 mm total length) with a slightly flattened head and typical epigean pigmentation at a small spring in Williamson County, Texas (precise locality withheld due to conservation concerns). This spring discharges in the Berry Creek watershed, and therefore, salamanders at this location are historically considered *E. naufragia*, but may be *E. chisholmensis* (Chippindale et al. 2000, *op. cit.*; U.S. Fish and Wildlife Service 2014, *op. cit.*; Devitt et al. 2019, *op. cit.*). We recaptured this individual on 26 June 2017, but it has not been detected in subsequent surveys (n = 24). At this same spring, we captured a one-eyed salamander (37.6 mm total length) on 22 May 2019, and one with a reduced eye (64.3 mm total length) on 29 January 2019. Both of these salamanders demonstrated typical epigean pigmentation. We are unable to determine if the reduced eye was a consequence of development or trauma.

This combination of pigmented but eyeless morphology is previously undocumented for this taxon despite long-term population monitoring (AEW, unpubl. data; Pierce et al. 2010. Southwest Nat. 55:291–297; Pierce et al. 2014. Herpetol. Conserv. Biol. 9:137–145; Pierce et al. 2018. Herpetol. Conserv. Biol. 13:383–390). Further, we are unaware of any previous records of eyeless *Septentriomolge* taxa, or any central Texas *Eurycea* taxa demonstrating one developed and one reduced or absent eye. The epigean to subterranean continuum of morphological characters exhibited by other central Texas *Eurycea* likely occurs in *E. naufragia*, but these individuals may be rare, difficult to detect (occur subsurface), or inhabit springs and caves on private property with restricted access.

We conducted surveys in accordance with Federal Fish and Wildlife Permit TE37416B-0. We thank the Williamson County Conservation Foundation for funding and the property owner for site access.

ASHLEY E. WALL (e-mail: awall@cambrianenvironmental.com), **ZACHARY C. ADCOCK, RYAN JONES,** and **KEMBLE WHITE,** Cambrian Environmental, 4422 Pack Saddle Pass, Suite 204, Austin, Texas 78745, USA.

***PLETHODON CINEREUS* (Eastern Red-backed Salamander). PREDATION.** *Plethodon cinereus* is perhaps the most abundant vertebrate in temperate forests of eastern North America (Burton and Likens 1975. Copeia 1975:541–546), where it is an important predator on invertebrate decomposers within the detritus-based food web of the forest-floor (Walton 2013. Herpetologica 69:127–146). *Plethodon cinereus* shares this role with several abundant arthropod predators (e.g., spiders, centipedes, and carabid beetles) that are large enough to consume juvenile and perhaps adult salamanders. However, actual observations of arthropod predation on *P. cinereus* are few. Reports of arthropods preying on *P. cinereus* are limited to observations of predation by a spider and ants (species not specified; Lotter 1978. J. Herpetol. 12:231–236), a praying mantis (*Mantis religiosa*; Stein 1989. Bull. Maryland Herpetol. Soc. 25:60–61), and a rove beetle (*Platydracus viduatus*; Jung et al. 2000. Herpetol. Rev. 31:98–99).

We observed predation on a juvenile *P. cinereus* by *Callobius bennetti* (Bennett's Hacklemesh Weaver; Amaurobiidae). The predation event was observed at 1123 h on 11 September 2015 during a survey of an array of artificial cover objects. The array consisted of 108 ceramic floor tiles (296 × 296 mm) in a beech-maple woodlot on the campus of University School in Hunting Valley, Cuyahoga County, Ohio, USA (41.87860°N, 81.42630°W; WGS 84; 327 m elev.). A female *C. bennetti* and the salamander were on the underside of a tile. The spider straddled the salamander, which was ensnared in webbing. The salamander was a juvenile in its first season (18.1 mm SVL), and the spider was 8.5 mm (total length), based on the analysis of digital photographs using image analysis software (ImageJ, Schneider et al. 2012. Nat. Methods 9:671–675). Temperature under the plate was 19.4°C (measured with a Raytek infrared thermometer). Temperature at the leaf litter surface was 20.9°C and relative humidity was 78.2% (temperature/RH logger, Onset Computers, Inc.). The spider did not move from the salamander when the tile was turned. The salamander was immobile, apparently dead