

SHORTER CONTRIBUTIONS

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RECENT COLLECTIONS OF *CHOLOGASTER CORNUTA* (PERCOPSIFORMES: AMBLYOPSIDAE) IN VIRGINIA, WITH COMMENTS ON SAMPLING METHODS FOR THE SPECIES---The swampfish, *Chologaster cornuta*, is a small epigeal amblyopsid fish that dwells in swamps and blackwaters of the Coastal Plain from Georgia to Virginia. In Virginia, the species is known from the Nottoway and Blackwater systems, as well as sites to the east such as several in and near the Dismal Swamp (Rageot, 1992; Jenkins & Burkhead, 1994). Although *C. cornuta* is documented from the Meherrin River drainage in North Carolina (Menhinick, 1991), there have been no records of *C. cornuta* from Virginia portions of the Meherrin River basin (Jenkins & Burkhead, 1994) prior to those reported here. One of us (M. A. Dugo) recently collected specimens of *C. cornuta* from two sites within Virginia sections of the Meherrin drainage. We also report here a specimen from the upper Nottoway system in Prince George County and discuss other collections from that county. The following specimens of *C. cornuta* have been deposited in the fish collection of the North Carolina Museum of Natural Sciences (NCSM):

Meherrin River system: VA: *Greensville Co.* Mill Swamp at SR 660 (Fiddlers Road), 3.6 (air) km SW Claresville. 24 November 1999. M. A. Dugo. 1 ♂, 26 mm standard length (SL). NCSM 30012. VA: *Southampton Co.* Bellyache Swamp at SR 653 (Little Texas Road), 3.5 km N Little Texas. Habitat swampy; some areas with minimal flow. 5 May 1999. M. A. Dugo. 1 ♀, 36 mm SL. NCSM 30011.

Nottoway River system: VA: *Prince George Co.* Tributary of Joseph Swamp at SR 662 (Hair Road), 0.4 km west of SR 627. 17 April 1999. C. M. Stinson and M. A. Dugo. 1 ♂, 32 mm SL. NCSM 30010.

Although the Meherrin system specimens are the first known from this river system, their occurrence is not surprising. They were collected in habitat typical for *C. cornuta* (swampy areas with stained water and little current) during searches targeted specifically at this species. The Prince George County specimen was also in typical habitat; it is noteworthy because until recently the species had not been documented in the county. In addition to our *C. cornuta* specimen from Prince George County, one specimen was collected in Warwick Swamp (Blackwater River system), during warmwater stream surveys by the Virginia Department of Game and Inland Fisheries (VDGIF) in the county in 1997 (Woodward &

Copeland, 1998). Three more specimens were found in the county during a survey for blackbanded sunfish (*Enneacanthus chaetodon*) conducted by VDGIF in 1999 (Smith et al., 2001). The 1999 VDGIF collections were made at two locations distinct from our collection site, one (two individuals captured by dip-netting) in the Nottoway system and the other (one individual, electrofishing) in the Blackwater system. In the 1999 survey VDGIF workers using a backpack electroshocker also sampled our Joseph Swamp site but found no swampfish there (Smith et al., 2001). Although Jenkins & Burkhead (1994) show no records of swampfish in Prince George County, they do map records nearby. Our collection and those of two different VDGIF crews indicate that this species is present in several locations within the county. Our Meherrin drainage specimens and the Prince George County specimens thus represent two areas in which the documented range of *C. cornuta* in Virginia is expanded.

Our Prince George County specimen was collected by kick seining in a small blackwater stream in an area of swampy habitat. Our two Meherrin drainage specimens, as well as those collected elsewhere by Roble et al. (1998), Rageot (1992), and several reported by the VDGIF blackbanded sunfish survey (Smith et al., 2001), were collected with dip nets. All of our specimens were collected during daylight. Although a variety of collecting methods have provided specimens of swampfish, we believe that dip nets or seines will often be more effective than other collecting methods for this species. Known habits of the swampfish also make this likely. *Chologaster cornuta* is a nocturnal benthic fish that hides under leaf-litter during the daylight hours (Poulson, 1963). Thus, sampling methods that do not provide a means to dislodge fish hidden beneath bottom litter, such as electrofishing or use of ichthyocides, seem less likely to reveal fish than dip netting or kick seining. Water current often cannot be relied on to uncover stunned fish because it is typically low in the habitat occupied by this species. We believe that previous ichthyofaunal surveys that have depended largely on electrofishing are likely to have overlooked *C. cornuta* at some sites. Also, at sites where the species is known to occur, population estimates based on electrofishing might be artificially low. In the calm water of the swampy habitats typical of *C. cornuta*, a dip net might be superior to a seine, but in some instances a seine may be preferred. For example, the swampfish may move into smaller lotic habitats during the spring (Poulson, 1963). At such times, using a seine might prove more effective than dip netting, although Poulson (1963) found the species difficult to inventory in this manner.

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LITERATURE CITED

Jenkins, R. E., & N. M. Burkhead. 1994. Freshwater Fishes of Virginia. American Fisheries Society, Bethesda, MD. 1079 pp.

Menhinick, E. F. 1991. The Freshwater Fishes of North Carolina. North Carolina Wildlife Resources Commission, Raleigh. 227 pp.

Poulson, T. L. 1963. Cave adaptation in amblyopsid fishes. *American Midland Naturalist* 70: 257-290.

Rageot, R. de. 1992. Notes on the swampfish (*Chologaster cornuta* Agassiz) in the Dismal Swamp of Virginia. *Banisteria* 1: 17-18.

Roble, S. M., D. J. Stevenson, & C. S. Hobson. 1998. Recent noteworthy records of the swampfish (*Chologaster cornuta*) from the Nottoway River system, Virginia. *Banisteria* 11: 50-51.

Smith, R. K., M. J. Pinder, & K. E. Walter. 2001. Distributional survey and assessment of habitat requirements of blackbanded sunfish (*Enneacanthus chaetodon*) in Virginia. Report of the Virginia Department of Game and Inland Fisheries, Wildlife Diversity Division, Richmond, VA. Wildlife Diversity Technical Report Number 1. 46 pp.

Woodward, K. O., & J. R. Copeland. 1998. Blackwater River and tributaries fish community surveys. Report of the Virginia Department of Game and Inland Fisheries, Richmond, VA. Federal Aid in Sportfish Restoration Grant F111R6, Project III.

Mark A. Dugo
Department of Biological Sciences
University of Southern Mississippi
Hattiesburg, Mississippi 39406-5018

C. Michael Stinson
Southside Virginia Community College
Daniel Campus
200 Daniel Road
Keysville, Virginia 23947