



Three new darter species of the *Etheostoma percnurum* species complex (Percidae, subgenus *Catonotus*) from the Tennessee and Cumberland river drainages

REBECCA E. BLANTON¹ & ROBERT E. JENKINS²

¹Florida Museum of Natural History, University of Florida, Gainesville, FL 32611, USA. E-mail: rjohansen@flmnh.ufl.edu

²Department of Biology, Roanoke College, Salem, VA 24153, USA. E-mail: jenkins@roanoke.edu

Abstract

The federally endangered Duskytail Darter, *Etheostoma percnurum* Jenkins, is known from only six highly disjunct populations in the Tennessee and Cumberland river drainages of Kentucky, Tennessee, and Virginia. Only four are extant. Variation in morphology including meristics, morphometrics, and pigmentation was examined among the four extant populations and limited specimens from the two extirpated populations (Abrams Creek and South Fork Holston River). Analyses of these data found each of the extant populations is morphologically diagnosable. The few specimens available from Abrams Creek and South Fork Holston River prevented thorough assessment of variation, and these were grouped with their closest geographic counterparts, Citico Creek, and Little River, respectively. Three new morphologically diagnosable species are described: *E. sitikuense*, the Citico Darter, from Citico Creek, Abrams Creek, and Tellico River (Tennessee River system); *E. marmoripinum*, the Marbled Darter, from the Little River and South Fork Holston River (Tennessee River system); and *E. lemniscatum*, the Tuxedo Darter, from the Big South Fork (Cumberland River system). Each species warrants federal protection as an endangered species.

Key words: Duskytail Darter, southeast fishes, morphological variation, conservation, federally endangered

Introduction

The federally endangered Duskytail Darter, *Etheostoma percnurum* Jenkins, is a member of the *E. flabellare* species group of the subgenus *Catonotus* (Page 1975; Page 2000). Unlike most other members of the subgenus, *E. percnurum* occupies both larger and smaller streams and rivers where it occurs in silt-free, rocky, gently-flowing pools and runs (Jenkins 1994). The species is endemic to the upper Tennessee and middle Cumberland river drainages of Virginia, Tennessee, and Kentucky (Etnier & Starnes 1993; Jenkins 1994; Eisenhour & Burr 2000) but is only known from six relict populations (Fig.1; Etnier & Starnes 1993; Jenkins 1994). Extant populations of *E. percnurum* in the upper Tennessee drainage are known from Copper Creek in Virginia, and Citico Creek and Little River in Tennessee. Only one extant population occurs in the Cumberland River drainage, an approximately 19 km stretch of the Big South Fork Cumberland River, in Tennessee and Kentucky (Eisenhour & Burr 2000).

The species is also known from two additional collections, one from the South Fork Holston River in Tennessee, and one from Abrams Creek of the Little Tennessee River in Tennessee, but is now considered extirpated from these streams. Using Citico Creek as a source population, Conservation Fisheries Inc. (CFI) successfully propagated and reintroduced *E. percnurum* into nearby Abrams Creek (reflecting efforts since 1993) and introduced the species into the Tellico River (since 2003), which it probably also inhabited within the Little Tennessee system. These efforts have resulted in a viable reproducing population in Abrams Creek