



***Crystallaria cincotta*, a new species of darter (Teleostei: Percidae) from the Elk River of the Ohio River drainage, West Virginia**

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Abstract

A new species of percid, *Crystallaria cincotta*, is described from the Cumberland, Elk, Green, and Muskingum river drainages of the Ohio River basin, USA. It differs from populations of *Crystallaria asprella* of the Gulf Coast, lower Mississippi River, middle Mississippi River, upper Mississippi River, and Wabash River drainages by having a reduced number of cheek scale rows restricted to the post-orbital region, a falcate margin on the pelvic fins, a preorbital blotch distinctly separate from the anterior orbital rim, and a wide mouth gape. The Elk River population is also divergent genetically from populations of the Gulf Coast, lower Mississippi River, and upper Mississippi River drainages. *Crystallaria cincotta*, discovered in the Elk River of the Ohio River drainage in 1980, is a rare species with the only extant population represented by 12 individuals collected from 1980–2005 from the lower 36 km section of the Elk River, West Virginia.

Key words: new species, darter, Percidae, *Crystallaria*, Elk River

Introduction

Crystallaria asprella (Jordan), the crystal darter, was recognized as the sole member of a monotypic genus (Simons 1991). The crystal darter has a wide and fragmented geographic distribution within the Mississippi River system (Page 1983), including population segments in the Gulf Coast, lower Mississippi River, middle Mississippi River, and upper Mississippi River (Morrison *et al.* 2006). Museum specimens from the Cumberland, Green, Muskingum, and Wabash rivers support a previous wide-spread distribution of *Crystallaria* within the Ohio River drainage. A population in the Elk River, WV (Ohio River drainage) was discovered in 1980 (Cincotta and Hoeft 1987). A total of 12 individuals have been collected from Elk River during 1980–2005. Genetic diversity of *Crystallaria* was examined at the mitochondrial cytochrome *b* gene (Wood and Raley 2000) and at two additional loci; the mitochondrial control region, and an intron of the nuclear *S7* ribosomal protein (Morrison *et al.* 2006). Wood and Raley (2000) and Morrison *et al.* (2006) both reported that the Elk River population was genetically divergent from the Gulf Coast, lower Mississippi River, and upper Mississippi River populations. Our objective is to provide morphologic data to supplement the genetic evidence in support of the new species status of the extant Elk River population of *Crystallaria*.

Material and methods

In addition to the genetic data of Wood and Raley (2000) and Morrison *et al.* (2006), this study is based on