

## Three new percid fishes (Percidae: *Percina*) from the Mobile Basin drainage of Alabama, Georgia, and Tennessee

JAMES D. WILLIAMS<sup>1</sup>, DAVID A. NEELY<sup>2</sup>, STEPHEN J. WALSH<sup>3</sup> & NOEL M. BURKHEAD<sup>3</sup>

<sup>1</sup>*Florida Museum of Natural History, University of Florida, Gainesville, Florida 32611, USA. E-mail: fishwilliams@gmail.com*

<sup>2</sup>*Department of Ichthyology, California Academy of Sciences, San Francisco, California 904103, USA.*

*E-mail: dave.neely@gmail.com*

<sup>3</sup>*U.S. Geological Survey, 7920 NW 71st Street, Gainesville, Florida 32653, USA. E-mail: swalsh@usgs.gov; nburkhead@usgs.gov*

### Abstract

Three new species of *Percina* are described from upland drainages of the Mobile Basin. Two of the three species are narrowly distributed: *P. kusha*, the Bridled Darter, is currently known only from the Conasauga River drainage in Georgia and Tennessee and Etowah River drainage in Georgia, both tributaries of the Coosa River, and *P. sipsi*, the Bankhead Darter, which is restricted to tributaries of Sipsey Fork of the Black Warrior River in northwestern Alabama. The third species, *P. smithvanizi*, the Muscadine Darter, occurs above the Fall Line in the Tallapoosa River drainage in eastern Alabama and western Georgia. In a molecular analysis using mitochondrial cytochrome *b* sequence data, *P. kusha* and *P. smithvanizi* were recovered as sister species, while *Percina sipsi* was recovered in a clade consisting of *P. aurolineata* (*P. sciera* + *P. sipsi*). Two of the three species, *P. kusha* and *P. sipsi*, are considered to be imperiled species and are in need of conservation actions to prevent their extinction. Description of these three darters increases the number of described species of *Percina* to 44. Sixteen are known to occur in the Mobile Basin, including nine that are endemic.

**Key words:** Percidae, *Percina*, *Percina kusha*, *Percina sipsi*, *Percina smithvanizi*, darter, new species, taxonomy, conservation, Alabama, Georgia, Tennessee, Mobile Basin

### Introduction

There are 41 described species in the genus *Percina* (Near & Benard 2004; Nelson *et al.* 2004), the second-most species rich of 10 genera currently recognized in the family Percidae (Song *et al.* 1998). Of the 41 named species, 13 are known from the Mobile Basin of Alabama, Georgia, Mississippi and Tennessee, and six are endemic. Our description of three new species brings the total number of described species in the Mobile Basin to 16, nine of which are endemic to the Mobile Basin, representing the highest level of endemism in the genus *Percina* within any drainage of North America.

The first of the three new species to be recognized as taxonomically distinct, *Percina smithvanizi*, Muscadine Darter, was discovered during a survey of fishes in the Tallapoosa River drainage of Alabama and Georgia (Williams 1965). In the late 1960's, *P. kusha*, Bridled Darter, was discovered in headwaters of the Coosa River in Georgia and Tennessee (Stiles & Etnier 1971). *Percina sipsi*, Bankhead Darter, endemic to a small area in the Sipsey Fork watershed of the Black Warrior River drainage in north-central Alabama, went undetected until 1971 (Dycus & Howell 1974). Following discovery of these species, their existence, distribution, and presumed placement within the subgenus *Alvordius* became general knowledge among darter systematists. However, their recognition as valid species or subspecies was not consistent. Knowledge of the existence of these taxa has led to numerous published references to them as bridled or muscadine darters and