



Taxonomic status of the Guadalupe Darter, *Percina apristis* (Teleostei: Percidae)

ROBERT H. ROBINS¹ & LAWRENCE M. PAGE²

Florida Museum of Natural History, University of Florida, Gainesville, FL 32611, USA.

E-mail: ¹rhrobins@flmnh.ufl.edu, ²lpage1@ufl.edu

Abstract

Percina sciera apristis (Hubbs & Hubbs) was described as a subspecies based on the hypothesis that the population in the Guadalupe River system was morphologically distinct from other populations and that populations geographically closest to the Guadalupe River were intergrades between *P. s. sciera* and *P. s. apristis*. Our data confirm the decision to recognize the population in the Guadalupe River as taxonomically distinct; however, western Gulf populations closest to the Guadalupe River do not show a consistent pattern of intermediacy in meristic variables. The Guadalupe population has extreme numbers of preopercular serrae, pored lateral-line scales, modified scales, caudal-peduncle scales, and anal rays. The most extreme trait is the number of preopercular serrae; 95% of individuals from the Guadalupe, but only 6% from other western Gulf drainages, have 0–3 serrae. Sixty-eight percent of Guadalupe individuals, but only 4% from elsewhere, have no serrae. These extreme values demonstrate that the Guadalupe population is genetically isolated and diagnosable as *Percina apristis* (Hubbs & Hubbs), the Guadalupe Darter.

Key words: Pisces, Guadalupe River, endemism

Introduction

The Dusky Darter, *Percina sciera* (Swain 1883) is a wide-ranging species that occurs in the Mississippi River basin from Ohio and West Virginia west to Illinois and south to Louisiana, and in Gulf drainages from north-west Alabama south to the Guadalupe River, Texas (Fig. 1). *Percina sciera* is one of four species in the subgenus *Hadropterus* (Page 1974). All but *P. sciera* are restricted to Gulf and Atlantic Slope drainages east of the Mississippi River (Page & Burr 1991).

Two subspecies of *P. sciera* are currently recognized: *P. s. sciera* (Swain), distributed throughout the majority of the range, and *P. s. apristis* (Hubbs and Hubbs), restricted to the Guadalupe River system of the San Antonio Bay drainage, Texas (Fig. 1). The San Antonio Bay drainage is the penultimate major drainage on the Gulf Slope between the Mississippi River and the Rio Grande and consists of the Guadalupe and San Antonio River systems. *Percina s. apristis* is found in the Guadalupe, but not the San Antonio, river system (Hubbs *et al.* 1991).

Percina s. apristis was diagnosed from *P. s. sciera* primarily by a reduced number of preopercular serrae (Hubbs & Hubbs 1954). Hubbs (1954) examined specimens from 13 river systems in a north/south gradient from the Wabash River, Indiana, to the Guadalupe River, Texas. He found that counts of preopercular serrae formed a cline, with counts low in the north and highest in the Brazos and Colorado rivers, Texas, with an abrupt shift to much lower counts in the Guadalupe River. He also noted other differences in meristic counts, body proportions and color pattern, as well as the peripheral isolation of *apristis*, and remarked that “*apristis* may be specifically distinct from *scierus*” (Hubbs 1954, p. 215). However, he declined to recognize the taxon as a species due to concerns about overlapping variation in analyses that considered all 13 river systems examined.