



***Macrodon atricauda* (Günther, 1880) (Perciformes: Sciaenidae), a valid species from the southwestern Atlantic, with comments on its conservation**

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Abstract

The American sciaenid genus *Macrodon* presently consists of only two species, the Atlantic *Macrodon ancylodon* (Bloch & Schneider, 1801), and the Pacific *Macrodon mordax* (Gilbert & Starks, 1904). The two species are distinguished mainly by the number of pored scales on the lateral line (66–78 in *M. ancylodon* vs. 45–55 in *M. mordax*). The present study revalidates a third species, the second from the Atlantic, *Macrodon atricauda* (Günther, 1880), which is genetically, morphologically, and geographically distinct from *M. ancylodon*, occurring between the Brazilian state of Espírito Santo and northern Argentina. It has significant economic importance in the area and thus considerations about its conservation are also presented.

Key words: King weakfish, geographic distribution, revalidation

Introduction

The Sciaenidae is among the World's most economically important fish families, especially in the western Atlantic. With about 78 genera and 282 species, this family is widely distributed in the tropical, subtropical and temperate seas, with some genera inhabiting freshwater habitats (Nelson, 2006).

Until the present study, the New World genus *Macrodon* was believed to contain only two species, the Atlantic *Macrodon ancylodon* (Bloch & Schneider, 1801) and the eastern Pacific *Macrodon mordax* (Gilbert & Starks, 1904). In addition to their distinct geographic ranges – *M. ancylodon* is found between Venezuela and Argentina, and *M. mordax* between Panama and Ecuador, occasionally to Peru (Chirichigno & Cornejo, 2001), in the tropical eastern Pacific – the two species are mainly distinguished by the number of pored scales on the lateral line (66–78 in *M. ancylodon* vs. 45–55 in *M. mordax*), and the posterior nostril, oblong and much larger than the anterior nostril in *M. ancylodon*, slit-like, very small, slightly larger than the anterior in *M. mordax* (Meek & Hildebrand, 1925; Chao, 1995; Velasco, 2002).

Along the Brazilian coast, *Macrodon ancylodon* (Block & Schneider 1801) is one of the most important fishes of the area in economic terms (FIG. 1). Recent studies using 16S ribosomal RNA and cytochrome b, both mitochondrial genes, have revealed two reciprocally monophyletic clades denominated tropical and subtropical, which show nucleotide divergences reaching 4.3% for the cytochrome b and 2.6% for the 16S RNA. These differences are of the same magnitude as the values detected for intrageneric comparisons in Perciformes (Santos *et al.*, 2003). Furthermore, AMOVA, using cytochrome b, showed that 93.09% ($P < 0.05$) of all variance is partitioned between the tropical and subtropical clades and fixation index ($F_{st} > 0.9$) indicates that no gene flow exist between the groups, suggesting the existence of two distinct species located to the north and south of a zone somewhere between 12° and 20° S (Santos *et al.*, 2006). These authors argue that the two species are adapted to distinct patterns of water temperature and currents, which have reinforced their genetic isolation.