



Abstract

# Genetic Structure of Meagre (*Argyrosomus regius*) in Portugal: Implications for Fisheries Management †

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**Abstract:** The meagre *Argyrosomus regius* (Asso, 1801) is a marine migratory species with a wide distribution range encompassing the north-eastern and central-eastern Atlantic Ocean, the Mediterranean Sea, and the western Black Sea. *A. regius* is one of the largest overexploited sciaenids, being a valuable resource for aquaculture and fisheries along its distribution range. The Iberian Peninsula is considered an intermediate area between two genetically distinct groups of *A. regius* populations, one in the north-eastern Atlantic Ocean and one in the eastern Mediterranean Sea. The current knowledge on the population dynamics and distribution of this species has been derived from commercial and recreational fishery catches; therefore, little is known about the importance of the Iberian Peninsula for the species' management and conservation. The aim of this study is to evaluate the *A. regius* population genetic structure along the Portuguese coast taking into consideration the north-eastern Atlantic region. To achieve this goal, the genetic diversity, differentiation, populational structure and demographic history of *A. regius* populations along the Atlantic coast were analyzed using 15 microsatellite loci. The detected populational structure indicates that *A. regius* species in Portugal are divided into two distinct stocks, one across the Portuguese western coast, possibly related to the Tagus spawning and nursery area, and another one on the southern coast. This study reveals the need for *A. regius*-specific fishery management plans in Portugal and underlines the importance of considering the genetic structure of *A. regius* populations when delineating such management plans.

**Keywords:** *Argyrosomus regius*; demographic history; gene flow; microsatellites; population structure; stock identification

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