Recruitment of the exotic weakfish at its southernmost limit in Europe: a preliminary assessment

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Abstract Text:

Since its first record in Europe as an exotic species back in 2009 at the Schelde estuary (Belgium), the weakfish *Cynoscion regalis* -native from North America East coast- has increased its presence in the Iberian Peninsula waters. Identified for the first time in the Guadalquivir River estuary (2011) and later in the Sado estuary (2014), *C. regalis* population is increasing in the Gulf of Cadiz and is becoming a fisheries resource. Its introduction into Europe probably occurred through maritime transatlantic trade. Morais et al (2017) suggested that weakfish could have been introduced through multiple independent ballast water release events. The Guadalquivir, Sado and Schelde estuaries show similar transoceanic ship traffic to upstream important commercial ports, supporting multiple direct or secondary transatlantic introductions among European ports. The first genetic studies suggest that *C. regalis* populations in southern European estuaries are connected and come from a single transoceanic commercial route. Currently, the Gulf of Cadiz maintains a well-established population with frequent catches by artisanal fishing, especially in coastal waters and the estuary, where it is sold in local markets of the surrounding cities.

The population in the area is constituted by mature specimens (ranging from 234 to 453 mm) that are using the estuary as a spawning area, where larvae and juvenile have also been found. In recent years, an increase in the abundance of larvae and juvenile has been observed through monthly samplings in the estuary, which indicates the culmination of the complete life cycle in the Gulf of Cadiz. These findings represent new evidence that the Guadalquivir estuary constitutes a remarkable nursery habitat for this species. This could have effects on native fauna and the ecosystem, which is why it is currently under study and evaluation (EcoInvadiz project) for helping the local Administration to establish, if needed, an appropriate management program.

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