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## Checklist of the Adriatic Sea Fishes

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## Abstract

An updated checklist is presented for the marine fish fauna in the Adriatic Sea. According to historical and recent sources in scientific literature 440 fish species were up to date recorded in the Adriatic Sea. Only a minor number of species are considered to be a consequence of recent processes known to have occurred in the Mediterranean sea, such as Lessepsian migration, Atlantic influx, northward spreading and cases of escape from mariculture.

**Key words:** marine fish fauna, checklist, Adriatic Sea, Mediterranean Sea

## Introduction

The present-day flora and fauna of the Adriatic Sea result from the numerous geological, geographical, climatic and biological influences occurring during its formation. The influence of geographical, geomorphological, climatic and other environmental factors is crucial even today; indeed the peculiarities of the Adriatic ichthyofauna actually depend on these factors. Although the Adriatic Sea is a part of the Mediterranean, it is an independent biogeographical and ecological subunit, which is manifest in the composition and properties of its life communities (biocoenosis).

The first research into the Adriatic ichthyological fauna occurred in the 18th century and was reported in the book *Ichthyologia massiliensis* (Brünnich, 1768; cited in: Jardas, 1985). Lists of the Adriatic fish species were made by a number of authors during the 19th and 20th centuries (e.g. Naccari, Nardo, Michacheles, Martens, Lanza, Carrara, Plučar, Stossich, Kolombatović, Kosić, Bini, Tortonese, Šoljan and Jardas; reviewed in Jardas, 1985). Some of these authors focused on the occurrence of new and rare species in the Adriatic Sea (reviewed in Jardas, 1985; Dulčić & Lipej, 1997; Dulčić *et al.*, 1999a, Dulčić & Lipej, 2002; Dulčić *et al.*, 2003a). A systematic study of the Adriatic ichthyofauna began in the first quarter of the 19th century, when several fish species were described for the first time, but most important and comprehensive lists were presented in the 20th century by Šoljan (1948, 1965) and Jardas (1985, 1996). In spite of that, there is still a lack of knowledge of several topics. A rising number of new records of fish was observed in the last fifteen years in the Adriatic, even including some undescribed species (Lipej & Dulčić, 2004). The list of 407 species and subspecies recorded in the Adriatic so far cannot be regarded as complete (Jardas, 1996). The greatest part of the Southern Adriatic basin had still not been sufficiently explored and the knowledge of the deep demersal ichthyofauna is poor (Lipej & Dulčić, 2004). There are also some unsolved systematic (taxonomic) and status issues regarding certain fish species. Recently, Kovačić (2004a) found that 4 goby species were wrongly listed in the last checklist of the Adriatic fishes presented by Jardas (1996). Although the Adriatic is considered to be a relatively well studied part of the Mediterranean Sea, some reviews has underlined the significant number of new species of ichthyofauna which are still being recorded (Lipej & Dulčić, 2004). According to previous, the exact number of fish species encountered in the Adriatic Sea could not be figured out yet. Thus, a review of fish species of the Adriatic is urgently required.

The main objectives of this study are to present a new checklist of the Adriatic fishes and to briefly discuss doubtful records.