



BOOK REVIEW: HRVATSKE ENDEMSKE RIBE (CROATIAN ENDEMIC FISHES)

The book, *Croatian Endemic Fishes*, by Marko Čaleta, Ivana Buj, Milorad Mrakovčić, Perica Mustafić, Davor Zanella, Zoran Marčić, Aljosa Dupličić, Tanja Mihinjač and Ivan Katavić was published in 2015 under the editorship of Martina Cigrovski Mustafić, Gordana Kolačko and Marko Čaleta from the Croatian Environment Agency (Fig. 1).

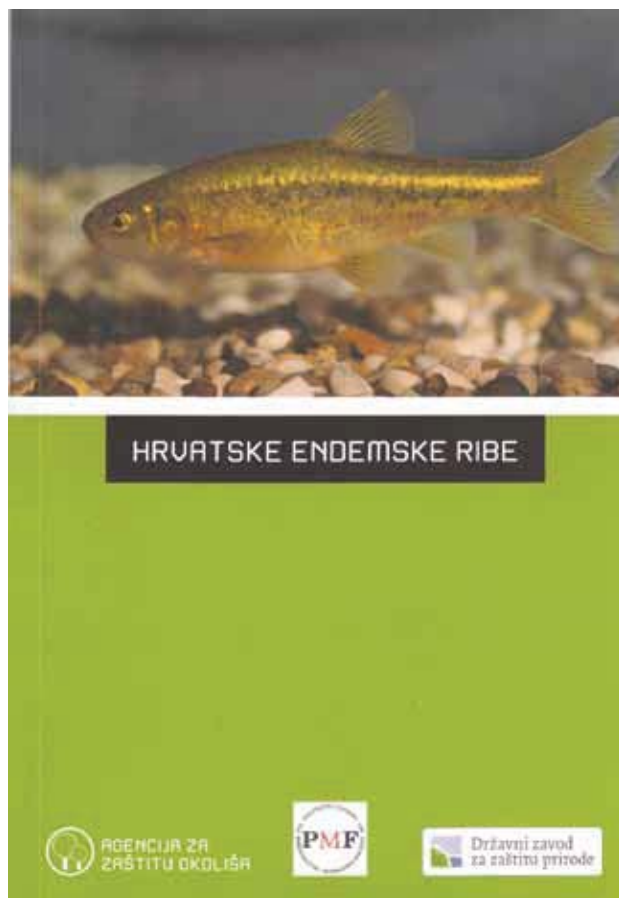


Fig 1. Cover of the book - Croatian endemic fishes

Recognizing the importance of fishes and their vulnerability, the Croatian Environment Agency prepared a publication release titled *Endemic fish species of the Adriatic Basin* in 2008. The publication was very well received by scientists and nature lovers, and is recognized by the wider scientific and professional public. Since then numerous ichthyological researches, which led to new scientific

knowledge about the taxonomic status and distribution of endemic Croatian ichthyofauna, have been conducted.

Therefore, seven years after the first edition, this second, expanded edition was prepared. The novelty of this publication lies in the fact that the endemic fish species of the Adriatic Basin (38), the Danube Basin (12) and the Adriatic Sea (2) were described. So the extended publication was titled *Croatian Endemic Fishes*. The aim of this publication was to provide, display and familiarise general public and nature lovers, and especially sports fishermen, with the richness of Croatian endemic ichthyofauna so that they become aware of the negative effects to which the ichthyofauna is exposed. Endemic fishes are priceless and an important part of European biodiversity.

Therefore, this book is dedicated to endemic and rare fish species in Croatia. The area in which they live is restricted, so sometimes they can be found in a single river or some extremely confined space such as caves and lakes. Because of specific ecological, climatic and geomorphological conditions, and a wide variety of habitat types, Croatia is very rich in endemic fauna. Fishes of all animals are a group with the largest number of endemic species that are invaluable and make up a significant part of European biodiversity. According to current knowledge, Croatia is inhabited by 52 endemic fish species, with their largest number from Istria to Dubrovnik, in Gorski Kotar and Lika. In a separate chapter, the diversity of Croatian fishes was highlighted because Croatian freshwater ichthyofauna is extremely diverse in terms of number of species, especially endemic species. Species richness is a result of Croatia's geographical position which includes two river systems: the Adriatic and Black Sea. According to the total number of freshwater fish species, Croatia ranks second in Europe, behind Turkey, whose territory is much larger.

The term *endemic fish* is clearly defined in the book. Reasons for freshwater fish vulnerability in Croatia have been thoroughly analyzed and negative consequences of reclamation and regulation of watercourses, pollution of watercourses, the impact of alien and transferred species, climate change, fisheries and tourism to endemic fish species have been presented.

The most important protected areas for endangered species conservation in Croatia were highlighted, so ichthyofauna of the Danube River and the Adriatic Basin, Istrian rivers,

Gorski Kotar and Lika, and Dalmatia were described. There was an emphasis on the legal protection of endemic fish in Croatia. It was emphasized that the successful protection of fish is based on three basic principles: scientific knowledge, legislation and management, and law enforcement. It was pointed out for each species whether it was a strictly protected species under the Nature Protection Act and the Ordinance on strictly protected species in Croatia.

The review of Croatian endemic fishes was shown through three separate entities; fishes of the Danube and the Adriatic Basin, and Adriatic endemic species were included. Scientific and Croatian name, national names and its origin were listed. Distribution of species and description of the way of life of every species was presented. Special emphasis was given to every kind of threat, and for each species its

IUCN status in Croatia is highlighted [regionally extinct (RE) critically endangered (CR), endangered (EN), vulnerable (VU), near threatened (NT) and data deficient species (DD)]. For the rare and endemic fish species in Croatia, the level of threat for each species and proposed protection strategy were estimated. Since the Croatian Environment Agency is in charge of the integration of data, which are necessary for the assessment and monitoring of the environment within the environmental information system, and access facilitation of information to professional and general public, the authors wanted to give a complete presentation of Croatian endemic fish in this publication.

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