



9th ICZEGAR ABSTRACTS

9th INTERNATIONAL CONGRESS
ON THE ZOOGEOGRAPHY AND ECOLOGY OF GREECE
AND ADJACENT REGIONS



HELLENIC
ZOOLOGICAL
SOCIETY

THESSALONIKI 22-25 MAY 2002



NATIONAL CENTRE
FOR MARINE
RESEARCH

published by
The Hellenic Zoological Society, © 2002

ABIOTIC FACTORS AFFECTING THE DISTRIBUTION AND ABUNDANCE OF THE FISH FAUNA IN TWO LAGOONS OF EVROS DELTA (N.E. GREECE)

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The composition of the fish fauna in two lagoon systems, an isolated (Drana lagoon) and an open to the sea (Laki lagoon) of Evros delta in N.E. Greece, was investigated during spring 1998 to summer 1999. The Laki lagoon is open to the sea through two canals, while Drana was been in contact with the Laki through a narrow canal, since 1987. Since then the Drana lagoon was isolated from the Laki from an obstruction of its connecting canal. Both of the lagoons are receiving fresh waters from different torrents.

In the above two lagoon systems, the environmental abiotic factors that affecting the distribution and abundance of the fish fauna was studied, on the basis of catch per unit effort data. The sampling of the fishes was carried out seasonally, using specific bag – seine nets, bow nets and dipnets. The abiotic data of the two water bodies recorded monthly and were salinity, conductivity, temperature, pH and water transparency.

The fish species representing with twelve different fish families in both of the lagoons, while four of them are common for the both systems. Drana's lagoon fish fauna includes five fish families. Nineteen different fish species recorded in the two lagoon systems, twelve in the Laki lagoon and seven in Drana, while the common fish species are five. The fish species that are representing only in Drana lagoon are mainly freshwater species (*Alburnus alburnus* and *Lepomis gibbosus*), while the fish species which representing only in Laki lagoon are mainly estuarine or near-shore marine species.

Both of the lagoons are over-fished, while in Drana the isolation from the sea for an over ten years period has stopped the entrance of new fish species from the sea. During the sampling period cached only small size fish species with no commercial importance. The most abundant fish family for the both lagoons was Gobiidae, representing with two species, *Knipowitschia caucasica* and *Pomatoschistus marmoratus*. The second dominant family was Cyprinodontidae, representing with the species *Aphanius fasciatus*.

The structure of the overall fish community varied seasonally, depending on the environmental abiotic factors (temperature), while the most important of the limiting factors for the distribution and the abundance of the fish species must be the isolation and over-fishing. The species richness is lower during winter in Laki lagoon, while in Drana concluded the same only from the dipnet's sampling.

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