

On the presence of ichthyoplankton into the Ionian Sea, Hellenic coast; Anchovy in August 1972

by

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This study, based on zooplankton samples collected during August 1972 into the Ionian Sea, Hellenic coast, deals with the ichthyoplankton standing stock of Anchovy (*E. encrasicolus* L.) mainly and of some others, less commercially important species.

Very little is known on the reproduction of fishes in this area. Some data have been given by DEKHNİK [1968] for the open Ionian Sea. Similar work has been carried out in the Adriatic Sea by KARLOVAC [1963] and VUCETIĆ [1964] and in the Saronikos Gulf, Aegean Sea, by YANNOPOULOS *et al.* [1973].

Sampling has been carried out by vertical hauling from the bottom to the surface, with a WP-2 nylon net, mesh size 0.24 mm and a total of 52 positive samples have been analyzed; Anchovy was the predominant species together with eggs and larvae of Apodes and Scorpaenidae.

The surface temperature down to 20 metres varied between 22.05 to 23.95 °C and below the thermocline between 14.10 to 18.23 °C. Salinity ranged from 38.09 to 38.90 ‰ at all depths.

Zooplankton was rather rich and the species, *Calanus* sp., *Oithona plumifera*, *Haloptilus acutiformis*, *Temora stylifera* and *Corycaeus* sp., were collected in a relative abundance in all samples; less abundant were the *Eucalanus* sp., *Calocalanus*, *Lucicutia*, *Euchaeta*, *Aetideus*, *Sapphirina*, *Candacia*, *Centropages*, *Acartia*, *Isias*, *Anomalocera*, *Pleuromamma*, *Copilia* together with other groups as Chaetognaths, Appendicularians, Siphonophores and Medusae; Salps were occasionally present as *Thalia democratica* and *Salpa fusiformis*. Also, Ostracods as well as *Cladocera*, that is, *Evadne spinifera*, *E. nordmanni*, *Penilia avirostris* and *Podon* sp. were present in some of the samples obtained at the Northern part of the Ionian Sea. In samples collected during night-time Mysids, Isopods and Euphausiids were present.

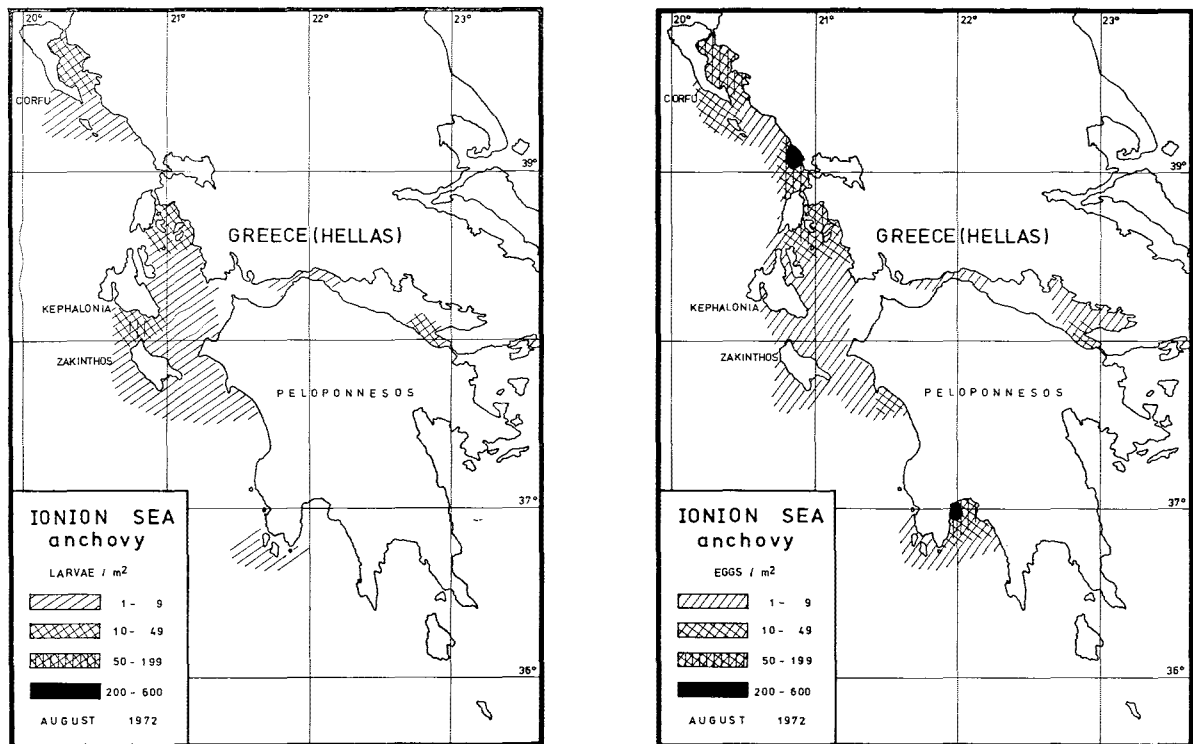
Figure 1, shows the distribution and density of the eggs of Anchovy. Two main spots have been obtained where reproduction was more dense, that is, south of Corfu island with maximum density calculated at 416 eggs par m² of the surface and at the South-West gulf of Peloponnesos with maximum density 200 eggs par m² of the surface. At both places there were not larvae of the forementioned species present into the samples.

Figure 2, presents the distribution and abundance of the larvae of Anchovy; their higher density have been obtained in the area between Kephallonia and Zakynthos, that is, 196 larvae per m² of the surface. Eggs of this species were usually collected together with the larvae.

From these results we may conclude that the mean values of the ichthyoplankton standing stock of Anchovy in the Ionian Sea were not significantly inferior from the values of the Adriatic Sea and from the ones of the Saronikos Gulf.

Other specimens, obtained in a relative abundance, were eggs and larvae of Apodes, that is of *Coecula caeca*, *C. imberbis* and of *Ophisurus serpens* at the South of Peloponnesos and the West of Corfu areas, and of Scorpaenidae, that is, eggs and larvae of *Scorpaena ustulata*, at the South-east of Peloponnesos area and among the Ionian Sea islands. At deeper stations, eggs of *Maurolicus pennati* and various

larvae of *Myctophids* have been collected. Finally, eggs of *Centracanthus cirrus* and larvae of *Serranus scriba*, *Mugil* sp., *Gobius niger*, *Arnoglossus* sp., *Sargus* sp. and *Pagellus bogaraveo* were often found in the samples.



References

- DEKHNİK (T. V.), 1968. — Les caractéristiques comparées de la répartition quantitative de l'ichthyoplancton dans les mers du bassin méditerranéen. *Rapp. Comm. int. Mer Médit.*, **19**, 3, 429-431.
- KARLOVAC (J.), 1963. — Contribution à la connaissance de la ponte de l'anchois. *Engraulis encrasicolus* L., dans la haute Adriatique. *Rapp. Comm. int. Mer Médit.*, **17**, 2, 321-326.
- VUCETIĆ (T.), 1964. — Some data on the spawning of anchovy (*Engraulis encrasicolus* L.) in the open Central and North Adriatic. *Proc. Gen. Fish. Coun. Médit.*, **7**, 15, 203-209.
- YANNOPOULOS (A.), YANNOPOULOS (C.) & SOTERIADES-VLACHOS (C.), 1973. — On the occurrence of ichthyoplankton in the Saronikos Gulf, Aegean Sea : I. Anchovy and Sardines in 1969-1970-1971. *Rev. Trav. Inst. Pêches Marit.*, **37**, 2, 177-181.