

**Striped Venus (*Chamelea gallina*) in Neretva Estuary - Biological Evaluation and Estimation of Petroleum and Chlorinated Hydrocarbons**

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Edible shellfish Striped venus (*Chamelea gallina*) in great abundance inhabits the alluvial sands along the Italian (Adriatic) coast and makes an extensive fishable resource over which today about 700 fishing vessels (hydraulic dredges) FROGLIA (1989) produce yearly about 100.000 tons.

Thanks to the fisheries experience gained along the Italian coast it is for the first time in the estuary of Neretva river discovered fairly abundant bank (0.5 km<sup>2</sup>) of Striped venus population of the (Fig. 1) standing stock size and annual yield of 100 tons for only two fishing boats.

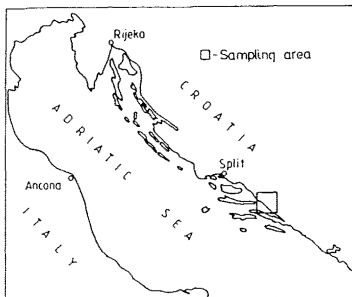


Fig. 1. Area of investigation - Neretva estuary

Since the habitat of this benthic community is exposed to the Neretva river various organic discharges, either directly by river inflow or by agriculture activities, a sanitary control and evaluation of organic pollutants concentration accumulated in species tissue for marketing purposes has been performed.

Idioecological characteristics of the species in the western Adriatic are described by POGGIANI *et al.*, (1973) while the biometric, i.e. length frequency distribution of the species in the Neretva river estuary is presented on the Fig. 2.

The presence of chlorinated hydrocarbons was also established in the shellfish tissue (hexachlorobenzene, heptachlor, aldrin, DDT and its metabolites and lindan. Found values range from 1.4 ng/g of tissue dry weight for lindan to 10.0 ng/g for ppDDT. (Fig. 3). For some compounds these values exceed the limits permitted by the Book of regulations for foodstuffs. The values recorded for DDD were exceptionally high (1050 ng/g). Polycyclic aromatic hydrocarbons are the second type of found organic pollutants. Their proportion makes up 2.2 µg chrysene equivalents per g of dry weight that is 26.1µg ROPME oil per gram of dry weight. The characteristic emission spectra of I and II aromatic fractions is presented in Fig. 4, where the benzopyrene peak is evident as well as the aromatic compounds with 2-4 rings (oil source).

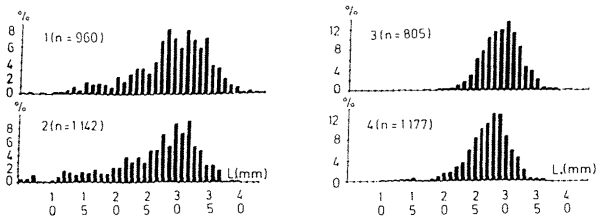


Fig. 2. Length frequency distribution of the Striped venus in the Neretva estuary (December 1990)

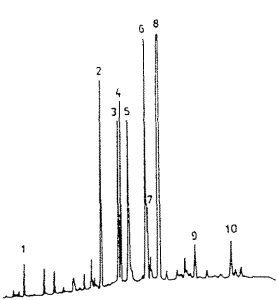


Fig. 3. EC capillary chromatogram of the F<sub>2</sub> fraction of shellfish in the Neretva estuary (December 1990). Numbered peaks belongs to following compounds: 1-lindane; 8-DDD; 9-DDT; 2-7 and 10-unknown

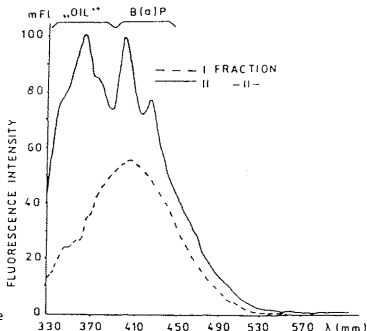


Fig. 4. Continuous emission spectra of the first (I) and second (II) fraction of shellfish in the Neretva estuary (December 1990)

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