

DYNAMICS OF EPIBIONTS ON EDIBLE SHELLFISH (*Ostrea edulis* Linnaeus,
Mytilus galloprovincialis Lamarck) IN THE NORTHERN ADRIATIC

Ljubimka IGIĆ

Center for Marine Research Rovinj, "Rudjer Bošković" Institute
52210 Rovinj, Yugoslavia

Abstract. The dynamics of epibionts settled on oysters and mussels are considered in their relationships to different environments.

Résumé. La dynamique des épibiontes vivant sur les huîtres et les moules est étudiée en conection de ses relations avec divers environnements.

Dynamics of epibionts on *Ostrea edulis* and *Mytilus galloprovincialis* are not well known. The epifauna was accurately studied by KORRINGA (1951) on oysters, and by Le GALL (1970) on mussels. A preliminary report exists about epibioses on oysters (AGIUS et al., 1977) and both hosts (ZAVODNIK and IGIĆ, 1968).

Structures of epibioses are typical for the Northern Adriatic, and are represented by some groups with more species of Mollusca and Tunicata. Epibioses are richer with taxa on oysters (total taxa 55) in relation to mussels (43).

In function of space - in Limski kanal, a rearing place which is rather unclear with a considerable amount of mud, the number of taxa is the smallest in epibioses (39 on oysters, 36 on mussels) and the dynamics is the most intensive and more rapid. At Pomer, the cleanest rearing place, the number of taxa in epibioses is significant (65 on oysters, 47 on mussels), but the dynamics is insufficient and unrapid. In the harbor of Rovinj, which is contaminated with organic sewage of domestic and industrial origin, the number of taxa on epibioses are 61 on oysters and 45 on mussels, but the dynamics is of a middle intensity.

Ecophysiological characters of epibionts are very different, and the most important is frequency (from 50-100 %) for some organisms (*Mytilus galloprovincialis*, *Ostrea edulis*, *Pomatoceros triqueter*, *Balanus amphitrite*, *Balanus eburneus*, *Schizoporella* sp., *Diplosoma*

listerianum). The epiflora is insignificantly represented, especially in Limski kanal. Else, most frequent species are *Acetabularia acetabulum* at Pomer, and *Ulva rigida* in the harbor of Rovinj.

Abundance is the highest for *Mytilus* (1.00-266.19 - Limski kanal, in average for one oyster) and *Acetabularia* (more than 200 specimens/oyster - Pomer).

Size and covering rate are characteristic for flat forms (Sponges, *Schizoporella* sp., Synascidians). The covering rate is mainly from 50 to 75 % for one oyster shell. Especially, the covering rate from 75 - 100 % at one shell heavy growth of *Lissodendoryx isodictyalis* (size 80 mm - Pomer), at colonies of *Schizoporella* sp. (maximum size 85 mm - Rovinj) and *Diplosoma listerianum* (110 mm - Limski kanal). Sizes of these epibionts are smaller on mussels, but covering rates are nearly the same (50-75 %) because of the smaller size of this host.

Life-time - insignificant, especially for Algae, Hydroids and Synascidians (1-3 months). Mostly, the life-time is analogical to other organisms, but some of the specimens live longer, as for example *Ostrea* (21 months - on oysters, Pomer), *Pomatoceros* (15 months - on mussels, Limski kanal), *Schizoporella* sp. (14 months - on oysters, Rovinj), *Monia patelliformis* (10 months - on mussels, Pomer), and 9 months at Pomer lives *Sycon ciliatum* (on oysters) and *Phallusia mamillata* (both hosts).

Biomass is the highest for *Ostrea edulis* (348.76 g- wet weight in average on an oyster, Limski kanal), *Mytilus galloprovincialis* (90.38 g on oyster, Limski kanal), and *Phallusia* (49.28 g on mussel, Pomer), but lower for Algae and Synascidians with wet weight from 0.01 - 1.15 g (average on a host).

References

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