

Note on the settlement of *Wrangelia penicillata*
C. Ag. in the Northern Adriatic Sea

by

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The red alga *Wrangelia penicillata* C.Ag. is widely distributed in the Adriatic Sea, principally on hard bottoms in the upper infralittoral zone. In the Southern Adriatic, however, it was sampled also at much greater depths, until 70 m. Its growing period in the North Adriatic is from May until December.

On bare stony bottoms, *Wrangelia* only rarely develops in dense settlements, but it settles usually on other large and firm algae and is growing as an epiphyte. The most common hosts are *Cystoseira discors*, *C. barbata*, *C. abrotanifolia* and *Laurencia obtusa*. The covering rate of an epiphytic settlement of *Wrangelia* is estimated to be about 50 %.

In spite of its frequency, *Wrangelia* was seldom subject of detailed studies. In the Adriatic, its ecology was studied by LORENZ [1863], ZALOKAR [1942] and others. Recently, the seasonal variations in chemical composition and photosynthetic activity were studied by N. ZAVODNIK [1972].

It was supposed that the bush-like thalli of *Wrangelia* serve as a shelter for numerous tiny animals but that due to the flexibility of thalli the sessile organisms would settle rather rarely on the host. To contribute to the problem, ten samples of *Wrangelia* were taken in the region of Rovinj (North Adriatic) by skin diving and treated according to the working methods adopted previously [ZAVODNIK 1965].

As it was expected, on the branches of the thalli only rarely epiphytic algae and animals were found. Among them, the pennate diatoms were the most numerous. The higher algae were represented only by few small thalli of an unidentified *Ceramium*. Among animals, only single specimens of *Spirorbis* and exceptionnally also *Sycon* settle on the host.

As well, the representatives of macrofauna seldom seek shelter within the bushes of *Wrangelia*. There were found various *Polychaeta errantia*, sometimes *Amphipholis squamata*, and only once a young *Ophioderma longicaudum* and a 33 mm long female of the wrasse *Crenilabrus ocellatus*.

The gastropods are represented before all by Rissoidae, *Aplysia rosea* and accidently by *Homalogyra fischeriana*. The shellfish which settle on *Wrangelia* branches are young *Musculus* sp. and unidentified bivalvian larvae. Nearly in each sample some specimens of small decapod crustaceans were found. They were usually *Hippolyte* species, *Achaeus cranchi*, *Macropodia longirostris* and *M. czerniavsky*. The presence of the cumacean *Nanastacus longirostris* and the pantopode *Callipallene brevisrostris* is also noted.

It is very interesting that in the bushes of *Wrangelia* relatively frequently the benthic chaetognath *Spadella cephaloptera* can be sampled; in total, 30 specimens were found in eight samples. Only once the tiny anthomeduse *Eleutheria dichotoma* and the cladoceran *Penilia avirostris* were present.

The prevailing group of the meiofauna are the copepods, mainly harpacticoids, of which average share is 69 % of total animal specimens. Other groups are less represented, as nematods (12 %), amphi-

pods (2.5 %), tiny polychaetes and the ostracods (about 2 % each) and others. On thicker branches of *Wrangelia* thalli Foraminifera were frequently found; they share in about 10 % of total number of animals.

The following conclusions can be drawn out :

1. — According to its faunistical characters, the settlement of *Wrangelia penicillata* belongs to the common community of photophile seaweeds.
2. — Sessile organisms rarely settle on the flexible thalli of the host.
3. — The meiofauna is characterised by the copepods.

References

- LORENZ (J.R.), 1863. — *Physicalische Verhältnisse und Vertheilung der Organismen.....*, Wien.
- ZALOKAR (M.), 1942. — *Bull. Soc. Bot. Genève*, **33**, pp. 172-195.
- ZAVODNIK (D.), 1965. — *Rapp. Comm. int. Mer Médit.* **18**, pp. 19-21.
- ZAVODNIK (N.), 1972. — *Botanica Marina (sous presse)*.