

Following studies on transformations of the Northern Adriatic underwater flora and vegetation, associations of genus *Cystoseira* which group together species gifted with a considerable polymorphism and with a great adaptability within the incidence of environmental factors have been examined.

The aim of this work is to gather every possible manifestation of such incidence on diversity, in terms of space and time, of Northern Adriatic *Cystoseira*, and to characterize eventual quali-quantitative gradients of adaptability from the comparison among sampling sites in the Gulf of Trieste: 1. Miramare; 2. Aurisina 1; 3. Aurisina 2; 4. S. Bartolomeo and some sampling sites of the vicinity of Rovinj, Istrian Coast; 5. Val di Corrente; 6. Faborsa; 7. Bagnole Isle.

The site number 8, Salvore, has been chosen because it represents a transition zone between the Gulf of Trieste and the Istrian Coast, but because of the circumstances it was possible to have only summer samplings.

Phytosociological surveys were carried out by the modified Braun-Blanquet method (BOUDOURESQUE, 1971), in which covering values are expressed according to a scale from 0 to 100. The data recorded were set out in synoptic tables with species and surveys; data elaboration were carried out by means of multivariate analysis (automatic classification and ordination).

In terms of space, on biotic bases the results obtained show: 1) a quali-quantitative spatial difference (fig. 1), of floristic spectrum regarding *Cystoseira* of the Istrian Coast and of Trieste; 2) an alteration gradient in the floristic composition of *Cystoseira barbata* (PIGNATTI, 1962) of Trieste as can be seen from: -2.1 disappearance of *Cystoseira crinita* (Desf.) Bory and *Cystoseira schiffneri* Hamel; -2.2 conspicuous presence of sciaphilous *Rhodophyceae*; -2.3 settling of nitrophilous facies in competition with the association (*Nitophyllum punctatum* (Stack.) Grv., *Gigartina acicularis* (Wulfen) Lamor., *Pterocladia capillacea* (Gmelin) Bornet in Bornet et Thuret, *Ulva letovirens* Areschoug in Phillips, *Colpomenia sinuosa* (Mert.) Derb. et Sol., *Corallina elongata* Ellis et Sol.).

In terms of time, always on biotic basis, a perceptible physiognomic seasonal difference of *Cystoseira* of the Gulf of Trieste can be seen (fig. 2).

The disappearance of some species of the genus *Cystoseira* (2.1) and competition with species belonging to ord *Ulvetalia* (2.3) agree, on the other hand, with what GIACCONE (1977) said about the effects of environmental alteration on *Cystoseira barbata* (PIGNATTI, 1962).

These observations reveal a situation of regression of the studied phytocoenosis as the effect of a different degree of sedimentation and of the influence of urban sewage on benthic biocoenoses, that *Cystoseira barbata* (Good. et Wood.) Ag. seems to support (CINELLI, 1976). As a matter of fact it is known that pollution causes: on the one hand, clouding of the sea water and consequently the reduction of light penetration with the disappearance of photophilous species (2.2) (BRESSAN, WELKER & SERGI, 1991); on the other hand it enriches the environment with nutrients stimulating the appearance of nitrophilous species (GIACCONE, 1977) (2.3).

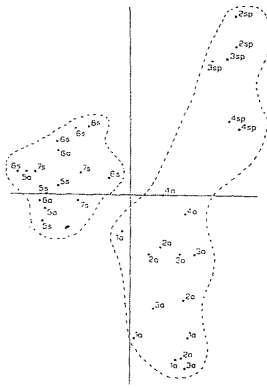


Fig. 1

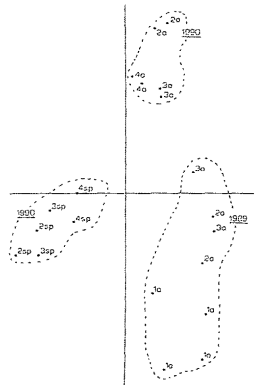


Fig. 2

Legend

1. Miramare
2. Aurisina 1
3. Aurisina 2
4. S. Bartolomeo
5. Val di Corrente
6. Faborsa
7. Bagnole
8. Salvore

TRIESTE

ISTRIAN
COASTSp = spring
S = summer
A = autumn

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