INTRODUCTION

Benthic communities represent powerful tools for detection of natural and anthropogenic disturbance, but also for assessment of marine ecosystems stability. Present study is a part of comprehensive investigation on the soft bottom benthic communities in the northern Adriatic coastal zone. It aimed to compare and characterize the assemblages structure and seasonal dynamics of Bivalvia associated with three different benthic communities, i.e. biocoenoses of coastal detrital (DC), muddy detrital (MD) and shell-edge detrital bottom (DL). This study dealt with communities experienced heavy disturbance due to oxygen crisis in 1989 [1]. On that occasion Bivalvia were proved to be an excellent indicators of disturbance and ecosystem instability. The results of biannual post anoxic monitoring indicated partial recovery of benthic communities as well as Bivalvia assemblages [1-2]. Thus, we expect that recovery of benthos within investigated area is achieved. To test hypothesis on the resilience of benthic communities, assemblages structure and dynamics of Bivalvia were investigated.

INVESTIGATED AREA

NORTHERN ADRIATIC SEA: shallow depth (< 50m), semi-enclosed water body, water column stratification, high riverine input (the Po river), high primary production sensitive marine ecosystem.

RESULTS AND DISCUSSION

A total of 43 species, belonging to 33 genera and 24 families were identified. Faunistic composition was characterized by dominance of Tellina donacina and Nucula nitidosa, relatively high abundance (>5%) of 5-6 species and lower single participation of all other species.

In terms of Bivalvia assemblages structure the results of SIMPER analysis indicated moderate to high average similarity within studied sites (Sij =54%, Sij =73%, Sij =94%), as well as dissimilarity between them (5% Sij =53%, 5% Sij =76%, 5% Sij =78%, 5% Sij =77%), (Fig. 4.). Investigated sites characterized by very close indice values (Sij =73, Sij =24, Sij =27; 5% Sij =0%, 5% Sij =0%, 5% Sij =1%, 5% Sij =3.52, 5% Sij =3.52, 5% Sij =3.52, 5% Sij =3.52). Classification based on multivariate analysis: characteristic species with average contribution to diversity pattern within sites (Fig. 6.).

CONCLUSION

The structure of bivalves fauna was determined by distinctive dominance of families Nuculidae, Tellinidae and Veneridae; species Tellina donacina and Nucula nitidosa, outstanding position of 5-6 species (>5%) per site, and diversity ranged 23-27 species or 3.19-3.68 bits. Compared with results of the previous investigations our results point out relatively high stability of Bivalvia assemblages and indicate resilience of benthic communities.

REFERENCES