

Living benthic foraminifera in Po Delta River (Italy) : a research in progress

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In this paper we present a lagoon foraminiferal study in progress in the Istituto per la Geologia Marina-CNR, Bologna. Six stations in one of the Po Delta lagoon (Sacca del Canarin) have been selected and sampled at spring-fall time and at autumn-fall time during 1991. The samples have been collected by a Van Veen grab. On surficial and bottom waters the measured parameters were pH, salinity, temperature, Eh, O₂. Their values do not show significant variations, whereas the microfaunas vary quantitatively from one station to another the stations; therefore other parameters, such as CaCO₃ and nutrients content, should be responsible of these differences.

The uppermost one cm has been sampled and directly stained with a Rose Bengal/ethanol mixture. In laboratory the samples were washed and replaced in ethanol. Foraminifera were determined under a light microscope: 300 specimens (stained and not) were counted to gain the total population, then the count continued only for living (=stained) Foraminifera until 300 where possible, to obtain the living population; their frequencies are reported in Fig. 1. Because of the scarce availability of data, only the following general valuations can be proposed:

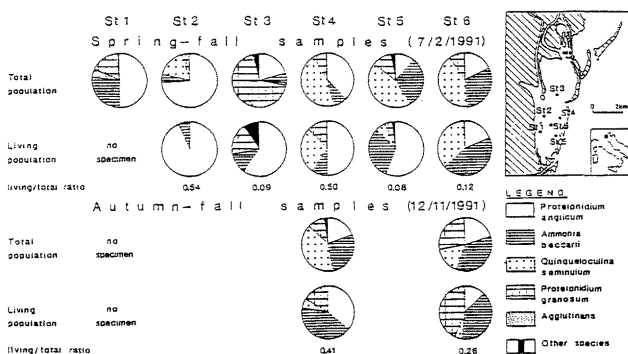
a) noteworthy differences are often present between living and total populations (e. g. St. 3 and St. 4 at spring-fall; St. 4 at autumn-fall). For each station the living/total ratio was calculated and reported in Fig. 1. The range of these values varies from 0 to 0.54. This fact is coherent with data reported in literature (SCOTT and MEDIOLI, 1980)

b) there is a strong quantitative difference in the living populations collected in the different stations; they may indicate lateral changes of some parameters at short distance also c) at this moment of the research, it is hazard to compare the two seasonal samplings; the living populations vary quantitatively in the same station (e. g. St. 4: in autumn-fall, *A. beccarii* frequency increases in comparison with the spring-fall sampling. At the contrary, *Q. seminulum* shows a strong decrease). This fact may be due to environmental instability typical of a lagoon.

These preliminary results encourage to continue this study which looks to be pioneer in Adriatic sea. In fact the only study comparable with the present one, is related to Gulf of Trieste (HONEGGER *et al.*, 1989), but it differs in the methodology.

We intend to continue the seasonal sampling in order to obtain two main results:

- 1) to investigate the present environment
- 2) to recognize the changes induced by human activity
- 3) to reconstruct paleoenvironmental situations in Northern Adriatic Holocene sedi-ments.



REFERENCES

HONEGGER J. *et al.*, 1989.- Reasons for spatial microdistributions for Foraminifera in an intertidal pool (Northern Adriatic Sea). *Marine Ecology*, vol. 10 (1), pp. 43-78.
 SCOTT D.B. & MEDIOLI F.S., 1980.- Living vs. total foraminiferal populations : their relative usefulness in paleoecology. *Journ. Paleont.*, v. 54, n.4, pp. 814-831.

