

**GUT CONTENTS OF THE SEA-URCHIN  
PARACENTROTUS LIVIDUS IN AN IONIAN EMBAYMENT  
(AMVRAKIKOS GULF – GREECE)**

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There is increasing interest, during last decades, in the study of sea-urchin *Paracentrotus lividus* feeding habits, as the species is one of the most important elements of the hard bottom benthos, often determining the dynamics of marine phytobenthic communities. In the present study *P. lividus* gut contents from two stations of the Amvrakikos Gulf area were examined over three seasonal samplings (4/91, 7/91, 1/92). The two stations were as follows :

- a) Station A, located in the Amvrakikos Gulf, a semi-enclosed eutrophic area characterized by an overpopulation of small body-size sea urchins and by lack of macrophytobenthic biomass due to overgrazing (PANCUCCI & PANAYOTIDIS, 1994),
- b) Station I, in the Ionian Sea close to the entrance of the Gulf, characterized by oligotrophic conditions (PANAYOTIDIS *et al.*, 1994).

The aim of the study was :

- 1) to give an estimation of relative abundances of plants, animals and detritus in gut contents,
- 2) to give a profile of flora and fauna of the examined area as it is reflected in gut content analysis.

Gut content analysis was performed by the method of "Contacts" proposed by JONES (1968) and further developed by NEDELEC (1982).

The results were based on the analyses of 12,000 contacts originated from 60 individual specimens. The analyses concerned four main groups of organisms present : Rhodophyceae, Phaeophyceae, Chlorophyceae and marine Angiosperms. A number of other groups are also reported (blue-green algae, diatoms, dinoflagellates, ciliates, foraminiferans, hydrozoa, sponges, bryozoa and crustaceans).

The two stations appear to be statistically different mainly due to great variations between vegetal and detritus abundances, especially between those of January in St. A and April in St. I. The low vegetal values in the sampling of January are reflecting the unfavorable period for marine vegetation in the study area. The following table resumes the main results.

Stations	St. A			St. I		
	4/91	7/91	1/92	4/91	7/91	1/92
Plants	43.5	34.1	21.6	78.9	65.5	50.6
Animals	1.0	2.8	2.5	5.6	4.0	6.9
Detritus	55.5	63.1	75.9	15.5	30.5	42.5

Thus, *P. lividus* populations living in the Amvrakikos Gulf seem to be adapted to eutrophication conditions, by a detritophagous feeding habit. The hypothesis of changes in the feeding habits could also explain the small body size of the sea urchins, observed in the Amvrakikos Gulf (PANCUCCI *et al.*, 1993).

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