

## Actual knowledge on the Rijeka Bay benthic fauna (the North Adriatic Sea)

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Although the biological research in the Adriatic Sea is an about four centuries long tradition, reviews on particular animal groups, and regional check-lists of marine fauna are rather scarce.

The only attempt to review the total macrofauna of the Adriatic Sea is that of STOSSICH (1880-1885), followed by CARUS (1885-1893), and in part also that of RIEDL (1963). GRAEFFE (1881-1905) and VATOVA (1928) treated chiefly the Gulf of Triest and the Rovinj area, respectively. The total fauna of other Adriatic regions has never been considered.

Table I.- Species numbers and distributional pattern of the Rijeka Bay benthic fauna

Taxon	Species Nos	Adriatic	Mediterranean	Atlant.-Medit.	Amphiatlantic	Boreal-Medit.	Boreal	Cosmopolite	Others
PORIFERA	43	-	12	6	-	3	1	10	11
CNIDARIA	32	1	9	15	-	2	-	2	3
MOLLUSCA	186	1	35	99	1	44	3	2	1
NEMATODA	35	1	13	4	6	3	1	3	4
ANNELIDA	124	1	6	44	9	29	7	13	15
CRUSTACEA	105	1	22	51	4	12	-	-	15
ECHINODERMATA	45	-	8	24	-	10	-	2	1
VERTEBRATA	101	-	21	63	2	10	-	5	-
VARIA	46	-	6	17	1	4	4	8	6
Total No.	717	5	132	323	23	117	16	45	56
Total %	99	1	18	45	3	16	2	6	8

We have undertaken, therefore, efforts to compile old literature and our recent data on benthic fauna in Rijeka Bay, outstanding by its industrial, traffic and touristic importance in the national economy. The Bay is a semi-closed marine area which surface is 550 km<sup>2</sup>, and average depth about 60 m (maximum 66 m). It is famous for its peculiar hydrographic properties (DEGOBBIS, 1981) and rich in a variety of benthic habitats. Benthic communities most distributed in the area are littoral communities of rocky shore, the biocoenosis of photophilic seaweeds, and communities of fine well calibrated sands and coastal detritic ooze, respectively. In the northern part of the Bay pollution effects were noted.

Modern studies in the area were introduced by LORENZ (1863) but since then no check-list of benthic fauna has ever been prepared. According to our review, by now, 717 benthic species were noted in the area (Tab. I). The species list reflects the absence, or scarcity of previous research and collection of taxonomic material in some peculiar benthic habitats, such as beach gravels mixed with boulders, algal assemblages, and criptic habitats. Therefore, the data on some high animal taxa are almost completely lacking, especially on Foraminifera, Turbellaria, Copepoda Harpacticoida, and Isopoda. Some other groups, such as Porifera, Hydrozoa, Nemertina, Ostracoda, Tentaculata, Tunicata, and others, obviously deserve the taxonomists' interest in the nearest future. With regard to data available from other Adriatic regions, after thorough taxonomic studies, in Rijeka Bay at least 1500 benthic animal taxa can be expected.

Most of the species listed belong to stocks of the Mediterranean and Atlantic-Mediterranean distributional pattern (Tab. I). Actually, in opposition to old suggestions based on peculiar hydrographic features of the area, taxa of boreal origin are not common. Only four taxa are considered hitherto to be Adriatic endemics (*Epizoanthus univittatus*, *Cultrensis adriaticus*, *Astomonema otti*, *Lumbrineris rovinensis*) - a qualification which perhaps is more reliable to our present knowledge than to a real distribution of taxa.

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