A PRELIMINARY STUDY ON THE MACROZOOBENTHIC INVERTEBRATE FAUNA OF TWO BANKS IN THE NORTH AEGEAN SEA

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Abstract
In this study, two high sea banks on the North Aegean Sea were sampled. The Johnston Bank has 41 m. depths with coralligenous habitat and The Sinaya Bank has 130 m. depths with mud-sandy habitat. Totally 2288 individuals belonging to 51 taxa in Johnston Bank and 490 individuals belonging to 17 taxa in Sinaya Bank were sampled. We assume that The Johnston Bank is an important spawning ground for many benthic species and needs protection.
Keywords: Aegean Sea, Zoobenthos, Eastern Mediterranean

Introduction
Benthic studies in the North Aegean Sea are mostly on communities and species check-list [1], [2], [3]. The Aegean Sea has several banks what makes it very important for benthic biodiversity. However, the studies on these banks are limited. The characteristics of the benthos of Bruker, Mansell and Stocks banks were comparatively studied [4] and the most complicated trophic structure was found at the Stocks bank whereas the simplest one was near the Lesbos Island. A recent study was conductedon the habitat structure and biological characteristics of a maerl bed off the northeastern coast of the Maltese Islands [5]. Two stations were monitored to study temporal variation in species diversity. The maerl bed proved to have high species diversity with 244 animal and 87 algal taxa recorded; *Bittium latrelli* was the dominant taxa.

Material and Methods
Two high sea banks were studied at the North Aegean Sea. The Sta.1 is known as Johnston Bank at 41 m depth surrounded by depths of 200-500 m. The Sta.2 is known as Sinaya Bank at 130 m surrounded by depths of 200-300 m (See Map.1). The samples were taken by dredge with 2 knot speed during 10 minutes at the end of November 2008. The water temperature, salinity and dissolved oxygen were measured by SeaCat 19plus CTD profiler. The samples were counted, identified and fixed.

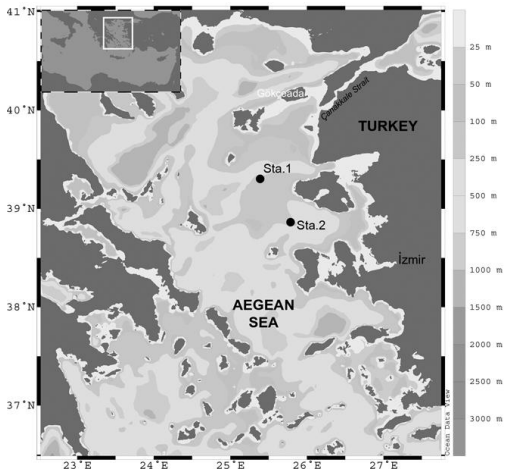

Fig. 1. Map of the sampling stations (revised from http://odv.awi.de)

Results and Discussion
Totally 51 taxa were sampled at the Sta. 1 and 17 taxa at Sta.2. At the Sta.1, *Gammarus locusta* was the most dominant species with 26,75 % followed by *Bittium latrelli* with 24,56 %. At the Sta.2, *Parapenaeus longirostris* was the most dominant species with 69,39 % (See Table 1.). Water temperature was measured as 16,55 °C at the Sta.1 and 16,27 °C at the Sta. 2. The salinity was 39,2 ‰ and dissolved oxygen was 6,5 mg/l at the both stations. According to the results, the oceanographic conditions were almost similar at Sta.1 and Sta.2 but the main differences are depth and habitat structure. The main habitat of Sta.1 is coralligenous with 41 m. whereas it is sand-mud in Sta.2 with 130 m. The dominant species at the Sta.2 (*P. longirostris*) is consistent with [3], and that of Sta.1 (*B. latrelli*) is coherent with [5]. Beside this, the number of collected individuals is 2288 belonging to 51 taxa at the Sta.1 and 490 belonging to 17 taxa at the Sta. 2. Many of the individuals at the Sta.1 were observed in juvenile stage. Coralligenous habitats are important in terms of marine biodiversity and an action plan for these habitats in the Mediterranean Sea was prepared by RAC/SPA [6]. These high sea banks should be protected from the bottom trawling and similar harmful fishing activities. We assume that Johnston Bank could be set as a marine protected area as it is an important spawning ground in the Northern Aegean Sea and a coralligenous habitat. More detailed studies are needed in the high sea part of the Aegean Sea.

Tab. 1. Number of individual (i.nm.) and dominance (D%) in the stations

STATION 1 Jhonston Bank 41 m. depth Coralligenous Habitat					
taxon	i.nm.	D(%)	taxon	i.nm.	D(%)
CRUSTACEA			MOLLUSCA		
Achaeus cranchii	1	0,04	*Arca tetragonata*	27	1,18
Alpheus ruber	2	0,09	*Bittium latrelli*	562	24,56
Anapagurus sp.	140	6,12	*Bolma rugosa*	14	0,61
Dromia sp.	1	0,04	*Bulla striata*	1	0,04
Ebalia sp.	27	1,18	*Calliostoma granulatum*	7	0,31
Eurynome aspera	1	0,04	*Calliostoma zizyphinum*	74	3,23
Galathea intermedia	13	0,57	*Calyptera chinensis*	9	2,53
Gammarus locusta	612	26,75	*Chiton corallinus*	1	0,04
Inachus dorsettensis	9	0,39	*Chiton olivaceus*	58	2,54
Inachus sp.	4	0,17	*Chlamys varia*	8	0,35
Liocarcinus corrugatus	4	0,17	*Clanculus corallinus*	5	0,22
Liocarcinus pusillus	1	0,04	*Diadora gibberula*	3	0,13
Lissa chiragra	25	1,09	*Erata voluta*	7	0,31
Macropodia rostrata	10	0,44	*Hitella sp.*	39	1,71
Majidae sp.	1	0,04	*Jujubinus striatus*	4	0,17
Munida rugosa	235	10,27	*Lucinella divaricata*	1	0,04
Nepinnotheres pinnotheres	1	0,04	*Modiola phaseolina*	35	1,53
Parthenope massena	10	0,44	*Trophonopsis muricatus*	22	0,96
Philocheros sp.	11	0,48	*Vexillum ebenus*	2	0,09
Pisa armata	10	0,44	*Vexillum tricolor*	2	0,09
Processa sp.	16	0,7	ECHINODERMATA		
Scyllarus arctus	2	0,09	*Asterina gibbosa*	1	0,04
Sphaeroma serratum	3	0,13	*Brissopsis mediterranea*	3	0,13
Xantho cf. granulicarpus	1	0,04	*Cidaris cidaris*	31	1,35
Xantho cf. pilipes	3	0,13	*Echinaster sepositus*	5	0,22
NEMERTINA			*Echinus melo*	119	5,2
Polychaeta(sp.)	105	4,59	TOTAL	2288	
STATION 2 Sinaya Bank 130 m. depth Sand-Mud Habitat					
taxon	i.nm.	D(%)	taxon	i.nm.	D(%)
CRUSTACEA			ECHINODERMATA		
Dardanus arrosor	1	0,2	*Antedon mediterranea*	1	0,2
Liocarcinus depurator	39	7,96	*Astropecten sp.*	21	4,29
Parapenaeus longirostris	340	69,39	*Stichopus regalis*	2	0,41
Pontocaris calaphractus	1	0,2	MOLLUSCA		
Squilla mantis	16	3,26	*Illex coindetii*	34	6,94
CNIDARIA			*Octopus sp.*	1	0,2
Actinia equina	5	1,02	*Octopus vulgaris*	9	1,84
Ascidiacea (sp.)	2	0,41	*Rondeletiola minor*	4	0,82
Pennatula sp.	1	0,2	*Sepia officinalis*	12	2,45
			Sepia orbignyana	1	0,2
			TOTAL	490	

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