SOFT-BOTTOM CRUSTACEANS FROM THE SAROS BAY (NE AEGEAN SEA)

Murat Sezgin [1] *, Tuncer Katagan [2], Fevzi Kirkim [2] and Eylem Aydemir [1]
[1] Department of Hydrobiology, Fisheries Faculty, Ondokuz Mayis University, TR-57 000 Sinop, Turkey - msezgin@omu.edu.tr
[2] Department of Hydrobiology, Fisheries Faculty, Ege University, TR-35100 Bornova-Izmir, Turkey

Abstract
This study was carried out to determine the benthic crustaceans inhabiting on soft bottoms distributed in the sublittoral zone of the Saros Bay (NE Aegean Sea) and their ecological characteristics. Qualitative and quantitative samples of bottom sediments were collected in 12 different stations during single cruise on board R/V K. Piri Reis in January 2002. As a result of the study, a total of 222 individuals belonging to 57 taxa were identified.
Keywords : Crustacea, Aegean Sea, Systematics.

Introduction
Marine diversity is often a scope of environmental research especially within the framework of global environmental changes. Benthic macrofauna of soft sediments plays an important role in the degradation of organic matter produced in the pelagic zone and several species serve as food for demersal fish. Saros Bay is an inlet of the Northern Aegean Sea located in the north part of the Gallipoli Peninsula, Turkey (GPS coordinates 40°37'55"N 26°43'25"E). Systematic qualitative and quantitative investigations alongside the Aegean Sea (Turkey shelf) have been conducted since 1970. However, few studies focused on the crustacea fauna of the Saros Bay, and existing ones only analyzed shallow zone ([1], [2], [3], [4], [5]). The aim of the present study is to describe the species composition and diversity of soft-bottom crustacean fauna of Saros Bay.

Material and Methods
The material of soft sediments were collected in short periods during January 2002 at 12 stations (sta.1: 25 m, grab; sta.2: 55 m, grab, sta.3: 72 m, grab; sta.4: 32 m, grab; sta.5: 65 m, grab; sta.6: 240 m, dredge; sta.7: 105 m, dredge; sta.8: 590 m, dredge; sta.9: 580 m, dredge; sta.10: 90 m, dredge; sta.11: 520 m, dredge; sta.12: 610 m, dredge) chosen in the Saros Bay: (fig. 1). Samplings were made either by 0.1 m^{-2}van Veen grab, or by dredge. At each station, a single replicate was taken for benthic community analyses. Samples were sieved on board through a 0.5 mm sieve and stored in 4% formalin solution. In the laboratory the material was sorted into the taxonomic groups under a stereomicroscope and preserved in 70% ethanol. A presence-absence matrix was constructed for species found in the dredge samples, but was not used for further community analyses. The material was deposited at the laboratory of faculty of Fisheries, Ondokuz Mayis University (SFF).

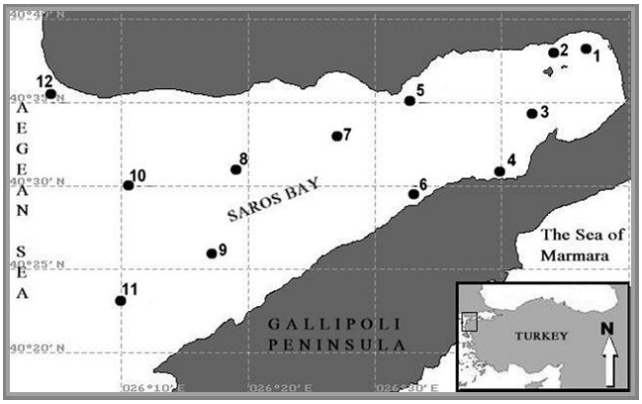

Fig. 1. Map of the investigated area with the location of sampling sites.

Results and Discussion
The soft-bottom samples collected from several stations (five vith van Veen grab and seven with dredge) in the Saros Bay. This collection includes a total of 57 crustacean taxa and 222 specimens: Mysidacea (one species, four individuals), Cumacea (11 species, 27 individuals), Tanaidacea (three species, 57 individuals), Isopoda (six species, 22 individuals), Amphipoda (28 species, 81 individuals) and Decapoda (eight species, 31 individuals). The amphipods *Gammaropsis dentata*, *Pardaliscella boecki* are reported for the first time from the Aegean Sea, and the isopod *Gnathia maxillaris*, the amphipods *Urothoe Corsica*, *Laetmatophilus ledoyeri*, *Liljeborgia psaltrica*, *Nicippe tumida* are new records for the Turkish fauna. Sediments consist of a sandy-muddy clay mixture and are appareanly well aerated. The tanaid *Leptochelia savignyi* ranks first in abundance (%12) in the soft-bottoms followed by *Apseudes latreillei* (10%), the thalassinid *Upogebia pusilla* (7%), the amphipods *Stenothoe marina* (5%), *Ampelisca planierensis* (4%) and *Urothoe elegans* (3%). Several other species occurred regularly but in small numbers. Regarding the number of individulas, the amphipods made 39% of the fauna, the tanaids 20%, the cumaceans 16%, the decapods 15%, the isopods 8% and the mysids 2%. The most frequent species in all samples were the tanaid *A. latreillei* (67%), the amphipods *S. marina* (50%), *Harpinia truncata* (42%) and the isopod *G. maxillaris* (33%). The majority of individuals of crustaceans (deposit feeding amphipods were dominant) occurred at 25-240 m depth range. The cumaceans *Diastylis cornuta*, *Ekleptostylis walkeri*, *Vaunthompsonia cristata*, the amphipods *Ampelisca calypsonis*, *A. spinipes*, *G. dentata*, *L. ledoyeri*, *Leucothoe incisa*, *Stenothoe tergestina*, *P. boecki*, *M. cornutus*, *N. tumida*, *Urothoe intermedia*, *U. elegans* and the decapod *Dorchynchus thomsoni* were only collected at the 240-610 m depth range. In contrast the mysid *Siriella jaltensis*, the cumacean *Bodotria scarpioides*, the tanaid *Apseudes acutifrons*, the isopod *Gnathia vorax*, the amphipods *Paraphoxus oculatus*, *H. truncata*, *Ampelisca pseudosarsi*, and the decapods *Alpheus glaber*, *Callinassa subterranea*, *U. pusilla* and *Pisidia longimana* were only present at the 25-105 depth range. There were include 39 (68%) which are Mediterranean endemic. There are also 18 (32%) species which zoogeographically are Atlanto-Mediterranean originated.
Only a single replicate sampling does not permit the presentation of a complete description of all soft bottom crustaceans. Moreover, since our data is restricted to a small area within the Aegean Sea, future studies on a wider area are needed before we can summarize our findings.

References

1 - Ates, S., Katagan, T., Kocatas, A. and Yurdabak, F.E. 2005. Decapod (Crustacea) fauna of Saros Bay (Northeastern Aegean Sea). *Turk. Jour. Zool.*, 29:119-124.
2 - Katagan, T., Kocatas, A. and Sezgin, M. 2001. Amphipod biodiversity of shallow water *Posidonia oceanica* (L.) Delile, 1813 meadows in the Aegean coasts of Turkey. *Acta Adriatica*, 42(2): 25-34.
3 - Kirkim, F., Kocatas, A., Katağan, T., Sezgin, M. and Ates, A.S. 2005. Crustacean biodiversity of *Padina pavonia* (L.) facies along the Aegean coasts of Turkey, *Turk. Jour. Zool*., 29:159-166.
4 - Kirkim, F., Kocatas, A., Katagan, T. and Sezgin, M. 2006. Contribution to the knowledge of the free-living isopods of Aegean Sea coast of Turkey, *Turk. Jour. Zool*., 30: pp 361-372.
5 - Kocatas, A., Katagan, T., Sezgin, M., Kirkim, F. and Kocak, C. 2004. Crustacean diversity among the *Cystoseira* facies in the Aegean coast of Turkey, *Turk. Jour. Zool*., 28:309-316.