PRELIMINARY OBSERVATIONS ON AMPHIPOD ASSEMBLAGES ASSOCIATED WITH MYTILUS GALLOPROVINCIALIS LAMARCK BEDS FROM THERMAIKOS GULF (AEGEAN SEA)

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Abstract
Quantitative sampling on mussel beds attached on artificial substrates at three sites of Thermaikos Gulf, in summers and winters of two successive years, revealed the presence of 6600 amphipod individuals belonging to 17 species. The most dominant species were: Elasmopus rapax, Maera inaequipes and Corophium acutum. Significant differences in the abundances of amphipods and in diversity indices between the two seasons were found, the former increasing as the latter decreases in summer.

Key-words: Crustacea, Population dynamics, Rocky shores, Zoobenthos, Aegean Sea

Introduction
The assemblage of mussel beds as a facies of the photophilic algae bioeocenosis (1) has been investigated in the Western Mediterranean and the European Atlantic coast (2, 3, 4, 5), while in the Eastern Mediterranean only two works include information on its structure; those by Topaloglou and Kihara (6) who studied the mussel community in Bosphorus Strait and Kocatas (7) who gave some qualitative and quantitative information on its structure in a broader study of hard substrate populations in the Gulf of İzmir. On the other hand, although amphipods play an important role in the benthic ecosystem, their ecology has not been sufficiently studied especially in the eastern part of the Mediterranean. All the relative literature has been reviewed by Stephanidou & Voultsiadou (8) in a faunistic study of amphipods of the North Aegean.

This study is a part of a broader research aiming to study the structure of Mytilus galloprovincialis beds in the Bay of Thessaloniki; as proved by Koukouras & Russo (9) and Nicolaidis (10), Thermaikos Gulf in general, and more specifically the area of the sampling stations, is subjected to the effects of pollution which is mainly organic. Under these circumstances, the structure of the populations associated with M. galloprovincialis beds in this area may change in time due to pollution. In the present paper some preliminary results concerning the amphipod populations associated with mussel beds are presented.

Materials and methods
Sampling was carried out in three sites located on the east coast of the Bay of Thessaloniki (Fig. 1): Perea (site 1), Nei Epivates (site 2) and Agia Triada (site 3). On the artificial hard substrate of the piers built in the above sites, dense populations of Mytilus galloprovincialis exist. The sampling areas can be characterized as "polluted" although pollution is not as heavy as on the western coast of the Bay, where the industrial area is located (9). Scuba diving was employed for sampling with a special hard substrate sampler designed by Chintiroglou and Nicolaidis (10), Thermaikos Gulf in general, and more specifically the area of the sampling stations, is subjected to the effects of pollution which is mainly organic. Under these circumstances, the structure of the populations associated with M. galloprovincialis beds in this area may change in time due to pollution. In the present paper some preliminary results concerning the amphipod populations associated with mussel beds are presented.

Results
6600 amphipods, belonging to 14 genera and 17 species (16 Gammaridae and 1 Caprellidae) were found associated with Mytilus galloprovincialis beds in the three sampling sites (Table 1). Mean abundances and partial mean dominances for the amphipod species found, as well as total numbers of species, individuals and Shannon-Wiener indices are presented in Table 1. In Figure 2, the number of amphipod individuals per site and season is compared with the corresponding numbers of species and Shannon-Wiener indices, the former increasing as the other two decrease, in the summer season.

Discussion
Mussel beds form one of the facies of the photophilic soft algae bioeocenosis, usually appearing on hard substrates of the harbours (1). Other facies of the same bioeocenosis have been recently examined in the Aegean Sea, such as that of Ameonida viridis (11). The composition of the assemblages associated with sponges (15, 16) and the sele-