CONTRIBUTION TO THE STUDY OF ZOOPLANKTON COMMUNITY IN ISKENDEROUN BAY (NORTH-EASTERN MEDITERRANEAN)

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Abstract
Based on samples collected seasonally in coastal Iskenderoun Bay, the zooplankton community has revealed high biomass contrasting with low taxonomic diversity. Major Mediterranean groups are present in Levantine Basin, including Iskenderoun Bay. 20 groups were reported, the copepods being the most important, forming between 50% (August) and 96% (January) of the total zooplankton community. Cladocerans in swarming patches, are abundant in summer, whereas Thaliaceans dominate in summer-fall. Winter assemblage is characterized with relative high diversity. Some Lessepsian species were reported in the area, namely from copepods.
Keywords : Biodiversity, Coastal Waters, Levantine Basin, Copepoda, Zooplankton.

Introduction
Recent studies indicate that hydrobiological changes have happened in the Levantine Basin, including Iskenderoun Bay since the opening of Suez Canal and the construction of Aswan High Dam [1], [2]. Few data with this respect to species composition and dynamicsof zooplankton of the northeastern Levantine Basin are available [3], [4]. More research on taxonomy and distribution of copepods of the area were achieved by [5], [6], [7]. In the present work we describe the composition and the structure of zooplankton community of the coastal Iskenderoun Bay.

Material and methods
Seasonal cruises during 2002, were carried out at five coastal stations in north-west Iskenderoun Bay (Fig.1). Vertical hauls were towed at 20 m and 30 m depth using plankton nets of 200 microns of mesh size. Identification up to species level was carried and counts of individuals were reported as number of individuals per sample.

Results
The Bay of Iskenderoun covers a relative large area of the continental shelf less than 100 m depth. The annual thermohaline cycle is resumed in two phases: a cold phase in winter characterized with isothermic structure in the water column, with minimum temperature and salinity in February (16°C; 37-38 psu). The warm phase in summer-fall is characterized with a water layer stratification and a heavy thermocline in the depth 30-75 m. Temperature averages reach 29 °C at surface and 19 °C at the bottom in July-August. The primary production estimated from chlorophyll data was higher in the central part of the Bay (annual average 60 g C/m^2/year) and lower in the eastern Mediterranean (25 g C/m^2/year) [8]. Most of the zooplanktonic groups found in the Bay are of Atlanto-Mediterranean the copepods constituting the major group, either in diversity and in biomass. Ecological cycle of the planktonis is marked with three seasonal assemblages: winter (January), spring (April) and summer-sall (August-October). During the cold period, the main common groups are: the copepods dominated by *Calocalanus* spp., *Calanus minor*, *Oncaea* spp. and *Oithona* spp., the Hydromedusae, Siphonophorae, *Sagitta friderici* and *Oikopleura cophocerca*. In spring the plankton community is dominated by herbivorous species developing after the spring phytoplankton bloom; the zooplankton is rich and diversified, the copepods being the most common, namely: *Paracalanus parvus*, *Acartia clausi* and *Centropages kröyeri*, Ichtyoplankton (eggs and fish larvae), crustacean decapod larvae, Lamellibranch and Prosobranch larvae, Echinoplutei, Pteropods and Siphonophores. During summer zooplankton is abundant and marked with by swarming cladoceran patches, namely *Evadne spinifera* and E. *tergestina* and abundance of *Centropages kroyeri*, *Acartia clausi, A. latisetosa* and exotic introduced species *Labidocera pavo*. Early autumn, advanced stages of decapod larvae, (*Zoe* and *Megalopes*) are very common. Larval stages of stomatopods are also present in few number; whereas larvae of Leucosiidae such as: *Ilia nucleus*, *Phylira globulosa* are common during the hot and dry season. Some calanoids appear in high number, namely: *Temora stylifera*, *Paracalanus parvus* and *Clausocalanus furcatus*. The hydro-climate seasonality induces a bimodal annual profile of the plankton similar to that existing in other Levantine regions [9] and the Cilicean Sea. Annual cycle is characterized with a peak in abundance of zooplankton in May after the spring phytoplankton, and a break down of the abundance in summer. This is due may be to the circulation and current system in Iskenderoun Bay. The ingression of oceanic deep water masses inside the Bay. However the zooplankton community is characterized with low species diversity contrasted with high biomass. It is well known that the Levantine Basin is a the most oligotrophic water body in the Mediterranean, excluding the Nile Delta area and the Iskenderoun Bay, where nutrients input from Seyhan and Ceyhan rivers in the sea. Contribute to high productivity.

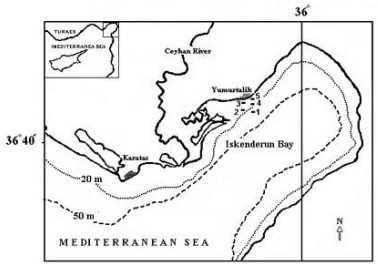

Fig. 1. Location of zooplankton sampling stations in Iskenderoun Bay.

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