B-III5

The *Posidonia oceanica* (L.) Delile Meadows of Egyptian Waters. Amphipods from the Alexandria Meadows

M. ATTA and Y. HALIM

Oceanography Department, Faculty of Science, Alexandria University (Egypt)

B

Seasonal collections of the Amphipods of a Posidonia meadow at 5-7 m depth were carried out in 1987-1988 in Miami Bay, Alexandria, the samples were collected from 100 cm^2 quadrates using a rectangular frame. The population composition, abundance, richness, diversity index and evenness were determined.

The Posidonia beds, with their associated communities are of considerable importance along the Mediterranean infralittoral zone of Alexandria region, but very little information is available about their ecosystem. Scellenberg (1936) mentioned eleven species associated with Posidonia meadows off the coast of Alexandria. Latter, Atta (1985) identified 14 Gammaridean and 3 caprellidean Amphipods associated with the meadows.

A total of 27 species (Gammarideae and Caprellideae) were identified from a total of 9570 individual/m^2. Amphilochus manudens, Amphithoe rubricata, Aora spinicornis and Lembos karamani are new records for Alexandria waters. Maera inaequipes ranks first in abundance (22%).in the meadows followed by Ericthonius brasiliensis (20%), Jassa marmorata (18%), Elasmopus pectenicrus (16%), Corophium acherusicum (5%), Microdeutopus obtusatus (5%), Amphithoe ramondi (3%), Caprella acanthifera (2%), Leucothoe spinicarpa (2%), Hyale prevosti (1%), Corophium sextonae (1%). Several other species occurred regularly but in small numbers. Schellenberg recorded also Ampelisca unidentata, Tritaeta gibbosa and Amphithoe helleri.

Comparison with other Mediterranean localities shows that 18 species are common to most Mediterranean Posidonia beds including the Alexandria meadows (Scipione and Fresi, 1984; Scipione and Chessa, 1986; Krapp-Schickell, 1976; Schellenberg, 1936; Atta, 1985 and present records). The relative abundance of the species however is variable and depends on the depth and proximity of the meadows from the coast. According to Ledoyer (1966) the "typical" Posidonia community is the deep one. The present study shows "contagion" of the investigated beds by intruding Amphipod species from the nearly infralittoral rocky communities, in addition to the typical Posidonia species. The numerical abundance and the number of species were significantly much greater in Spring than during other seasons, this is reflected also by the richness (R). Diversity (H'), however, increases in Winter as shown in Table 1.

Table 1. Total number of species and individual/m^2, diversity index (H', Shannon & Weaver), richness (R, Margalef), evenness (J', Pielou) at different seasons in Alexandria meadow.

Season	No.of species	number of individual/m^2	H'	J'	R
Spring	24	3240	1.93	0.61	2.85
Summer	17	3390	1.80	0.64	1.97
Autumn	15	2220	2.00	0.74	1.82
Winter	14	720	2.11	0.80	1.98

Acknowledgement

The first author is gratful to Dr. Roger Lincoln, British Museum of Natural History (Crustacea section) for his guidance during her stay in 1983. The authors are also thankful to Mr. H. Mansour and Dr. S. Hosny for their cooperation.

References

Atta, M.M. (1985). Ph.D. Thesis, Alex. University, EGYPT. 316 pp.

Krapp- Schickel, G. (1976). Bull. Zool. Mus. Univ. Amst., Netherl., 5 (5): 31-45.

Ledoyer, M. (1966). Rec. Trav. Stn. Mar. Endoume, Fr., 57 (41): 135-164.

Scipione, M.B. & Chessa, L.A. (1986). Rapp. Comm. Int. Mer Medit. 30 (2): p 9 .

Scipione, M.B. & Fresi, E. (1984). International Workshop Posidonia oceanica Beds. GIS Posidonia publ., Fr., 1: 319-329.

Schellenberg, A. (1936). Notes & Memoires, No. 18: 1-27.