

The *Posidonia oceanica* (L.) Delile Meadows of Egyptian Waters
Preliminary Survey

H.-M. MOSTAFA, Y. HALIM, M. ATTA and A.-N. KHALIL

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

A survey of the *Posidonia oceanica* beds along the Egyptian coast has been carried out since 1986. The work is focussed on the growth dynamics of the plant and on its associated fauna and flora. Preliminary results are reported. *Posidonia oceanica* communities represent the most productive of all marine ecosystems in the south eastern Mediterranean waters along the Egyptian coast from the Lybian desert in the west to El Arish in the east (Fig. 1), as well in the north west Mediterranean (Molinier and Picard, 1952).

The western desert coast is characterized by large meadows of *Posidonia* exposed to open sea, to waves and water currents. The leaves are healthy, long, green all over and with only a slight epiphytic cover. The animal associations are also poor. Dead mattes of old *Posidonia* meadows are found covered with sand near green meadows in shallow areas (3-6 meters depth). The green meadows of *Posidonia* at shallow depths (5-8 meters) are patchy and scattered while the deeper meadows cover more extensive areas. Aleem (1955) mentioned the presence of two parallel belts of *Posidonia* in the western area off El Agami, the first, a shallow bed at 8-10 meters depth was interspersed with *Cymodocea*, while the second at 20 meters depth was occupied mainly by *Posidonia*. The present survey showed the existence of both belts but the second at 26 meters. Aleem (1955) also reported that *Posidonia* beds were most abundant at Burg El Arab, 50 km west of Alexandria, where the sediment is of coarse calcareous sand completely devoid of fixed algae. Thelin et al. (1985), located and studied *Posidonia* near the El Dabba area, west from El Alamein, at depths down to 27 meters. They gave some data about extension, leaf biometry, flowering and leaf epiphytes. Meadows are also extensive in Mersa-Matrouh harbour, where the Red Sea eel-grass *Halophila* sp. is also recorded (Aleem, 1955). Shallow *Posidonia* meadows were also located at Sidi Abd El Rahman, west of El Alamein.

The *Posidonia* meadows in front of Alexandria are formed in scattered patches located in the semi-closed bays specially at Miami, El Asafra and Montazah, (Fig. 1). The patches are found at depths ranging between 5-7 meters and are in most cases protected by rocks but subjected to the eastward flowing current. They are also subjected to direct and indirect organic pollution from city effluents. Adults leaves are heavily covered with epiphytes and are yellow-green to brown-green in colour. Heavy associations of animal groups inhabit the meadows. Some of these associations are reported elsewhere in this volume (Amphipoda, Polychaeta). Aleem (1955), reported the area between Rosetta and Damietta (delta coast) to be scarce in *Posidonia* meadows, *Cymodocea* being more frequent. From Port-Said to El-Arish, *Posidonia* meadows are abundant, located at the few rocky places between the two Ports.



Fig. 1 - Showing Different Locations Along The Egyptian Coast.

REFERENCES

- ALEEM, A.A., 1955 - Structure and evolution of the sea grass communities in the south eastern Mediterranean. In: Essays in the Natural Sciences in Honour of Captain Allen Hancock. Univer. of S. Calif. Press, Los Angeles. Cal.: 279-298.
- MOLINIER, R. and J. PICARD, 1952 - Recherches sur les Herbiers de Phanérogames marines du littoral Méditerranéen Français. Ann. Inst. Océan. Paris, 27: 157-234.
- THELIN, I., R.A. MOSSE, C.F. BOUDOURESQUE and R. LION, 1985 - Le benthos littoral d'el Dabaa (Méditerranée, EGYPT). 11. L'herbier à *Posidonia oceanica*. Rapp. Comm. int. Mer Médit., 29 (5): 247-248.