

Congruences phytogéographiques des communautés benthiques des îles mineures de la Sicile

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Abstract: A study of the synthesis of the researches on the benthic communities of the smaller sicilian isles has revealed their phytogeographical features. The resulting flora is composed of 663 species and 60 minor taxa of these species. The chorological analysis together with the R/P value of the different isles, has made possible a valuation of the roles of these isles in the phytogeographical characterization of the seas surrounding Sicily though a comparison with Sicily and the entire Mediterranean basin.

Au cours des dernières vingt années la végétation des îles mineures de la Sicile, a été étudiée amplement par les auteurs, comme le prouvent les précédentes recherches qu'ils ont effectuées sur chaque aire prise en considération: Iles Egades (Giaccione G., Sortino M., 1974), Ile d'Utique (Giaccione G., 1967; Giaccione G. et alii, 1985), Iles Eoliennes (Giaccione G., 1969), Iles de Malte (Cragg A., 1965), Iles Pélages (Cinelli F. et alii, 1976), Ile de Pantelleria inclus les bancs de vieille Pantelleria, Scherchi, Talbot (Giaccione G. et alii, 1973; Calvo S., Sortino M., 1979).

La flore des îles mineures est composée par 663 espèces et par 60 taxa inférieures à l'espèces (sous-espèces, variétés et formes), dont 84 sont des espèces pas signalées en Sicile. Dans son ensemble, la flore ne s'éloigne pas de celle de la Sicile (858 espèces et 97 variétés) et à peu près 76% des espèces végétales sont en commun aux îles mineures et à la Sicile.

Il y a des différences significatives dans la consistance floristique des divers plans de la végétation à cause de la diversité des biotopes causés par divers facteurs climatiques et édaphiques présents dans les secteurs biogéographiques où les îles se trouvent (Giaccione G., Sortino M., 1974).

En comparant les régions phytogéographiques des espèces siciliennes avec celles des espèces retrouvées dans les îles mineures on ne remarque pas de différences appréciables. L'endémisme méditerranéen a valeurs comparables en Sicile (25.7%) et dans les îles mineures (24.5%). Dans les îles Pélages on a la valeur la plus basse en espèces atlantiques (45.6%) et la plus élevée en espèces indopacifiques (2.14%) à l'égard de celles des autres îles, en mettant en évidence le caractère oriental de la mer Africaine.

Pour ce qui concerne l'île de Pantelleria et les îles Egades on observe la valeur la plus élevée des espèces atlantiques (plus de 50%) et une valeur relativement basse des endémismes méditerranéens; ces données sont une conséquence du fait que ces îles ressentent une influence méridionale due au courant atlantique.

Parmi toutes les îles celle qui a les caractéristiques méditerranéennes majeures est Utique où on retrouve une valeur élevée en espèces endémiques (24.1%) et une valeur relativement basse en espèces atlantiques (46.36%); le caractère subtropical de cette île est confirmé ultérieurement par la valeur du rapport R/P (3.14).

	M	A	IP	C	CB	CT	R/P
ILES EGADES	16.0	50.5	0.5	25.8	2.6	4.7	2.0
ILE D'UTIQUE	24.1	46.36	1.4	22.3	2.8	3.04	3.14
ILES EOLIENNES	21.5	50.0	0.9	21.5	2.8	3.3	2.89
ILES DE MALTE	13.5	50.3	1.0	27.5	2.6	5.2	3.4
ILES PELAGES	25.7	45.6	2.14	21.2	1.3	4.0	3.0
ILE DE PANTELLERIA + BANCs	21.3	50.8	0.8	21.8	1.8	3.6	2.45
TOTAL	24.5	47.7	2.2	21.0	2.0	2.6	3.0
SICILE	25.7	47.3	3.0	19.6	2.1	2.2	2.9

Tab. I : Spectre chorologique % de la flore marine des îles mineures et comparaison avec les valeurs de la Sicile

NOTE BIBLIOGRAPHIQUE

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Ichthyoplankton of the Egyptian Mediterranean waters II - Distribution and occurrence of Pomatomus saltator larvae

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The present results are based on the analysis of plankton samples collected seasonally through the period from January 1982 to October 1984. The samples were collected from the S.E. Mediterranean waters overlying the continental shelf off the Egyptian coast between longitudes 29°45'E and 33°45'E. The study area is divided into twelve sections more or less perpendicular to the coast. Each section comprises 3 stations representing coastal, middle and offshore zones. Plankton samples were collected using an Ichthyoplankton net of 100 cm mouth opening, 0.5 mm mesh size, fitted with flowmeter. In each sample the larvae of Pomatomus were sorted and counted, the counts were converted to represent No./1000 m³. The length of the larvae were measured to the nearest 0.5 mm.

RESULTS AND DISCUSSION

In the present work, a total of 16212 larvae of Pomatomus were recorded in the plankton samples collected in the summer and autumn cruises i.e. from July to late November. This suggests that the breeding of Pomatomus in the Egyptian waters begins in late June and ends in late November. The water temperature during this period varied between 21.5 °C and 29.5 °C. The peak of larval intensity occurred in mid August, where about 99.7% of the total collected larvae were recorded during this cruise. The water temperature ranged between 26.3 °C and 29.5 °C. These results are in close agreement with those reported by Perlmutter (1939) & Deuel et al. (1966) who reported on the occurrence of running ripe females during late June July and August.

As shown in Table 1, Pomatomus larvae were highly abundant in the inshore water during the time of high spawning activity (August), while toward the end of the spawning season (October, November 1984) they were rare in the middle and offshore zones. During the larval peak (August), the larvae were confined to the western part of the area (Agami-Rosetta) and the highest abundance 10551 L/1000m³ was recorded in the coastal waters off Agami.

Figure 1 describes the distribution and abundance of the different size groups of Pomatomus larvae during August cruise. The pattern of distribution during the time of active spawning indicates that the newly hatched larvae up till 7 mm represents about 69% of the larvae and were aggregated in the inshore waters off Agami and also shows that the larvae in the offshore waters were of small sizes. This pattern of distribution suggests that the species perform a spawning migration towards shallower depths at the time of high spawning activity. The inshore waters of Agami region seem to be an important spawning ground for the species, recorded temperature and salinity were 27.3°C and 38.89‰, respectively.

Table 1. Average density of Pomatomus larvae (No./1000m³) in the different zones.

Month	Inshore	Middle	Offshore
August 1982	621.70	3.7	0.04
October 1984	0.70	7.2	12.80
November 1982	0.22	1.5	0.20

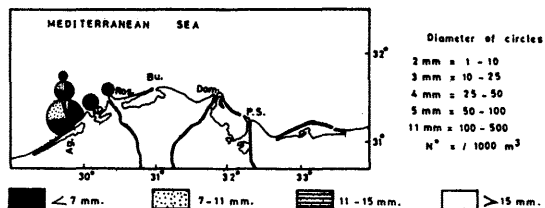


Figure 1. Distribution and abundance of size groups of P. saltator during August 1982.

This finding agrees with Faltas (1983), who reported that the fishing season of Pomatomus extends from May to October and that the best catch occurred in the western area between AbuQir (AQ) and Agami (Ag). Figure 2a&b shows that towards the end of the spawning season (October-November), the distribution of the newly hatched larvae was shifted eastwards mainly in the middle and offshore zones. It is most probable that the western stock performs a spawning migration early in the

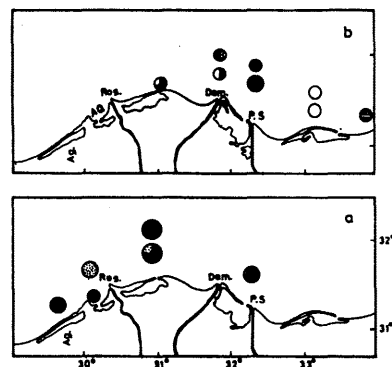


Figure 2a&b. Distribution and abundance of size groups during October 1984 & November 1982.

season and congregated in the inshore waters of Alexandria (AbuQir-Agami). After spawning the first patch, the fish may start another migration eastwards and spawn in the middle and offshore waters from Damieta (Dm) to Port-Said (PS) late in the season.

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