

Preliminary results of a checklist of the benthic marine algae of the Greek Coasts (Aegean and Ionian Seas)

S. HARITONIDIS, S. ORFANIDIS and E. LAZARIDOU

Institute of Botany, University of THESSALONIKI (Greece)

Comprehensive checklist of the North Atlantic marine macroalgae published the last decades were instrumental to the development of the "modern algal biogeography". Such reliable floristic and distributional data are still lacking or insufficient for many regions, e.g. the eastern Mediterranean region (including the greek coasts) (1, 2, 3, 4, 5).

Our Knowledge on the systematic of marine macroalgae of Greece is based on a series of about 50 publications, with the first dated back to the Linnean period for literature see 2, 6, 7, 8, 9). Most of these papers has provided valuable floristic, phytosociological and distributional information but very few morphological descriptions. This fact was sometimes a reason for taxonomic confusion that apparently characterized many Mediterranean macroalgae.

GERLOFF and GEISSLER (10) published the first revision of the Greek marine macroalgae while ATHANASIADIS (2) has recently provided an extensive critical review of all previously published records of the marine macroalgae of the Aegean Sea. The present paper aims (a) to critically present a complete checklist of the macroalgae encountered along the greek coasts of the Aegean and Ionian Seas, thus making the best of the two aforementioned as well as of the recent papers dealing with the area, (b) to supply one with the geographical distribution of macroalgae by dividing the greek coasts into three areas, namely the North and the South Aegean, and the Ionian and (c) to establish the degree of floristic similarity between each pair of the three areas, as expressed by Jaccard's similarity-index (11).

In the present study a total of 503 species has been included (313 Rhodophyceae, 103 Phaeophyceae, and Chlorophyceae). The R/P (12) ratio has yielded a value around 3. The paper by GERLOFF and GEISSLER (10) is comprised of 370 species (204 Rhodophyceae, 82 Phaeophyceae and 84 Chlorophyceae) and that by ATHANASIADIS (2) of 433 species (267 Rhodophyceae, 90 Phaeophyceae and 76 Chlorophyceae): the R/P ratios have yielded values around 2.5 and 3, respectively. It is obvious that the increase of the species number included in the present study (133 and 67 more than in the studies by GERLOFF and GEISSLER and ATHANASIADIS respectively) has not brought about drastic differentiations in the R/P values (between 1 = polar and 5 = tropical) which are representatives for the regions with a temperate character. Similar values have been also found in other of the Mediterranean (see 13).

Jaccard's similarity index showed a level of importance above 50% among the North and South Aegean Sea, the North Aegean and Ionian Sea and South Aegean and Ionian Sea. This result has indicated that the Greek Peninsula and the Aegean Islands can not be effective barriers to seaweed dispersal.

REFERENCES

1. FURNARI G., 1984.- The benthic marine algae of Southern Italy. Floristic and geobotanic considerations. *Webbia* 38: 349-369.
2. ATHANASIADIS A., 1987.- A survey of the seaweeds of the Aegean Sea with taxonomic studies on species of the tribe Antithamnieae (Rhodophyta). *Goterna*, Kungälv. pp.
3. ALVAREZ M., GALLARDO T., RIBERA M.A. & GOMEZ GARRETA A., 1988.- A reassessment of Northern Atlantic seaweed biogeography. *Phycologia*, vol.27(2), 221-223.
4. LUNING K., 1990.- Seaweeds: Their environment, biogeography and ecophysiology. John Wiley & Sons, New York. p. 498.
5. ORFANIDIS S., 1991.- Temperature Responses and Distribution of Macroalgae Belonging to the Warm-temperate Mediterranean-Atlantic Distribution Group. *Bot. marina*, 34: pp.541-552.
6. TSEKOS I. & HARITONIDIS S., 1977.- A Survey of the Marine Algae of the Ionian Islands, Greece. *Bot. marina*, xx, pp.47-65.
7. HARITONIDIS S., 1978.- A survey of the marine algae of Thermaikos Golf, Thessaloniki, Greece. I. Distribution and seasonal periodicity. *Bot. marina*, 21: 527-535.
8. HARITONIDIS S., NIKOLAIDIS G. & TSEKOS I., 1986.- Seasonal variation in the Biomass of Marine Macrophyta from Greek Coasts. *Marine Ecology*, 7(4): 359-370.
9. NIKOLAIDIS G. & HARITONIDIS S., 1990.- Contribution to the Study of Marine Flora and Vegetation of N. Sporades Islands (Kira Panagia and Piperi), Aegean Sea, Greece. *Geojournal*, 21(3) 241-249.
10. GERLOFF J. and GEISSLER U., 1971.- Eine revidierte liste der Meeresalgen Griechenlands. *Nova Hedwigia*, 22: 721-793.
11. GREIG-SMITH P., 1964.- Quantitative Plant Ecology. *Butterworths*, London.
12. FELDMANN J., 1938.- Recherches sur la végétation marine de la Méditerranée. La côte des Albères. 10: 1-339.
13. BEN-MAIZ N., BOUDOURESQUE C.-F. & OVAHCHI F., 1987.- Inventaire des algues et phanérogames marines benthiques de la Tunisie. *Giorn. Bot. Italiano*, vol.121, n.56, 259-304.