

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

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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.

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Contribution to biology knowledge of *Laminaria rodriguezii* Bornet

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Laminaria rodriguezii BORNET is an endemic algae of Western Mediterranean. The prostrate branched rhizome of this algae makes the identification easy (1). As this plant lives at great depths (2), it has been very difficult to know its geographic distribution (3). Along the last years, however, it has been collected in other localities (4)(5). This same reason has diffculted the research on both physiologic (6) and anatomic (1) characters.

A study on some anatomic characteristics of this species has been carried out on individuals collected in Spanish localities (Menorca, Ibiza, Islas Columbretes and Peniscola; Herbarium BCF, MA, MACB and F. Boisset).

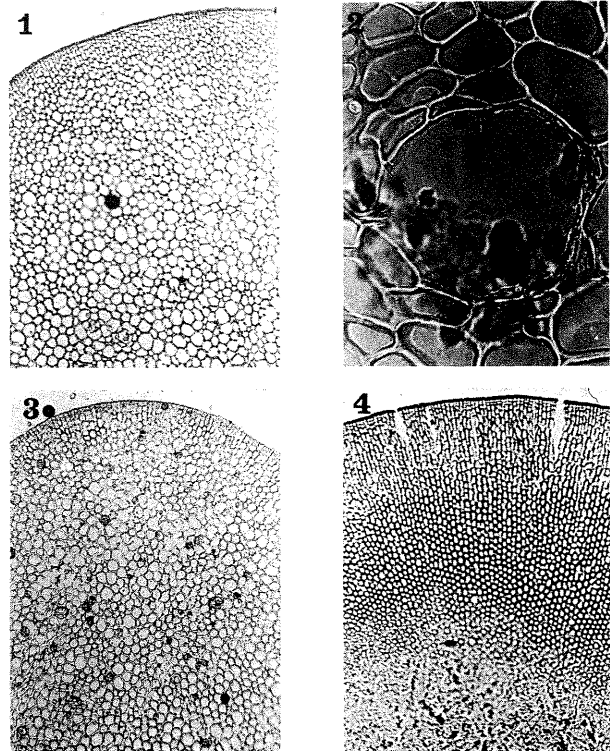
The prostrate branched rhizome consists in a stoloniferous region (4 - 5 µm diameter) where several hapteres (1 - 3 µm diameter) part from. The stoloniferous region is cylindrical and its transverse section (Fig. 1) shows a two celled layer meristoderm, whose cells are 10 - (15) - 20 µm long and 7 - (10) - 12 µm wide. It presents an outer cuticle of 7 µm wide. A bulky cortex is placed inner. The outer part of it is formed by polygonal cells 18 - (25) - 29 µm long and 13.5 (19.5) - 22 µm wide. Among them, some little mucilage ducts can be seen (Fig. 2), 70 - 84 µm diameter. As we go inner, polygonal cells are bigger 12- (32) -53 µm diameter.

The hapteres transverse section (Fig. 3) is similar both in composition and cell size to rhizome section. On inner cortex cell end walls we have observed 8 - 12 pits.

Stipe transverse section, 3 - 4 µm diameter, (Fig. 4) shows a 2 - 4 layered meristoderm. This meristoderm is formed by 12 - (16) - 21 µm long, 7 - (10) - 14 µm wide rectangular cells. A bulky outer cuticle, 8 µm wide, appears. The outer cortex is formed by polygonal cells, 17 - (26) - 30 µm long and 8.5 - (13) - 17 µm wide. It lacks of mucilage ducts; the inner cortex is formed by circular cells of 10 - (15) - 24 µm diameter. The medulla is formed by elongated filaments.

In the blade 3 cellular zones can be distinguished: epidermis, one layer of 9 - (9.5) -10.5 µm long and 5 - (6) - 6.5 µm wide cells; cortical zone whose outer cells are more little, 13 - (15.5) -17 µm diameter, than inner cells, 29 - (35) - 40 µm diameter; a thin medulla (70 µm wide) with elongated filaments.

There are significant differences between stipe and rhizome anatomy. On the other hand, the occurrence, diameter, quantity and distribution of *L. rodriguezii* mucilage ducts, as well as cell pit quantity, is different in other laminariales.



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