Desmarestia viridis (O.F. Müller) J.V. Lamouroux

Relevant synonyms
Desmarestia pacifica Setchell & N.L. Gardner
Fucus viridis O.F. Müller

a. Dried specimen. b. Young branch. c. Opposite branchlets. d. Surface view with unilocular sporangia. e, f. Transverse sections. Bars: a = 1 cm; b-e = 50 µm; f = 20 µm.

Photo: S. Ruitton and drawings: Ben Maiz, 1986a (Mediterranean, Thau).

Short description

Large (to 0.5 m high), filiform, cylindrical, much branched, arising from a small holdfast; texture cartilaginous below, becoming soft above; main axis distinct giving rise to regularly opposite, distichous, divaricate narrowing branches of limited growth, similarly branched to several orders; growth trichothallic; structure pseudoparenchymatous with a central, axial filament surrounded by a solid cortex of large, colourless cells enclosed by 1-2 layers of small pigmented cortical cells with numerous discoid plastids without pyrenoids.

Distinguishing characteristics

The large thallus, filiform, cartilaginous, with several orders of opposite branches is distinctive; no confusion possible with native species.

Biology / Ecology / Habitat

Coastal lagoons; shallow subtidal communities; annual (winter - early summer).

Distribution

Worldwide: north-eastern Atlantic, described from Norway (Müller, 1782, as *Fucus viridis*), Norway to north France; Baltic Sea; north-western Atlantic from Canadian Arctic to New Jersey; Black Sea (introduced); north-western Pacific, Japan, China; north-eastern Pacific from Alaska to California; Antarctica. **Mediterranean**: extra-Mediterranean populations recorded first in 1978 from France, Etang de Thau (Verlaque, 1981); successively recorded in Italy, Venice (Bellemo *et al.*, 2001). Cormaci *et al.* (2004) did not consider the species as introduced into the Mediterranean Sea since native populations were previously recorded from the Adriatic Sea (Kützing, 1849; Ercegović, 1948, as *D. adriatica*).

Mode of introduction

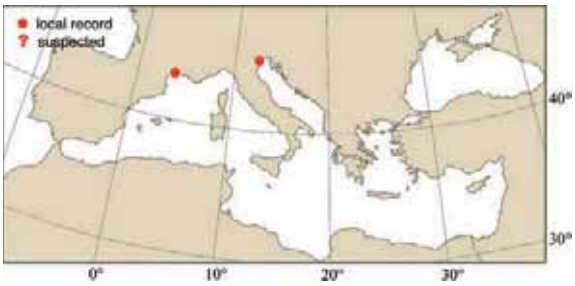
Accidental, probably transferred with oysters imported for farming from the north-eastern Atlantic or north Pacific (Japan, British Columbia); secondary dispersal by oyster transfers.

Establishment

Well established.

Importance to humans

Large invasive species that can cause some trouble to aquaculture activities.



1st Mediterranean record
Etang de Thau, France, 1981 [1978].

Key references

• Ben Maiz N., 1986a. *Flore algale (Rhodophyta, Phaeophyceae, Chlorophyceae, Bryopsidophyceae) de l'Etang de Thau (Hérault).* PhD. Thesis, Ecology, Université Aix-Marseille II, France, 354 p.
• Cormaci M., Furnari G., Giaccone G. and Serio D., 2004. Alien macrophytes in the Mediterranean Sea: a review. *Recent Research Developments in Environmental Biology, India*, 1: 153-202.
• Kützing F.T., 1849. *Species algarum*. pp. [i]-vi, [1]-922. Lipsiae [Leipzig]: Brockhaus.
• Müller O.F., 1782. *Icones plantarum...Florae danicae. Vol. 5, fasc. 15*. pp. 6, Plates 841-900. Copenhagen.
• Verlaque M., 1981. Contribution à la flore des algues marines de Méditerranée: espèces nouvelles pour la Méditerranée Occidentale. *Botanica Marina,* 24*:* 559-568.