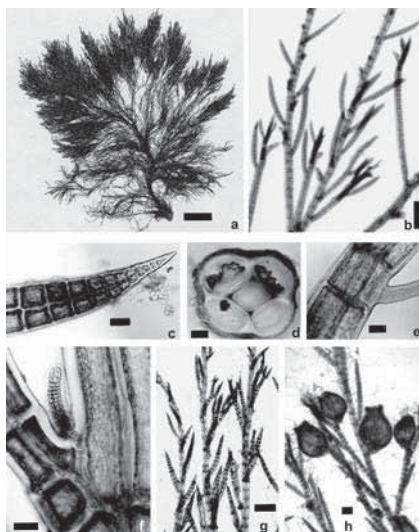


*Polysiphonia morrowii* Harvey**Relevant synonym***Polysiphonia senticulosa* Harvey

- a. Dried specimen. b. Female gametophyte with procarps. c. Branch tip. d. Transverse section. e. Rhizoid. f. Secondary branchlet. g. Tetrasporophyte with tetrasporangia. h. Cystocarps.  
Bars: a = 1 cm; b = 200  $\mu$ m; c-f = 20  $\mu$ m; g = 100  $\mu$ m; h = 100  $\mu$ m.



Photos: M. Verlaque (Mediterranean, Thau).

**Short description**

Medium to large (to 20-50 cm high), several cylindrical axes in tufts, dark red and flexible when young, brownish to reddish black and rigid as growth advances; base prostrate of tightly entangled axes; erect axes, up to 300  $\mu$ m in diameter, mostly naked or provided with a few hooked simple or divided branchlets below, spirally branched above; axillary adventitious endogenous branchlets arising at axils of branches; ultimate branchlets sharply pointed at apex; four periaxial cells without cortication; unicellular rhizoids in open connection with the periaxial cells; trichoblasts, rare, near the apex of sterile branches; gametophytes dioecious; cystocarps shortly pedicellate, urceolate, up to 270-390  $\mu$ m in diameter, with a narrow neck and a large ostiole; spermatangial branches replacing trichoblasts, 435-750  $\mu$ m long and 55-95  $\mu$ m in diameter, with a 4-7-celled sterile tip; tetrasporangia, in straight series (up to 9) on the ultimate branchlets and axillary branchlets, 70-80  $\mu$ m in diameter.

**Distinguishing characteristics**

The four periaxial cells without cortication, the ultimate branchlets sharply pointed at apex, the unicellular rhizoids in open connection with the periaxial cells, the axillary adventitious endogenous branchlets, the cystocarps urceolate, the long spermatangial branches replacing whole trichoblast and the tetrasporangia in straight series are distinctive; confusions possible with:

- other species of Rhodomelaceae: other combinations of characters.

## Biology / Ecology / Habitat

Coastal lagoons; shallow subtidal communities, 0-2 m depth; autumn to spring.

## Distribution

**Worldwide:** north-western Pacific, described from Japan (Harvey, 1856), Korea, China, Russia; south-eastern Pacific (introduced), Punta Arenas, Chile (Kim *et al.*, 2004); north-eastern Atlantic, Netherlands (introduced, recorded first in 1993; Maggs and Stegenga, 1999, as *Polysiphonia senticulosa*); south-western Atlantic, Argentina. **Mediterranean:** recorded first in 1997 from France, Etang de Thau (Verlaque, 2001); successively recorded in Italy, Venice (Bellemo *et al.*, 2001; Curiel *et al.*, 2001a,b, 2002), Mar Piccolo di Taranto (Petrocelli *et al.*, 2013); Turkey, Dardanelles (Erdügan *et al.*, 2009). The likely conspecificity of *Polysiphonia senticulosa*, a species described from the US Pacific coast (Washington State), and *Polysiphonia morrowii* (Yoon, 1986; Maggs and Stegenga, 1999) has been questioned by Kudo and Masuda (1981, 1988).

## Mode of introduction

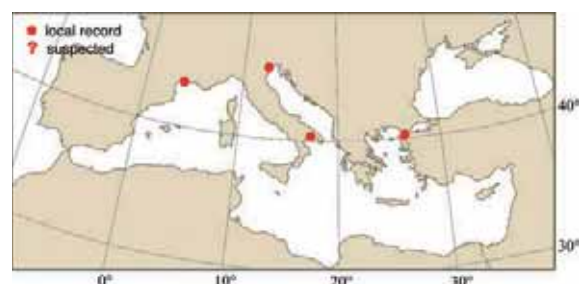
Accidental, probably transferred with oysters imported for farming from Japan or Korea.

## Establishment

Well established.

## Importance to humans

Potentially invasive.



**1st Mediterranean record**  
Etang de Thau, France,  
2001 [1997].

## Key references

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- Kudo T. and Masuda M., 1981. A taxonomic study of *Polysiphonia morrowii* Harvey (Rhodophyta, Ceramiales). *Japanese Journal of Phycology*, 29: 263-272.
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- Verlaque M., 2001. Checklist of the macroalgae of Thau Lagoon (Hérault, France), a hot spot of marine species introduction in Europe. *Oceanologica Acta*, 24: 29-49.