



MACRO
PLANT



Techniques needed and shape

Classification

Phylum: Rhodophyta; Order: Ceramiales;
Family: Rhodomelaceae; Tribe: Pterosiphonieae
§leafweed

*Descriptive name

Features

plants red-brown, leaf-like, 50-200 mm long, flat and thin, main branches with lobed to elongate side branches 5-12 mm wide on plants from rough-water coasts, 2-4 mm broad in some plants from sheltered coasts, tips rounded

Occurrences

NW W Australia to Victoria and around Tasmania, doubtfully from Queensland

Usual Habitat

on sea grasses, possibly also on rocks

Similar Species

filmy members of the Family: Delesseriaceae, but these are usually lighter red in colour, 1-cell thick, with no specialist hairs (trichoblasts) or sporangial structures (stichidia) and female structures (cystocarps) form pustules and are not flask-shaped as in *Pollexfenia*

Description in the Benthic Flora

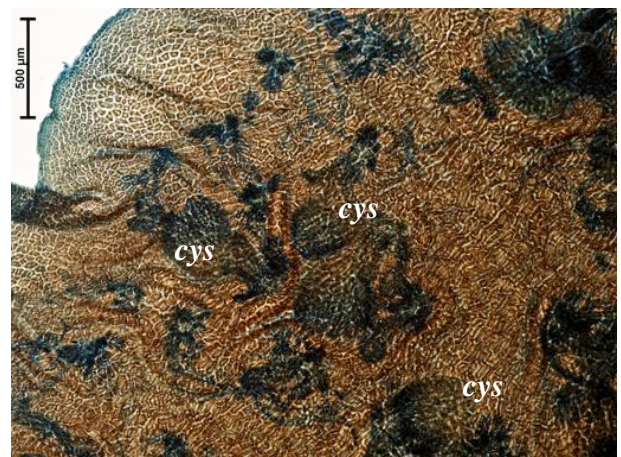
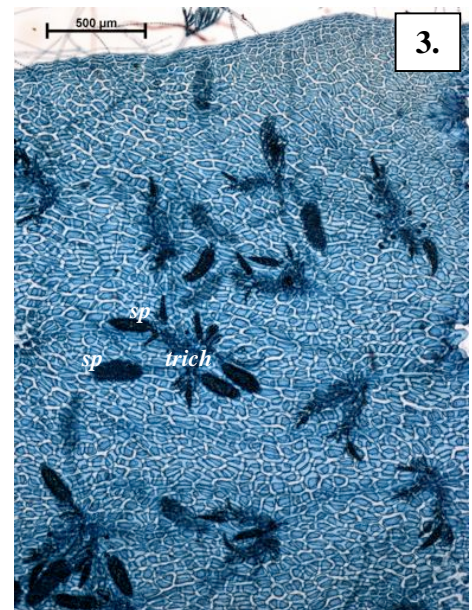
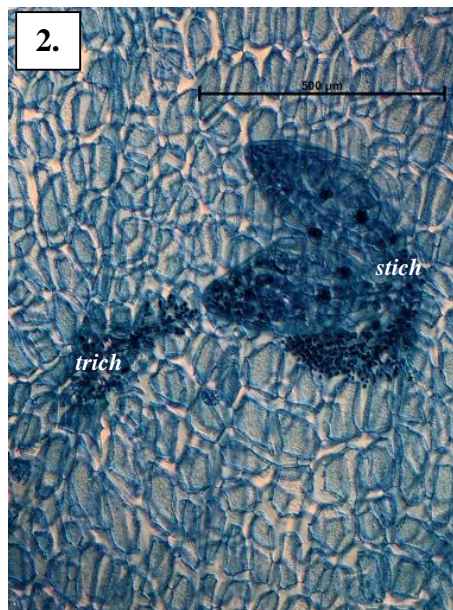
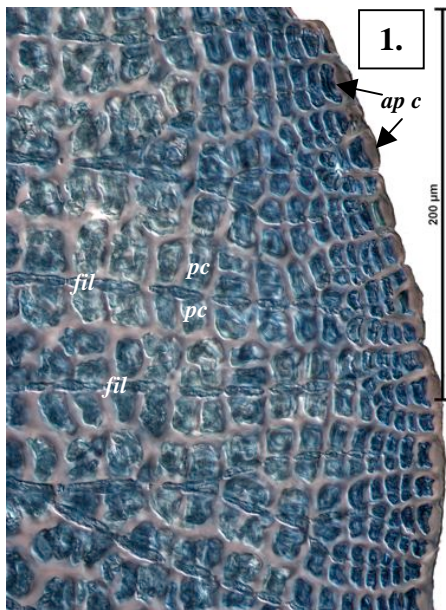
IIID, pp 352-355

Special Requirements



- view plant edges microscopically to find:
 - squat edge cells producing forked threads (*fil*), each cell flanked by 2, later 4 (pericentral) cells adhering together, forming a blade 2-cells thick with faint veins
 - tufts of branched hairs (trichoblasts) on *surfaces* of blades
- find, in separate plants, reproductive organs on blade *surfaces*:
 - egg-shaped mature female structures (cystocarps) on short stalks, walls thin
 - sporangia in a spiral pattern down clusters of thin-walled, structures (stichidia)
 - minute cigar-shaped clusters of sperm on basal cells of trichoblasts

Details of Anatomy



Pollexfenia pedicellata

- detail of a blade edge (slide 16864): squat edge cells (apical cells, *ap c*), forked threads (*fil*) each cell flanked by 2, later 4 (pericentral) cells, (*pc*)
- blade surface (slide 3297): branched hair (trichoblast, *trich*), cluster of thin-walled sporangial structures (stichidia, *stich*)
- blade surface (slide 3297): male structures (*sp*) at bases of trichoblasts clusters (*trich*)
- blade surface (slide 16864): mature female structures (cystocarps, *cys*) on short stalks (associated with trichoblasts clusters)

§ name used in Edgar, G. *Australian Marine Life, 2nd Ed.* (2008) for *Pollexfenia*; "Algae Revealed", Robert Baldock, State Herbarium S Australia, November, 2013

5.



5, 6. two magnifications of the broad-bladed form of *Pollexfenia pedicellata* (A10241) from Henley Beach, S Australia, with prominent clusters of sporangial stichidia forming spots on blade surfaces

7. narrow-bladed form of *Pollexfenia pedicellata* (A06143) from Pelican Lagoon Kangaroo I., S Australia

6.



7.



§ name used in Edgar, G. *Australian Marine Life, 2nd Ed.* (2008) for *Pollexfenia*;
“Algae Revealed”, Robert Baldock, State Herbarium S Australia, November, 2013