

Techniques needed and plant shape



MACRO
PLANT

Classification

Phylum: Rhodophyta; Order: Gracilariales; Family: Gracilariaceae

***Descriptive name**

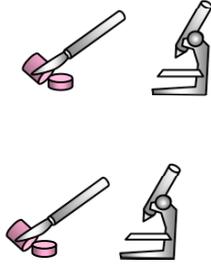
red wiry weed

Features.

plants red to red-brown, 200mm-1.2m tall, *gristly* when dry, main branches cylindrical or slightly flattened, about 1mm across with fine, *hair-like* side branches, small, round, dark, dot-sized swellings (cystocarps) on *all sides* of the branches in mature female plants

Special requirements

cut cross sections and view microscopically to find:



- core (medulla) of large, equal-sided cells grading to smaller cells outwards, surface layer (cortex) 2-4 cells thick of small cells facing outwards like a paling fence and hairs (not shown) may be present with larger basal cells in the cortex.
- in female plants, cystocarps, some beaked, with short chains of spores and small cells in the wall.
- in sporangial plants, scattered tetrasporangia in the cortex, dividing into 2 rows (decussate) 

Occurrences

originally from N & S Pacific America, China, India & wester Europe. In Australia, only known from Robe, S. Australia

Usual Habitat

on rock in shallow water.

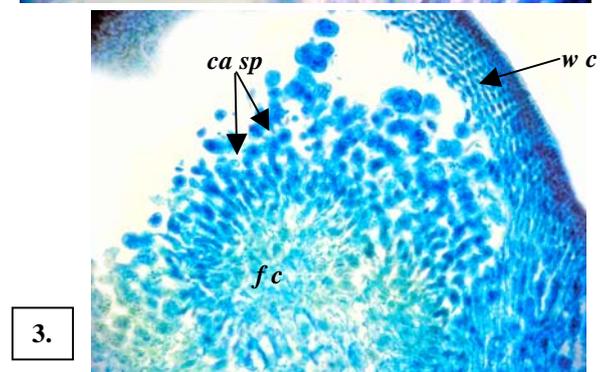
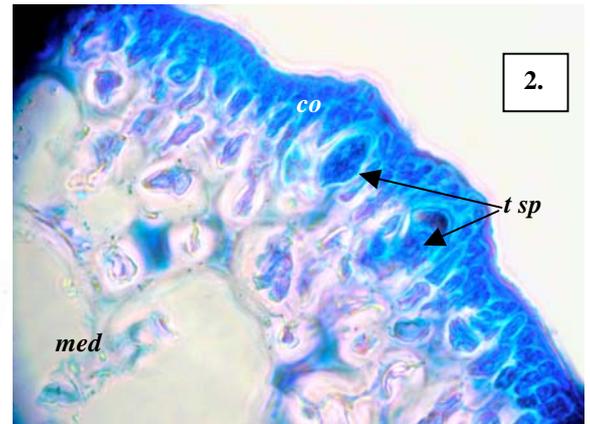
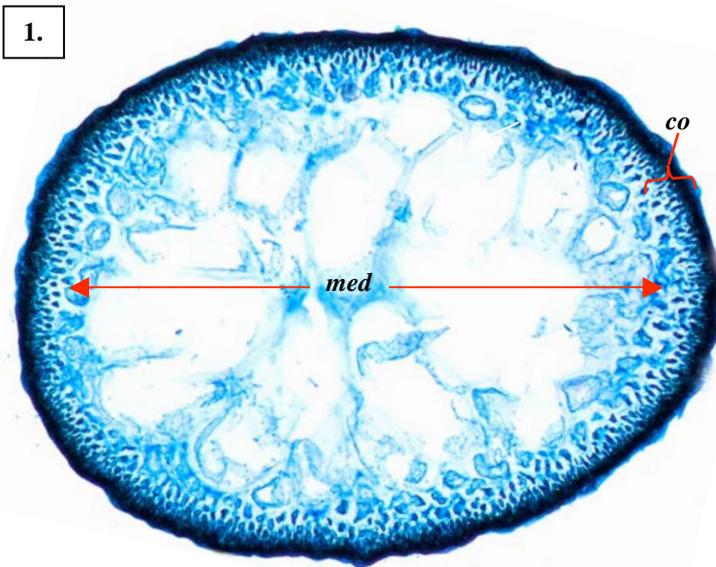
Similar Species



Gracilaria spp. Details of the nutritive tissue in cystocarps and male features are needed to separate the two genera.

Description in the Benthic Flora Part IIIB, pages 118-119

Details of Anatomy



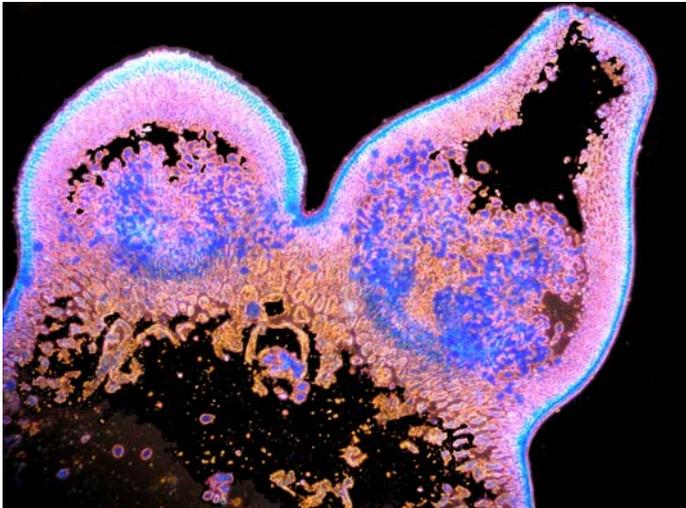
Cross sections of *Gracilariopsis lemaneiformis*, A63430, stained blue and viewed microscopically at different magnifications

1. light flattening of branch, core layer of large cells (medulla, *med*) grading to surface layer of 2-4 small cells (cortex, *co*) facing outwards like a paling fence (slide 14320)
2. detail of surface (cortical) layer with decussate tetrasporangia (*t sp*) (slide 14320)
3. part of a cystocarp, showing the chains of small wall cells (*w c*), short chains of spores (carposporangia, *ca sp*) and a small fusion cell (*f c*) (slide 14317)

4.



5.



- 4. *Gracilariopsis lemaneiformis* (Bory) E. Y. Dawson, Acleto & Foldvik, A63430, from Lake Butler, Robe, S. Australia showing dot-like cystocarps on all sides of the wiry threads.
- 5. cross section through two cystocarps, using dark field microscopy to highlight their stalkless condition, prominent neck on one, and characteristic space inside cystocarps (slide 14316)

* Descriptive names are inventions to aid identification, and are not commonly used
"Algae Revealed" R N Baldock, S Australian State Herbarium, January 2006