Hymenocladia filiformis J Agardh

45.660

Techniques needed and plant shape

Classification Phylum: Rhodophyta; Order: Rhodymeniales; Family: Rhodymeniaceae

***Descriptive name** gristly threads

Features

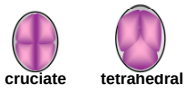
1. yellow-brown, 40-140 mm tall, flat-branched, gristly
2. main parts (axes), slightly compressed, < ***1mm wide***, ***forked*** or branched from the sides
3. mature female structures (cystocarps) pustulate, on surfaces or edges of smaller branches

Occurrences near Geraldton to Eucla, W Australia

Usual Habitat on the seagrass, *Amphibolis*

Special requirements

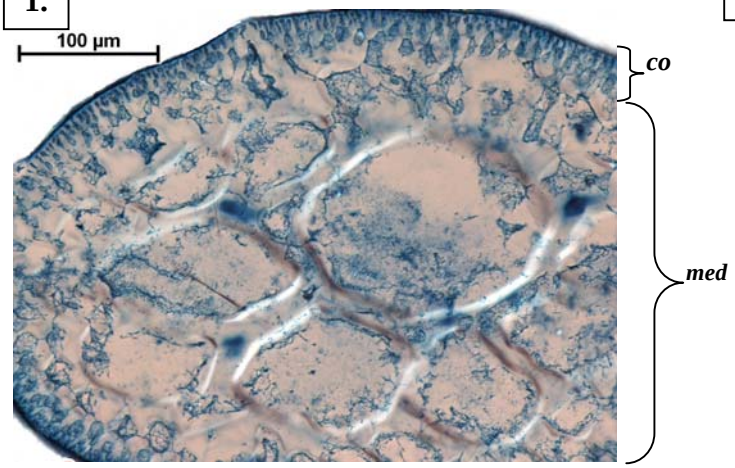
1. cut sections of blades and examine microscopically to find narrow outer (cortical) layers of 2-4 layers of branched, small cells grading rapidly in size to large, thick-walled cells of the core (medulla) ***4-6*** cells wide, interspersed with smaller cells in older branches
2. cut sections of pustulate, mature female structures (cystocarps) to find 8-12 layers of small cells forming a wall (pericarp), single prominent external opening (ostiole), mass of carposporangia, prominent nutritive cells basally and envelope of threads initially present, but disintegrating
3. sporangia scattered in the ***outer part of the medulla***, tetrahedral or cruciate



Similar Species *Hymenocladia usnea* but main branches are wider and ultimate branchlets (ramuli) much longer in that species

Description in the Benthic Flora Part IIIB, pages 113-115

1.



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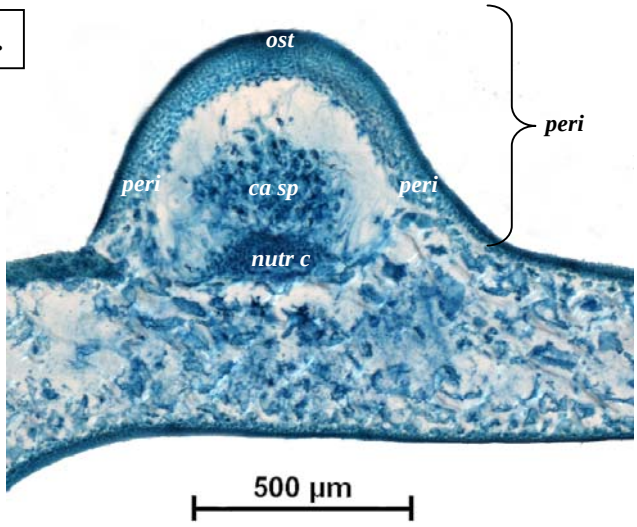

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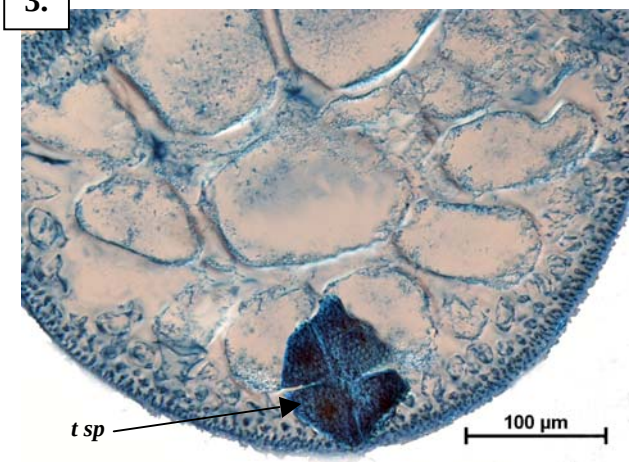
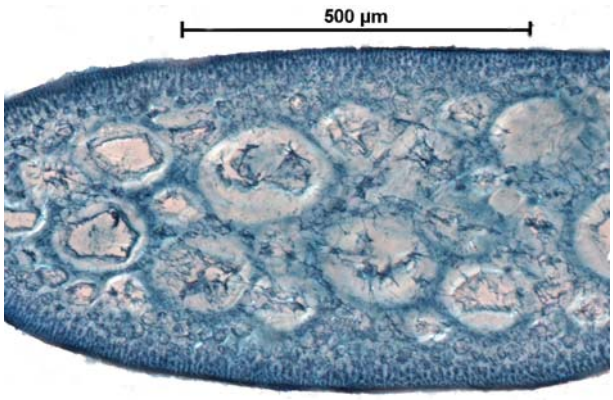


Cross sections of *Hymenocladia filiformis* stained blue and viewed microscopically

1. part of a branch showing slight compression, outer thin layer (cortex, *co*) of small cells and large, thick walled cells of the core (medulla, *med*) (A64491 slide 15434)
2. mature female structure (cystocarps, *cys*) with cellular wall (pericarp, *peri*), single opening (ostiole, *ost*) prominent nutritive base (*nutr c*) and mass of carposporangia (*ca sp*) (A64490 slide 15433)
3. part of a branch with a single cruciately divided tetrasporangium (*t sp*) (A64492 slide 15435)

*Descriptive names are inventions to aid identification, and are not commonly used
"Algae Revealed", R N Baldock, S Australian State Herbarium December 2010

4.



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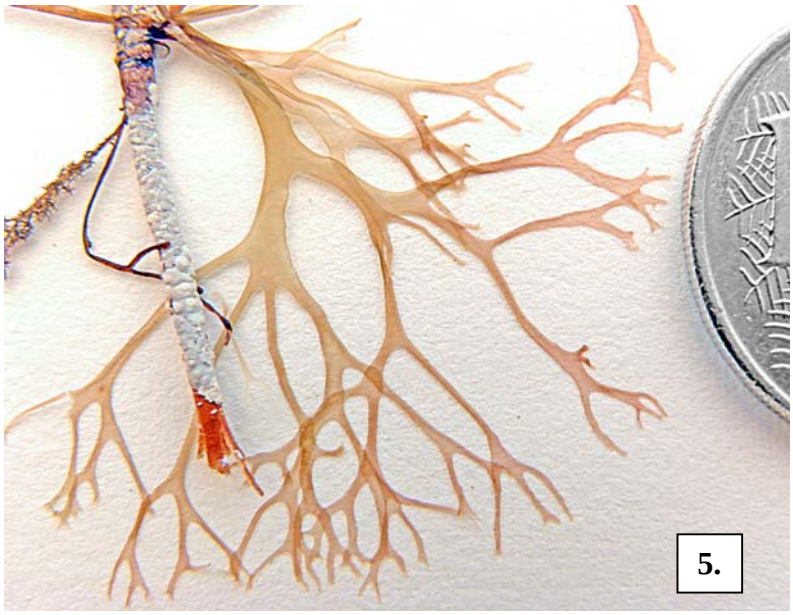

5.

Hymenocladia filiformis J Agardh from South Australia

4, 5. Two magnifications of a drift plant on a seagrass stem from Cervantes, W Australia showing the narrow forked branching (A64490)

6. cross section of a mature branch, stained blue and viewed microscopically to show the mixed sizes of large cells of the core (medulla) (A64492 slide 15436)

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