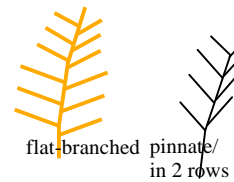


Gloiocladia halymenioides
(Harvey) R E Norris

MACRO
PLANT



45.660

Techniques needed and plant shape



Classification

Phylum: Rhodophyta; Order: Rhodymeniales; Family: Rhodymeniaceae
slimy reds

*Descriptive name

Features

1. plants red to red-brown, 50-200 mm tall, soft, *slimy*, flat-branched
2. main branches *flat*, 3-10mm wide, *forked* or alternate, branched along edges (*pinnate*), also with simple branchlets, *tapering evenly* towards tips
3. mature female structures (cystocarps), mainly marginal, with a rim of **2-6 horns**

Occurrences

Freemantle, W Australia to Victoria and around Tasmania

Usual Habitat

2-20m deep on sheltered coasts, but in strong current flow

Special requirements



1. cut cross sections of blades and examine microscopically to find
 - narrow outer (cortical) layers of *loose*, branched *chains* of small cells facing outwards
 - inner layer (medulla) of **1-2 rows** of large cells of *irregular size*, thin threads between cells *absent*
2. cut sections of pustulate mature female structures (cystocarps) bearing 2-6 small horns protruding from blade edges to find loosely arranged chains of small cells forming a wall (pericarp), single external opening (ostiole), mass of carposporangia wrapped in a *network of threads* and a small group of basal nutritive cells basally
3. sporangia in smaller branches, divided *decussately* (also? in a cross pattern - cruciate?)



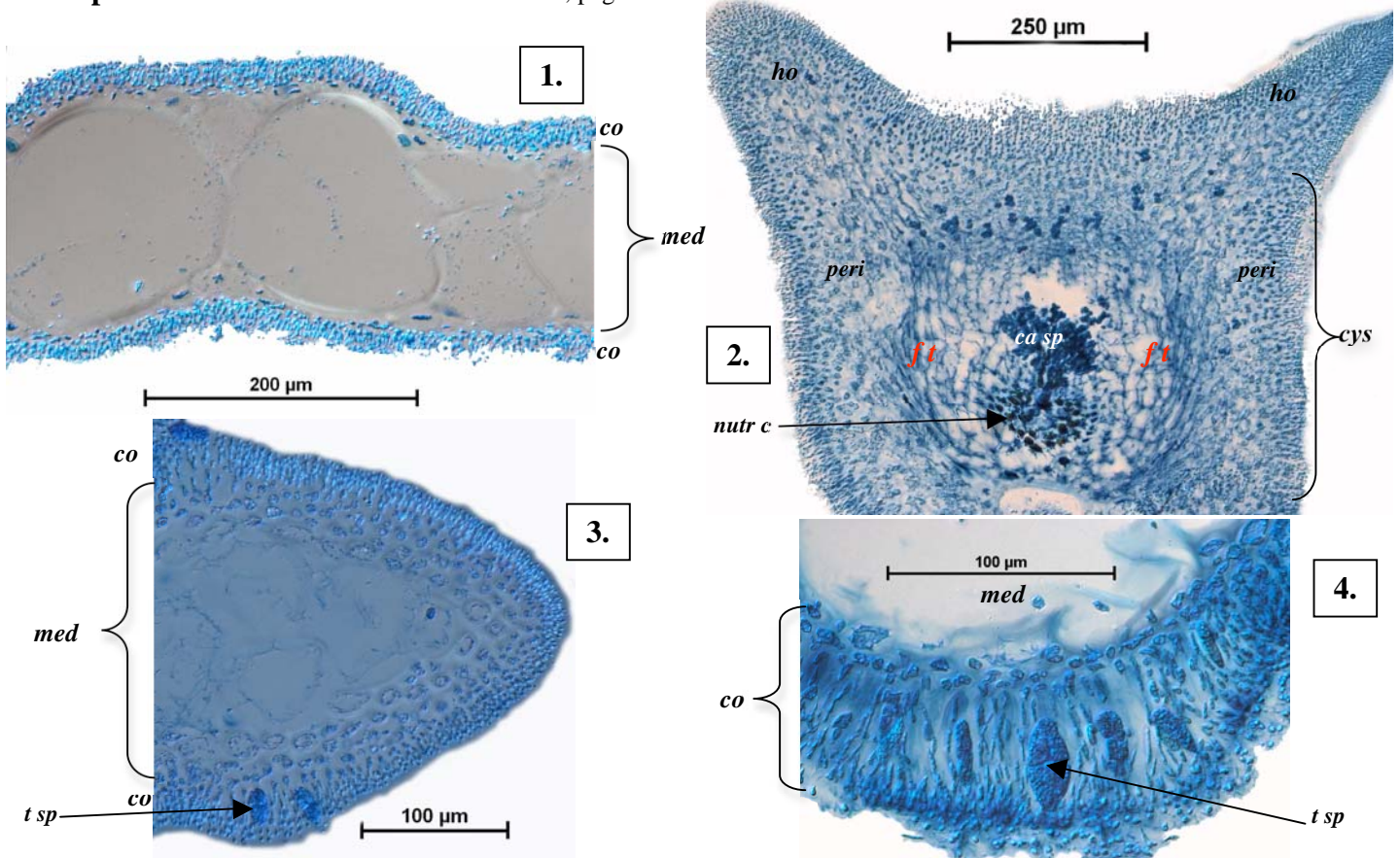
decussate

Similar Species

Gloiocladia australis but that is usually on seagrasses, main branches broader, branching less regularly pinnate and branches do not taper regularly towards tips

Description in the Benthic Flora

Part IIIB, pages 101-103



Cross sections of *Gloiocladia halymenioides* stained blue and viewed microscopically

1. blade, showing narrow outer layers (*co*) of small, branching cells and core (medulla, *med*) of large, colourless, irregular cells (A6954 slide 14111)
2. mature female structure (cystocarp, *co*) with horns (*ho*), basal nutritive layer (*nutr c*), mass of carposporangia (*ca sp*), cellular wall (pericarp, *peri*) (single opening not shown) (A42369 slide 14102)
3. edge of a blade with tetrasporangia (*t sp*) (A43722 slide 14105)
4. part of a blade in detail with tetrasporangia mixed with elongate cortical cells (A435863 slide 14126)



Gloiocladia halymenioides (Harvey) R E Norris from S Australia

- 5, 6. two specimens from Port Stanvac (A42487) showing the flat, forked main branches and pinnate smaller branches
- 7. darker and poorly branched specimen from Muston, American River, 4-5m deep (A48960)
- 8. mature female structures (cystocarps) with spine-like horns from 3-6m deep, Vivonne Bay Kangaroo I. (A43722)
- 9. detail of tapering branches and spinous cystocarps of a specimen from Muston, Kangaroo I. (A48960)