

Gloiocladia fruticulosa

(Harvey) R E Norris

45.660

Techniques needed and plant shape




Classification

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

*Descriptive name

Features

1. plants red to red-brown, 50-100 mm tall, soft, *slimy*, radially branched  diagnosis can be difficult
2. main branches cylindrical 1-2mm in diameter, slightly flanged at branch bases
3. mature female structures (cystocarps) sitting at the base of branch tufts, with a rim of 2-3 apical *bumps*

Occurrences

S Yorke Peninsula, S Australia to Victoria and east coast of Tasmania

Usual Habitat

on tape grass (*Posidonia*) or solid substrates of sheltered coasts, but in strong current flow

Special requirements



1. cut 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 **4-10 rows** of large cells of *irregular size*, thin threads between cells *absent*
2. cut sections of pustulate mature female structures (cystocarps) at the base of branch tufts bearing 2-3 apical bumps, with 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 the middle of the cortex, divided *decussately* (or *crucially*? in some)



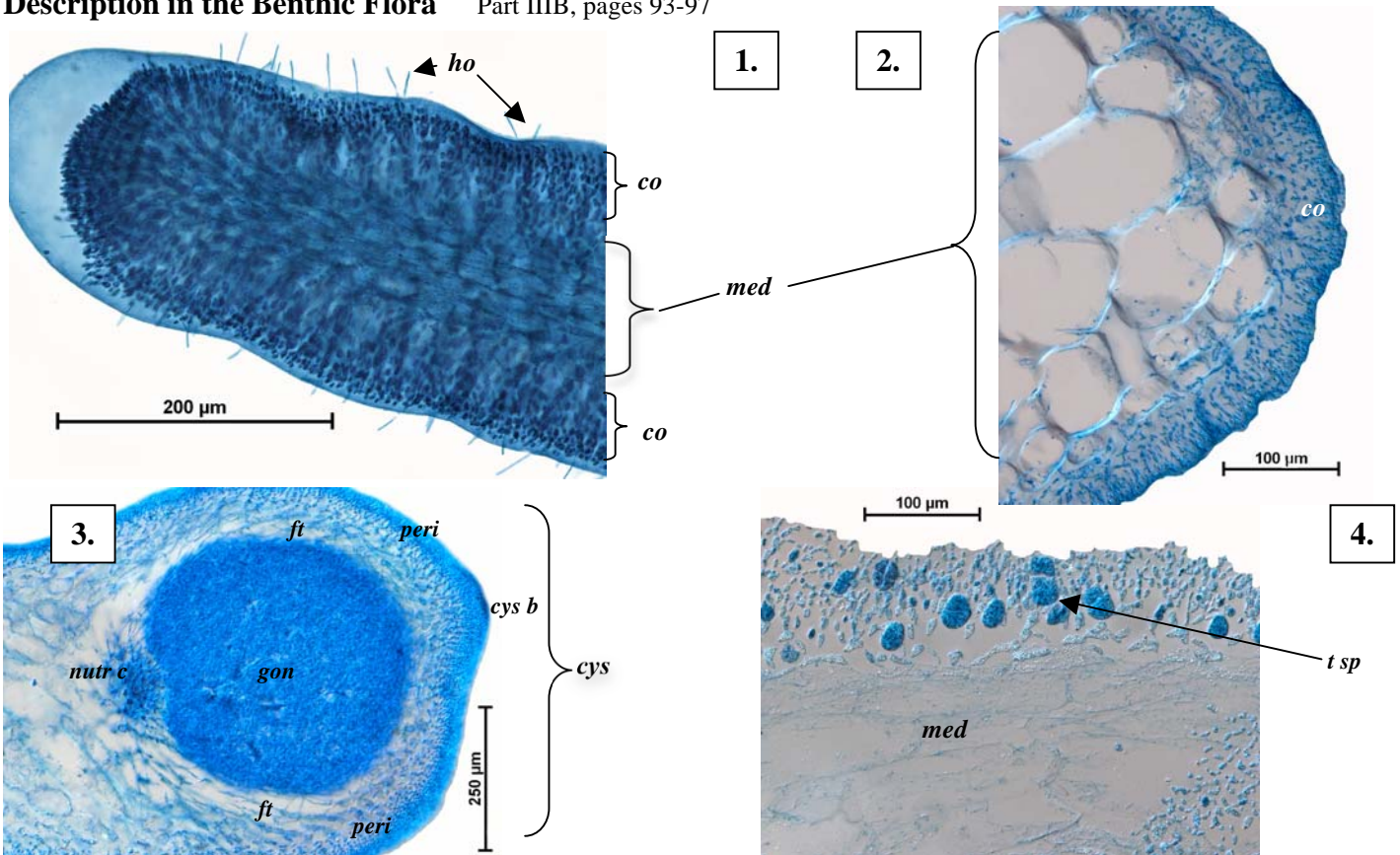
decussate

Similar Species

superficially like some *Mychodea* spp with cylindrical branches and *Calliblepharis planicaulis* but these species have single apical cells and central threads

Description in the Benthic Flora

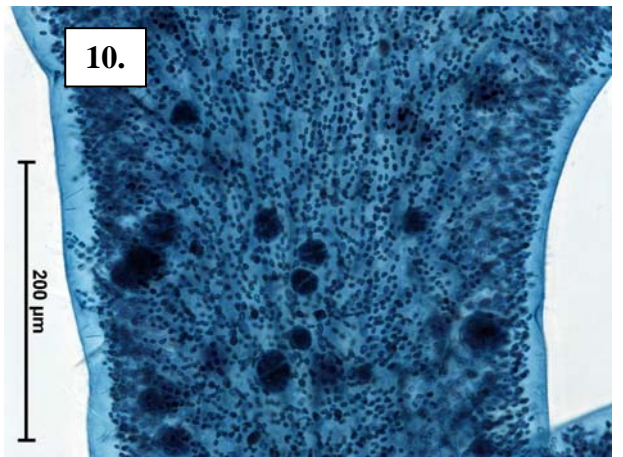
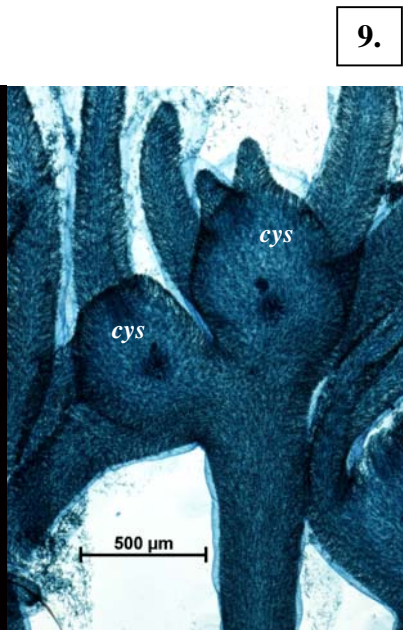
Part IIIB, pages 93-97



Gloiocladia fruticulosa stained blue and viewed microscopically

1. surface view of tip, showing narrow outer layers (*co*) of small, branching cells and core (medulla, *med*) of large cells and some fine hairs (*ho*) (A68553 slide 19232)
2. cross section showing cortex of branched chains of small cells, medulla of large cells of irregular sizes with some spaces between cells (A33591 slide 14090)
3. mature female structure (cystocarp, *cys*) of central mass (gonimoblast, *gon*), basal nutritive cells (*nutr c*), spidery threads (filaments, *ft*), cellular wall (pericarp, *peri*) and a cystocarpic bump (*cys b*) (A13360 slide 14087)

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



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- 5, 6. two magnifications of plants from 5-10m deep, Charlotte Cove, Ninepin Point, Tasmania (A68553)
- 7. epiphytic plant from 8m deep, Whyalla, S Australia (A70527)
- 8. preserved (bleached) specimen showing a cluster of 2 cystocarps near branch tips (A60429)
- 9, 10. specimens (A68553) stained blue and viewed microscopically
 - 9. cystocarps (*cys*), one with 2 apical bumps (slide 19232)
 - 10. surface view of scattered tetrasporangia (slide 19231)