Techniques needed and plant shape

Classification
*Descriptive name
Features

Phylum: Rhodophyta; Order: Rhodymeniales; Family: Rhodymeniaceae

1. plants red to red-brown, 50-100 mm tall, soft, slimy, radially branched
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
Usual Habitat
Special requirements

S Yorke Peninsula, S Australia to Victoria and east coast of Tasmania
on tape grass (Posidonia) or solid substrates of sheltered coasts, but in strong current flow
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 cruciately? in some)

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

Gloiocladi 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
*Descriptive names are inventions to aid identification, and are not commonly used

"Algae Revealed", R N Baldock, S Australian State Herbarium December 2010

**Gloiocladia fruticulosa** (Harvey) R E Norris

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 (slide19232)

10. surface view of scattered tetrasporangia (slide 19231)