

Gloiocladia polycarpa

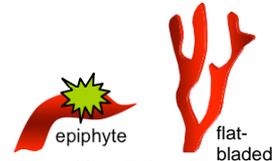
(Harvey) Womersley

45.660

Techniques needed and plant shape



MACRO
PLANT



Classification

Phylum: Rhodophyta; Order: Rhodymeniales; Family: Rhodymeniaceae
§ fringed red forkweed

*Descriptive name

Features

1. plants purplish-red to red-brown, 80-200 mm tall, flat-branched
2. main branches flat, 5-10 mm wide, forked, with many thin marginal and a few surface fringes except in female plants
3. mature female structures (cystocarps) usually marginal, with a rim of 2-3 horns probably from near Port Lincoln S Australia, eastwards to Westernport Victoria and N and E Tasmania,

Occurrences

epiphytic or on rock in shallow to deep water

Usual Habitat

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 *1-3 rows* of large cells of *irregular size*, with some thin threads between cells
2. cut sections of pustulate mature female structures (cystocarps) bearing 2-4 apical horns, 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 scattered in the cortex, divided decussately (or cruciately? in some)



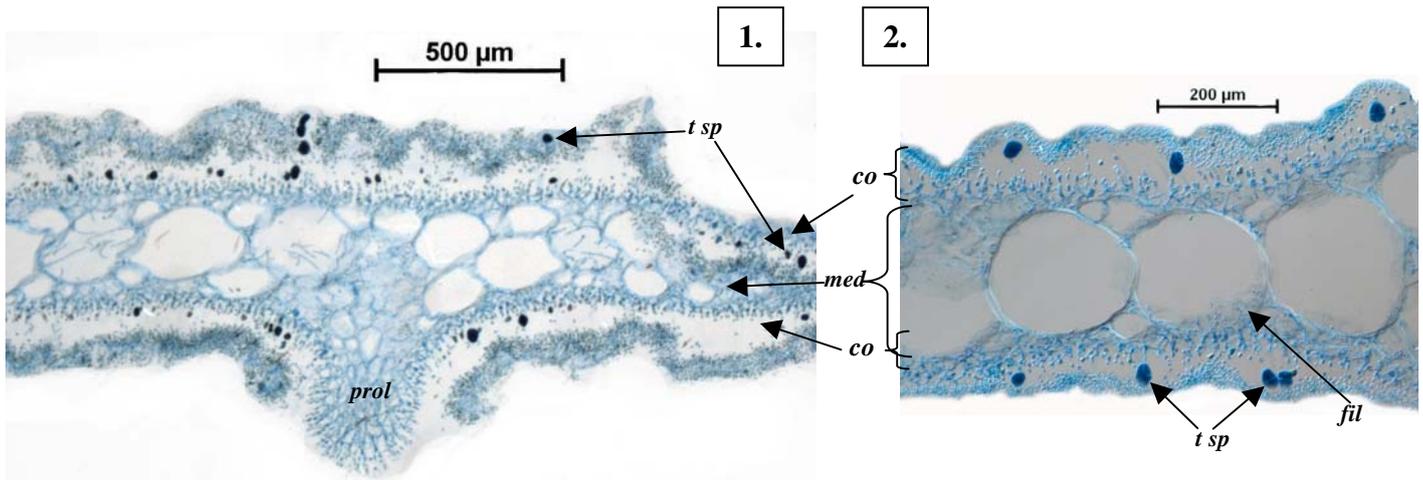
decussate

Similar Species

Gloiocladia australis that also has fringes (proliferations) but is pinnate

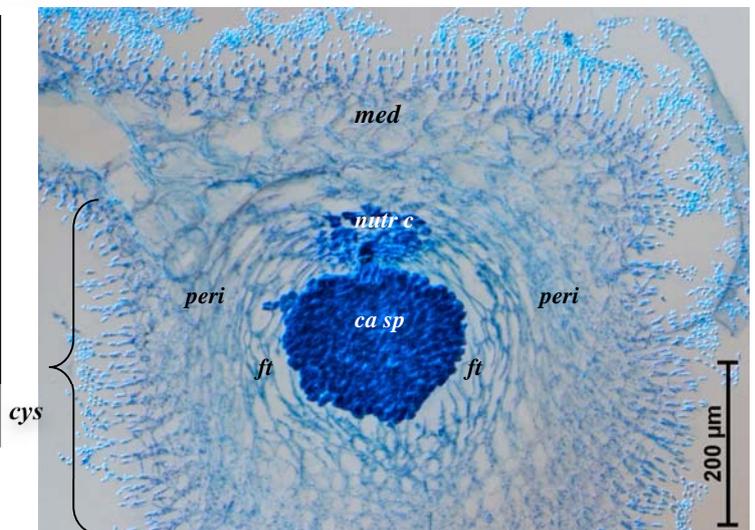
Description in the Benthic Flora

Part IIIB, pages 96-98



Cross sections of *Gloiocladia polycarpa* stained blue and viewed microscopically (sheath broken or wrinkled by slide preparation)

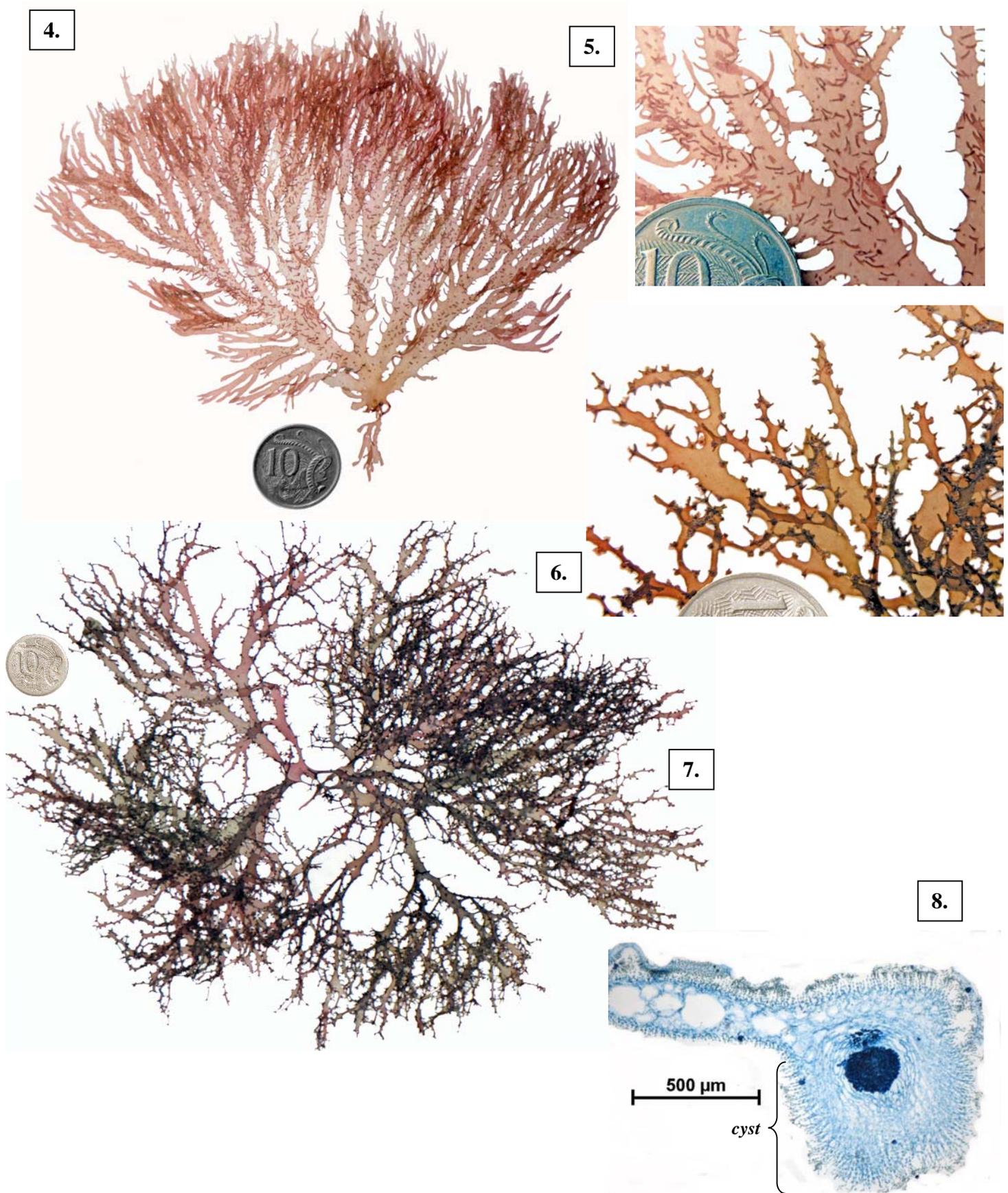
- 1,2. Two magnifications of a blade with base of a proliferation (*prol*), core (medulla, *med*) of large cells of differing sizes and some very fine threads (*ft*), thin outer layers (cortex, *co*) of small cells facing outwards and scattered tetrasporangia (*t sp*) (A61753 slides 14117, 14118)
3. mature female structure (cystocarp, *cyst*) with basal nutritive tissue (*nutr c*) mass of carposporangia (*ca sp*) surrounded by a network of spidery threads (*fil*) and cellular wall (pericarp, *peri*) (A61753 slide 14115)



3.

§ name used in Edgar, G. *Australian Marine Life*, 2nd Ed. (2008)

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



Gloiocladia polycladia (Harvey) Womersley

- 4, 5. two enlargements of a drift specimen (A46909) from Point Avoid near Pt Lincoln, S Australia
- 6, 7 two enlargements of a female plant from Charlotte Cove, Ninepin Point, Tasmania (A68558), showing absence of fringes but prominent marginal cystocarps with tiny horns
- 8. cross section stained blue and viewed microscopically showing marginal cystocarp (cys) (A61753 slide 14115)

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