



Techniques needed and shape

Classification

*Descriptive name

Features



Phylum: Rhodophyta; Order: Gigartinales; Family: Gigartinaceae
giant pimply sheets

plants red-brown, of a single or several, **large, tough** blades 150-400mm long (over 1m long in Tasmanian specimens!), lance-shaped when young, broad ($\approx 200\text{mm}$) or narrow ($\approx 50\text{mm}$) when mature, with small, **pimply** (papillose) growths on the surface and edges of fertile blades; attached by a minute, **inconspicuous** stalk (2-8mm long); some plants form dark, narrow, side blades, and edges of blades may be wavy or have small teeth

Occurrences

Robe, S Australia to Victoria and around Tasmania

Usual Habitat

generally in shallow water of moderate water movement on rough coasts

Special requirements

cut cross sections and view microscopically to find

- a **wide** core (medulla) of inter-connecting, branched threads; outer layer (cortex) of **chains of small** cells facing outwards
 - in female plants: numerous, prominent, dark, pimply **outgrowths** (papillae), spherical mature female structures (cystocarps) embedded within, containing a weak envelope of threads (involute), and **clumps** of carposporangia
 - in sporangial plants: tetrasporangia, in numerous, **deeply embedded** spotty masses (sori), divided in a cross (**cruciate**) pattern, finally escaping through a common pore
- calm-water forms of *Rhodoglossum gigartinoides* in the Gigartinaceae and *Pachymenia orbicularis*, *Aeodes nitidissima* and *Grateloupia ovata* in the Halymeniaceae also have large, tough blades and short stalks, but there are no papillose growths in female plants; tetrasporangia in the Halymeniaceae are scattered and do not occur in well defined spots

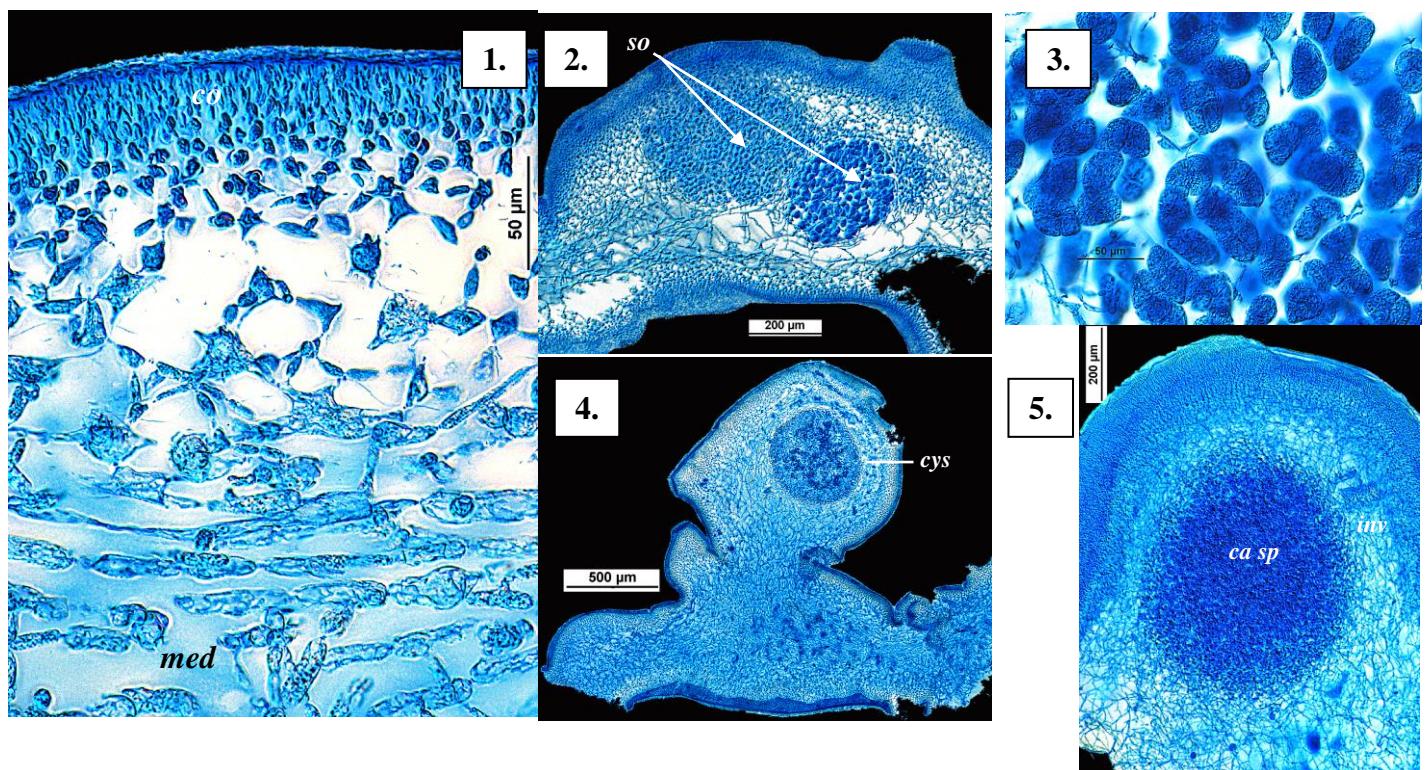
Similar Species



cruciate

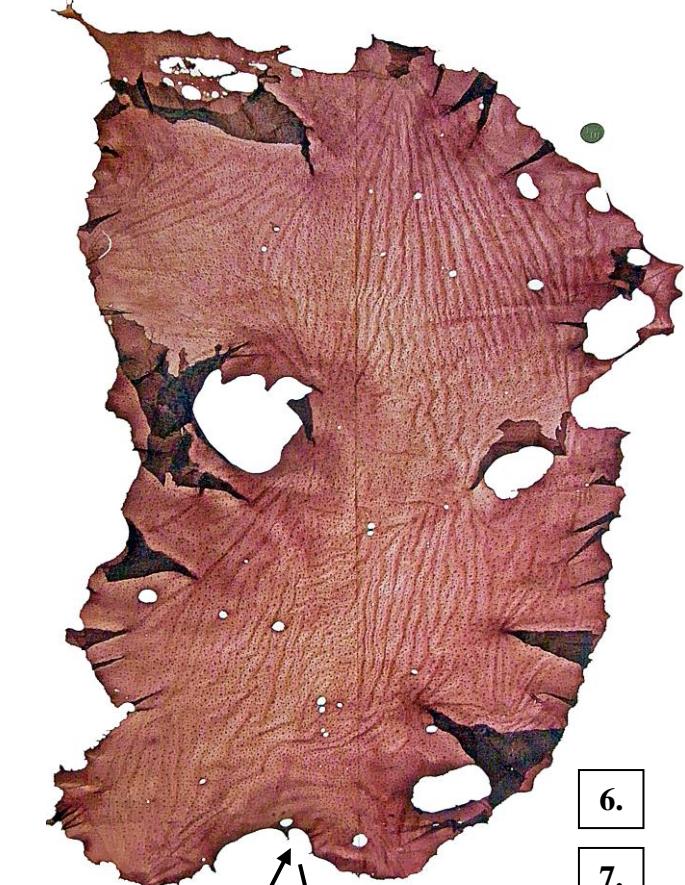
Description in the Benthic Flora Part IIIA, pages 290-294

Details of Anatomy



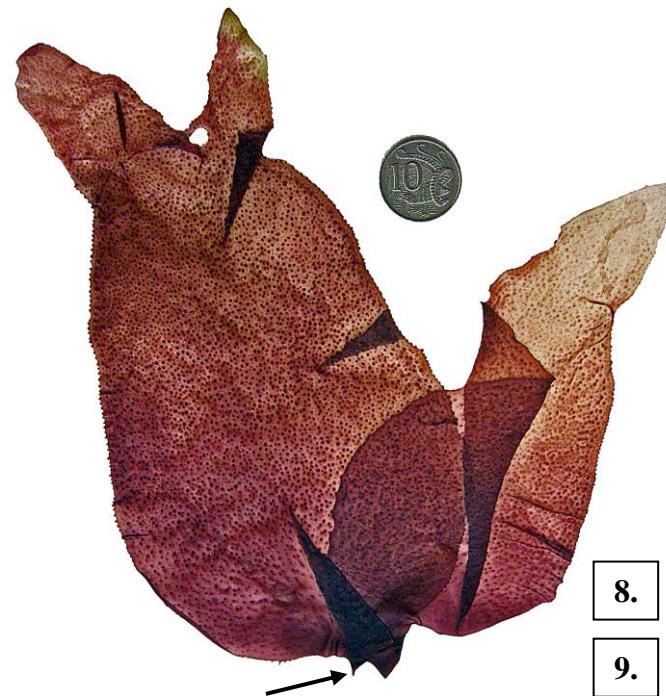
Sarcothalia radula: cross sections stained blue and viewed microscopically

1. one side of a blade: core of stout, inter-connected threads (medulla, **med**), chains of outward-facing, small cells of an outer layer (cortex, **co**) (slide 12394)
2. tetrasporangial masses (sori, **so**) deeply embedded in a blade (slide 12391)
3. detail of tetrasporangia, in various stages of dividing into a cross (cruciate) pattern (slide 12394)
4. mature female structure (cystocarp, **cys**) embedded in an outgrowth (papilla) of a blade, with central mass of carposporangia and threads (slide 12395)
5. detail of a cystocarp: masses of carposporangia (**ca sp**), loose envelope of threads (involute, **inv**) (slide 12391)



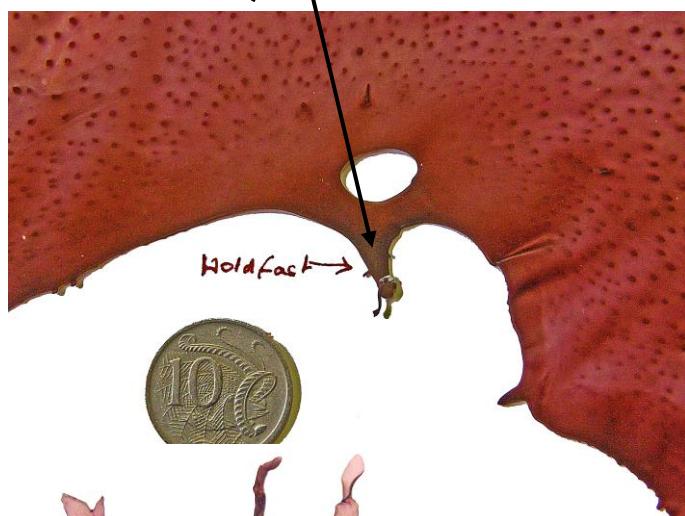
6.

7.



8.

9.



10.

11.



Sarcothalia radula (Esper) Edyvane & Womersley

- 6-7. large plant, over 1m long, from 10m deep, NW of Schouten Passage, Tasmania (A68743): detail of the minute holdfast and stalk at the base, (**arrowed**), spotty surface due to embedded masses of tetrasporangia
- 8, 9. specimen from a shaded, upper intertidal pool, Back Beach, Little Dip Conservation Park, S Australia (A63226): minute basal stalk (**arrowed**), detail of the pimply (papillose) surface and edge
- 10, 11. two magnifications of a narrow-bladed specimen from a wave-splashed rock platform at Cape Lannes, Robe S Australia (A56938): detail of stalked papillae bearing cystocarps