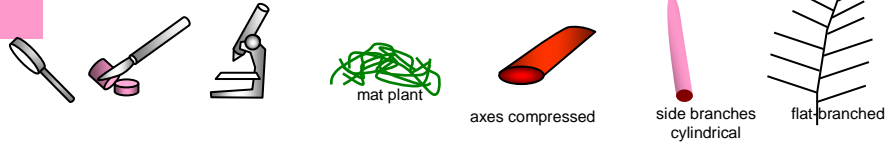


Gigartina brachiata Harvey

45.380

Techniques needed and shape



Classification

Phylum: Rhodophyta; Family: Gigartinaceae
tangled Gigartina

*Descriptive name

Features



1. plants red-brown, fading to yellow-red, growing in dense, tangled clumps 40-100mm across; main branches \approx 1mm wide, compressed, flat-branched; side branches \approx 0.5mm wide, forked and cylindrical often curved and narrowing to pointed tips
2. tetrasporangial and male clusters form zebra-like, pale blotches or rings on side branches

Occurrences

West coast S Australia to Sydney NSW and around Tasmania

Usual Habitat

usually in shaded reef pools or shallow water, occasionally on the Tape weed, *Posidonia*

Similar Species

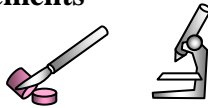
the tangled clumps and zebra-like bands of fertile parts are unique

Description in the Benthic Flora

Part IIIA, pages 299-301, 304, 313

Special Requirements

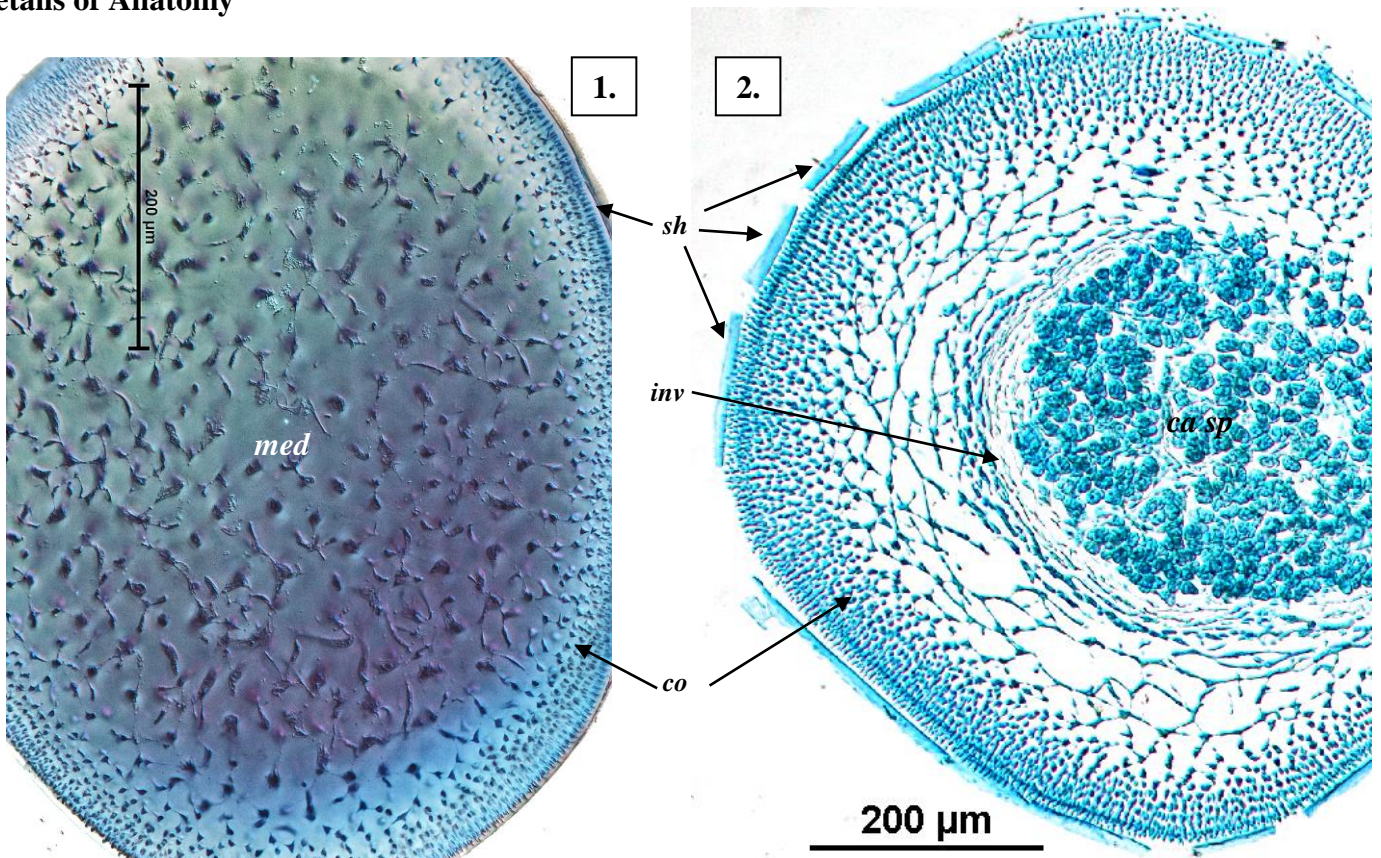
cut cross sections and view microscopically to find



1. the **wide** core (medulla) of loose threads connected by short cross threads, outer layer (cortex) of branched chains of small cells facing outwards, thick non-cellular sheath (often broken into segments in stained preparations)
2. in female plants, swollen female structures (cystocarps), often causing **sharp bends**, on one side of small side branches; central clusters of spores, **wrapped** in threads (involucre)
3. in sporangial plants, **chains** of tetrasporangia in the outer layers dividing into cross shaped patterns (cruciate) when mature

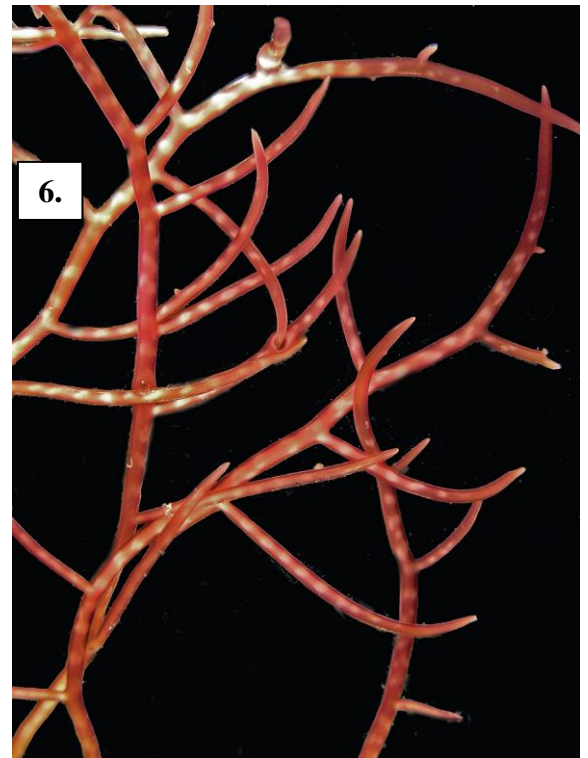
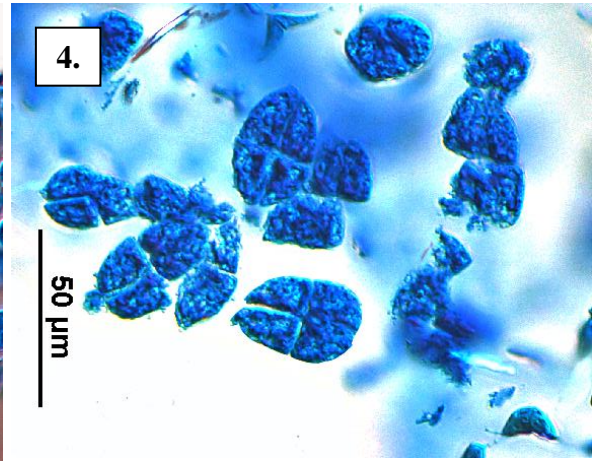
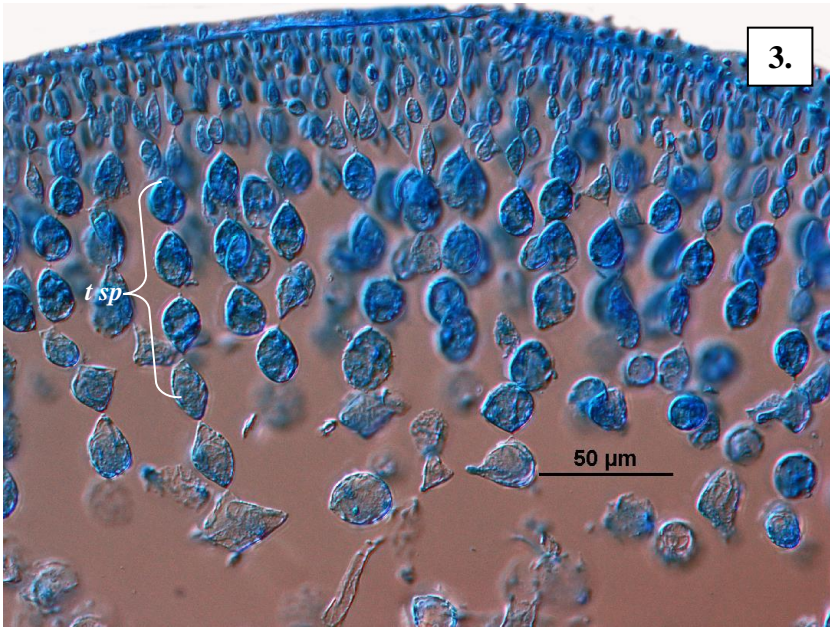


Details of Anatomy



Cross sections of *Gigartina brachiata* stained blue and viewed microscopically

1. part of a slightly compressed branch: wide core (medulla, **med**) of threads, outer layer (cortex, **co**) of outward facing, branched chains of small cells, sheath (**sh**) (fracturing due to the staining process)
2. mature female structure (cystocarp): carposporangia (**ca sp**), sheath of threads (involucre, **inv**) (A52997 slide 12420)



Gigartina brachiata Harvey

3. cortical chains of cells developing into tetrasporangia (*t sp*) (A52997 slide 12420)
4. detail of mature tetrasporangia in various stages of division into cross shaped (cruciate and decussate) patterns (A64801 slide 15668)
5. a tangled clump of plants from shallow water, Edithburgh, S Australia
6. details of flat-branching pattern, curved side branches and faint zebra-like markings of fertile branches (A74875)
7. preserved (bleached) specimen top lit and magnified: branches with sharp bends, a result of swollen female cystocarps on one side (12880)