

Techniques needed and plant shape



Classification

Phylum: Rhodophyta; Order: Rhodymeniales; Family: Lomentariaceae

*Descriptive name

Features

1. plants red, tiny, 0.5-1.0mm tall, attached to other algae by a disc about 0.5mm wide
 2. upright parts tubular, hollow, solitary or with few branches
 3. ultimate branches **cigar- or club-shaped** about 0.5mm wide, **constricted basally**
 4. reproductive stages forming scattered spots in ultimate branches
- near Perth, W A, SE of S Australia and Tasmania, probably widespread but overlooked on brown and red algae, in deep water (30m)

Occurrences

Usual Habitat

Special requirements



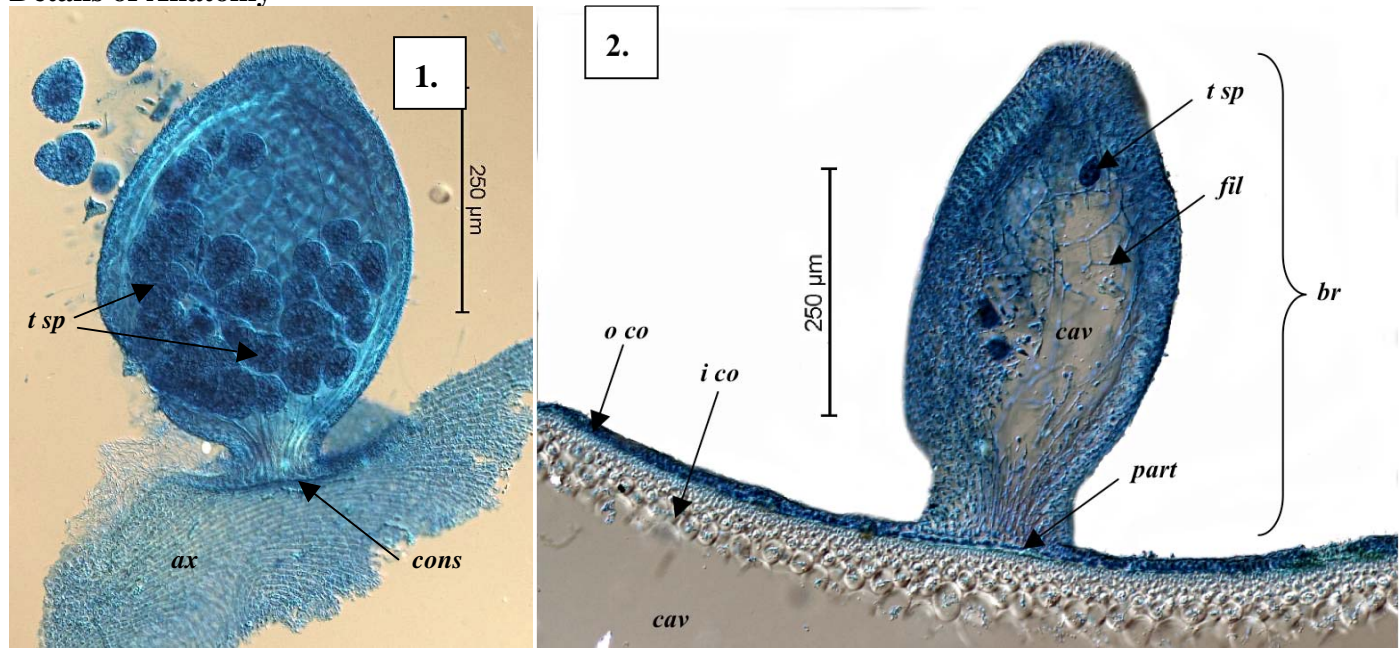
1. focus microscopically on and through the surface to find
 - outer layer (cortex) of inner large. many-sided cells completely covered by outer small cells (rings or rosettes **not apparent**)
 - branch cores hollow, lined with thin threads bearing tiny gland cells
 - branch constrictions **solid**, of large cells, pierced by threads growing into cavities
 2. mature female structures (cystocarps) scattered, ball-shaped, growing into the branch cavity, with a wall of interconnecting threads (involucre) and small opening (ostiole)
 3. sporangia in scattered, **depressed** patches (**sori**), divided tetrahedrally, **growing from small, bunched cells** protruding into the branch space
- unique because of its size and growth on algae

Similar Species

Description in the Benthic Flora

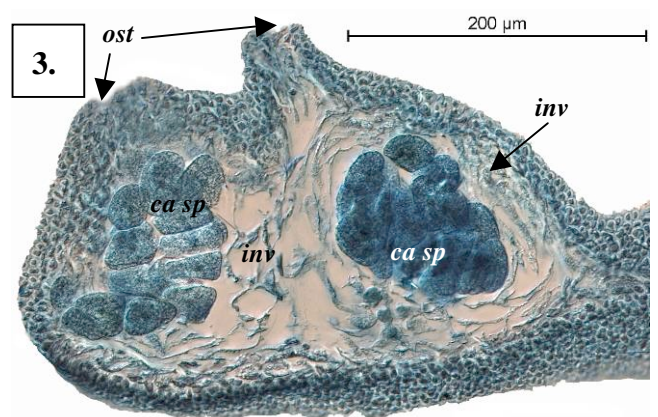
Part IIIB, pages 144-146

Details of Anatomy

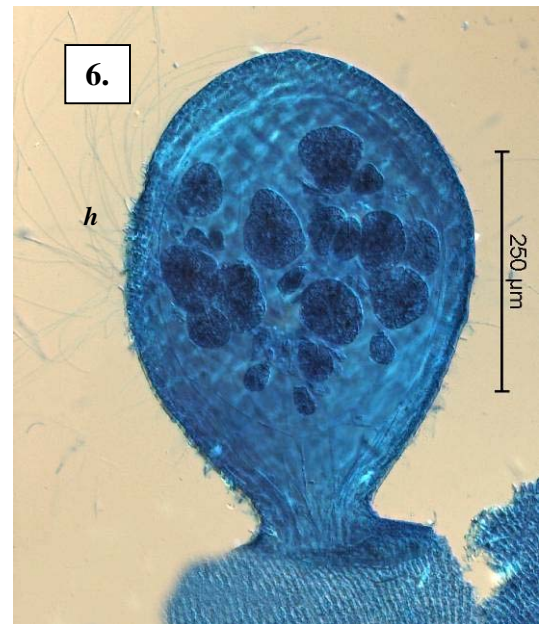
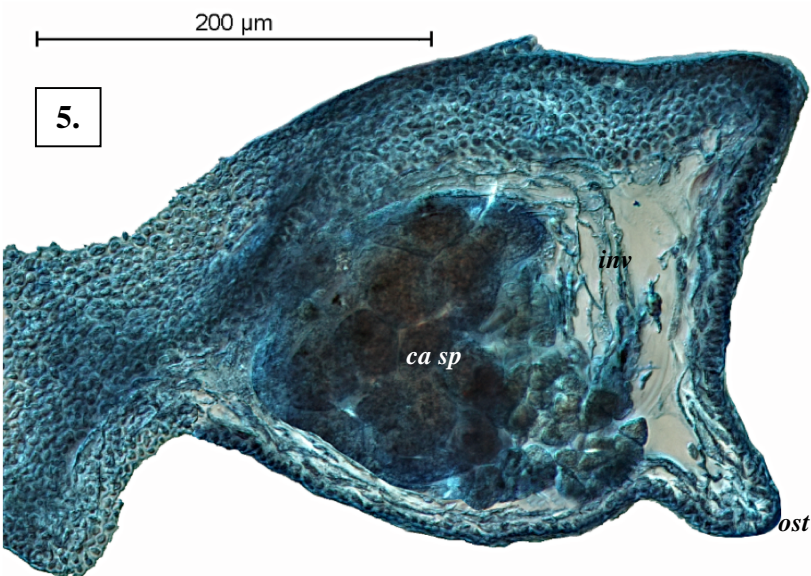
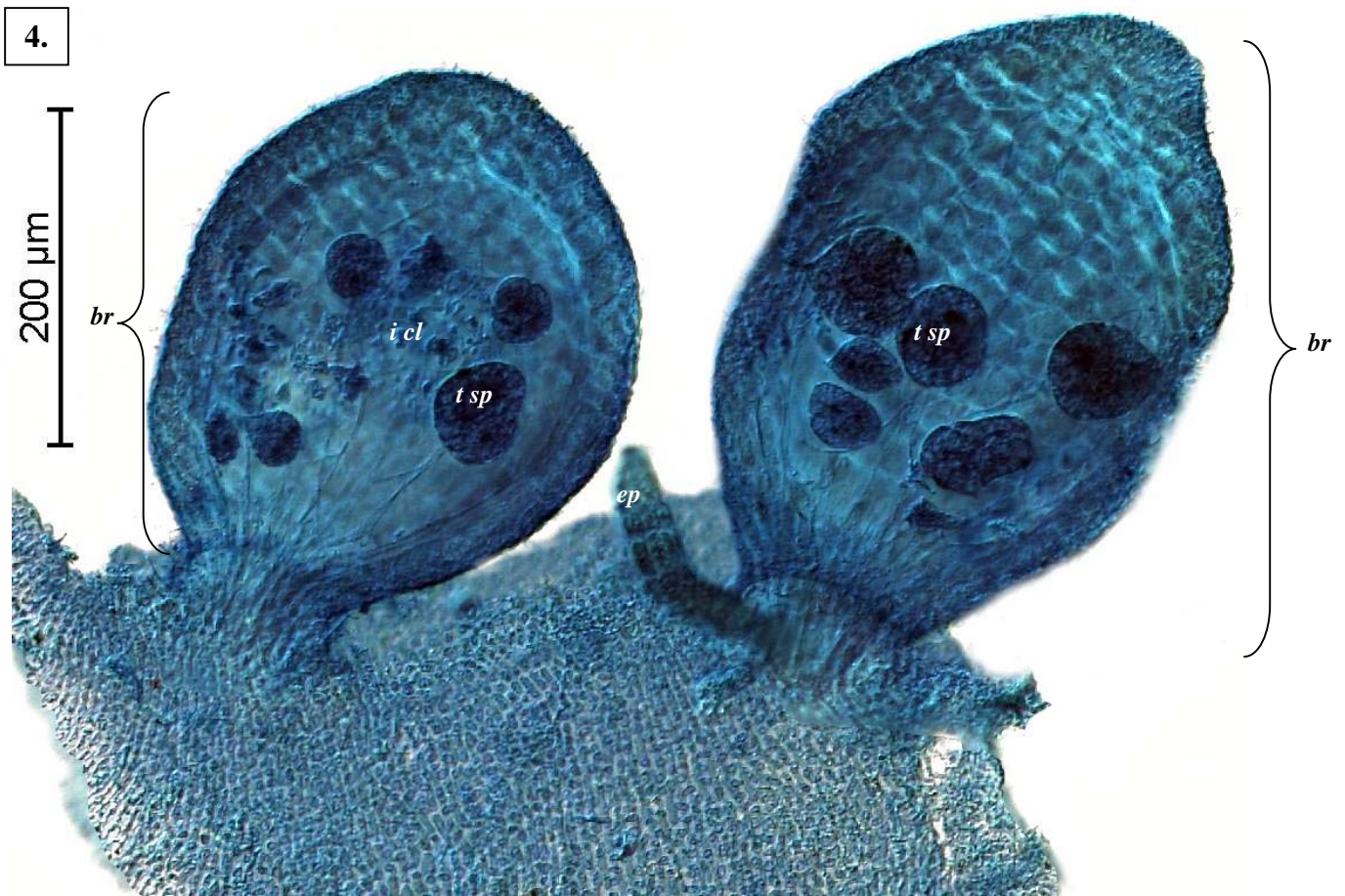


Semnocarpa minuta stained blue and viewed microscopically

1. ultimate branch, constricted basally (*cons*) containing tetrasporangia (*t sp*) (some displaced) on a detached surface layer of a main branch (axis, *ax*) (A61202 slide 12216)
2. lengthwise section through edge of an axis; core cavity (*cav*), outer layer (*o co*) of small cells, inner layer (*i co*) of large cells, ultimate branch (*br*) with tetrasporangia (*t sp*), hollow core surrounded by threads (*fil*), solid partition at branch constriction (*part*) (A42379 slide4348)
3. detached ultimate branch with 2 cystocarps, each with an opening (ostiole, *ost*) mass of carposporangia (*ca sp*) surrounded by threads (involucre, *inv*) (A42927 slide 14164)



*Descriptive names are inventions to aid identification, and are not commonly used "Algae Revealed", R N Baldock, S Australian State Herbarium, July 2011



Semnocarpa minuta Huisman, Foard & Kraft stained blue and viewed microscopically

4. two side branches (*br*) on a detached piece of an axis, one focussing into the core cavity showing the in-growing cluster of cells (*icl*) that bear tetrasporangia (*t sp*) (the other with an extraneous epiphyte attached (*ep*)) (A61202 slide 12216)
5. cross section of a single cystocarp (*cys*) growing into the cavity of an ultimate branch, with mass of carposporangia (*ca sp*) surrounded by an envelope (involucre, *inv*) of threads, opening through an ostiole (*ost*) (A42927 slide 14164)
6. detached piece of axis with a single ultimate branch, bearing numerous fine surface hairs (*h*) and containing tetrasporangia (A61202 slide 12216)