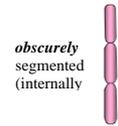


MACRO  
PLANT



Techniques needed and plant shape

Classification

Phylum: Rhodophyta; Order: Rhodymeniales; Family: Champiaceae

\*Descriptive name

Features



1. plants red to grey-red, 40-150+ mm tall, pyramid-shaped, branching radial, dense
2. branches cylindrical, rounded apically, narrowed basally, partly pinched into *bead-like segments* corresponding to internal partitions visible *only* in young branches
3. main branches 1.0-3.5mm, side branches 0.5-1.5 wide, recurved tips *absent*
4. mature female structures (cystocarps) ball- or urn-shaped, protruding, 0.7- 1.3mm wide near Perth W Australia Victoria and around Tasmania

Occurrences

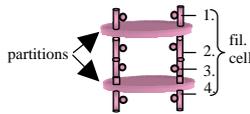
Usual Habitat

Special requirements



usually on intertidal rock or in pools, or shallow water, occasionally on sea grasses

1. dense, extremely fine surface hairs sometimes present
2. focus microscopically on internal partitions in *side view* to find
  - segment cores are hollow, partitions between segments *1 cell thick*
  - threads of thin cells each with a single dot-like secretory cell, *peripheral* (pass through the *perimeter* of the partitions *only*), *2 cells* between partitions
  - single layer of box-shaped outside cells (cortex), generating additional, numerous small outer cells obscuring the internal partitions in mature branches
- 3 mature female structures (cystocarps) with
  - central mass of egg-shaped cells (carposporangia)
  - of inner cells of wall (pericarp) *star-shaped*, widely spaced
  - single prominent external opening (ostiole)

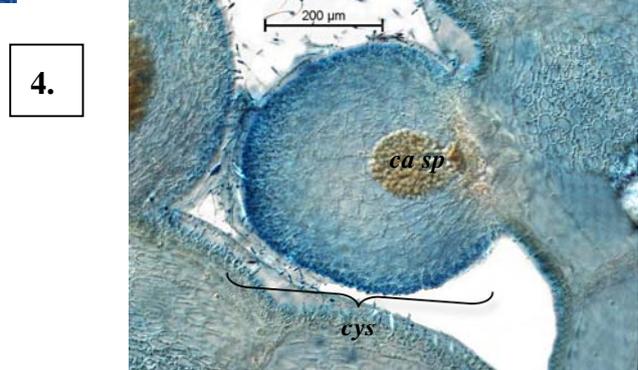
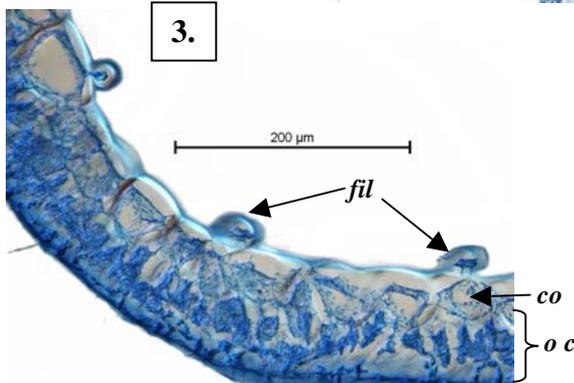
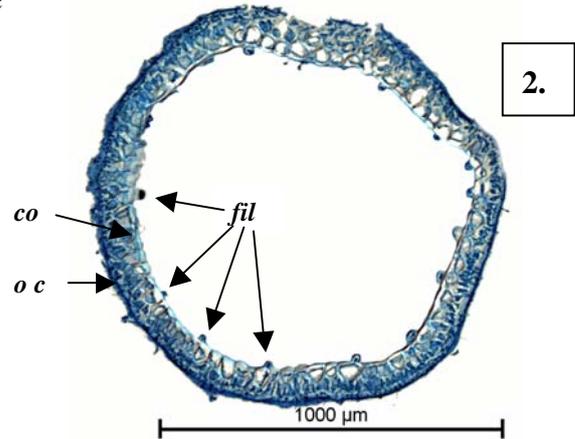
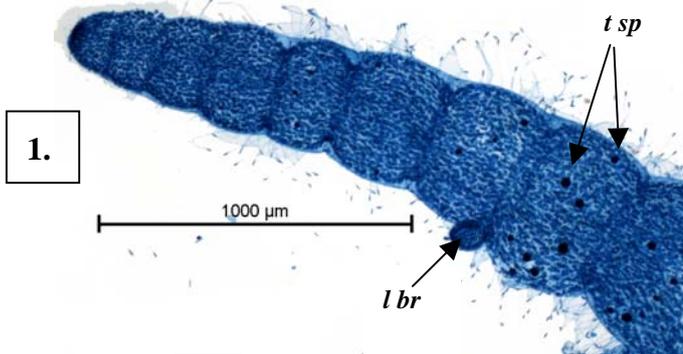


Similar Species

4. sporangia *scattered* in the outer part of the medulla, divided *tetrahedrally*  
*Champia zostericola* and *C. parvula*: but internal partitions are more obvious in these species and they are epiphytic

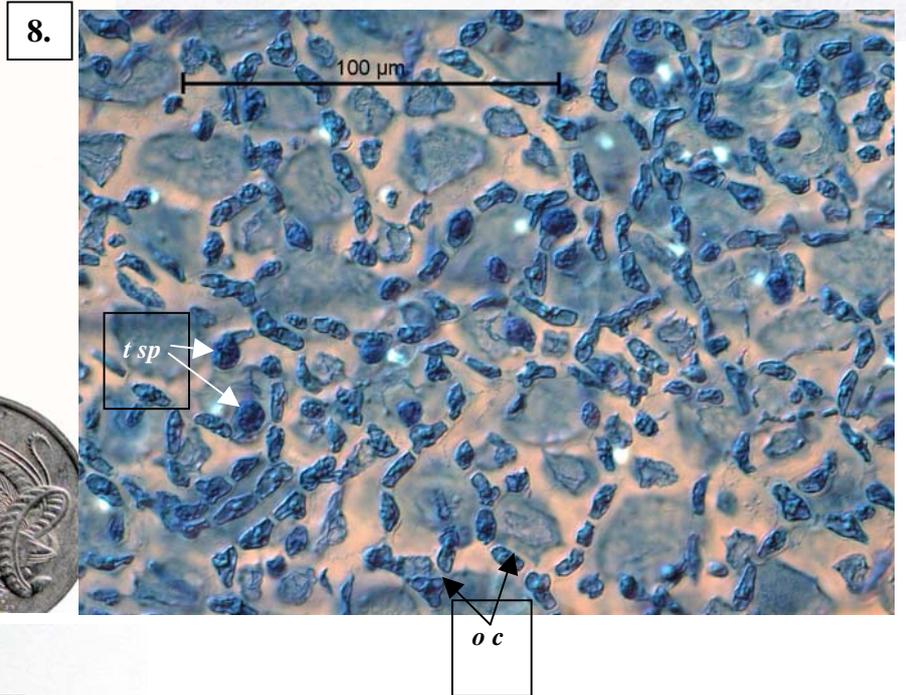
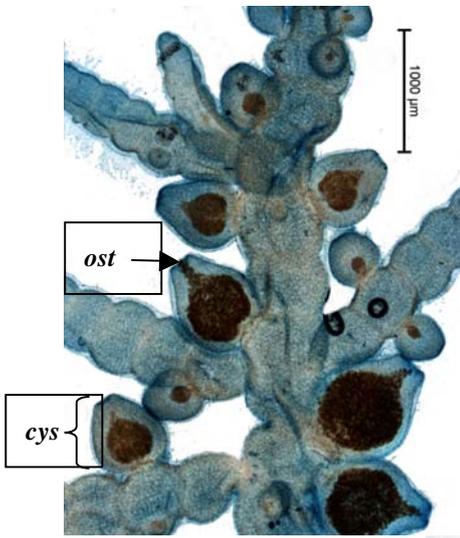
Description in the Benthic Flora

Part IIIB, pages 125-127



*Champia affinis* stained blue and viewed microscopically

1. branch tip, internal partitions obvious, lateral branch (*l br*), very fine hairs and scattered tetrasporangia (*t sp*) (A56525 slide 14669)
2. cross section with hollow core, peripheral threads (*fil*) and wall (cortex, *co*) of large cells covered by smaller outer cells (*o c*) (A56525 slide 14670).
3. detail of segment wall (A56525 slide 14670)
4. cystocarp (*cys*), pinched basally, central carposporangia (*ca sp*), inner tissue of star-shaped, widely spaced cells (A42990 slide 4607)



*Champia affinis* (Hooker & Harvey) J Agardh

5. mature female structures (cystocarps, *cys*) with openings (ostioles, *ost*), stained blue and viewed microscopically (A42990 slide 4607)
- 6, 7. specimens from the reef surface, Robe S Australia (A37319)
6. female plant with scattered, dark cystocarps
7. tetrasporangiate plant
8. surface view stained blue and viewed microscopically (A56525 slide 14669) showing underlying large cells of the cortex, developing covering of smaller cells (*o.c*) and young tetrasporangia (*t sp*)
9. specimen with mature tetrasporangia, from Pennington Bay, Kangaroo I., S Australia (A42997)

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