

Techniques needed and plant shape



Classification

Phylum: Rhodophyta; Order: Rhodymeniales; Family: Champiaceae
§ earthworm-weed

***Descriptive name**

Features

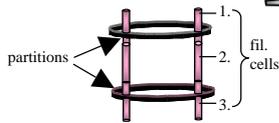


1. red to grey-red, branches cylindrical, rounded apically, narrowed basally, regularly segmented with **distinct** internal partitions **pinched** in young branches
 2. plants forming irregular spreading clumps **on sea grasses**
 3. side and main branches about **equal in diameter**, 1.5-3.0mm, some with **recurved tips**
 4. mature female structures (cystocarps) goblet-shaped, protruding, 0.7- 1.0mm wide
- central W Australia to Sydney and around Tasmania
on sea grasses (only?) in shaded shallow areas to 40m deep

Occurrences

Usual Habitat

Special requirements

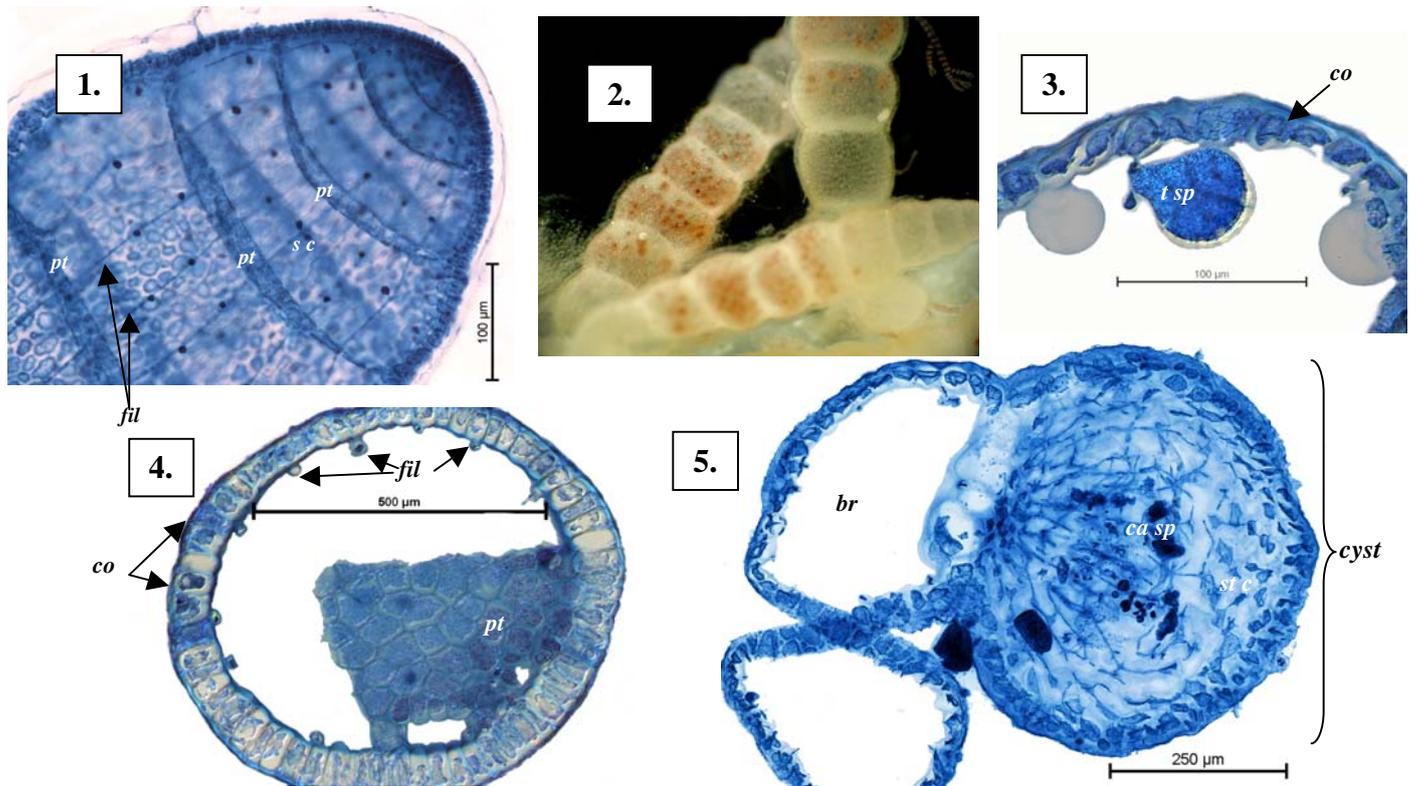


1. focus microscopically on internal partitions in **side view** to find
 - segment cores hollow, partitions between segments **1 cell thick**
 - threads with a single dot-like secretory cell **peripheral** (pass through the **perimeter** of the partitions **only**), 1 complete and 2 half cells between partitions
 - single layer of box-shaped outside cells (cortex), with very few small outer cells from their corners
 2. 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)
 3. sporangia **scattered** in the outer part of the medulla, divided **tetrahedrally**
- Champia parvula*: but branches are thinner, usually without hooked ends, outer layer (cortex) in mature branches several cells thick

Similar Species

Description in the Benthic Flora

Part IIIB, pages 127-129



***Champia zostericola* viewed microscopically**

1. apex showing threads (*fil*) with dot-like secretory cells (*sc*) passing through prominent partitions (*pt*) (A46646 slide 14674)
2. preserved (bleached) sporangial specimen lit from above, showing pinching at partitions and scattered tetrasporangia (A70387)
3. part of segment wall: single row of outer cells (cortex, *co*), tetrasporangium (*t sp*); empty sporangial capsules (A42996 slide 14681)
4. cross section with part of a partition intact showing single row of outer cells (*co*) and peripheral threads (*fil*) (A42996 slide 14681)
5. cross section of a protruding cystocarp (*cyst*) with carposporangia (*ca sp*), star-shaped cells (*st c*) and hollow branch (*br*) twisted and looped during preparation of the slide (A42996 slide 14678)

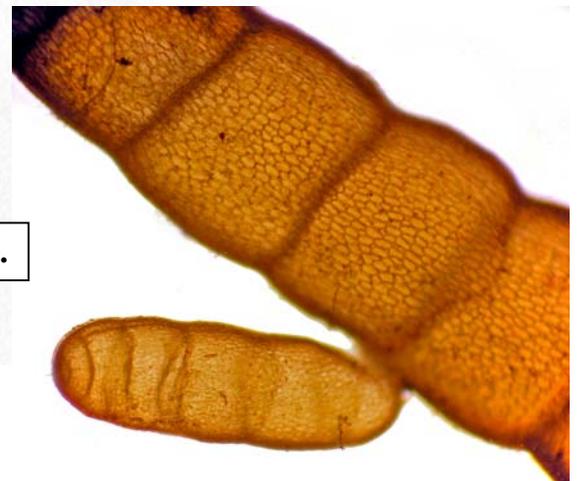
*Descriptive names are inventions to aid identification, and are not commonly used; § name suggested by G Belton "Algae Revealed", R N Baldock, S Australian State Herbarium April 2011



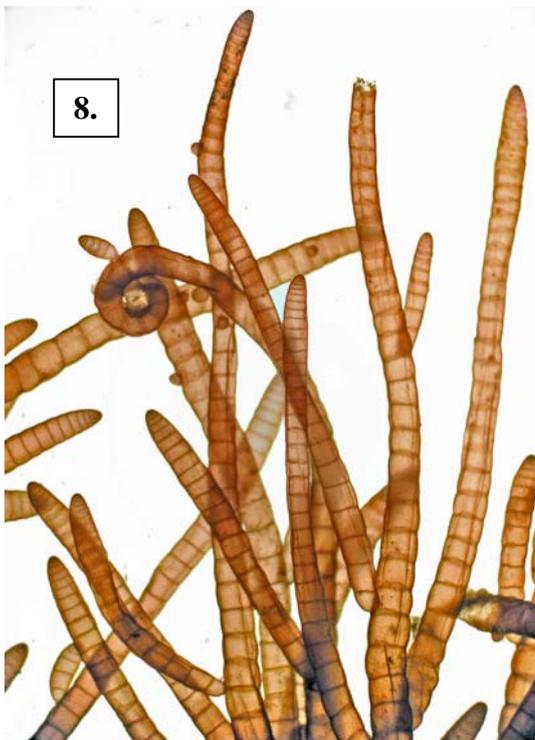
6.



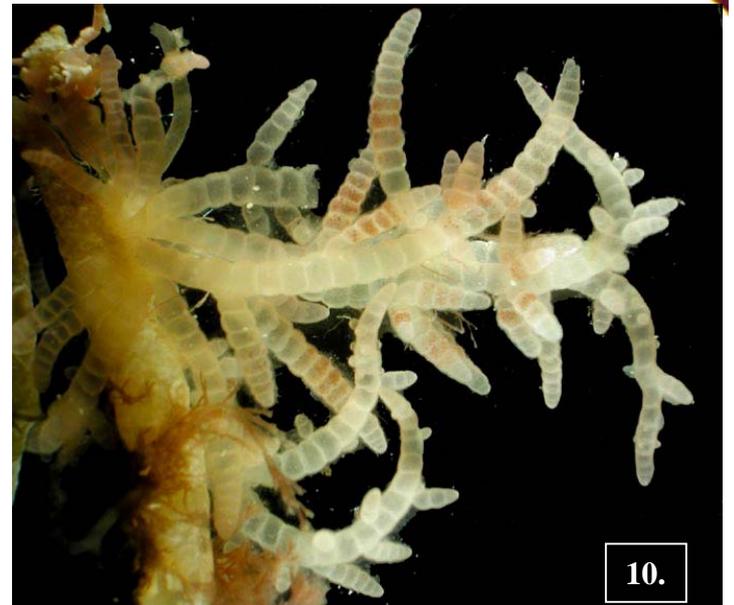
7.



9.



8.



10.

Pressed and preserved specimens of *Champia zostericola* (Harvey) Reedman & Womersley

6. from 8m deep, inside Baudin Rocks, Robe S Australia (A43967)

7. showing characteristic hooked tips (A73034)

8. prominent partitions, side branches of similar width to main branches and coiled tip, characteristic of the species

9. magnified surface view showing basal pinching of side branches and mosaic pattern of large, outer cells

10. top lit preserved specimen highlighting segments and side branches equal in width to main branches (A70387)

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