Champia parvula Harvey

including *C. parvula* var. *parvula*
and *C. parvula* var. *amphibolis*

45.680

Techniques needed and plant shape

Classification Phylum: Rhodophyta; Order: Rhodymeniales; Family: Champiaceae

***Descriptive name** thin §earthworm-weed

Features

1. red to red-brown, branches cylindrical, rounded apically, narrowed basally, regularly segmented with internal partitions slightly pinched in young branches
2. mature female structures (cystocarps) goblet-shaped, protruding from sides of branches

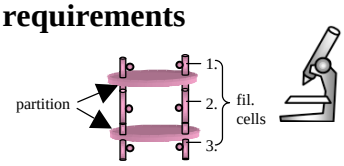
var.*parvula* plants ***on rock***, 20-40mm tall, irregularly or somewhat radially branched, branchlets 0.5-1.0mm wide

var. *amphibolis* plants wide ***on the sea grass Amphibolis***, 30-110mm tall, ***densely*** radially branched, branchlets 0.3-0.5mm wide

Occurrences world wide in temperate waters. var. *amphibolis* only fromTiparra Reef, SA

Usual Habitat on rock in shallow water, or var. *amphibolis* on sea grass only

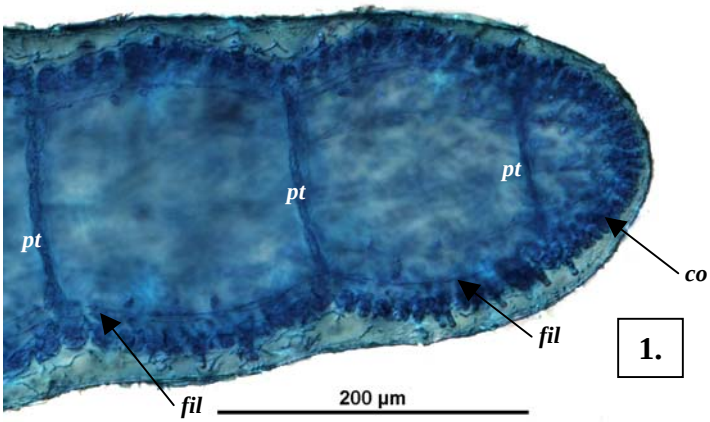
Special requirements



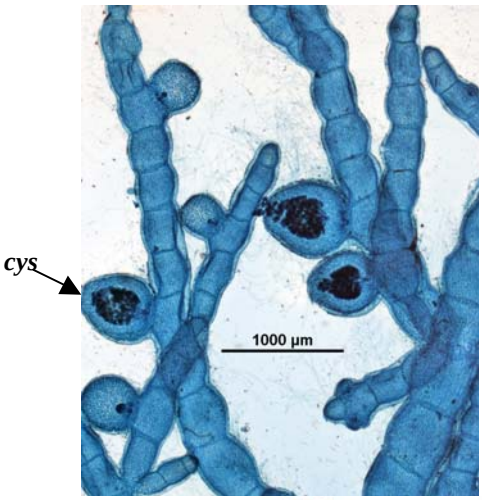
1. focus microscopically on internal partitions ***in side view*** to find
   - segment cores hollow, partitions between segments ***1cell thick***
   - threads peripheral (pass through the ***perimeter*** of the partitions ***only***)
   - outside cells (cortex) box-shaped, with smaller outer cells 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***

Similar Species *Champia zostericola*: main branches are larger with hooked branchlets in that species

Description in the Benthic Flora Part IIIB, pages 130-132



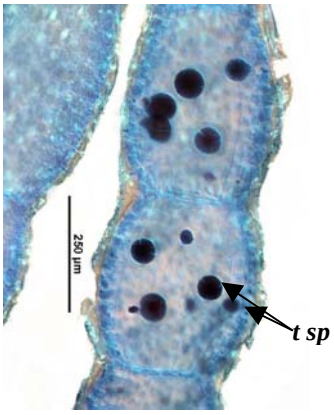
2.



1.

Champia parvula stained blue and viewed microscopically

1. side view of a branch tip focused to show the hollow cores of segments, partitions (*pt*) 1-cell thick with threads (*fil*) passing ***peripherally*** through them, and outer cell layer (cortex, *co*) (A38255 slide 4630)
2. goblet-shaped mature female structures (cystocarps, *cys*) (A38255 slide 4630)
3. detail of a cystocarp showing central mass of carposporangia (*ca sp*), widely-separated, star-shaped inner wall cells (inner pericarp, *i per*) and closely packed outer wall cells (*o per*) (A48966 slide 14664)
4. scattered, tetrahedrally-divided tetrasporangia (A38255 slide 4630)



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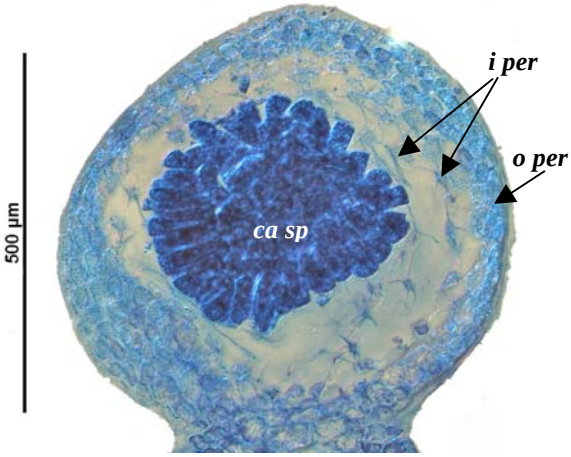
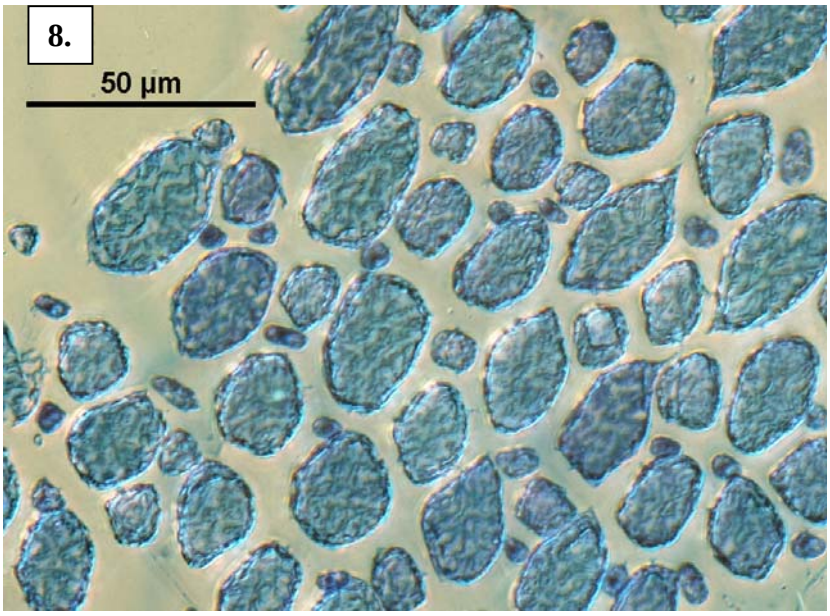


4.

*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



Champia parvula (C Agardh) Harvey from South Australia

5. *Champia parvula parvula*, 3-4m deep, Muston, American R., Kangaroo I. (A48966) showing irregular, sparse branching.
6. magnified view of segmented branches and branchlets with dark tetrasporangial spots
7 *Champia parvula amphibolis*, 11m deep, Tiparra reef (A41276) showing the finer, denser branching
8. magnified surface view stained blue showing large cells with obscure rings of small cortical cells (A48966 slide 14662)