

# Chylocladia grandis

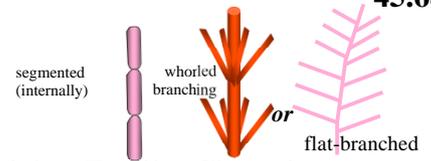
Reedman & Womersley

45.680

## Techniques needed and plant shape



MACRO PLANT



## Classification

\*Descriptive name

Phylum: Rhodophyta; Order: Rhodymeniales; Family: Champiaceae  
rare worm weed

## Features



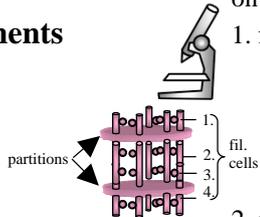
1. plants red brown-purple, 200-500mm tall, main branches (axes) one to several, 2-7mm wide often denuded below, with side branches **opposite** or in **rings**,
2. branches **cylindrical**, **slightly** pinched basally, segmented internally and **slightly** constricted at partitions
3. mature female structures (cystocarps) ball-shaped, protruding, about 1.0mm wide, with a broad base

## Occurrences

## Usual Habitat

## Special requirements

Tapley Shoal and Investigator Strait, S Australia  
on rock in deep water (15-34m)



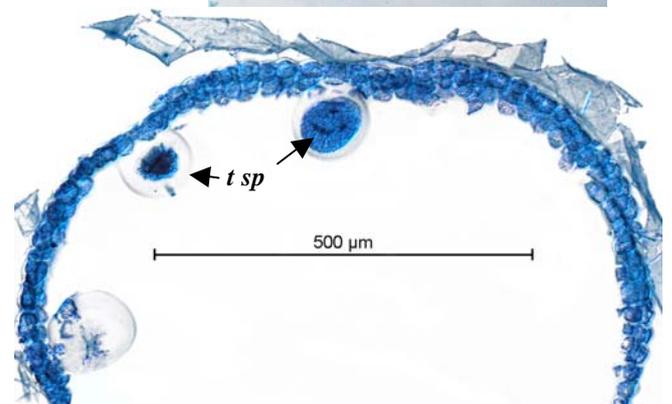
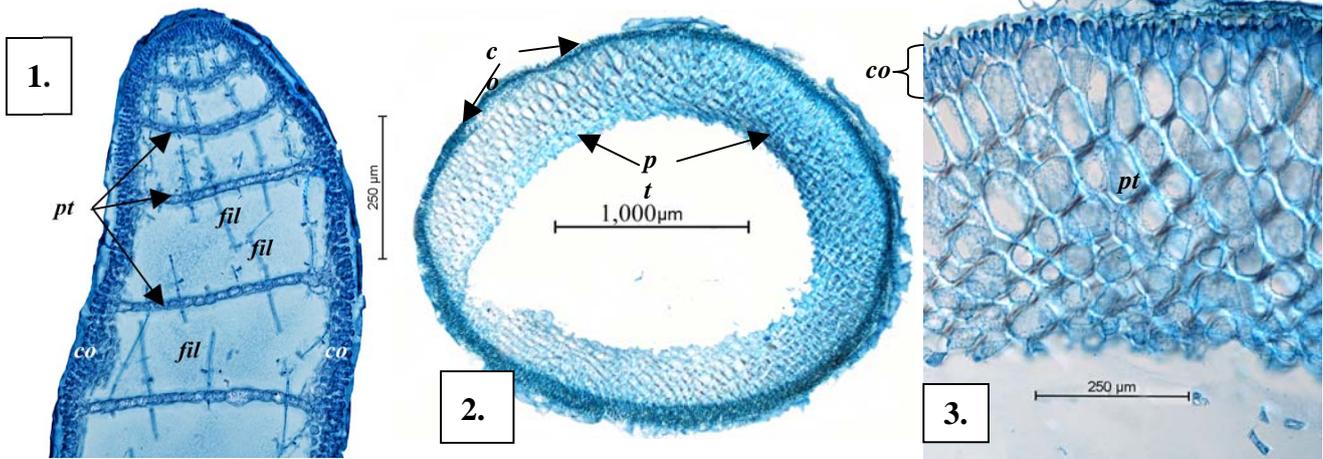
1. focus microscopically on the surface and internally to find
  - initially a single layer of egg shaped surface cells, becoming up to 8 cells thick
  - segment cores hollow, filled with threads when old, partitions between segments **1 cell thick** with threads of thin cells passing **both in the centre and edges** of segment spaces, **1-2 thread cells** between partitions, each with a gland (outer threads connected laterally to cortical cells, but this is difficult to see)
2. mature female structures (cystocarps) with
  - central mass of **angular** or **club-shaped** cells (carposporangia) connected basally to a large fusion cell
  - inner cells of wall (pericarp) **star-shaped**, widely spaced
  - external opening (ostiole) **absent**
3. sporangia **scattered** in the outer part of the medulla, large (about 200µm wide) divided **tetrahedrally** protruding into the segment space



## Similar Species

## Description in the Benthic Flora

*Champia viridis* but that species has flattened branches  
Part IIIB, pages 132-134, 135

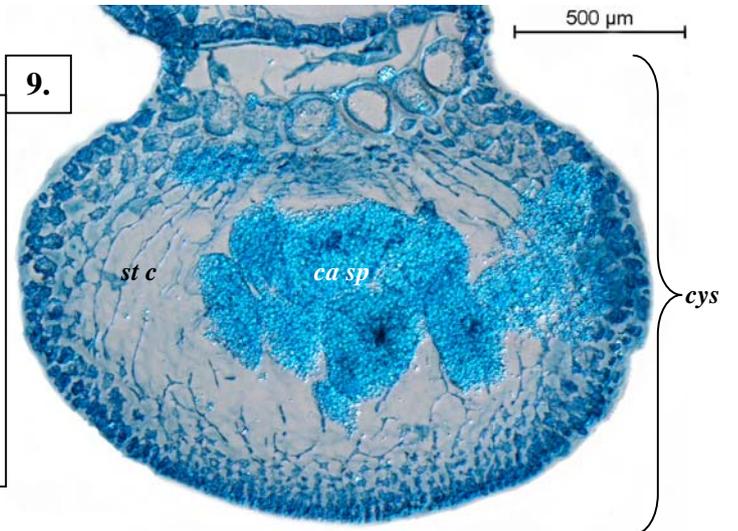
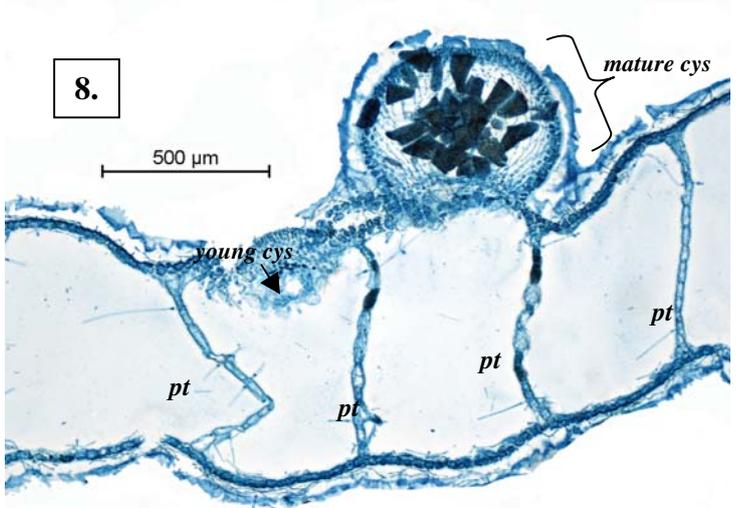


### Chylocladia grandis stained blue and viewed microscopically

1. lengthwise section through the apex showing threads (filaments, *fil*) passing through partitions (*pt*) 1 cell thick, and outer layers (cortex, *co*) (A64802 slide 15672)
2. cross section through a fragmented partition (*pt*) with cortex (*co*) of several rows of darkly stained cells (A68299 slide 18305)
3. cross section detail of a part of a segment with several rows of cortical cells (*co*) and partition cells (A68299 slide 18305)
4. part of a cross section with tetrasporangia (*t sp*) (some empty cases) protruding into the segment space (68840 slide 19484)

4.

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



*Chylocladia grandis* Reedman & Womersley  
 5-7. plants at different magnifications, 15m deep, Tapley Shoal, 15 km E of Edithburgh, S Australia (A35515A)  
 8, 9. sections stained blue and viewed at different magnifications (A64802 slide 15672)  
 8. lengthwise section showing hollow segments separated by partitions 1-cell thick and stalkless young and mature female structures (cystocarps, *cys*)  
 9. cross section of a cystocarp, with angular carposporangia (*ca sp*) growing directly from a basal mass of cells, wall with inner star-shaped (*st c*) cells widely separated, opening absent

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