Chylocladia grandis
Reedman & Womersley

Techniques needed and plant shape

Classification
*Descriptive name
Features

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

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

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)

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‘Algae Revealed’, R N Baldock, S Australian State Herbarium, June 2011
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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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