Ptilocladia gracilis
(J Agardh) Womersley

A SPECIES WITH FEW RECORDS

45.800.12

Techniques needed and plant shape



MICRO PLANT


Classification Phylum: Rhodophyta; Order: Ceramiales; Family: Ceramiaceae; Tribe: Crouanieae

***Descriptive name** slender banded crouania

Features plants red, upright, slender, 30 (-180) mm tall, of irregularly branched threads with minute, barely visible, red rings of whorl branchlets

Special requirements view plants microscopically to find

- main branches (axes) of ***large*** cells, each cell ringed by ***4*** short whorl branchlets forked 2-3 times, ***spreading*** outwardly, rings well ***separated***, axial cells loosely covered (corticated) in lower parts with ***rhizoids*** branching ***outwards*** into short tufts, gland cells ***absent***
- ***large, stalkless***, tetrahedrally-divided tetrasporangia to ***100µm*** across on lower cells of whorl branchlets
- carposporophytes the products of fertilisation, at ***tips*** of side branches with a single small fusion cell bearing ***1 bunch*** of carposporangia, wrapped in (involucral) whorl branchlets from axial cells below ***and*** lower carposporophyte cells

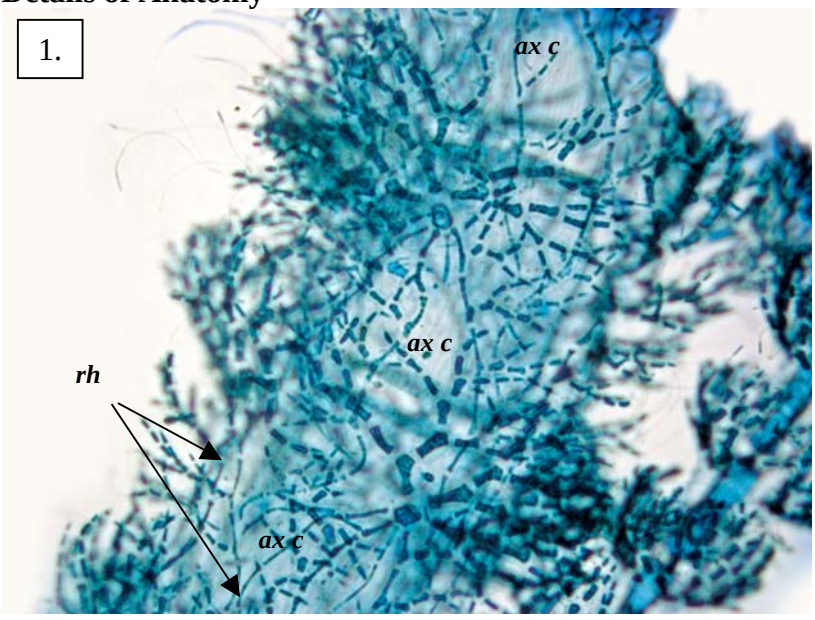
Occurrences Investigator Strait S Australia, and Tasmania

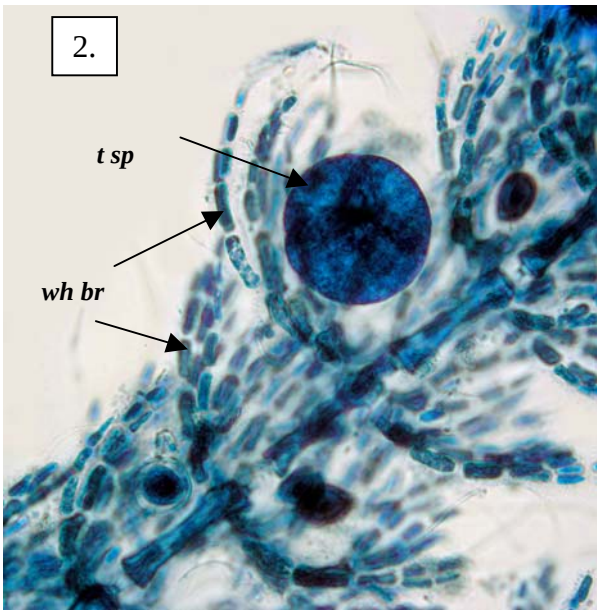
Usual Habitat probably a deep water species (31-34m deep)

Similar Species *Ptilocladia crouanioides* and *P. australis*, but those species have smaller tetrasporangia, possess gland cells and rhizoids are within the axial cell sheaths

Description in the Benthic Flora Part IIIC, pages 58, 64

Details of Anatomy

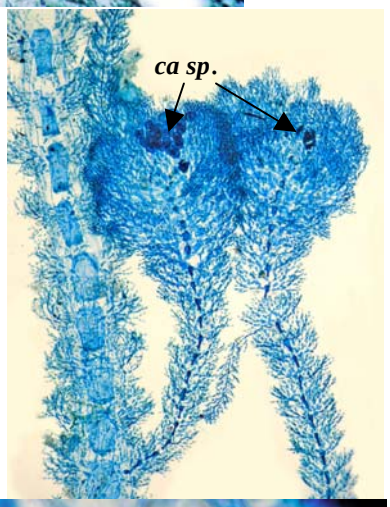


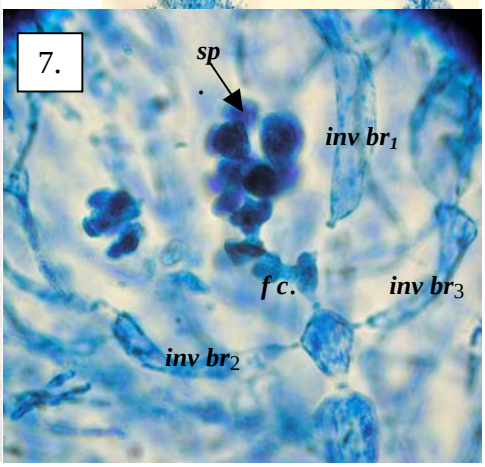


Ptilocladia gracilis A39208 slide 3671 stained blue and viewed microscopically

1. older main branch showing axial cells (*ax c*) loosely wrapped (corticated) with spreading rhizoids (*rh*)
2. upper plant parts showing the distinct rings of 4 whorl branchlets (*wh br*)from each axial cell, and a ***large***, mature ***stalkless*** tetrasporangium (*t sp*)

* Descriptive names are inventions to aid identification, and are not commonly used
"Algae Revealed" R N Baldock, S Australian State Herbarium, March 2007





3. *Ptilocladia gracilis* (J Agardh) Womersley A18289 from Tasmania
4. *Ptilocladia gracilis* (J Agardh) Womersley A39208 from 34m deep, Investigator Strait, S Australia
5-7. specimens stained blue and viewed microscopically
   5. well-separated rings of whorl branchlets and large tetrasporangia (arrowed) (A39208 slide 3671)
   6. carposporophytes (*ca sp*) (the products of fertilisation) at tips of side branches (A41083 slide 4188)
   7. detail of carposporophyte with single fusion cell (*f c*), carposporangial mass (*sp*) with a branch (*inv* br_1) arising from the lower part and further branches from the axis below (*inv* $br_{2, 3}$), forming a loose wrapping or involucre

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