

Bonnemaisonia spinescens

Womersley

(encrusting spore stage unknown)

45.760

two stages in the whole life cycle of the species

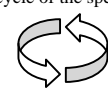
Techniques needed and plant shape



tubular

flat-branched

MACRO PLANT



MICRO PLANT - unknown

Classification

*Descriptive name

Features

Phylum: Rhodophyta; Order: Bonnemaisoniales; Family: Bonnemaisoniaceae
micro-spines weed

1. red, delicate, 30-80mm tall, much branched and spreading
2. main branches tubular, flat-branched, side branches in opposite pairs, one member short often ending in a fertile structure or later elongating, the other long, some hooked, branches with almost microscopic, *short spines*, usually on one side

Gulf regions, S Australia

a deep water species (collected to 41m deep)

Occurrences

Usual Habitat

Special requirements

1. focus through the surface of plants microscopically to find:-

- a single, tiny tip cell forming a *thin* central thread, initially with characteristic alternating curved branches then with pairs of long and short side branches
- **4-6 rectangular** large outer (cortical) cells *forming tiers* about *each* central thread; each cortical cell edged with few, tiny, *rounded* cells with hairs attached
- a cavity about the central thread containing *a few loose threads*



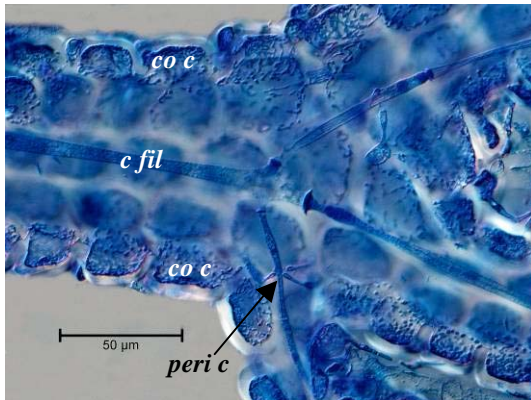
- threads of the epiphyte *Audouinella* sp often form a surface cob-web pattern
2. find oval-shaped heads of spermatangia on short stalks on the separate plants to female structures (plants *dioecious*)
 3. find oval-shaped, mature female structures (cystocarps) on long stalks, each with a single opening, central fusion cell and *large* carposporangia internally

Bonnemaisonia australis but that species has no spines and rounded inner cortical cells

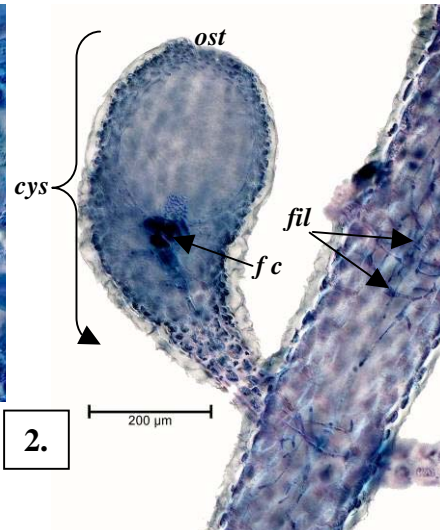
Similar Species

Description in the Benthic Flora

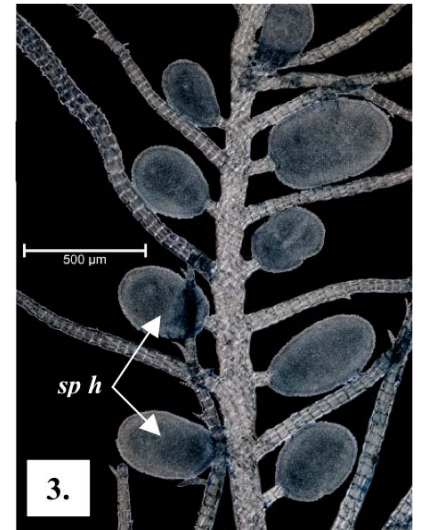
Part IIIB, pages 335-337



1.



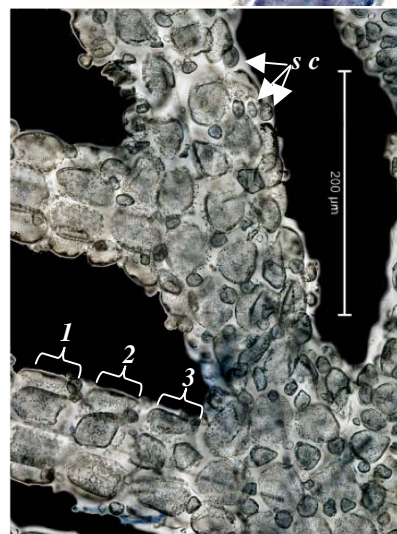
2.



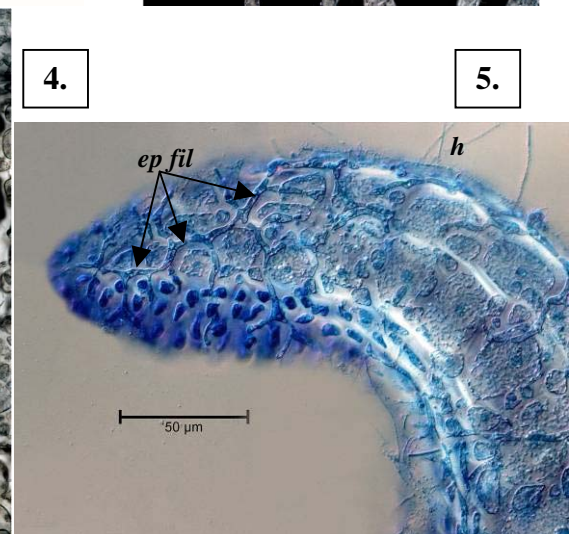
3.

Microscope views of *Bonnemaisonia spinescens* stained blue, focussing through the surface:

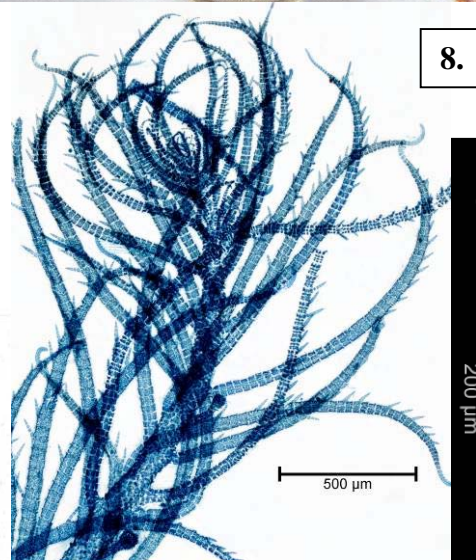
1. junction of a branch: central thread (*c fil*), ring of 3 flanking (pericentral) cells (*peri c*) large inner cortical cells (*co c*), outermost (A28166 slide 3491)
2. cystocarp: opening (ostiole, *ost*), fusion cell *fc*, threads in the central cavity of a branch (*fil*) (A33440 slide 2801)
3. male (spermatangial) heads (*sp h*) opposite long side branches (A38223 slide 3501)
4. *tiers* of large, **rectangular** cortical cells (1, 2, 3) with fringing, small outer cortical cells (*s c*) (A38223 slide 3501)
5. threads of the *Audouinella* epiphyte (*ep fil*) on the tip of a hooked branch; surface hairs (*h*) (A28166 slide 3491)



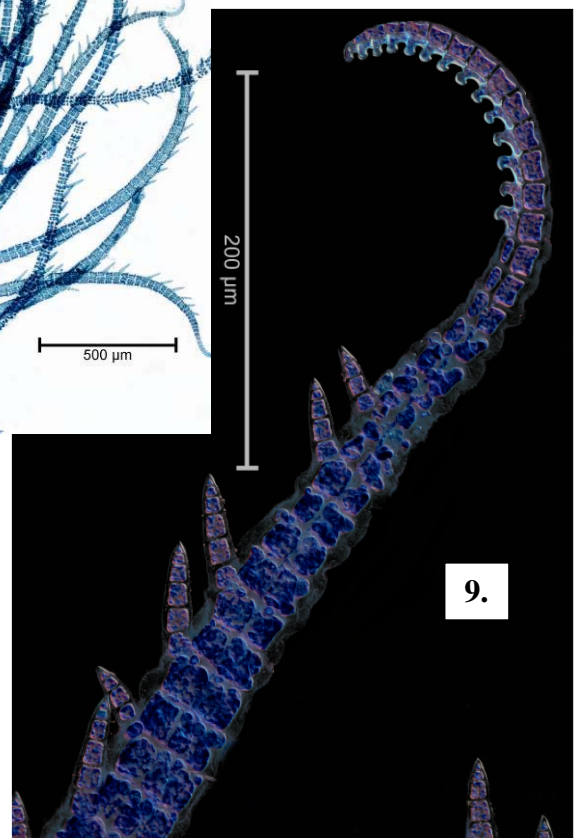
4.



5.



spines



Specimens of *Bonnemaisonia spinescens* Womersley

6, 7. two magnifications of a plant (A54607), 10-12m deep off Cape Jervis, S Australia

8, 9. microscope views of specimens stained blue (A33440 slide 2801):

8. plant tip

9. hooked branch showing tiers of cortical cells and developing and mature spines

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