

Techniques needed and plant shape



Classification

Phylum: Rhodophyta; Order: Bonnemaisoniales; Family: Bonnemaisoniaceae
delicate delisea

*Descriptive name

Features

1. red-brown, 100-400mm tall, densely and irregularly branched with fine side branches
2. main branches (axes) slightly compressed, to 1mm wide, often denuded near the base
3. ultimate branches **cylindrical**, alternating regularly along the edges of axes **only near the axis tips**, elsewhere bent in all directions, orientation appearing radial, about 2mm long and 200µm wide, generally **branched 1-3 times** sometimes on the outer side only
3. reproductive structures found only **near axis tips**



Occurrences

Usual Habitat

Special requirements

from near Perth, W Australia to Victoria and northern Tasmania on seagrasses, (also, possibly rocks) in shallow to deep water (38m)

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

- a single, **tiny** tip cell forming an obscure central thread, initially and characteristic **alternating curved side branches** (ramuli)
- numerous fine hairs
- minute spermatangia in surface masses on ramuli bases, **near branch tips**
- swollen products of fertilisation (cystocarps) **near tips** on axis surfaces, between side branches producing a horned appearance



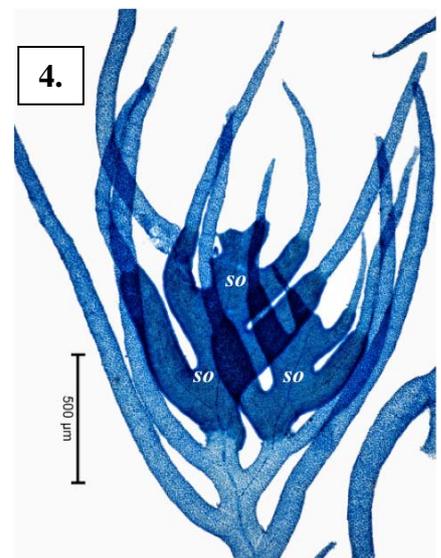
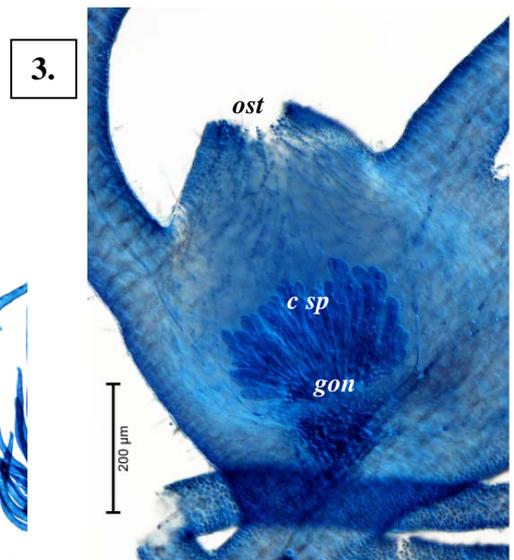
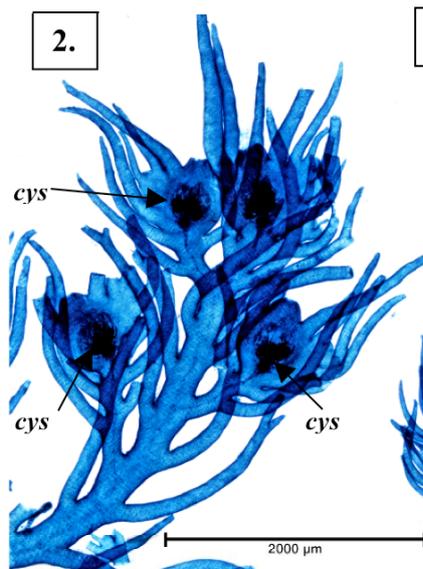
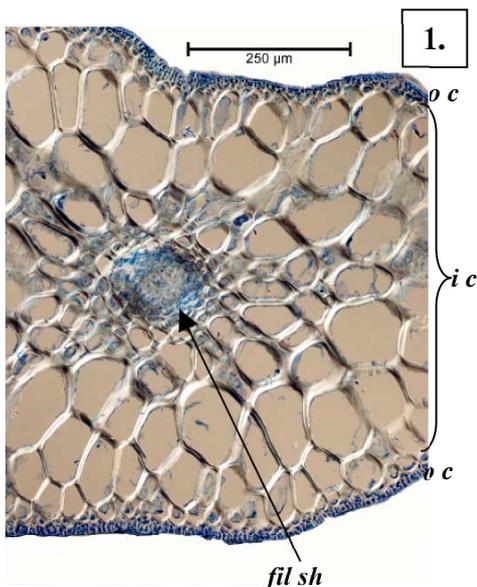
2. cut a cross section to find a central thread encircled and obscured by fine threads, large inner colourless cells and a thin outer band of very small, coloured cells

Delisea elegans but in that, ultimate side branches are flat-branched, and unbranched

Part IIIB, pages 340-342

Similar Species

Description in the Benthic Flora



Microscope views of *Delisea hypneoides* stained blue:

1. cross section of axis: central thread masked by sheath of encircling threads (*fil sh*), colourless inner cells (*i c*), outer small cells (*o c*) (A63248 slide 13992)
2. plant tip: swollen products of fertilisation (cystocarps, *cys*) lying between cylindrical ultimate branches which at this stage are still recognisably flat-branched and alternate (A19198 slide 13628)
3. cystocarp: opening (ostiole, *ost*), fertile cells (gonimoblast, *gon*) ending in elongate carposporangia (*c sp*) (A47838 slide 13630)
4. plant tip: basal masses (sori, *so*) of spermatangia (A28594 slide 13626)



5.



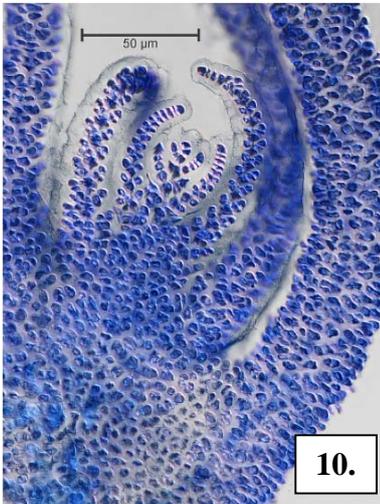
6.



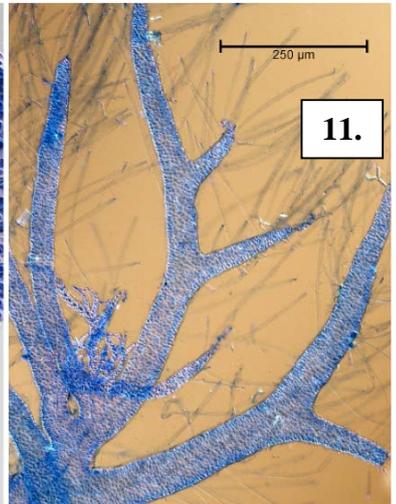
8.



7.



10.



11.

9.



Delisea hypneoides Harvey at different magnifications
 5, 6. from Penneshaw Reef, Kangaroo I., S Australia, 6m deep, with swollen cystocarps near branch tips (A66876)
 7, 8. from Redcliffe near Cowes, Phillip I., Victoria, showing fine branching of the ultimate branches (A60288)
 9. densely branched drift plant from Portland Victoria (A21726)
 10, 11 microscope views of specimens stained blue:-
 10. branch tip: regular, alternate, flat-branching pattern (A63248 slide 13991)
 11. ultimate branches branching 1-2 times outwardly and numerous fine hairs (A63240 slide 13985)

*Descriptive names are inventions to aid identification, and are not commonly used
 "Algae Revealed", R N Baldock, S Australian State Herbarium March 2012