

Techniques needed and plant shape



Classification

Phylum: Rhodophyta; Order: Bonnemaisoniales; Family: Bonnemaisoniaceae
delicate red §forkweed

*Descriptive name

Features

1. red, fading to yellow, **flat-branched**, 100-300mm tall
2. main branches (axes) slightly compressed, to 1mm wide, becoming denuded near the base, side branches **cylindrical**, alternating regularly along the edges of axes, about 1mm long and 200µm wide, generally **unbranched**
3. reproductive structures found only **near axis tips**



Occurrences

New Zealand. In Australia, from W Australia to Victoria and Tasmania on rock, occasionally on seagrasses, in shallow to deep water (38m)

Usual Habitat

Special requirements

focus through the surface of plants microscopically to find:-

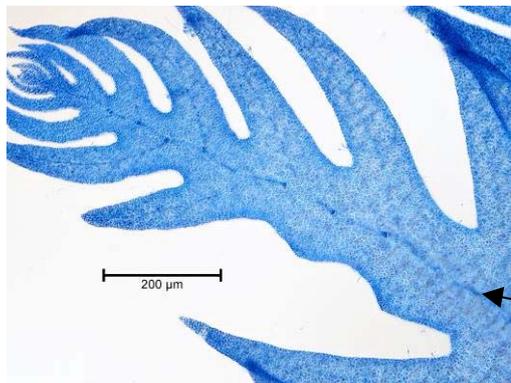
- a single, **tiny** tip cell forming an obscure central thread, initially with characteristic **alternating curved side branches**
- minute spermatangial branches in surface blobs **near branch tips**
- swollen products of fertilisation (cystocarps) **near tips** on axis surfaces, between side branches producing a horned appearance

Similar Species

finely branched like *Delisea hypneoides* but in that species ultimate side branches are branched and a flat-branched pattern is obvious only near tips of axes

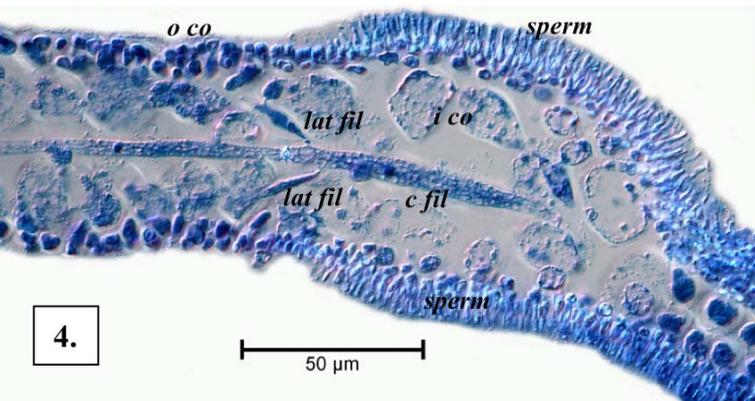
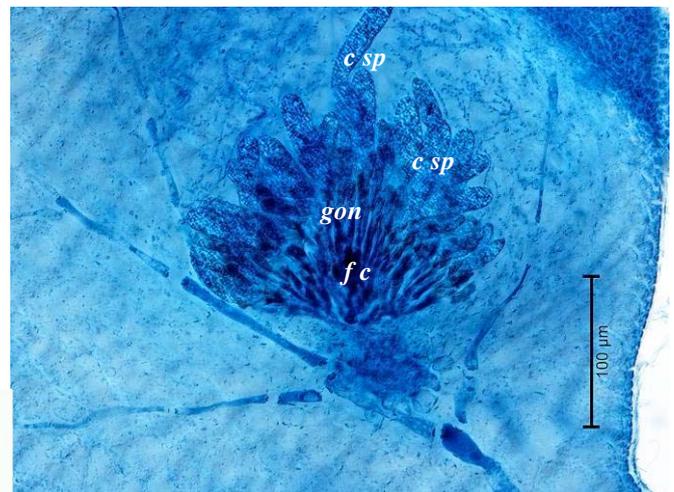
Description in the Benthic Flora

Part IIIB, pages 338-340



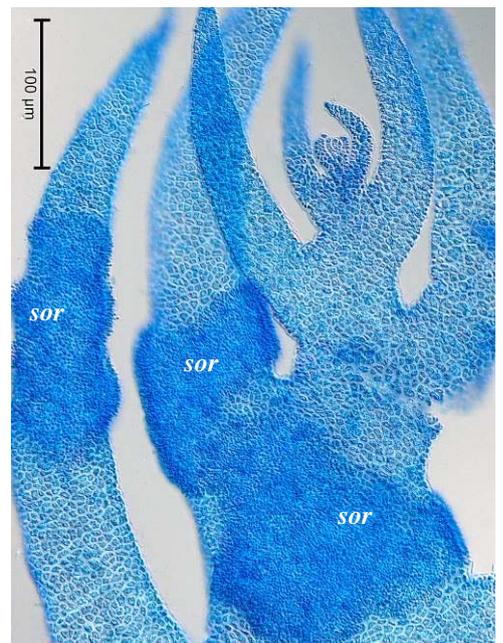
1.

2.



4.

3.



Microscope views of *Delisea elegans* stained blue:

1. flat-branched tips; vague internal central thread (*c fil*). Alternating side branches are cylindrical, but appear compressed in a microscope preparation (A27476 slide 13622)
2. swollen product of fertilisation (cystocarp) on the surface of an axis: fusion cell (*fc*), fertile cells (gonimoblast, *gon*) ending in carposporangia (*c sp*) (A30350 slide 13618)
3. branch tip with masses (sori, *sor*) of spermatangia (A27476 slide 13623)
4. lengthwise section through a spermatangial sorus: central thread (*c fil*); paired side threads (*lat fil*), large inner cells (*i co*), small outer cells (*o c*) and small, elongate spermatangia (*sperm*)

*Descriptive names are inventions to aid identification, and are not commonly used;
 §name used by Edgar, G (2008) in Australian Marine Life (2nd ed.).
 "Algae Revealed", R N Baldock, S Australian State Herbarium March 2012



5.



6.



8.



7.

Delisea elegans Lamouroux at different magnifications

- 5, 6. from West I., S Australia, 16-20m deep (A33244)
- 7, 8. from Marion Bay, east coast Tasmania, 3-5m deep (A35593)
- 9. faded female drift specimen from Waratah Bay, N Walkerville Victoria (A48532), with swollen cystocarps near tips of main branches
- 10. top lit preserved (bleached) specimen highlighting swollen cystocarps on the flat surface between side branches (A30350)



10.



9.

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