

Techniques needed and plant shape



Classification

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

*Descriptive name

Features

1. dark red to red brown, fading to yellow-grey, **flat-branched**, 100-350mm tall
2. main branches (axes) compressed, to 0.8mm wide, becoming thickened and cylindrical near the base, side branches flat, **spine-like** (coming to a point), alternating regularly along the edges of axes, about 2mm long, to 400µm wide,
3. reproductive structures found only **near axis tips**

Occurrences

New Zealand, Sub Antarctic islands and Antarctic Peninsula. In Australia, from near Geraldton, W Australia to just N of Brisbane Queensland

Usual Habitat

Special requirements

sporangial and female plants common in shallow to deep water deep water focus through the surface of plants microscopically to find:-

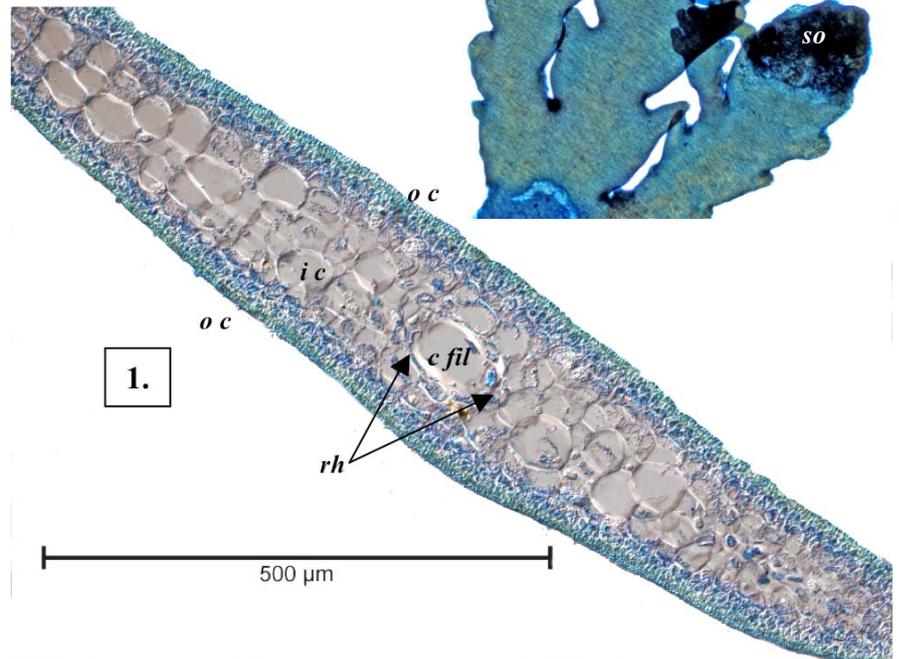
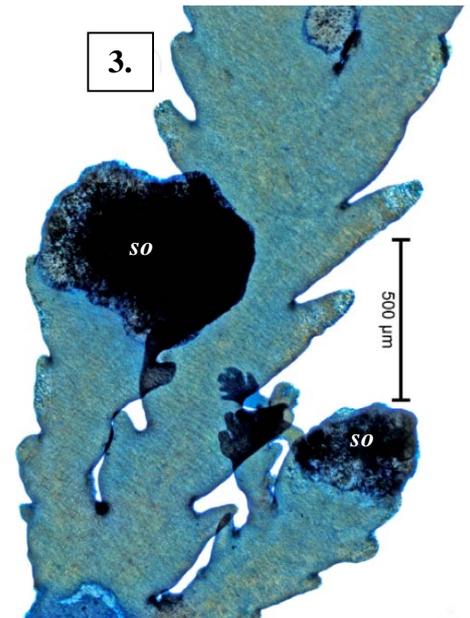
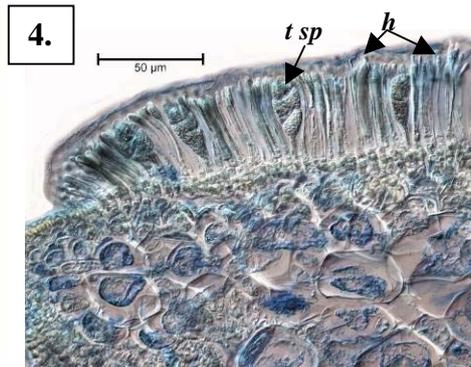
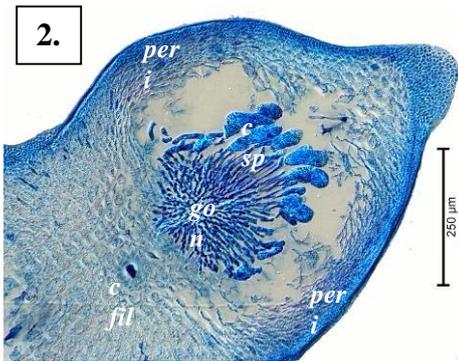
- a single, **tiny** tip cell forming an obscure central thread, initially with characteristic **alternating curved branches**
- scattered bright **gland cells**
- sporangia with **sloping cross walls** in blobs, mixed with hairs **near branch tips**
- (rarely) minute spermatangial branches in blobs **near branch tips**
- swollen products of fertilisation (cystocarps) **near tips** on axis surfaces, side branches producing a horned appearance

Similar Species

Phacelocarpus spp and *Rhodocallis* but with reproductive structures at tips of axes

Description n the Benthic Flora

Part IIIB, pages 342-346



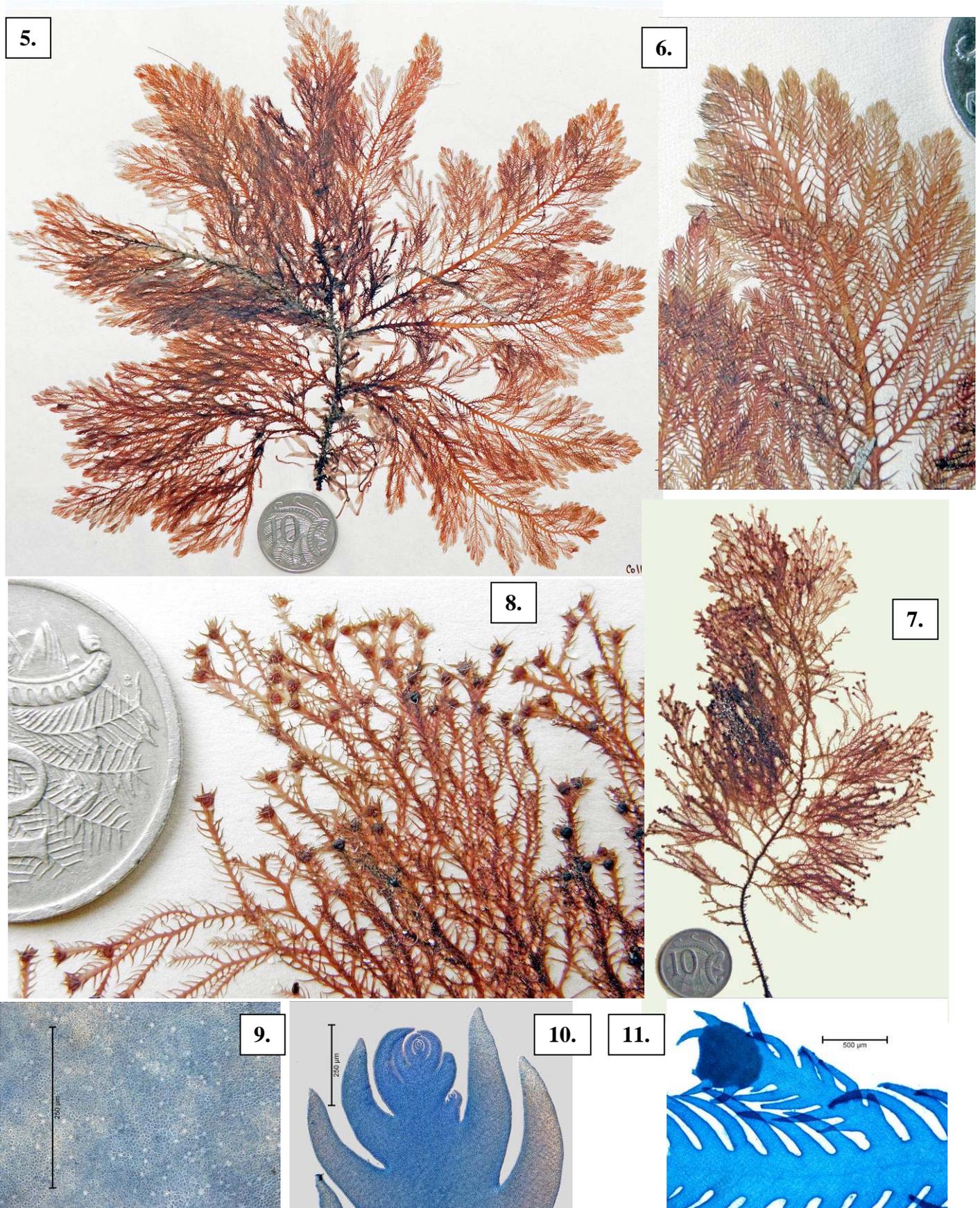
Microscope views of *Delisea pulchra* stained blue:

1. cross section (A32467 slide 1545): central filament (*c fil*) with circling threads (rhizoids, *rh*); large, inner, colourless cells (*i c*) and compact coloured outer cells (*o c*)
2. cross section of a structure developing after fertilisation (cystocarp, *cys*): fertile cells (gonimoblast, *gon*), terminal carposporangia (*c sp*); wall (pericarp, *peri*) (A13608 slide13608)
3. surface view of a sporangial blob (sorus, *so*) (A61193 slide 1359)
4. cross section of the edge of a sporangial sorus: tetrasporangium (*t sp*) with sloping cross walls; hairs (*h*) (A32467 slide 1545)

*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 November 2011



Delisea pulchra (Greville) Montagne from S Australia at different magnifications
 5, 6. drift plants from Victor Harbor (A9256a); 7, 8. drift plants (A12640) from Port Elliot, female structures with a horned appearance at tips of main branches
 9-11. surface microscope views of specimens stained blue
 9. bright gland cells (A32467 slide 13607); 10. alternating branch pattern at tips (A61769 slide 13593);
 11. male blob (sorus) at branch tip (A20766 slide 13599) and vague trace of central filament beneath surface cells

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