Techniques needed and plant shape

**Classification**

*Descriptive name*

**Features**

Phylum: Rhodophyta; Order: Gracilariales; Family: Gracilariaceae

1. red brown, 100-400mm tall, flat-branched, branches tough (“leathery”), oval-shaped in cross section, forked regularly (dichotomous), about 1mm wide
2. branch tips rounded, with a *thickened dark cap*
3. mature female structures (cystocarps) ball-shaped, about 1mm across, on or close to branch edges

**Occurrences**

New Zealand. In Australia, from Spencer Gulf S Australia to Victoria and Tasmania

**Usual Habitat**

6-35m deep on rock

1. cut cross sections and view microscopically the wide core of large, equal-sided cells and distinct change to an outer layer of rows of much smaller cells facing outwards
2. cut longitudinal sections to view microscopically
   - branch tip with a *thickened cap* of cells containing *globules* in the cell contents
   - inconspicuous patches (sori) of small tetrasporangia divided in a cross-shaped pattern *mixed with hairs* each 2-3 cells long
   - cystocarp with central mass of threads ending in bead-like *chains* of carposporangia, surrounded by a thick wall of chains of cells radiating outwards, and a single opening

**Special requirements**

1. **cut cross sections and view microscopically**
   - branch tip with a *thickened cap* of cells containing *globules* in the cell contents
   - inconspicuous patches (sori) of small tetrasporangia divided in a cross-shaped pattern *mixed with hairs* each 2-3 cells long
   - cystocarp with central mass of threads ending in bead-like *chains* of carposporangia, surrounded by a thick wall of chains of cells radiating outwards, and a single opening

**Similar Species**

*Melanthalia obtusata*, but branches are about 2-4mm wide and strongly flattened

**Description in the Benthic Flora**

Part IIIB, pages 34-35

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*Descriptive names are inventions to aid identification, and are not commonly used;*  
§ name used in Edgar, G. *Australian Marine Life, 2nd Ed.* (2008)  
**“Algae Revealed”, R N Baldock, S Australian State Herbarium April 2011**
Pressed specimens of Melanthalia abscissa (Turner) Hooker & Harvey from S Australia at two magnifications, showing forked (dichotomous) branches with flattening exaggerated because of drying and thick, dark tips characteristic of the genus.

6, 7. 5m deep, Pullen I., Port Elliot (A72507)
8, 9. plants (A11141) from West I., S Australia with broader branches resembling those of M. obtusata and swollen cystocarps (cys) on or near the branch edges.

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"Algae Revealed", R N Baldock, S Australian State Herbarium April 2011