

Melanthalia abscissa
(Turner) Hooker & Harvey

45.640

Techniques needed and plant shape



MACRO
PLANT



Classification

Phylum: Rhodophyta; Order: Gracilariales; Family: Gracilariaceae
§thin leathery forkweed

***Descriptive name**

Features



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

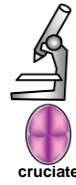
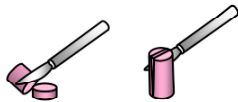
Occurrences

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

Usual Habitat

6-35m deep on rock

Special requirements



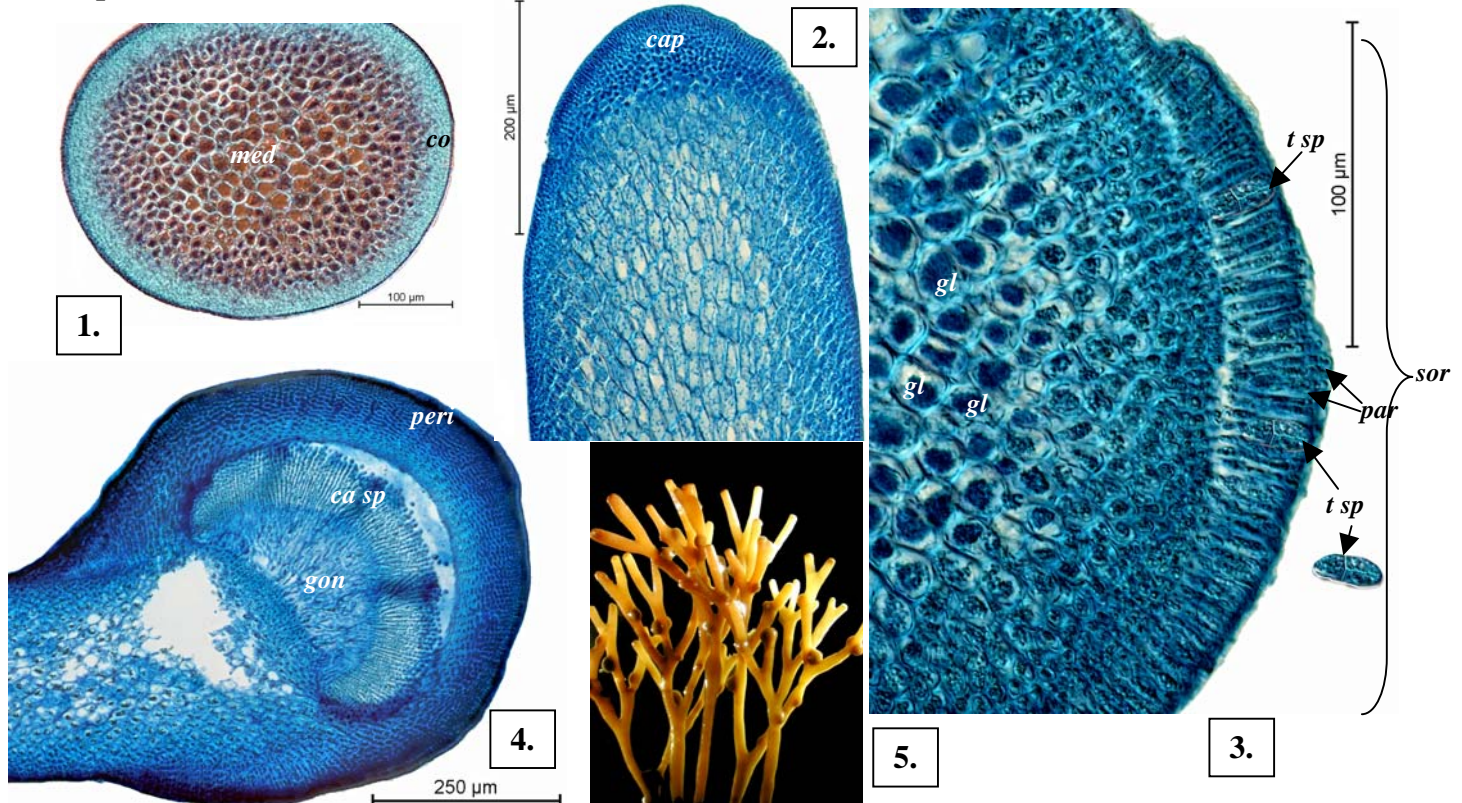
1. cut cross sections and view microscopically the wide core of large, equal-sided cells and distinct change to an outer layer of rows of much smaller cells facing outwards
2. cut longitudinal sections to view microscopically
 - branch tip with a **thickened cap** of cells containing **globules** in 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

Similar Species

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

Description in the Benthic Flora

Part IIIB, pages 34-35



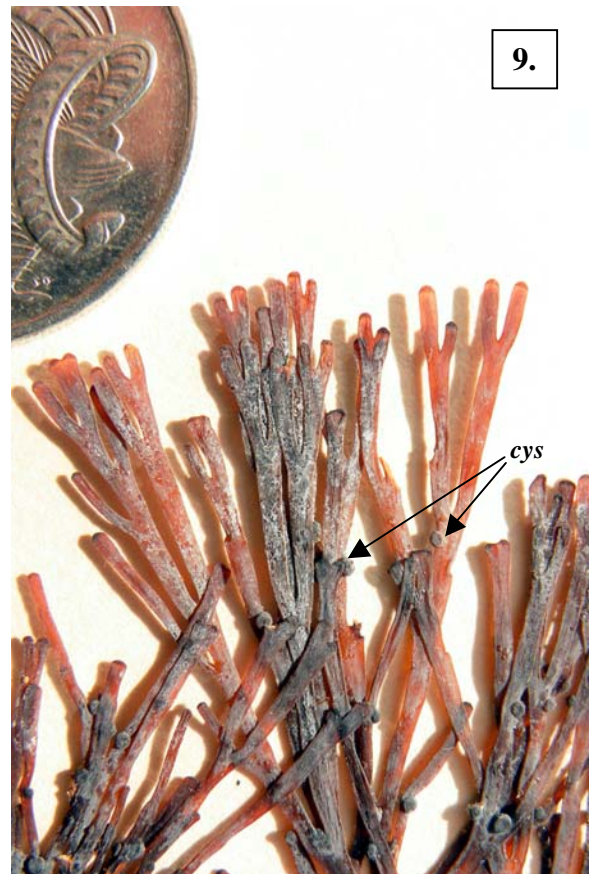
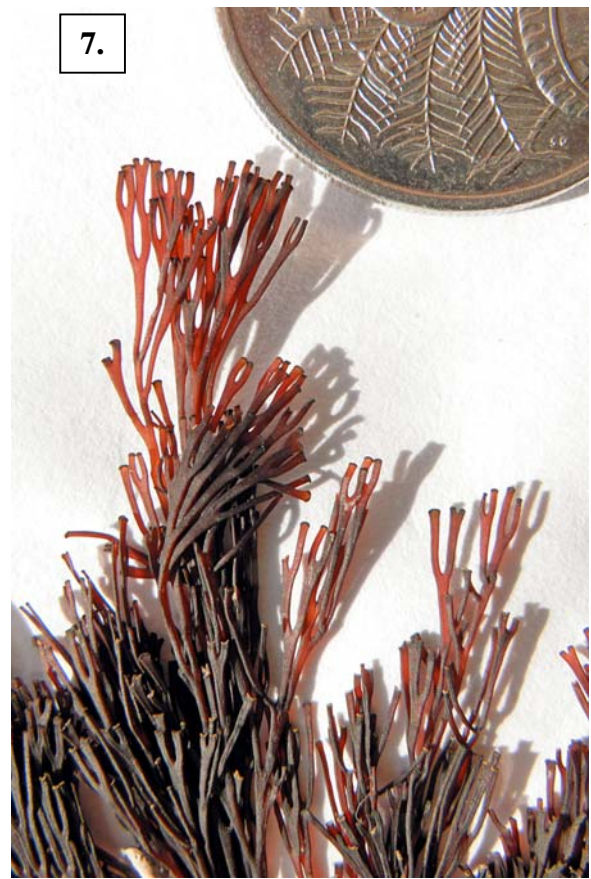
Melanthalia abscissa stained blue and viewed microscopically

1. cross section of a slightly flattened branch showing wide core (medulla, *med*) of large, equal-sided cells and outer layer (cortex, *co*) of rows of much smaller cells facing outwards (A30170 slide 13396)
2. lengthwise section of a branch tip: thickened cap (*cap*) with dense contents (A30170 slide 13397) including globules
3. lengthwise section of branch edge through a patch (sorus, *sor*) of tetrasporangia (*t sp*, one detached) mixed with fine chains of cells (paraphyses, *par*) (A30170 slide 13396), and globules (*gl*) prominent in some cells of the medulla
4. section through a cystocarp (*cys*) (opening or ostiole not shown) with central fine threads (gonimoblast, *gon*) producing radiating chains of carposporangia (*ca sp*) and thick wall (pericarp, *peri*) of outward radiating cell chains (A35059 slide 13403) (break in the medulla a result of slide preparation)
5. specimen from Pt Elliot, S Australia, with swollen cystocarps near the margins of branches

*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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