

Melanthalia obtusata
(Labillardiere) J Agardh

45.640

Techniques needed and plant shape



MACRO
PLANT



Classification

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

*Descriptive name

Features

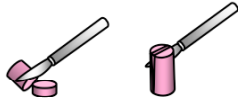


1. yellowish to dark red brown, drying black, 100-400mm tall, flat-branched, branches tough, **flattened**, with convex mid-lines, linear or occasionally irregularly **pinched** at the edges, **2-3mm wide**
2. branch tips rounded, with a **thickened dark cap**
3. mature female structures (cystocarps) hemispherical, about 1mm across, on or about the margins, often opposite or clustered

Occurrences

Usual Habitat

Special requirements



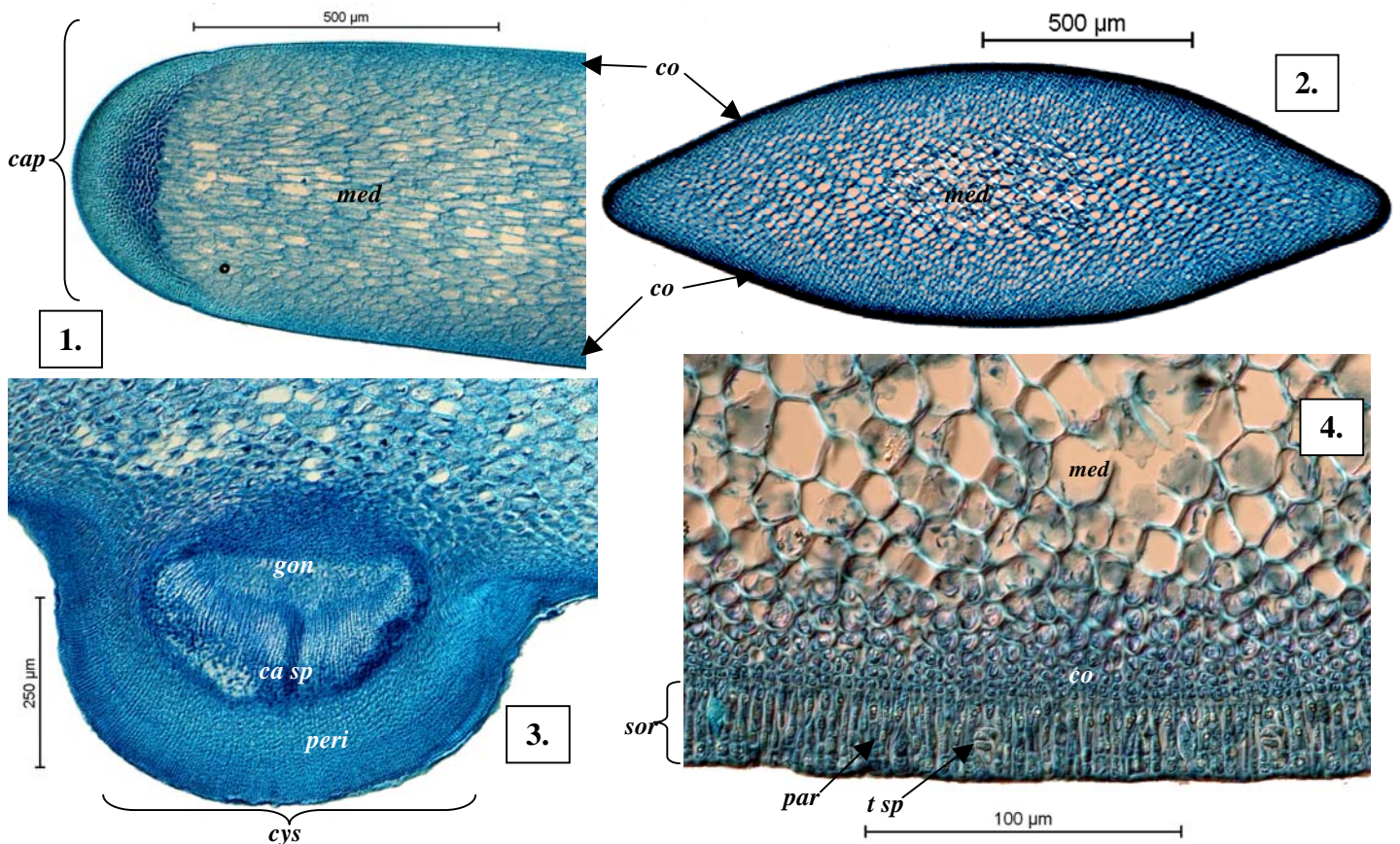
1. cut cross sections and view microscopically the wide core of large, equal-sided cells and distinct change to an outer layer of rows of much smaller cells facing outwards
2. cut longitudinal sections to view microscopically
 - branch tip with a **thickened cap** of cells containing **globules** in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

Description in the Benthic Flora

Part IIIB, pages 32, 33



Melanthalia obtusata stained blue and viewed microscopically

1. lengthwise section of a branch tip (A57039 slide 13392): thickened cap (*cap*) with dense contents including globules, outer layer (cortex, *co*) of small, outward-facing cells changing rapidly to the core (medulla, *med*) of large cells
2. cross section (A57039 slide 13391) showing the flattened profile with convex middle
3. 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 (A30169 slide 13394)
4. cross section through a patch (sorus, *sor*) of tetrasporangia (*t sp*) mixed with chains of cells (paraphyses, *par*) (A56507 slide 9117)

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§ name used in Edgar, G. *Australian Marine Life, 2nd Ed.* (2008)

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

5.



6.



8.



9.



7.



different magnifications of pressed specimens of *Melanthalia obtusata* (Labillardiere) J Agardh from S Australia
 5, 6. from 1km SE of Robe (A46420), in shade under rock ledges in shallow, rough water, showing marginal cystocarps and darkening on drying
 7, 8. from Dubious Rock, West I. (A30269), 10m deep, showing thick, dark terminal caps
 9. from Port Elliot (A1920) showing some pinching of branches and clustered cystocarps

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