

*Gelidium asperum*  
(C Agardh) Greville



Techniques needed and shape

Classification

\*Descriptive name

Features

Occurrences

Special requirements



Phylum: Rhodophyta; Order: Gelidiales; Family: Gelidiaceae  
rough *Gelidium*, referring to the dense, fertile stubs along the fronds

plants dark red-brown, *gristly*, densely branched, 100-400mm tall; of several *slightly* compressed main branches (axes) with smaller, tapering branches about 1mm thick arising *irregularly* often on opposite sides. Minute fertile structures densely line the *edges* of small branches

from West I., Victor Harbor S Australia to Victoria and around Tasmania  
cut cross sections and view microscopically to find

1. a wide core (medulla) of egg-shaped thick-walled cells; a few small, thin-walled threads (rhizoids) and numerous, extremely thick-walled cells (*rhizines*) (thread-like if viewed lengthwise) lying in gaps between these cells. There is an outer layer (cortex) of small cells in branches facing outwards
2. in sporangial plants: tetrasporangia *scattered* in stubby, *compressed*, oppositely-branched structures (stichidia) (often forming a cross shape) mainly on margins of branches but *occasionally* from the surface
3. in female plants: mature female structures (cystocarps) forming swellings half-way down the smallest branches, opening on *both* sides; internally *two* cavities, both of which contain sporangia separated by a thin partition (this feature separating the Gelidiaceae from the Gelidiellaceae)

Usual Habitat

Similar Species

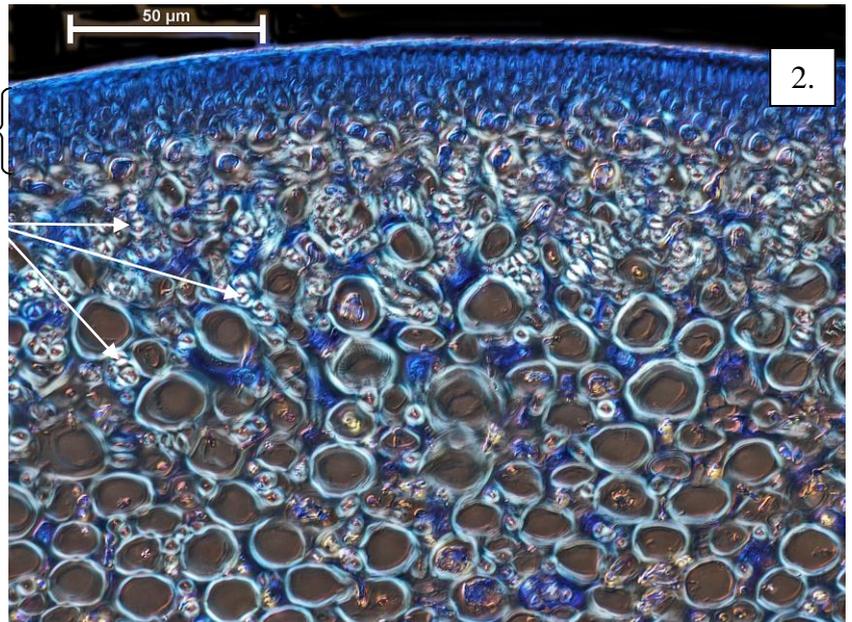
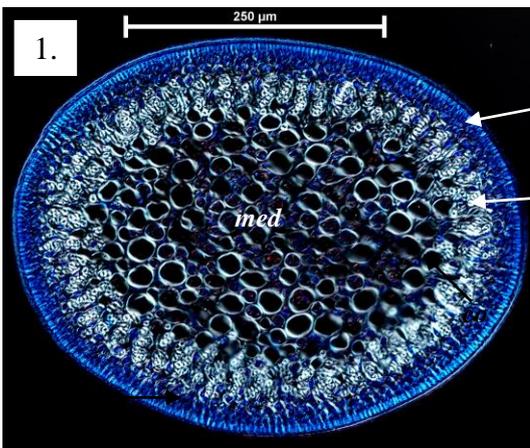
Description in the Benthic Flora

Details of Anatomy

growing from shallow water to 20m deep

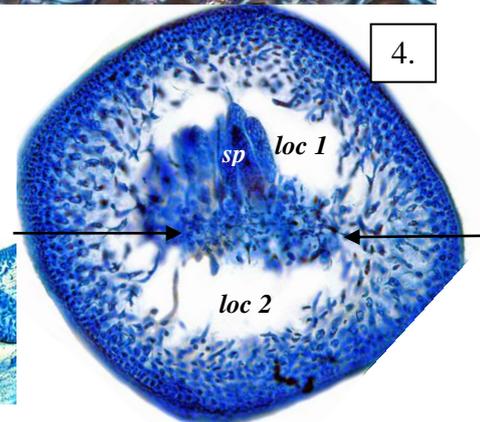
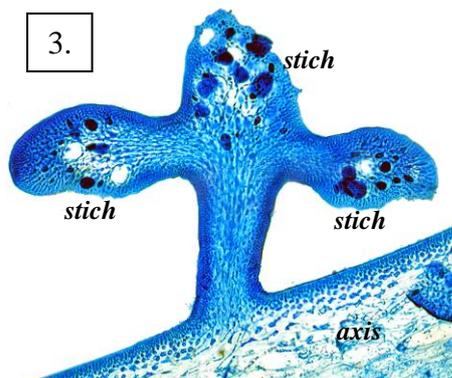
*Gelidium australe* but that species has a regular, opposite, flat (pinnate) branching pattern

Part IIIA, pages 129-132



*Gelidium asperum* stained blue and viewed microscopically:

- 1, 2. cross section of a branch cells highlighted by interference microscopy: narrow outer layer (cortex, *co*) of 3-5 layers of small cells; wide core (medulla, *med*) of thick-walled cells; brightly lit *rhizines* (*rh*) in gaps between cells (slide 10860)
3. tetrasporangial branches (stichidia, *stich*) forming a cross shaped short branch on the margin of a side branch; tetrasporangia darkly stained (slide 10863)
4. mature fertile female structure (cystocarp): *two* cavities (loculi, *loc 1*, *2*) separated by a partition (arrowed), elongate sporangia (*sp*) (the openings (ostioles) for each side are not visible in this preparation) (slide 10865)





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- 5, 6. whole plant and detail of the irregular branching pattern (A31612)  
 7. enlarged view of a dried and darkened specimen : compressed axes, dense, tiny branch systems bearing sporangia (stichidia) on margins of branches (A58711)  
 8. detail of marginal, oppositely branched (*pinnate*) stichidia; *scattered* tetrasporangia (slide 10862)  
 9. mature female structures (cystocarps, *cys*) forming swellings midway along short branchlets on the margins and some from the faces of branches (slide 10864)