Gelidium crinale
(Turner) Gaillon

45.180

Techniques needed and shape

Classification Phylum: Rhodophyta; Order: Gelidiales; Family: Gelidiaceae

***Descriptive name** red turf

Features

1. plants are dark red-brown, bleaching to yellow, forming dense turfs about 20mm high
2. main branches are ***thin***, ***even*** in thickness, about 200µm wide cylindrical or slightly compressed, arising from cylindrical runners
3. branching is ***irregular***

Occurrences probably widespread in temperate waters. In southern Australia, from Cape Leeuwin, W Australia to Point Lonsdale, Victoria

Special requirements

Diagnosis can be difficult

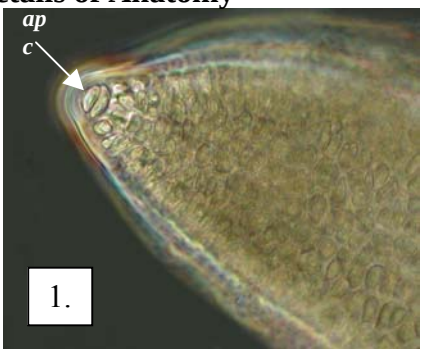
1. view microscopically
   - an actively growing branch, with tips coming to an abrupt point and a ***single*** protruding pical cell
   - branches regenerating after grazing that are often tufted, with sudden narrowings
   - surface cells with thin walls and rounded shapes
2. if possible, cut a cross section to view
   - 3-4 layers of small outer (cortical) cells
   - a middle section (medulla) of larger cells, mixed with thick-walled thread-like ***rhizines*** that appear bright under the microscope illumination
3. if possible, find tetrasporangia,
   - ***scattered*** in the swollen, flattened ends (stichidia) of small branches
   - stichidia are occasionally branched, or the branch continues growing at the tip
   - tetrasporangia are divided into two pairs of sporangia at right angles (decussate)

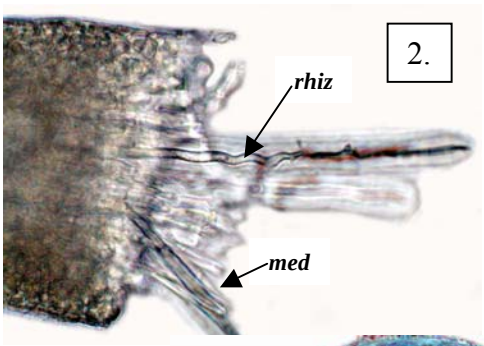
Usual Habitat found as dense intertidal turfs in regions of strong wave action to 2m deep

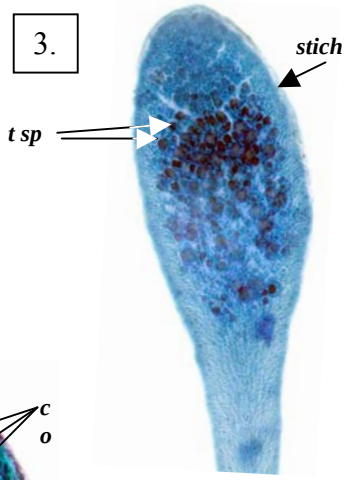
Similar Species *Gelidium pusillum* but that species is flat-branched with compressed branches

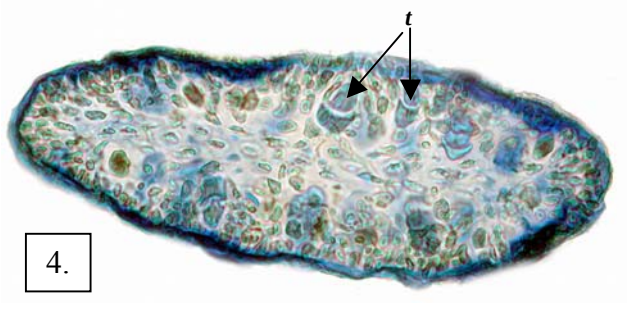
Description in the Benthic Flora Part IIIA, pages 124, 133, 134

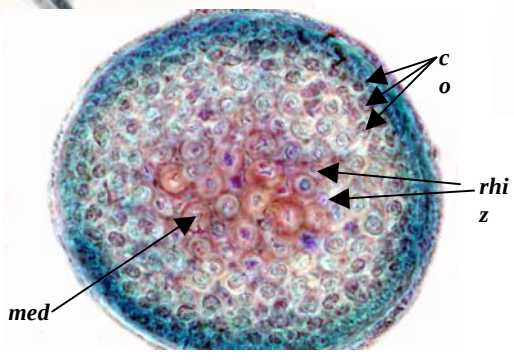
Details of Anatomy











Gelidium crinale viewed microscopically

1. the tip of a upright branch with a protruding apical cell (*ap c*) and rounded surface cells (A60836)
2. a torn edge of an upright branch with exposed middle (medulla) cells (*med*) and a thick-walled rhizine (*rhiz*) (A60836)
3. a blue-stained, compressed end of a branch (stichidium, *stich*), bearing tetrasporangia (*t sp*) (A3494 slide 10681)
4. a cross section of a stichidium (A6739 slide 10680)
5. a cross section of an upright branch, showing the 3-4 layers of small outer (cortical) cells (*co*) and inner (medulla) cells (*med*) mixed with some very small, (obscure) rhizines (*rhiz*) (A3494 slide 10681)

* Descriptive names are inventions to aid identification, and are not commonly used
"Algae Revealed" R N Baldock, S Australian State Herbarium, October 2007

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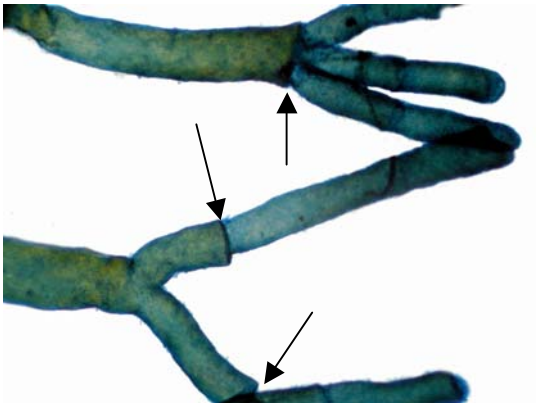

9.

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6., 7. whole plants and detail of branching of specimens in the upper intertidal of Pennington Bay, Kangaroo Island, S Australia (A64600)

8. detail of the tufted branching from regeneration after grazing damage (A60836)

9. a specimen stained blue and viewed microscopically to show the thinner parts (arrowed) from regeneration after grazing (A58692 slide 10648)

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