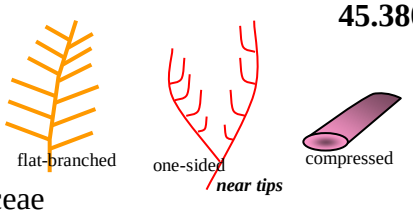
Gigartina recurva
Edyvane & Womersley

45.380

Techniques needed and shape

MACRO PLANT



Classification Phylum: Rhodophyta; Family: Gigartinaceae

***Descriptive name** curved-tip gristle-weed

Features

1. plants dark brown-purple, fading to yellow, 40-100mm high, ***gristly,*** fairly rigid
2. several upright, forked, ***narrow***, ***compressed***, slightly channelled main branches (axes) arise from the base
3. branching near tips is ***crowded***, ***one-sided*** and ***curled*** inwards

Occurrences E coast of Tasmania only

Usual Habitat in the lower inter tidal on rough coasts

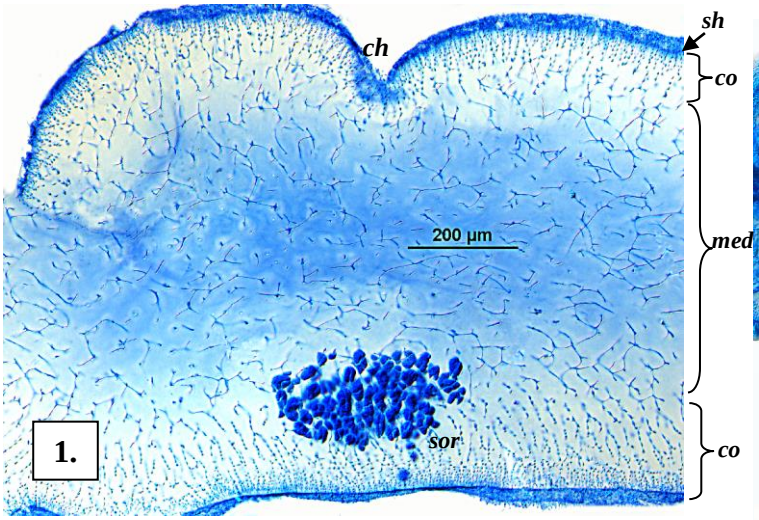
Similar Species superficially like *Mychodea* spp but *G. recurva* has distinctive branch ends

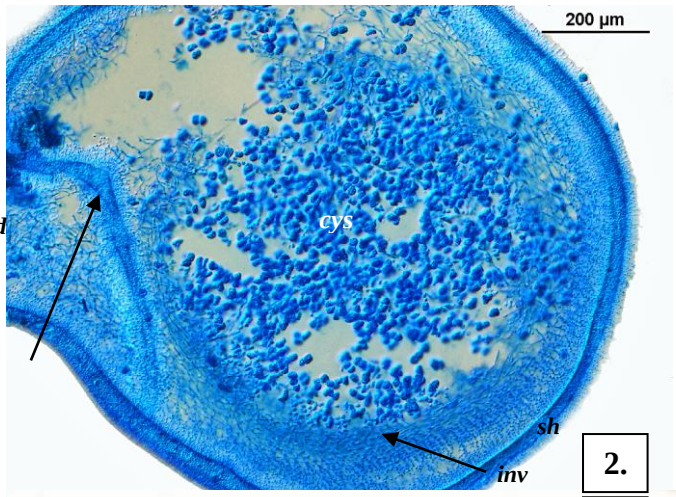
Description in the Benthic Flora Part IIIA, pages 302-305

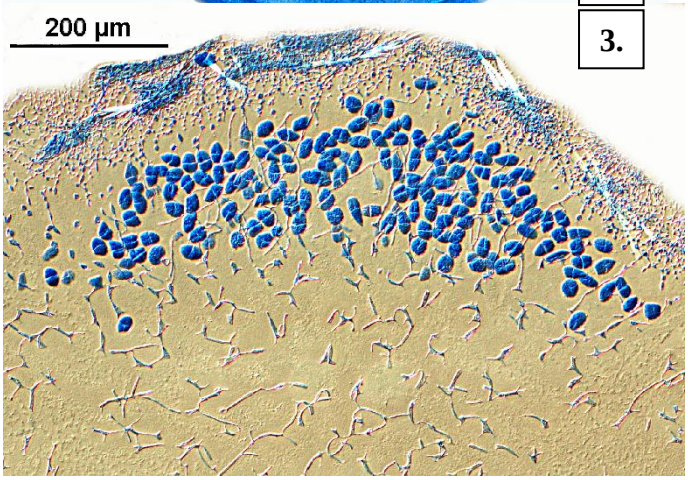
Special Requirements

1. cut a cross section of a branch and view microscopically
   - the ***wide*** core of loose threads connected by short cross threads
   - branched ***chains*** of small cells facing outwards forming the outer (cortex) layers
   - a thick, non-cellular sheath (often broken into segments in stained preparations)
2. find swollen female structures (cystocarps) in the ***channels*** of short tip branches sometimes wrapped around with several of the curved tip branches (***involucrate***). Cut a cross section to view microscopically the central clusters of spores. Note the ***dimple*** in the branch surface where spores escape after the cell layers disintegrate
3. in sporangial plants, tetrasporangia are massed into spots (sori) on the inner sides of curled branches. Cut a cross section through a sorus to view microscopically the tetrasporangia with cross shaped (cruciate) patterns when mature

Details of Anatomy







Cross sections of *Gigartina recurva* stained blue and viewed microscopically

1. channel (***ch***), wide core of thin, inter connected threads (medulla, ***med***), outer layer (cortex, ***co***) of forked chains of small cells, "rind" or sheath (***sh***); mass (sorus, ***sor***) of tetrasporangia (slide 12405)
2. mature female structure (cystocarp, ***cys***): masses of carposporangia, envelope of threads (involucre, ***inv***) concentrically arranged; dimpled cortex (arrowed) site where spores are released (slide 12406)
3. detail of the outer part of a branch of a sporangial plant: tetrasporangia in various stages of division (slide12409)

* Descriptive names are inventions to aid identification, and are not commonly used

"Algae revealed", R N Baldock, State Herbarium S Australia, February 2009; edited May 2014

4.

5.

4-6. *Gigartina recurva* Edyvane & Womersley: plants from 0-2m deep, Satellite I., D'Entrecasteaux Channel Tasmania, showing particularly the crowded, one-sided and curved branches at plant tips (A41483)

6.

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