

Gigartina densa

Edyvane & Womersley

45.380

Techniques needed and shape



MACRO PLANT

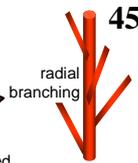


cylindrical

or



slightly compressed



radial branching

Classification *Descriptive name Features

Phylum: Rhodophyta; Family: Gigartinaceae
stumpy gristle-weed

plants red-brown, fading to yellow, **gristly** with clumped, upright, cylindrical or slightly compressed, rigid main branches (axes) 20-60mm high; short side branches arising radially or in 2 rows in dense clusters towards the tips

Occurrences

Recherche Archipelago, W Australia to Portland Victoria

Usual Habitat

on rough coasts near low tide level, on rock and shells

Similar Species

Gigartina recurva but that species branches in tufts on one side or in 2 rows near tips

Description in the Benthic Flora

Part IIIA, pages 301-303

Special Requirements

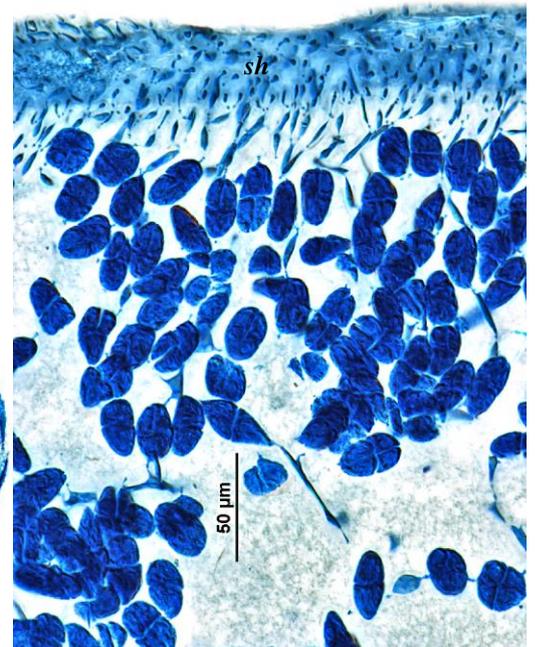
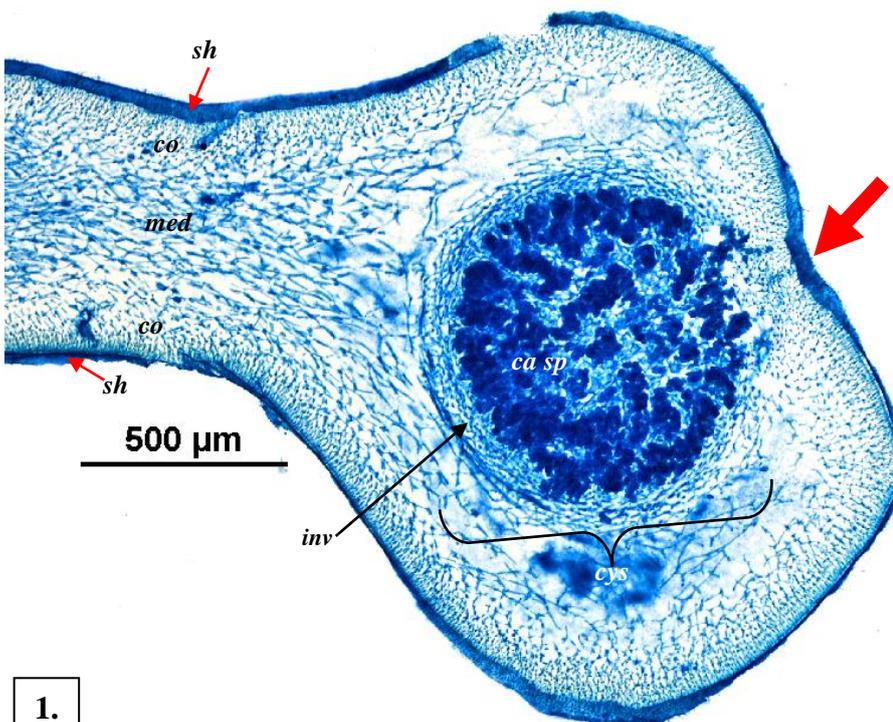
cut cross sections and view microscopically to find

1. a **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. swollen female structures (cystocarps) **imbedded** below spiny tips of side branches: shallow **dimples** on the outer side; spore clusters, **encircled** by threads (involucre)
3. in sporangial plants: patches (sori) of tetrasporangia **scattered** in outer layers dividing into cross-shaped (cruciate) patterns when mature



cruciate

Details of Anatomy



1.

2.

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

1. mature female structure (cystocarp, **cys**) in a branch: branch core (**med**) of threads, outer layer (cortex, **co**) of chains of small cells, sheath (**sh**); clusters of carposporangia, **ca sp**, cystocarp sheath of threads (involucre, **inv**), dimple (**arrowed**) through which spores escape when the cortex fragments (slide 12401)
2. sporangia, lying in the outer layer (cortex) of a branch, with some showing cross-shaped (cruciate and decussate) division (slide 12441)



3.



4.



5.



6.

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3. plant from Gunjah Beach near Coffin Bay, S Australia in shallow water on a rock platform (A60803)
4. detail of a short side branch bearing a bulbous cystocarp with a prominent dimple through which carpospores escape (A13699)
5. dense mass of preserved (bleached) plants, from 0-6m deep, Althorpe I., S Australia (A70433) (backlit to emphasise branching pattern and gristly texture)
6. plants extracted from the mass shown in Fig. 5 (A70433): radial side branches