

Carpopeltis spongiiplexa

Womersley & Lewis
as *Carpopeltis spongeaplexus* in the Flora

45.280

Techniques needed and shape



**MACRO
PLANT**



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Halymeniaceae
sponge-wrapped weed

*Descriptive name

Features



plants *sprawl on rocks*, dark red-brown fading to grey-brown, *wrapped tightly in sponge* up to 20mm wide, blades *flat-branched* or with a flanged mid-rib, often only visible as tufts of *narrow forked blades* about 2mm wide protruding from sponge

Occurrences

Geraldton W Australia to Port Elliot, S Australia

Usual Habitat

on rough coasts from shallow water in shade to deep water (30m)

Similar Species

exposed blades look like *Carpopeltis elata* tips, without the sponge coating

Description in the Benthic Flora

Part IIIA, pages 170-173 as *Carpopeltis spongeaplexus* a grammatically incorrect name cut cross sections and view microscopically to find

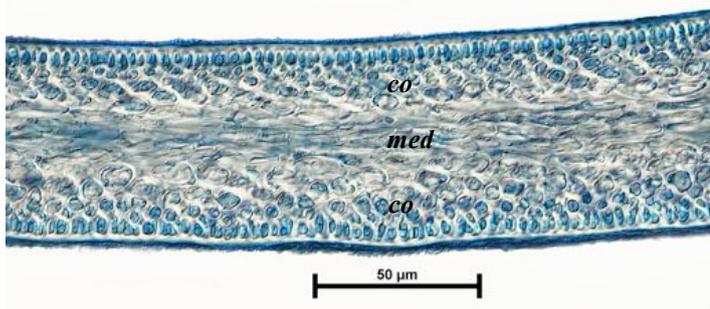
Special Requirements

1. *narrow* cores (medulla) of *densely entwined* threads, *firm* outer layers (cortex) of equal-sided cells, inner ones large, outer small; older, denuded branches (not shown) have additional rings of growth in the cortex
2. mature female structures clustered in swollen ends of branches (cystocarps): at first, small, flask-shaped spaces (auxiliary cell ampullae) enveloped by threads (involucre), in the inner part of the cortex; later envelopes becoming prominent, dense mass of carposporangia form inside, escaping through a small opening (ostiole) and the outer cortex becomes *thicker*
3. patches (nemathecia) of spores in branch tips of sporangial plants: small elongate tetrasporangia divided in a cross (cruciate) pattern, lying between the short threads (paraphyses) in the cortex



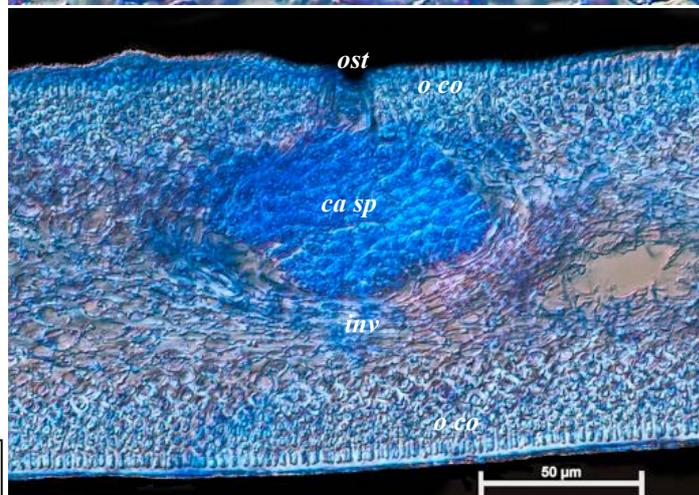
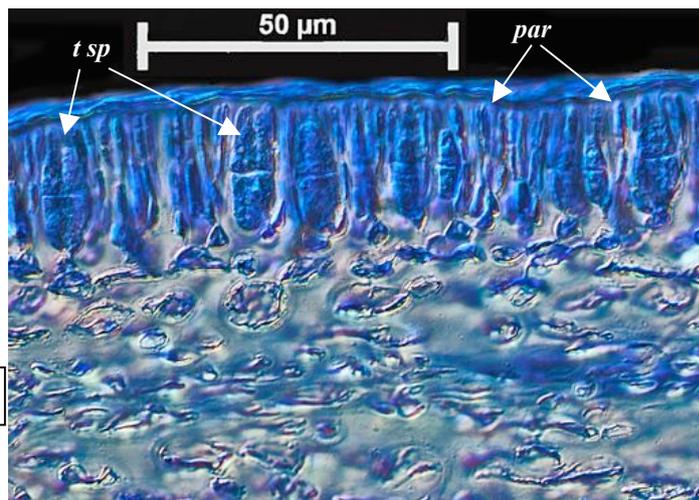
cruciate

Details of Anatomy



1.

2.



3.

Cross sections of *Carpopeltis spongiiplexa* stained blue and viewed microscopically

1. vegetative frond near branch tips: core (medulla, *med*) of compact threads, outer layer (cortex, *co*) of inner large and outer small equal-sided cells, surface cells fence-like (slide 11774)
2. sporangial plant: elongate tetrasporangia (*t sp*) divided in a cross (cruciate) pattern lying in the outer cortex amongst short chains of elongate cells (paraphyses, *par*) (slide 11988a)
3. developing female structure (cystocarp): envelope (involucre, *inv*) of compact threads, narrow opening (ostiole, *ost*), carposporangial mass (*ca sp*), expanded outer cortex (*o co*) near cystocarp (slide 11778)



4.

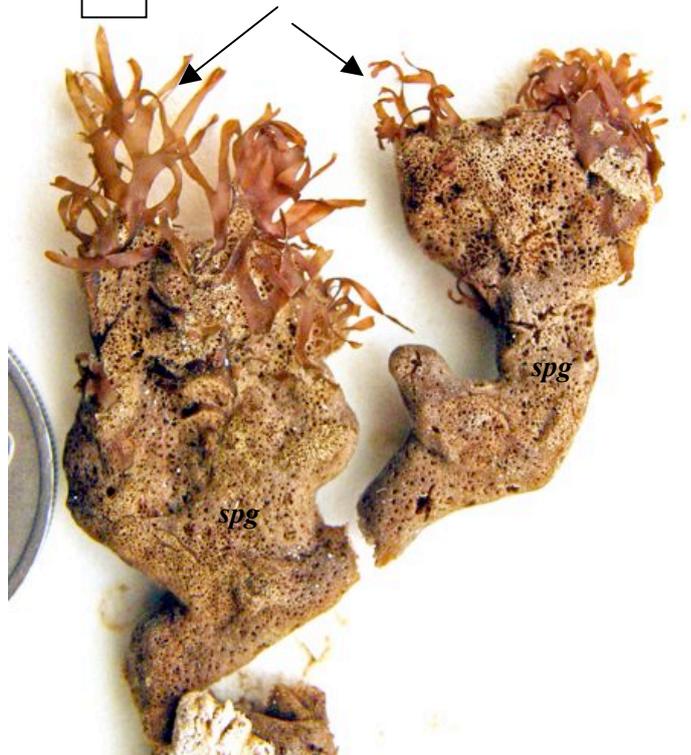


5.



6.

7.



Carpopeltis spongioplexa Womersley & Lewis
 4, 5. from Nuyts Reef, W Coast S Australia, 28-30 deep A52317
 6. female specimen, 2m deep in a shaded locality at Strickland Bay, Rottneet I., W Australia, showing the swollen tips containing clusters of embedded cystocarps A51083
 7. from the Head of the Bight, S Australia, 15-20m deep, showing the heavy coating of red sponge (*spg*) and delicate protruding fronds of the actual alga (arrowed) A52165

* Descriptive names are inventions to aid identification, and are not commonly used
 "Algae revealed", R N Baldock, State Herbarium, June 2008; edited May 2014