

Techniques needed and shape



MACRO
PLANT



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Hypneaceae

*Descriptive name

shepherd's-crook weed

Features

1. plants are dark red, (bleaching lighter), 100-250mm tall, with a tangled base and **definite** upright branches bearing, radial side branches, dense in upper parts

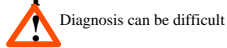


2. short **spine-like** branches are found all around upper branches
3. **side branches end in thickened hooked ends**

Occurrences

Port Denison, W Australia to N coast of Tasmania

Special requirements



1. view plants microscopically to find a **single, minute** cell at the tip of branches producing a thread (axial filament) **visible** along the cylindrical branches
2. the products of fertilisation in female plants (cystocarps) have their bases embedded in side branches, with an **opening (ostiole)** at the tip
3. male plants produce patches of spermatangia in the outer (cortex) layer near the bases of the short, spiny side branches
4. sporangial plants have tetrasporangia in the outer (cortex) in slight swellings **above the bases** of the short side branches
 - sporangia are cigar-shaped and divided across (zonately) into 4 sporangia



Usual Habitat

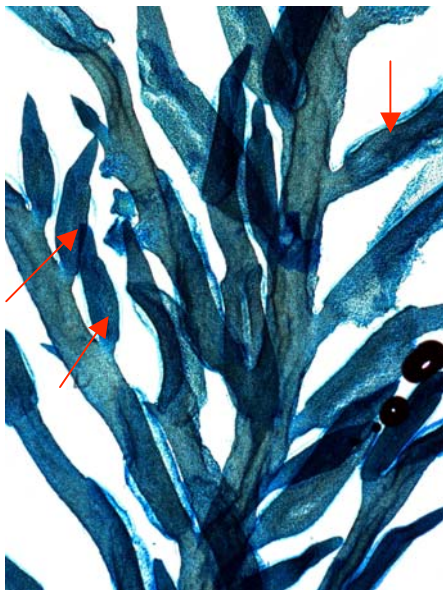
common on rough-water coasts, usually on other algae, attached by the hooked ends of branches

Similar Species

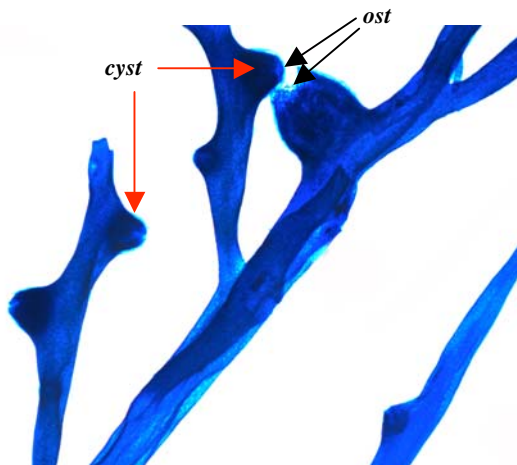
relatively easy to identify if the hooked ends of branches can be found.

Description in the Benthic Flora Part IIIA, pages 437, 440-442

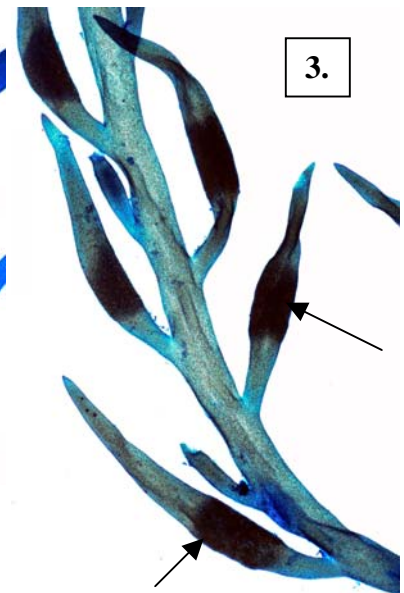
Details of Anatomy



1.



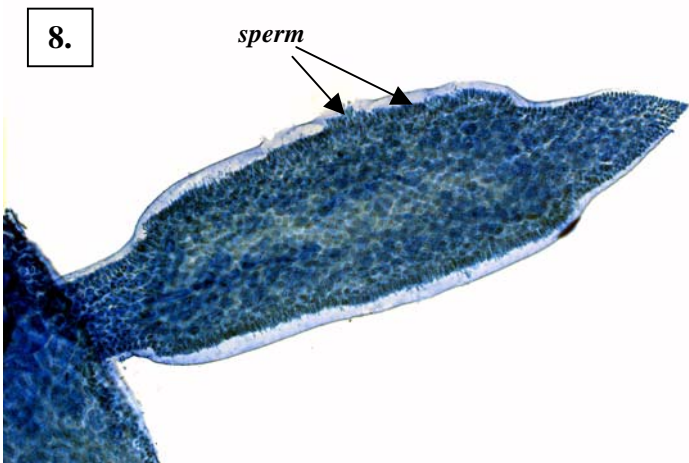
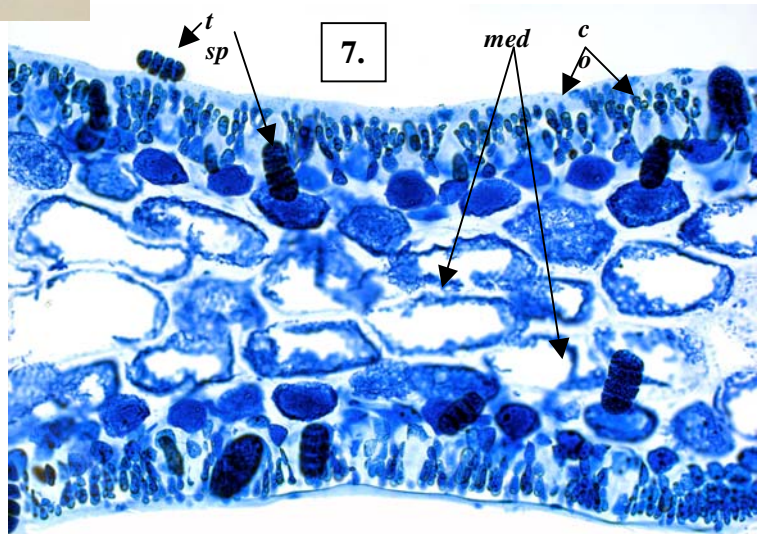
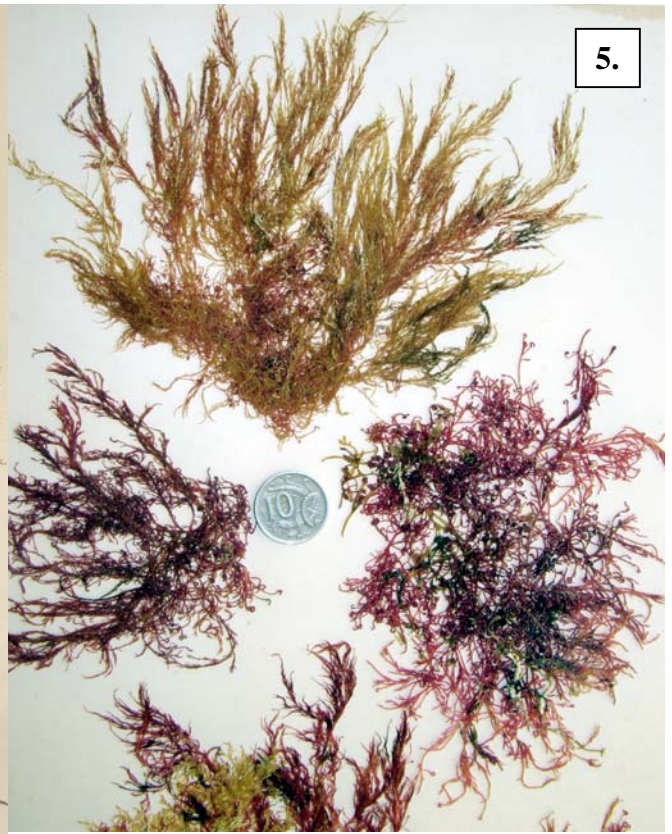
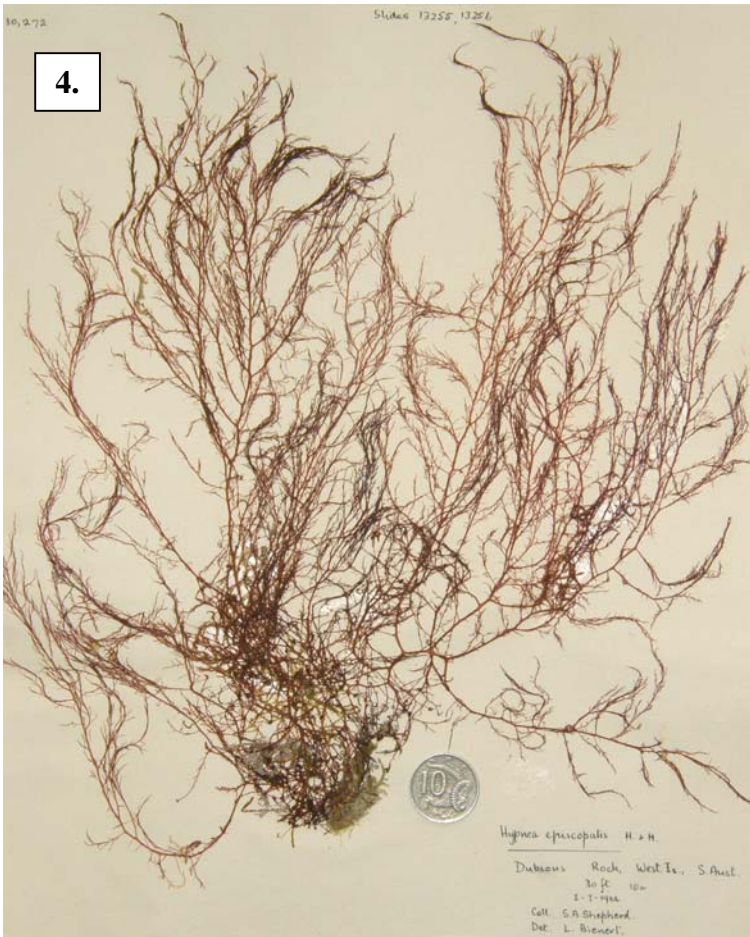
2.



3.

Hypnea ramentacea stained blue and viewed microscopically showing:

1. dense radial branches with pointed tips, some with swollen parts near the base producing spermatangia (arrowed) (A42362 slide 13246)
2. a female plant with swollen cystocarps (*cyst*), their bases embedded in branches and opening at the tips (*ostiole, ost*) (A59787 slide 13252)
3. a sporangial plant with swollen sections above the bases of short side branches (arrowed) bearing tetrasporangia (A43719 slide 13250)



4. *Hypnea ramentacea* (C Agardh) J Agardh A30272. from West I., Victor Harbor, S Australia, 10m deep
5. specimens (A0673) from Port Elliot, S Australia showing colour variations on drying
6. detail of the hooked branch endings of A60650
- 7, 8. specimens stained blue and viewed microscopically
7. a lengthwise slice through the swollen part (nemathecium) of a branch bearing tetrasporangia showing the middle section (medulla, *med*) of large cells, branching small cells at the surface layer (cortex, *co*) and zonately divided tetrasporangia (*t sp*, one extruded) (A43719 slide 13251)
8. detail of a short branch with minute spermatangia (*sperm*) produced in the outer layer near the swollen base

* Descriptive names are inventions to aid identification, and are not commonly used
Prepared December 2007