

Techniques needed and shape



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Hypneaceae

*Descriptive name

Hypnea with upturned spines

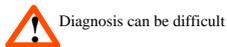
Features

1. plants are dark red-brown, 100-300mm tall, with **definite** upright branches bearing, radial side branches, gradually shorter
2. short **spine-like** branches, **few** on main branches, **point upwards**

Occurrences

widely distributed in tropical and subtropical waters. In southern Australia, from Coffin Bay, S` Australia to Westernport Bay, Victoria

Special requirements



1. view plants microscopically to find a **single, minute** cell at the tip of branches
2. cut a cross section to view the central thread, large-celled middle (medulla) layer, and small-celled outer layer (cortex)
3. the products of fertilisation in female plants (cystocarps) have their bases embedded in side branches, with a weak **opening (ostiole)** at the tip
4. sporangial plants have tetrasporangia in the outer (cortex) in pronounced swellings **above the bases** of the short side branches
 - sporangia are cigar-shaped and divided across (zonately) into 4 sporangia

Usual Habitat

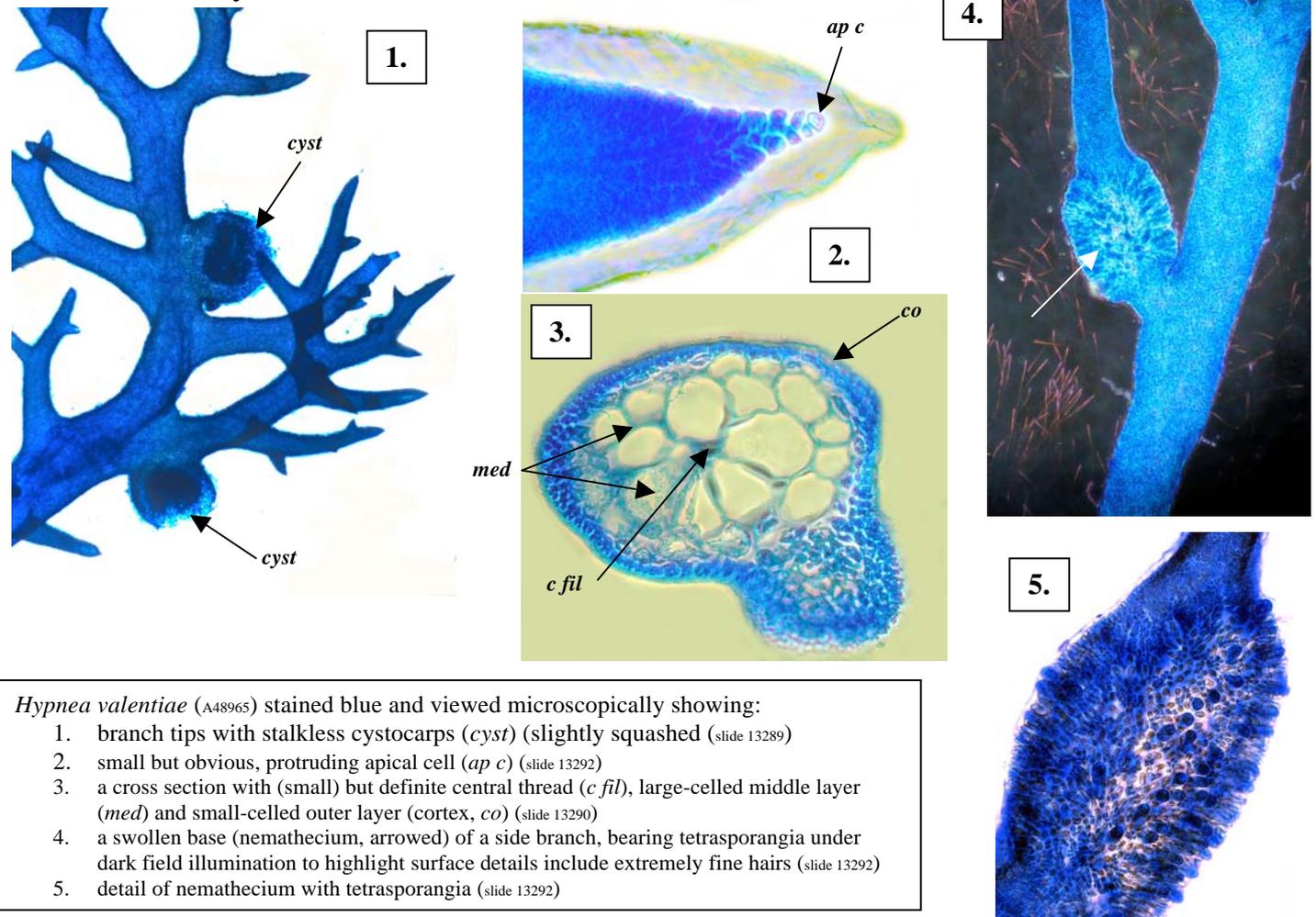
common in sheltered localities but where there is appreciable current flow, from shallow water to 11m deep

Similar Species

Hypnea charoides but that species has denser spines that are at right angles to branches

Description in the Benthic Flora Part IIIA, pages 444-446

Details of Anatomy



Hypnea valentiae (A48965) stained blue and viewed microscopically showing:

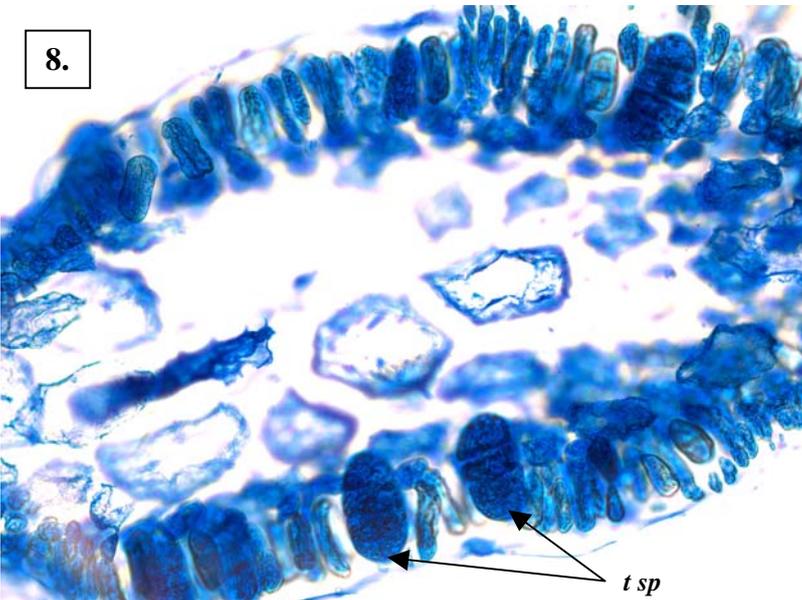
1. branch tips with stalkless cystocarps (*cyst*) (slightly squashed (slide 13289))
2. small but obvious, protruding apical cell (*ap c*) (slide 13292)
3. a cross section with (small) but definite central thread (*c fil*), large-celled middle layer (*med*) and small-celled outer layer (cortex, *co*) (slide 13290)
4. a swollen base (nemathecium, arrowed) of a side branch, bearing tetrasporangia under dark field illumination to highlight surface details include extremely fine hairs (slide 13292)
5. detail of nemathecium with tetrasporangia (slide 13292)

6.

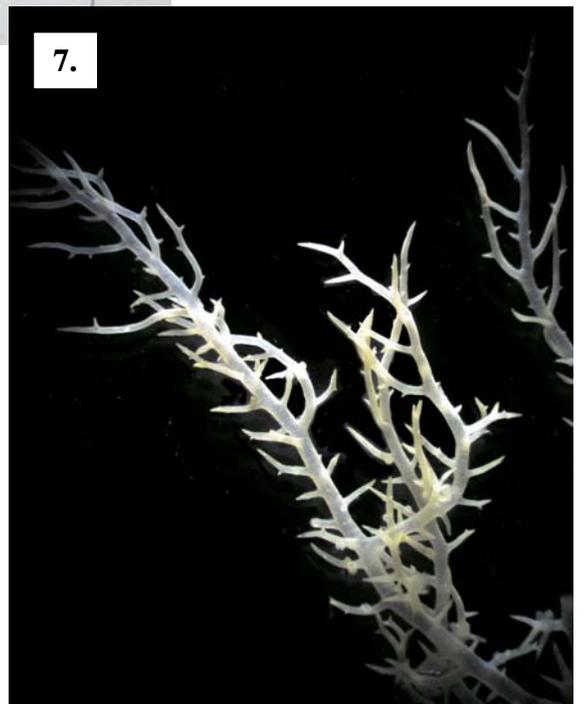


6. *Hypnea valentiae* (Turner) Montagne, A57349, 11m deep, from Pt Stanvac, S Australia
7. branch ends of a preserved (bleached) specimen (A35671) highlighting the upturned spines
8. a cross section of a tetrasporangial nemathecium stained blue and viewed microscopically showing zonate tetrasporangia (*t sp*) (A48965 slide 13292)

8.



7.



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