

Techniques needed and shape



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Hypneaceae

\*Descriptive name

narrow-branched *Hypnea*

Features

1. plants are dark red, 30-140mm tall, with **definite** upright branches bearing, radial side branches, dense in upper parts
2. unlike other *Hypnea* species short spine-like branches are **not** present
3. side branches **occasionally** with hooked ends (hamate)

Occurrences

Port Denison, W Australia to Nora Creina, S Australia

Special requirements



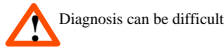
1. view plants microscopically to find a **single, minute** cell at the tip of branches producing a thread (axial filament) **visible** along the cylindrical branches
2. cut a cross section to view the central thread, large-celled middle and small-celled surface layers
2. the products of fertilisation in female plants (cystocarps) are globular with their bases embedded in side branches, with **no** opening (ostiole) at the tip
3. male plants produce **scattered** spermatangia in the outer (cortex) layer of side branches
4. sporangial plants have tetrasporangia **scattered** in the outer (cortex) of short side branches
  - sporangia are cigar-shaped and divided across (zonately) into 4 sporangia, sometimes released two spores at a time

Usual Habitat

attached by runners and small pads to rocks in shaded intertidal pools to 20m deep

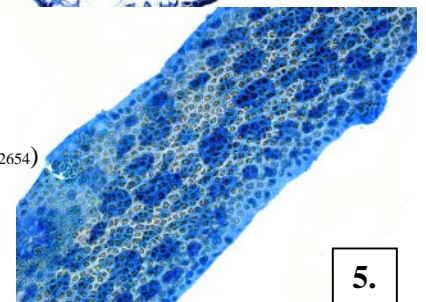
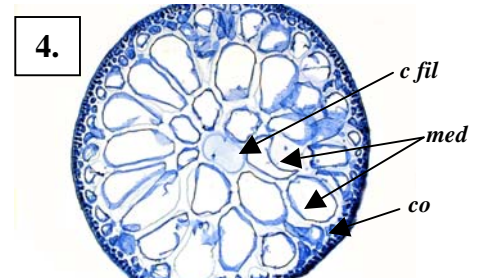
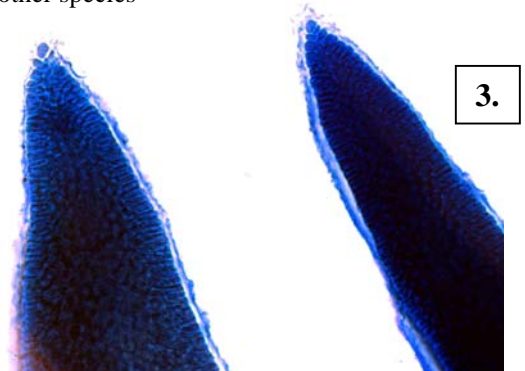
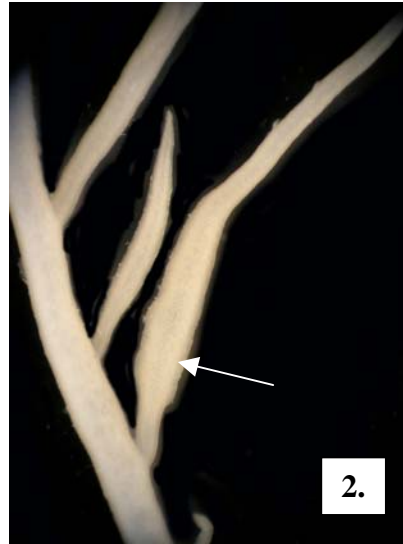
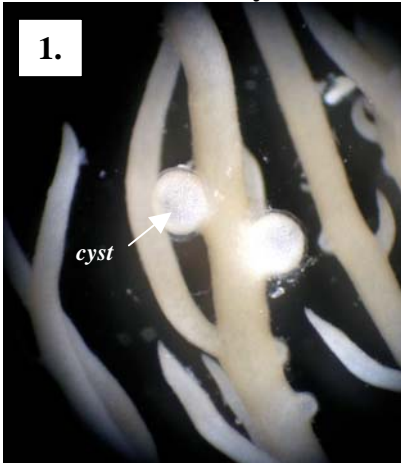
Similar Species

lacks the many short spiny side branches of other *Hypnea* species although some tapering immature branches may be mistaken for them; tetrasporangia are scattered and not on a basal swelling on side branches as in other species

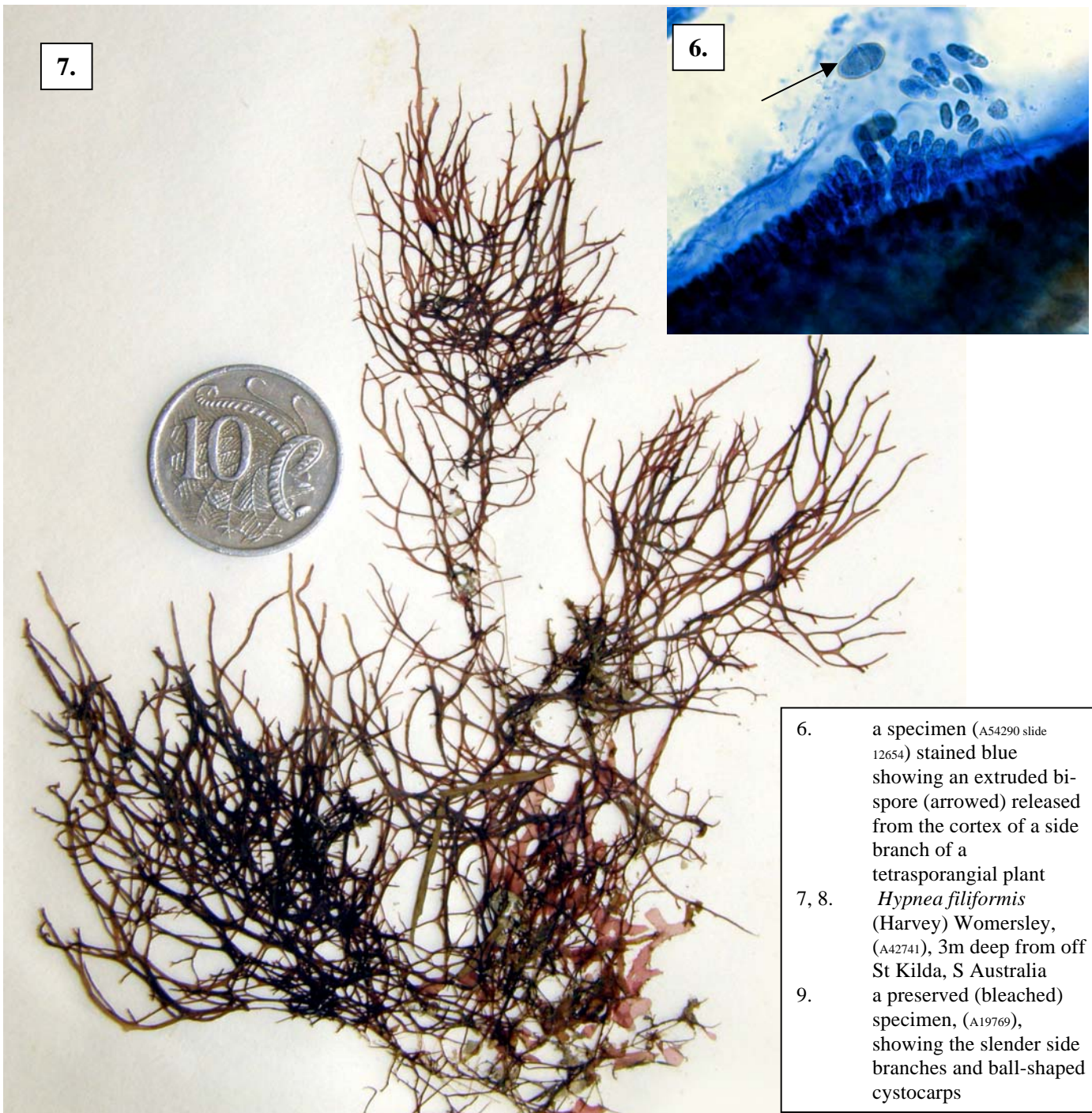


Description in the Benthic Flora Part IIIA, pages 437, 438-440

Details of Anatomy



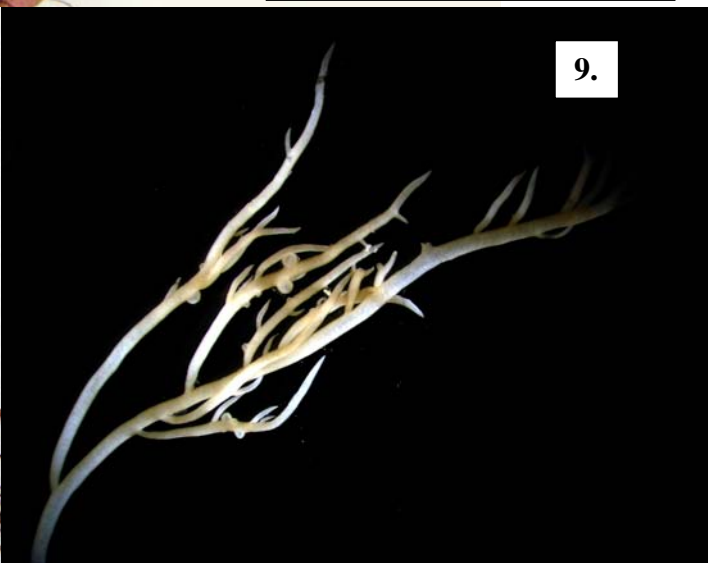
- 1, 2. magnified views of preserved (bleached) specimens of *Hypnea filiformis* (A19769):
  1. slender side branches and stalkless cystocarps (cyst)
  2. swollen bases of branches (nemathecia, arrowed) bearing tetrasporangia
- 3-5. *Hypnea filiformis* stained blue and viewed microscopically
  3. branch tips showing very small but conspicuous protruding apical cells (A54290 slide 12654)
  4. cross section of a branch with central thread (*c fil*), large-celled middle layer (medulla, *med*) and small-celled outer layer (cortex, *co*) (A38704 slide 12660)
  5. surface view of cells with **no** grouping of cortex cells into rosettes about the underlying (deeply stained) medulla cells (A26444 slide 12661)



6. a specimen (A54290 slide 12654) stained blue showing an extruded bi-spore (arrowed) released from the cortex of a side branch of a tetrasporangial plant

7, 8. *Hypnea filiformis* (Harvey) Womersley, (A42741), 3m deep from off St Kilda, S Australia

9. a preserved (bleached) specimen, (A19769), showing the slender side branches and ball-shaped cystocarps



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