Hypnea charoides
Lamouroux

45.560

Techniques needed and shape

Classification Phylum: Rhodophyta; Order: Gigartinales; Family: Hypneaceae

***Descriptive name** spiny red weed (common name used by Huisman)

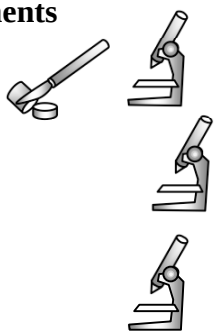
Features

1. plants are light red-brown, bleaching yellowish, 100-200mm tall, with a tangled base and straggling upright branches

2. tiny pointed ***spines*** mostly at ***right angles*** to main branches, are found all around branches

Occurrences a southern and mainly western species in Australia; records from other countries are problematic

Special requirements



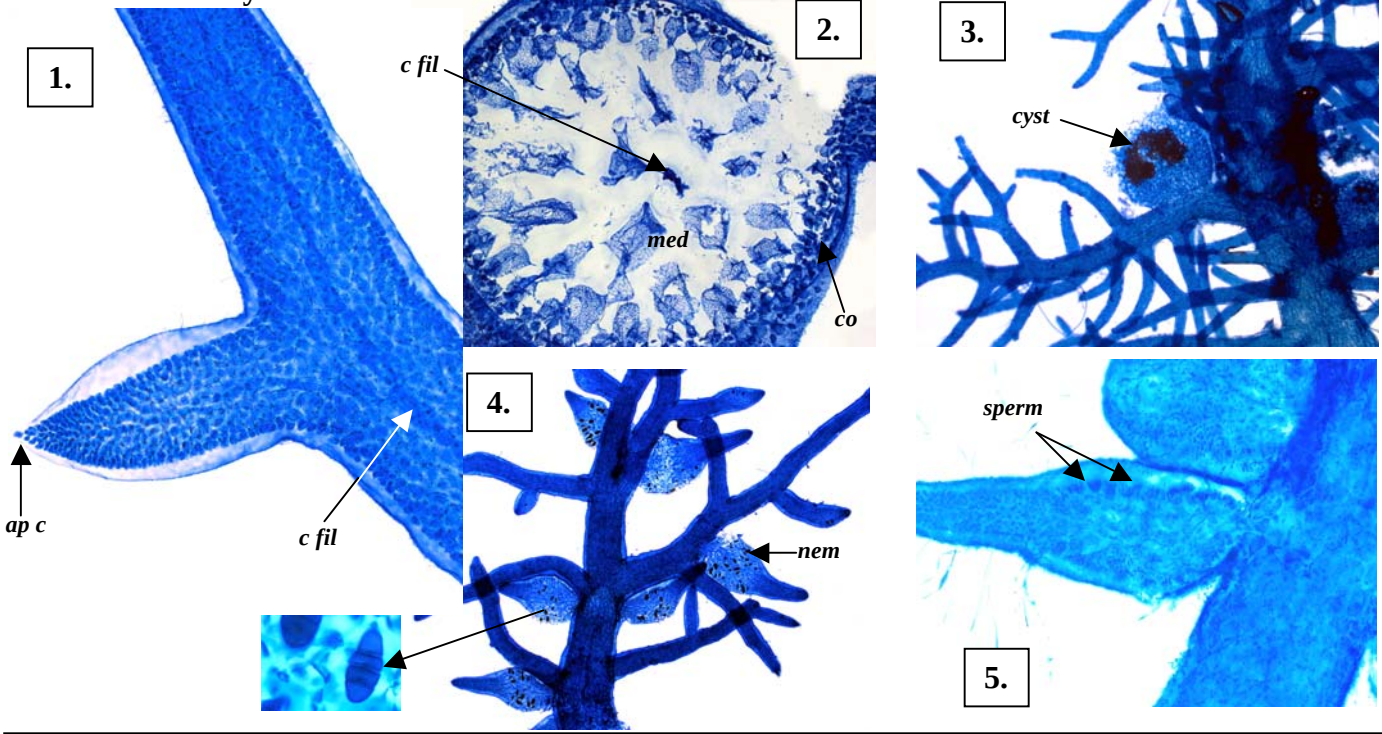
1. view plants microscopically to find a ***single***, ***minute*** cell at the tip of branches producing a thread (axial filament) ***visible*** along the cylindrical branches
2. cut a slice across a branch to view microscopically the ***central thread*** surrounded by 2-3 rings of ***large*** cells, and outer (cortex) layer of 2-3 layers of ***small*** cells
3. the products of fertilisation in female plants (cystocarps)are ***stalkless*** on side branches, ***ball-shaped*** and without an opening (***no ostiole***)
4. male plants produce patches of spermatangia in the outer (cortex) layer near the ***swollen*** bases of the short, spiny side branches
5. sporangial plants have tetrasporangia in the outer (cortex) layer near the ***swollen*** bases of the short, spiny side branches
   - sporangia are cigar-shaped and divided across (zonately) into 4 sporangia

Usual Habitat mainly on the seagrass *Amphibolis*

Similar Species *Hypnea valentiae*, but that species has several well defined upright axes and fewer spiny branches which point upwards

Description in the Benthic Flora Part IIIA, pages 439, 441-443

Details of Anatomy

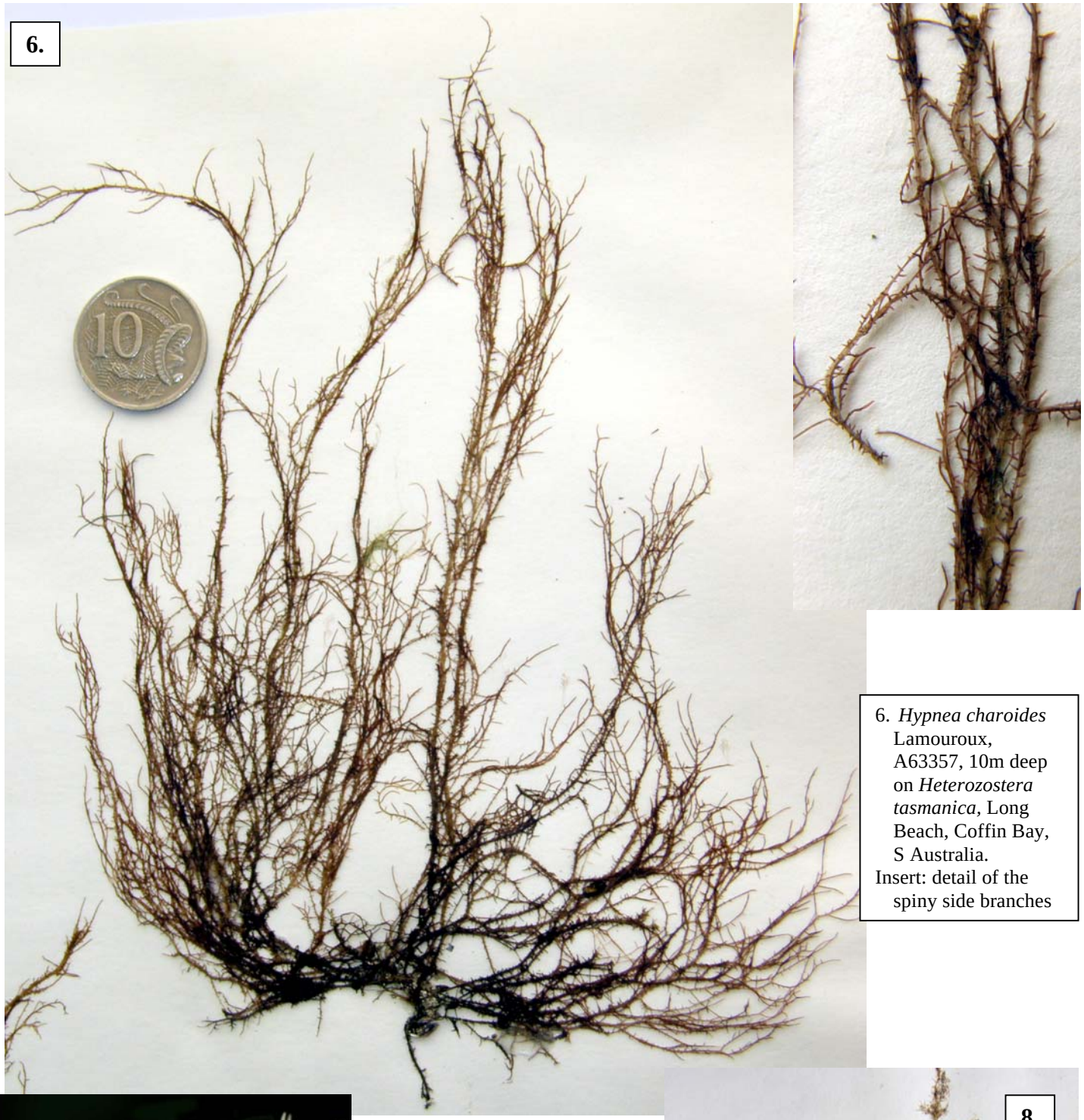


Hypnea charoides A61582 stained blue and viewed microscopically

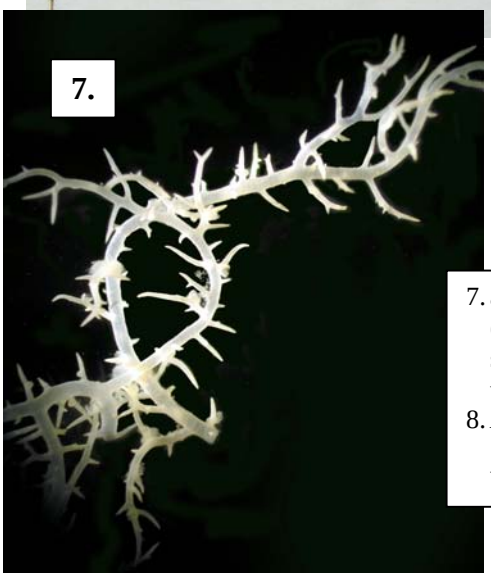
1. a tip of a branch showing the single apical cell (*ap c*) and central thread (*c fil*) visible along the length of the branch (slide 12804)
2. a cross section showing the central thread, middle (medulla, *med*) layer of large and surface (cortex, *co*) layer of small cells (slide 12806)
3. a female plant with numerous spiny side branches at right angles and a stalkless cystocarp (*cyst*) (slide 12804)
4. spiny side branches with swollen bases (nemathecia, *nem*) bearing tetrasporangia. Insert: a much enlarged view of zonately divided tetrasporangia (slide 12806)
5. detail of patches of spermatangia (*sperm*) at the swollen bases of spiny side branches (slide 12805)

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

Prepared December 2007, addition January 2008



6. *Hypnea charoides* Lamouroux, A63357, 10m deep on *Heterozostera tasmanica*, Long Beach, Coffin Bay, S Australia.
Insert: detail of the spiny side branches



7. a preserved (bleached) specimen (A56433) of *Hypnea charoides* showing the spines at right angles to the main branches
8. *Hypnea charoides*, (A33756), from 13m deep, Tapley Shoal, Gulf St Vincent, S Australia

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