Techniques needed and plant shape

Classification

Phylum: Rhodophyta; Order: Ceramiales; Family: Rhodomelaceae
Tribe: Chondrieae

*Descriptive name

spiny red weed

Features

plants dark red-brown, 50-120mm tall, branches cylindrical, radial, about 1mm across, all bearing short spines

Special requirements

1. view plants microscopically to find:
   - branches and spines grow from pits in their tips, in which bunches of “hairs” (trichoblasts) occur
   - a line of cells (central filament) running from the branch tips down the branch can sometimes be seen
   - some short, spinous side branches (stichidia) bear rows of sporangia
2. cut a cross section and view microscopically to find:
   - a central thread, wrapped in rhizoids in older branches
   - 5 large flanking (pericentral) cells, becoming thick-walled when mature
   - outer (cortical) regions of compact cells decreasing in size outwards

Occurrences

widespread around the Indian Ocean; in W. Australia and NSW, but known only

Usual Habitat

S Australian plants occur in shallow water

Similar Species

distinctive because of the sunken apical pits and spines

Description in the Benthic Flora

Part IIID, pages 408-409

Details of Anatomy

1-3. Acanthophora dendroides (A13658 slide 20111) stained blue and viewed microscopically

1. spines near a branch tip (sp), the faint line of the central filament (c fil) and tuft of “hairs” (trichoblasts, tr) at the tip of a developing side branch
2. higher magnification of the apical pit (arrowed) with short trichoblasts of a short, fertile side branch (stichidium, stitch) containing tetrasporangia
3. mature stichidium with apical trichoblast tuft, vague central filament and rows of tetrasporangia (t sp)
4. cross section of a branch (A13658 slide 20112) showing the central filament (c fil), flanking (pericentral cells, 1-5) and compact outer region (cortex, co)

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

“Algae Revealed” R N Baldock, S Australian State Herbarium, March 2007
5. *Acanthophora dendroides* Harvey A13658
from Denial Bay, S Australia.

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