Techniques needed and plant shape

Classification
*Descriptive name
Features

Phylum: Rhodophyta; Order: Rhodymeniales; Family: Rhodymeniaceae
spiky strapweed

1. yellow-brown red to red-brown, 50-180 mm tall, flat-branched
2. main parts (axes), strap-like, 2-5 mm wide, side branches 20-100 mm long, diverging from axial edges, some at right angles,
3. ultimate branches (ramuli) 1-2 mm long, < 1 mm wide, almost cylindrical, some forked, on branch edges and on surfaces, pointing upwards or downwards
4. mature female structures (cystocarps) pustulate, on surfaces or edges of smaller branches

Occurrences
Usual Habitat
Special requirements

Albany, W Australia to Cape Jaffa, S Australia
on seagrasses, or rock? to 11 m deep
1. cut sections of blades and examine microscopically to find narrow outer (cortical) layers of 1-2 layers of small cells grading in size to thin-walled large cells of the core (medulla) 4-6 cells wide
2. cut sections of pustulate, mature female structures (cystocarps) to find small egg-shaped cells forming a wall (pericarp), single prominent external opening (ostiole), mass of carposporangia, prominent nutritive cells basally, complex branched fusion cell and envelope of threads initially present, but disintegrating
3. sporangia scattered in the outer part of the medulla, divided tetrahedrally

Similar Species
Hymenocladia usnea but main branches are wider and ultimate branchlets (ramuli) much longer in that species

Description in the Benthic Flora
Part IIIB, pages 109-111

Cross sections of Hymenocladia divaricata stained blue and viewed microscopically
1. edge of a flattened main branch with tetrasporangia, showing narrow outer layers (cortex, co) of small cells grading in size to large, thin-walled cells of the core (medulla, med) (A61793 slide 14589)
2. mature female structure (cystocarp) showing cellular wall (pericarp, peri) with single opening (ostiole, ost) prominent basal nutritive layer (nutr c) branched fusion cell (fus c) and carposporangia (ca sp) (A16098 slide 14592)
3. smaller branch (almost cylindrical) showing tetrasporangia (t sp) (A16098 slide 14593)

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"Algae Revealed", R N Baldock, S Australian State Herbarium December 2010
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4. **Hymenocladia divaricata** Harvey from South Australia
   - 10m deep in sheltered situation, Haystack I., (Althorpe Islands) (A66264) with short ultimate branches (ramuli) on the main branch surface

5. 11m deep, Tiparra Reef on seagrass (*Amphibolis*) (A39266)

6, 7. two magnifications of darker specimens also from Tiparra Reef (A38242) showing the short, spreading ultimate branches