**Mychodea acicularis**
(J Agardh) Kraft

Techniques needed and shape

**Classification**

* Descriptive name

**Features**

1. Plants red-brown, 100-200mm tall, with **cylindrical** branches, **firm** in texture
2. Stubby, **pointed** spines about 1mm long are scattered along branches
3. A hydrozoan, *Plumularia flexuosa*, specifically grows all over plants
4. **Hooked tendrils** in lower parts attach plants

**Occurrences**

S W Australia to Victoria

**Usual Habitat**

Probably a summer annual on rocks, wooden pilings, seagrass (*Amphibolis*), sponges and sea squirts, from shallow water to 24m deep, in moderately sheltered localities

**Similar Species**

Unique because of its gristy, spiny characteristics and epiphytic hydroid

**Description in the Benthic Flora** Part IIIA, pages 461, 462-464

**Special Requirements**

1. Cut a cross section of a branch and view microscopically to find:
   - A single central thread in the core (medulla), surrounded by a few rhizoids
   - Large cells in the outer part of the core with a few (inconspicuous) threads
   - Outermost (cortex) layers of very **small** cells in branches chains, facing outwards

2. Find female plants with ball-shaped swellings (cystocarps), at the base of short, spiny branches. Cut a cross section if possible to view:
   - Chains of spores
   - A poorly developed cellular wall (pericarp) and **no** opening

3. If possible, find sporangial plants with **large**, cigar-shaped tetrasporangia scattered near the surface, divided across into four sporangia (**zonate**) (not imaged below)

**Details of Anatomy**

1. Cross sections of *Mychodea acicularis* stained blue and viewed microscopically
   1. Central thread (**c fil**) wrapped in rhizoids, large-celled outer core (outer medulla, **o med**), surface layers (cortex, **co**) of very small cells (slide 3727)
   2. Developing female structures (procarps): 3 carpogonial branches (arrowed) on the one cell (supporting cell, **su c** ) within the branched chains of small cortex cells (slide 3726)
   3. Preserved, (bleached) female specimen (A44711) magnified to show swollen cystocarps (**cys**) at the base of spines, and the fine zigzag runners of the epiphytic hydroid (arrowed) on the plant surface

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

“Algae revealed”, R N Baldock, State Herbarium S Australia, November 2008; edited April 2014
4.5. pressed specimens of *Mychodea acicularis* (J Agardh) Kraft (ASSMS) from 10m deep at Tapley Shoal, S Australia, with prominent hooked tendrils

6. preserved (bleached) specimen from Goolwa, S Australia heavily infested with delicate traceries of epiphytic hydroids (*Plumularia flexuosa*). The large, vase-shaped objects are reproductive structures of the hydroids

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

“Algae revealed”, R N Baldock, State Herbarium S Australia, November 2008; edited April 2014