Techniques needed and shape

**Classification**

*Descriptive name*  
Phylum: Rhodophyta; Order: Gelidiales; Family: Gelidiaceae  
red star turf

**Features**

1. plants grow as minute star-shaped tufts in thin, red-brown mats *on* encrusting coralline algae

2. *several* upright branches to 1.5mm tall arise from thin *runners* from the Top Gallant I., West Coast, S Australia to Point Lonsdale, Victoria

**Occurrences**

**Special requirements**

1. view the tips of branches microscopically to find:
   - single apical cells forming a central thread
   - slightly swollen sporangial regions (stichidia) near the tips, with tetrasporangia in *regular* rows of about 6 sporangia *on each side* of the branch (that is, up to 12 in a complete ring)

2. if possible, cut across a branch to view microscopically the
   - a string of 6 (-11) *thick walled* cells across the centre of the section
   - 2-3 outer layers of smaller cells (a cortex)

3. if possible, find masses of spermatia near branch tips

**Usual Habitat**

on encrusting coralline algae (or calcareous shells) in shallow water to 10m deep

**Similar Species**

*Gelidiella antipai*, which has taller but narrower upright branches and 4-7 sporangia in rings.

Separating *Pterocladiella* from *Gelidiella* requires (rare) mature female structures (cystocarps) – lop-sided masses of spores (gonimoblast) form unequally on either side of the central filament and escape through only one opening in *Pterocladiella*

**Description in the Benthic Flora** Part IIIA, pages 120, 122-3 (as *Gelidiella*)

**Details of Anatomy**

*Pterocladiella minima* stained blue and viewed microscopically

1. A61679, slide 12951 showing the bunched upright branches with clusters of rhizoids at their bases (*rh*) and looping stolons (*stol*)

2. A61679, slide 12950: slice across a branch showing the string of thick-walled cells (arrowed) and outer layer (cortex, *co*) 3 cells thick

3. A60496 slide 12947; tetrasporangial patches (*sori, so*) near the branch tip, with regular rows of 6 sporangia (on each side)

* Descriptive names are inventions to aid identification, and are not commonly used
  "Algae Revealed" R N Baldock, S Australian State Herbarium, September 2007
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