Peyssonnelia inamoena Pilger

45.240

Techniques needed and plant shape

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

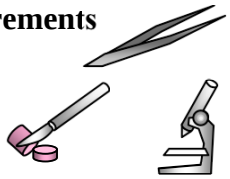
***Descriptive name** red rock- and shell-crust

Features plants dark red, 10-20mm across, on rock and shells, forming wrinkled, encrusting, circular or lobed patches ***partly lifting at edges*** amongst paler, bleached coralline algal and bryozoan crusts and sponges

Occurrences widespread in tropical seas. In Australia, from the Head of the Great Australian Bight to D'Entrecasteaux Channel, Tasmania

Usual Habitat on rock and mollusc shells in shaded intertidal pools to 58m deep

Special requirements

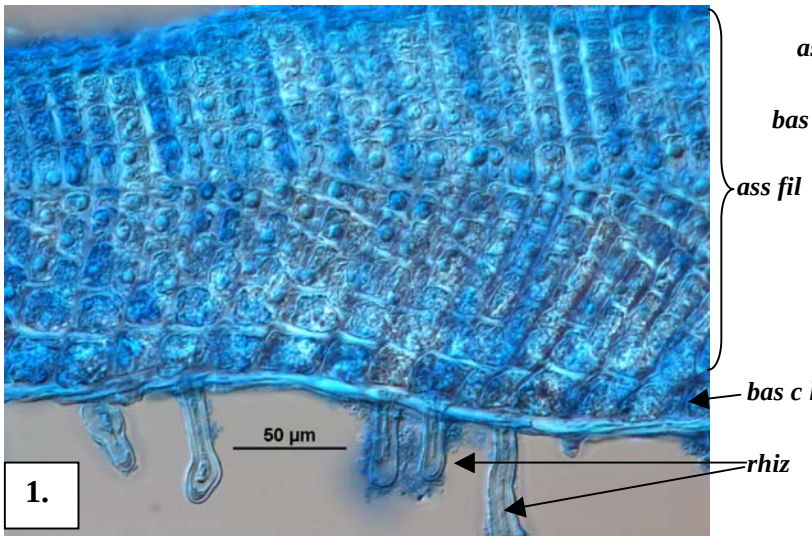


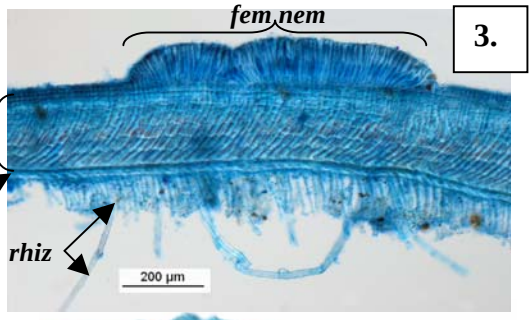
1. scrape off a piece of crust and view underside cells microscopically to find ***parallel*** threads, many producing single-celled rhizoids
2. a section through an encrusting scale shows a basal layer of box-shaped cells that forms parallel rows in surface view giving rise below to single-celled rhizoids and, above, ***oblong cells*** arising at *60-80º*, and branching into threads (assurgent filaments) of 3-12 ***smaller*** box-shaped cells
3. ***upraised*** patches (nemathecia) of female structures with microscopic chains of 2-3 carposporangia amongst fine threads occur on the upper surface of plants
4. tetrasporangia amongst fine threads 5-6 cells long divided in a cross-shaped (cruciate) pattern occur in shallow patches (nemathecia) on the upper surface of plants

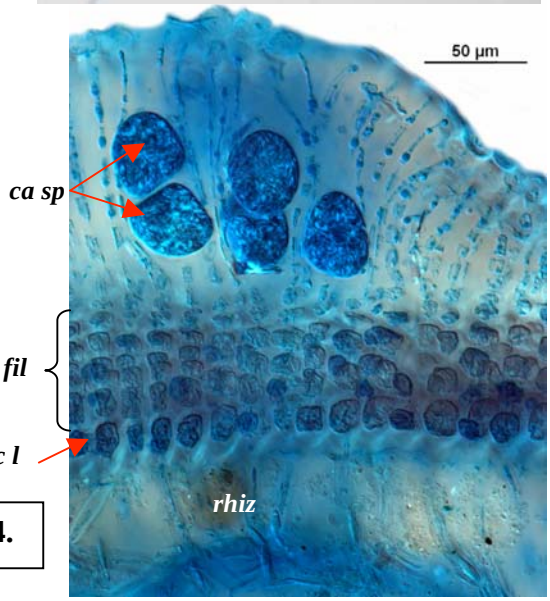
Similar Species *Peyssonnelia dubyi*, but in surface view, cells form fan-shaped patterns in that species and the plant is more firmly attached to rock or shell

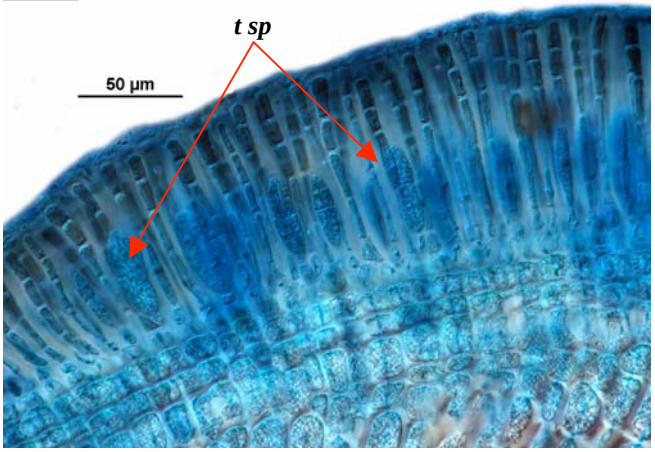
Description in the Benthic Flora Part IIIA, pages 162, 164-1645

Details of Anatomy









Sections of *Peyssonnelia inamoena* stained blue and viewed microscopically to show:

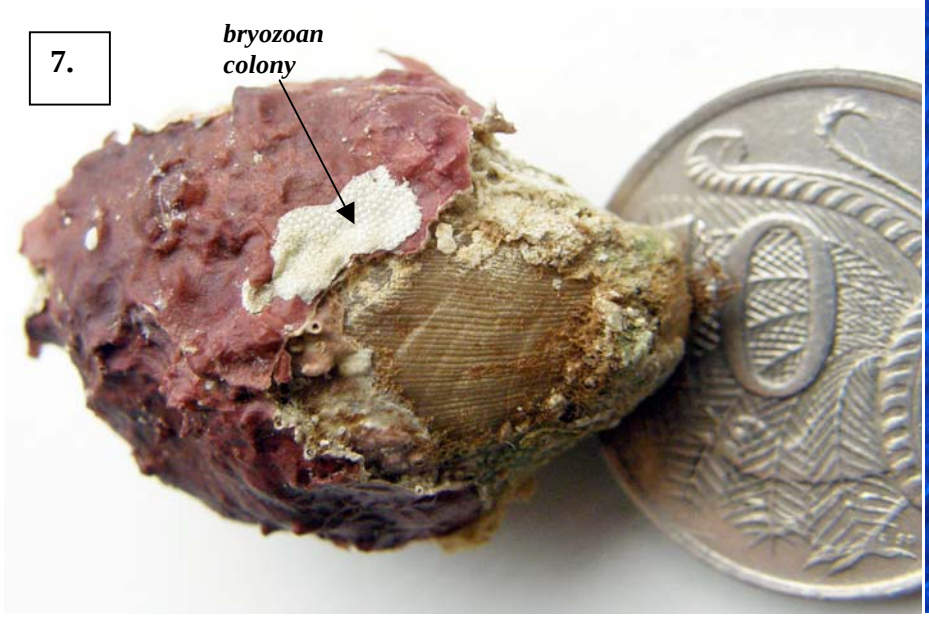
1. the basal cell layer (*bas c l*) producing single-celled rhizoids (*rhiz*) and, above, threads (assurgent filaments, *ass fil*) at 60-80º (A59841 slide 11233)
2. detail of a sporangial patch (nemathecium) with tetrasporangia, *t sp*) amongst fine threads (A59846 slide 11237)

3, 4. two magnifications of a female nemathecium (*fem nem*) with chains of carposporangia (*ca sp*) (A59853 slide 11239)

Descriptive names are inventions to aid identification, and are not commonly used.
"Algae Revealed" R N Baldock, S Australian State Herbarium January 2010

5.

6.

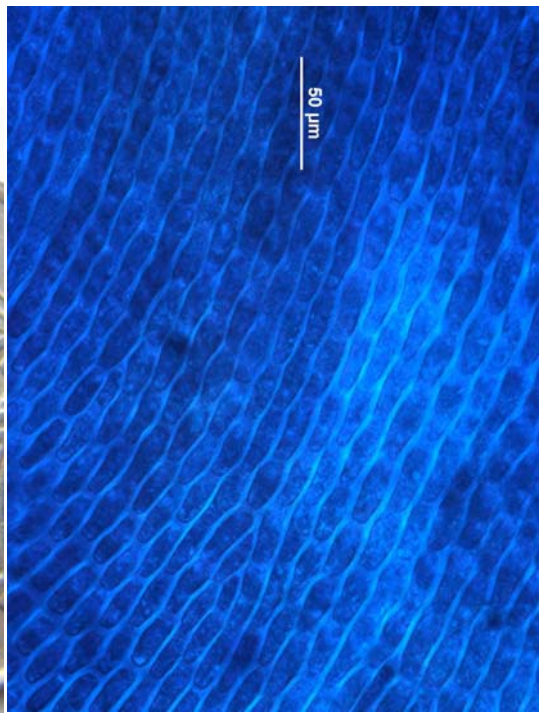


7.

S Australia specimens of *Peyssonnelia inamoena* Pilger:

5. from Wedge I., on a sandstone pebble, 8m deep (A61662)
6. from Inner Reef, S of Stinky Bay Point, Nora Creina, 6-8m deep (A67206)
7. from the Seamount off Cannan Reef, on a lamp shell (brachiopod), 22-30m deep (A61111)
8. a microscopic surface view stained blue of parallel cell rows from the underside of a plant, ,characteristic of

8.



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