Techniques needed and plant shape

Classification

*Descriptive name

Features

Phylum: Rhodophyta; Order: Gigartinales; Family: Peyssonneliaceae

red rock- and shell-crust

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. tetrarosporangia 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

Peyssonelia 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 Peyssonella 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 (nematheicum) with tetrarosporangia, t sp) amongst fine threads (A59846 slide 11237)

3, 4. two magnifications of a female nematheicum (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
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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