Techniques needed and plant shape

Classification

Phylum: Phaeophyta; Order: Chordariales; Family: Elachistaceae

*Descriptive name

Sargassum tufts

Features

plants form tiny, basal cushion-shaped masses of threads about 0.5mm tall, on the basal leaves of Sargassum

Special requirements

view microscopically the cushion shaped masses to find
- the colourless basal layer (medullary threads) and outer fringe of branched, brown (photosynthetic or assimilatory) cortical threads with fine filaments extending below the more compact mass
- absence of colourless hairs (no phaeophycean hairs)

Occurrences

only known on Sargassum basal leaves from Pt Phillip Heads, Victoria, but probably more widespread but unobserved because of its diminutive nature

Usual Habitat

on Sargassum

Similar Species

other epiphytic members of the Chordariales such as Halospongidion and Halothrix.
The host plant can often be used to separate these groups.

Description in the Benthic Flora Part II, pages 78-80

Details of Anatomy

Microscope views of *Elachista claytoniae* stained with blue (AS5032 slide 6245)

1. side view of the cushion-shaped mass on a Sargassum leaf (lf) showing the colourless inner (medulla, med) layer, outer (cortical, cor) layer and long, emergent photosynthetic (assimilatory) filaments, (as fil)
2. highly magnified view of the outer (cortical) threads (cor), one continuing as an assimilatory filament (fil), and bearing sporangia with many compartments (plurilocular sporangia, pl sp) laterally

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

“Algae Revealed” R N Baldock, S Australian State Herbarium, August 2005
Elachista claytoniae Skinner, A57874, (arrowed) on Sargassum basal leaves.

Elachista claytoniae, A50331, slide 6248: phase microscopy detail of cell layers, showing cortical filaments (cor) bearing sporangia with many compartments (plurilocular sporangia, pl sp), assimilatory filaments (as fil), and colourless medullary filaments (med).

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

“Algae Revealed” R N Baldock, S Australian State Herbarium, August 2005