Catenella nipae Zanardini

45.580

Techniques needed and shape

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

***Descriptive name** fine chain-weed

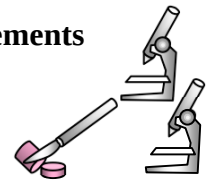
Features

1. plants dark brown-red, fading to yellow, forming tangled tufts or turfs 20-100mm tall
2. segments thin, elongate cylindrical in upper parts of the plant, compressed below, branch irregularly
3. small, hooked attachment branches (haptera) occur just below branch tips

Occurrences tropical Indo-Pacific and N. New Zealand. In Australia, at Westernport, Victoria and Botany Bay NSW (an introduced species?)

Usual Habitat intertidal or shallow water on hard surfaces, especially mangroves and jetty piles

Special requirements

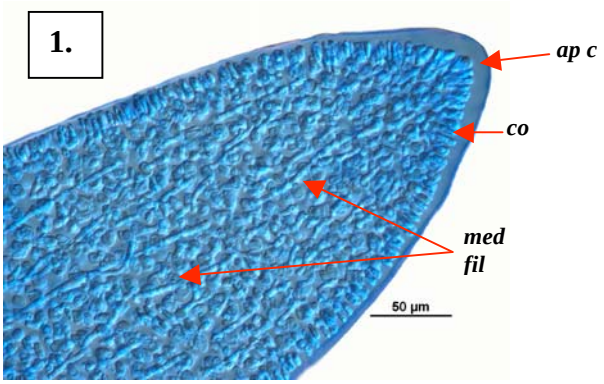


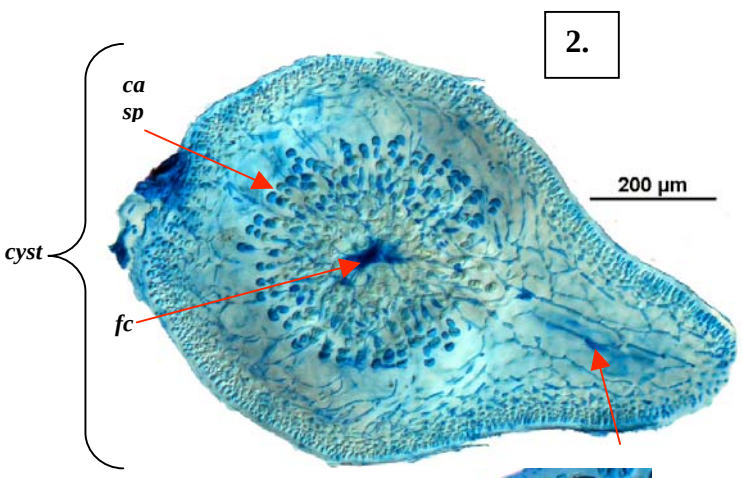
1. view tips microscopically to see an obscure group of apical cells, small outer (cortex) cells and core (medulla) of several inter-connecting threads
2. in female plants, find the swollen products of fertilisation (cystocarps) on short stalks. Make a cross section and view microscopically to find a central fusion cell and radiating chains of egg-shaped carposporangia but no envelope (involucre) of cells
3. in sporangial plants, view microscopically the cigar-shaped tetrasporangia, in the cortex near branch tips, divided across (zonate)

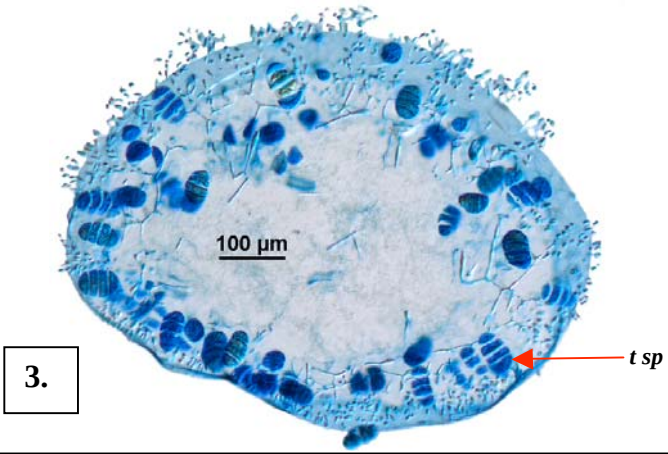
Similar Species superficially like some *Hypnea* spp, but on close inspection *Catenella* is seen to be segmented

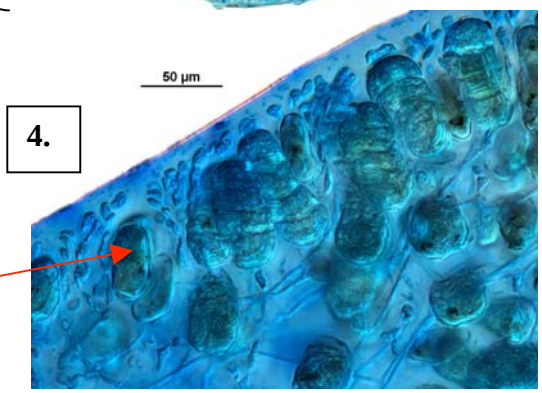
Description in the Benthic Flora Part IIIA, pages 439, 444, 449-450

Details of Anatomy









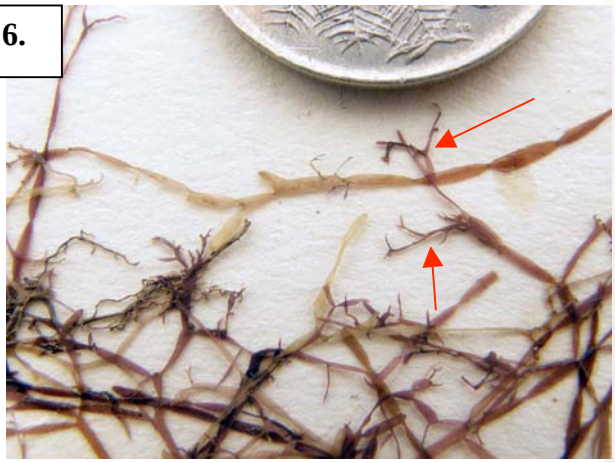
Catenella nipae Zanardini stained blue and viewed with interference microscopy to highlight features:

1. tip of a branch showing the group of apical cells (*ap c*) network of threads in the core (medullary filaments, *med fil*) and small outer cells facing outwards (cortex , *co*) (A60381 slide 12677)
2. lengthwise section through a stalked, swollen post-fertilisation structure (cystocarp, *cyst*) with central fusion cell (*fc)* lack of envelope or involucre and radiating chains of carposporangia (*ca sp*). The interconnecting threads (arrowed) in the medulla of the stalk are visible (A26432 slide 3852)
3. cross section of a sporangial plant with large tetrasporangia (*t sp*) divided across (zonate) in the cortex (A26432 slide 3853)
4. detail of tetrasporangia in the cortex (A60381 slide 12648)

Descriptive names are inventions to aid identification, and are not commonly used.
"Algae Revealed" R N Baldock, S Australian State Herbarium November 2009

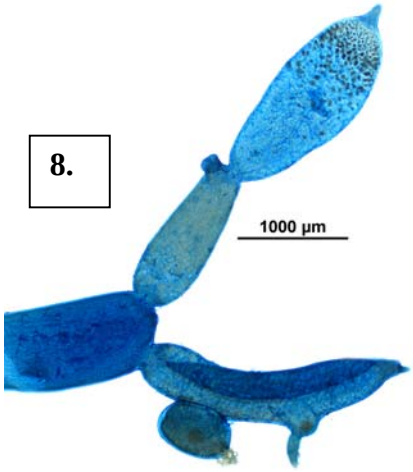
5.

6.



7.

8.



5, 7. *Catenella nipae* Zanardini

5, 6. two magnifications of plants on mangroves, Eli Creek, Queensland (A23306), with the fine haptera arrowed

7. a plant 2m deep, on jetty piles, Westernport Bay, Victoria (A60381)

8. a sporangial specimen stained blue and viewed microscopically to show the concentration of tetrasporangia towards the tips, and the branches pinched into segments (A26432 slide 3853)

Descriptive names are inventions to aid identification, and are not commonly used.
"Algae Revealed" R N Baldock, S Australian State Herbarium November 2009