25.920

Cottoniella fusiformis Börgesen

AN INTRODUCED OR ADVENTIVE SPECIES

A SPECIES WITH FEW RECORDS

Techniques needed and plant shape

Classification Phylum: Rhodophyta; Order: Ceramiales; Family: Sarcomeniaceae

***Descriptive name** one-sided threads

Features plants red to dark-red, of threads ***curved*** near their tips, with extremely fine side branching on the ***inside*** of the curved threads

Special requirements View the plants near branch tips under the microscope to find

- threads (filaments) with single apical cells producing at first a single line of cells later cutting off ***4 pericentral cells*** equal to their length which each then produce ***2 flanking cells*** so that cells appear in blocks or ***segments***. Pairs of extremely fine threads eventually arise on one side of axes from the central row of cells (***endogenously***)
- spindle-shaped structures (stichidia) coming to a fine point containing 2 rows of tetrahedrally divided sporangia with curved cells (cover cells) acting as "lids" on their outer sides

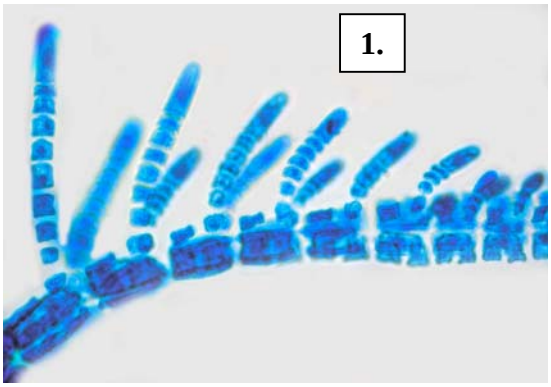
Occurrences Canary Islands. Along the metropolitan Adelaide coastline, S. Australia

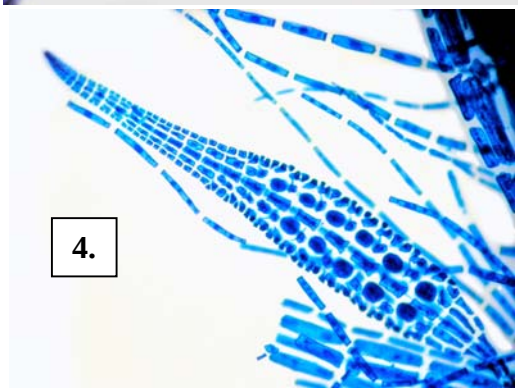
Usual habitat on natural and tyre reefs

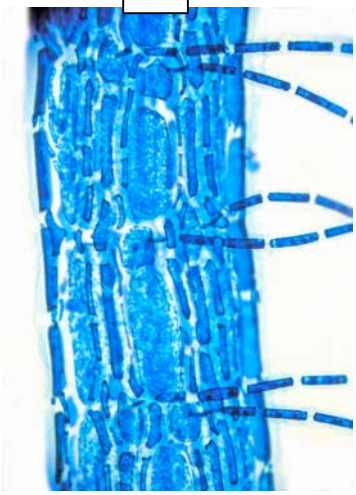
Similar Species filamentous members of the Sarcomeniaceae and Rhodomelaceae, especially the genus *Polysiphonia*

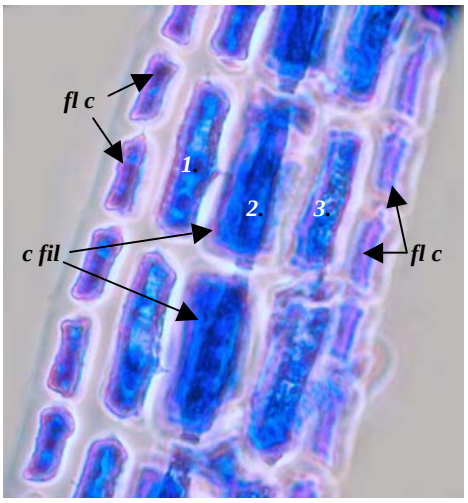
Description in the Benthic Flora Part IIID, pages 151, 154-155; Part IIID, Appendix, Page 499

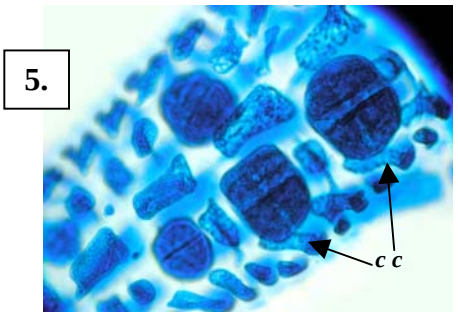
Details of Anatomy











1-4 *Cottoniella fusiformis*, A57029, slide 9680, stained blue and viewed microscopically at different magnifications

1. main thread (axis) showing pairs of fine threads arising from each block of axial cells *on one side*

2. detail of paired threads showing their (endogenous) connection to the inner axial cells

3. central filament (*c fil*), 3 of 4 pericentral cells (*1,2,3*) in surface view with 2 only flanking cells (*fl c*) of the side pericentral cells in focus

4. a tetrasporangial structure (stichidium) showing the 2 rows of sporangia

5. detail of sporangia, showing curved cover cells (*c c*) (A58633, slide 10560)

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

6, 7. two magnifications of *Cottoniella fusiformis* Börgesen, A56845, from the outside of Port Noarlunga reef, S. Australia, 8m deep

8 specimen stained blue and viewed microscopically showing fine, paired threads and side branches arising on the inside of curved axes (A58633, slide 10560)

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