Doxodasya hirta
(J Agardh) Womersley & Parsons

A SPECIES WITH FEW RECORDS

45.940.07

Techniques needed and plant shape

Classification Division: Rhodophyta; Order: Ceramiales Family: Rhodomelaceae; Tribe: Lophothalieae

***Descriptive name** furry threads

Features plants dark red, 20-100mm tall, with slender main branches covered with tiny hair-like threads

Special requirements

view plants under the microscope to find:

- apically a central thread (filament) flanked by ***4*** (pericentral) cells and long, ***coloured***, branched threads (trichoblasts) ending in ***pointed*** cells, later developing an envelope (***cortication***) of small cells and ***extra*** branched threads (***adventitious filaments***) similar to trichoblasts
- clusters of spermatangia where the ***trichoblasts*** branch
- urn-shaped cystocarps (products of fertilisation) with ***narrow*** necks and openings, ***club-shaped*** carpospores inside
- tetrasporangia in smaller side branches bearing trichoblasts with pairs of tetrasporangia in columns at right angles (***decussate***)

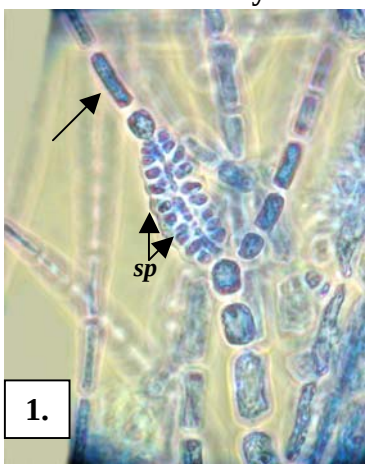
Occurrences Port Phillip Heads, Victoria, Ports Noarlunga and Stanvac, Gulf St Vincent, SA

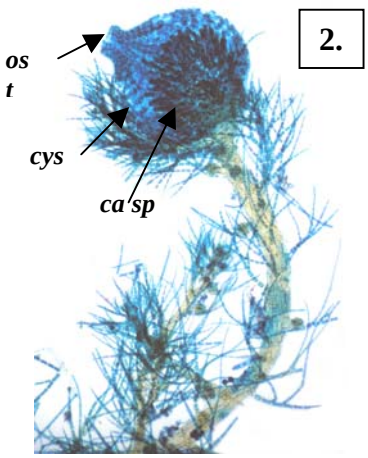
Usual Habitat on jetty piles and a tyre reef, 3-19m deep

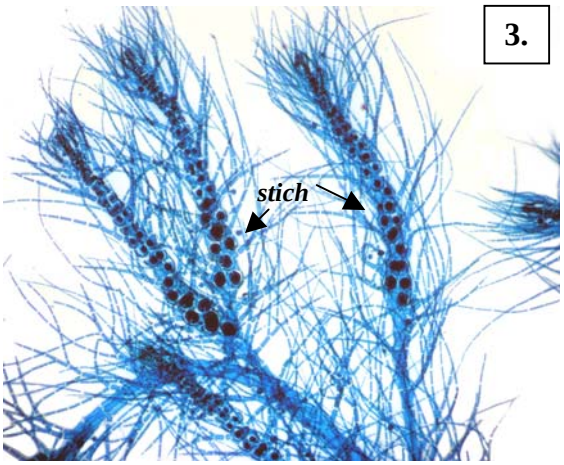
Similar Species other thread-like members of the Rhodomelaceae, especially *Doxodasya leonormandiana*, but that species has rigid, spiky trichoblasts ending in a sharp point

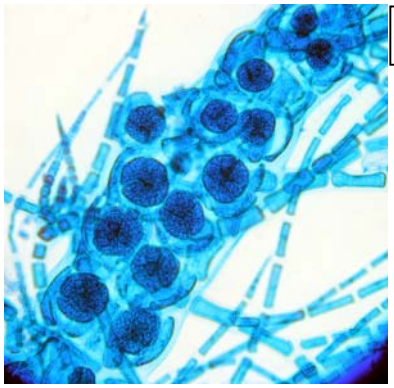
Description in the Benthic Flora Part IIID, page 272-274

Details of Anatomy









Doxodasya hirta stained blue and viewed microscopically at different magnifications

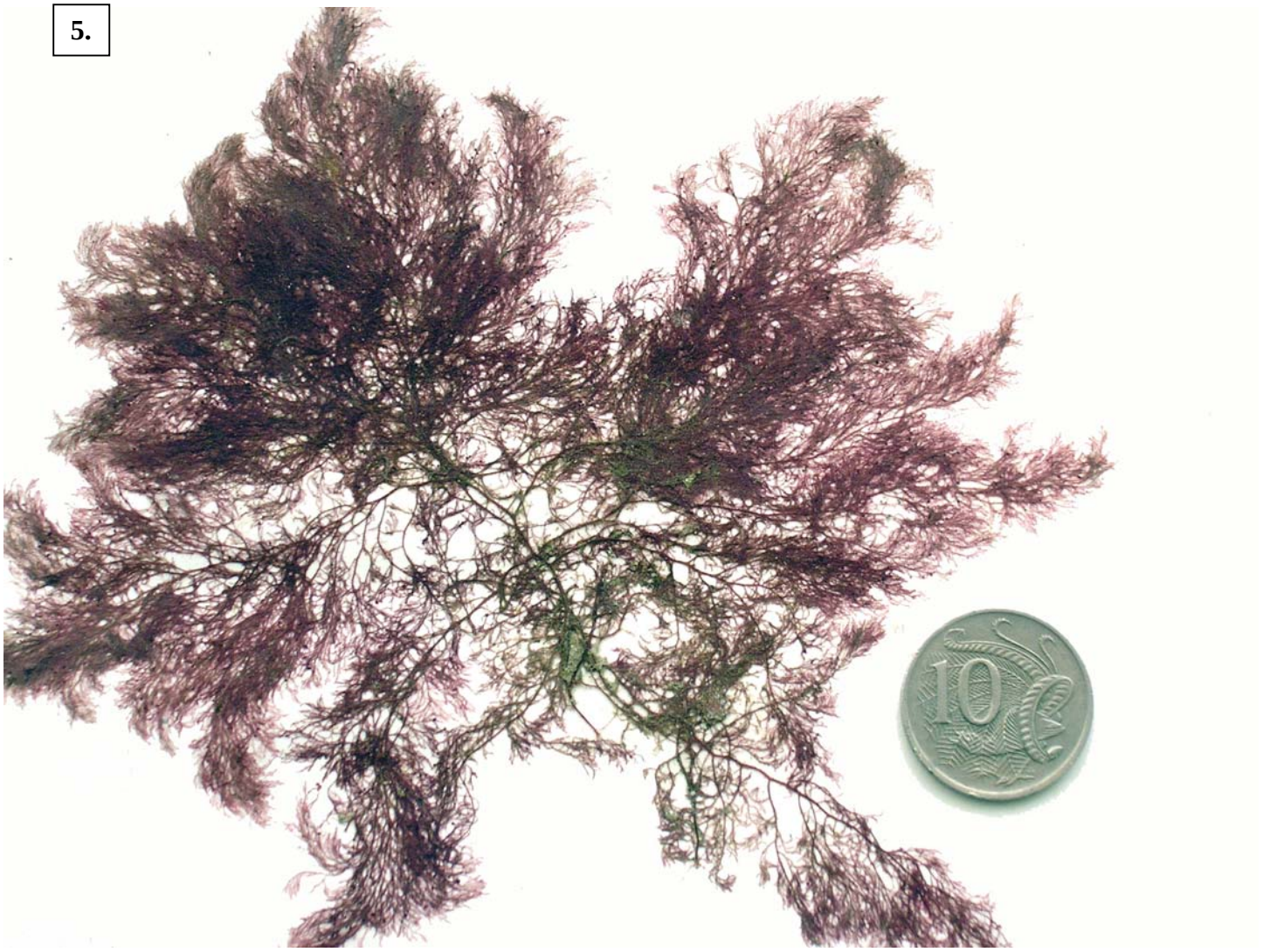
1. young male structure on a trichoblast showing an upper sterile filament (arrowed) and developing spermatangia (*sp*) (A42704 slide 4434)
2. urn-shaped mature female structure, (cystocarp, *cys*) with narrow neck and opening (ostiole, *ost*) and club-shaped spores (carposporangia, *ca sp*) inside (A57442 slide 18120)

3, 4 two magnifications of tetrasporangia in short branches (stichidia, *stich*) showing ***pairs*** of tetrahedrally divided spores (A57442 slide 18122)

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

"Algae Revealed" R N Baldock, S Australian State Herbarium, April 2007

5.



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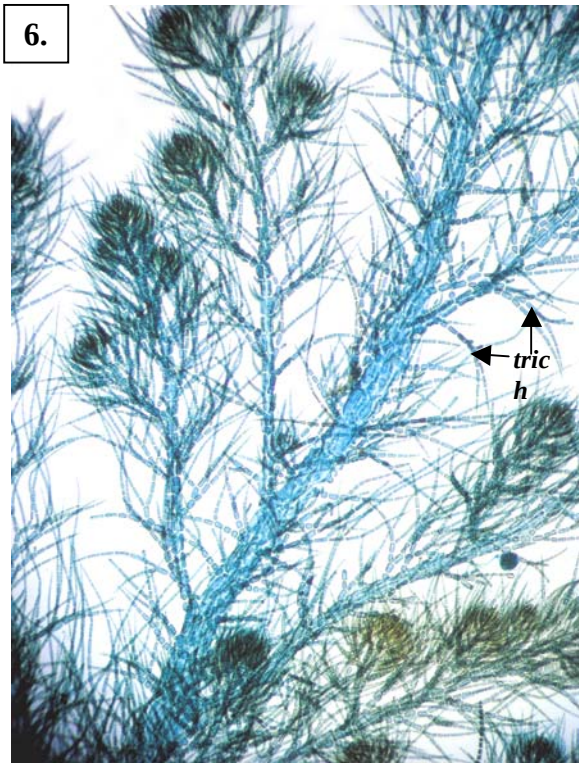

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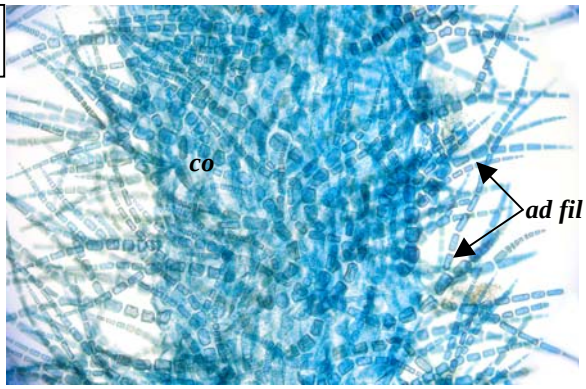

5. *Doxodasya hirta* (J Agardh) Womersley & M J Parsons A57442 from Port Noarlunga, S A. on a tyre reef at 19m deep

6, 7. specimens stained blue and viewed microscopically (A42704 slide 4434)

6. upper branches with side tufts of coloured, branched threads (trichoblasts, *trich*)
7. lower branches showing cortication (*co*) and a mix of branched hairs (trichoblasts) produced at the apex of branches and hairs produced from cortical cells (adventitious filaments *ad fil*)

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