

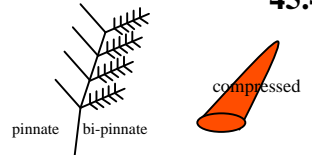
*Callophycus harveyanus*  
(J Agardh) Silva

45.440

Techniques needed and shape



MACRO  
PLANT



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Areschougiaceae

\*Descriptive name

red sea fern. § Leafy fishbone

Features

1. plants are dark red-brown, 100-400mm tall, usually with a *single* or few main upright branches (axes)
2. branches are *compressed* and occur in *one flat surface*, in *two rows* of irregular lengths, *3-5mm wide, narrower* at the base

Occurrences

probably a western species, from Port Denison, W Australia to near Eucla, S Australia

Special requirements



1. cut a cross section and view microscopically to find
  - the central core (medulla), a mix of *threads*, and rhizoids
  - outer layer (cortex) of inner large and outer small cells
2. if possible find the products of fertilisation in female plants (cystocarps)
  - forming swellings *just below the tips* of the smaller branches (pinnules)
  - sometimes clustered, each with a microscopic opening (ostiole)
3. sporangial and male plants are unknown

Usual Habitat

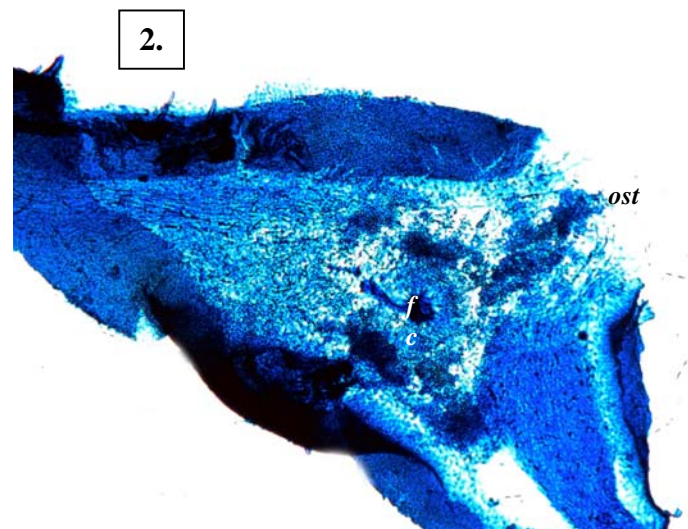
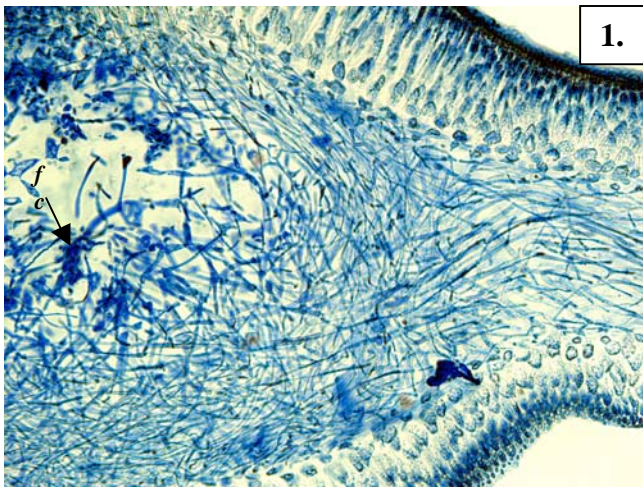
unknown as collections consist of drift plants

Similar Species

*Callophycus laxus*, but that species has narrower and less regular pinnate branching; and superficially like *Pterocladia lucida*, but branch ends are fan-shaped and the medulla has rounded cells mixed with thick-walled rhizines

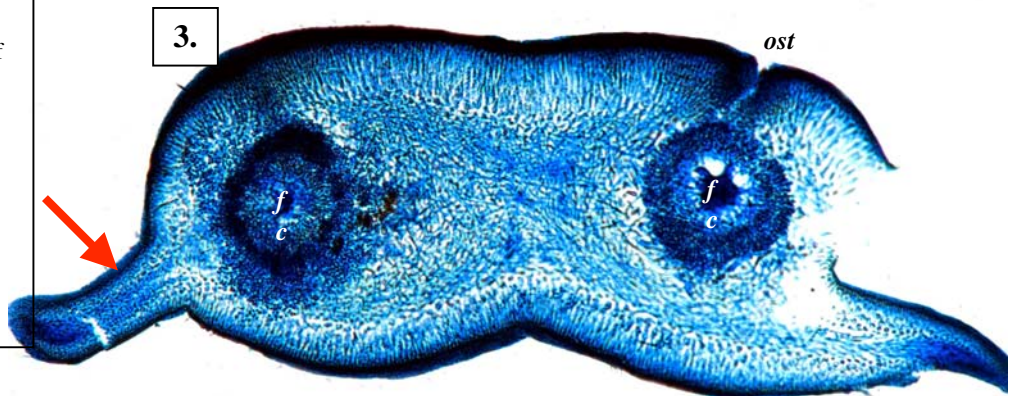
Description in the Benthic Flora Part IIIA, pages 334, 337-339

Details of Anatomy



Cross sections of *Callophycus harveyanus* in the regions of cystocarps (*cyst*), stained blue and viewed microscopically, showing:

1. a fusion cell (*fc*) in the core (*med*) of threads, and an outer layer (cortex, *co*) of inner large and outer small cells (A34225 slide 3821)
2. a large fusion cell and opening (ostiole, *ost*) (A19291 slide 3818, material slightly crumpled in preparation)
3. two cystocarps forming pronounced swellings on a compressed branch (arrowed), one cystocarp with an ostiole (A34225 slide 3820)



Descriptive names are inventions to aid identification, and are not commonly used  
§name used by Edgar, G (2008) in Australian Marine Life (2<sup>nd</sup> ed)  
“Algae Revealed” R N Baldock, S Australian State Herbarium, January 2008



4.



4. *Callophycus harveyanus* (J Agardh) Silva, A50790; a drift specimen from Point Peron, W Australia
5. magnified view showing
- cystocarps (arrowed) producing swollen ends to the branch tips
  - slight narrowing of branch bases

5.



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