

Techniques needed and shape



MACRO
PLANT



Classification

Phylum: Rhodophyta; Order: Ceramiales; Family: Ceramiaceae
Tribe: Bornetieae

*Descriptive name

epiphytic, elegant one-sided red fans

Features



1. plants are delicate, light red, 30-90mm tall, growing on other algae
2. they consist of flat-branched, spreading, fan-shaped, one-sided threads of cells from Champion Bay, W Australia to Port Phillip, Victoria

Occurrences

Special requirements



View plants microscopically to find:

1. female plants with spore producing parts (cystocarps) in **condensed** (or telescoped) short, basket-like branch systems on the **inside** of threads
 - a diffuse, **amoeba-like cell** formed from fusions of many cells produces **tear-shaped** carposporangia with many vacuoles
2. male plants have minute **cylindrical, stalkless** masses or heads of spermatangia in basket-like, **condensed** short branch systems on the **inside** of threads
3. sporangial plants have **similar condensed branch systems** to male plants
 - tetrasporangia are **stalkless**, in clusters of 2-4

Usual Habitat

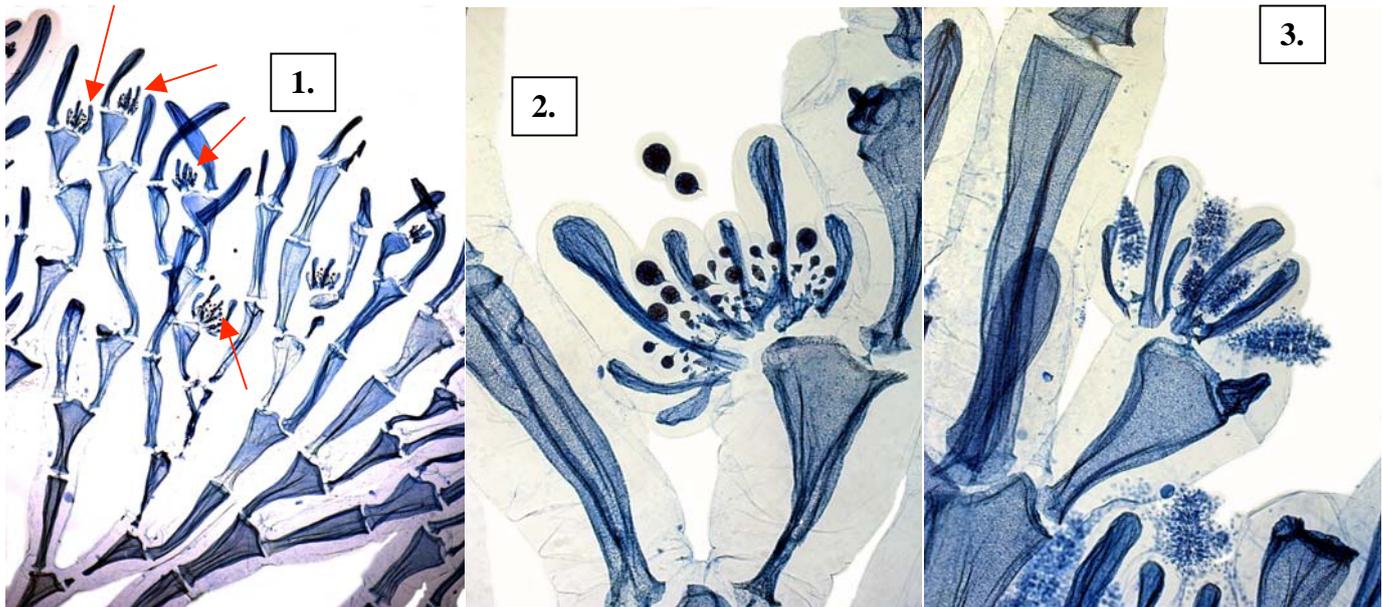
Similar Species

on a variety of red green algae, to 20m deep

a species with distinctive branching pattern, only superficially similar to *Griffithsia* in the large, naked cells, but different reproductively

Description in the Benthic Flora Part IIIC, pages, 314-317

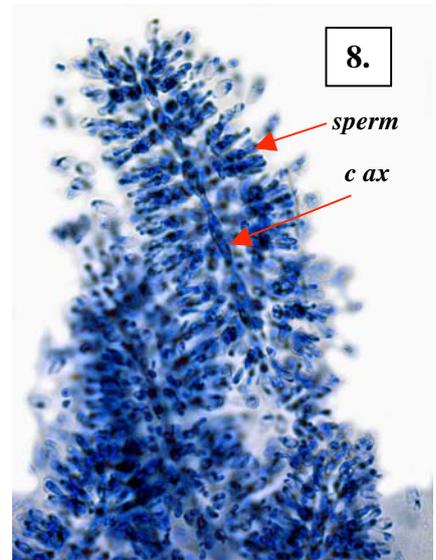
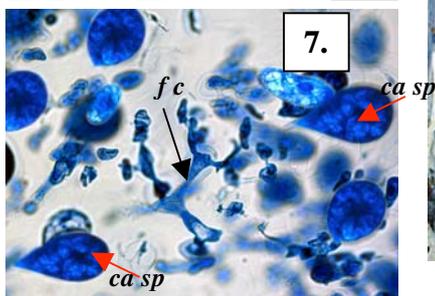
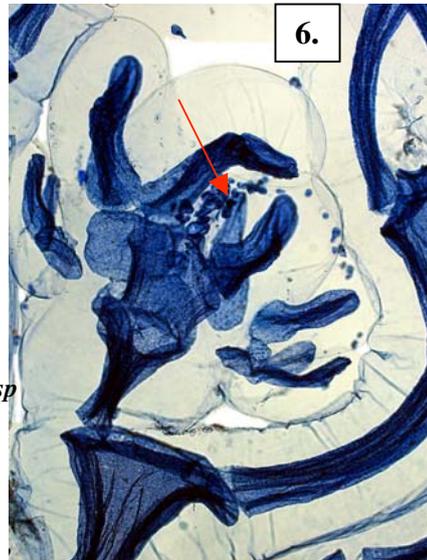
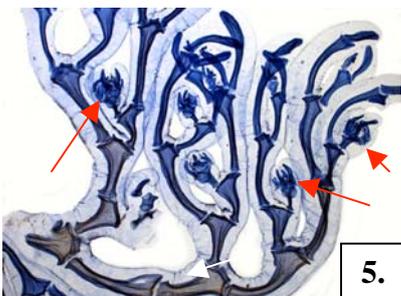
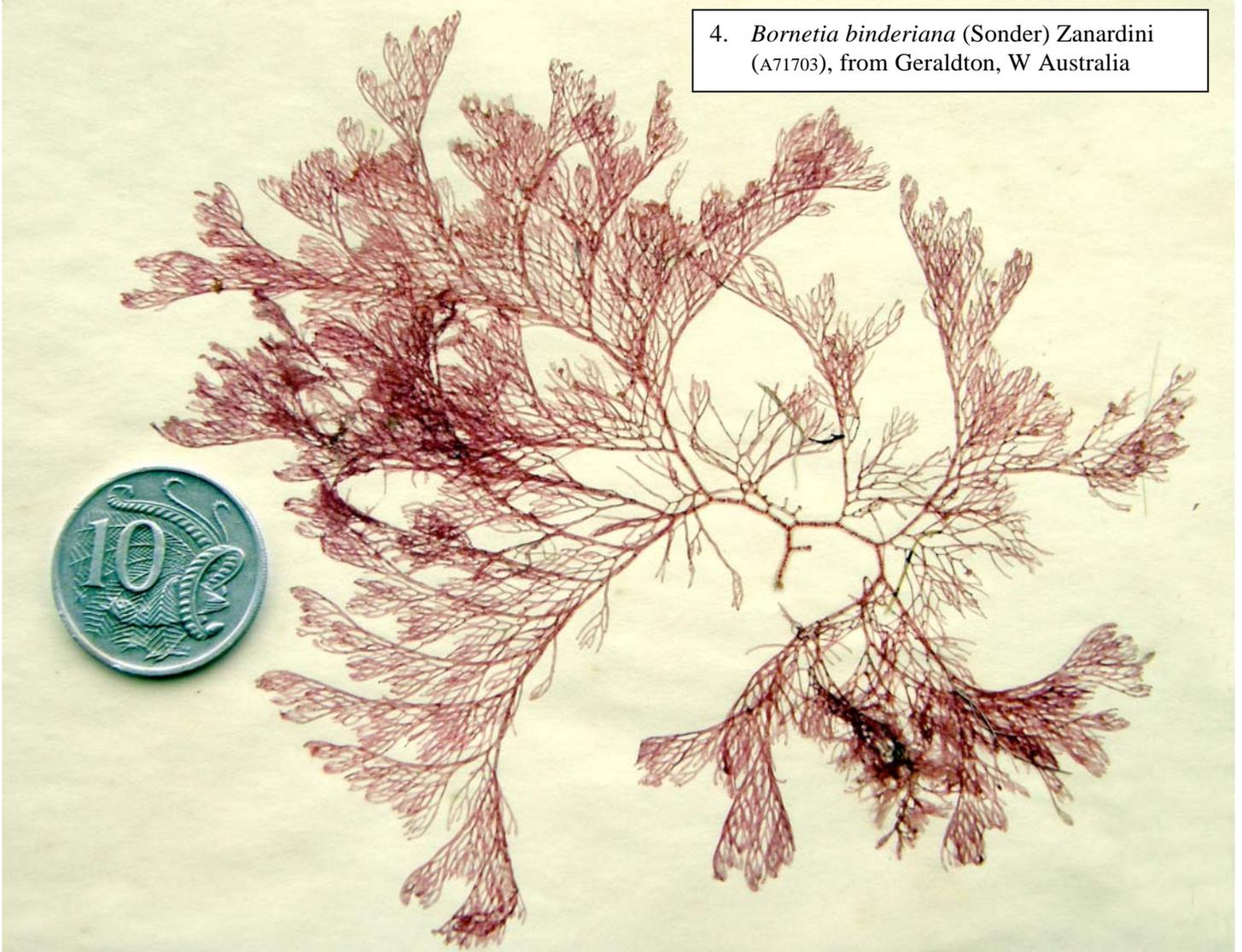
Details of Anatomy



Bornetia binderiana (A28589 slide 3168) stained blue and viewed microscopically at two different magnifications:

1. a sporangial plant with condensed, basket-like branch systems (arrowed), that bear the clusters of tetrasporangia, on inner sides of main branches
2. detail of a condensed branch system with tetrasporangia, some escaping from within the protective circle of vegetative branches
3. a male plant showing cylindrical spermatangial masses encircled by a condensed branch system

4. *Bornetia binderiana* (Sonder) Zanardini (A71703), from Geraldton, W Australia



Bornetia binderiana (A30776 slide 3167) stained blue and viewed microscopically

5. condensed branch systems bearing the products of fertilisation (gonimoblast, arrowed) (threads more recurved than normal due to the preparation of the slide)
6. detail of a cystocarp (arrowed), encircled by the branches of a condensed branch system
7. highly magnified view of a part of the amoeba-like fusion cell (*fc*) of a cystocarp, and carposporangia (*ca sp*)
8. highly magnified view of a spermatangial head showing the central axis (*c ax*) and spermatangia (*sperm*)

* Descriptive names are inventions to aid identification, and are not commonly used
 "Algae Revealed" R N Baldock, S Australian State Herbarium, December 2007