

**Techniques needed and shape**



MICRO  
PLANT



**Classification**

Phylum: Rhodophyta; Order: Ceramiales; Family: Ceramiaceae

Tribe: Bornetieae

**\*Descriptive name**

fine dark red tufts

**Features**

1. plants dark red, 30-70mm tall, consist of extremely fine, forked threads
2. found in sheltered bays

**Occurrences**

Adelaide metropolitan beaches and Victor Harbour S. Australia, and Port Phillip Bay, Victoria.

**Special requirements**

View plants microscopically to find:

1. thin, forked filaments of long, *naked* cells only 200-250µm across in the middle of the plant
2. female plants have *basket-shaped* reproductive parts. A condensed branch system of curved, inflated sterile cells (*involucral branches*) like upturned fingers on top of a vase-shaped cell surround a large, *amoeboid-like* (fusion) cell that produces *club-shaped* carposporangia
3. male plants also have basket-shaped reproductive parts. Several *stalkless, cylindrical* masses or heads of spermatia are surrounded by *involucral branches* of a condensed branch system
4. spore plants have *stalkless* tetrasporangia with inflated *involucral branches* of a condensed branch system similar to male structures

**Usual Habitat**

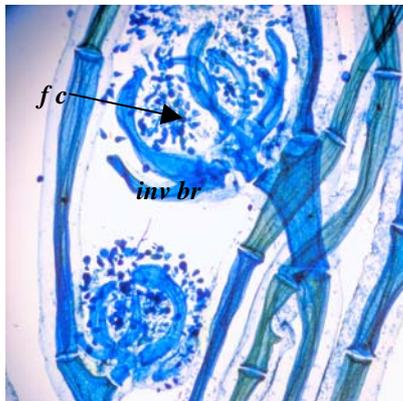
on solid substrates? such as jetty piles, in relatively sheltered bays

**Similar Species**

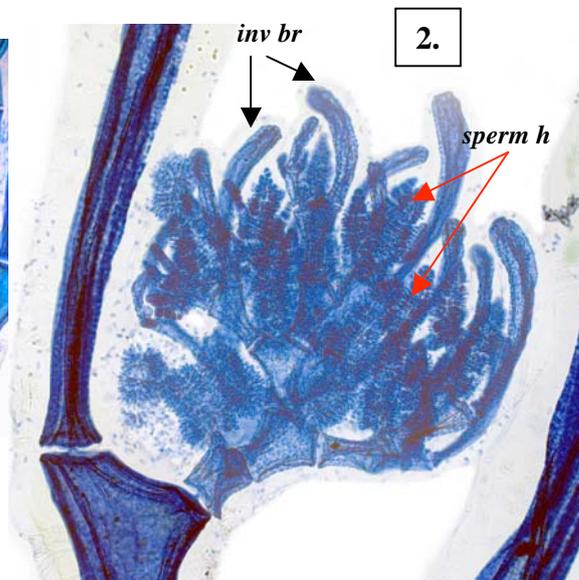
superficially *Bornetia tenuis* resembles small *Anotrichium* species (in the Tribe Griffithsiae) but the distinctive basket-shaped male and sporangial structures separate it into a separate Tribe.

**Description in the Benthic Flora Part IIIC, pages 316, 317-319**

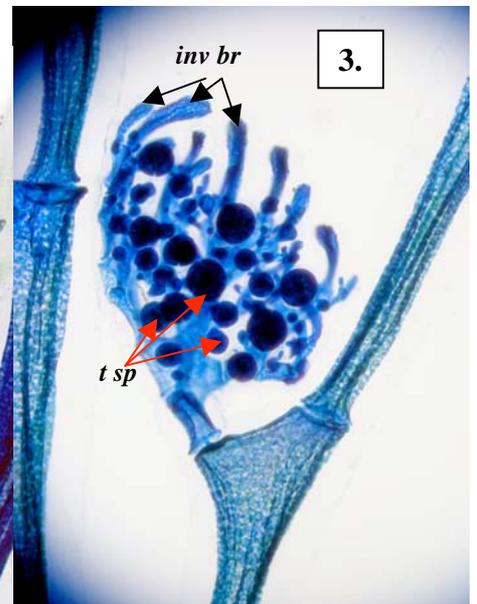
**Details of Anatomy**



1.



2.



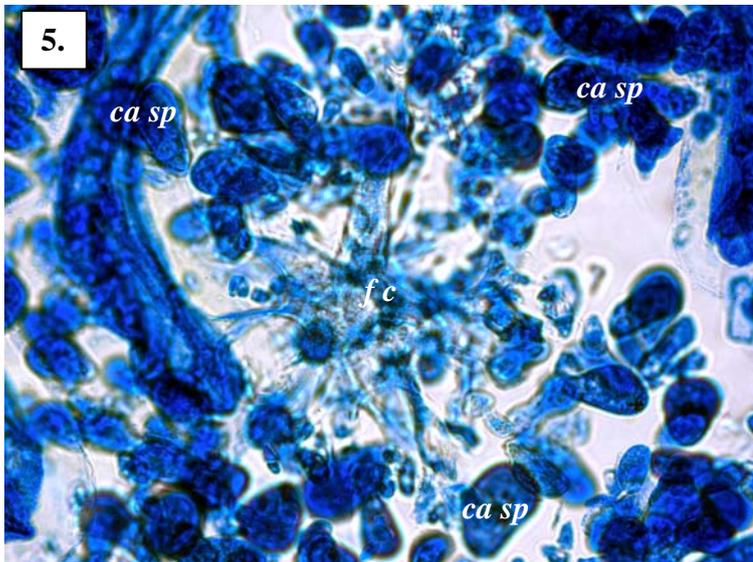
3.

Different magnifications of *Bornetia tenuis*, (A28632), stained blue and viewed microscopically.

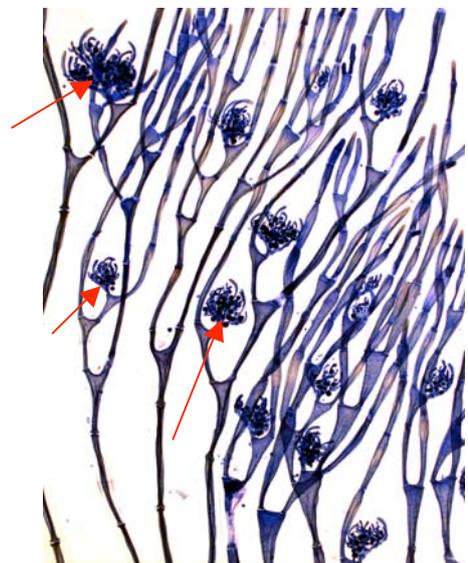
1. basket-shaped female structures and extruded carposporangia due to squashing in the preparation of the slide can be seen. The involucral branches (*inv br*) are prominent, but a central amoeboid-like fusion cell (*fc*) is only just visible (slide 3173)
2. a basket-shaped male structure with involucral branches (*inv br*) and stalkless cylindrical spermatangial masses or heads (*sperm h*) (slide 3171)
3. basket-shaped tetrasporangial clusters with involucral branches (*inv br*) and tetrasporangia (*t sp*) (slide 3171)



4. *Bornetia tenuis*  
 Baldock &  
 Womersley,  
 A28632, drift  
 from Grange  
 Beach, S.  
 Australia



5.



6.

*Bornetia tenuis* stained blue and viewed microscopically

5. a greatly enlarge view of the amoeba-like fusion cell (*fc*) bearing immature carposporangia (*ca sp*) from within the encircling involucrel branches of a female plant (A 29361 slide 3174)
6. a sporangial plant showing the basket-like condensed branch systems (arrowed) that produce stalkless tetrasporangia within (A28632 slide 3171)

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