

Techniques needed and plant shape



MACRO
PLANT



Classification

Phylum: Rhodophyta; Order: Ceramiales; Family: Rhodomelaceae
Tribe: Amansieae

*Descriptive name

red-brown flat-straps

Features

plants brown, 100-300mm tall, main branches (axes) wiry, cylindrical with flat, **oppositely** branched blades, alternating along the axes

Special requirements

1. view plants microscopically in **surface view** to find:



- oblong blade-cells with **pointed** ends, occurring **in rows**
- scattered, tiny tufts of branched threads (**trichoblasts**)
- blade tips **curved** inwards (circinnate), obscuring the **single** apical cells;
- blade edges with minute, multicellular **teeth** from **each** row of blade cells
- thread of cells (**central filament**) visible at the blade tips for a short way

2. cut a cross section to view microscopically a cell of the central thread, surrounded by



- a **pair** of large, opposite, thick-celled flanking (pericentral) cells
- **one** pericentral cell at the **top** dividing into 2 (**pseudo-pericentral**) cells
- **one** pericentral cell **below** dividing into 2 (or 3) **pseudo-pericentral** cells
- blade edges (wings) 2 cells thick, without thickening (cortication)

3. if possible, find the **flat, oval-shaped** sporangial structures (stichidia) on the blade **surfaces** containing pairs of tetrasporangia, in scattered groups of 2-5

4. if possible, find the products of fertilisation, **stalked, egg-shaped** cystocarps, arising from the cells of trichoblasts, scattered on the surface of blades

Occurrences

Port Denison to Eyre, W Australia

Usual Habitat

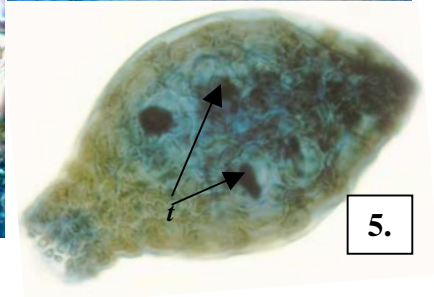
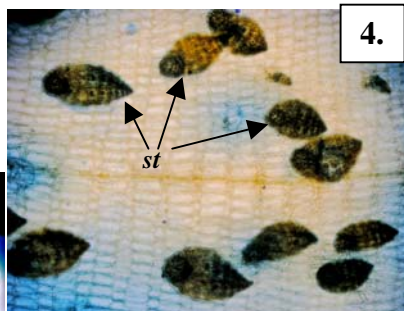
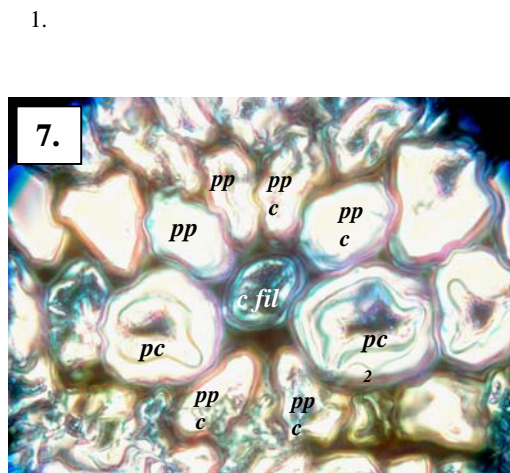
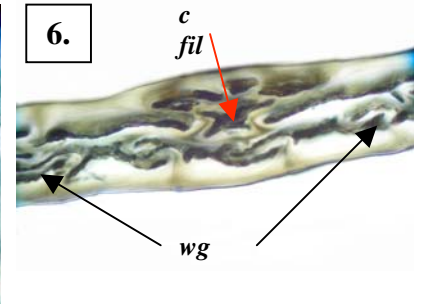
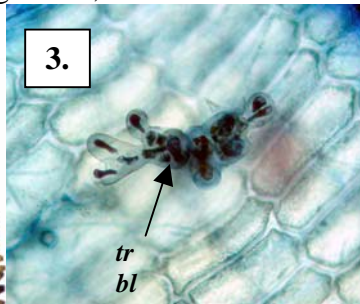
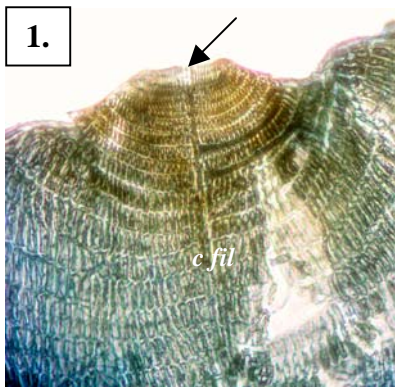
unknown, as collections have been from drift plants

Similar Species

distinctive because of multicellular spines from each cell row of blades

Description in the Benthic Flora Part IIID, pages 395, 396

ppcDetails of Anatomy

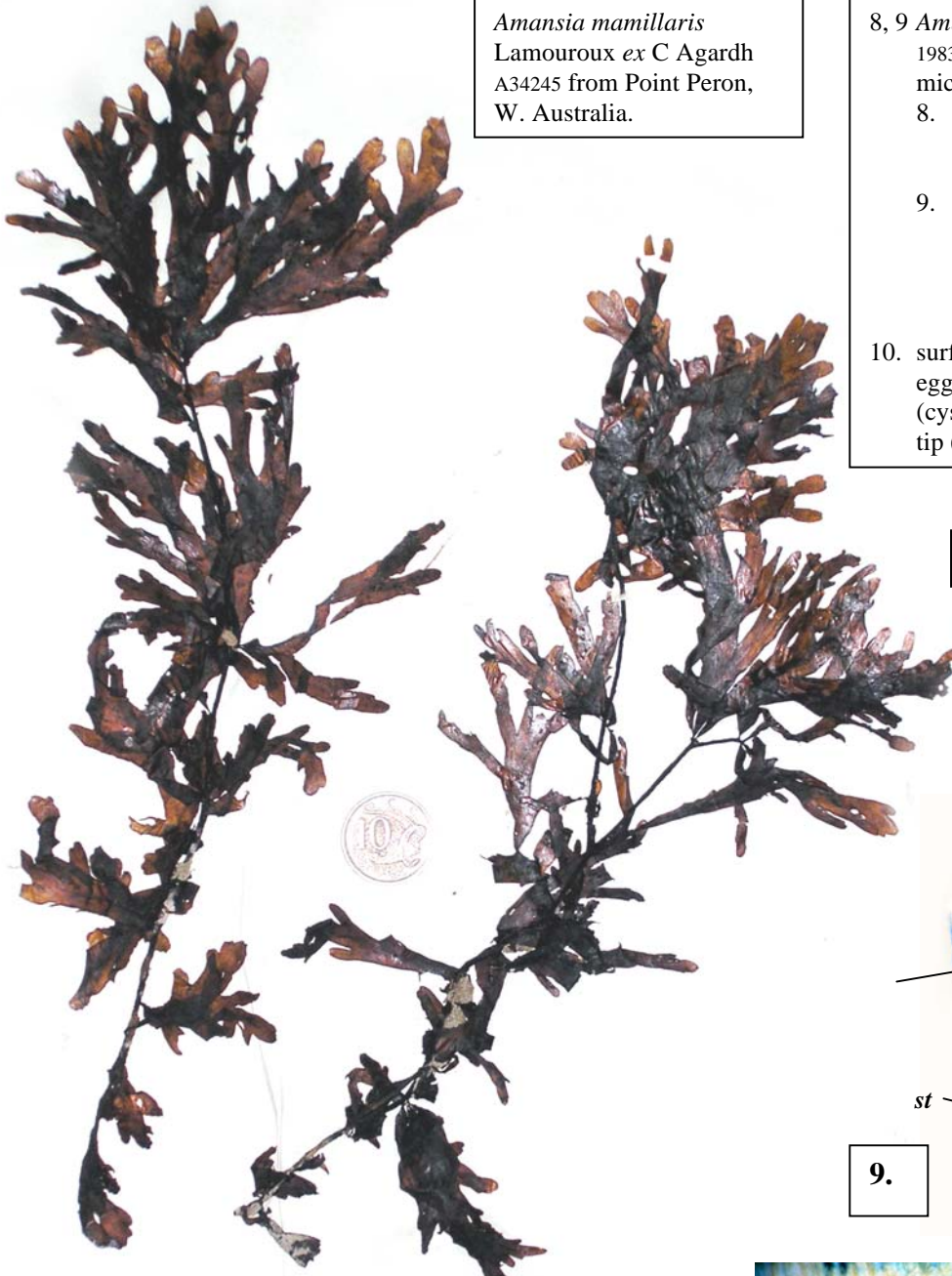


Amansia mamillaris stained blue and viewed microscopically (1-5 surface view, 6-7 cross sectional view)

1. blade tip with a single tip cell (arrowed) and central thread (*c fil*) (A34238 slide 19838)
2. incurved blade tip (slide 1938)
3. cell rows and trichoblast (*tr bl*) (slide 1984)
4. scattered groups of tetrasporangial structures (stichidia, *st*) (slide 19845)
5. detached, enlarged stichidium with paired tetrasporangia (*t sp*) (slide 19848)
6. young blade showing a central thread (*c fil*), and wings (*wg*) 2 cells thick (slide 19840)
7. mature blade with central filament (*c fil*), paired pericentral cells (*pc₁*, *pc₂*) and pseudo-pericentral cells (*ppc*) (slide 19841)

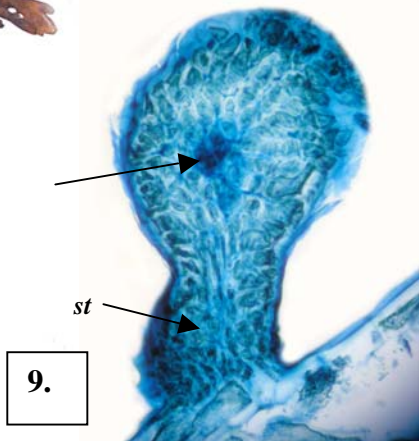
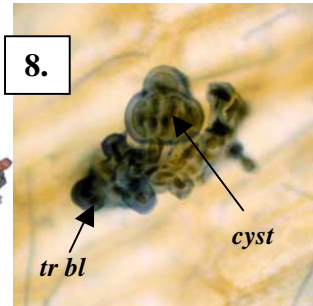
* Descriptive names are inventions to aid identification, and are not commonly used
"Algae Revealed" R N Baldock, S Australian State Herbarium, March 2007

Amansia mamillaris
Lamouroux ex C Agardh
A34245 from Point Peron,
W. Australia.

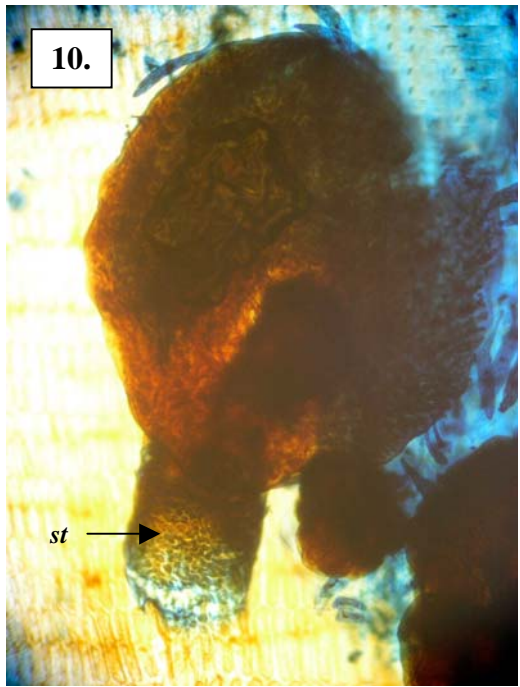


8, 9 *Amansia mamillaris* (A34245 slide 19836) stained blue and viewed microscopically

8. in surface view with a developing cystocarp (*cyst*) on a trichoblast (*tr bl*)
9. cross section through a cystocarp, showing the stalk (*st*) and egg-shaped upper part with spores developing (arrowed)
10. surface view with upright, stalked, egg-shaped female structure (cystocarp), open (ostiolate) at the tip (A34236 slide 19837)



Amansia mamillaris
Lamouroux ex C Agardh A41791 from Port Denison, W Australia.
Detail of the branching pattern.



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