**MACRO
PLANT****Techniques needed and shape****Classification**

Phylum: Rhodophyta; Order: Nemaliales; Family: Liagoraceae

***Descriptive name**

chalky weed

Features

1. plants red-brown with only a slight, chalky white covering, 50 – 300 mm tall
2. main branches (axes) 0.6-2.0 mm wide, irregularly branched, **soft**
3. plants may grow on Velvet weed (*Codium*) or the Brown alga *Cystophora* tropical and subtropical. In southern Australia temperate waters, near Albany, W Australia to Port Noarlunga, S Australia
on rock in shallow water, occasionally on other algae

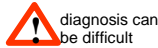
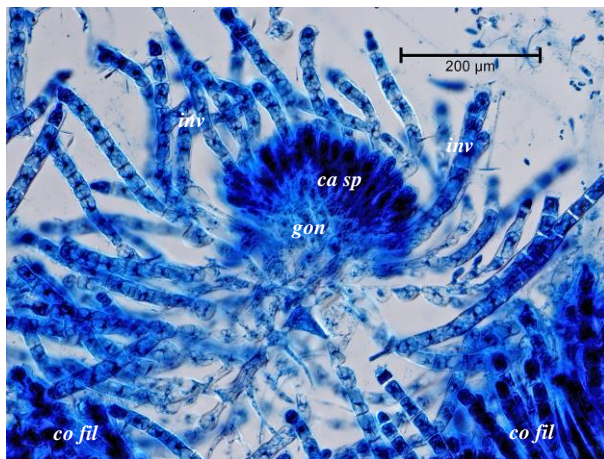
Occurrences**Usual Habitat****Similar Species***Helminthora australis*, but that species is more forked, not calcified, and slimy**Description in the Benthic Flora**

Part IIIA, pages 93, 94 - 96

Special Requirements

view a tissue squash microscopically to find:

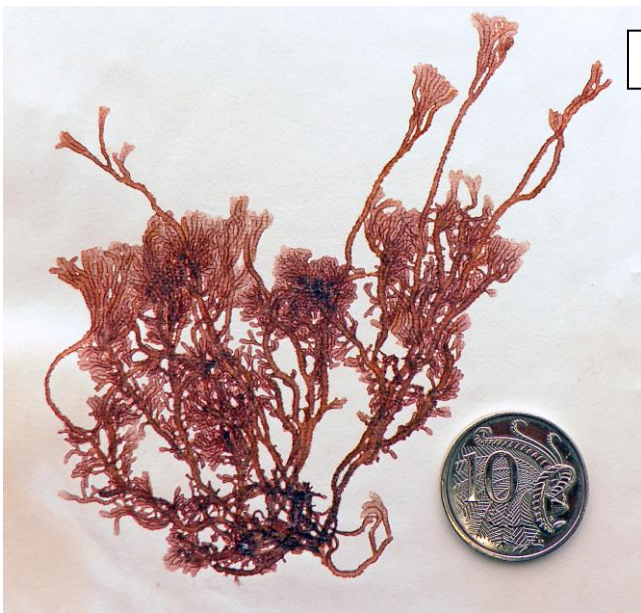
1. a core (medulla) of **elongate** cells **running lengthwise**, mixed with thinner rhizoidal threads when mature
2. outer layers (cortex) of **cylindrical** cells forming short threads **spreading outwards** then branching several times, so forming loose tufts at the plant surface
3. **early** female stages (procarps) with **practically straight**, 4-celled chains of cells (carpogonial branches) attached to the lower parts of cortical branches and ending in a long, thread (trichogyne)
4. **later**, in the cortex of female plants, spider-like masses, the products of fertilisation, consisting of a dense bunch of fertile cells ending in carposporangia, and, arising below, sterile threads (involucre) largely unbranched, similar in shape to surrounding cortical threads
5. male plants with **heads** of minute spermatangia near the ends of cortical branches

**Details of Anatomy****1.****2.****3.**Tissue squashes of *Ganonema farinosum*, stained blue and viewed microscopically

1, 2. female structures (A59609 slide 1795):

1. detached cortical tuft with larger basal cell (*bc*) producing threads (rhizoids, *rh*) and a female carpogonial branch (*c br*) ending in a trichogyne (*tr*)
2. spider-like stage after fertilisation with mass of fertile cells (gonimoblast, *gon*) and spores (carposporangia, *ca sp*); from the base, sterile branches (involucre, *inv*) similar to surrounding cortical threads (*co fil*)
3. male heads (*sp h*) in detached cortical branches

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



4.



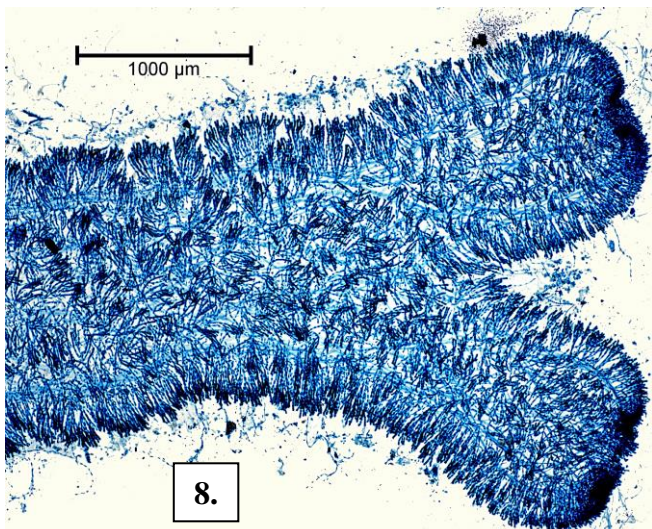
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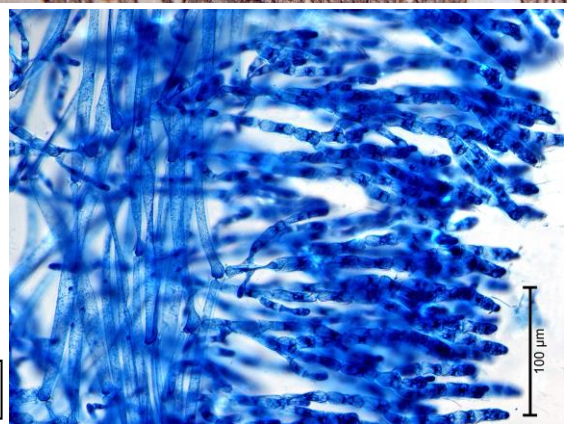
6.



7.



8.



9.

Ganonema farinosum (Lamouroux) Fan & Wang from South Australia

- 4, 5. two specimens (A31378) on *Cystophora* spp, Barker Rocks, S of Port Rickaby, Yorke Peninsula, showing marked differences in branching pattern
- 6, 7. two magnifications of a plant (A43048) with more regular forked branching, from 6m deep on the landward side of Port Noarlunga reef
- 8, 9. two magnifications of a tissue squash (A51995, slide 6585) showing core longitudinal threads and outward-facing surface tufts

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