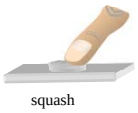
Thamnophyllis lacerata
Womersley & R E Norris

45.320

MACRO PLANT



Techniques needed and shape

Classification Phylum: Rhodophyta; Order: Gigartinales; Family: Kallymeniaceae

***Descriptive name** §Norris' red alga ; tough red blades

Features

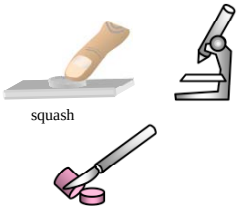
1. plants are red-brown, ***tough*** in texture, to 50-150mm tall, and ***foliose***
2. flat ***lobes*** 10-50mm broad often with ruffled edges arise from a ***very short*** stalk

Occurrences Head of the Great Australian Bight to Gulf St Vincent and E coast Tasmania

Usual Habitat 20-38m deep on rough water coasts, or about 6m sometimes on shells in calm water

Special requirements

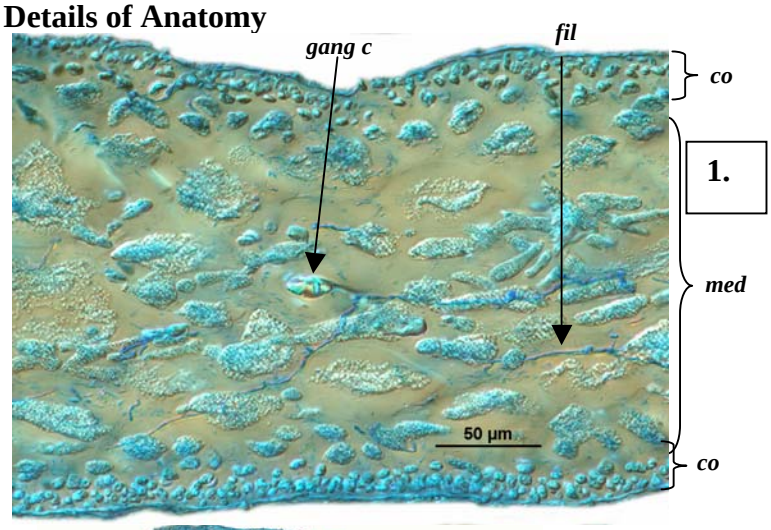
1. under the microscope focus through the surface to see the ***many*** spidery (ganglionic) cells ***in lines*** that catch the light, a distinct feature of the genus
2. make squashes of tissue of different plants under the microscope to see
   - a ***wide*** core (medulla) of egg-shaped cells ***mixed*** with fine threads and darkly staining spidery (***ganglionic***) cells that catch the light (refractive)
   - outermost (cortex) parts of 2-3 layers of small, ***tightly-packed*** cells increasing in size inwardly
   - young, female structures (carpogonial branch systems, *cbs*) consisting ***lobed*** cells with dense contents found in inner parts of the cortex
3. if possible, cut a cross section through the mature female structures (cystocarps) forming swellings on ***one side*** of the blade and with an opening (ostiole), containing carposporangia ***mixed*** with threads

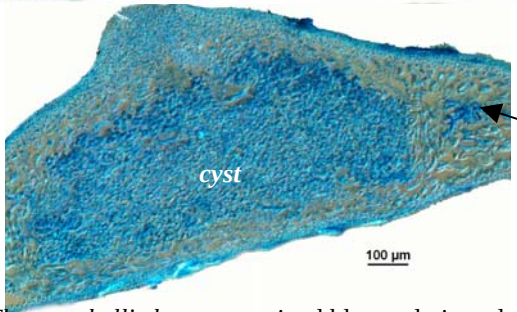


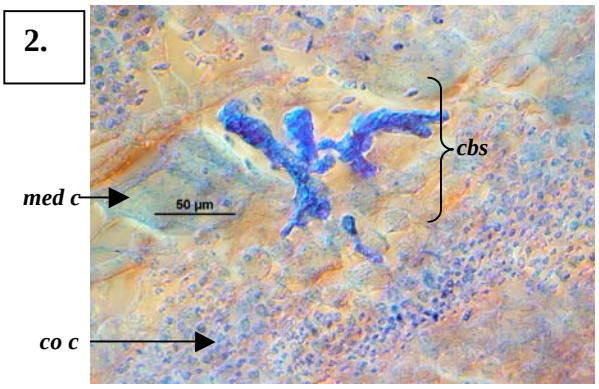
Similar Species *Thamnophyllis lacerata* resembles *Callophyllis* in ***internal*** anatomy and superficially looks like *Kallymenia*, but has distinctive ***lines of refractive cells*** in surface view

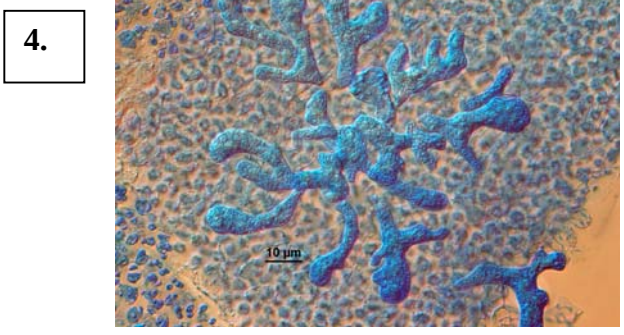
Description in the Benthic Flora Part IIIA, pages 247-249, 251

Details of Anatomy





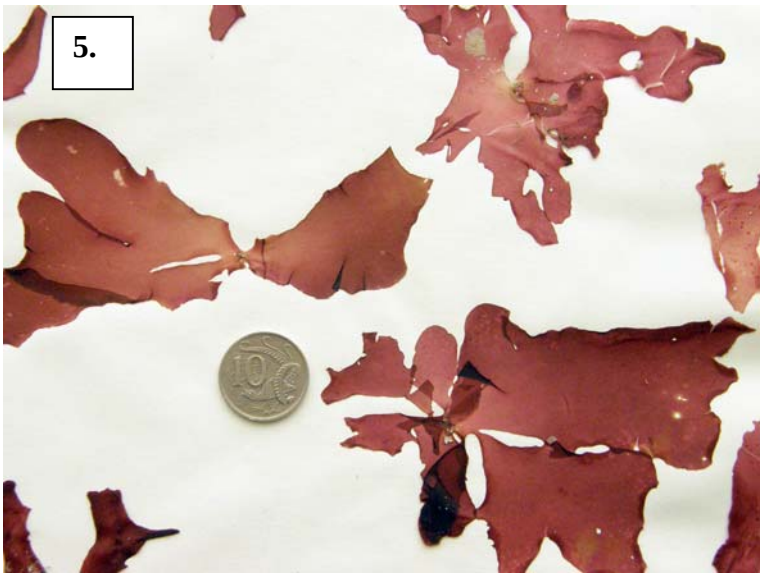


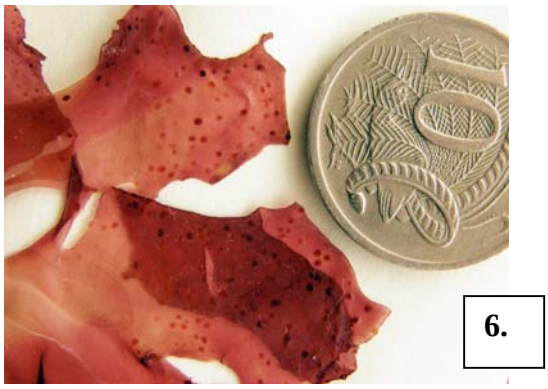


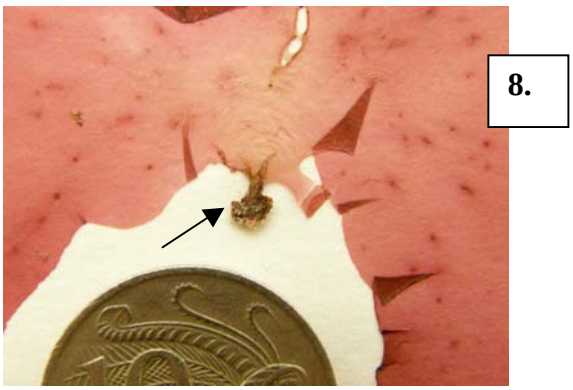
Thamnophyllis lacerata stained blue and viewed microscopically

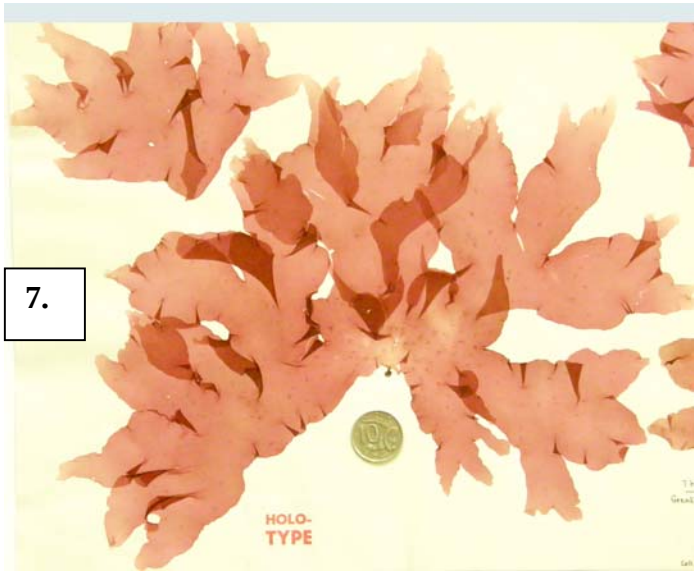
1. a cross section showing the several rows of small outer cells (cortex, *co*) increasing in size to larger egg-shaped core (medulla, *med*) cells mixed with fine threads (filaments, *fil*) and the upturned branch of a bright, spidery cell (refractive ganglionic cell, *gang c*) (A35947 slide 3200)
2. a tissue squash showing cortex cells (*co c*), medulla cells (*med c*) and a young female structure (carpogonial branch system, *cbs*) (A35159 slide 3198)
3. a cross section through a mature female structure (cystocarp, *cyst*) showing a mass of spores mixed with threads and a carpogonial branch system (*cbs*) (A35947 slide 3200)
4. a tissue squash of a later stage of the carpogonial branch system showing lobed subsidiary cells (A35159 slide 3199)

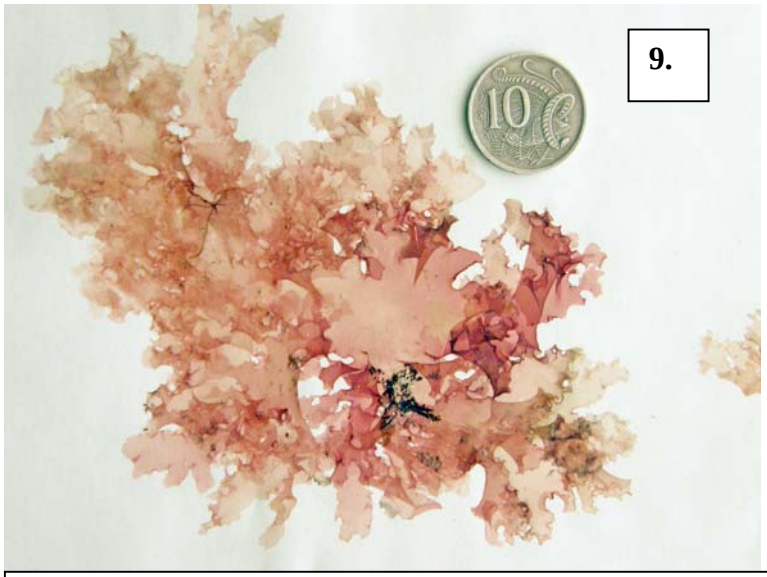
Descriptive names are inventions to aid identification, and are not commonly used;
§ found in G Edgar (2008) *Australian Marine Life*.2nd Ed. , Reed New Holland
Prepared April 2009

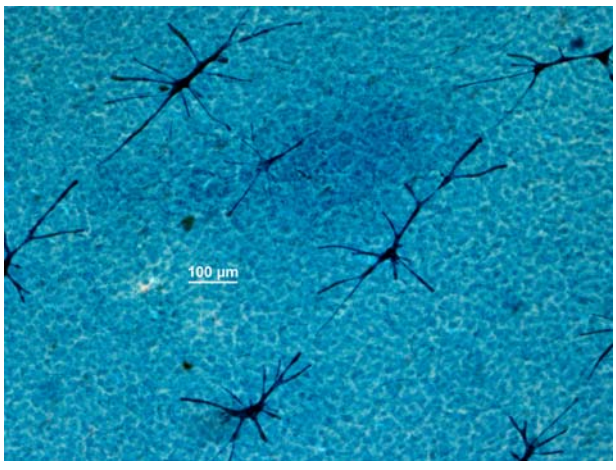












5-10. Different magnifications of a specimen of *Thamnophyllis lacerata* Womersley & R E Norris
5, 6. from 20-22m deep under an *Ecklonia* canopy, Twin Rocks, Head of the Great Australian Bight, S Australia, (A61144)
7, 8 from 10-16m deep on the shell *Maoricolpus*, Great Taylor Bay, Bruny I., Tasmania, showing the very short stalk (A35159)
9, 10 from 7-8m deep, Tiparra Reef, S Australia, with fronds showing frilly edges (A49387)
11. a specimen stained blue and viewed microscopically, focussing through surface cells to the lines of spidery (ganglionic) cells characteristic of this species (A35159 side 3196)

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