§*Halopeltis cuneata* (Harvey) G.W.Saunders as *Rhodymenia halymenioides* (J Agardh) Womersley, in the Marine Benthic Flora

Techniques needed and plant shape

MACRO PLANT

Classification Phylum: Rhodophyta; Order: Rhodymeniales; Family: Rhodymeniaceae

***Descriptive name** tattered red blades

Features

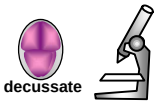
1. plants red, 160-200 mm tall, broader than tall, of a ***tattered*** (laciniate) sheet attached by a very small basal stalk
2. ***female*** blades speckled with pustulate, dark cystocarps
3. tiny bladelets (spatula-shaped ***proliferations***) cover ***sporangial*** blade surfaces

Occurrences SE Tasmania

Usual Habitat on rock, 5-12m deep

Special requirements

1. cut cross sections of blades and examine microscopically to find
   - narrow outer (cortical) layers of small cells, grading rapidly to larger inner (medulla) cells of mixed sizes, ***loosely*** arranged
   - pustulate mature female structures (cystocarps) protruding from blades with inner loosely arranged large cells and outer rows of small cells forming a wall (pericarp), single depressed external opening (ostiole), mass of carposporangia with a small group of basal nutritive cells

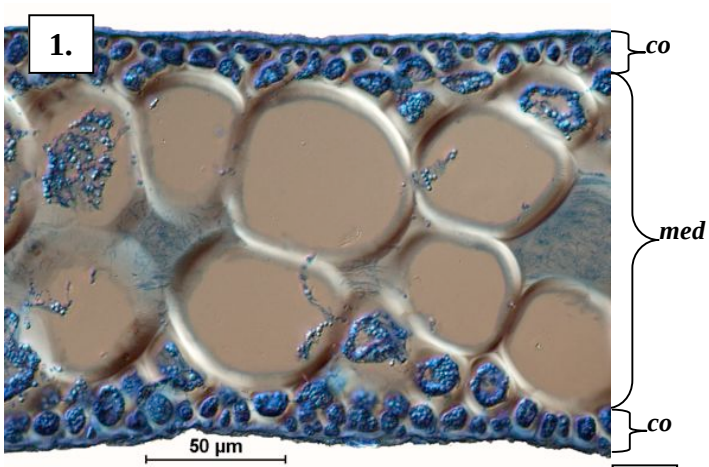


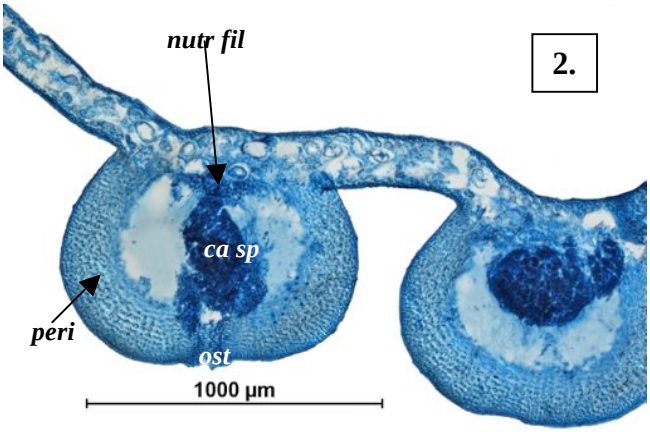
2. view the surface of a sporangial blade proliferation microscopically to see the mass of scattered, decussately divided tetrasporangia ***ringed*** by surface (cortex) cells

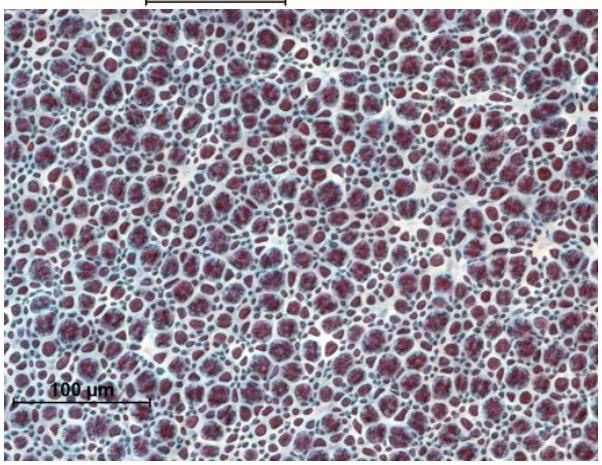
Similar Species *Halymenia plana* but that has fine threads in the medulla, and no sporangial proliferations

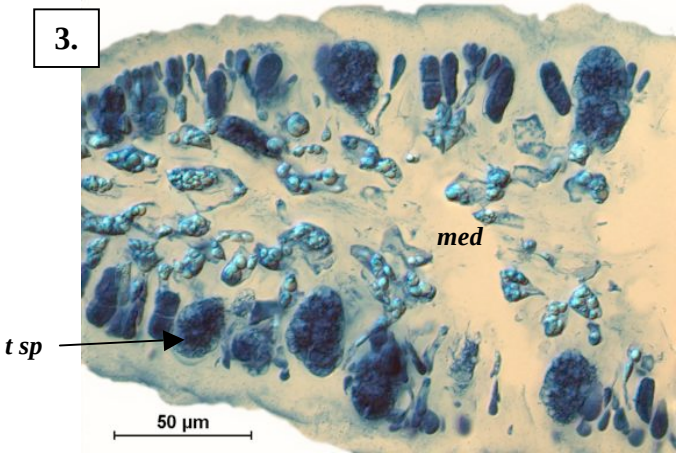
Description in the Benthic Flora Part IIIB, pages 83-85

§**NOTE: Saunders, G W & B McDonald (2010) *Botany* vol. 88, pp 639-667 using DNA sequencing found hidden species within *Rhodymenia* . This required renaming the species described in the Marine Benthic Flora of SA, and at the same time sinking *Rhodymenia halymenioides* into *Halopeltis cuneata*.**







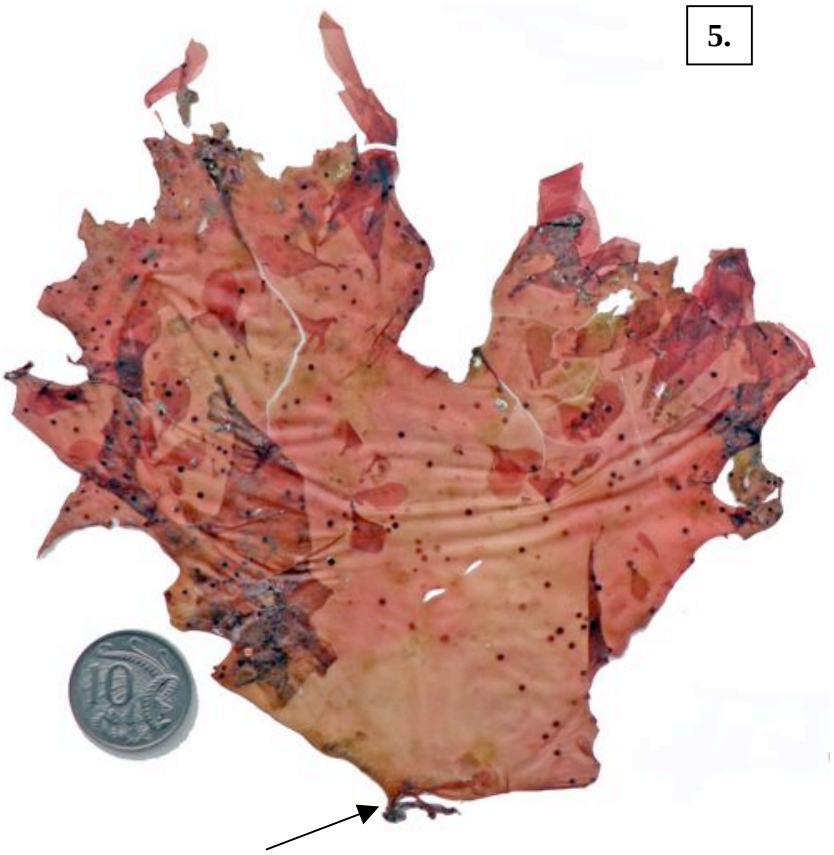


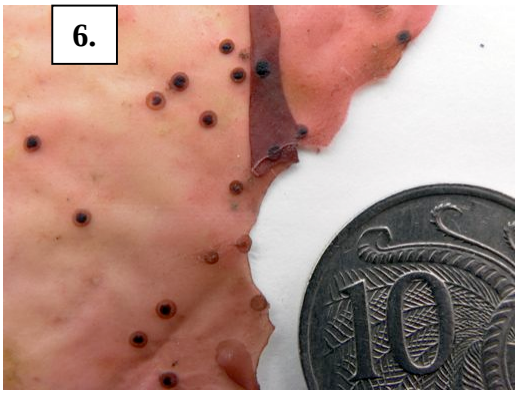
Halopeltis cuneata (*halymenioides*) stained blue and viewed microscopically; #1-3 cross sections, #4 surface view

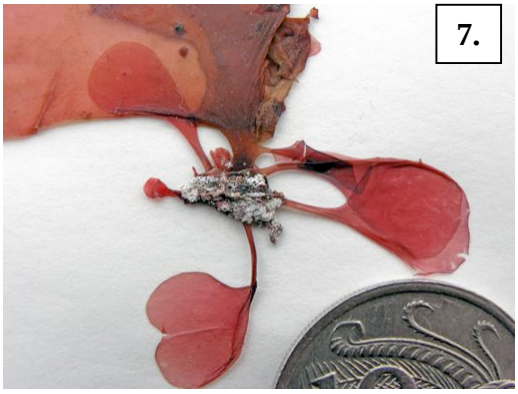
1. blade with narrow outer layers (cortex, *co*) of small cells and core (*med*) of larger cells of mixed sizes (A63868 slide 15044)
2. two cystocarps protruding from a blade (with cellular wall (pericarp, *peri*) of rows of small cells, depressed opening (ostiole, *ost*), central mass of carposporangial (*ca sp*) supported by nutritive threads (*nutr fil*) (A63886 slide 15068)
3. bladelet with tetrasporangia (*t sp*) amongst elongate cells in the cortex, and star-shaped (stellate) medulla cells (*med*) (A63868 slide 15044)
4. surface view of a tetrasporangial bladelet with rings (rosettes) of cortical cells about tetrasporangia (A63868 slide 15045)

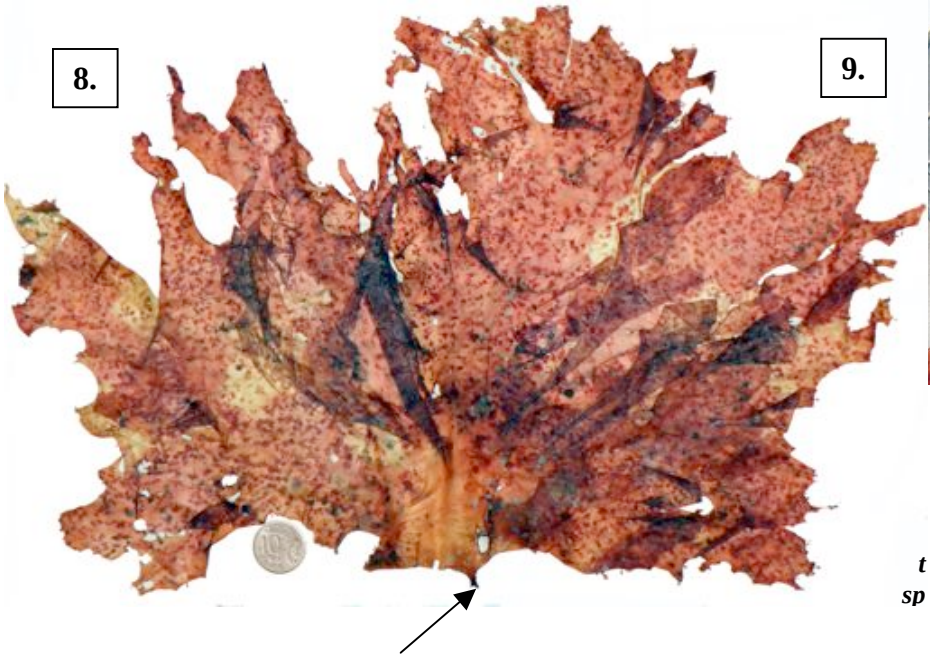
*Descriptive names are inventions to aid identification, and are not commonly used

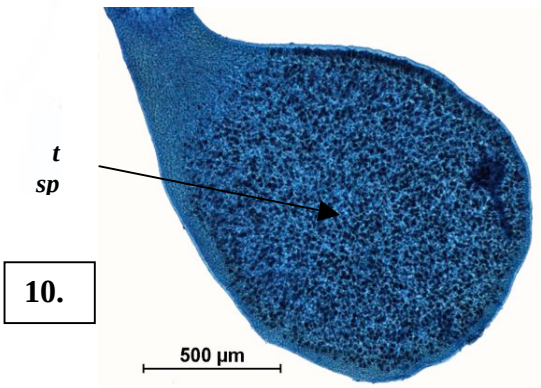
"Algae Revealed", R N Baldock, State Herbarium S Australia, November 2010; edit. November 2013











Variations in shape of *Rhodymenia cuneata* (*halymenioides*) (Harvey) G W Saunders from Tasmania

5-7. views of specimens from 5-12m deep, Arch Rock, E of Ninepin Point (A63886) at different magnifications, showing a broad, tattered blade speckled with mature female structures (cystocarps), basally a tiny stalk (arrowed) and in #7, several heart-shaped young blades basally

8, 9 different magnified views of a sporangial specimen from Gordon (A63792) showing a broad blade with tattered lobes speckled with small spatula-shaped bladelets, tiny basal stalk (arrowed) and detail of surface with proliferations

9 detached bladelet stained blue and enlarged (A63868 slide 15045) with scattered central mass of tetrasporangia (*t sp*)

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