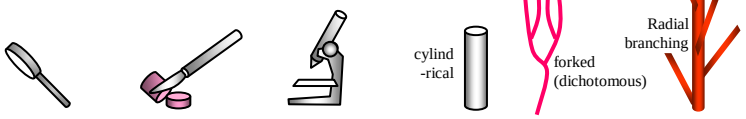
Nizymenia furcata (Harvey)
Chiovitti, G W Saunders & Kraft

[previously *Stenocladia furcata* (Harvey) J Agardh]

45.520

Techniques needed and shape



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

***Descriptive name** red-brown wiry alga

Features

plants dark red-brown, about 100 – 25mm tall, fairly upright, branches ***cylindrical***, linear, mostly 1mm wide, forked, arising in a radial pattern. Very small, ball-shaped mature female structures (cystocarps) protrude from branch surfaces and are pinched at the base

Occurrences Encounter Bay S Australia to Victoria

Usual Habitat probably a deep species of rough water coasts, but often merely collected as drift

Special requirements view microscopically to find

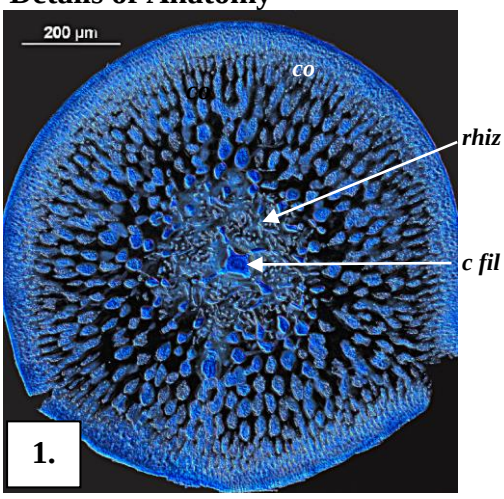
- in cross sections: ***single*** central, ***prominent***, thick-walled threads, 4 radiating threads from each cell, entangled in ***rhizoids***, outer layers (cortex) of equal-sided cells decreasing in size outwards.
- in the tiny spherical mature female structures (cystocarps): each with ***pinched*** bases, an opening (ostiole), thick wall, central amoeba-like (fusion) cell and spores in short chains at ends of radiating threads (gonimoblast)

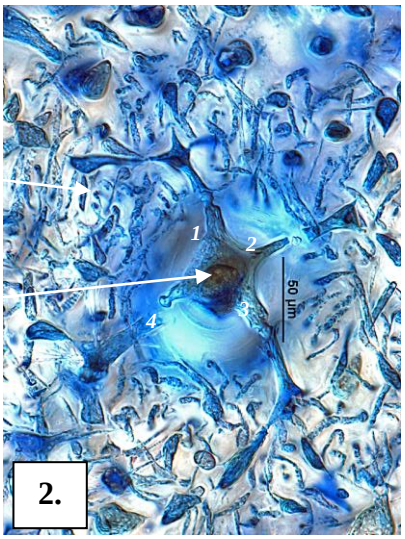
- in sporangial plants: tufts of hairs on branch surfaces bearing sporangia in bunches of 2-3; sporangia are also reported to be on spermatangial hair tufts

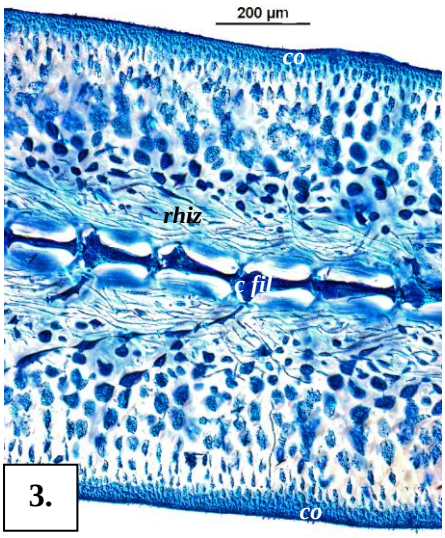
Similar Species superficially like *Areschougia* in having a central thread when viewed in cross section, but in *Areschougia*, only ***single*** threads are produced from each cell of the central thread and tetrasporangia are ***embedded*** in the outer (cortex) layers

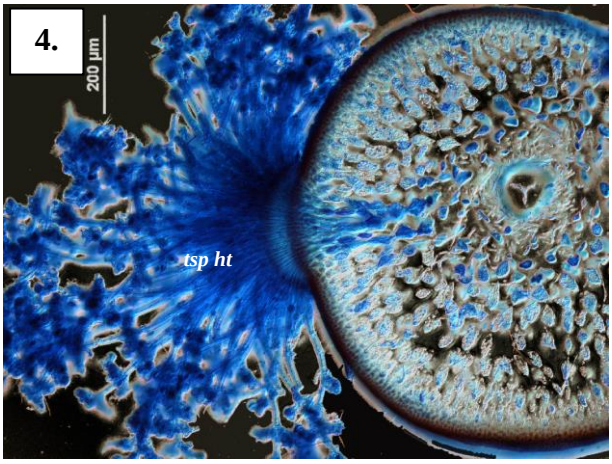
Description in the Benthic Flora Part IIIA, pages 407-408

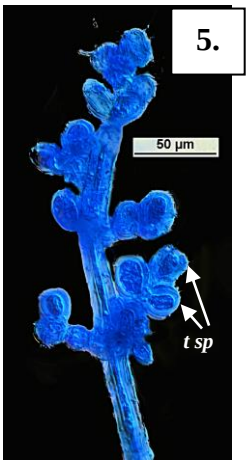
Details of Anatomy







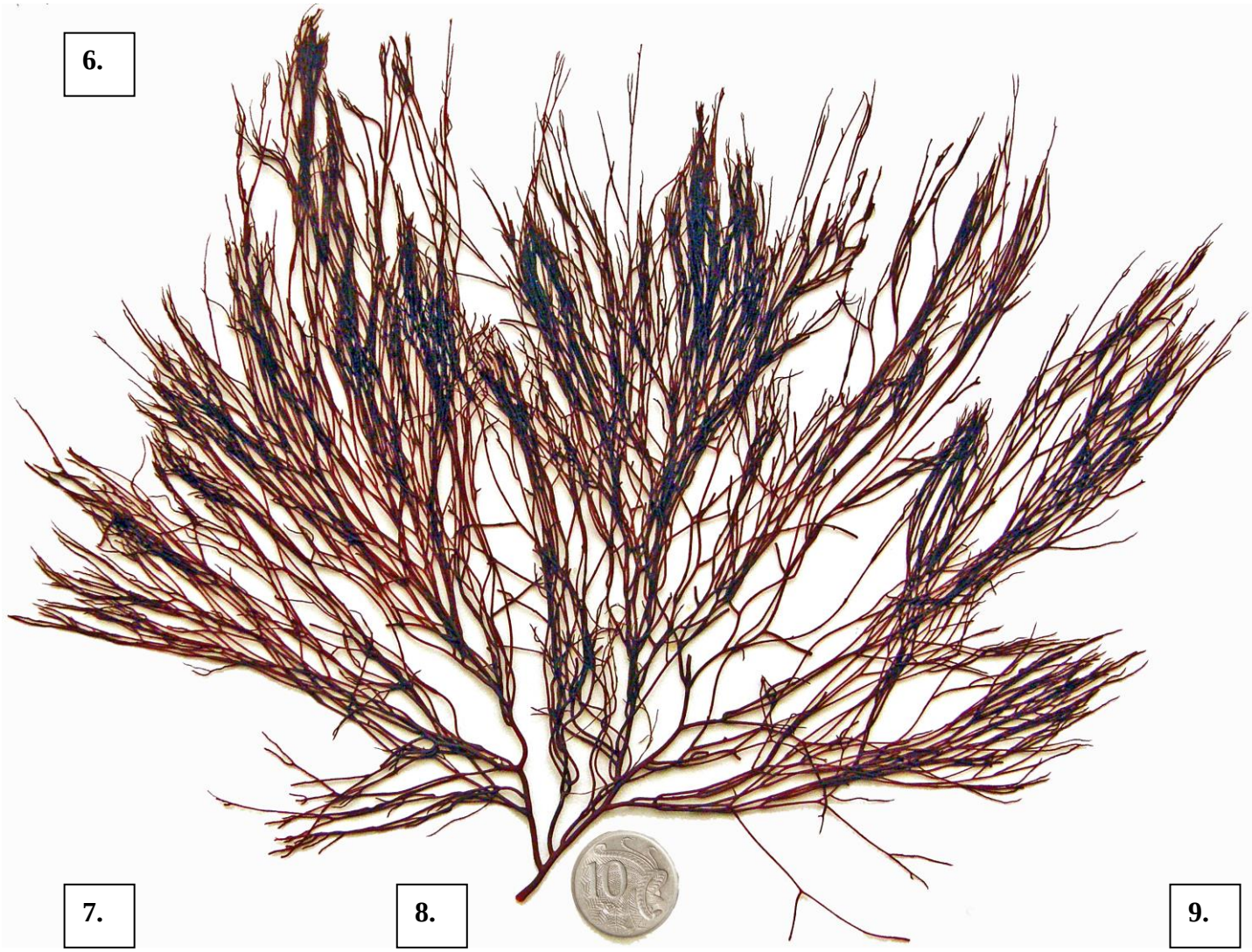


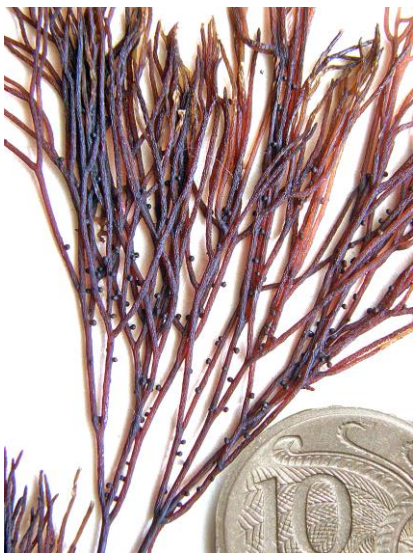


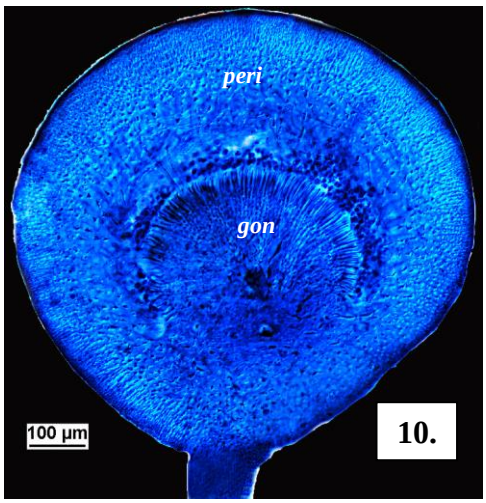
Nizymenia furcata stained blue and viewed microscopically

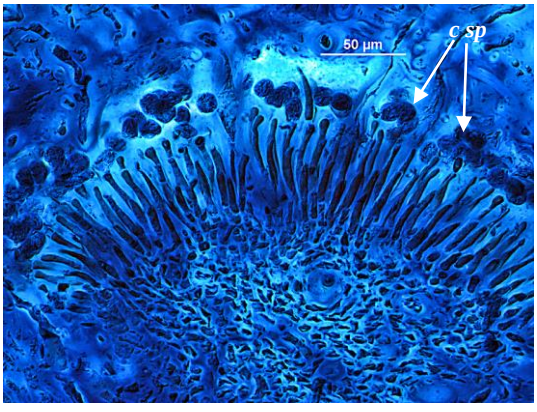
1. cross section: central prominent thread (***c fil***) wrapped in rhizoids (***rhiz***), outer (cortical) layer (***co***) (slide 13098)
2. detail of the central filament: radiating (pericentral) cells (***1-4***) (slide 13858)
3. lengthwise section (slide 13858)
4. cross section through a tetrasporangial hair tuft (***tsp ht***) (A63213 slide 13857)
5. detail of a single sporangial hair with clusters of tetrasporangia (***t sp***) (slide 13857)

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









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6–7. two magnifications of a drift plant from Robe S Australia (A32725), #7 with detail of the branching pattern

8. detail of minute cystocarps on branches (A19917)

9, 10. cross sections stained blue and viewed microscopically

9. single cystocarp isolated from a branch: thick wall (pericarp, ***peri***), central fertile tissue (gonimoblast, ***gon***) (slide 13106)

10. detail of the gonimoblast with dense radiating filaments ending in short chains of carposporangia (***c sp***)(slide 13105)

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"Algae Revealed", R N Baldock, State Herbarium S Australia, August 2009, revised August 2014