Helminthora lindaueri

Desikachary

45.120

Techniques needed and shape

MACRO PLANT

Classification Phylum: Rhodophyta; Order: Nemaliales; Family: Liagoraceae

***Descriptive name** worm weed

Features

1. brown-purple, 20 – 100mm tall, stringy
2. main branches (axes) 1.5-3.0mm wide, cylindrical, slimy, ***forked near the base*** or with side branches at the base in older plants

Occurrences New Zealand. In southern Australia, Kangaroo I., S Australia to Victoria and Tasmania

Usual Habitat usually on *Corallina* or encrusting red corallines in surge at the edge of reefs

Similar Species spaghetti-like brown algae - *Scytosiphon lomentaria* (tubular string weed), *Cladosiphon filum* (brown spaghetti weed) and *Myriogloea sciurus*, but *H. lindaueri* has a fuzzy surface

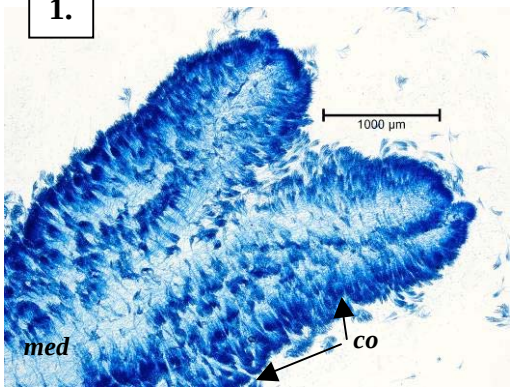
Description in the Benthic Flora Part IIIA, pages 79, 80 - 82

Special Requirements view a tissue squash microscopically to find:-

1. core (medulla) wide, compact, of colourless, slender threads running lengthwise, (mixed with thinner rhizoidal threads when mature)
2. outer layers (cortex) of slightly curved threads of ***egg-shaped*** cells ***forked basally***, tip cells ***small***
3. in the cortex of female plants, ***dense*** masses, the products of fertilisation, of a bunch of fertile cells ending in carposporangia, wrapped in sterile threads (involucre) with ***long, twisted*** rhizoids at the base, usually detached as a complete unit
4. early female stages with ***curved,*** 4-celled chains of cells (carpogonial branches) attached near a fork of lower cortical branches, tip cell ***dumbbell shaped*** () ending in a hair-like trichogyne
5. in the cortex of male plants, dust-like spermatangial clusters on 3-6 tip cells

Details of Anatomy

1.



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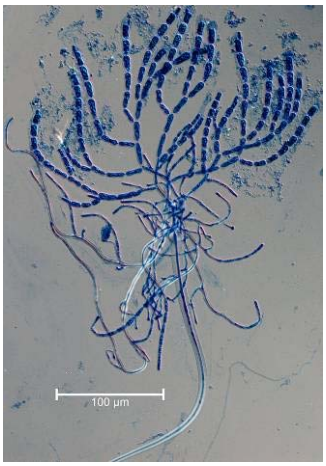

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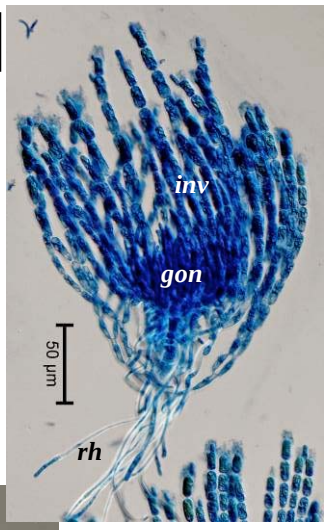

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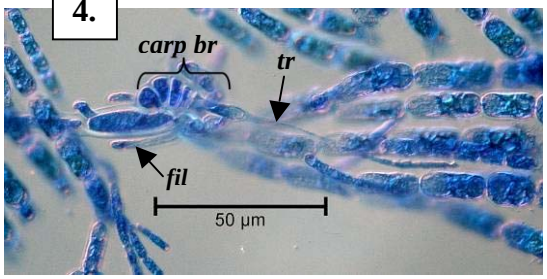

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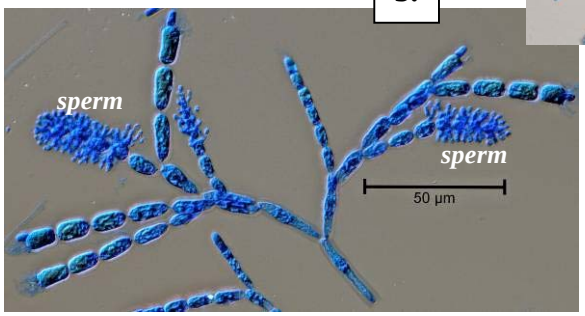


Tissue squashes of *Helminthora lindaueri* (A61545, slide 12776) stained blue and viewed microscopically

1. branch tip with wide core (medulla, *med*) of threads, and outer layers (cortex, *co*) of tufts of coloured cells
2. detached cortical tuft: basal medulla thread, rhizoids and curved, bead-like chains of cortical cells
3. structure produced after fertilisation, detaching as a complete unit: basal rhizoids (*rh*) fertile cells (gonimoblast, *gon*) and wrapping threads (involucre, *inv*)
4. early female structure: curved carpogonial branch, *carp br*) with trichogyne (*tr*) and threads from cells above (*fil*)
5. detached cortical tuft, end cells with spermatangia (*sperm*)

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

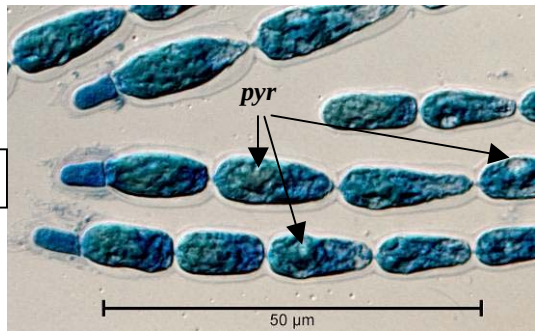
"Algae Revealed" R N Baldock, S Australian State Herbarium, February 2012

6.

7.

8.

9.



10.

Helminthora linaueri Desikachary (6-8 from Victoria)

6, 7. a plant from the intertidal at Bridgewater Bay, showing the fuzzy surface and forked branching (A28070)

8. from low rock pools, Lawrence Rock Portland showing proliferation of side branches at the base (A24035)

9. base of a plant from Evans Cave, Cape Lannes near Robe, S Australia (A61545)

10. tips of cortical branches stained blue and viewed microscopically: smaller tip cell, bead-like chains of cells with bright objects associated with plastids (pyrenoid, *pyr*) (A61545 slide 12776)

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