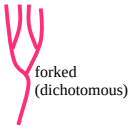
Liagora harveyana Zeh

45.120

Techniques needed and shape


squash

MACRO PLANT


forked (dichotomous)

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

***Descriptive name** chalky weed

Features

1. brownish-red with chalky white covering, 30 – 140mm tall
2. main branches (axes) 1-2mm wide, regularly forked, forming rounded masses
3. occasionally (when damaged?) small side branches occur along main branches

Occurrences near Albany, W Australia to Victoria and N Tasmania

Usual Habitat on rock platforms in shallow water on rough coasts, on sea grass in deeper water

Similar Species *Liagora wilsoniana*, but that is more openly branched, with prominent short side branches along main branches (axes)

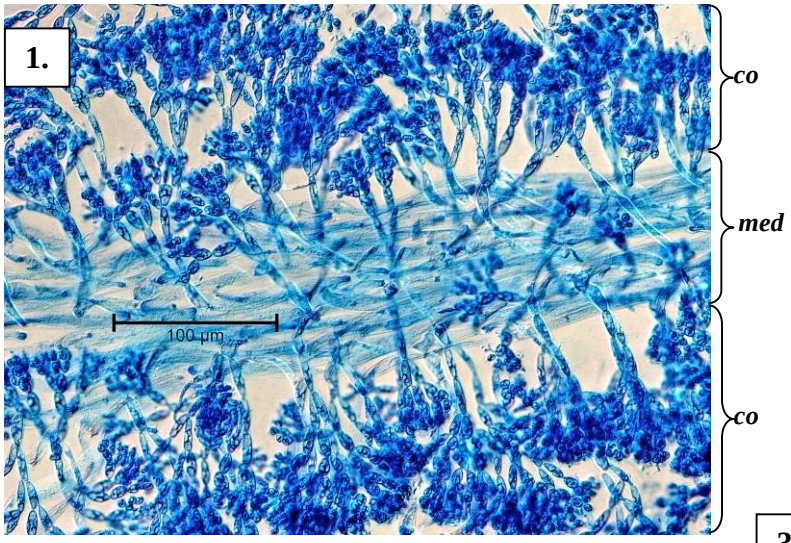
Description in the Benthic Flora Part IIIA, pages 93, 96 - 98

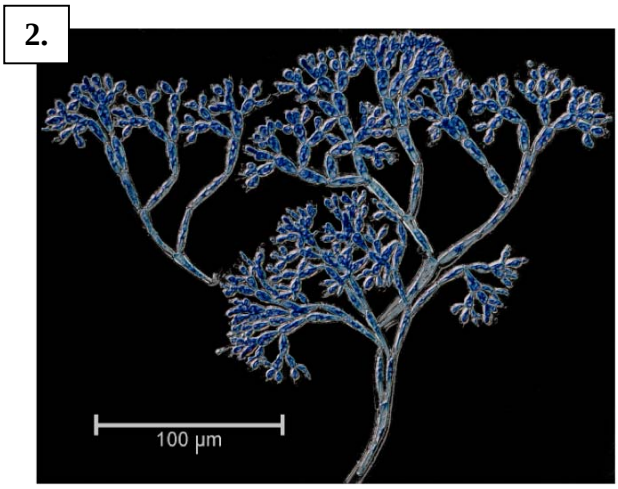
Special Requirements dissolve the limey coating with dilute acid and view a tissue squash microscopically to find

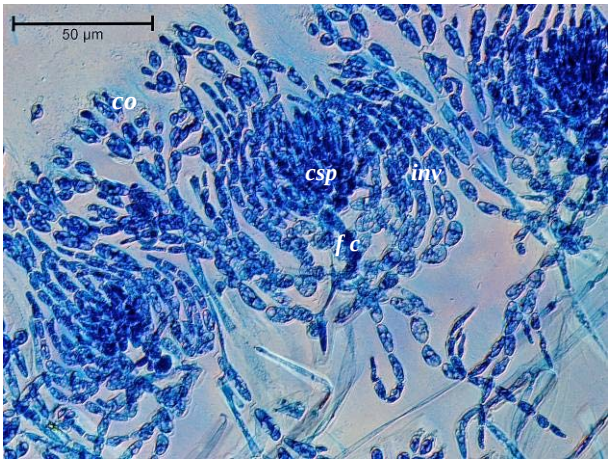
1. core (medulla) of ***stout, parallel*** threads, outer layers (cortex) of regularly-forked chains of smaller, egg-shaped cells; branches often ending in ***3 cells*** (trichotomous)
2. in the cortex of female plants, balls of dense threads, the products of fertilisation with
   - basal large (fusion) cell formed from merging of cells
   - dense, branched fertile cells ending in short chains of carposporangia, some divided in two
   - loose wrapping (involucre) of sterile threads
3. early female stages with ***curved***, 4-celled chain of cells (carpogonial branch) ending in a long, fine hair (trichogyne), attached to the lower parts of cortical branches

diagnosis can be difficult

Details of Anatomy



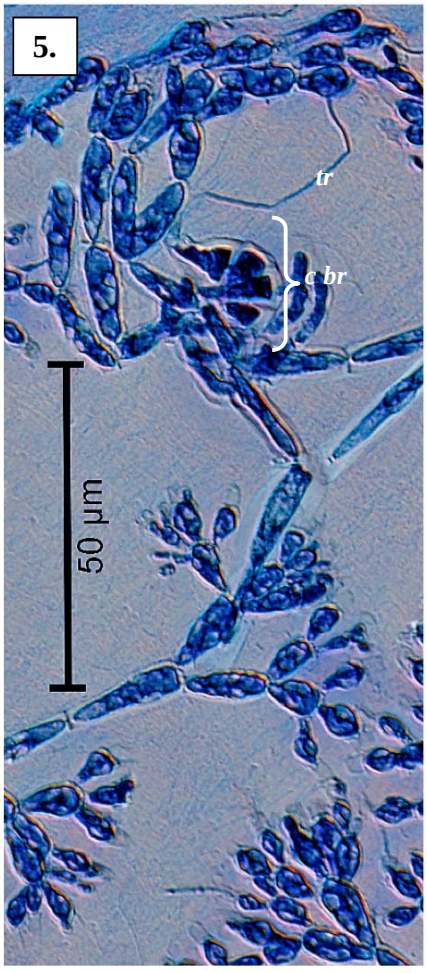




Tissue squashes of *Liagora harveyana*, de-calcified, stained blue and viewed microscopically

1. lengthwise view of a branch: core (medulla, *med*) of parallel threads and outer layers (cortex, *co*) of tufts of egg-shaped cells (A68480 slide 20351)
2. detached tuft from the cortex (enhanced with dark field illumination) showing regular forked branching branches largely ending in 3's (A19585 slide 0231)
3. three products of fertilisation in the cortex: basal fusion cell (*f* c) chains of fertile cells (carposporophyte, *csp*) ending in carposporangia, sterile wrapping branches (*involucre, inv*) and cortical cells (*co*) (A19585 slide 0231)

Descriptive names are inventions to aid identification, and are not commonly used
"Algae Revealed" R N Baldock, S Australian State Herbarium, January 2012



4 - 5. *Liagora harveyana* Zeh from S Australia
4. from Seal Beach, in the lower intertidal on rock (A59483)
5. from Pennington Bay E reef (A4443a) showing the regular forked branching

6. cortex cells stained blue and viewed microscopically (A19585 slide 0231) with curved 4-celled carpogonial branch (*c br*) ending in a threadlike (and twisted) trichogyne (*tr*)

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