

Techniques needed and plant shape



Classification

Phylum: Rhodophyta; Order: Rhodymeniales; Family: Rhodymeniaceae
branched sausage weed

*Descriptive name

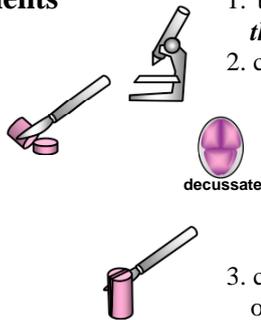
Features

1. plants red-brown, fading to yellow-red, 50-200mm tall, of tubular, jelly-filled segments practically touching but with inconspicuous broad, *short* joints
2. main branches (axes) of tubular segments 10-40 x 3-6mm, side branching irregular, segments decreasing in size towards branch tips
3. mature female structures (cystocarps) scattered, *not protruding* from segments tropical seas. In Australia, NW W Australia to Troubridge and Kangaroo Is., S Australia shallow water to 35m deep

Occurrences

Usual Habitat

Special requirements



1. tease out a piece of segment wall and view microscopically to find extremely fine *threads* bearing tiny secretory cells on the inside of inner (medullary) cells
2. cut cross sections of the wall of a segment and view microscopically the
 - narrow band of tiny outer (cortical) cells branched once and facing outwards
 - narrow inner layer (medulla) of large cells
 - tetrasporangia in patches, decussately divided
 - mature female structures (cystocarps) protruding into the jelly-filled segment centre, with a single external opening (ostiole). Internally, masses of sporangia joined basally to a small pyramid of feeding cells
3. cut a lengthwise section through a joint and view microscopically to find a *single row* of large cells separating segments

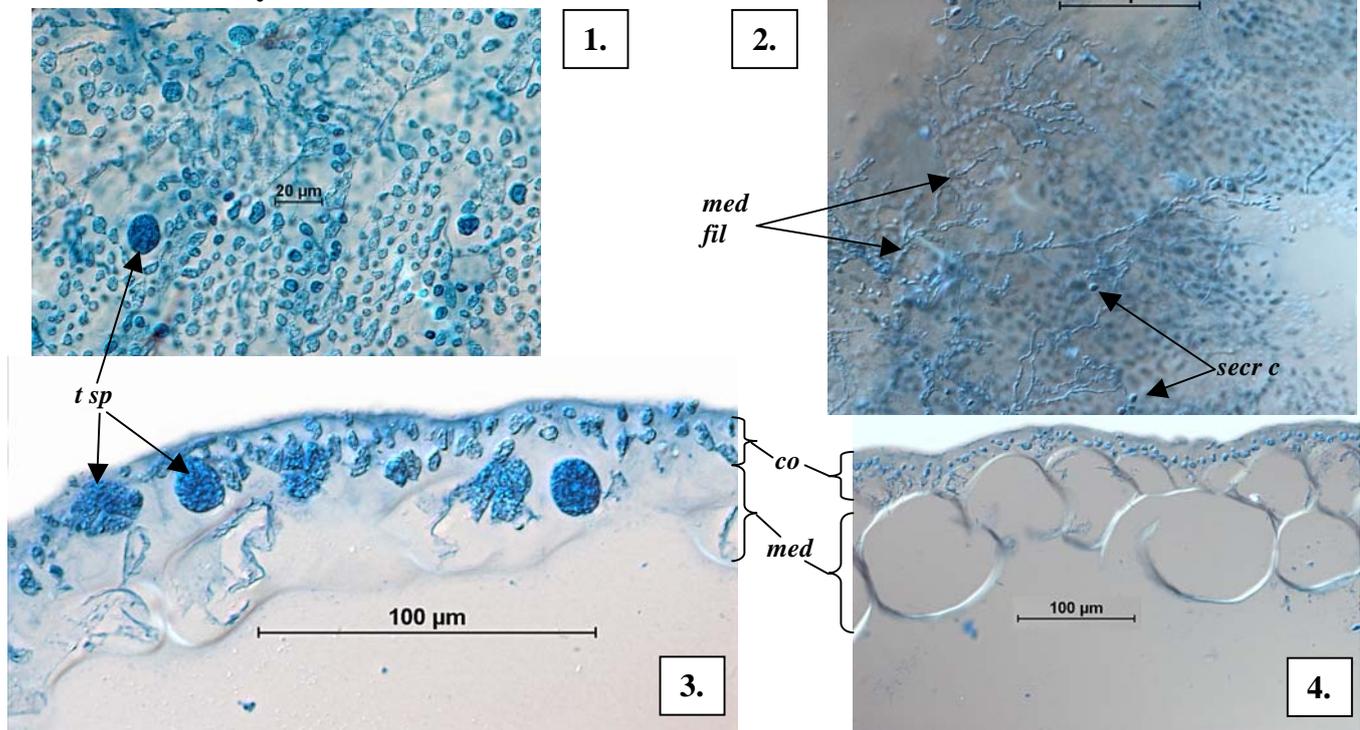
Similar Species

Coelarthrum opuntia, but that is branched regularly, with obvious thin joints *several* cells thick; *Rhabdonia clavigera*, and *Erythroclonium* spp but these have a central thread; *Webervanbossea kaliformis*

Description in the Benthic Flora

Part IIB, pages 57-59

Details of Anatomy

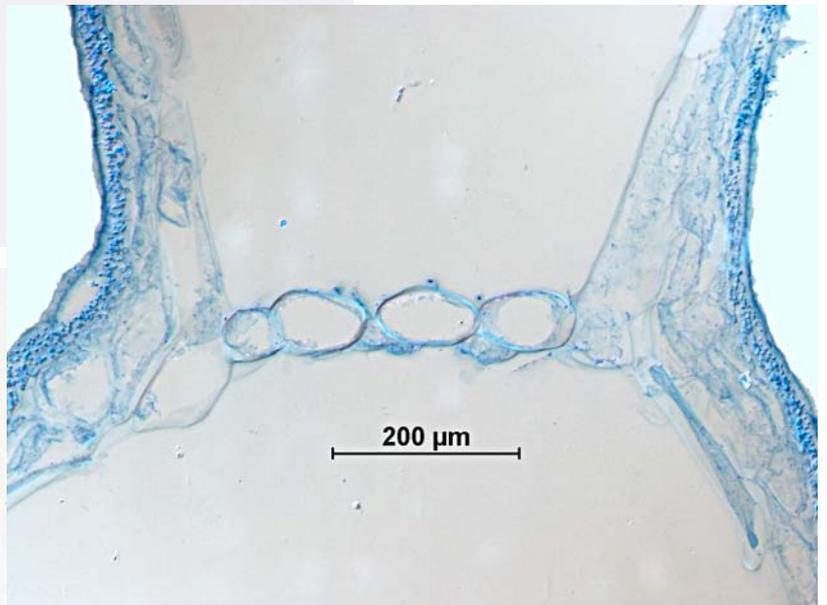


Coelarthrum cliftonii stained blue and viewed microscopically

1. surface view of outer (cortical) cells with tetrasporangia (*t sp*) and inner (medullary) threads (*med fil*) (A38099 slide 14630)
2. surface view of medullary threads bearing secretory cells (*secre c*) (A18250 slide 11515)
3. cross section of segment wall with tetrasporangia (*t sp*) mixed with cortical cells (*co*) and (crumpled) medulla cells (*med*) (A38099 slide 14631)
4. cross section of segment wall (A38099 slide 14631)



7.



Coelarthrum cliftonii (Harvey) Kylin from S Australia
 6, 7. two magnifications of a specimen, 30-35m deep, from Pearson I. (A34143)
 7. lengthwise section through a joint stained blue and viewed microscopically showing the single row of large cells separating adjacent segments (A38099 slide 14632)