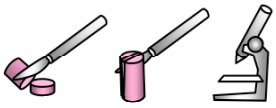
Webervanbossea splachnoides
(J Agardh) De Toni

45.660

Techniques needed and plant shape



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

***Descriptive name** sausage weed

Features

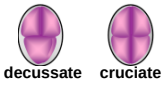
1. plants red-brown, 100-300 mm tall, of hollow (jelly-filled), cylindrical main branches bearing radially arranged egg-shaped to cylindrical side branches pinched basally

Occurrences Houtmans Abrolhos, W Australia to Victoria and N coast Tasmania

Usual Habitat shallow to deep water (collected to 38m)

Special requirements

1. focus through the surface of segment walls microscopically to find threads of the inner layers with secretory cells
2. cut cross sections and examine segment walls to find
   - outer (cortical) cells small, branched ***2-3 times***, facing outwards
   - larger inner (medulla) cells of mixed sizes, some producing in-growing branched threads with secretory cells
   - raised patches of tetrasporangia, sporangia divided decussately or in a cross pattern, mixed with hairlike outer (cortical) cells (paraphyses)
   - mature female structures (cystocarps) protruding into the segment space, a prominent row of large medulla cells at the base, rows of small cells forming a wall (pericarp), single external opening (ostiole), mass of carposporangia with basal pyramid of small nutritive cells and threads largely dissolving with age

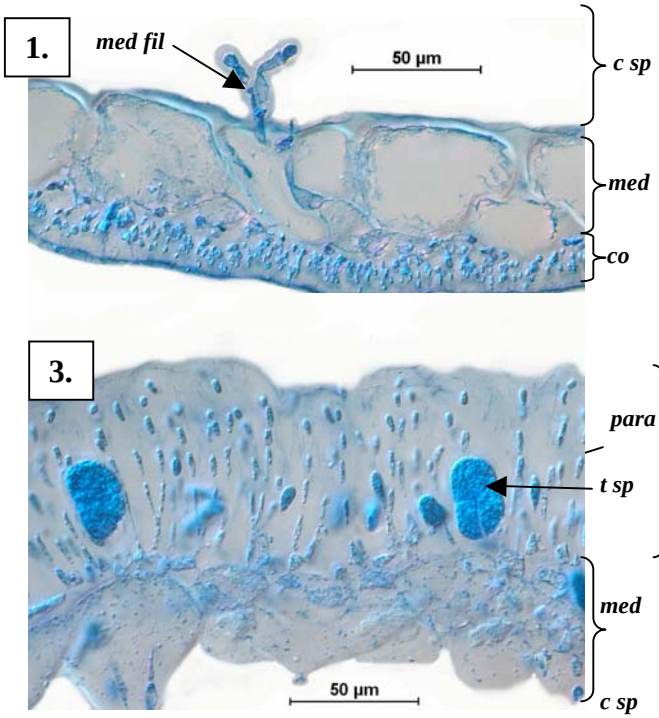


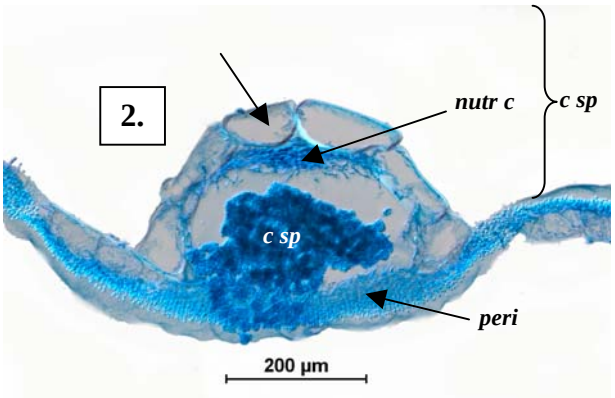
3. cut a lengthwise section through a joint and view microscopically to see many cells of mixed sizes separating adjacent segments

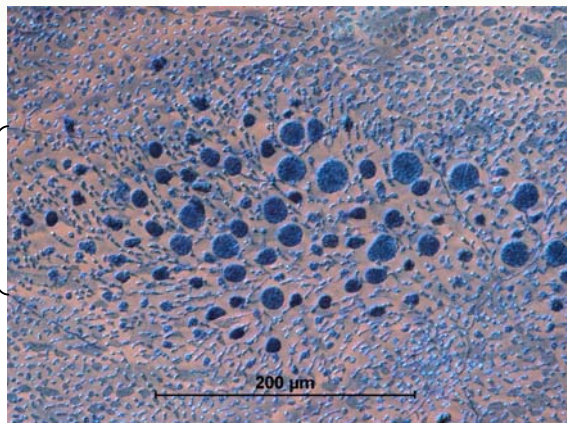
Similar Species *W. kaliformis*, segmented throughout; *Coelarthrum* spp with smaller axial segments and no paraphyses amongst tetrasporangia; *Rhabdonia clavigera*, and *Erythroclonium* sp with a central thread

Description in the Benthic Flora Part IIIB, pages 60-61, 63

Details of Anatomy



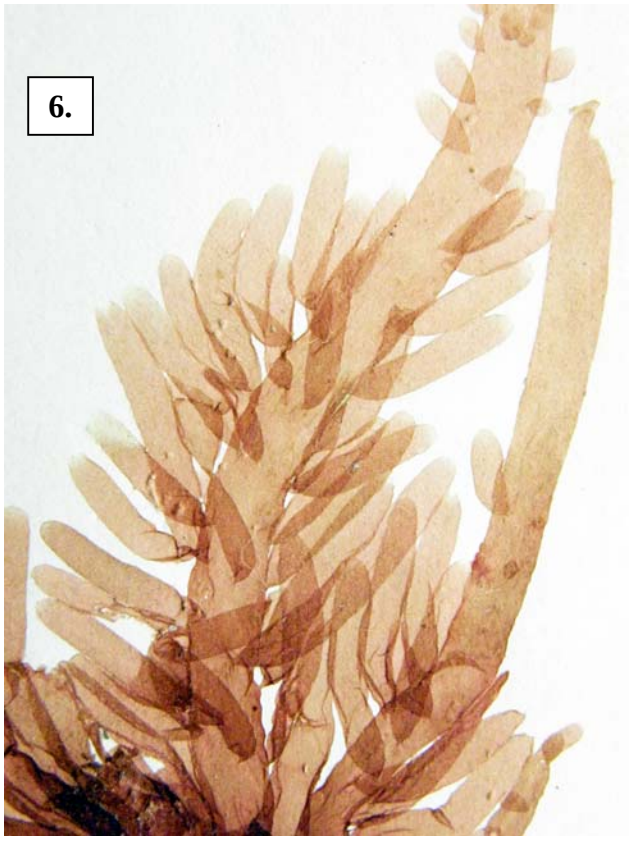


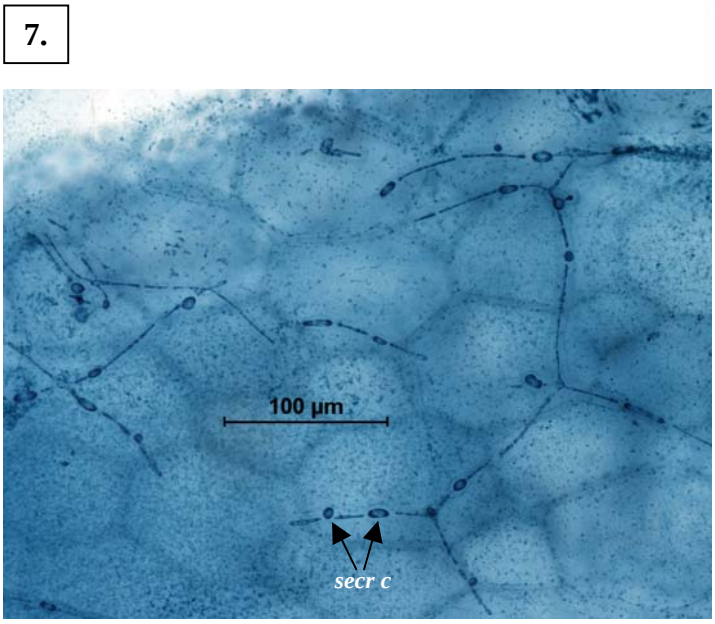


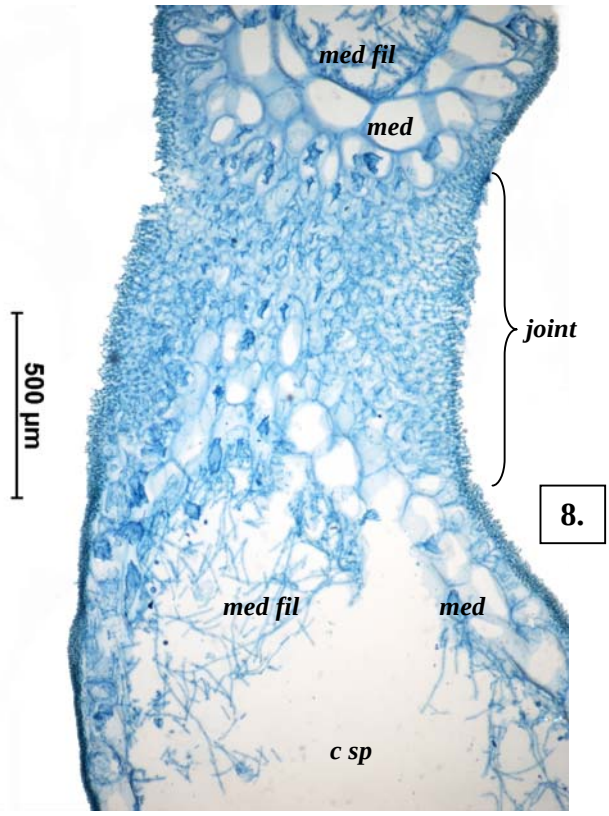
Webervanbossea splachnoides stained blue and viewed microscopically: #1-3. cross sections, #4. surface view

1. sac wall with outer layer (cortex, *co*) of small cells branching outwards, inner layer (medulla, *med*) of large cells of mixed sizes some producing branched threads (*fil*) protruding into the central space (*c sp*) (A37651 slide 14649)
2. mature female structure (cystocarp, *cys*) protruding into the central sac space, with inner layer of large cells (arrowed), basal nutritive cells (*nutr c*) masses of carposporangia (*c sp*) and thickened outer wall (pericarp, *peri*) (A38108 slide 14641)
3. cluster (nemathecium, *nem*) of tetrasporangia (*t sp*) amongst thread-like chains of cells (parphyses, *par*) (A34170 slide 14638)
4. surface view of a sporangial cluster (nemathecium, *nem*) (A37410 slide 14642)

*Descriptive names are inventions to aid identification, and are not commonly used
"Algae Revealed", R N Baldock, S Australian State Herbarium November 2010







Webervanbossea spachnoides (J Agardh) De Toni from South Australia

5, 6. two magnifications of a specimen (A34766) 15-25m deep on granite in very rough conditions, West point, Eyre peninsula showing the un-segmented main branches (axes), smaller side branches constricted at the base and sporangial patches

7, 8. specimens stained blue and viewed microscopically

7. surface view focussed on inner threads arising from medulla cells bearing secretory cells (*secr c*) (A34170 slide 14637)

8. lengthwise section through the solid constriction (*joint*) between an axis and side branch showing many cells of different sizes, central sac space (*c sp*) with in-growing threads (medulla filaments, *med fil*) and large cells of the inner layer (medulla, *med*) (A38108 slide 14640)

*Descriptive names are inventions to aid identification, and are not commonly used
"Algae Revealed", R N Baldock, S Australian State Herbarium November 2010