

Techniques needed and plant shape



Classification

Phylum: Rhodophyta; Order: Gigartinales; Family: Hildenbrandiaceae
 smooth red rock-crust

***Descriptive name**

Features

plants dark red-brown, blotchy, sometimes yellowish, forming **smooth** crusts on rocks (up to 800mm across) about $\frac{1}{2}$ mm thick, shiny and cracking when dried

Occurrences

Apollo Bay to Cape Woolamai Victoria and SE Tasmania but probably more widespread and overlooked

Usual Habitat

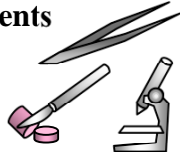
on rock, in shallow water or shaded rock pools

Special requirements

1. scrape off a piece of plant and view microscopically to find **rounded** surface cells and circular, cavities (**conceptacles**) containing tetrasporangia. Sexual stages are unknown.

2. a section through a conceptacle containing sporangia shows:

- an egg-shaped cavity with an opening (ostiole) at the top
- cigar-shaped tetrasporangia within, with **regular** (zonate) cross walls when mature
- surrounding tissues consisting of **rows** and **columns** of **box-shaped** cells of alternating bands small and larger cells, possibly indicating (annual?) growth periods



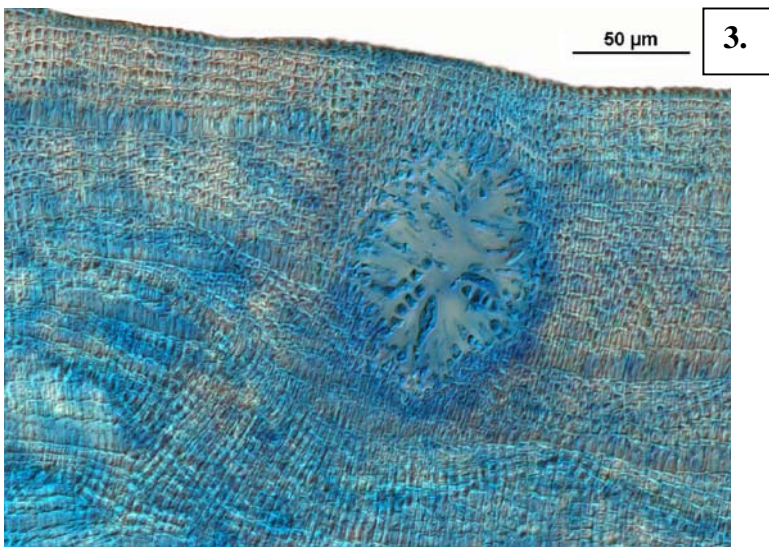
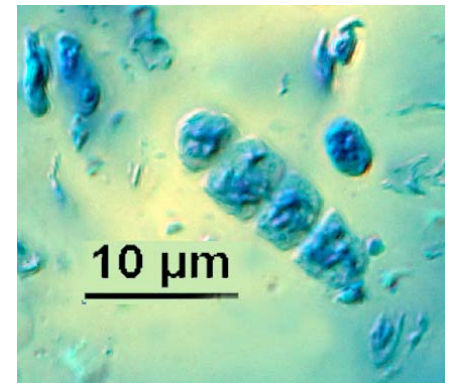
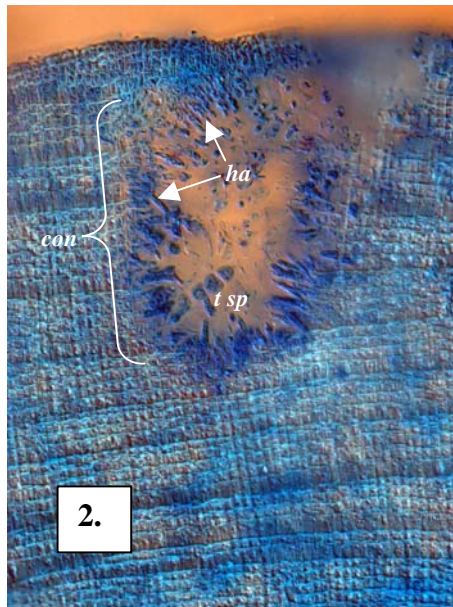
Diagnosis can be difficult

Similar Species

Hildenbrandia lecanellieri, also relatively thick but that species is warty not smooth

Description in the Benthic Flora Part IIIA, pages 144-147

Details of Anatomy



Sections of *Hildenbrandia patula* stained blue and viewed microscopically

1. an outer layer of a young part of a plant that will become a cluster of sporangial pits (developing conceptacles, *dev con*) (A60432 slide 11610)
2. mature conceptacle (*con*), a sunken egg-shaped pit with tetrasporangia dividing across (zonate) amongst hairs (*ha*) and surrounding rows and columns of box-shaped cells formed into growth rings (*gr r*) (A60083 slide 11459)
3. mature conceptacle (opening or ostiole not visible) and slanting growth rings (A60083 slide 11460)
4. dissected tetrasporangium showing the pattern of regular zonate divisions (A60083 slide 11459)



4.

5.



Two magnifications of a specimen of *Hildenbrandia patula* Womersley (A60432) on a pebble from Lady Bay, Southport, Tasmania, showing the smooth, shining and cracking surface of the dried encrusting plant