Techniques needed and plant shape

Phylum: Rhodophyta; Order: Gigartiniales; Family: Hildenbrandiaceae

*Descriptive name red rock-stain

Features plants red, 50-200mm across, **very thin** forming a continuous sheet on rocks and **hard to remove** except by breaking the rock

Occurrences worldwide on temperate and tropical coasts. In southern Australia, from West Coast to the SE of S Australia but probably more widespread and overlooked

Usual Habitat on rock, usually in shaded parts of the **intertidal**

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, most with **irregular and intersecting divisions** when mature (although some may have slanting (oblique) divisions)
   - surrounding tissues consisting of **rows and columns** of **box-shaped** cells

Similar Species

*Diagnosis can be difficult*

Hildenbrandia crouaniorum, where the tetrasporangia are obliquely divided

Description in the Benthic Flora Part IIIA, pages 143, 144

Details of Anatomy

1. a section through two sporangial cavities (**conceptacles, con**) showing an opening (ostiole, **ost**), cigar-shaped tetrasporangia, (**t sp**) and rows and columns of box-shaped surrounding cells (A61515 slide 12711)
2. detail of a conceptacle with a mature tetrasporangium showing irregular divisions (**t sp**) and many transparent residues of old sporangial walls (A60783 slide 12021)
3. highly magnified single tetrasporangium showing the intersecting divisions characteristic of this species (A60783 slide 12021)
Specimens of *Hildenbrandia rubra* (Sommerfelt) Meneghini on rocks from S Australia

4. from lower intertidal rock pools at Carpenter Rocks conforming to the smooth rock surface (A61515)
5. in a shaded pool, Vivonne Bay, amongst barnacles (*Elminius*), with an irregular profile due to the crystalline nature of the rock (A15336)