Porphyra columbina Montagne

45.040

Techniques needed and plant shape

MACRO PLANT

Sexual plant

This is a stage in the whole life cycle of the species

Classification Phylum: Rhodophyta; Order:Bangiales; Family: Bangiaceae

***Descriptive name** § southern laver

Features plants consisting of grey-red to red-purple blades, 50-200mm or more long and 40-100mm wide, relatively ***tough*** with wavy edges, broadening with age and then attached to rocks towards the middle of blades (umbilicate)

Occurrences southern hemisphere cooler waters (New Zealand and subantarctic islands, S South America). In Australia, from West Coast, S Australia to mid-NSW

Usual Habitat ***on rock*** in the mid-intertidal on rough coasts, sometimes dense, especially in winter

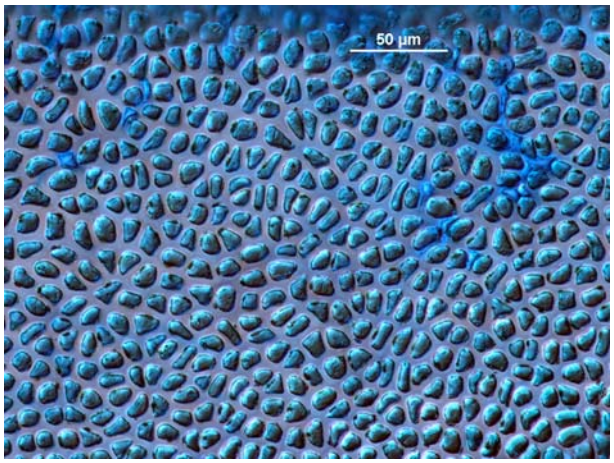
Special requirements view edges of blades microscopically.

1. blades are one cell thick. Cells may be in ***short rows***, or have tails near where the blade attaches to rocks
2. female and male reproductive structures are on the same blade
   - spermatangia occur in packets of 32-64 tiny spermatia at blade edges or in patches amongst female carposporangia. Blade edges disintegrate, releasing the spermatia.
   - 4-16 female carposporangia occur in bunches forming irregularly shaped patches near blade edges, ***often interspersed with other cells***.
3. spore plants (called the conchocelis stage) are minute and thread-like

Similar Species *Porphyra lucasii*, but that species has thin blades, disintegrating with age

Description in the Benthic Flora Part IIIA, pages 38-40

Details of Anatomy



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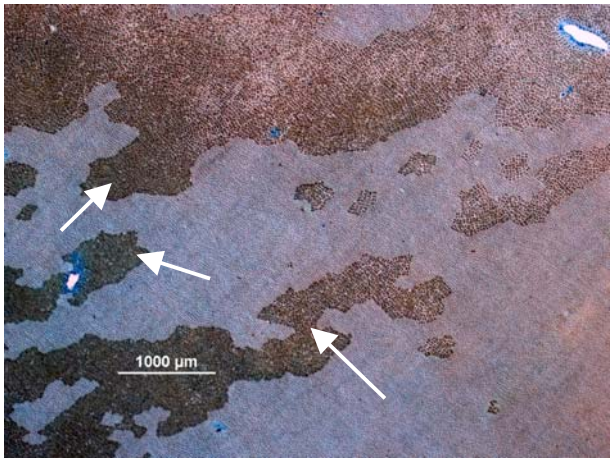

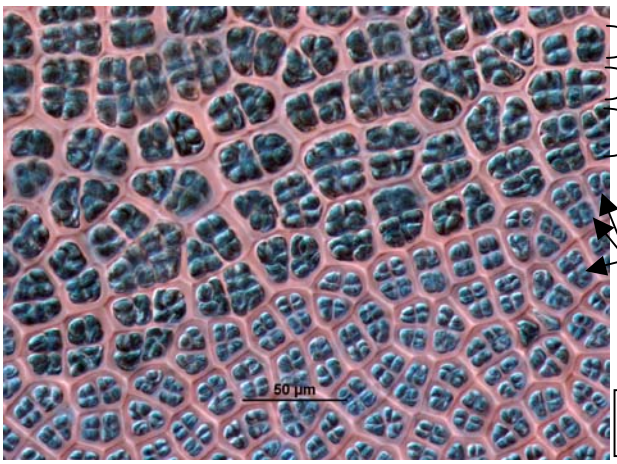

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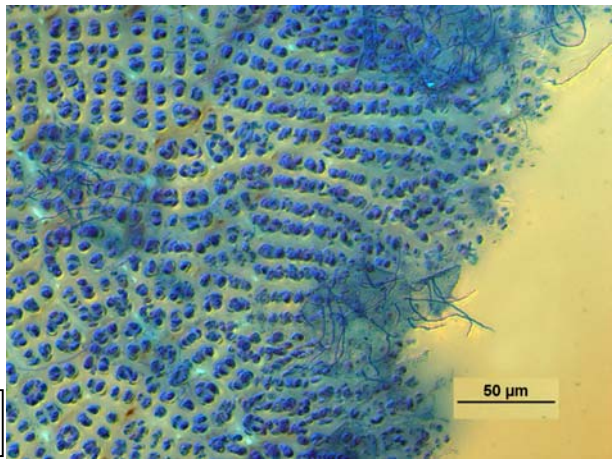

Porphyra columbina stained blue and viewed microscopically

1. cells of the blade, some in vague rows (A58631 slide 10559)
2. broken patches (arrowed) of female carposporangial packets near a blade edge (A39544 slide 4024)
3. detail of packets each of about 12 carposporangia (*ca sp pkts*) at the boundary with male spermatangia (*sperm*) each of 8 or more tiny spermatia (A39544 slide 4024)
4. edge of a blade disintegrating and releasing spermatia (A58631 slide 10559)

Descriptive names are inventions to aid identification, and are not commonly used.

§name used by Edgar, G (2008) in Australian Marine Life (2nd ed). "Algae Revealed" R N Baldock, S Australian State Herbarium January 2010

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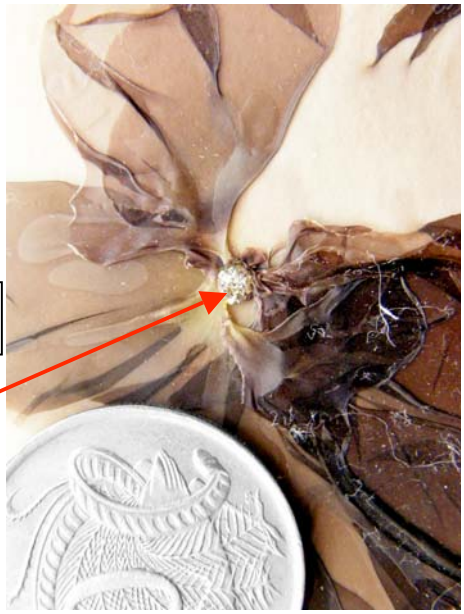

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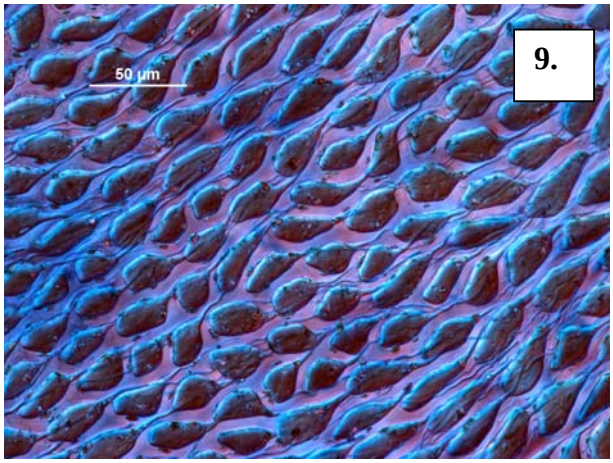

9.

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5, 6. two magnifications of specimens from the mid intertidal, Cape Lannes, Robe, S Australia (A42214) with detail in the right image of the fertile blade edge disintegrating

7, 8. two magnifications of a specimen from Warrnambool, Victoria (A42625) with a wider blade, and the attachment (arrowed) towards the middle of the blade

9. microscope view near the blade attachment stained blue to show the tails on cells (A58631 slide 10559)

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