Adelophycus corneus
(J Agardh) Kraft

Techniques needed and shape

Phylum: Rhodophyta; Order: Gigartinales; Family: Nemastomataceae

*Descriptive name

**Features**

1. plants 80-160mm tall, dark red-brown, gristly, but with *soft tips* that flatten in pressed specimens
2. branches forked, *compressed*, about 2mm wide, sometimes pinched every 1-3mm
3. mature female structures (carposporophytes) form scattered spots near branch ends

**Occurrences**

SW W Australia to Victoria

**Usual Habitat**

on rock in shaded intertidal pools or shallow water

**Special requirements**

1. cut a cross section to find a wide core (medulla) of *entangled threads* and outer layers (cortex) of outward-facing, branched chains of small cells and numerous, dark, pear-shaped cells (*glands*) in a single row
2. if possible cut a cross section through a post-fertilisation stage (carposporophyte) to find *inward-growing* bunches of carposporangia. At an earlier stage, an unbranched string of cells with dense cytoplasm (auxiliary cell thread) may be present.

**Similar Species**

Tsengia feredayae has compressed forked branches, but is slimy, not gristly

**Description in the Benthic Flora**

Part IIIA, pages 268, 272–263

**Details of Anatomy**

1. cross sections of *Adelophycus corneus* stained blue and viewed microscopically, showing:
   1. a slightly compressed branch with prominent glands (*gl*) in outer layers (cortex, *co*) and wide core (medulla, *med*) of branched threads (many lost in the slide preparation) ([A19201 slide 12246])
   2. detail of the cortex with pear-shaped glands and closely-packed, branched chains of small cells ([A19201 slide 12246])
   3. two inwardly-growing masses of cells (carposporophytes, *carp*) formed after fertilization ([A3349 slide 12245])
   4. an unbranched chain of cells (auxiliary cells, *aux c*); the sub-terminal cell produces the carposporophyte ([A32982 slide 12248])

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

Prepared September 2009
5. two magnifications of *Adelophycus corneus* (A69297) 10-15m deep from St. Francis Island, S Australia, showing the forked branching pattern, and softer tips flattening when pressed

7. a preserved (bleached) specimen of *Adelophycus corneus* (A13489) viewed microscopically to show the scattered patches of carposporophytes (*carp*), and a pinched part of a branch (arrowed)

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