**Amphiplexia racemosa**  
(J Agardh) Kraft

**Techniques needed and shape**

**Classification**  
Phylum: Rhodophyta; Order: Gigartinales; Family: Acrotylaceae

*Descriptive name*

**Features**

1. plants red 50-150mm tall, of stiff elongate sections (segments) 10-40mm long 2-3mm wide, with rounded tops, bases pinched
2. few and definite main branches arise from the base
3. active branches clusters are pyramid-shaped in outline

**Occurrences**

Israelite Bay, W Australia to Elliston, S Australia

**Usual Habitat**

possibly a restricted western distribution, 7-11m deep and on the seagrass *Amphibolis antarctica*

**Similar Species**

*Amphiplexia hymenocladioides* which has less prominent, wider main branches and surface cells arranged in rings

**Description in the Benthic Flora** Part IIIA, pages 370-373

**Special Requirements**

1. view the surface microscopically to see small cells scattered above large, deeper cells
2. slice a cross section of a segment and view microscopically to find a broad core (medulla) filled with loose threads and narrow outer (cortex) layer of a single row of large cells with small, evenly arranged surface cells
3. find the ball-shaped protuberant female cystocarps pinched at the base. Slice a cross section of a cystocarp and view microscopically to find the thick wall of cortex cells, mass of branched threads producing carposporangia at their tips. Find spermatangia in tiny surface clusters on the same plant (not imaged here)
4. cut a cross section of a sporangial plant and locate the small cigar-shaped tetrasporangia divided across (zonately) in the outer layer, often with 2 small cortical cells above (not imaged here)

**Details of Anatomy**

* Amphyplexia racemosa stained blue and viewed microscopically, showing
  1. a cross section of part of the the core (medulla, med) of dense threads, and outer layer (cortex, co) with a single inner ring of large cells and surface layers of small cells (A34965 slide 12684)
  2. a cross section of a cystocarp pinched at the base (arrowed) with central cavity containing masses of threads, thick wall (pericarp, peri) of cortex cells, and carposporangia (A35852 slide 3798)
  3. surface view of evenly scattered cells over large, deeper cortex cells (A34965 slide 12683)

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

"Algae Revealed" R N Baldock, S Australian State Herbarium, April 2008
4. *Amphiplexia racemosa* (J Agardh) Kraft, (A35852) from 10m deep at Elliston, S Australia, with a definite main branch (axis) (arrowed)

5. Detail of a pyramid-shaped actively growing branch cluster of a specimen (A35034) from Elliston, S Australia

6. A surface view of *Amphiplexia racemosa* stained blue and viewed microscopically showing the evenly scattered small cells over large deeper cells (A34965 slide 12683)

7. A preserved (bleached and slightly wrinkled) specimen (A35852) showing protuberant cystocarps (arrowed) and the thin cylindrical shape of segments narrowed at the base, not always discernible in pressed specimens

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