**Nanopera merrifieldiae**  
(J Agardh) Wilson & Kraft

Techniques needed and plant shape

**Classification**
*Descriptive name*

**Features**

Division: Rhodophyta; Family: Rhodomelaceae; Tribe: Amansieae  
red combs

plants dark red-brown, 60-200mm tall, main branches (axes) slightly flattened,  
bearing short, opposite side branches of limited (determinate) growth, **curved** when  
young, in a comb-like pattern

**Special requirements**

view microscopically to find

- scattered surface cells, small shoots in the angle (axil) between the axis and  
opposite side branches
- in cross sections of main branches (axis) a central thread (filament), flanked by  
2 pericentral cells above (on the dorsal side), 2 side and 1 pericentral cell directly  
down below (ventral)
- cystocarps, the products of fertilisation, clustered on short stalks in axils of side  
branches
- tetrasporangia in 2 rows on elongate and curved short branches (stichidia)  
clustered in axils

**Occurrences**

Geraldton to King George Sound, W. Australia

**Usual Habitat**

not known (drift plants only)

**Similar Species**

some *Amansia* and *Vidalia* species with serrated margins and flat-branching, but  
these have tiers of cells across the flattened main axes

**Description in the Benthic Flora**  
Part IIID, pages 379, 380

**Details of Anatomy**

1. lengthwise section  
   showing opposite side branches (arrowed) and shoots in the axils (sh)  
   (slide 19867)

2. cross section of an axis  
   showing the  
   • central filament (c fil),  
   • 2 upper (U₁, U₂), 2 side (S₁, S₂), and 1 lower (L) flanking (pericentral) cells  
   • large-celled core (medulla, med)  
   • small-celled outer layers (cortex, co)

3. young cystocarps (cyst), products of fertilisation, on stalks in the angle between  
   the side branch and axis (slide 19866)

4. clusters of tetrasporangial structures (stichidia, stich) in the axils of  
   opposite side branches (slide 19870)

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

5. a drift plant of *Nanopera merrifieldiae* A31044 from Flat Rocks, 40km S of Geraldton, W Australia

6-9. specimens stained blue in varying degrees and viewed microscopically

- 6. young, *curved* opposite branches with tetrasporangia (slide 19870)
- 7. surface view of *scattered* cortical cells (slide 19867)
- 8. a stalked, axillary cystocarp (*cyst*) (slide 19865)
- 9. detail of axillary, *curved* tetrasporangial structures (stichidia, *stich*) showing the *2 rows* of tetrasporangia (slide 19870)

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