Nanopera merrifieldiae
(J Agardh) Wilson & Kraft

45.940.70

A SPECIES WITH FEW RECORDS

Techniques needed and plant shape

MACRO
PLANT

compressed

Classification Division: Rhodophyta; Family: Rhodomelaceae; Tribe: Amansieae

***Descriptive name** red combs

Features 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 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

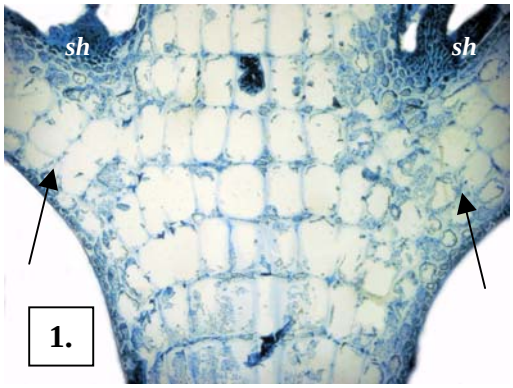
Occurrences Geraldton to King George Sound, W. Australia

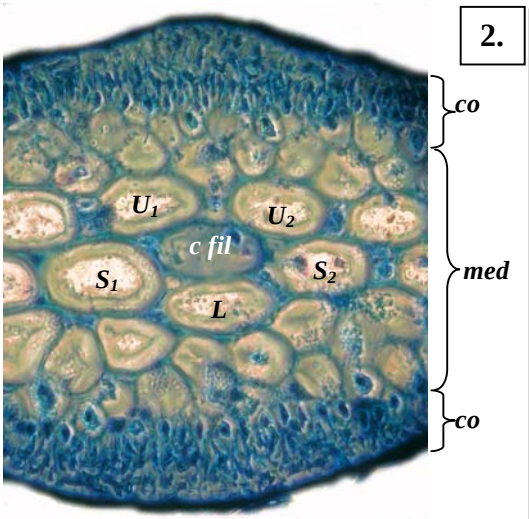
Usual Habitat not known (drift plants only)

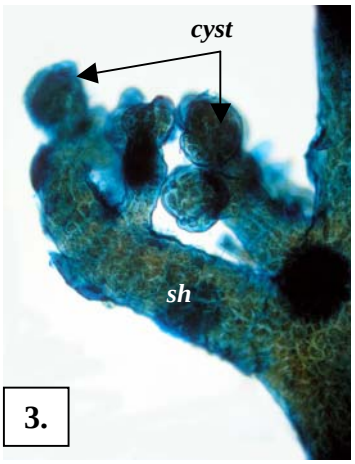
Similar Species some *Amansia* and *Vidalia* species with serrated margins and flat-branching, but these have ***tiers*** of cells across the flattened main axes

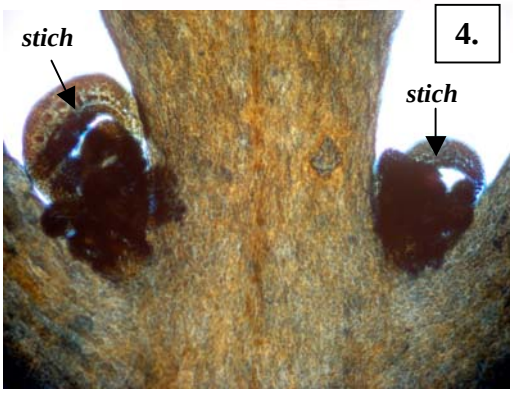
Description in the Benthic Flora Part IIID, pages 379, 380

Details of Anatomy





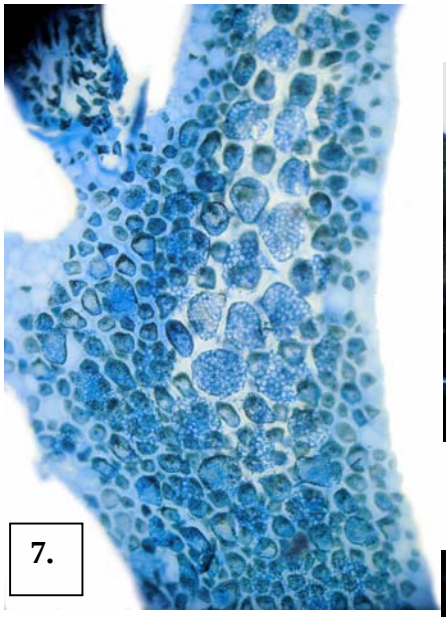


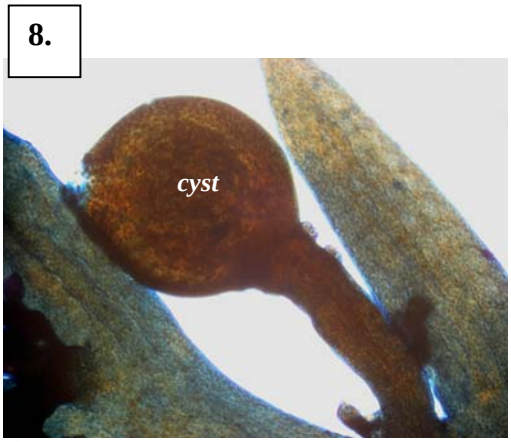


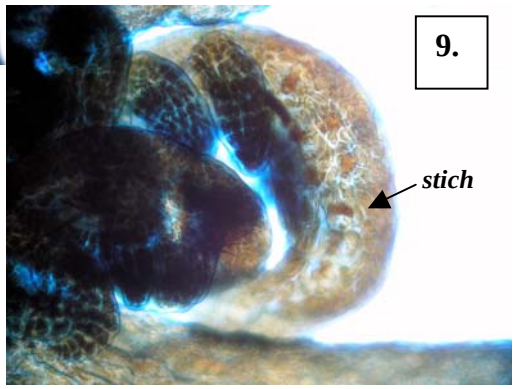
Nanopera merrifieldiae A31044 stained blue and viewed microscopically

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 (U_1, U_2), 2 side (S_1, S_2), 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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