APPENDIX A
TAXONOMY OF SNOWY MOUNTAINS REGION PLANT MICROFOSSILS

This is divided into three sections:

1. A key to pollen and spore taxa identified in fossil, pollen trap, snow or water sample slides.

2. A key to microfossils (apparently not pollen or fern spores) present in the Blue Lake cores, with comments thereon.

3. A study of the pollen morphology of Apiaceae present in the region, with key to pollen types.

It is important that the keys be used in conjunction with the photographs and modern reference material should also be consulted. Certain pollen and spore types of rare occurrence, if not sufficiently distinctive for identification, were not included.

Nomenclature and the major groups of Key 1 are those of Faegri and Iversen (1964). Not all divisions are dichotomous, trichotomocolporate grains for example being divided into three tuberculate taxa. Terms such as colpus (for elongated aperture) and pore (for aperture less than twice as long as broad) are used in a morphological sense and are not meant to imply homology.

Numerals in brackets after the taxon name in Keys 1 and 2 refer to photograph numbers in plates A.1-A.7, which follow. The legend accompanying each plate lists the preparation yielding the photographed specimen (for codes, see Appendix D). Some taxa, for which only unsatisfactory photographs were available, were photographed from modern reference material (code REF, followed by family-genus-species laboratory code). All magnifications in the plates are 1000x, unless otherwise noted.
KEY 1. SNOWY MOUNTAINS REGION POLLEN AND SPORE TYPES

1. VESICULATE

A. Bladders \( \pm \) the same size as body of grain, with constriction between bladders and body

B. Structure of bladder giving a fine reticulate pattern in optical section

\[ \text{Pinus radiata} \] (1)

BB. Bladder with elongated elements in optical section

\[ \text{Podocarpus} \ \text{comp.} \] (2)

AA. Bladders not constricted at base, not extending far from body of grain. Bladder with elongated elements in optical section

\[ \text{Daerydium} \ \text{comp.} \] (3)

2. POLYPLICATE: none

3. INAPERTURATE

A. Tectate grains with several elongated lacunae, one of which forms a rudimentary pore at the broad end of the usually pear-shaped grain

\[ \text{Cyperaceae} \] (84A)

AA. Not so

B. With scattered micro-gemmae. Usually characteristically split

\[ \text{Callitris} \] (4)

BB. Not so

C. Tectate, with low verrucae

\[ \text{Ranunculus} \] (32)

CC. Reticulate

\[ \text{TriaLochin} \] (5)

4. MONOCOLPATE

A. Spores. Exine without regularly arranged collumellae, generally thick (>2\( \mu \)). Grains generally large, >30\( \mu \)

B. Psilate or scabrate

\[ \text{Filioinae M} \] (6)

BB. Not so

C. Verrucate or baculate

D. Verrucae \( \pm \) circular, rounded in section, low. Aperture usually irregular

\[ \text{Cheilanthes} \] (7)
DD. Verrucae irregular, flat-topped
   in section. Aperture regular........ Filiicinæ
   type 137 (8)

DDD. Baculae irregularly arranged, some
   fused........................................ Hypolepis (9)

CC. Not so

D. Reticulate

E. Reticulum very coarse (about 6
   brochi in equatorial view)........ Asplenium (10)

EE. Reticulum finer, lace-like, with
   variable-sized brochi.................... Polystichum
   proliferum (11)

AA. Pollen grains. Exine with regularly arranged
   columellæ or reticulum (except Astelia).
   Grains generally small, <35μ (except Xyris)

B. Reticulate................................. Liliaceaæ subf.
   Asphodeloideæ
   p.p. (12)

BB. Not so

C. Tectate, exine structure complex
   (perhaps twice tectate). Grain >50μ....... Xyris (13)

CC. Not tectate, ornament of microechinae or
   microtuberculæ. Grain <25μ.............. Astelia (14)

5. TRICHTOTOMOCOLPATE

A. Spores. Columellæ absent. Grain >30μ (except
   Pellææa)

B. Psilate or minutely foveolate or scabrate
   C. Exine not thickened at angles in polar
      view...................................... Filiicinæ T (14A)

   CC. Exine thickened at angles, distal
      surface sometimes shallowly rugulate.... Dicksonia
      antarctica (15)

BB. Not so

C. Sculpture reduced or absent on proximal
   surface

D. Equatorial outline ± triangular
E. Reticulate.......................... \textit{Lycopodium fastigiatum} (15A)

EE. Foveolate.......................... \textit{Lycopodium selago} (17)

DD. Equatorial outline ± circular;
foveolate, commonly ± rugulate....... \textit{Ophioglossum} (16)

CC. Not so

D. Êchinate. Subspherical, grain 20–30\(\mu\). \textit{Pellaea falcata} (19)

DD. Verrucate

F. Verrucae ± circular, about 2\(\mu\)
diameter, scattered.................... \textit{Grommitis} (20)

FF. Verrucae dense, about 3\(\mu\)
diameter, fused along edge of
aperture................................. \textit{Culcita dubia} (21)

FFF. Verrucae dense, about 1\(\mu\)
diameter, mostly ± fused into
small groups......................... \textit{Filiicinae}

AA. type 156

AA. Pollen grains. Columellae present. Grain
20–30\(\mu\), subtriangular............... \textit{Dionella} sim. (23)

6. MONOPORATE

A. Pore without thickened annulus

B. Reticulate. Grain 20–30\(\mu\). Pore small........ \textit{Typhaceae– Sparganiaceae} (24)

BB. Not so

C. Foveolate. Pore very large, exine
fragmented or beaded around pore........ \textit{Restionaceae} (25)

CC. Microechinate. Pore or colpus large.... \textit{Astelia} (14)

AA. Pore with annulus. Tectate, psilate or
scabrate................................ \textit{Poaceae} (26)

7. DICOLOPATE

Grain prolate spheroidal, about 25\(\mu\), near
synocolpate, reticulate....................... \textit{Atherosperma moschatum} (27)
8. TRICOLPATE

A. Tectate

B. Psilate

C. Columellae not clearly visible
   D. Exine thick (2-3μ), ektxine thicker than endexine. Colpus equatorially constricted. Grain 20-30μ, prolate... Gyrostemonaceae (28)
   DD. Exine thin (<2μ), ektxine thinner than endexine. Colpus usually gaping. Grain <25μ, ± spherical... Gratiola comp. (29)

CC. Columellae clear
   D. Grain 20-30μ, prolate... Parakehe comp. (30)
   DD. Grain >35μ... Euphrasia (31)

BB. Microechinate or micro verrucate

C. Echinae or verrucae broad, low.
   Scattered coarse columnellae. Colpi narrow or diffuse... Ranunculaceae (32)
   CC. Echinae or verrucae ± equidimensional, dense. Colpi broad, open... Ewartia comp. (33)

AA. Per-reticulate

B. Grains large (>40μ), spheroidal... Prostanthera (34)

BB. Grains small (<30μ)

C. Colpus equatorially constricted
   D. Brochi reduced in size towards colpi... Hypericum comp. (35)
   DD. Not so
      E. Grain <20μ. Several pores often visible along colpus... Rosiaceae sim. (68)
      EE. Grain >20μ... Novea sim. (37)

CC. Colpus not constricted equatorially
   D. Microreticulate, columnellae not clearly discernible. Grain <20μ, barrel-shaped... Daviesia sim. (38)
   DD. At least some brochi >1μ
      E. Colpi short (polar index >0.4). Exine 1-2μ... Hibbertia comp. (39)
      EE. Colpi long (polar index <0.2). Exine thick (2-4μ)... Cruciferae (40)
9. STEPHANOCLPATE

A. Colpi long
   B. Suprareticulate (columellate muri apparently overlying tectum). Grain 20-30μ.
      Colpi 5-7, simple.............................. Apenerula comp. (41)
      BB. Microchinate. Colpus membrane verrucate, margin irregular.......................... Styliidium (42)
   AA. Colpi short, pore-like, with thickened rim, protruding. Grain oblate...................... Haloragaceae (43)

10. PERICLORATE

A. Grain large (>50μ). Colpi 30, pentagonally arranged. Densely clavate......................... Neopaxia australasia (44)
   AA. Grain <25μ. Colpi 5, tetrahedrally arranged. Reticulate........................................ Daviesia sim. (38)

11. DICOLPORATE: none

12. TRICOLPORATE

12:1. Psilate-scabrate

A. With distinct costae equatoriales and equatorial transverse colpus. Prolate.................. Excoarpos (45)
   AA. Costae equatoriales absent or indistinct
      B. Grain spheroidal or oblate: length/breadth ratio <1.2
         C. Intercolprium flattened or concave
            D. Exine thickest and columellae coarsest near the pole. Pore transversely oval Hydrorostyle sim. (46)
            DD. Not so. Pore ± circular, with thickened rim.............................................. Pomaderris (47)
            CC. Intercolpium convex
               D. Pore protruding
                  E. Polar area small. Transverse colpus with distinct costae............. Dodonaen (48)

\[ Acaena \] (49)

DD. Pore not protruding

E. Polar area small, columellae indistinct

F. Pore obscure. Equatorial outline lobed. Grain >15\( \mu \).... 

\[ Utricularia \] (50)

FF. Transverse colpus. Equatorial outline circular. Grain <15\( \mu \)... 

\[ Tetraetha \] (51)

FFF. Pore ± circular, with thickened rim. Grain angular, about 20\( \mu \). 

\[ Pomaderris \] (47)

EE. Polar area large. Columellae distinct. Transverse colpus very large. Grain rounded, oblate, 25–35\( \mu \). 

\[ Coprosma \] (52)

BB. Grain prolate: length/breadth ratio >1.2

C. Grain quite prolate (length/breadth ratio >1.8), large (>35\( \mu \))

D. Grain equatorially constricted or with oblong meridional limb. Transverse colpus with oval outline, colpus narrow (<1\( \mu \)) 

\[ Dichosociadium ranunculaceum \] (53)

DD. Grain with oval meridional limb. Transverse colpus with oblong outline, colpus broad (3\( \mu \)). 

\[ Corea Lawrenciana \] (54)

CC. Not so

D. Grain polarly assymetrical, small (<20\( \mu \)). Pore meridionally elongated, oval, clear 

\[ Echium lycopepsi \] (55)

DD. Not so

E. Transverse apertures two per colpus. Columellae distinct (see also section 12:5) 

\[ Myoporacae \] (56)

EE. Not so
F. Exine thickest in intercolpium or near poles. Transverse colpus or pore with costae. Prolate, oblong. Sometimes apiculate, generally colpi on flattened sides. 

**Apioaceae**

(57, 58)

(see Key 3)

FF. Not so

G. Meridional limb rhomboid.

Exine thick (2-3μ). Pore transversely 8-shaped. 

**Tieghemopanax**

*ambuifolius* (61)

GG. Meridional limb oval. Pore oval, with distinct costae, slightly protruding.

Grain >25μ. 

**Dodonaea**

(48)

12:2. Echinate

**Asteraceae** subfam. _Tubuliflorae_  
(see section 8:3 for verrucate tricolpate grains — _Ewartia_ comp. — and section 21 for fenestrate grains — _Asteraceae_ subfam. _Liguliflorae_).

12:3. Striate-rugulate

A. Grain <25μ, slightly oblate. Striate: groups of ± parallel striae meeting at abrupt angle in median of intercolpium. 

**Centaurium**

(59)

AA. Grain >30μ, prolate. Striate (semitectate), striae all ± meridional.

**Gentianella**

*diemensis* (60)

12:4. Suprareticulate-foveolate


**Indigofera** comp. (62)

AA. Not oblate, colpus long. Reticulum coarser, clear, reduced towards colpi. Colpus equatorially constricted
B. Pore and columellae indistinct.................. **Hardenbergia** sim. (63)
BB. Pore clear, without costae, ± circular.
   Columellae distinct.............................. **Trifolium** sim. (64)

12:5. Per- reticulate

A. With transverse colpus or equatorially
   elongated pore exceeding width of colpus
   (**Rutaceae** P.P.)
   B. Reticulum coarse (brochi to 1μ). At least
      slightly prolate........................................ **Eriostemon** sim. (65)
   BB. Reticulum fine (brochi <0.5μ). Grains ±
      spheroideal, equatorial limb inter-
      hexagonal.............................................. **Physalis** comp. (66)
AA. Not so
   B. Grain large (>30μ). Reticulum with
      meridionally elongated brochi. Columellae
      distinct.............................................. **Gentianella**
      **diemensis** (60)
   BB. Not so
      C. Colpi commonly not perfectly meridional,
         very narrow. Pore ± circular, with
         costae. Grain spheroideal to slightly
         oblate.............................................. **Rumex** (67)
      CC. Not so
         D. Several pores along colpus, or
            single very elongated pore.
            Reticulum very fine (brochi <0.7μ).
            Grain <20μ, spheroideal to slightly
            prolate.............................................. **Bossiaea** sim. (68)
         DD. Single ± circular pore within colpus.
            Reticulum coarser (brochi to 1μ),
            reduced towards colpi. Grain <20μ...... **Bursaria spinosa** (69)

13. STEPHANO COLPORATE

A. With 6 or fewer colpi.............................. **Boraginaceae** (70)
AA. With 10 or more colpi. Equatorial girdle of
    fused transverse colpi............................ **Polygalaceae** (71)
14. PERICOLPORATE

A. Colpi 4, very narrow. Pores ± circular, covered, with costae. Pattern (micro-)per- reticulate. Grain ± spheroidal, <30µ. Limb lobed between colpi. .......................... Rumex  

AA. Colpi >4, narrow. Pores ± circular, with costae and annuli, not patterned. Tectate, columnellae indistinct, scabrate to psilate. Limb polygonal. ........................................ Pomaderris  

15. DIPORATE

Grain bean-shaped, apertures at the ends, about 30x20x20µ (excluding convex pore membranes).
Tectate. Pore with distinct costa and more coarsely structured eksternal annulus. .......... Banksia id. marginata comp.  

(Banksia is the only regular representative in the area. Exceptional grains of Haloragaceae, Casuarina, etc., are diporate).

16. TRIPORATE

A. Pore at apex of large ± dome-shaped protrusion with basal 'costal' ring of thickened exine (vestibulate)

B. Grain ≧50µ .................................................. Epilobium  
BB. Grain <40µ (occasionally 2-, 4-, 5- porate) Casuarina  

AA. Not so

B. Equatorial limb ± triangular, with truncate apices (at pores). Pores not markedly thickened at rim, but with costae at some distance from aperture
C. Tectate

D. Tuberculate ................................................. Hakea  
DD. Psilate or scabrate ....................................... Grevillea sim.  
CC. Per-reticulate ............................................ Lomatia  

(67)  
(47)  
(72)  
(73)  
(74)  
(75)  
(77)  
(76)
BB. Equatorial limb ± circular
C. With distinct spines, tectate. Pores with costae............................... **Wahlenbergia** (78)

CC. Not so
D. Pore not thickened. Grain <20μ............ **Urticaceae** (79)
DD. Pore with sharply delimited thickened annulus. Tectate, columnellae fine. Grain >20μ............ **Myriophyllum pedunculatum** (80)

17. STEPHANOPORATE
A. With distinct, regularly distributed spines.... **Wahlenbergia** (78)
AA. Psilate or scabrate
B. With protruding vestibulate pores.......... **Casuarina** (74)

BB. Pores with endoxine thickenings, protruding (equatorial limb irregular), meridionally elongated......................... **Haloragaceae** p.p. (43)

18. PERIPORATE
A. Verrucate
B. Pores distinct, with annuli. Sculpture fine. **Plantago** id. **lanceolata** sim. (81)

BB. Pores indistinct, without annuli. Sculpture coarse............................... **Plantago** id. **muelleri** sim. (82)

AA. Echinate (no examples)
AAA. Reticulate
B. Bottom of lumina either with a pore or covered by granules. Reticulum very coarse and regular............................... **Polygonum** (83)

BB. Pores distinct, surrounded by annuli with ± wedge-shaped ektextine elements ('croton' pattern), the annuli forming part of a reticulum in which other brochi are smaller............................... **Pimelea** sim. (84)

AAAA. Psilate-scabrate
B. Grain irregular, usually pear-shaped.
   Pores indistinct.......................... Cyperaceae (84A)
BB. Not so
   C. Grain >25μ, polyhedral. Pores 12, large
      (>5μ), sunken. Exine tectate, punctate,
      with minute tuberculae or echinæ............ Stellaria (87)
   GC. Not so. Pores >12, small (<3μ). Tectate,
      punctæ indistinct or absent. Grain
      spheroidal
   D. Pores clear, rimmed...................... Centrospermae p.p. (85)
   DD. Pores indistinct. Grain 25-30μ........ Centrospermae sim.
      type 74. (86)

19. SYNCOLPATE
A. Colpi meridional
   B. Tricolpate. Equatorial limb triangular with
      deeply concave sides. Colpi meeting neatly,
      without polar lacunæ. Grain 25-30μ.......... Amyema (88)
BB. Tricolporate (occasionally dicolporate or
tetracolporate in Eucalyptus). Equatorial
limb triangular, sides slightly concave,
straight or convex
   C. Colpi meeting in ± triangular polar area
   D. Grain <15μ. Polar area with triangular
      'island' of patterned exine. Clear
      vestibulum at pore.......................... Callistemon comp. (89)
   DD. Grain without patterned polar
      'island', or if so, >15μ. Vestibulum
      not clear.................................. Eucalyptus (90)
   GC. Colpi meeting without enclosing marked
      polar area
   D. Colpi interrupted or attenuated
      between polar and equatorial areas..... Angophora (91)
   DD. Not so
      E. Sculpture a faint, relatively
      coarse reticulum, or psilate......... Leptospermum sim. (92)
      EE. Distinctly micro verrucate......... Kunzea comp. (93)
   AA. Colpi spiral-shaped. Grain ± oblong (fragment
      of polyad).............................. Acacia (94)
20. HETEROCOLPATE : none

21. FENESTRATE

Echinate, lophate. Lacunae in a distinct pattern. *Asteraceae subfam.*

*Liguliflorae* (94A)

22. DYADS : none

23. TETRADS

A. All but one grain reduced and forming cap at lesser pole of polarly assymmetrical + prolate tricolporate major grain........... *Monotoca* comp. (95)

AA. Not so

B. Reticulate, each grain distally monoporate.. *Drimys* (96)

BB. Not so

C. Verrucate-gemmate, each grain tricolporate (but this may be difficult to observe). ................... *Epacris*

CC. Scabrate or psilate

D. Each grain tricolporate............... *Epacridaceae p.p.* (98)

DD. Each grain triporate. Pores vestibulate. Grains loosely connected..................... *Epilobium* (73)

24. POLYADS

Grains usually 12 or 16 per polyad. Polyads oval and bilaterally symmetrical.................... *Acacia* (94)
KEY 2. MICROFOSSILS OTHER THAN POLLEN AND SPORES

A number of microfossils was recognised but only those which occurred frequently are described.

A. Organism colonial (palmellate), consisting of an approximately spheroidal mass of radiating funnel-shaped cells, about 30μ diameter. May be agglomerated with similar masses. Generally yellow-brown in colour........................... Botryococcus brownii

AA. Organism single-celled

B. Spheroidal or slightly oblate spheroidal

C. Pattern of meridionally arranged verrucae or short spines. Diameter 18-22μ. Wall about 1μ thick................................. 'Sphere-R' (104)

CC. Pattern reticulate. Brochi angular, about 2-3μ in diameter. Wall about 1μ thick. Diameter 20μ................................. 'Sphere-F' (103)

CCC. Pattern reticulate. Muri formed by outwards-folding of wall, which is not thickened. Brochi about 5μ, 5-7 sided. Diameter 25-30μ................................. 'Sphere-P' (102)

CCCC. Pattern faintly but distinctly scabrate. Diameter 15-20μ................................. 'Sphere-W' (99)

B8. Prolate, about 50-60 x 35-45μ. Ornament of thicker, tubiform (although not clearly hollow) processes, apically expanded. These appear to support a thin outer membrane; the inner, basal layer is split by a narrow aperture (3/4 of the length of the body)............................. Baltisphaeridium sp. X. (101)

Affinities of these microfossils

1) Botryococcus brownii Kützing is a well known alga of varied habitats, both fresh- and salt-water (Blackburn and Temperley, 1936). It was recorded in 1970 from ponds near Lake Albina (Powling, 1970), but not from Blue Lake. It is, however, well known in Australian
sedimentary deposits (e.g. Cookson, 1953).

2) Spheres -R, -F, -P, -W. The general morphology and ornament of these types distinguish them from the spores of vascular plants and bryophytes. Fossil fungi tend to appear a characteristic brown colour, although this is not likely to be an infallible guide. The most likely affinities of these forms are, however, with the algae*. Churchill (1960) has recorded fossil unicellular algae and aplanospores from southwest Australian freshwater peats, but none of these appear to be closely similar to the above. However more or less spheroidal unicellular algae occur in several algal groups (Fritsch, 1956; Bourrelly, 1966; Prescott, 1954); the spores of still other algae have similar form.

Algal genera which should be considered are:

Sphere -R : Trochiscia (Oocystaceae)
Akanthochloris (Pleurochloridaceae)

Sphere -F : Arachnochloris (Pleurochloridaceae)

Sphere -P : Trochiscia - strong similarity
Nautococcus (Hypnomonadaceae)
Arachnochloris

Sphere -W : Chlorella (Oocystaceae)
Chlorococcum (Chlorococccaceae)
Pleurochloris (Pleurochloridaceae)
Chloridella (Pleurochloridaceae)

Only the capture, and possibly culture, of live organisms is likely to resolve the question further.

3) Baltisphaeridium spp. These have been described from freshwater deposits in southwestern Australia (Churchill & Sarjeant, 1962) and also occur in eastern Australia in the Mt. Gambier region lakes (Mr. J.R. Dodson, pers. comm.) and Lake George (Dr. G. Singh, pers.

* Pawling's identifications of phytoplankton from lakes in the Kosciusko area contain no mention of forms which could be identified with these spheroidal forms, and, indeed, no record of any phytoplankton from Blue Lake (save the green filamentous alga Ulothrix) on either sampling occasion (February 1969, February 1970). The net used was of 60 micron mesh size, hence it is possible that the organisms passed through the net, particularly since clogging of the mesh by larger plankton did not occur. Hydrological conditions during the sampling may also have meant that the organisms, if present, were concentrated elsewhere in the lake. Peak frequency of the organisms may also occur at other times during the ice-free season.
comm.). They are assigned by Churchill and Sarjeant to the order and family Hystrichosphaeridea: Hystrichosphaeridae, a family of form genera, many of which have apparent dinoflagellate affinities (Evitt, 1961). The authors point out however, that the species of Baltisphaeridium described show no undoubted features of dinoflagellate affinity. Following a proposal by Evitt (1963), Sarjeant later placed the genus in a group incertae sedis, the Acritarcha.

The form B. sp. X shows some similarities to B. telmaticum, but in the Blue Lake form all processes seem to be of the same character. The presence of a supra-process membrane is not mentioned by Churchill and Sarjeant for any of the forms described by them, but similar membranes occur in the cysts of pre-Neogene dinoflagellates (Sarjeant, 1969: e.g. Membranilarnacia). A simple slit-like aperture or furrow occurs in B. quaternarium Churchill & Sarjeant (this form has simple spines). This could correspond to the ventral pore of a dinoflagellate.
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<td><em>Pinus radiata</em></td>
<td>SN70 B</td>
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Native species only are keyed and described here. Alien species, uncommon except near settlements, include the following (Willis, 1972; Burbidge and Gray, 1970): *Anethum graveolens* L., *Apium leptophyllum* (Pers.) F. Muell ex Benth., *Conium maculatum* L., *Foeniculum vulgare* Mill. The native species *Lilaeopsis polyantha* (Gandoger) H.J.Eichler may occur at lower elevations, but no reference material was available. Only two of the many species of *Hydrocotyle* listed from the region were selected for study. These two had very similar morphology. The two species of *Seseli* are of interest in that Dawson (1967) has suggested they be referred to *Gingidium* J.R. et G. Forst. In a study of New Zealand *Gingidium* species Moar (1966) distinguished three groups based on pollen morphology. The pollen of *Seseli algens* closely resembles that of Moar's *Gingidium montanum* group (i.e. that of the type species), while that of *S. harveyanum* more closely resembles his *G. deltoideum* group.

A. Length of grain >30μ, equator constricted
   B. Grain >40μ. Exine with ± striate pattern.... *Trachymene anisocarpa*  
   BB. Grain <40μ. Not striate.................. *Dichosciadium ranunculaceum*

AA. Equator not constricted. Grain <35μ.  
   B. Pore equatorially 8-shaped (constricted at colpus
      C. Apertures at angles of equatorial limb  
         (± apiculate)  
         D. Pores markedly protruding............. *Daucus glochidiatus*  
            *Eryngium rostratum*  
            *Seseli algens*  
            *Seseli harveyanum*
      DD. Not so (outline of pore obscure).....  
      CC. Apertures between lobes or angles of  
         equatorial limb....................... *Aciphylla* spp.  
         *Diplaspinia hydrocotyle*  
         *Oreomyrrhis* spp.
   BB. Pore not 8-shaped
C. Pore circular or equatorially elongated...

*Centella cordifolia*

*Eryngium vesiculosum*

*Hydrocotyle spp.*

*Oschatzia cuneifolia*

*Platysace lanceolata*

*Seseli harveyanum*

*Trachymene humilis*

CC. Pore meridionally elongated, oblong.

Grain apiculate, c. 20\(\mu\) long.............. *Schizanema fragoceum*

For details of measurements, etc., see Tables A.1, A.2. Slides were prepared from herbarium material by the usual methods of the A.N.U. Department of Biogeography and Geomorphology Palynology Laboratory, including acetolysis, dehydration in alcohol, and mounting in silicone oil (AK2000, cf. Andersen, 1960). Examination was carried out with a Carl Zeiss (Oberkochen) automatic photomicroscope. Measurements were made to an accuracy of one eyepiece division (0.625\(\mu\)) on a 10-grain unbiased sample from each slide, using a total magnification of x1600 (oil immersion objective). The same optical arrangement was used for morphological examination and photography. For photomicrographs, see Plates A.8, A.9, and Table A.1 (legend).
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