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Illustrations of Canadian Fossils
CARBONIFEROUS AND PERMIAN SPORES OF CANADA

(Report, 2 figures and 38 plates)

M. S. Barss



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ABSTRACT

This report illustrates assemblages of miospores from Yukon Territory, Northwest Territories, and the Maritime Provinces of Canada. Thirteen assemblages from Carboniferous and Permian rocks are shown on 38 plates with 918 photomicrographs. Each plate is accompanied by provisional taxonomic identifications and brief statement of stratigraphic provenance of the fossils. Most of the fossils have not been previously figured.

Illustrations of Canadian Fossils

CARBONIFEROUS AND PERMIAN SPORES OF CANADA

INTRODUCTION

This report is the thirteenth in a series designed primarily to present illustrations of fossils from Canadian rocks. Like two of the preceding reports in the series (McGregor, 1965; McGregor and Owens, 1966) it illustrates miospores, which for the most part are below 200 microns in size. This report is intended to provide illustrations of spore assemblages from rocks of known age, which may be useful to students and professional palynologists for laboratory reference.

The spores shown on Plates I-IV have been illustrated by Playford (1964) and Hacquebard (1957). Most of the remaining fossils have not been figured previously. The assemblages on Plates V-VI, Windsor Group, and Plates VII-XI, Mattson Formation, are from single samples. The others are composite assemblages from two or more samples.

This report is not intended as a record of all species present in the assemblages, nor is it a substitute for thorough taxonomic determinations of the spores based on examination of numerous specimens and comparison with type material. The fossils have been identified by reference to descriptions and illustrations in published literature. No attempt has been made to bring the nomenclature up to date.

The fossils with few exceptions have been extracted by the writer, from rocks of widely separated regions of Canada: Yukon Territory, Northwest Territories and the Maritime Provinces (see Figs. 1 and 2). The assemblages are arranged in ascending stratigraphic order and the stratigraphic provenance of the rock enclosing each assemblage is given in the legends accompanying the plates. The geographic locations of the samples are listed on page 4. The spores were derived from surface and subsurface samples collected in nearly all instances by officers of the Geological Survey of Canada. Additional geological data may be obtained in the publications referred to in the plate descriptions.

Redeposited Lower Carboniferous and Devonian spores were present in the Lower Permian samples from localities 56956, 56961, and 57036 (Plates XXXVI in part to XXXVIII in part). The reworked spores were easily recognized and excluded.

In the descriptions of the plates the prefix "cf." implies that the spore is similar to the taxon named and possibly conspecific with it; "?" preceding the generic name indicates whole identification uncertain; "?" following the specific name indicates confident generic assignment, but uncertain specific assignment. Spores that could not be compared with forms in the literature are listed as "unidentified".

The slides have been deposited in the Geological Survey of Canada type collections in Ottawa. Numbers following figure descriptions on the plates are Geological Survey fossil plant type numbers. All figures are shown at magnification of X 500, except where otherwise stated.

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Figure 1. Index of spore localities, Northern Canada.

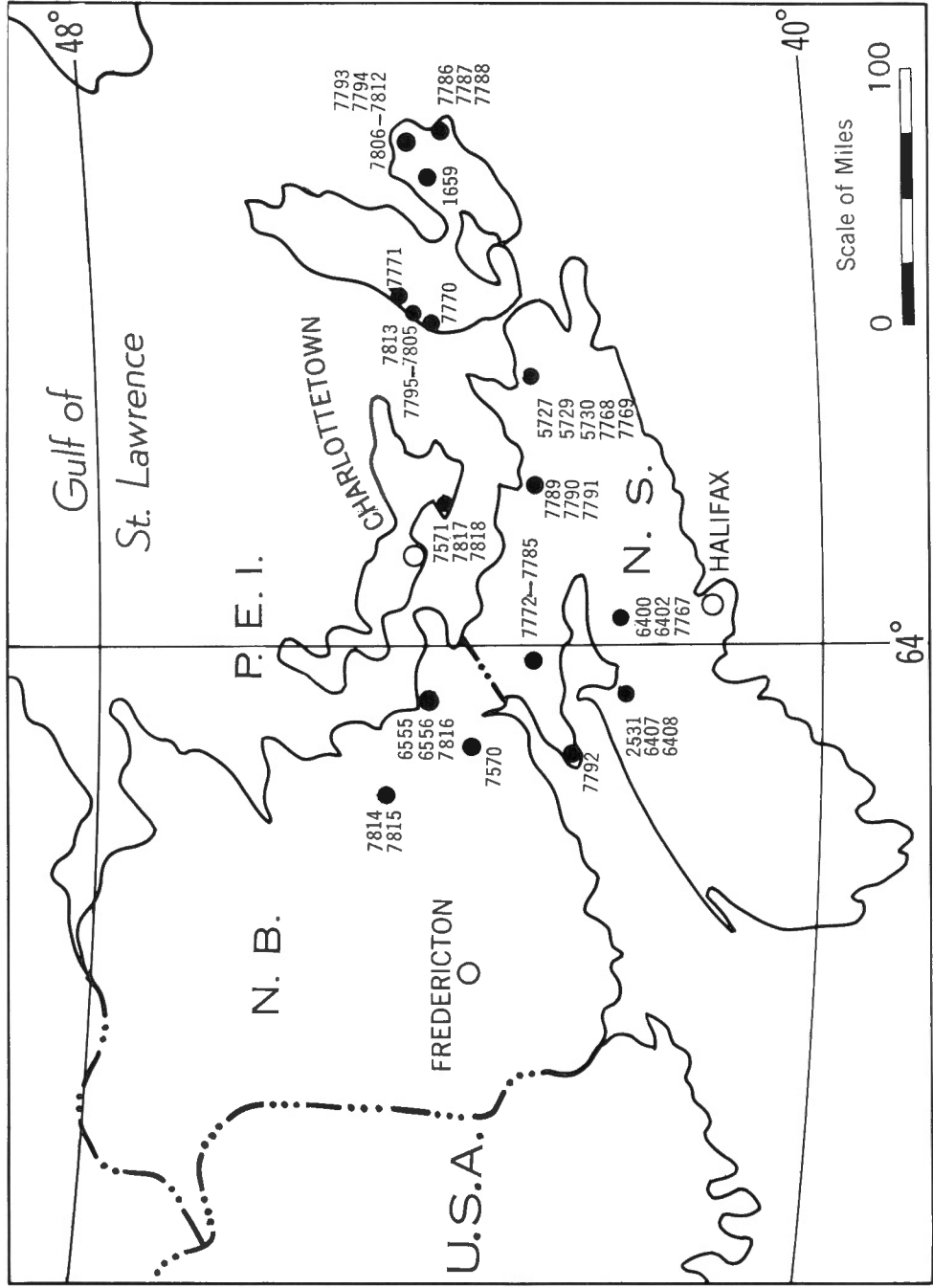


Figure 2. Index of spore localities, Maritime Provinces.

FOSSIL LOCALITIES

PLATES I - IV

GSC loc.

- 2531: Harding Brook, Gaspereaux area, 4300 feet upstream from road bridge at Melanson, Kings co., Nova Scotia. Collector: W.A. Bell, 1914.
- 6400: Mill Brook, 1 mile north of East Gore, Nova Scotia. Collector: P.A. Hacquebard and I.M. Stevenson, 1956.
- 6402: Three and one half miles south of Kennetcook, Nova Scotia. Collector: P.A. Hacquebard and G. Playford, 1962.
- 6407: West shore of Avon River, Nova Scotia, 325 feet south of Blue Beach fault. Collector: P.A. Hacquebard and G. Playford, 1962.
- 6408: West shore of Avon River, Nova Scotia, 200 feet south of Blue Beach fault. Collector: P.A. Hacquebard and G. Playford, 1962.
- 7767: Gore Court House Hill, near Kennetcook, Nova Scotia, 100 feet from contact with pre-Carboniferous. Collector: B.C. Murray, 1954.

PLATES V - VI

- 1659: Frenchvale Brook, Balls Creek, Northwest Arm of Sydney Harbour, Nova Scotia. Collector: W.A. Bell and D.J. McNeil, 1930.

PLATES VII - XI

- 5004: Lower Mattson Formation, south face of Twisted Mountain, about 15 miles northwest of South Nahanni, Northwest Territories; 61°13'N; 123°37'W. Collector: W. Brady, 1957.

PLATES XII - XIV

- 5727: Pomquet River section, south of Route 4, Antigonish co., Nova Scotia, 1775 feet downstream from base of section. Collector: E.S. Belt, 1956.
- 5729: Pomquet River section, south of Route 4, Antigonish co., Nova Scotia, 3220 feet downstream from base of section. Collector: E.S. Belt, 1956.

GSC loc.

- 5730: Pomquet River section, south of Route 4, Antigonish co., Nova Scotia, 7960 feet downstream from base of section. Collector: E.S. Belt, 1956.
- 7768: Pomquet River section, south of Route 4, Antigonish co., Nova Scotia, 1232 feet downstream from base of section. Collector: E.S. Belt, 1956.
- 7769: Pomquet River section, south of Route 4, Antigonish co., Nova Scotia, 2580 feet downstream from base of section. Collector: E.S. Belt, 1956.

PLATES XV - XVII

- 7770: Two hundred feet from mouth of adit, Harbourview mine, Port Hood, Inverness co., Nova Scotia. Collector: M.S. Barss and T.F. Birmingham, 1957.
- 7771: No. 5 seam, 1300 feet east of Evans' mine on No. 2 seam, near Neil MacLeod Brook, St. Rose, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1950.

PLATES XVIII - XXI

- 7772: Pearly McFadden's mine on Chignecto seam, 0.3 mile east of Chignecto, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1957.
- 7773: Jim Haley's mine on Chignecto seam, 1.1 miles west of Maccan, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1957.
- 7774: Morrison's pit on Chignecto seam, 0.4 mile east of Chignecto, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1957.
- 7775: Fenwick mine on Chignecto seam, 2.1 miles east of Chignecto, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1957.
- 7776: Styles mine on Chignecto seam, 5.4 miles east of Chignecto, near Styles Brook, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1957.
- 7777: Pit on Park Road on Joggins Fall seam, Joggins, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1957.

GSC loc.

- 7778: Joggins bore-hole No. 1, at 1641 foot depth; on Christie Brook, 2.0 miles upstream from confluence with Hebert River, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1955.
- 7779: No. 3 seam, from steep tunnel off 5400 foot level in No. 2 mine, Springhill, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1957.
- 7780: No. 1 seam, from 5400 foot east level in No. 2 mine, Springhill, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1957.
- 7781: No. 6 seam, from 5400 foot west level in No. 4 mine, 35 feet from rock tunnel slope, Springhill, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1957.
- 7782: No. 7 seam, from 3200 foot mine bord, 150 feet east of back auxiliary slope in No. 4 mine, Springhill, Cumberland, co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1957.
- 7783: Bore-hole No. 1 east, in Roger's field, near outcrop of No. 6 seam, at 40 foot depth; Springhill, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1959.
- 7784: Test pit on Golden seam, 0.6 mile southeast from Millers Corner on Leamington Road, 100 feet east of road, Springhill, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1959.
- 7785: From Tingley pit in Roger's field near southern extension of McDougal Street, Springhill, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1959.

PLATES XXII - XXIV

- 7570: Moncton Hump Yard, Canadian National Railways bore-hole, at depth of 986 feet; 46°04'18"N, 64°52'32"W; Moncton, New Brunswick. Collector: M.S. Barss and R.D. Howie, 1962.
- 7786: Tracey seam, from Beaver Mine, east of MacDonald Lake and south of Morrison Road, approximately 5.0 miles from Highway 22, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1951.
- 7787: First seam below Tracey seam, 1.0 mile west of Homeville, approximately 1300 feet south of Broughton - Homeville Road, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1950.

GSC loc.

- 7788: McAulay Cove seam, from outcrop on shore, 1.75 miles south of Homeville, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1950.
- 7789: Main seam taken in No. 1 mine, No. 2 north bord on No. 1 Balance, No. 7 north level, 150 feet north of slope; Pictou coalfield, Pictou co., Nova Scotia. Collector: P.A. Hacquebard and A.R. Cameron, 1953.
- 7790: Pit on middle coal seam of Skinner Brook Member, northwest of Westville, 2000 feet east of Skinner Brook, Pictou coalfield, Pictou co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1957.
- 7791: Pit on upper coal seam of Skinner Brook Member, northwest of Westville, 2200 feet east of Skinner Brook, Pictou coalfield, Pictou co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1957.
- 7792: Coal seam in cliff at Spicer Cove on Chignecto Bay, Cumberland co., Nova Scotia. Collector: P.A. Hacquebard and J.R. Donaldson, 1958.

PLATES XXV - XXVII

- 7793: LeCras seam, from pit 200 feet southwest side of Highway 22, 1.1 miles from intersection of Old Mira Road and Highway 22; Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1950.
- 7794: Ormond seam, from pit approximately 600 feet southwest side of Highway 22, and 600 feet east of old road to Middle Lake, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1950.
- 7795: Angus MacPhee's pit, on north side of syncline in cliff section, 112 feet above beach, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1949.
- 7796: Coal seam in cliff section on north side of syncline, 100 feet above beach, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1951.
- 7797: Seven-foot seam, in drift from cliff shore to old workings, south side of syncline, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1951.
- 7798: Eight-foot seam, in drift from cliff shore to old workings, south side of syncline, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1951.

GSC loc.

- 7799: Colonel Snow's adit, at beach level, northeast side of syncline at Coal Mine Point, approximately 440 feet west of gypsum fault, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1951.
- 7800: First coal seam northeast side of syncline, 84 feet below Stack sandstone at Coal Mine Point, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1951.
- 7801: Coal seam 95 feet above beach, cliff section northeast side of syncline, Coal Mine Point, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1952.
- 7802: Slope of 15 foot seam, south side of syncline, 150 feet from entrance to mine, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard, M.S. Barss, and J.R. Donaldson, 1952.
- 7803: Coal seam immediately below fault north of Coal Mine Point, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1953.
- 7804: From 136 foot depth in bore-hole No. 5, 690 feet south of Stack Point, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1954.
- 7805: From 590 foot depth in bore-hole No. 2, 350 feet south of Stack Point, Mabou mines, Inverness co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1954.

PLATES XXVIII - XXXI

- 7806: Coal seam 12 feet above Point Aconi seam on shore at Point Aconi, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1958.
- 7807: Point Aconi seam, on shore at Point Aconi, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1958.
- 7808: Coal seam 200 feet above Harbour seam, on shore north of New Waterford, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1958.
- 7809: Coal seam 93 feet above Harbour seam, on shore northwest of New Waterford, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1958.

GSC loc.

- 7810: Harbour seam, Dominion No. 12 colliery, at face of No. 21 west level, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1950.
- 7811: Phalen seam, in Dominion No. 18 colliery, at face of No. 6 west level, 3400 feet from main deep, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1950.
- 7812: Lower Jubilee seam, first seam below Phalen seam, east shore of Sydney Harbour, Sydney coalfield, Cape Breton co., Nova Scotia. Collector: P.A. Hacquebard and M.S. Barss, 1949.
- 7813: Thirty-four inch seam at Inverness, near mine entrance, Inverness coalfield, Inverness co., Nova Scotia. Collector: P.A. Hacquebard, 1955.
- 7814: From stripping operation of Wasson Company, 1.0 mile north of Coal Branch Station, New Brunswick. Collector: P. A. Hacquebard, 1957.
- 7815: From stripping operation 1.0 mile south of Beersville, on east side of Coal Branch River, New Brunswick. Collector: P.A. Hacquebard, 1957.

PLATES XXXII - XXXIII

- 6555: On Scoudouc River, 1 1/8 miles upstream from highway running south from Dorchester Crossing, New Brunswick. Collector: P.A. Carr, 1962.
- 6556: Shediac water well, approximately 1400 feet east of shore of harbour and 1800 feet south of highway at Shediac, New Brunswick. Collector: P.A. Carr, 1962.
- 7816: On small northerly tributary of Scoudouc River, 1/2 mile west of old dam and 1 1/2 miles south of town of Shediac, New Brunswick. Collector: P.A. Hacquebard, 1958.

PLATES XXXIV - XXXVI (in part)

- 7571: Gallas Point bore-hole No. 2, on property of H. Tweedy, Gallas Point, Prince Edward Island, 10 feet northwest of 1908-09 hole, at depth of 332 feet. Lat. 46°07'42"N; Long. 63°57'28"W. Collector: M.S. Barss and R.D. Howie, 1962.
- 7817: Gallas Point bore-hole No. 2, on property of H. Tweedy, Gallas Point, Prince Edward Island, 10 feet northwest of 1908-09 hole, at depth of 335 feet. Lat. 46°07'42"N; Long. 63°57'28"W. Collector: M.S. Barss and R.D. Howie, 1962.

GSC loc.

- 7818: Gallas Point bore-hole No. 2, on property of H. Tweedy, Gallas Point, Prince Edward Island, 10 feet northwest of 1908-09 hole, at depth of 350 feet. Lat. $46^{\circ}07'42''\text{N}$; Long. $63^{\circ}57'28''\text{W}$.
Collector: M.S. Barss and R.D. Howie, 1962.

PLATES XXXVI (in part) - XXXVIII (in part)

- 56956: Unnamed formation on Tatonduk River, 1027 feet below base of Tahkandit Formation, in west limb of syncline, 3 miles east of Yukon - Alaska border; Yukon Territory, Lat. $64^{\circ}58'\text{N}$; Long. $140^{\circ}54'\text{W}$. Collector: W. Bamber, 1963.
- 57036: Unnamed formation on Tatonduk River, 2163 feet below base of Tahkandit Formation, in west limb of syncline, 3 miles east of Yukon - Alaska border; Yukon Territory, Lat. $64^{\circ}58'\text{N}$; Long. $140^{\circ}54'\text{W}$. Collector: W. Bamber, 1963.
- 56961: Unnamed formation on Tatonduk River, 3270 feet below base of Tahkandit Formation, in west limb of syncline, 3 miles east of Yukon - Alaska border; Yukon Territory, Lat. $64^{\circ}58'\text{N}$; Long. $140^{\circ}54'\text{W}$. Collector: W. Bamber, 1963.

PLATE XXXVIII (in part)

- 5221: In vicinity of Tingmisut Lake, east side of Sabine Peninsula, Melville Island, Northwest Territories. Collector: R. Thorsteinsson, 1958.

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PLATE I
LOWER CARBONIFEROUS - Maritime Provinces
Tournaisian

Horton Group, Cheverie and Horton Bluff Formations

References: Bell, 1929, 1960.

- Figure 1. Leiotriletes tortilis Playford, 1964, p.6. 13051. Loc. 6400.
Figure 2. Leiotriletes notatus Hacquebard, 1957, p.307. 4222. Loc. 7767.
Figure 3. Punctatisporites debilis Hacquebard, 1957, p.308. 13056. Loc. 6400.
Figure 4. Punctatisporites solidus Hacquebard, 1957, p.308. 13062. Loc. 6400.
Figure 5. Punctatisporites irrasus Hacquebard, 1957, p.308. 13055. Loc. 6400.
Figure 6. Punctatisporites planus Hacquebard, 1957, p.308. 13059. Loc. 6400.
Figure 7. Punctatisporites viriosus Hacquebard, 1957, p.308. 13061. Loc. 6400.
Figure 8. Punctatisporites limbatus Hacquebard, 1957, p.308. 13057. Loc. 6400.
Figure 9. Retusotriletes avonensis Playford, 1964, p.9. 13065. Loc. 6407.
Figure 10. Gulisporites torpidus Playford, 1964, p.8. 13063. Loc. 6400.
Figure 11. Cyclogranisporites commodus Playford, 1964, p.12. 13069. Loc. 6400.
Figure 12. Anapiculatisporites tersus Playford, 1964, p.17. 13091. Loc. 6400.
Figure 13. Granulatisporites inspissatus Playford, 1964, p.11. 13073. Loc. 6400.
Figure 14. Granulatisporites crenulatus Playford, 1964, p.11. 13075. Loc. 6405.
Figure 15. Verrucosisporites nitidus (Naumova) Playford, 1964, p.13. 13085. Loc. 6407.
Figure 16. Anapiculatisporites ampullaceus (Hacquebard) Playford, 1964, p.16. 13097. Loc. 6400.
Figure 17. Verrucosisporites congestus Playford, 1964, p.13. 13078. Loc. 6400.
Figure 18. Leiozonotriletes insignitus Hacquebard, 1957, p.315. 13080. Loc. 6400.
Figure 19. Verrucosisporites papulosus Hacquebard, 1957, p.311. 13082. Loc. 6400.
Figure 20. Anapiculatisporites hystricosus Playford, 1964, p.16. 13094. Loc. 6408.

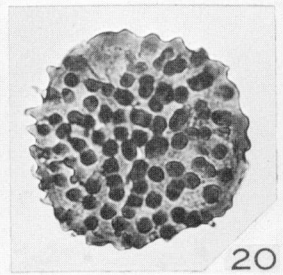
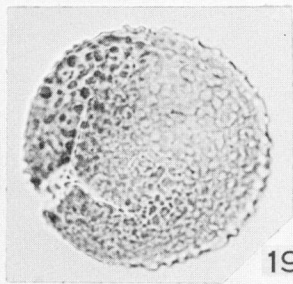
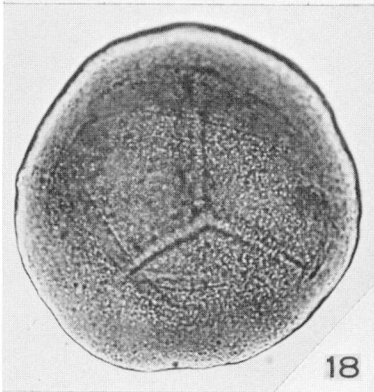
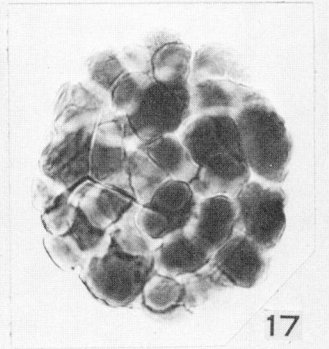
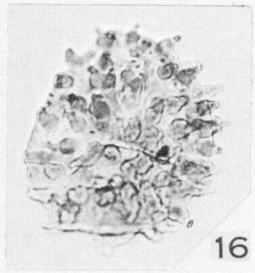
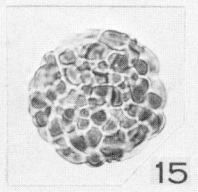
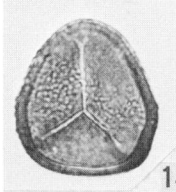
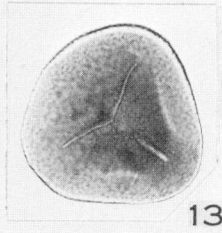
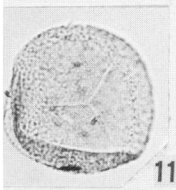
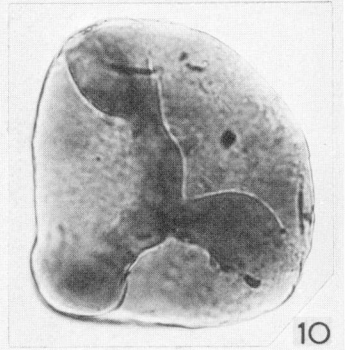
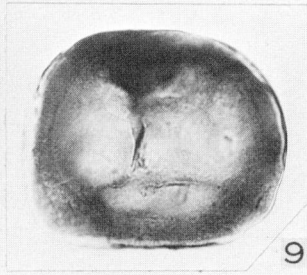
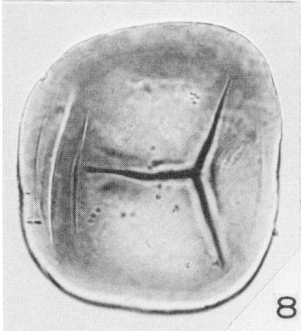
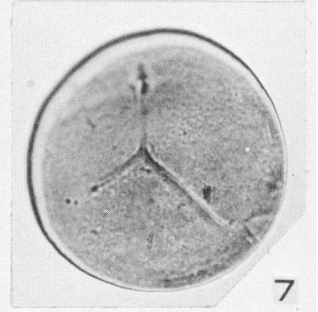
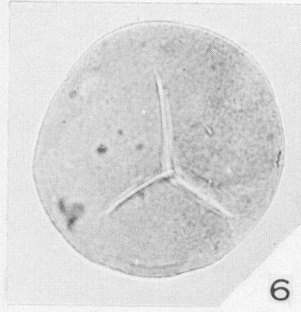
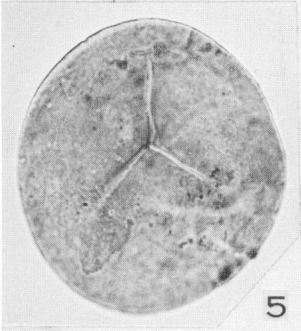
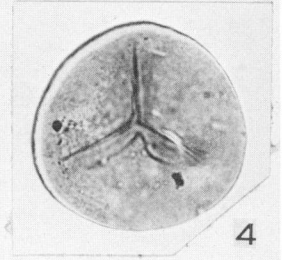
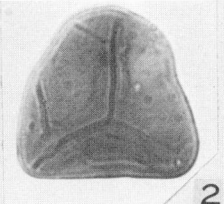
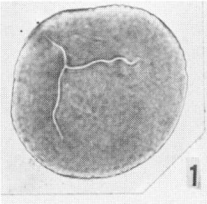


PLATE II
LOWER CARBONIFEROUS - Maritime Provinces

Tournaisian

Horton Group, Cheverie and Horton Bluff Formations (continued).

- Figure 1. Pustulatisporites gibberosus (Hacquebard) Playford, 1964, p.18. 13099. Loc. 6400.
Figure 2. Apiculatasporites compactus Playford, 1964, p.18. 13102. Loc. 6407.
Figure 3. Raistrickia baculosa Hacquebard, 1957, p.310. 13121. Loc. 6400.
Figure 4. Pustulatisporites pretiosus Playford, 1964, p.19. 13111. Loc. 6407.
Figure 5. Acanthotriletes hacquebardii Playford, 1964, p.20. 13105. Loc. 6408.
Figure 6. Spinozonotriletes conspicuus Playford, 1964, p.22. 13114. Loc. 6400.
Figure 7. Spinozonotriletes uncatus Hacquebard, 1957, p.316. 13115. Loc. 6400.
Figure 8. Raistrickia abstrusa Playford, 1964, p.24. 13118. Loc. 6400.
Figure 9. Grandispora echinata Hacquebard, 1957, p. 317. 13112. Loc. 6400.
Figure 10. Spinozonotriletes tenuispinus Hacquebard, 1957, p.316. 13117. Loc. 6400.

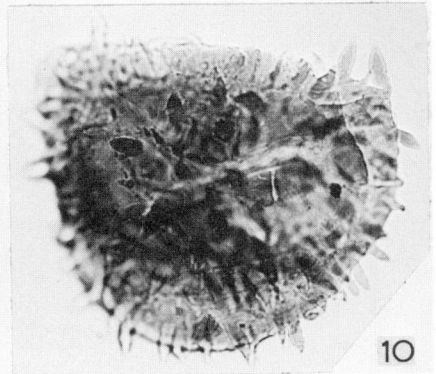
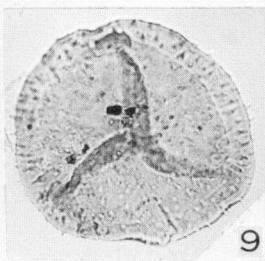
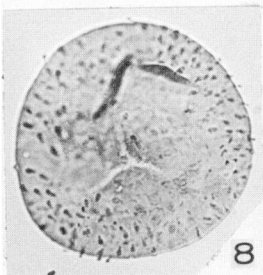
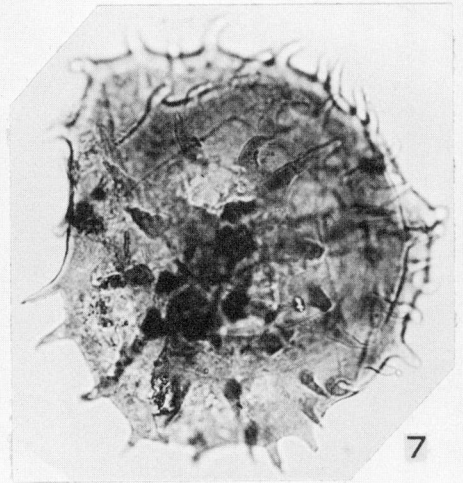
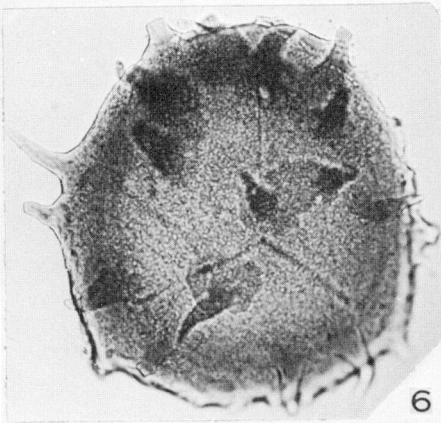
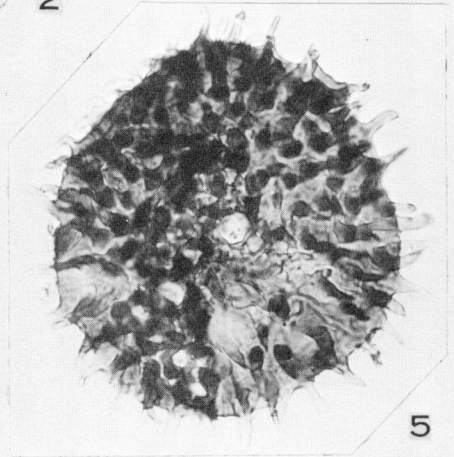
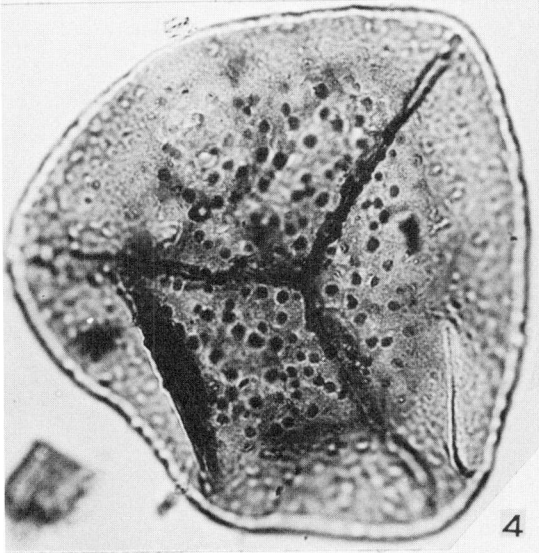
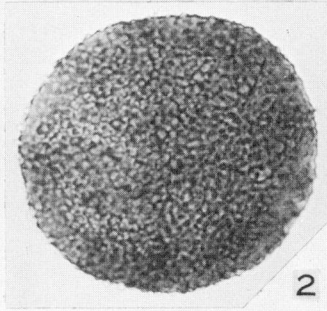
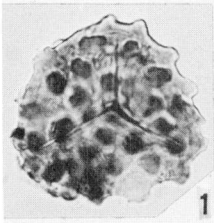


PLATE III
LOWER CARBONIFEROUS - Maritime Provinces

Tournaisian

Horton Group, Cheverie and Horton Bluff Formations (continued).

- Figure 1. Convolutispora flexuosa forma major Hacquebard, 1957, p.311. 4254. Loc. 7767.
Figure 2. Dictyotriletes admirabilis Playford, 1964, p.29. 13154. Loc. 6400.
Figure 3. Convolutispora cf. C. finis Love, 1960, p.115. 13145. Loc. 6407.
Figure 4. Raistrickia clavata (Hacquebard) Playford, 1964, p.24. 13122. Loc. 6400.
Figure 5. Stenozonotriletes extensus var. major Naumova, 1953, p.72. 13161. Loc. 6400.
Figure 6. Campotriletes verrucosus Butterworth and Williams, 1958, p.368. 13167. Loc. 6400.
Figure 7. Dictyotriletes submarginatus Playford, 1964, p.29. 13156. Loc. 6407.
Figure 8. Raistrickia ponderosa Playford, 1964, p.25. 13130. Loc. 6408.
Figure 9. Convolutispora vermiformis Hughes and Playford, 1961, p.30. 13143. Loc. 6408.
Figure 10. Lycospora magnifica McGregor, 1960, p.35. 13169. Loc. 6400.
Figure 11. Stenozonotriletes sp. in Playford, 1964, p.33. 13177. Loc. 6408.
Figure 12. Lophozonotriletes rarituberculatus (Luber) Kedo, 1957, p.1166. 15076. Loc. 2531.
Figure 13. Schopfites augustus Playford, 1964, p.26. 13137. Loc. 6400.
Figure 14. Reticulatisporites cheveriensis Playford, 1964, p.30. 13162. Loc. 6408.

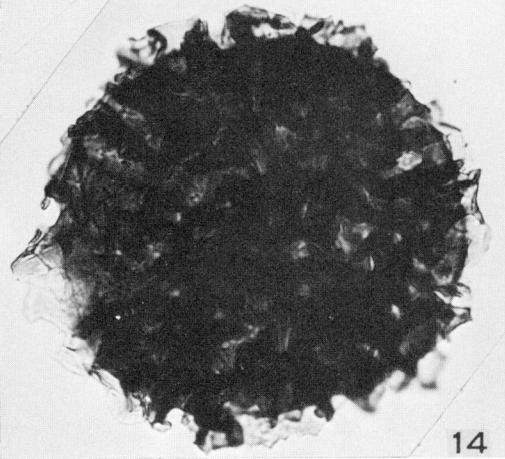
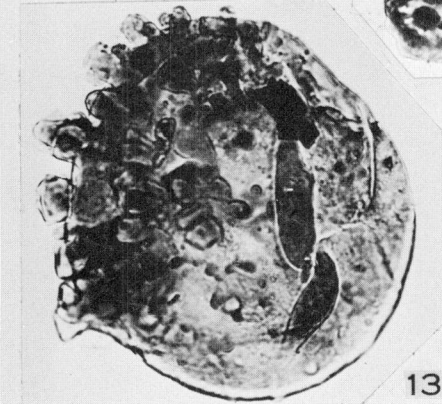
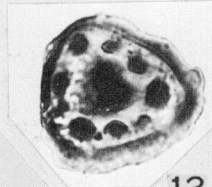
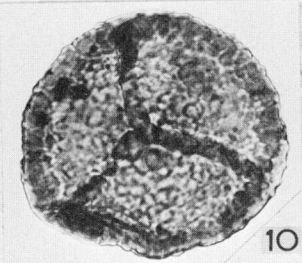
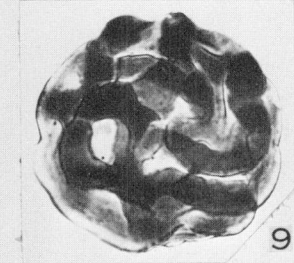
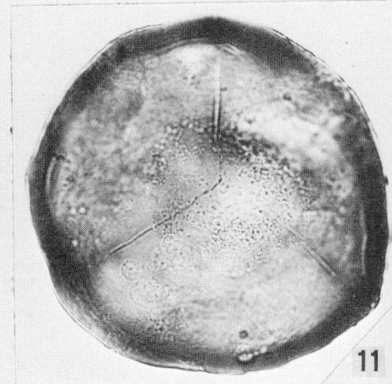
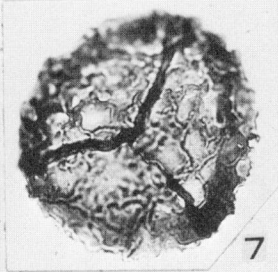
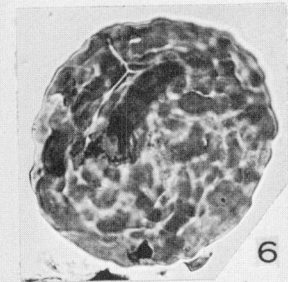
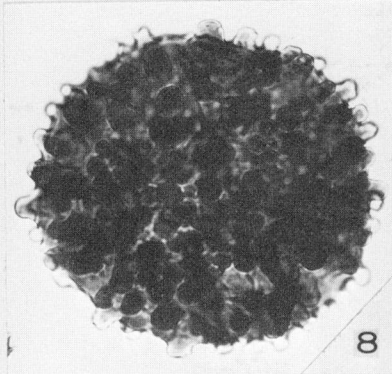
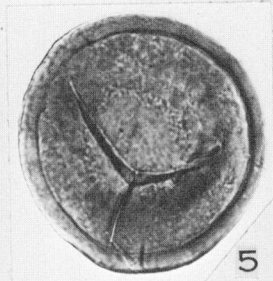
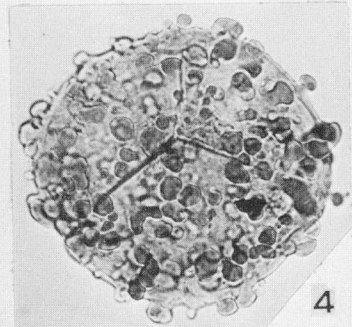
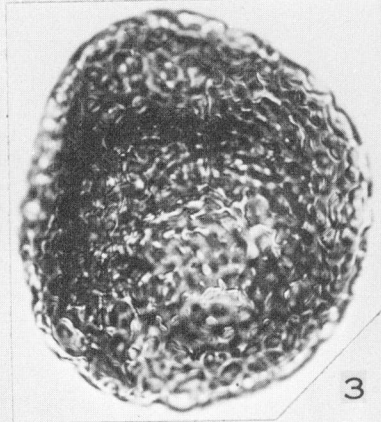
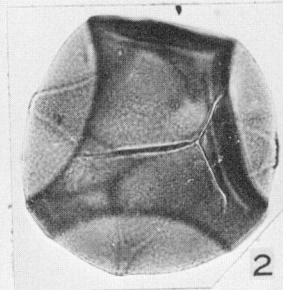
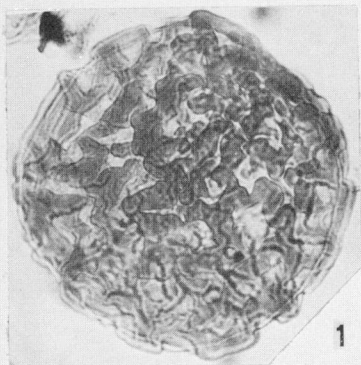


PLATE IV

LOWER CARBONIFEROUS - Maritime Provinces

Tournaisian

Horton Group, Cheverie and Horton Bluff Formations (continued).

- Figure 1. Microreticulatisporites hortonensis Playford, 1964, p.28. 13146. Loc. 6400.
Figure 2. Vallatisporites vallatus Hacquebard, 1957, p.312. 13175. Loc. 6400.
Figure 3. Lycospora torulosa Hacquebard, 1957, p.312. 13174. Loc. 6400.
Figure 4. Endosporites micromanifestus Hacquebard, 1957, p.317. 13180. Loc. 6402.
Figure 5. Perotrilites perinatus Hughes and Playford, 1961, p.33. 13173. Loc. 6400.
Figure 6. Cristatisporites echinatus Playford, 1963, p.637. 13178. Loc. 6400.
Figure 7. Perotrilites magnus Hughes and Playford, 1961, p.33. 13166. Loc. 6400.
Figure 8. Endosporites macromanifestus Hacquebard, 1957, p.317. 13179. Loc. 6400.
Figure 9. Cristatisporites aculeatus (Hacquebard) Potonié, 1960, p.63. 13182. Loc. 6400.

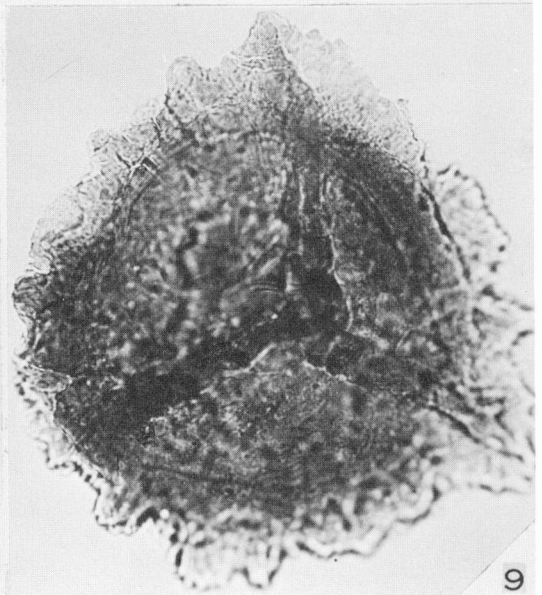
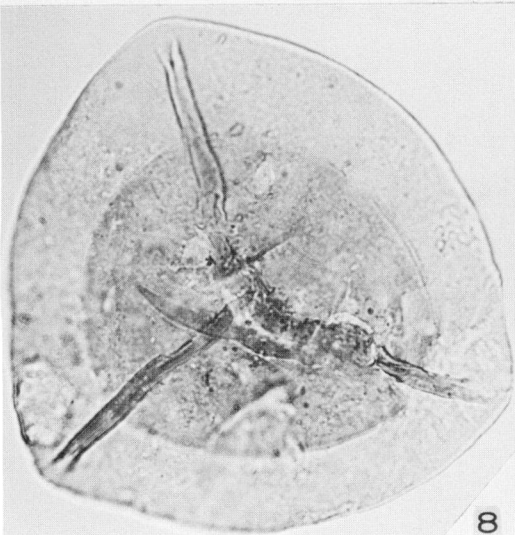
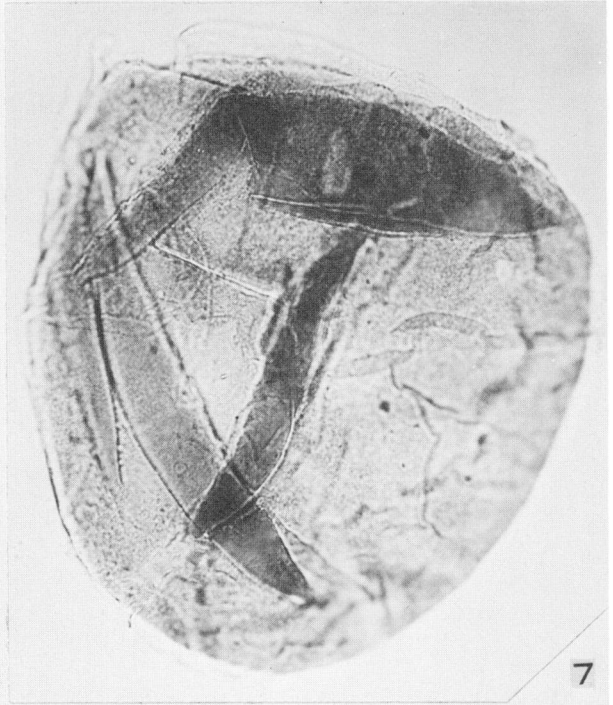
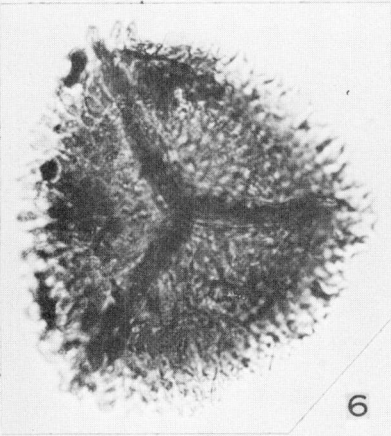
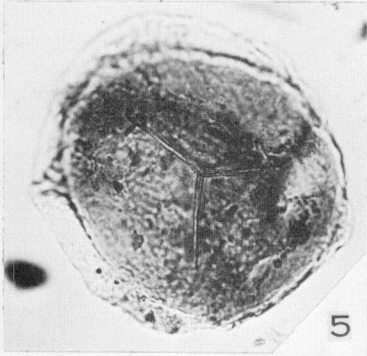
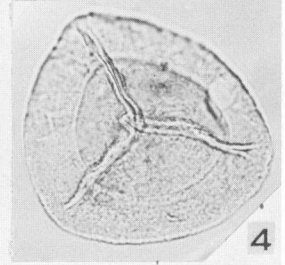
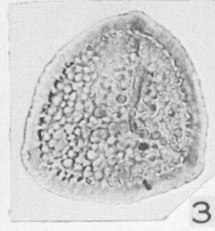
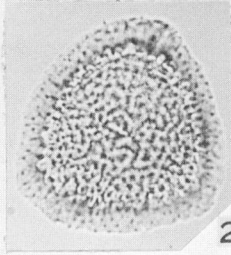
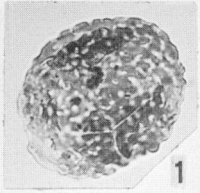


PLATE V
LOWER CARBONIFEROUS - Maritime Provinces

Viséan

Windsor Group, undifferentiated, GSC loc. 1659.

Reference: Bell, 1960.

- Figure 1. Leiotriletes inflatus (Schemel) Potonié and Kremp, 1955, p.37. 15787.
Figure 2. Punctatisporites glaber (Naumova) Playford, 1962, p.576. 15788.
Figure 3. Leiotriletes ornatus Ischenko, 1956, p.22. 15789.
Figure 4. Punctatisporites punctatus Ibrahim, 1933, p.22. 15790.
Figure 5. Punctatisporites cf. P. platirugosus (Waltz) Sullivan, 1964a, p.358. 15791.
Figure 6. Punctatisporites irrasus Hacquebard, 1957, p.308. 15792.
Figure 7. Apiculatasporites sp. 15793.
Figure 8. Retusotriletes sp. 15794.
Figure 9. cf. Calamospora Type A Hoffmeister, Staplin, and Malloy, 1955, p.382. 15795.
Figure 10. Punctatisporites sp. 15796.
Figure 11. Cyclogranisporites commodus Playford, 1964, p.12. 15797.
Figure 12. Retusotriletes incohatus Sullivan, 1964b, p.1251. 15798.
Figure 13. Densosporites variomarginatus Playford, 1963, p.629. 15799.
Figure 14. Calamospora microrugosa (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.52. 15800.
Figure 15. Stenozonotriletes facilis Ischenko, 1956, p.73. 15801.
Figure 16. Stenozonotriletes sp. 15802.
Figure 17. ? Retusotriletes sp. 15803.
Figure 18. Lycospora sp. 15804.
Figure 19. Stenozonotriletes clarus Ischenko, 1958, p.86. 15805.
Figure 20. Verrucosisporites sp. 15806.
Figure 21. Convolutispora cf. C. mellita Hoffmeister, Staplin, and Malloy, 1955, p.384. 15807.

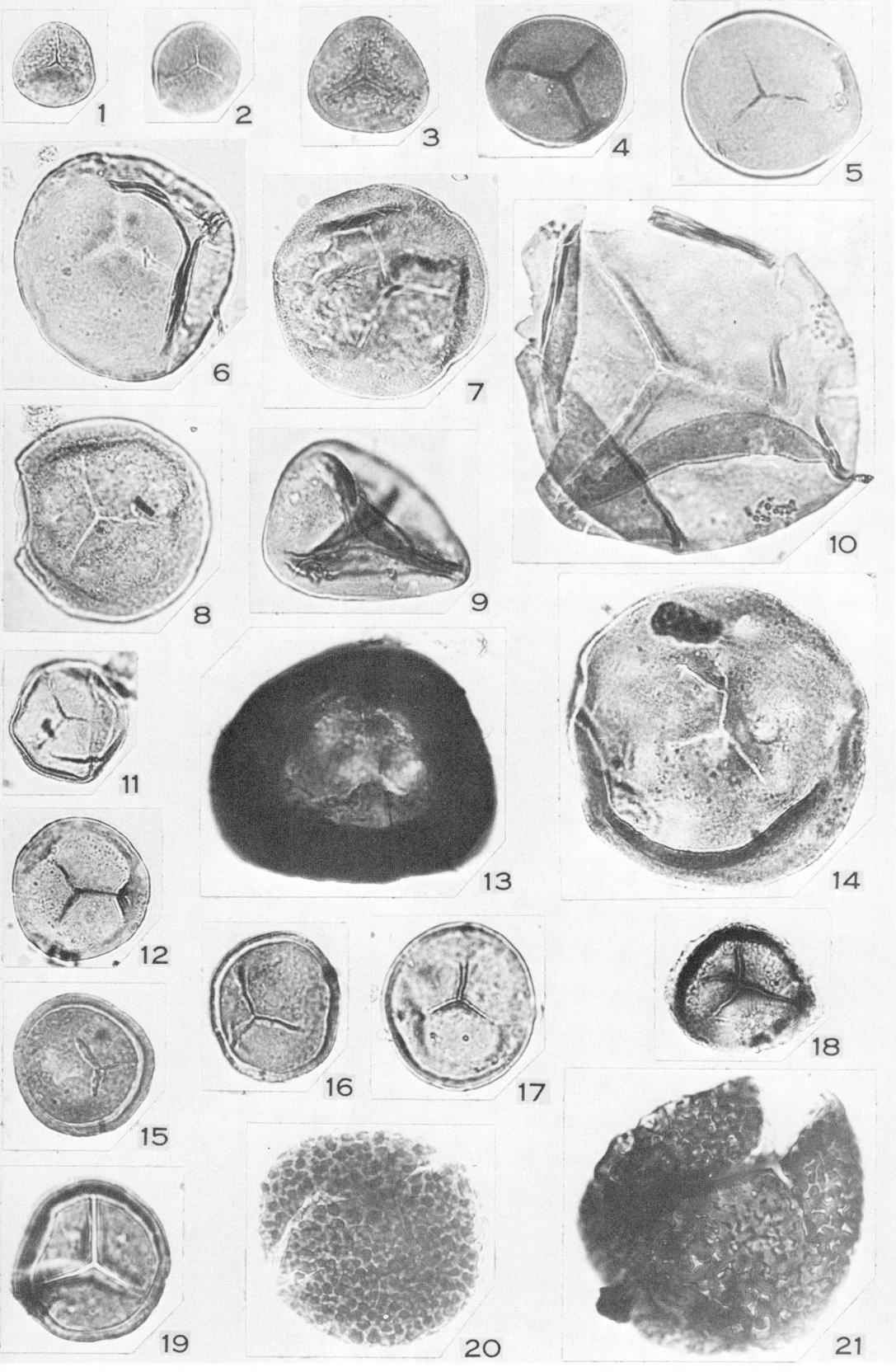


PLATE VI
LOWER CARBONIFEROUS - Maritime Provinces

Viséan

Windsor Group, GSC loc. 1659 (continued).

- Figures 1, 2. ? Lycospora spp. 15808, 15809.
Figure 3. Endosporites minutus Hoffmeister, Staplin, and Malloy, 1955, p.387. 15810.
Figures 4, 5. Endosporites spp. 15811, 15812.
Figure 6. Perotrilites sp. 15813.
Figure 7. cf. Cirratriradites granulatipunctatus Hoffmeister, Staplin, and Malloy, 1955, p.382. 15814.
Figure 8. Perotrilites perinatus Hughes and Playford, 1961, p.33. 15815.
Figure 9. Unidentified. 15816.
Figure 10. Convolutispora sp. 15817.
Figure 11. ? Hymenospora sp. 15818.
Figures 12, 13. Endosporites spp. 15819, 15820.
Figures 14, 15, Rugospora spp. 15821, 15822, 15824, 15825.
17, 18.
Figure 16. ? Grandispora sp. 15823.
Figures 19-28. ? Secarisporites spp. 15826 - 15835.

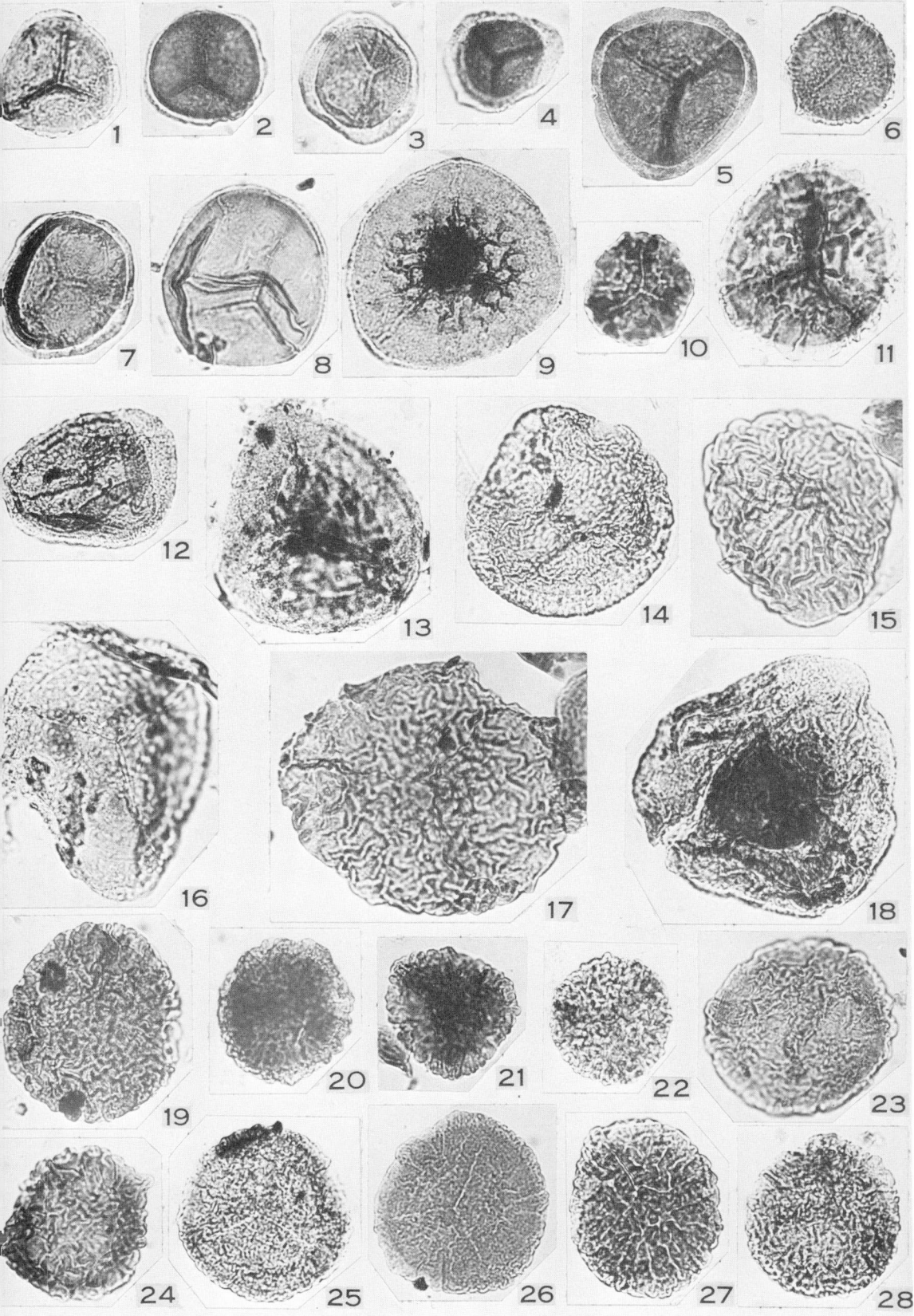


PLATE VII
LOWER CARBONIFEROUS - Northwest Territories
Viséan

Mattson Formation, GSC loc. 5004.

References: Harker, 1963; Patton, 1958.

- Figure 1. Chaetosphaerites pollenisimilis (Horst) Butterworth and Williams, 1958, p.359. 15836.
Figure 2. Chaetosphaerites sp. 15837.
Figure 3. cf. Leiotriletes subintortus (Waltz) Ischenko 1952 var. rotundus Waltz, 1941, p.11. 15838.
Figure 4. Granulatisporites cf. G. pallidus (Kosanke) Hoffmeister, Staplin, and Malloy, 1955, p.389. 15839.
Figure 5. Leiotriletes curiosus Playford, 1962, p. 576. 15840.
Figure 6. Leiotriletes ornatus Ischenko, 1956, p.22. 15841.
Figure 7. Punctatisporites glaber (Naumova) Playford, 1963, p.576. 15842.
Figure 8. Granulatisporites triconvexus Staplin, 1960, p.15. 15843.
Figure 9. ? Waltzispora sp. 15844.
Figure 10. Punctatisporites cf. P. punctatus Ibrahim, 1933, p.17. 15845.
Figure 11. Punctatisporites sp. 15846.
Figure 12. Punctatisporites aerarius Butterworth and Williams, 1958, p.360. 15847.
Figure 13. Waltzispora albertensis Staplin, 1960, p.18. 15848.
Figure 14. Waltzispora lobophora (Waltz) Staplin, 1960, p.18. 15849.
Figure 15. Punctatisporites nahannensis Hacquebard and Barss, 1957, p.14. 15850.
Figure 16. Calamospora microrugosa (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.52. 16656.
Figure 17. Acanthotriletes multisetus (Luber) Potonié and Kremp, 1955, p.84. 15851.
Figure 18. Acanthotriletes sp. 15852.
Figure 19. cf. Microreticulatisporites concavus Butterworth and Williams, 1958, p.367. 15853.
Figure 20. Microreticulatisporites punctatus Knox, 1950, p.321. 15854.
Figure 21. Acanthotriletes castanea Butterworth and Williams, 1958, p.365. 15855.
Figure 22. Convolutispora crassa Playford, 1962, p.594. 15856.
Figure 23. Rotaspora cf. R. fracta Schemel, 1950, p.242. 15857.
Figure 24. Anapiculatisporites minor Butterworth and Williams, 1958, p. 365. 15858.
Figure 25. Convolutispora mellita Hoffmeister, Staplin, and Malloy, 1955, p.384. 15859.
Figure 26. Cyclogranisporites cf. C. flexuosus Playford, 1962, p.585. 15860.
Figure 27. Convolutispora venusta Hoffmeister, Staplin, and Malloy, 1955, p. 385. 15861.
Figure 28. Convolutispora usitata Playford, 1962, p.595. 15862.
Figure 29. Verrucosisporites sp. 15863.

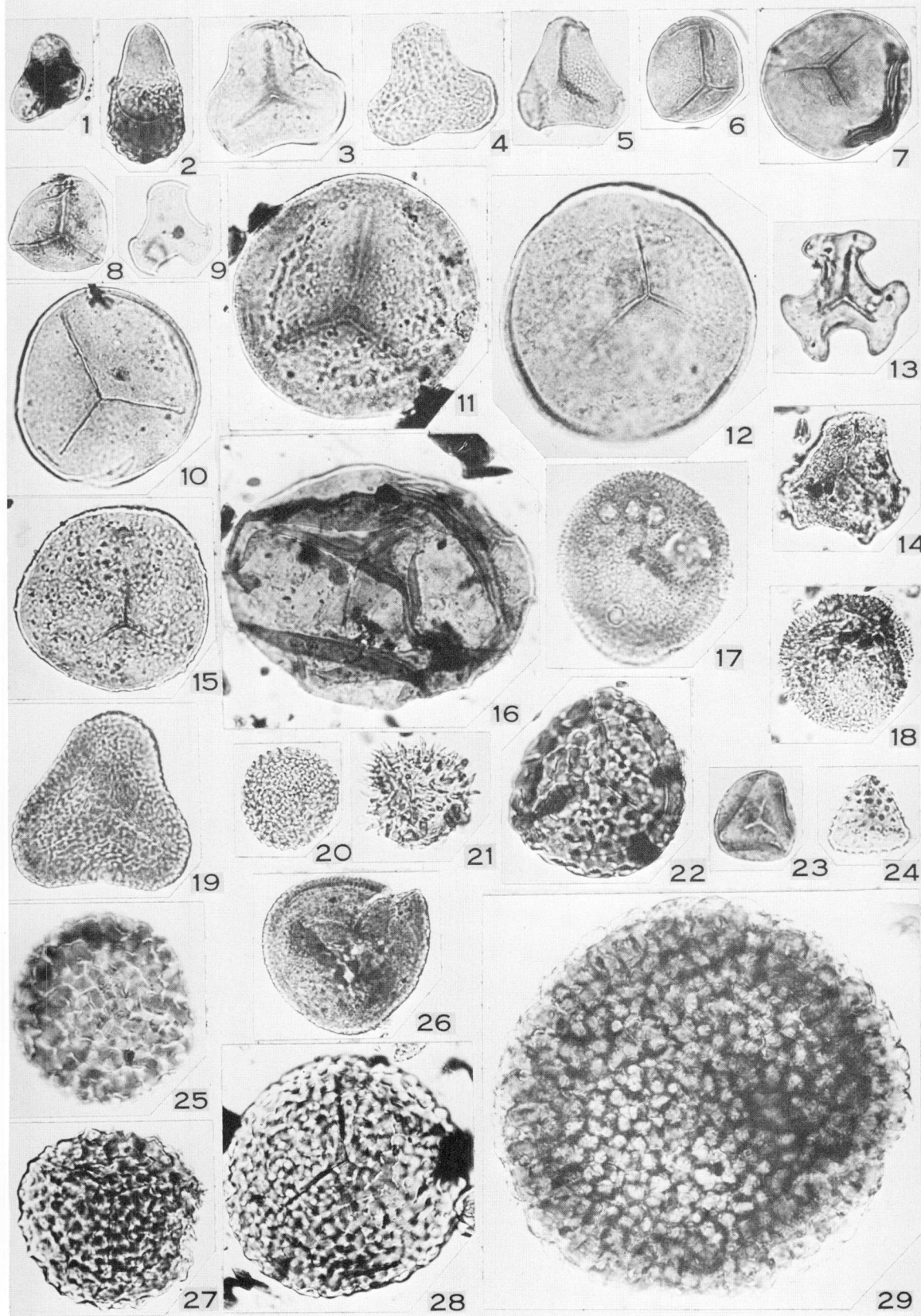


PLATE VIII
LOWER CARBONIFEROUS - Northwest Territories

Viséan

Mattson Formation, GSC loc. 5004 (continued).

- Figure 1. Convolutispora tessellata Hoffmeister, Staplin, and Malloy, 1955, p.385. 15864.
Figure 2. Convolutispora cerebra Butterworth and Williams, 1958, p.371. 15865.
Figures 3, 5. Convolutispora spp. 15866, 15868.
Figure 4. Verrucosisporites sp. 15867.
Figure 6. Convolutispora ampla Hoffmeister, Staplin, and Malloy, 1955, p.384. 15869.
Figure 7. Convolutispora cf. C. venusta Hoffmeister, Staplin, and Malloy, 1955, p.385. 15870.
Figure 8. Convolutispora tuberculata (Waltz) Hoffmeister, Staplin, and Malloy, 1955, p.384. 15871.
Figure 9. Reticulatisporites sp. 15872.
Figures 10, 13. Reticulatisporites cancellatus (Waltz) Playford, 1962, p.597. 15873. 15876.
Figure 11. Camptotriletes sp. 15874.
Figure 12. Dictyotriletes cf. D. clatriformis (Artuz) Sullivan, 1964a, p.367 15875.
Figure 14. Foveosporites insculptus Playford, 1962, p.601. 15877.
Figure 15. ? Reticulatisporites sp. 15878.
Figure 16. cf. Corbulispora subalveolaris (Luber) Sullivan, 1964b, p.1253, 15879.
Figure 17. Reticulatisporites peltatus Playford, 1962, p.599. 15880.

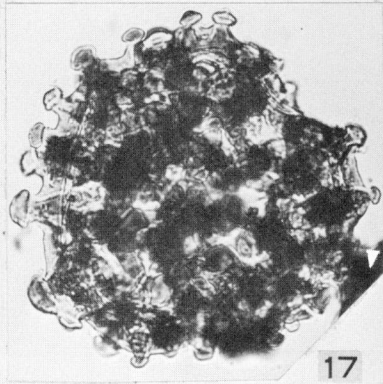
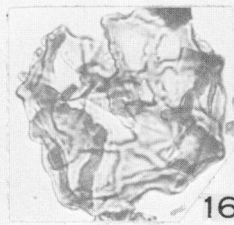
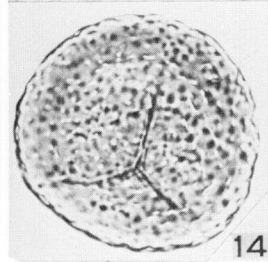
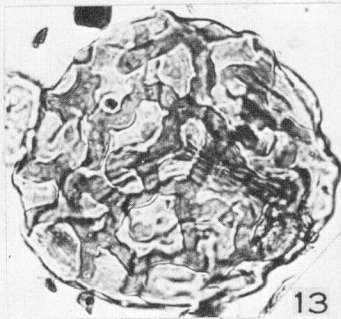
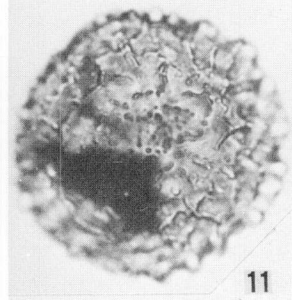
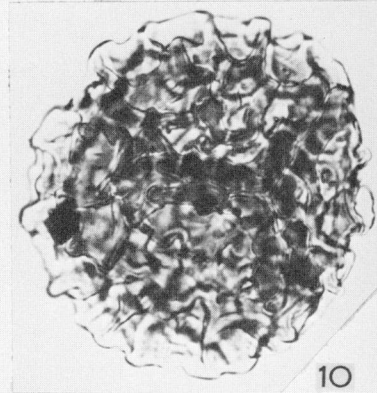
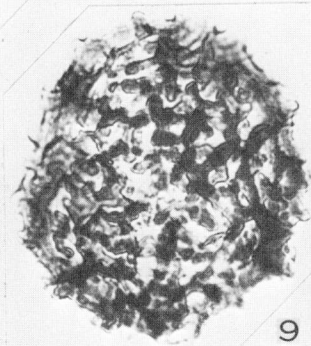
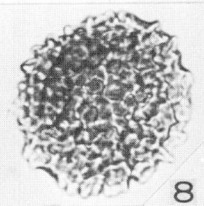
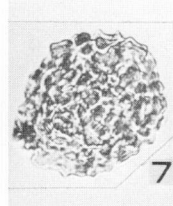
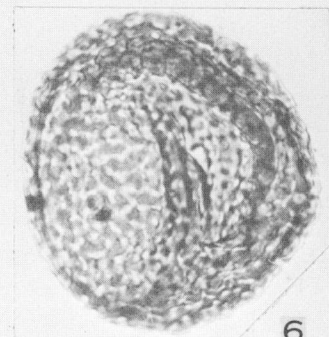
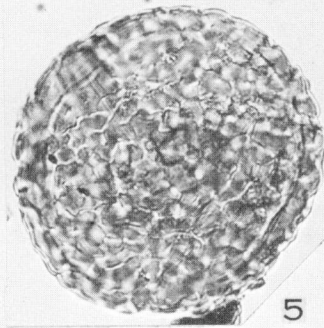
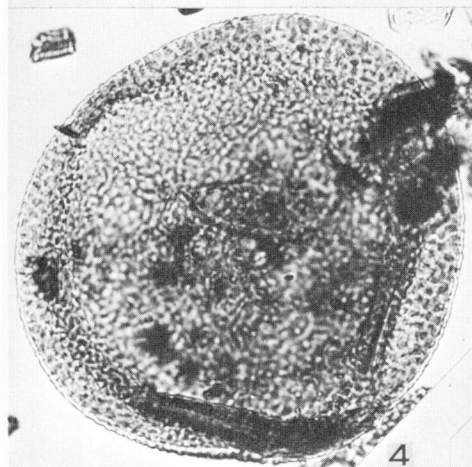
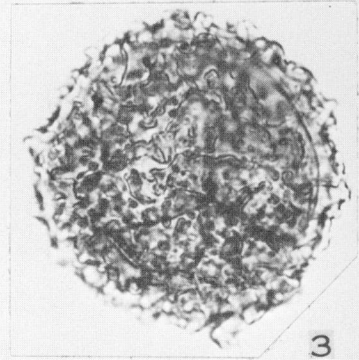
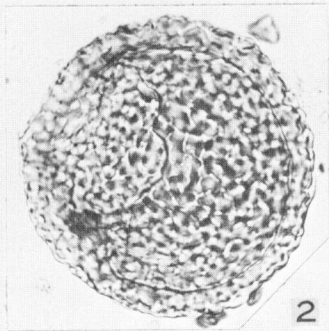
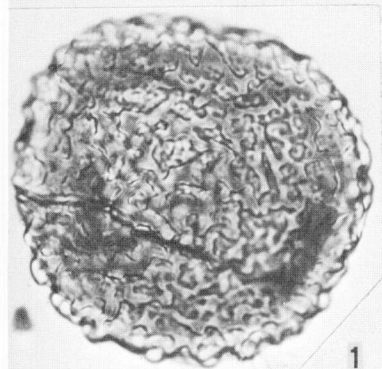


PLATE IX
LOWER CARBONIFEROUS - Northwest Territories
Viséan

Mattson Formation, GSC loc. 5004 (continued).

- Figure 1. Reticulatisporites cf. R. peltatus Playford, 1962, p.598. 15881.
Figure 2. Reticulatisporites decoratus Hoffmeister, Staplin, and Malloy, 1955, p.395. 15882.
Figure 3. ? Triquitrites sp. 15883.
Figure 4. Tripartites incisotrilobus (Naumova) Potonić and Kremp, 1956, p.92. 15884.
Figure 5. Stenozonotriletes clarus Ischenko, 1958, p.86. 15885.
Figure 6. Stenozonotriletes cf. S. perforatus Playford, 1962, p.607. 15886.
Figure 7. Triquitrites batillatus Hughes and Playford, 1961, p.33. 15887.
Figure 8. Densosporites tripapillatus Staplin, 1960, p.24. 15888.
Figure 9. Perotrilites perinatus Hughes and Playford, 1961, p.33. 15889.
Figure 10. Murospora intorta (Waltz) Playford, 1962, p.609. 15890.
Figure 11. Murospora aurita (Waltz) Playford, 1962, p.609. 15891.
Figure 12. Murospora conduplicata (Andreyeva) Playford, 1962, p.613. 15892.
Figure 13. Densosporites pseudoannulatus Butterworth and Williams, 1958, p.379. 15893.
Figure 14. Cincturasporites altilis Hacquebard and Barss, 1957, p.25. 15894.
Figure 15. Murospora friendii Playford, 1962, p.617. 15895.
Figure 16. Murospora dupla (Ischenko) Playford, 1962, p.614. 15896.
Figure 17. Densosporites bialatus (Waltz) Potonić and Kremp, 1956, p.114. 15897.
Figure 18. Lycospora cf. L. lobulata Staplin, 1960, p.19. 15898.
Figure 19. Lycospora uber Hoffmeister, Staplin, and Malloy, 1955, p.383. 15899.
Figure 20. Densosporites sp. 15900.
Figure 21. Densosporites duplicatus (Naumova) Potonić and Kremp, 1956, p.115. 15901.
Figure 22. Densosporites cf. D. spinifer Hoffmeister, Staplin, and Malloy, 1955, p.386. 15902.
Figure 23. Anulatisporites labiatus Hughes and Playford, 1961, p.34. 15903.
Figure 24. Raistrickia sp. 15904.
Figure 25. Densosporites cf. D. landesii Staplin, 1960, p.25. 15905.
Figure 26. Densosporites spitsbergensis Playford, 1963, p.627. 15906.

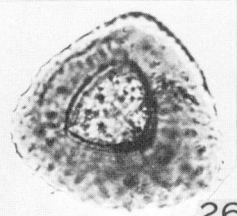
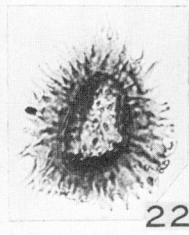
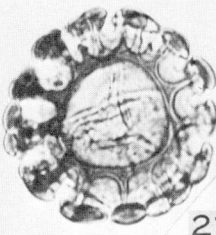
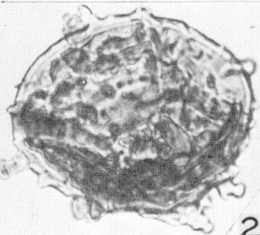
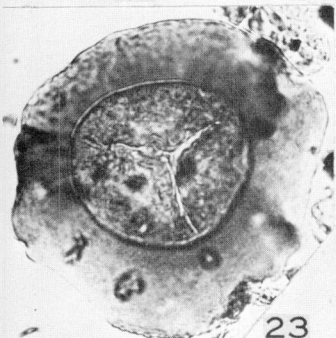
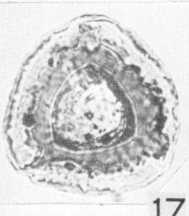
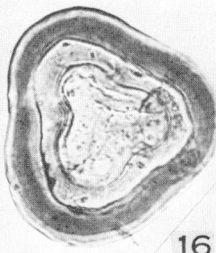
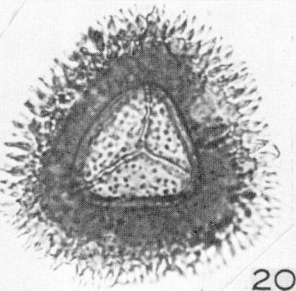
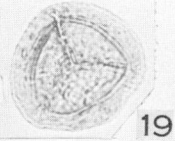
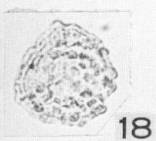
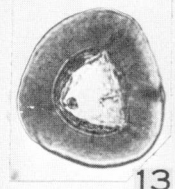
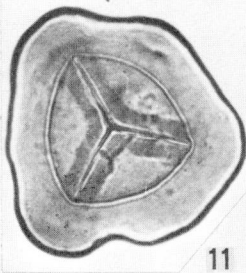
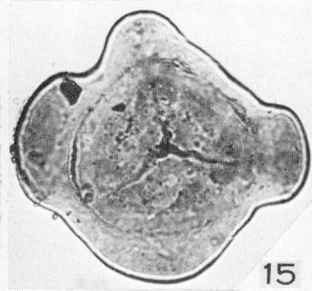
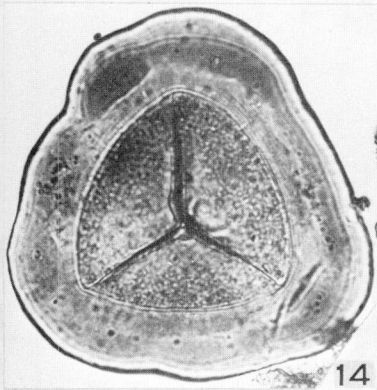
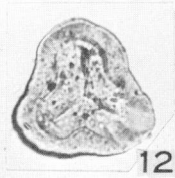
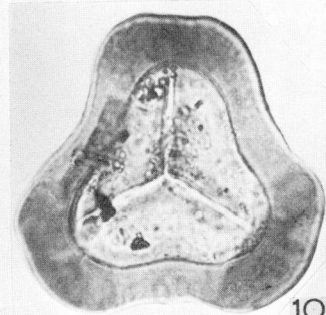
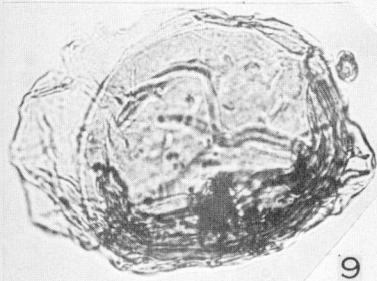
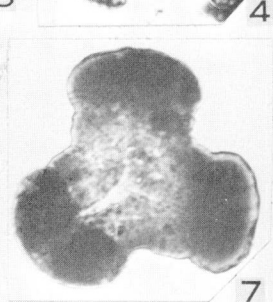
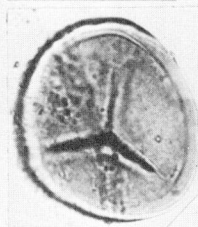
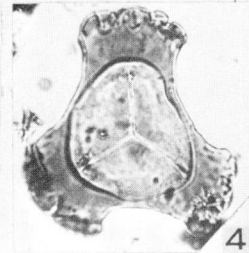
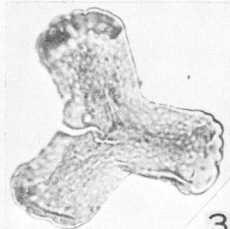
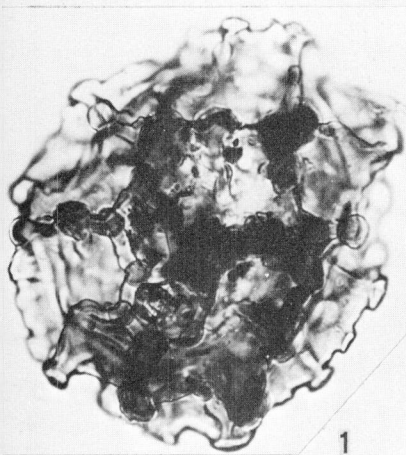


PLATE X
LOWER CARBONIFEROUS - Northwest Territories

Viséan

Mattson Formation, GSC loc. 5004 (continued).

- Figure 1. Densosporites cf. D. landesii Staplin, 1960, p.25. 16657.
- Figures 2, 3, 4, 6. Densosporites spp. 15907, 15908, 15909, 15911.
- Figure 5. cf. Tholisporites foveolatus Hughes and Playford, 1961, p.38. 15910.
- Figure 7. Densosporites rarispinosus Playford, 1963, p.630. 15912.
- Figure 8. Knoxisporites margarethae Hughes and Playford, 1961, p.31. 15913.
- Figure 9. Densosporites subserratus Hacquebard and Barss, 1957, p.32. 15914.
- Figure 10. Potoniespores delicatus Playford, 1963, p.643. 15915.
- Figure 11. Knoxisporites hederatus (Ischenko) Playford, 1963, p.634. 19916.
- Figure 12. Knoxisporites literatus (Waltz) Playford, 1963, p.634. 15917.
- Figure 13. Tendosporites subcrenatus (Waltz) Hacquebard and Barss, 1957, p.36. 15918.
- Figure 14. Diatomozonotriletes hughesii Playford, 1963, p.648. 15919.
- Figures 15-17. Diatomozonotriletes spp. 15920, 15921, 15922.
- Figure 18. Diatomozonotriletes saetosus (Hacquebard and Barss) Hughes and Playford, 1961, p.40. 15923.
- Figure 19. Monilospora moniliformis Hacquebard and Barss, 1957, p.38. 15924.
- Figure 20. Camptozonotriletes velatus (Waltz) Playford, 1963, p.645. 15925.
- Figure 21. Labiadensites fimbriatus (Waltz) Hacquebard and Barss, 1957, p.28. 15926.

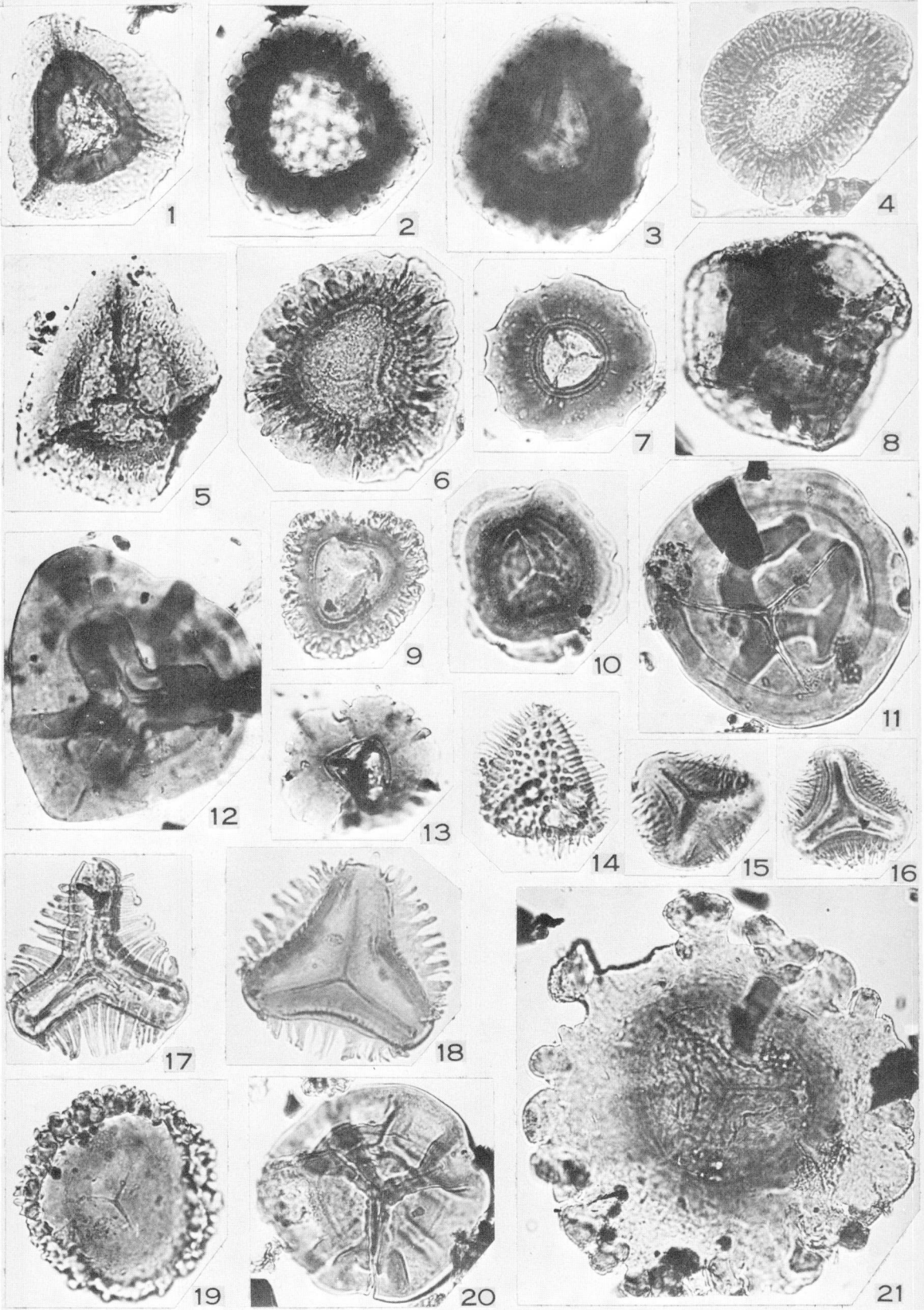


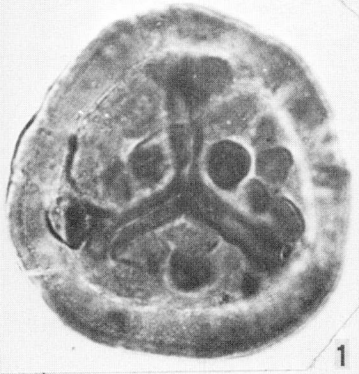
PLATE XI

LOWER CARBONIFEROUS - Northwest Territories

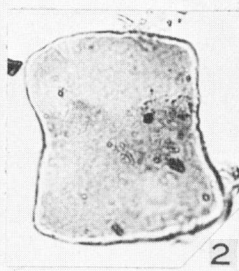
Viséan

Mattson Formation, GSC loc. 5004 (continued).

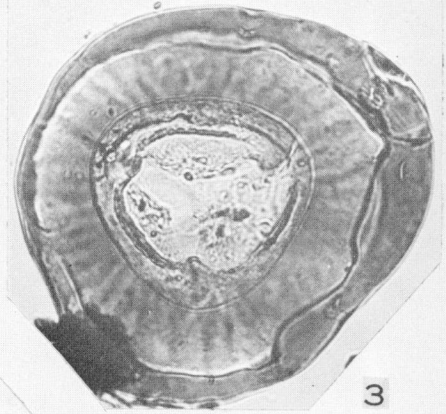
- Figure 1. Lophozonotriletes appendices (Hacquebard and Barss) Playford, 1963, p.639. 15927.
Figure 2. Tetraporina horologia (Staplin) Playford, 1963, p.659. 15928.
Figure 3. cf. Knoxisporites carnosus (Knox) Butterworth and Williams, 1958, p.369. 15929.
Figure 4. Endosporites micromanifestus Hacquebard, 1957, p.317. 15930.
Figure 5. Grandispora sp. 15931.
Figure 6. Spinozonotriletes balteatus Playford, 1963, p.657. 15932.
Figure 7. Remysporites albertensis Staplin, 1960, p.35. 15933.
Figure 8. Alatisporites tessellatus Staplin, 1960, p.31. 15934.
Figure 9. Endosporites sp. 15935.
Figure 10. Cirratriradites elegans (Waltz) Potonič and Kremp, 1956, p.126. 15936.
Figure 11. Cirratriradites solaris Hacquebard and Barss, 1957, p.40. 15937.



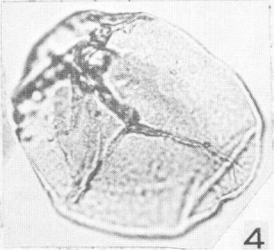
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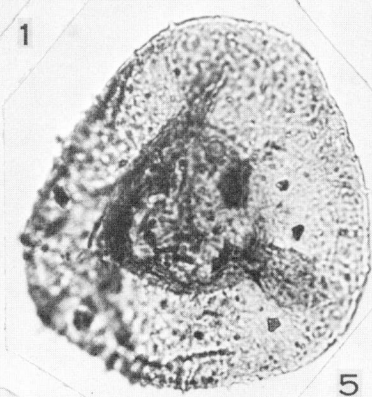
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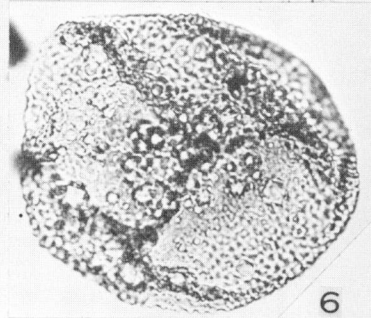
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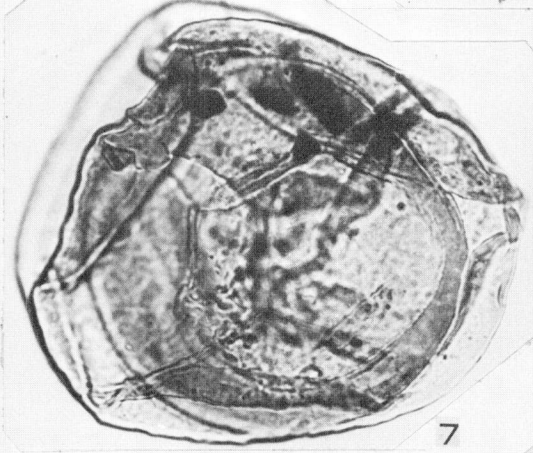
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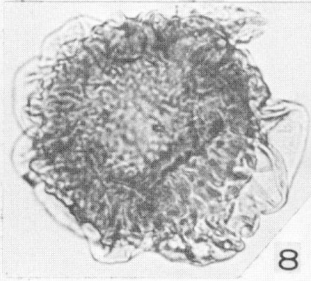
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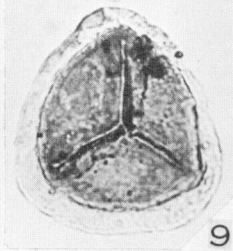
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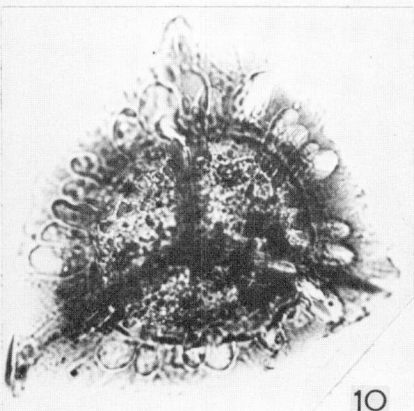
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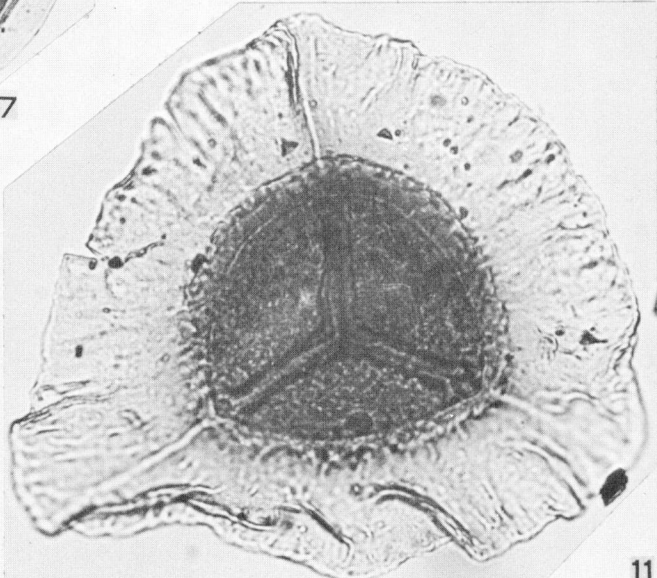
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10



11

PLATE XII
UPPER CARBONIFEROUS - Maritime Provinces

Namurian A

Canso Group.

References: Bell, 1944; Sage, 1954.

- Figure 1. Leiotriletes sp. 15938. Loc. 7769.
- Figure 2. Leiotriletes inflatus Schemel, 1950, p.307. 15939. Loc. 7769.
- Figure 3. Leiotriletes sp. A in Hacquebard, 1957, p.307. 15940. Loc. 7769.
- Figure 4. Punctatisporites platirugosus (Waltz) Sullivan, 1964a, p.358. 15941. Loc. 7769.
- Figures 5, 6. Punctatisporites planus Hacquebard, 1957, p.308. 15942, 15943. Loc. 7769.
- Figures 7, 10. Phyllothecotriletes spp. 15944, 15947. Loc. 7769.
- Figure 8. Punctatisporites glaber (Naumova) Playford, 1962, p.576. 15945. Loc. 7769.
- Figure 9. Calamospora sarriana Bhardwaj 1957, p.81. 15946. Loc. 7769.
- Figure 11. Punctatisporites aerarius Butterworth and Williams, 1958, p.360. 15948. Loc. 7769.
- Figure 12. Punctatisporites sp. 15949. Loc. 7768.
- Figure 13. Retusotriletes incohatus Sullivan, 1964b, p.1251. 15950. Loc. 7768.
- Figure 14. Granulatisporites granulatus Ibrahim, 1933, p.22. 15951. Loc. 7769.
- Figure 15. Lophotriletes sp. 15952. Loc. 7769.
- Figure 16. Lophotriletes cf. L. mosaicus Potonié and Kremp, 1955, p.75. 15953. Loc. 7769.
- Figure 17. Acanthotriletes sp. 15954. Loc. 5730.
- Figure 18. Camptotriletes sp. 15955. Loc. 7769.
- Figure 19. Verrucosiporites cf. V. donarii Potonié and Kremp, 1955, p.67. 15956. Loc. 7769.
- Figure 20. Pustulatisporites sp. 15957. Loc. 7769.
- Figure 21. Apiculatisporis baccatus (Hoffmeister, Staplin, and Malloy) Butterworth and Williams, 1958, p.363. 15958. Loc. 7769.
- Figure 22. Apiculatisporis baccatus var. raistrickii (Dybová and Jachowicz) Staplin, 1960, p.11. 15959. Loc. 7769.
- Figure 23. Apiculatisporis aculeatus Ibrahim, 1933, p.32. 15960. Loc. 7769.
- Figure 24. Apiculatisporis sp. 15961. Loc. 5727.
- Figures 25, 26. Raistrickia spp. 15962, 15963, 15965, 15966. Loc. 7769.
- 28, 29.
- Figure 27. Raistrickia cf. R. superba (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.56. 15964. Loc. 5730.
- Figure 30. ? Gulisporites sp. 15967. Loc. 7769.
- Figures 31, 33. Verrucosiporites cf. V. difficilis Potonié and Kremp, 1955, p.66. 15968, 15970. Loc. 7769.
- Figure 32. Camptotriletes cristatus Sullivan and Marshall, 1966, p.270. 15969. Loc. 7769.
- Figure 34. Unidentified. 15971. Loc. 7769.
- Figures 35-38. Convolutispora spp. 15972 - 15975. Loc. 5730. fig. 35. Loc. 7769. figs. 36-38.
- Figure 39. Microreticulatisporites lunatus Knox, 1950, p.320. 15976. Loc. 7769.
- Figure 40. Convolutispora cf. C. varicosa Butterworth and Williams, 1958, p.372. 15977. Loc. 7769.

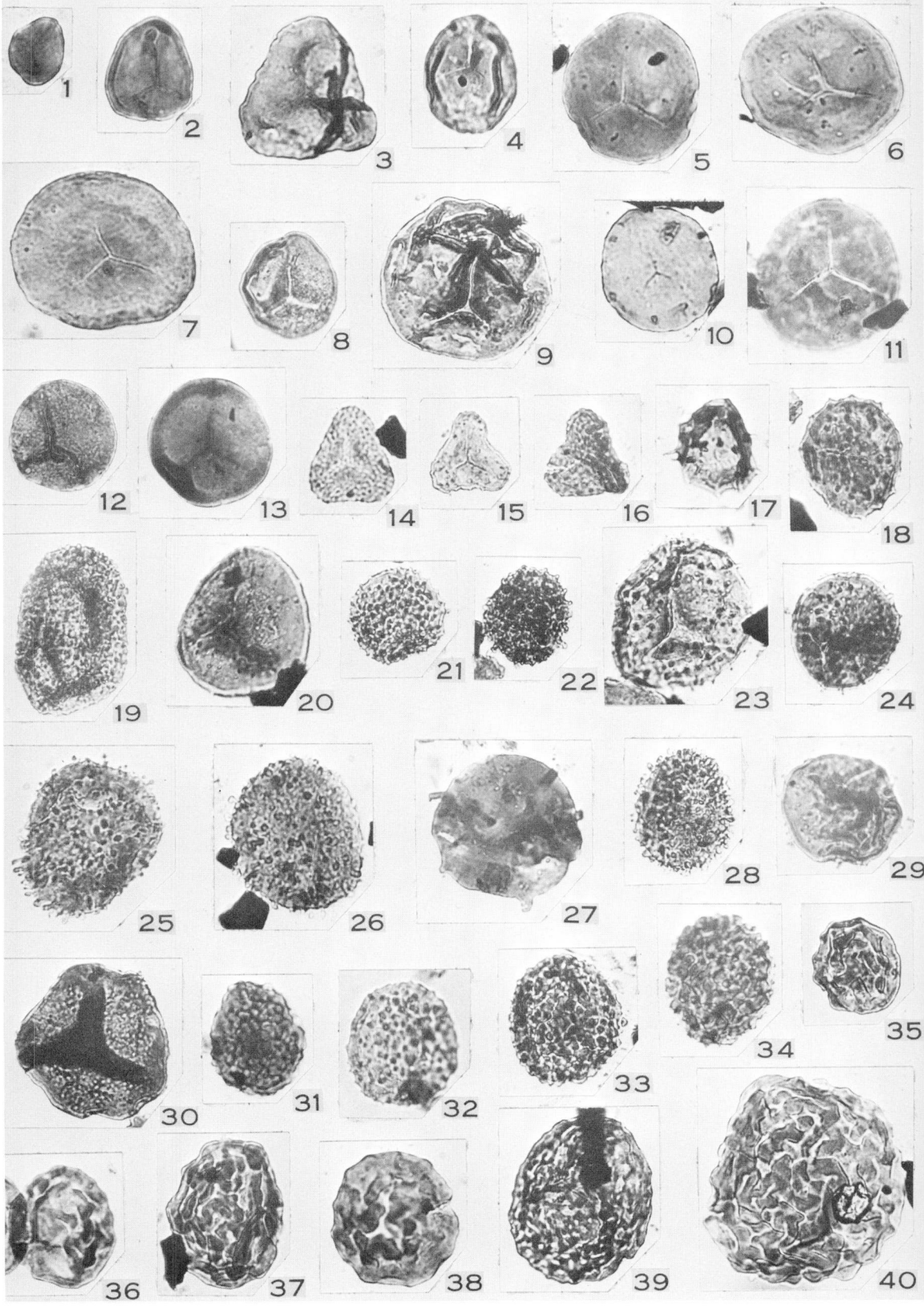


PLATE XIII
UPPER CARBONIFEROUS - Maritime Provinces
Namurian A

Canso Group (continued).

- Figure 1. ? Raistrickia sp. 15978. Loc. 7769.
- Figures 2, 5. Convolutispora florida Hoffmeister, Staplin, and Malloy, 1955, p.384. 15979, 15982. Loc. 7769.
- Figure 3. Foveosporites cf. F. insculptus Playford, 1962, p.601. 15980. Loc. 7769.
- Figure 4. Dictyotrilites cf. D. falsus Potonić and Kremp, 1955, p.109. 15981. Loc. 7769.
- Figure 6. Foveosporites sp. 15983. Loc. 7769.
- Figures 7-11. Convolutispora spp. 15984 - 15988. Loc. 7769.
- Figure 12. Reticulatisporites cf. R. polygonalis (Ibrahim) Loose, 1934, p.155. 15989. Loc. 7769.
- Figure 13. ? Lophozonotrilites sp. 15990. Loc. 7769.
- Figure 14. Lycospora uber (Hoffmeister, Staplin, and Malloy) Staplin, 1960, p.20. 15991. Loc. 7768.
- Figures 15, 16, 21. Dictyotrilites spp. 15992, 15993, 15998. Loc. 7769.
- Figure 17. ? Verrucosporites facierugosus (Loose) Butterworth and Williams, 1954, p.754. 15994. Loc. 7769.
- Figure 18. Perotrilites perinatus Hughes and Playford, 1961, p.33. 15995. Loc. 5727.
- Figure 19. ? Secarisporites sp. 15996. Loc. 5727.
- Figure 20. Anulatisporites lycosporoides Butterworth and Williams, 1958, p.378. 15997. Loc. 7769.
- Figure 22. ? Perotrilites sp. 15999. Loc. 7769.
- Figure 23. cf. Cirratriradites granulati-punctatus Hoffmeister, Staplin, and Malloy, 1955, p.382. 16000. Loc. 7769.
- Figure 24. Auroraspora solisortus Hoffmeister, Staplin, and Malloy, 1955, p.381. 16001. Loc. 7769.
- Figure 25. Endosporites minutus Hoffmeister, Staplin, and Malloy, 1955, p.387. 16002. Loc. 7769.
- Figure 26. Savitrissporites asperatus Sullivan, 1964a, p.374. 16003. Loc. 7769.
- Figure 27. cf. Discernisporites concentricus Neves, 1958, p.5. 16004. Loc. 7769.
- Figure 28. Endosporites cf. E. micromanifestus Hacquebard, 1957, p.317. 16005. Loc. 7769.
- Figure 29. Discernisporites sp. 16006. Loc. 7769.
- Figure 30. Stenozonotrilites facilis Ischenko, 1956, p.73. 16007. Loc. 5727.
- Figure 31. Unidentified. 16008. Loc. 5730.

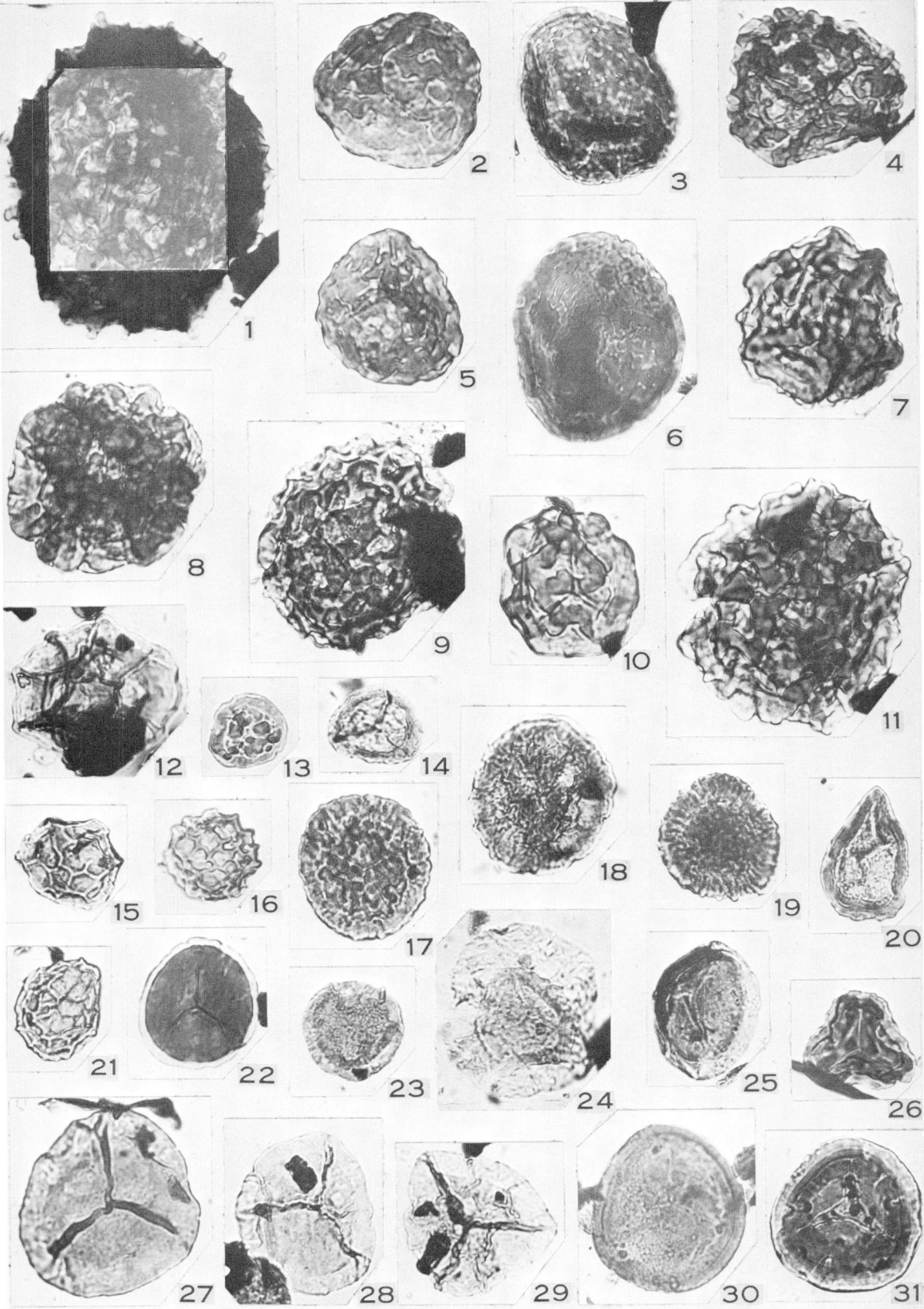


PLATE XIV
UPPER CARBONIFEROUS - Maritime Provinces
Namurian A

Canso Group (continued)

- Figure 1. Knoxisporites triradiatus Hoffmeister, Staplin, and Malloy, 1955, p.391. 16009. Loc. 7769.
- Figures 2, 5. Knoxisporites stephanephorus Love, 1960, p.18. 16010, 16013. Loc. 7769.
- Figure 3. Knoxisporites seniradiatus Neves, 1961, p.267. 16011. Loc. 5729.
- Figure 4. Knoxisporites cf. K. triradiatus Hoffmeister, Staplin, and Malloy, 1955, p.391. 16012. Loc. 7769.
- Figure 6. Knoxisporites cf. K. stephanephorus Love, 1960, p.18. 16014. Loc. 7769.
- Figure 7. ? Grandispora sp. 16015. Loc. 7769.
- Figure 8. Grandispora sp. 16016. Loc. 7769.
- Figure 9. Knoxisporites sp. 16017. Loc. 7769.
- Figures 10, 11, Unidentified. 16018, 16019, 16020, 16022. Loc. 7769.
12, 14.
- Figures 13, 15, Schopfipollenites spp. 16021, 16023, 16024, 16025. Loc. 7768. fig. 13; Loc. 7769. figs. 16, 17. 15-17.
- Figure 18. Spinozonotriletes uncatius Hacquebard, 1957, p.316. 16026. Loc. 7769.

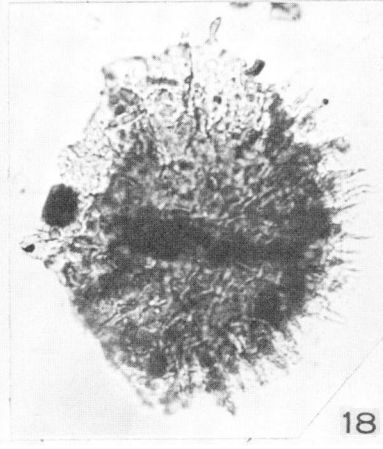
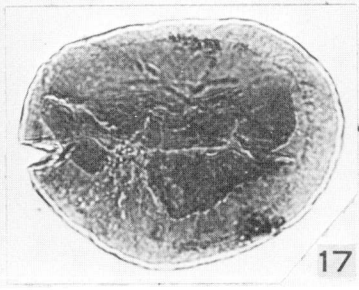
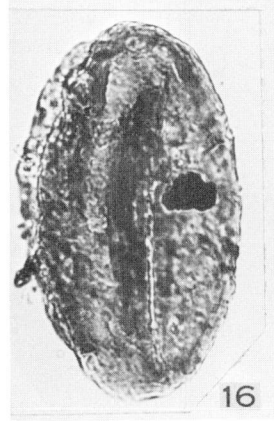
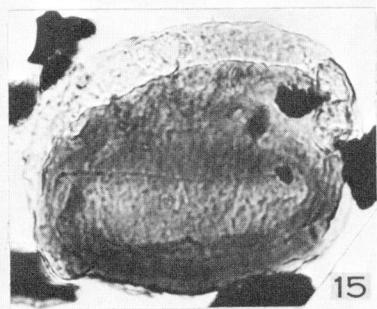
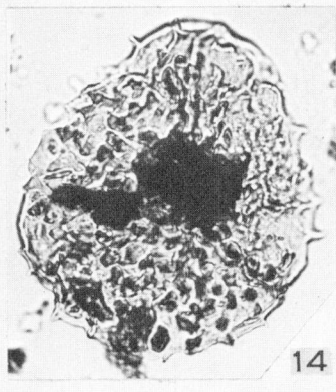
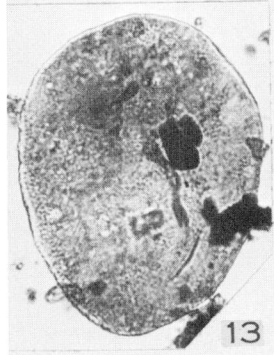
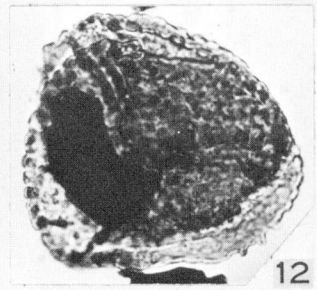
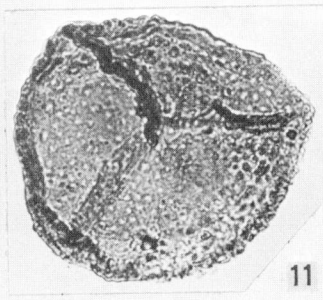
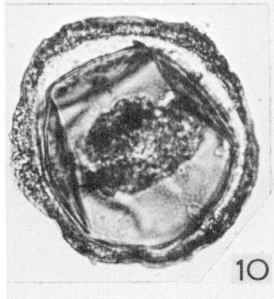
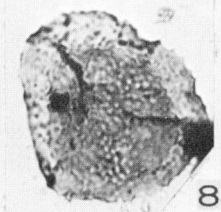
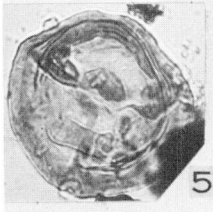
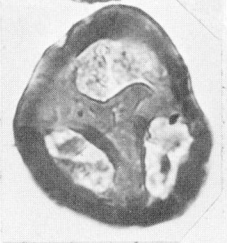
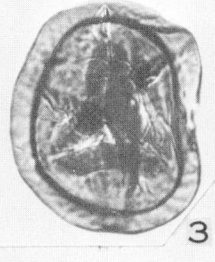
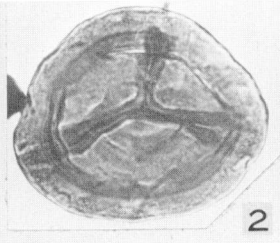
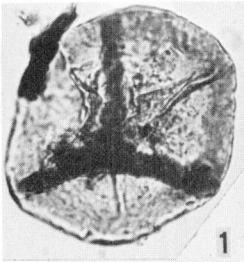
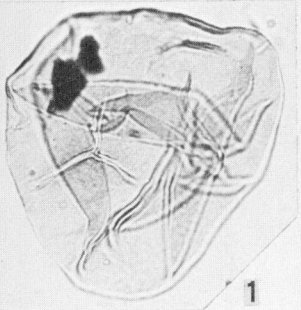


PLATE XV
UPPER CARBONIFEROUS - Maritime Provinces.
Westphalian A

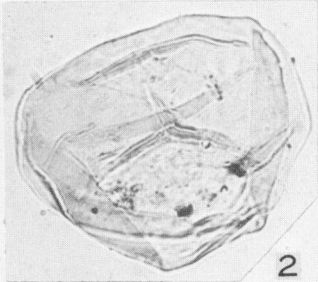
Riversdale Group, Port Hood Formation.

References: Bell, 1944; Norman, 1935.

- Figure 1. Calamospora microrugosa (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.52. 16027. Loc. 7770.
- Figure 2. Calamospora breviradiata Kosanke, 1950, p.41. 16028. Loc. 7771.
- Figure 3. Calamospora parva Guennel, 1958, p.70. 16029. Loc. 7771.
- Figure 4. Calamospora cf. C. minuta Bhardwaj, 1957a, p.80. 16030. Loc. 7771.
- Figure 5. Punctatisporites obliquus Kosanke, 1950, p.16. 16031. Loc. 7771.
- Figure 6. Leiotriletes sp. 16032. Loc. 7771.
- Figure 7. Leiotriletes inflatus (Schemel) Potonié and Kremp, 1955, p.37. 16033. Loc. 7770.
- Figure 8. Granulatisporites parvus (Ibrahim) Potonié and Kremp, 1955, p.59. 16034. Loc. 7770.
- Figure 9. Lophotriletes commissuralis (Kosanke) Potonié and Kremp, 1955, p.73. 16035. Loc. 7770.
- Figure 10. Lophotriletes microsaeetus (Loose) Potonié and Kremp, 1955, p.74. 16036. Loc. 7771.
- Figure 11. Converrucosisporites sp. 16037. Loc. 7770.
- Figure 12. Granulatisporites sp. 16038. Loc. 7770.
- Figures 13, 16. Cyclogranisporites aureus (Loose) Potonié and Kremp, 1955, p.61. 16039, 16042. Loc. 7770.
- Figure 14. Cyclogranisporites orbicularis (Kosanke) Potonié and Kremp, 1955, p.61. 16040. Loc. 7770.
- Figure 15. Cyclogranisporites sp. 16041. Loc. 7770.
- Figure 17. Pustulatisporites sp. 16043. Loc. 7770.
- Figure 18. Apiculatasporites spinulistratus (Loose) Potonié and Kremp, 1955, p.71, 1956, p.94. 16044. Loc. 7771.
- Figure 19. Microreticulatisporites cf. M. hortonensis Playford, 1964, p.28, 16045. Loc. 7770.
- Figures 20, 25. Convolutispora spp. 16046, 16051. Loc. 7770.
- Figure 21. Camptotriletes sp. 16047. Loc. 7770.
- Figure 22. Armatissporites sp. 16048. Loc. 7770.
- Figures 23, 27. Verrucosisporites spp. 16049, 16053, 16055, 16056. Loc. 7770.
29, 30.
- Figure 24. Camptotriletes superbus Neves, 1961, p.257. 16050. Loc. 7770.
- Figure 26. Raistrickia sp. 16052. Loc. 7770.
- Figure 28. Raistrickia saetosa (Loose) Schopf, Wilson, and Bentall, 1944, p.56. 16054. Loc. 7770.
- Figure 31. Apiculatisporis cf. A. spinosaeetus (Loose) Potonié and Kremp, 1955, p.80, 1956, p.94. 16057. Loc. 7770.



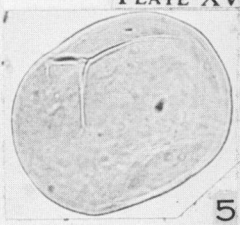
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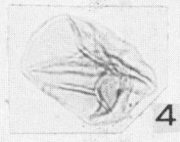
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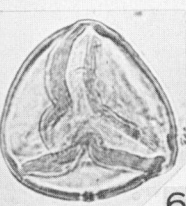
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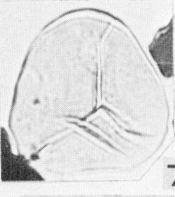
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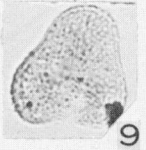
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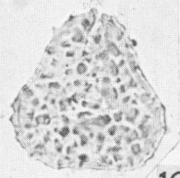
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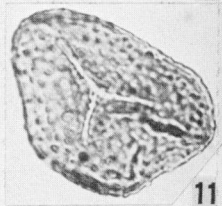
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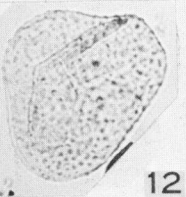
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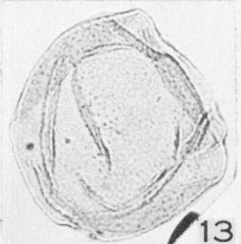
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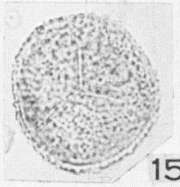
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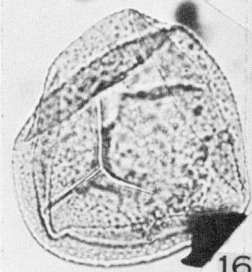
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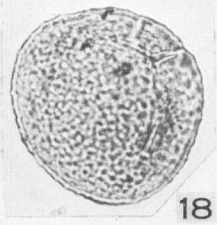
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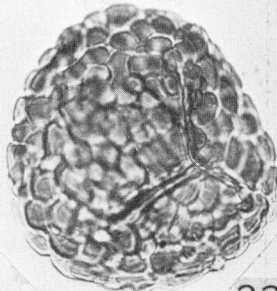
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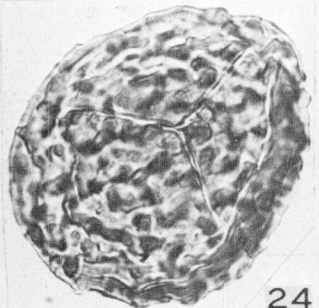
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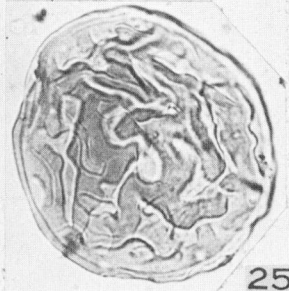
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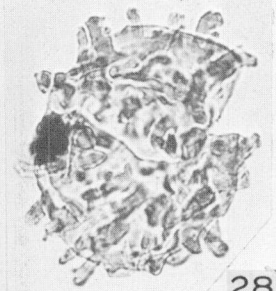
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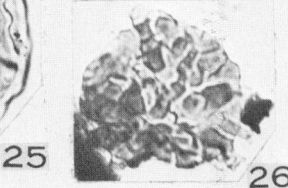
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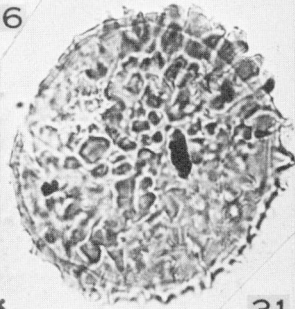
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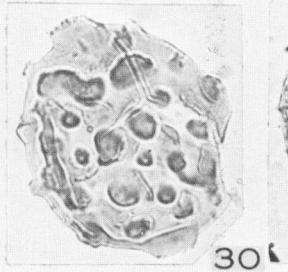
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PLATE XVI
UPPER CARBONIFEROUS - Maritime Provinces
Westphalian A

Riversdale Group, Port Hood Formation (continued)

- Figures 1, 2. Camptotriletes spp. 16652, 16653. Loc. 7770.
- Figure 3. Armatissporites cf. A. castaneaformis Dybová and Jachowicz, 1957, p.95. 16654. Loc. 7770.
- Figure 4. Apiculatisporis spinosaetosus (Loose) Potonié and Kremp, 1955, p.80, 1956, p.94. 16058. Loc. 7770.
- Figure 5. ? Apiculatisporis sp. 16059. Loc. 7770.
- Figure 6. Apiculatisporites sp. 16060. Loc. 7770.
- Figure 7. Apiculatisporis cf. A. variocorneus Sullivan, 1964a, p.363. 16061. Loc. 7770.
- Figure 8. ? Converrucosporites sp. 16062. Loc. 7770.
- Figures 9, 11. Triquitrites arculatus Wilson and Coe, 1940, p.185. 16063, 16065. Loc. 7770.
- Figure 10. Ahrensissporites sp. 16064. Loc. 7770.
- Figure 12. Triquitrites bransonii Wilson and Hoffmeister, 1956, p.24. 16066. Loc. 7770.
Punctatosporites minutus Ibrahim 1933, p.40. 16067. Loc. 7770.
- Figures 13, 14. Savitrissporites nux (Butterworth and Williams) Sullivan, 1964a, p.373. 16068, 16069. Loc. 7771, 7770.
- Figure 15. Lycospora microgranulata Bhardwaj, 1957a, p.104. 16070. Loc. 7771.
- Figure 16. Lycospora granulata Kosanke, 1950, p.45. 16071. Loc. 7771.
- Figure 17. Lycospora pseudoannulata Kosanke, 1950, p.45. 16072. Loc. 7770.
- Figure 18. Unidentified, 16073. Loc. 7771.
- Figure 19. Densosporites intermedius Butterworth and Williams, 1958, p.379. 16074. Loc. 7770.
- Figure 20. Densosporites spinosus Dybová and Jachowicz, 1957, p.164. 16075. Loc. 7770.
- Figures 21, 22. ? Murospora spp. 16076, 16077. Loc. 7771, 7770.
- Figures 23, 26. Reticulatisporites polygonalis (Ibrahim) Loose, 1934, p.155. 16078, 16081. Loc. 7770.
- Figures 24, 27. Endosporites spp. 16079, 16082. Loc. 7770.
- Figure 25. Knoxissporites sp. 16080. Loc. 7770.
- Figure 28. Laevigatosporites desmoinensis (Wilson and Coe) Schopf, Wilson, and Bentall, 1944, p.37. 16083. Loc. 7771.
- Figure 29. Aurospora sp. 16084. Loc. 7770.
- Figure 30. Laevigatosporites minimus (Wilson and Coe) Schopf, Wilson, and Bentall, 1944, p.37. 16085. Loc. 7770.
- Figure 31. Laevigatosporites medius Kosanke, 1950, p.29. 16086. Loc. 7770.
- Figure 32. Punctatosporites sp. 16087. Loc. 7770.

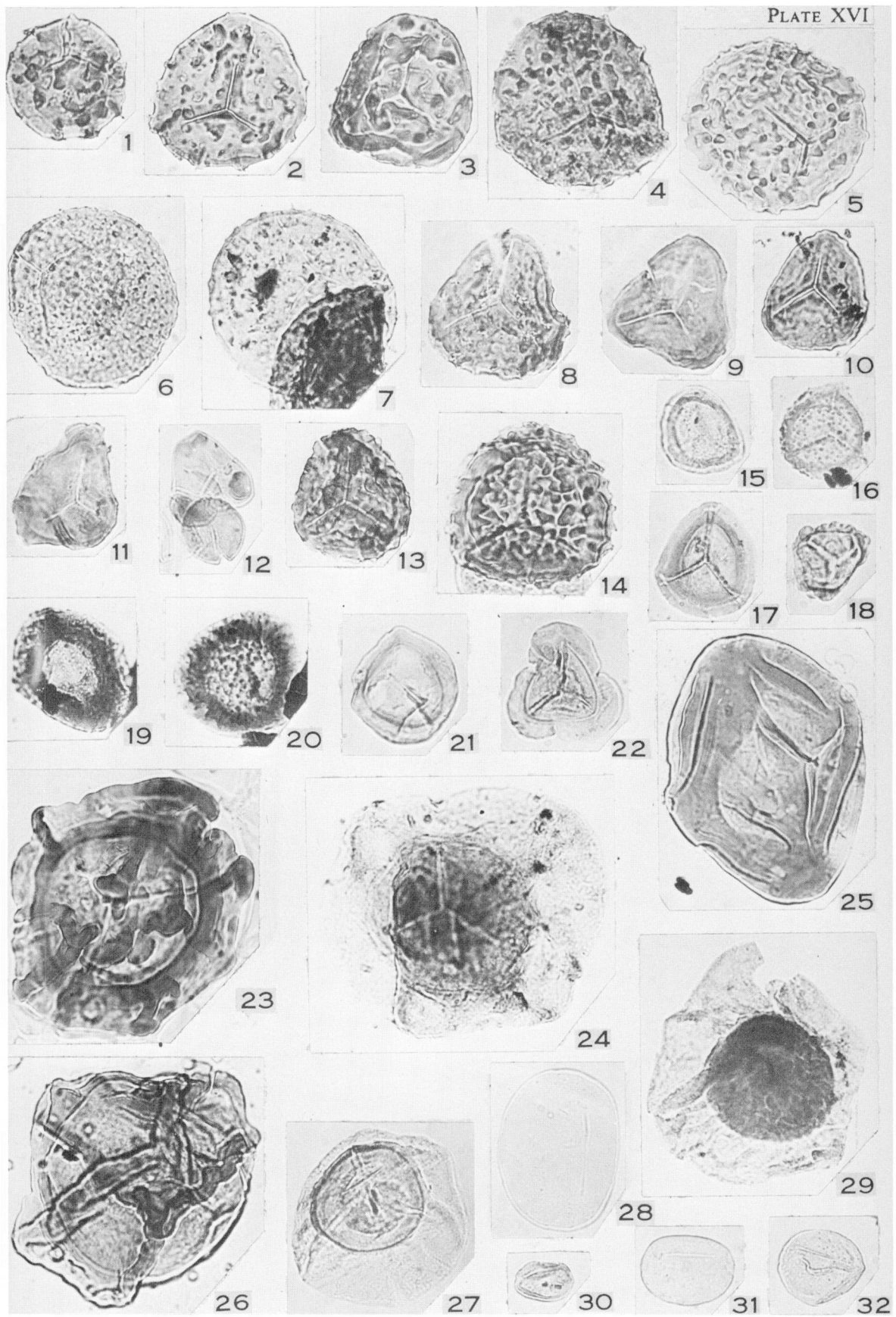


PLATE XVII

UPPER CARBONIFEROUS - Maritime Provinces

Westphalian A

Riversdale Group, Port Hood Formation (continued)

- Figure 1. Alatisporites trialatus Kosanke, 1950, p.25. 16088. Loc. 7770.
- Figures 2, 5, Florinites spp. 16089, 16092, 16096. Loc. 7771. figs. 2, 5. Loc. 7770. fig. 9.
9.
- Figure 3. Schulzospora rara Kosanke, 1950, p.53. 16090. Loc. 7770.
- Figure 4. Knoxisporites cf. K. stephanephorus Love, 1960, p.18. 16091. Loc. 7770.
- Figure 6. Florinites pumicosus (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.59, 16093. Loc. 7770.
- Figure 7. Florinites cf. F. diversiformis Kosanke, 1950, p.49. 16094. Loc. 7771.
- Figure 8. Florinites visendus (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.60. 16095. Loc. 7771.
- Figure 10. Schopfipollenites ellipsoides var. corporeus Neves, 1961, p.274. 16097. Loc. 7770.
- Figure 11. ? Schopfipollenites sp. 16098. Loc. 7770.

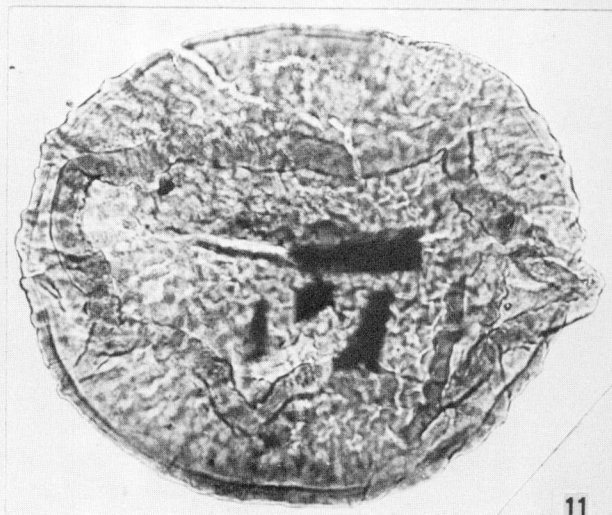
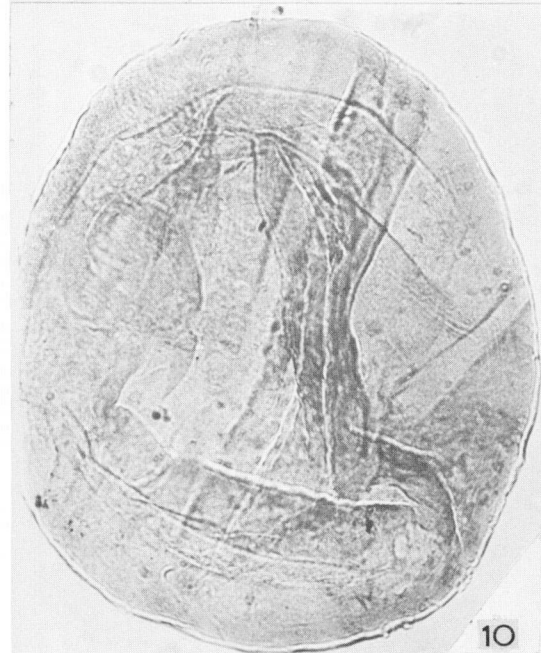
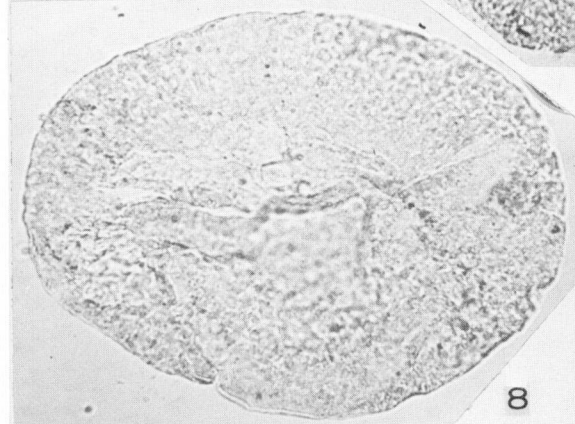
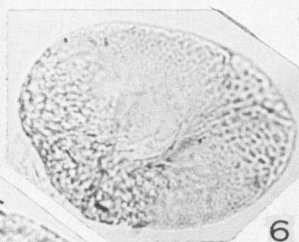
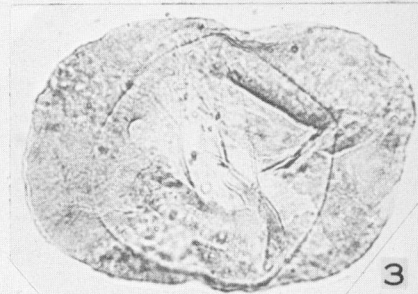
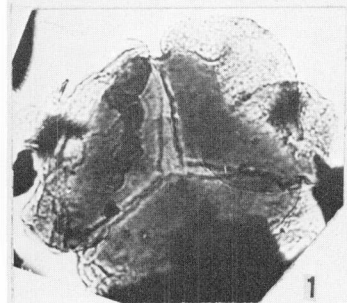


PLATE XVIII
UPPER CARBONIFEROUS - Maritime Provinces
Early Westphalian B

Cumberland Group.

References: Bell, 1944; Copeland, 1959.

- Figures 1, 2. Calamospora hartungiana Schopf, in Schopf, Wilson, and Bentall, 1944, p.51. 16099, 16100. Loc. 7772, 7785.
- Figures 3, 4. Calamospora microrugosa (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.52. 16101, 16102. Loc. 7785.
- Figure 5. Calamospora cf. C. pallida (Loose) Schopf, Wilson, and Bentall, 1944, p.52. 16103. Loc. 7774.
- Figure 6. Calamospora sp. 16104. Loc. 7784.
- Figure 7. Leiotriletes cf. L. parvus Guennel, 1958, p.58. 16105. Loc. 7772.
- Figures 8, 11. Granulatisporites minutus Potonié and Kremp, 1955, p.59. 16106, 16109. Loc. 7782, 7781.
- Figure 9. Calamospora minuta Bhardwaj, 1957a, p.80. 16107. Loc. 7781.
- Figure 10. Leiotriletes sphaerotriangulus (Loose) Potonié and Kremp, 1955, p.41. 16108. Loc. 7774.
- Figure 12. Granulatisporites parvus (Ibrahim) Potonié and Kremp, 1955, p.59. 16110. Loc. 7774.
- Figure 13. Granulatisporites sp. 16111. Loc. 7775.
- Figure 14. Lophotriletes commissuralis (Kosanke) Potonié and Kremp, 1955, p.73. 16112. Loc. 7780.
- Figures 15, 29. Lophotriletes sp. 16113, 16127. Loc. 7772, 7781.
- Figure 16. ? Neoraistrickia inconstans Neves, 1961, p.254. 16114. Loc. 7781.
- Figure 17. Lophotriletes microsaetosus (Loose) Potonié and Kremp, 1955, p.74. 16115. Loc. 7785.
- Figures 18, 20. Lophotriletes cf. L. pseudaculeatus Potonié and Kremp, 1955, p.75. 16116, 16118. Loc. 7783, 7772.
- Figure 19. Lophotriletes sp. 16117. Loc. 7778.
- Figure 21. ? Anapiculatisporites sp. 16119. Loc. 7772.
- Figures 22, 26. Punctatisporites spp. 16120, 16124. Loc. 7772, 7775.
- Figure 23. Camptotriletes sp. 16121. Loc. 7775.
- Figure 24. Cyclogranisporites sp. 16122. Loc. 7783.
- Figure 25. Cyclogranisporites orbicularis (Kosanke) Potonié and Kremp, 1955, p.61. 16123. Loc. 7783.
- Figure 27. Punctatisporites punctatus Ibrahim, 1933, p.21. 16125. Loc. 7772.
- Figure 28. Ahrensiporites cf. A. beeleynensis Neves, 1961, p.262. 16126. Loc. 7773.
- Figures 30, 31. Cyclogranisporites aureus (Loose) Potonié and Kremp, 1955, p.61. 16128, 16129. Loc. 7785, 7775.
- Figures 32, 33, 34. Cyclogranisporites cf. C. aureus (Loose) Potonié and Kremp, 1955, p.61. 16130, 16131, 16132. Loc. 7783, figs. 32, 33. Loc. 7773, fig. 34.

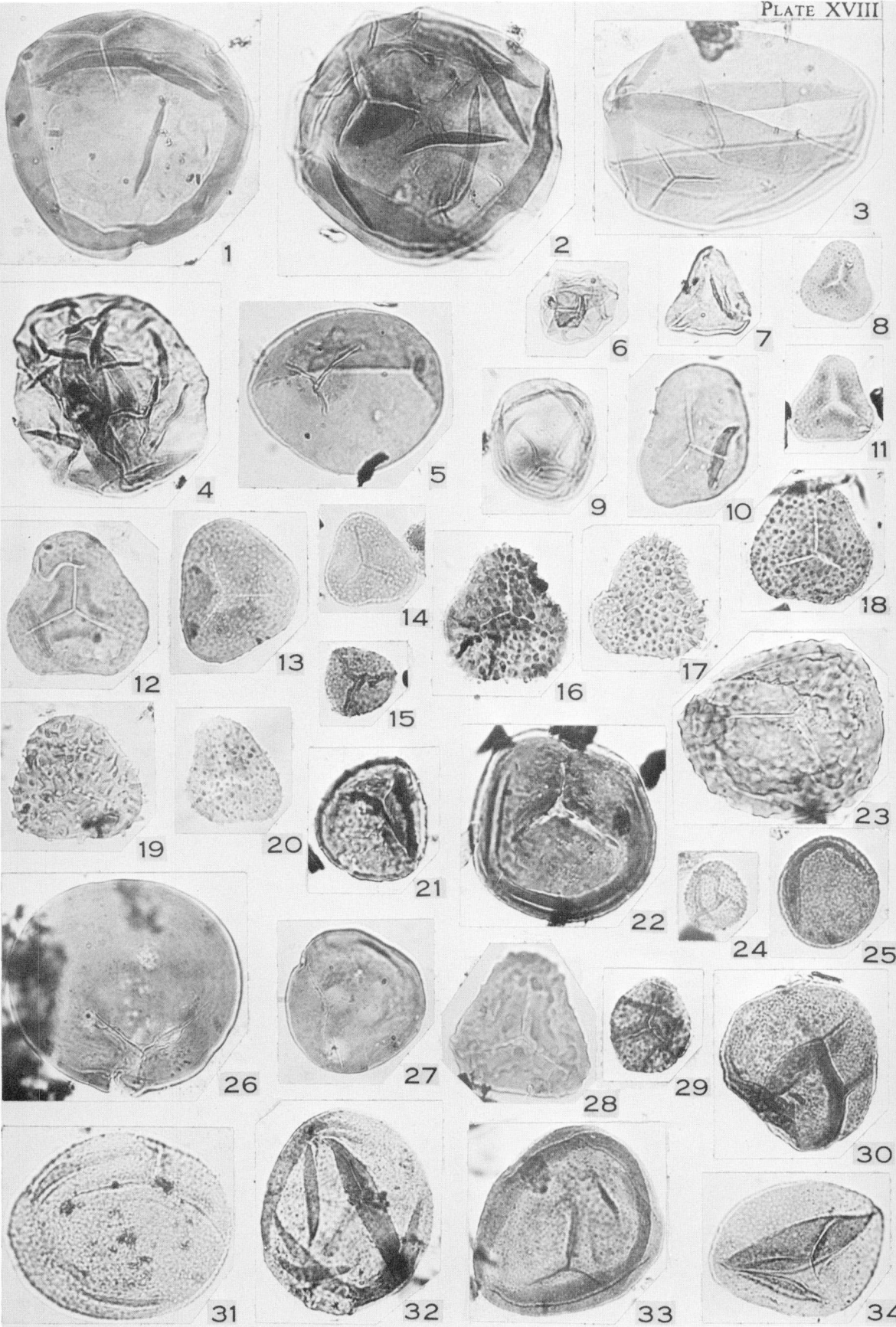


PLATE XIX

UPPER CARBONIFEROUS - Maritime Provinces

Early Westphalian B

Cumberland Group (continued).

- Figure 1. Cyclogranisporites sp. 16133. Loc. 7782.
- Figure 2. Crassispora kosankei (Potonié and Kremp) Bhardwaj, 1957b. p.127. 16134. Loc. 7774.
- Figure 3. Apiculatisporis aculeatus (Ibrahim) Potonié and Kremp, 1955, p.78, 1956, p.94. 16135. Loc. 7772.
- Figure 4. ? Microreticulatisporites microreticulatus Knox, 1950, p.321. 16136. Loc. 7772.
- Figure 5. cf. Secarisporites remotus Neves, 1961, p.262. 16137. Loc. 7780.
- Figure 6. Convolutispora sp. 16138. Loc. 7782.
- Figure 7. ? Secarisporites sp. 16139. Loc. 7772.
- Figure 8. Convolutispora ampla? Hoffmeister, Staplin, and Malloy, 1955, p.384. 16140. Loc. 7780.
- Figures 9, 13. cf. Secarisporites lobatus Neves, 1961, p.261. 16141, 16145. Loc. 7780.
- Figure 10. ? Punctatisporites verrucifer Kosanke, 1950, p.17. 16142. Loc. 7785.
- Figure 11. Verrucosisporites cf. V. microtuberosus (Loose) Smith and Butterworth, in Smith, 1966, 16143. Loc. 7774.
- Figure 12. ? Verrucosisporites sp. 16144. Loc. 7782.
- Figures 14, 15. Convolutispora spp. 16146, 16147. Loc. 7772, 7774.
- Figure 16. Convolutispora mellita Hoffmeister, Staplin, and Malloy, 1955, p.384. 16148. Loc. 7775.
- Figure 17. Campotriletes sp. 16149. Loc. 7772.
- Figure 18. ? Dictyotriletes sp. 16150. Loc. 7772.
- Figure 19. Convolutispora sp. 16151. Loc. 7777.
- Figures 20, 21. Verrucosisporites spp. 16152, 16153. Loc. 7783, 7774.
- Figure 22. Apiculatisporis grumosus (Ibrahim) Potonié and Kremp, 1955, p.79, 1956, p.94. 16154. Loc. 7774.
- Figure 23. Apiculatisporis abditus ? (Loose) Potonié and Kremp, 1955, p.78, 1956, p.94. 16155. Loc. 7783.
- Figure 24. Apiculatisporis cf. A. spinosaetosus (Loose) Potonié and Kremp, 1955, p.80, 1956, p.94. 16156. Loc. 7774.
- Figure 25. Convolutispora sp. 16157. Loc. 7775.
- Figure 26. Apiculatisporis setulosus (Kosanke) Potonié and Kremp, 1955, p.78, 1956, p.94. 16158. Loc. 7782.
- Figure 27. Verrucosisporites cf. V. perrucosus (Loose) Potonié and Kremp, 1955, p.68. 16159. Loc. 7772.
- Figure 28. Raistrickia saetosa ? (Loose) Potonié and Kremp, 1955, p.87. 16160. Loc. 7783.

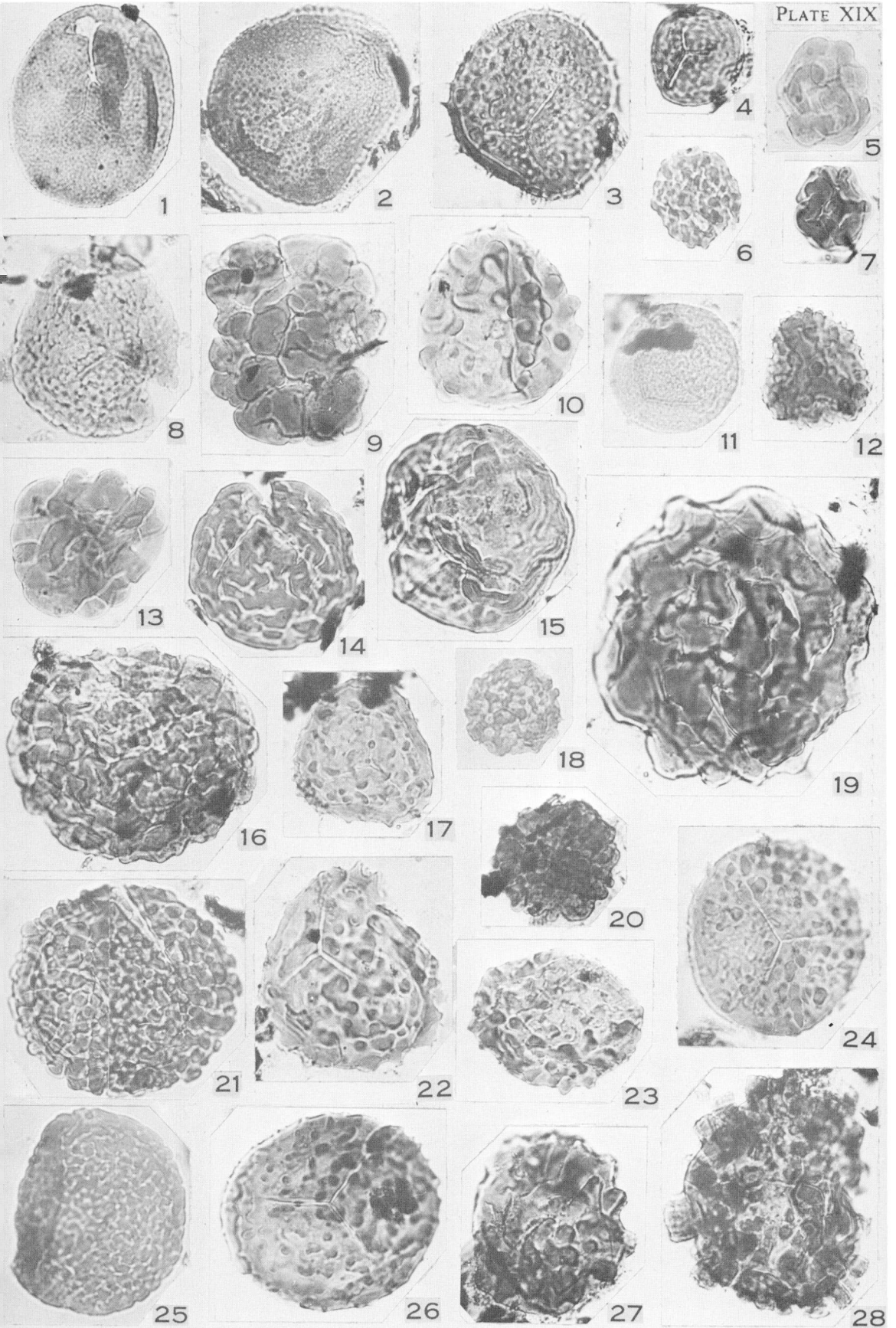


PLATE XX
UPPER CARBONIFEROUS - Maritime Provinces
Early Westphalian B

Cumberland Group (continued)

- Figure 1. ? Apiculatisporis sp. 16161. Loc. 7780.
- Figures 2, 5. Raistrickia saetosa (Loose) Potonié and Kremp, 1955, p.87. 16162, 16165. Loc. 7772, 7775.
- Figures 3, 6. Raistrickia crocea Kosanke, 1950, p.47. 16163, 16166. Loc. 7780.
- Figure 4. Raistrickia cf. R. superba (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.56. 16164. Loc. 7772.
- Figure 7. Raistrickia irregularis Kosanke, 1950, p.47. 16167. Loc. 7783.
- Figure 8. Raistrickia sp. 16168. Loc. 7772.
- Figure 9. Dictyotriletes cf. D. falsus, Potonié and Kremp, 1955, p.109. 16169. Loc. 7772.
- Figure 10. Unidentified. 16170. Loc. 7785.
- Figures 11, 12. Savitrisporites asperatus Sullivan, 1964a, p.374. 16171, 16172. Loc. 7772, 7775.
- Figure 13. Knoxisporites stephanephorus Love, 1960, p.118. 16173. Loc. 7772.
- Figure 14. Savitrisporites sp. 16174. Loc. 7772.
- Figures 15, 16. Savitrisporites nux (Butterworth and Williams) Sullivan, 1964a, p.373. 16175, 16176. Loc. 7783, 7773.
- Figure 17. Knoxisporites cf. K. stephanephorus Love, 1960, p.118. 16177. Loc. 7772.
- Figure 18. Reticulatisporites sp. 16178. Loc. 7775.
- Figure 19. Lycospora granulata Kosanke, 1950, p.45. 16179. Loc. 7772.
- Figure 20. Anulatisporites sp. 16180. Loc. 7772.
- Figure 21. Lycospora pseudoannulata Kosanke, 1950, p.45. 16181. Loc. 7772.
- Figure 22. Lycospora brevijuga Kosanke, 1950, p.45. 16182. Loc. 7785.
- Figure 23. Lycospora punctata Kosanke, 1950, p.45. 16183. Loc. 7776.
- Figure 24. Lycospora sp. 16184. Loc. 7772.
- Figure 25. Laevigatosporites desmoinensis (Wilson and Coe) Schopf, Wilson, and Bentall, 1944, p.37. 16185. Loc. 7785.
- Figure 26. Laevigatosporites medius Kosanke, 1950, p.29. 16186. Loc. 7785.
- Figure 27. Punctatosporites minutus Ibrahim, 1933, p.40. 16187. Loc. 7785.
- Figure 28. Punctatosporites sp. 16188. Loc. 7785.
- Figure 29. ? Potoniësporites sp. 16189. Loc. 7774. Mag. 310X.
- Figure 30. Florinites pumicosus (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.59. 16190. Loc. 7774.
- Figure 31. Schulzospora rara Kosanke, 1950, p.53. 16191. Loc. 7776.

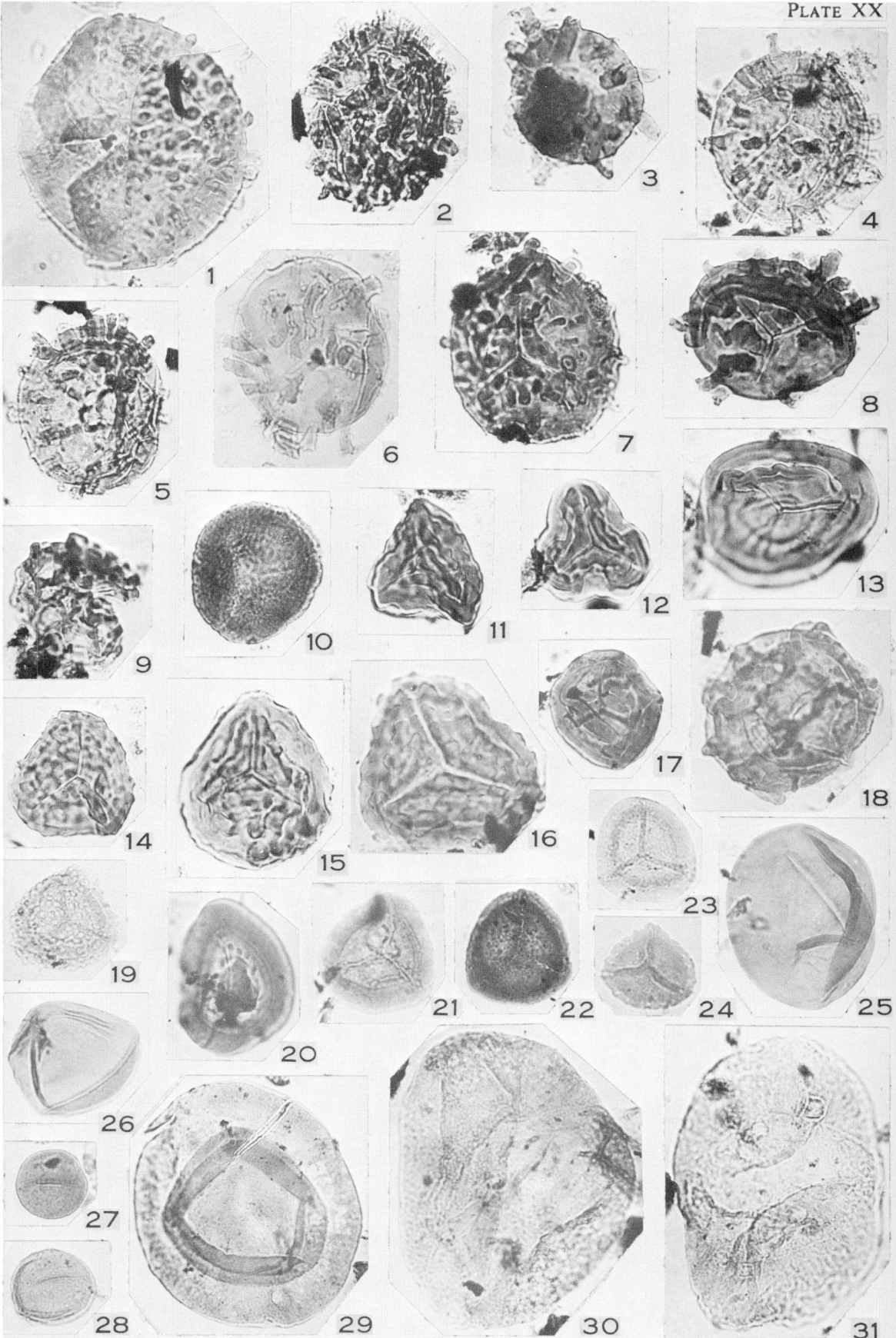


PLATE XXI

UPPER CARBONIFEROUS - Maritime Provinces

Early Westphalian B

Cumberland Group (continued).

- Figure 1. Potonicisporites sp. 16192. Loc. 7779.
Figure 2. Florinites visendus (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.60. 16193. Loc. 7780.
Figure 3. Florinites junior Potonié and Kremp, 1956, p. 168. 16194. Loc. 7780.
Figure 4. Unidentified. 16195. Loc. 7774.
Figure 5. Endosporites ornatus Wilson and Coe, 1940, p. 184. 16196. Loc. 7775.
Figure 6. Schopfipollenites sp. 16197. Loc. 7772.
Figure 7. Florinites sp. 16198. Loc. 7774.

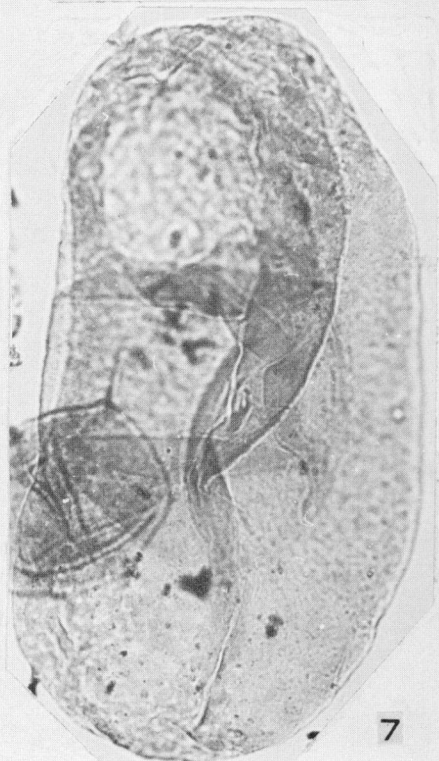
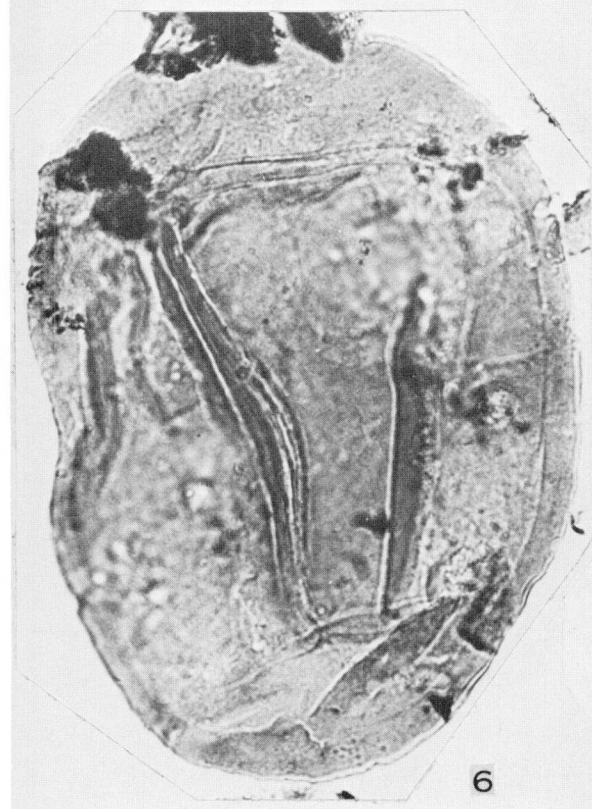
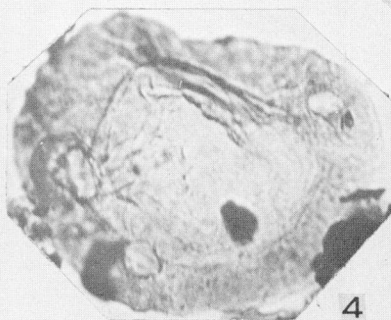
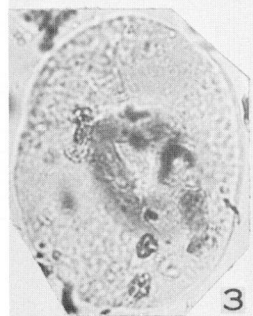
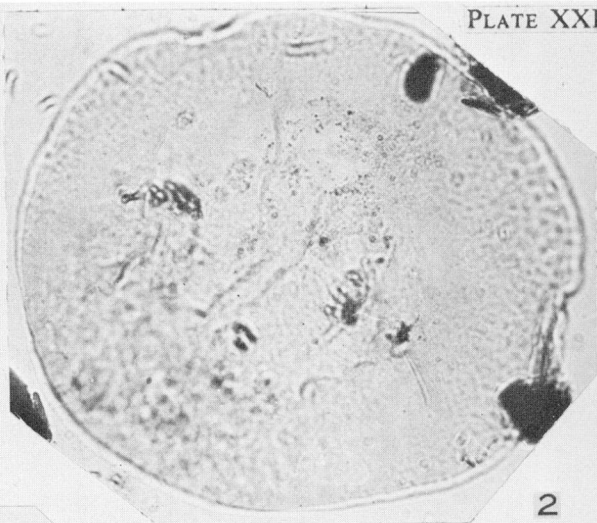
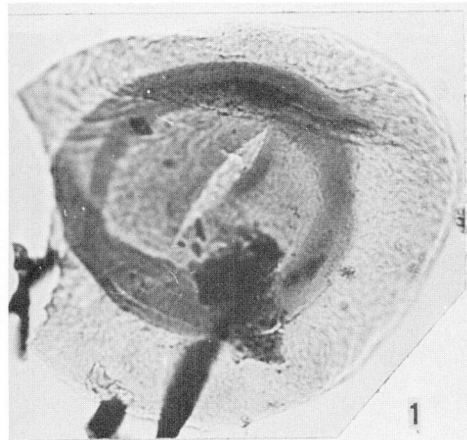


PLATE XXII

UPPER CARBONIFEROUS - Maritime Provinces

Late Westphalian B - Early Westphalian C

Pictou, Morien, and Stellarton Groups.

References: Bell, 1938, 1940, 1944.

- Figure 1. Leiotriletes adnatus (Kosanke) Potonié and Kremp, 1955, p.39. 16199. Loc. 7786.
- Figure 2. Punctatisporites minutus Kosanke, 1950, p.15. 16200. Loc. 7788.
- Figure 3. Calamospora pallida (Loose) Schopf, Wilson, and Bentall, 1944, p.52. 16201. Loc. 7786.
- Figure 4. Granulatisporites microgranifer Ibrahim, 1933, p.22. 16202. Loc. 7793.
- Figure 5. Granulatisporites granulatus Ibrahim, 1933, p.22. 16203. Loc. 7788.
- Figure 6. Granulatisporites piroformis Loose, 1934, p.147. 16204. Loc. 7786.
- Figure 7. Lophotriletes commissuralis (Kosanke) Potonié and Kremp, 1955, p.73. 16205. Loc. 7786.
- Figures 8, 10. Lophotriletes microsaeetus (Loose) Potonié and Kremp, 1955, p.74. 16206, 16208. Loc. 7788, 7786.
- Figure 9. Anapiculatisporites spinosus (Kosanke) Potonié and Kremp, 1955, p.82. 16207. Loc. 7788.
- Figure 11. Calamospora liquida Kosanke, 1950, p.41. 16209. Loc. 7786.
- Figure 12. Lycospora pseudoannulata Kosanke, 1950, p.45. 16210. Loc. 7786.
- Figure 13. Lycospora punctata Kosanke, 1950, p.45. 16211. Loc. 7788.
- Figure 14. Lycospora pellucida (Wicher) Schopf, Wilson, and Bentall, 1944, p.54. 16212. Loc. 7788.
- Figure 15. Lycospora granulata Kosanke, 1950, p.45. 16213. Loc. 7788.
- Figure 16. Lycospora pusilla (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.54. 16214. Loc. 7786.
- Figure 17. Lycospora brevijuga Kosanke, 1950, p.44. 16215. Loc. 7786.
- Figure 18. Punctatosporites minutus Ibrahim, 1933, p.40. 16216. Loc. 7786.
- Figure 19. Punctatisporites cf. P. minutus Ibrahim, 1933, p.40. 16217. Loc. 7786.
- Figure 20. Laevigatosporites desmoinensis (Wilson and Coe) Schopf, Wilson, and Bentall, 1944, p.37. 16218. Loc. 7786.
- Figure 21. Cyclogranisporites microgranus Bhardwaj, 1957a, p.84. 16219. Loc. 7786.
- Figure 22. Cyclogranisporites cf. C. propectus (Kosanke) Potonié and Kremp, 1955, p.61. 16220. Loc. 7786.
- Figure 23. Verrucosisporites cf. V. microtuberosus (Loose) Smith and Butterworth, in Smith, 1966, 16221. Loc. 7788.
- Figures 24, 25. Crassispora kosankei (Potonié and Kremp) Bhardwaj, 1957b, p.127. 16222, 16223. Loc. 7786, 7788.
- Figure 26. Triquirites bransonii Wilson and Hoffmeister, 1956, p.24. 16224. Loc. 7787.
- Figures 27, 30, 32. Triquirites sculptilis ? Balme, 1952, p.181. 16225, 16228, 16230. Loc. 7786.
- Figure 28. Savitrissporites nux (Butterworth and Williams) Sullivan, 1964a, p.373. 16226. Loc. 7793.
- Figure 29. ? Microreticulatisporites verus Potonié and Kremp, 1955, p.102. 16227. Loc. 7786.
- Figure 31. Triquirites dividius Wilson and Hoffmeister, 1956, p.25. 16229. Loc. 7786.
- Figures 33, 36. Verrucosisporites spp. 16231, 16234. Loc. 7789, 7788.
- Figure 34. ? Dictyotriletes maculatus (Ibrahim) Potonié and Kremp, 1955, p.110. 16232. Loc. 7788.
- Figures 35, 37. Convolutispora spp. 16233, 16235. Loc. 7788, 7787.

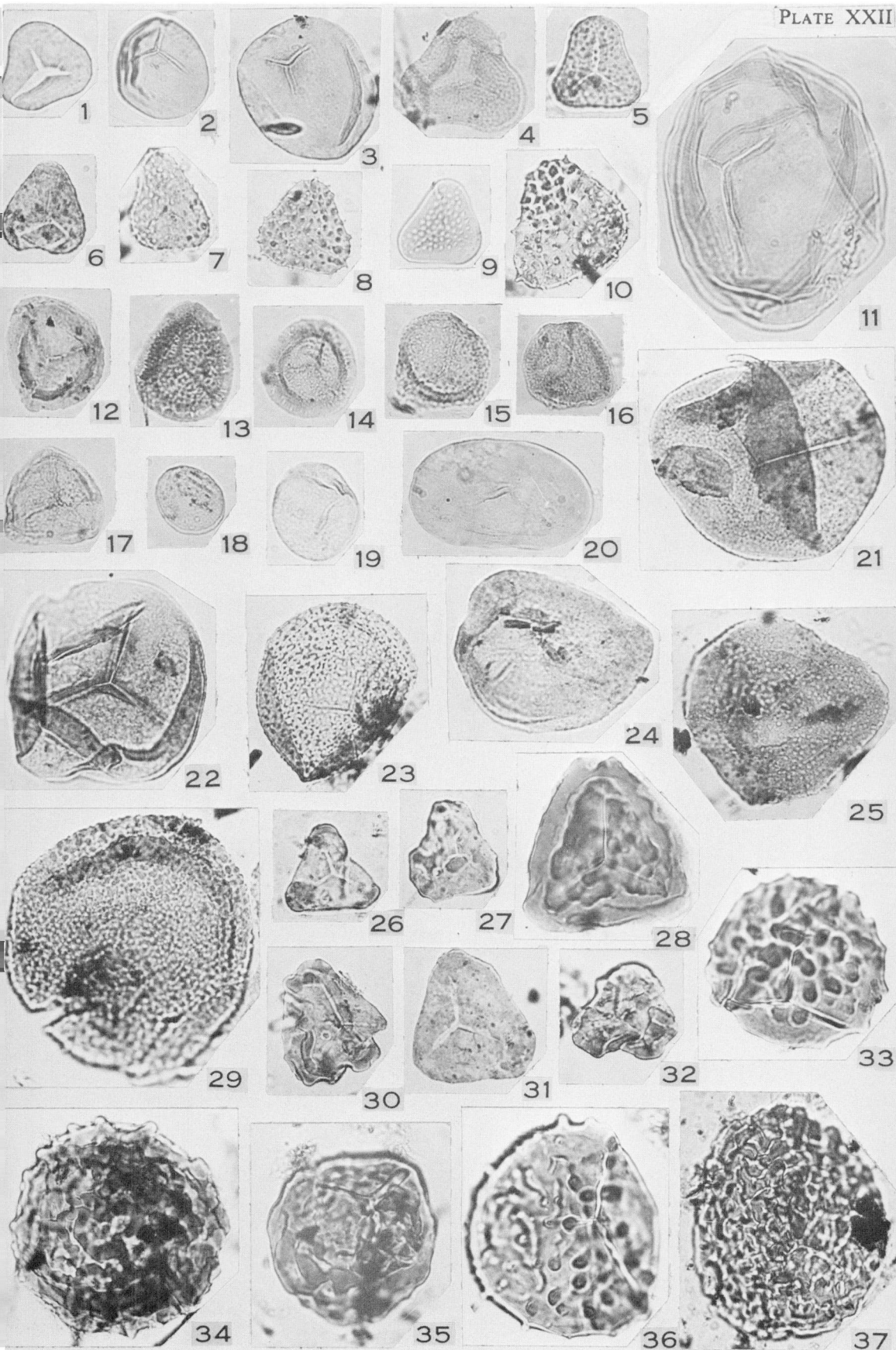


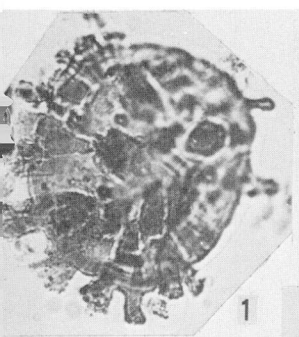
PLATE XXIII

UPPER CARBONIFEROUS - Maritime Provinces

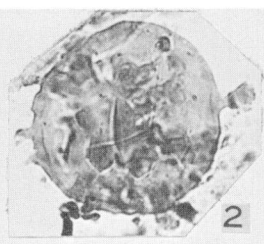
Late Westphalian B - Early Westphalian C

Pictou, Morien and Stellarton Groups (continued).

- Figure 1. Raistrickia protensa Kosanke, 1950, p.46. 16236. Loc. 7793.
- Figure 2. Raistrickia crocea Kosanke, 1950, p.47. 16237. Loc. 7793.
- Figure 3. ? Raistrickia sp. 16238. Loc. 7790.
- Figure 4. Unidentified. 16239. Loc. 7788.
- Figure 5. Raistrickia sp. 16240. Loc. 7786.
- Figure 6. Apiculatisporis irregularis (Kosanke) Potonié and Kremp, 1955, p.77, 1956, p.94. 16241. Loc. 7789.
- Figure 7. Knoxisporites sp. 16242. Loc. 7790.
- Figure 8. Reticulatisporites sp. 16243. Loc. 7788.
- Figure 9. Reticulatisporites muricatus Kosanke, 1950, p.27. 16244. Loc. 7789.
- Figures 10, 11. Reticulatisporites polygonalis (Ibrahim) Loose, 1934, p.155. 16245, 16246. Loc. 7791, 7790.
- Figure 12. Reticulatisporites mediareticulatus (Ibrahim) Potonié and Kremp, 1955, p.110. 16655. Loc. 7790.
- Figure 13. Reticulatisporites lacunosus Kosanke, 1950, p.26. 16247. Loc. 7793.
- Figure 14. Vestispora laevigata Wilson and Venkatachala, 1963b, p.98. 16248. Loc. 7788.
- Figure 15. Vestispora magna (Butterworth and Williams) Wilson and Venkatachala, 1963b, p.99. 16249. Loc. 7570.
- Figure 16. Vestispora fenestrata (Kosanke and Brokaw) Wilson and Venkatachala, 1963b, p.99. 16250. Loc. 7786.
- Figures 17, 19. Vestispora cancellata (Dybová and Jachowicz) Wilson and Venkatachala, 1963b, p.99. 16251, 16252. Loc. 7793.
- Figure 18. Vestispora costata (Balme) Bhardwaj, 1957b, p.118. 15073. Loc. 7570.



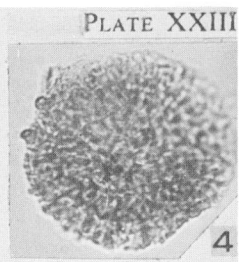
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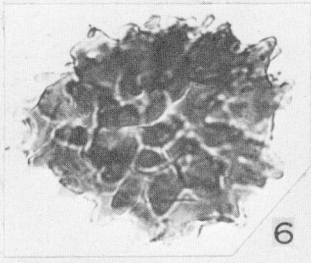
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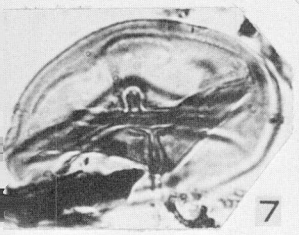
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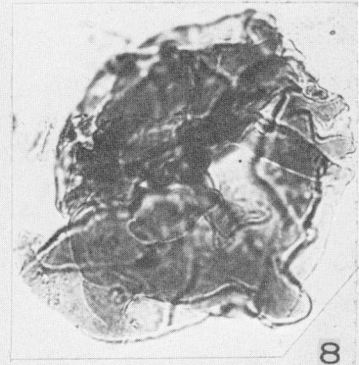
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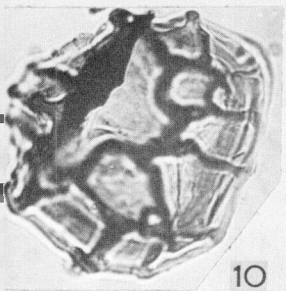
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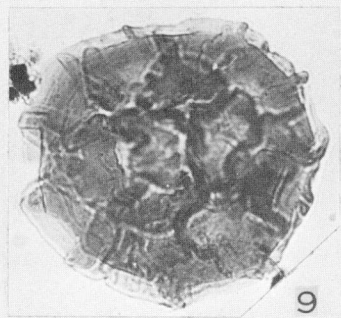
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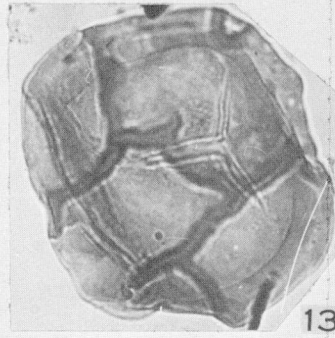
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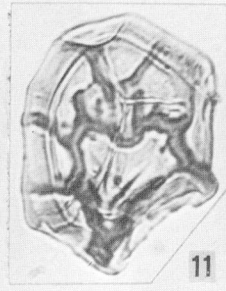
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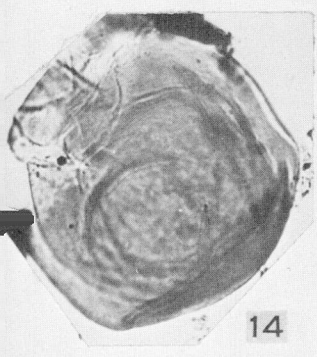
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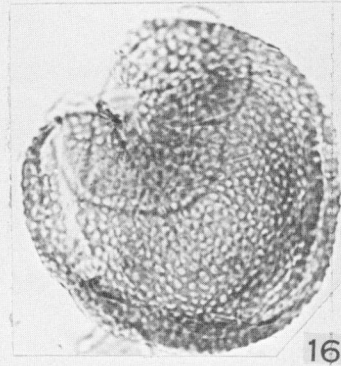
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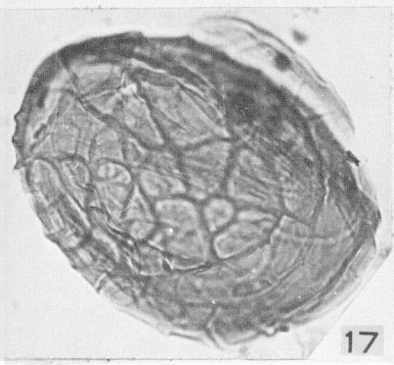
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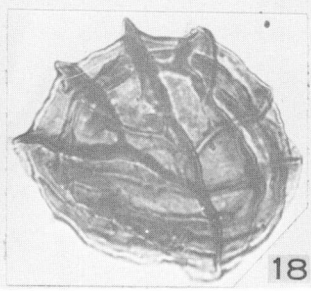
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PLATE XXIV
UPPER CARBONIFEROUS - Maritime Provinces
Late Westphalian B - Early Westphalian C

Pictou, Morien, and Stellarton Groups (continued).

- Figure 1. Vestispora profunda Wilson and Hoffmeister, 1956, p.27. 16253. Loc. 7788.
Figure 2. ? Armatisporites sp. 16254. Loc. 7793.
Figure 3. Mooreisporites sp. 16255. Loc. 7793.
Figure 4. Endosporites ornatus Wilson and Coe, 1940, p.184. 16256. Loc. 7788.
Figure 5. Endosporites globiformis (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.45. 16257. Loc. 7788.
Figure 6. Guthorlisporites sp. 16258. Loc. 7788.
Figure 7. Florinites pumicosus (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.59. 16259. Loc. 7788.
Figure 8. Alatisporites cf. A. pustulatus Ibrahim, 1933, p.32. 16260. Loc. 7790.
Figure 9. Florinites antiquus Schopf, in Schopf, Wilson, and Bentall, 1944, p.58. 16261. Loc. 7788.
Figure 10. Florinites circularis Bhardwaj, 1957a, p.116. 16262. Loc. 7788.
Figure 11. Florinites millotti Butterworth and Williams, 1954, p.760. 16263. Loc. 7786.
Figure 12. Cirratriradites flabelliformis Wilson and Kosanke, 1950, p.49. 16264. Loc. 7786.
Figure 13. Florinites similis Kosanke, 1950, p.49. 16265. Loc. 7790.
Figure 14. Schopfipollenites sp. 16266. Loc. 7788. Mag. 310X.

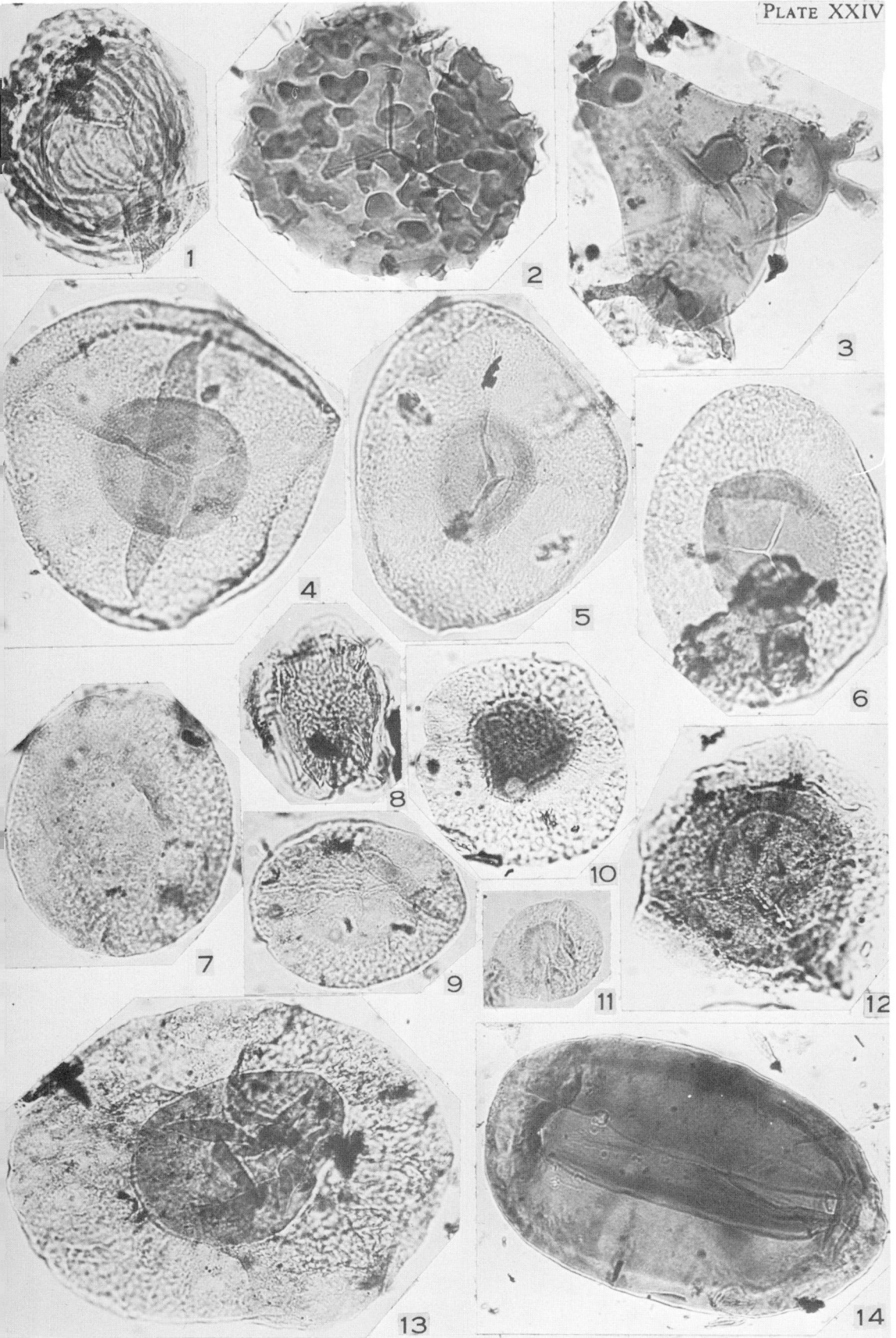


PLATE XXV
UPPER CARBONIFEROUS - Maritime Provinces

Westphalian C

Pictou, Morien, and Stellarton Groups.

References: Bell, 1938, 1940, 1944.

- Figure 1. Leiotriletes adnatus (Kosanke) Potonié and Kremp, 1955, p.39. 16267. Loc. 7793.
- Figure 2. Calamospora parva Guenel, 1958, p.78. 16268. Loc. 7795.
- Figure 3. Calamospora pallida (Loose) Schopf, Wilson, and Bentall, 1944, p.52. 16269. Loc. 7797.
- Figure 4. Calamospora perrugosa (Loose) Schopf, Wilson, and Bentall, 1944, p.52. 16270. Loc. 7800.
- Figure 5. Punctatisporites sp. 16271. Loc. 7793.
- Figure 6. Granulatisporites cf. G. granulatus Ibrahim, 1933, p.32. 16272. Loc. 7796.
- Figures 7, 8. Lophotriletes microsaetosus (Loose) Potonié and Kremp, 1955, p.74. 16273, 16274. Loc. 7799, 7797.
- Figure 9. Lophotriletes commissuralis (Kosanke) Potonié and Kremp, 1955, p.73. 16275. Loc. 7801.
- Figure 10. Punctatisporites obliquus Kosanke, 1950, p.16. 16276. Loc. 7795.
- Figure 11. Apiculatisporites sp. 16277. Loc. 7795.
- Figure 12. Cyclogranisporites cf. C. provectus (Kosanke) Potonié and Kremp, 1955, p.61. 16278. Loc. 7800.
- Figure 13. Cyclogranisporites aureus (Loose) Potonié and Kremp, 1955, p.61. 16279. Loc. 7797.
- Figure 14. Verrucosisorites cf. V. microtuberosus (Loose) Smith and Butterworth, in Smith, 1966, 16280. Loc. 7793.
- Figure 15. Anapiculatisporites spinosus (Kosanke) Potonié and Kremp, 1955, p.81. 16281. Loc. 7803.
- Figure 16. Microreticulatisporites cf. M. novicus Bhardwaj, 1957a, p.92. 16282. Loc. 7797.
- Figure 17. Microreticulatisporites fistulosus (Ibrahim) Knox, 1950, p.320. 16283. Loc. 7794.
- Figure 18. Crassispora plicata Peppers, 1964, p.17. 16284. Loc. 7797.
- Figure 19. Crassispora cf. C. ovalis (Bhardwaj) Bhardwaj, 1957b, p.125. 16285. Loc. 7795.
- Figure 20. ? Punctatisporites staplini Peppers, 1964, p.35. 16286. Loc. 7793.
- Figure 21. Apiculatisporis sp. 16287. Loc. 7785.
- Figures 22, 24, 25. Convolutispora spp. 16288, 16290, 16291. Loc. 7795, 7797, 7793.
- Figure 23. Camptotriletes sp. 16289. Loc. 7793.
- Figures 26, 30. ? Raistrickia rubida Kosanke, 1950, p.48. 16292, 16296. Loc. 7795, 7801.
- Figure 27. Raistrickia sp. 16293. Loc. 7795.
- Figure 28. Raistrickia saetosa (Loose) Schopf, Wilson, and Bentall, 1944, p.56. 16294. Loc. 7795.
- Figure 29. Raistrickia aculeolata Wilson and Kosanke, 1944, p.332. 16295. Loc. 7795.
- Figures 31, 32. Apiculatisporis grumosus ? (Ibrahim) Potonié and Kremp, 1955, p.79, 1956, p.94, 16297, 16298. Loc. 7795, 7801.
- Figure 33. Raistrickia cf. R. crinita Kosanke, 1950. p.46. 16299. Loc. 7800.

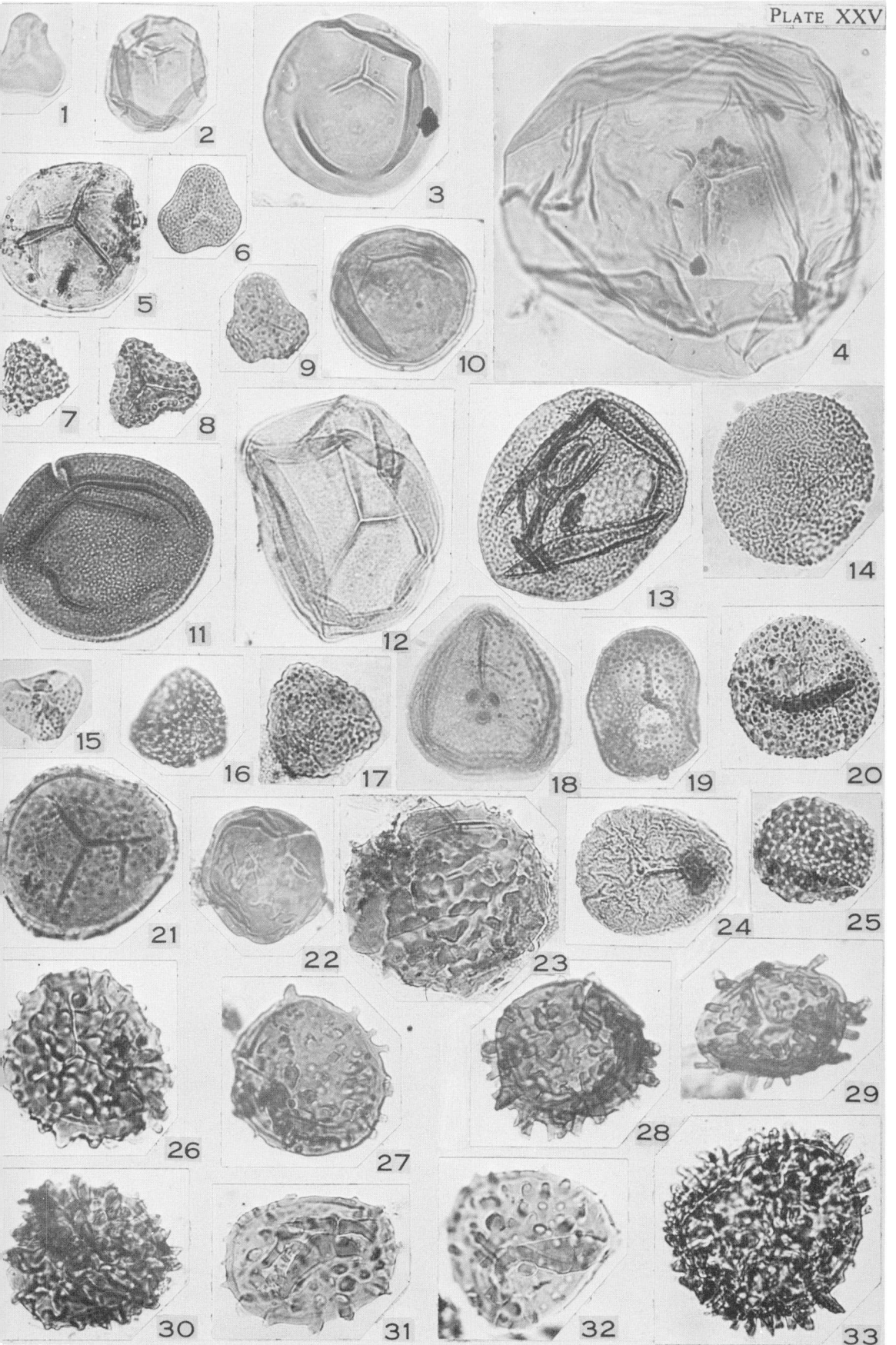


PLATE XXVI

UPPER CARBONIFEROUS - Maritime Provinces

Westphalian C

Pictou, Morien, and Stellarton Groups (continued).

- Figure 1. Verrucosporites cf. V. sifati (Ibrahim) Smith and Butterworth, in Smith, 1966, 16300. Loc. 7793.
- Figure 2. Triquitrites additus Wilson and Hoffmeister, 1956, p.24. 16301. Loc. 7800.
- Figure 3. Triquitrites pulvinatus Kosanke, 1950, p.39. 16302. Loc. 7802.
- Figure 4. Triquitrites bransonii, Wilson and Hoffmeister, 1956, p.24. 16303. Loc. 7800.
- Figure 5. Triquitrites cf. T. crassus Kosanke, 1950, p.38. 16304. Loc. 7803.
- Figures 6, 7. Murospora kosankei Somers, 1952, p.21. 16305, 16306. Loc. 7803, 7793.
- Figure 8. Apiculatisporis sp. 16307. Loc. 7803.
- Figures 9, 10. Knoxsporites cf. K. stephanephorus Love, 1960, p.118. 16308, 16309. Loc. 7793, 7794.
- Figure 11. Gravisporites sphaerus (Butterworth and Williams) Bhardwaj, 1954, p.515. 16310. Loc. 7805.
- Figures 12, 13. Reticulatisporites polygonalis (Ibrahim) Loose, 1934, p.155. 16311, 16312. Loc. 7801, 7803.
- Figure 14. Cadiospora magna Kosanke, 1950, p.50. 16313. Loc. 7804.
- Figure 15. Lycospora punctata Kosanke, 1950, p.45. 16314. Loc. 7805.
- Figure 16. Lycospora brevijuga Kosanke, 1950, p.44. 16315. Loc. 7801.
- Figure 17. Lycospora pseudoannulata ? Kosanke, 1950, p.45. 16316. Loc. 7801.
- Figures 18, 19. Cirratiradites saturni (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.44. 16317, 16318. Loc. 7801.
- Figure 20. Vestispora laevigata Wilson and Venkatachala, 1963b, p.98. 16319. Loc. 7793.
- Figure 21. Vestispora fenestrata (Kosanke and Brokaw) Wilson and Venkatachala, 1963b, p.99. 16320. Loc. 7793.
- Figures 22, 23. Vestispora profunda Wilson and Hoffmeister, 1956, p.27. 16321, 16322. Loc. 7793, 7794.

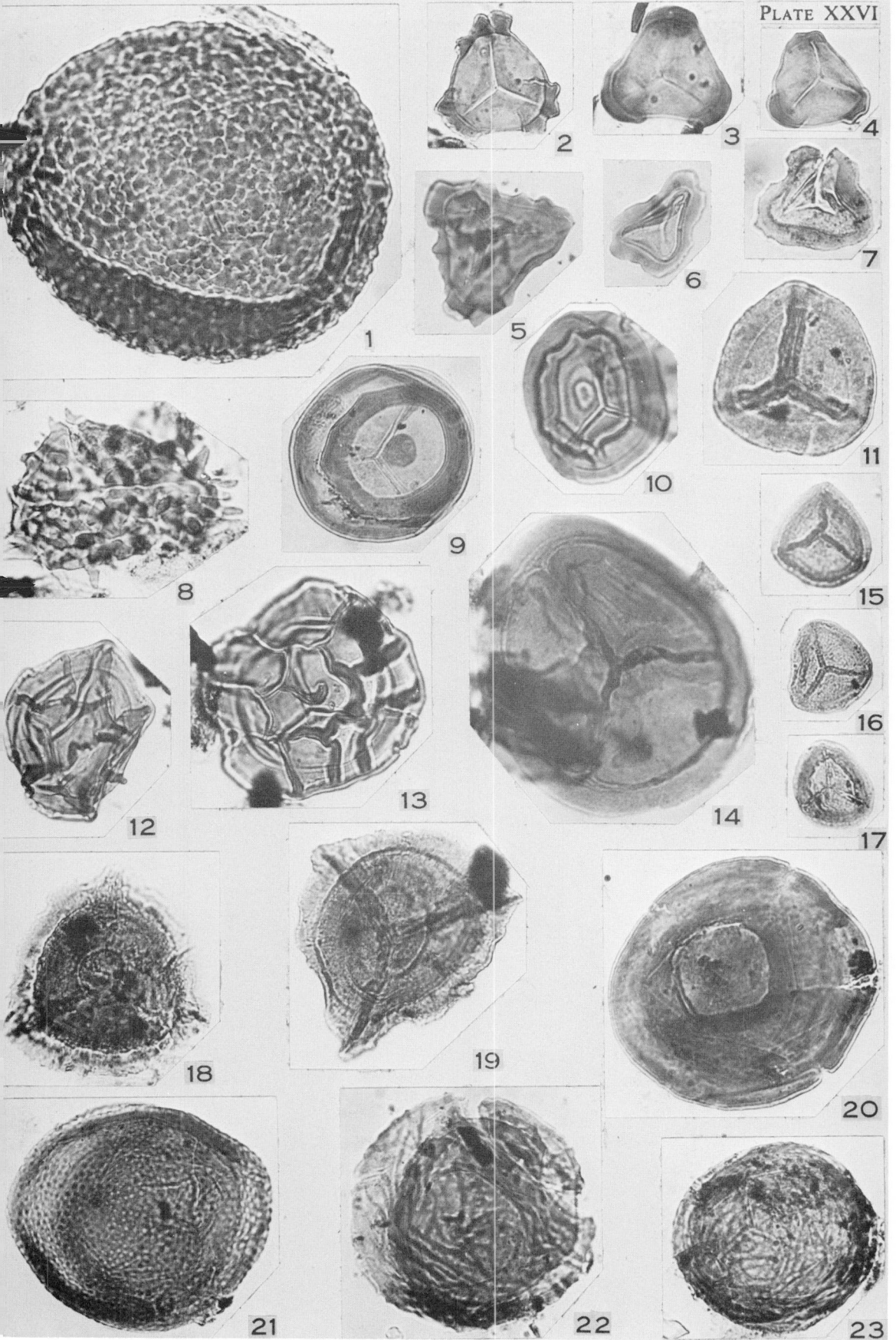


PLATE XXVII
UPPER CARBONIFEROUS - Maritime Provinces
Westphalian C

Pictou, Morien, and Stellarton Groups (continued).

- Figure 1. Vestispora irregularis (Kosanke) Wilson and Venkatachala, 1963b, p.99. 16323. Loc. 7797.
Figure 2. Alatisporites trialatus Kosanke, 1950, p.25. 16324. Loc. 7798.
Figure 3. Endosporites ornatus Wilson and Coe, 1940, p.184. 16325. Loc. 7793.
Figure 4. Laevigatosporites perminutus Alpern, 1959, p.152. 16326. Loc. 7799.
Figure 5. Punctatosporites minutus Ibrahim, 1933, p.40. 16327. Loc. 7800.
Figures 6, 9. Crassosporites spp. 16328, 16331. Loc. 7801, 7793.
Figure 7. Laevigatosporites minimus (Wilson and Coe) Schopf, Wilson, and Bentall, 1944, p.37. 16329. Loc. 7801.
Figure 8. Wilsonites vesicata Kosanke, 1950, p.54. 16330. Loc. 7797.
Figure 10. Speciososporites minutus Alpern, 1959, p.157. 16332. Loc. 7798.
Figure 11. Torispora laevigata Bhardwaj, 1957a, p.112. 16333. Loc. 7799.
Figure 12. Speciososporites laevigatus Alpern, 1959, p.156. 16334. Loc. 7795.
Figure 13. Torispora securis (Balme) Alpern, Doubinger, and Horst, 1965, p.568. 16335, 16658. Loc. 7793.
Figure 14. Laevigatosporites vulgaris Ibrahim, 1933, p.39. 16336. Loc. 7797.
Figure 15. ? Vestigisporites sp. 16337. Loc. 7799.
Figure 16. Unidentified. 16338. Loc. 7795.
Figure 17. Illinites cf. I. unicus Kosanke, 1950, p.51. 16339. Loc. 7795.
Figure 18. Florinites sp. 16340. Loc. 7798.
Figure 19. Vestigisporites sp. 16341. Loc. 7803.
Figure 20. Florinites antiquus Schopf, in Schopf, Wilson, and Bentall, 1944, p.58. 16342. Loc. 7797.
Figure 21. Guthorlisporites magnificus Bhardwaj, 1954, p.519. 16343. Loc. 7793.
Figure 22. Cordaitina sp. 16344. Loc. 7797.
Figure 23. Schopfipollenites sp. 16345. Loc. 7797. Mag. 310X.
Figure 24. Florinites eremus Balme and Hennelly, 1955, p.96. 16346. Loc. 7804.

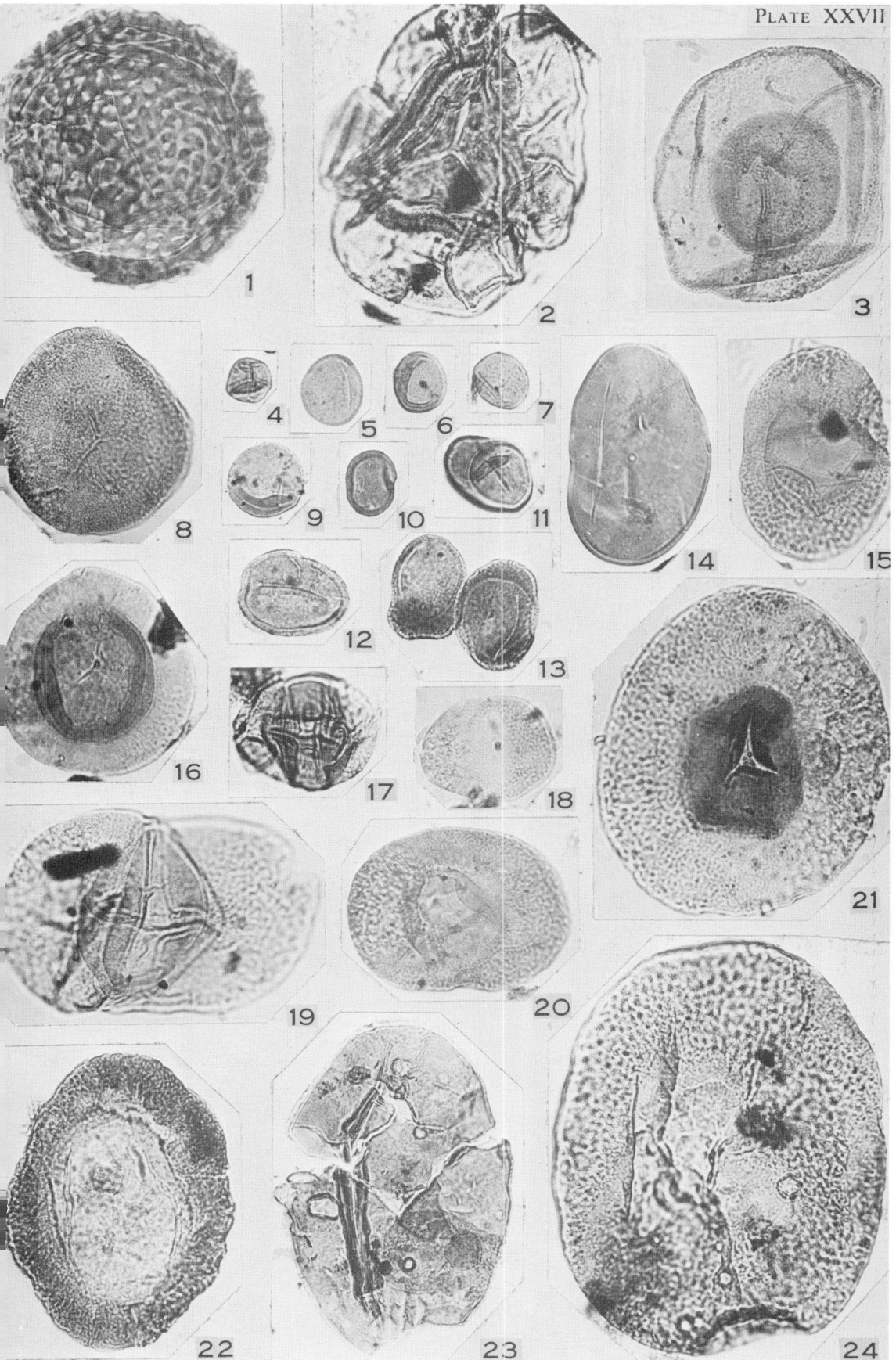


PLATE XXVIII
UPPER CARBONIFEROUS - Maritime Provinces
Westphalian D

Pictou and Morien Groups.

References: Bell, 1926, 1938, 1944, 1962; Norman, 1935.

- Figures 1, 2. Leiotriletes adnatus (Kosanke) Potonié and Kremp, 1955, p.39. 16347, 16348. Loc. 7812, 7810.
- Figure 3. Leiotriletes adnatoides Potonié and Kremp, 1955, p.38. 16349. Loc. 7810.
- Figure 4. Calamospora saariana Bhardwaj, 1957, p.81. 16350. Loc. 7811.
- Figure 5. Calamospora pallida (Loose) Schopf, Wilson, and Bentall, 1944, p.52. 16351. Loc. 7811.
- Figure 6. Punctatisporites cf. P. punctatus Ibrahim, 1933, p.21. 16352. Loc. 7815.
- Figure 7. Granulatisporites minutus Potonié and Kremp, 1955, p.59. 16353. Loc. 7810.
- Figures 8, 11. Lophotriletes microsaetosus (Loose) Potonié and Kremp, 1955, p.74. 16354, 16355. Loc. 7811, 7810.
- Figure 9. Punctatisporites sp. 16356. Loc. 7810.
- Figure 10. Anapiculatisporites spinosus (Kosanke) Potonié and Kremp, 1955, p.81. 16357. Loc. 7810.
- Figure 12. Cyclogranisporites orbicularis (Kosanke) Potonié and Kremp, 1955, p.61. 16358. Loc. 7810.
- Figure 13. Cyclogranisporites pergranulus Alpern, 1959, p.142. 16359. Loc. 7811.
- Figure 14. Verrucosisorites donarii Potonié and Kremp, 1955, p.67. 16360. Loc. 7810.
- Figure 15. Cyclogranisporites cf. C. micaceus (Imgrund) Potonié and Kremp, in Bhardwaj, 1957a, p.84. 16361. Loc. 7811.
- Figure 16. Cyclogranisporites cf. C. provectus (Kosanke) Potonié and Kremp, 1955, p.61. 16362. Loc. 7809.
- Figure 17. Crassispora kosankei (Potonié and Kremp) Bhardwaj, 1957b, p.127. 16363. Loc. 7811.
- Figures 18-21. Convolutispora spp. 16364, 16365, 16366, 16367. Loc. 7811, figs. 18, 20, 21; 7810, fig. 19.
- Figure 22. Converrucosisorites sulcatus (Wilson and Kosanke) Potonié and Kremp, 1955, p.64. 16368. Loc. 7810.
- Figure 23. Converrucosisorites sp. 16369. Loc. 7811.
- Figure 24. Apiculatisporis cf. A. priscus (Kosanke) Potonié and Kremp, 1955, p.78, 1956, p.94. 16370. Loc. 7810.
- Figures 25, 27. Raistrickia cf. R. aculeata Kosanke, 1950, p.46. 16371, 16373. Loc. 7810.
- Figures 26, 28, 29. Apiculatisporis spp. 16372, 16374, 16375. Loc. 7811, fig. 26; 7810, figs. 28, 29.
- Figures 30, 31. Raistrickia spp. 16376, 16377. Loc. 7810.
- Figure 32. Raistrickia crocea Kosanke, 1950, p.47. 16378. Loc. 7811.
- Figure 33. Apiculatisporis latigranifer (Loose) Potonié and Kremp, p.79, 1956, p.94. 16379. Loc. 7815.

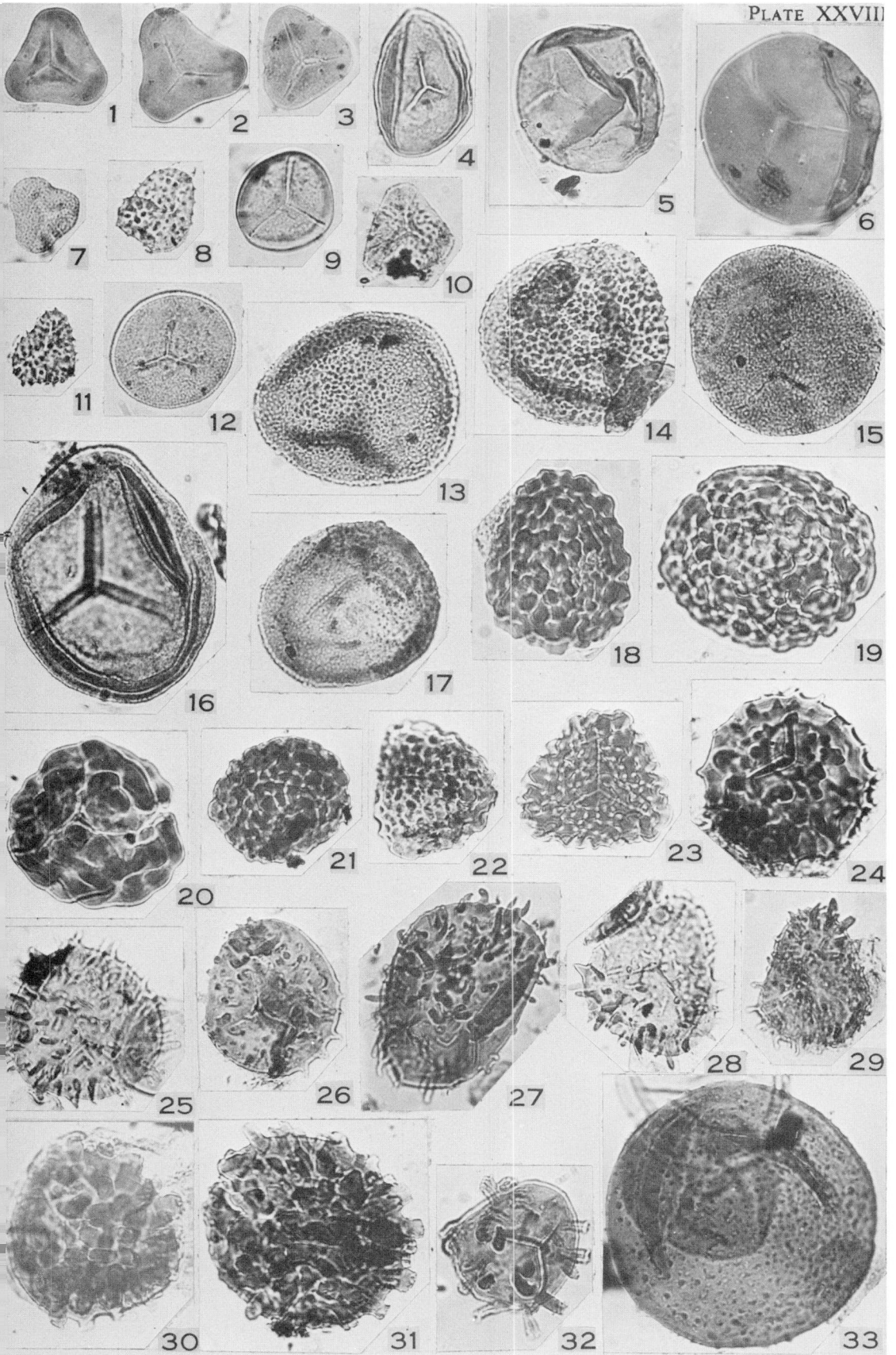


PLATE XXIX
UPPER CARBONIFEROUS - Maritime Provinces
Westphalian D

Pictou and Morien Groups (continued).

- Figures 1, 7. Triquitrites pulvinatus Kosanke, 1950, p.39. 16380, 16386. Loc. 7811, 7809.
- Figure 2. Triquitrites cf. T. novicus Bhardwaj. 1957a, p.95. 16381. Loc.7811.
- Figures 3, 5. Triquitrites spp. 16382, 16384. Loc. 7811, 7810.
- Figure 4. Triquitrites cf. T. spinosus Kosanke, 1943, p.128. 16383. Loc. 7811.
- Figures 6, 10. Triquitrites bransonii Wilson and Hoffmeister, 1956, p.24. 16385, 16389. Loc. 7811.
- Figure 8. Triquitrites cf. T. crassus Kosanke, 1950, p.38. 16387. Loc. 7813.
- Figure 9. Triquitrites additus Wilson and Hoffmeister, 1956, p.24. 16388. Loc. 7811.
- Figures 11, 15. Savitrisorites spp. 16390, 16394. Loc. 7815, 7807.
- Figure 12. Murospora kosankei Somers, 1952, p.21. 16391. Loc. 7812.
- Figures 13, 14. Knoxisorites cf. K. stephanephorus Love, 1960, p.118. 16392, 16393. Loc. 7811, 7815.
- Figures 16, 17. Cirratiradites annulatus Kosanke and Brokaw, in Kosanke, 1950, p.35. 16395, 16396. Loc. 7810.
- Figure 18. Schopfites cf. S. dimorphus Kosanke, 1950, p.52. 16397. Loc. 7810.
- Figure 19. Unidentified. 16398. Loc. 7809.
- Figure 20. Reinschospora triangularis Kosanke, 1950, p.43. 16399. Loc. 7810.
- Figure 21. Reinschospora speciosa (Loose) Schopf, Wilson, and Bentall, 1944, p.53. 16400. Loc. 7810.
- Figure 22. Schopfites colchesterensis Kosanke, 1950, p.53. 16401. Loc. 7810.
- Figures 23, 24. Alatisporites trialatus Kosanke, 1950, p.25. 16402, 16403. Loc. 7810.

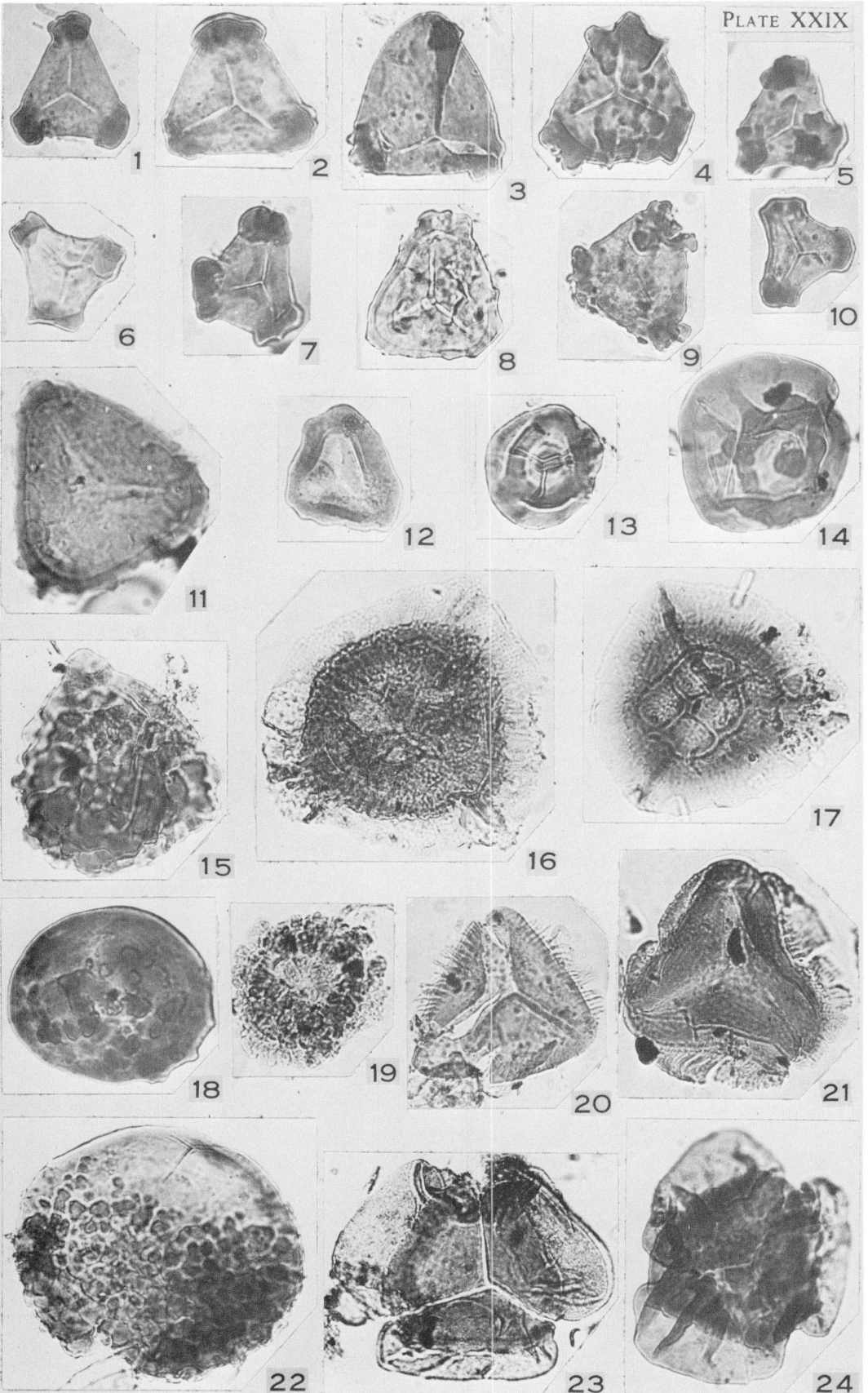


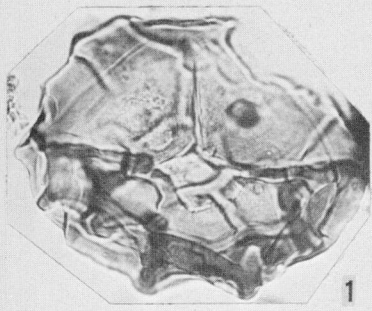
PLATE XXX

UPPER CARBONIFEROUS - Maritime Provinces

Westphalian D

Pictou and Morien Groups (continued).

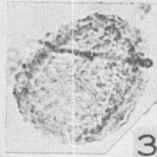
- Figure 1. Reticulatisporites cf. R. lacunosus Kosanke, 1950, p.26. 16404. Loc. 7807.
- Figure 2. Lycospora parva Kosanke, 1950, p.44. 16405. Loc. 7810.
- Figure 3. Lycospora granulata Kosanke, 1950, p.45. 16406. Loc. 7810.
- Figure 4. Lycospora punctata Kosanke, 1950, p.45. 16407. Loc. 7815.
- Figures 5, 6. Lycospora microgranulata Bhardwaj, 1957a, p.104. 16408, 16409. Loc. 7811, 7810.
- Figure 7. Lycospora pressoides ? (Potonié and Kremp) Bhardwaj, 1957b, p.127. 16410. Loc. 7810.
- Figures 8-10. Densosporites spp. 16411, 16412, 16413. Loc. 7810.
- Figure 11. Densosporites cf. D. lobatus Kosanke, 1950, p.32. 16414. Loc. 7810.
- Figure 12. Vestispora laevigata Wilson and Venkatachala, 1963b, p.98. 16415. Loc. 7807.
- Figure 13. Vestispora profunda Wilson and Hoffmeister, 1956, p.27. 16416. Loc. 7811.
- Figures 14, 15. Vestispora fenestrata (Kosanke and Brokaw) Wilson and Venkatachala, 1963b, p.99. 16417, 16418. Loc. 7811, 7810.
- Figure 16. Vestispora sp. 16419. Loc. 7810.
- Figure 17. Punctatosporites minutus Ibrahim, 1933, p.40. 16420. Loc. 7810.
- Figure 18. Speciososporites minutus Alpern, 1959, p.157. 16421. Loc. 7810.
- Figure 19. Punctatosporites cf. P. minutus Ibrahim, 1933, p.40. 16422. Loc. 7810.
- Figure 20. Speciososporites triletoides Alpern, 1959, p.156. 16423. Loc. 7813.
- Figure 21. Laevigatosporites medius Kosanke, 1950, p.29. 16424. Loc. 7810.
- Figure 22. Laevigatosporites vulgaris Ibrahim, 1933, p.39. 16425. Loc. 7810.
- Figure 23. Punctatosporites cf. P. granifer Potonié and Kremp, 1956, p.142. 16426. Loc. 7810.
- Figures 24, 25. Thymospora obscura (Kosanke) Wilson and Venkatachala, 1963a, p.76. 16427, 16428. Loc. 7810, 7811.
- Figure 26. Thymospora verrucosa (Alpern) Wilson and Venkatachala, 1963a, p.78. 16429. Loc. 7810.
- Figures 27, 28. Thymospora perverrucosa (Alpern) Wilson and Venkatachala, 1963a, p.78. 16430, 16431. Loc. 7814, 7810.
- Figure 29. Thymospora cf. T. thiessenii (Kosanke) Wilson and Venkatachala, 1963a, p.76. 16432. Loc. 7810.
- Figure 30. Torispora laevigata Bhardwaj, 1957a, p.112. 16433. Loc. 7810.
- Figure 31. Torispora cf. T. granulatus Alpern, 1959, p.155. 16434. Loc. 7810.
- Figure 32. Torispora securis (Balme) Alpern, Doubinger, and Horst, 1965, p.568. 16435. Loc. 7810.
- Figures 33, 34. Torispora verrucosus Alpern, 1959, p.155. 16436, 16437. Loc. 7810.



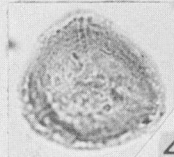
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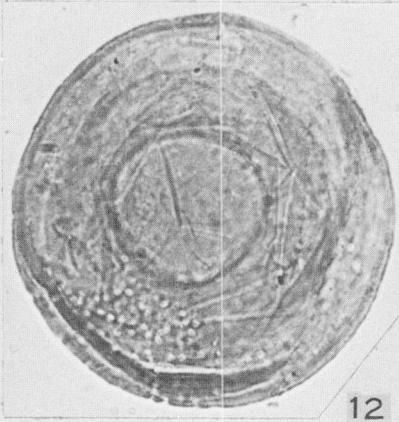
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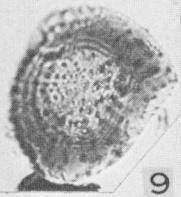
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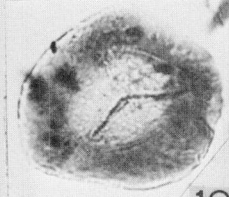
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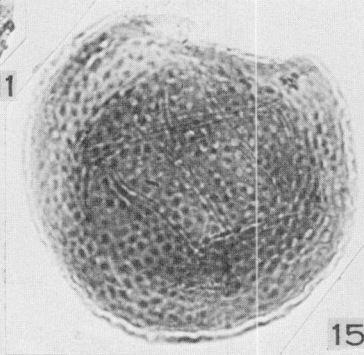
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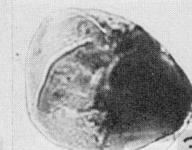
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PLATE XXXI
UPPER CARBONIFEROUS - Maritime Provinces
Westphalian D

Pictou and Morien Groups (continued).

- Figure 1. Endosporites ornatus Wilson and Coe, 1940, p.184. 16438. Loc. 7810.
Figure 2. Endosporites formosus Kosanke, 1950, p.36. 16439. Loc. 7810.
Figure 3. Wilsonites sp. 16440. Loc. 7811.
Figures 4, 7. Vestigisporites spp. 16441, 16444. Loc. 7811.
Figures 5, 6. Vesicaspora spp. 16442, 16443. Loc. 7815, 7811.
Figure 8. Florinites cf. F. millotti Butterworth and Williams, 1954, p.760. 16445. Loc. 7811.
Figure 9. Guthorlisporites cf. G. velensis Bhardwaj, 1957b, p.130. 16446. Loc. 7811.
Figures 10, 12. Florinites antiquus Schopf, in Schopf, Wilson, and Bentall, 1944, p.58. 16447, 16449.
Loc. 7811.
Figure 11. Florinites circularis Bhardwaj, 1957a, p.116. 16448. Loc. 7810.
Figure 13. Florinites similis Kosanke, 1950, p.49. 16450. Loc. 7811.
Figure 14. Schopfipollenites sp. 16451. Loc. 7806.

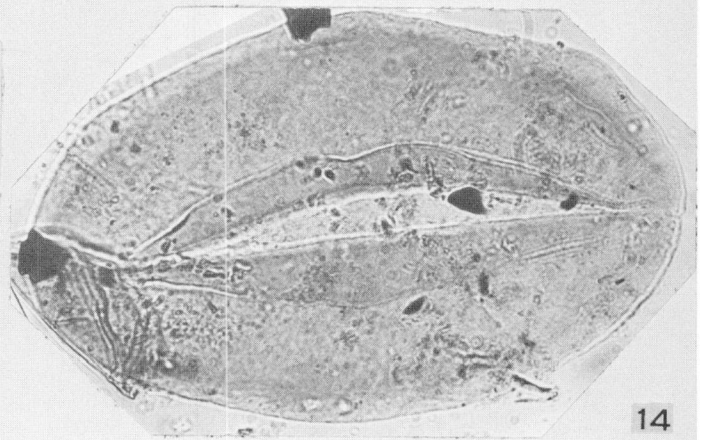
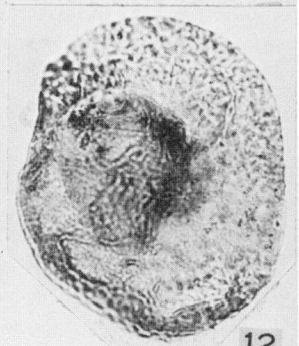
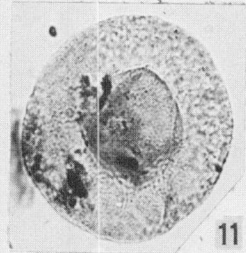
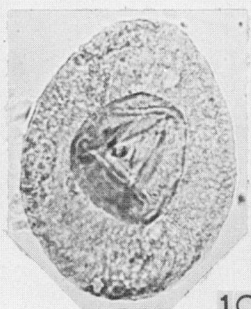
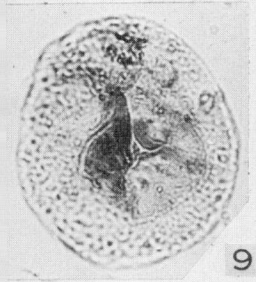
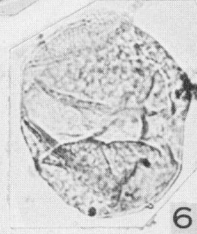
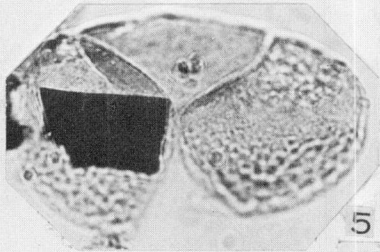
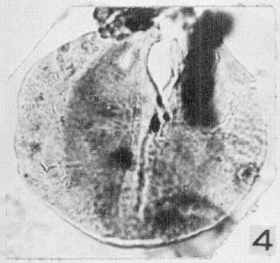
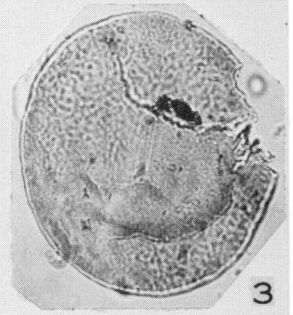
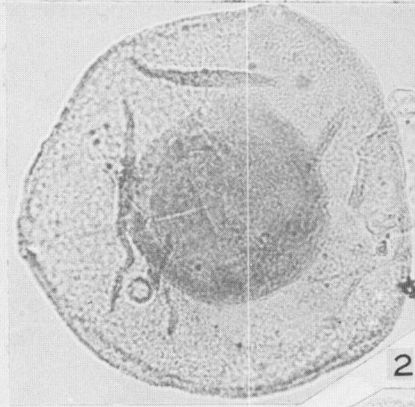


PLATE XXXII

UPPER CARBONIFEROUS - Maritime Provinces

Probably Stephanian

Pictou Group.

References: Gussow, 1953; Barss, Hacquebard, and Howie, 1963.

- Figure 1. Leiotriletes gulaferus Potonié and Kremp, 1955, p.40. 16452. Loc. 6556.
- Figure 2. Punctatisporites obliquus Kosanke, 1950, p.16. 16453. Loc. 6555.
- Figure 3. Calamospora liquida Kosanke, 1950, p.41. 16454. Loc. 6556.
- Figure 4. Granulatisporites minutus Potonié and Kremp, 1955, p.59. 16455. Loc. 6555.
- Figures 5, 6. Lophotriletes spp. 16456, 16457. Loc. 6556.
- Figure 7. cf. Cyclogranisporites microgranus Bhardwaj, 1957a, p.84. 16458. Loc. 6556.
- Figure 8. Apiculatisporis cf. A. verrucifer (Kosanke) Potonié and Kremp, 1955, p.78, 1956, p.94. 16459. Loc. 6556.
- Figure 9. ? Campotriletes corrugatus (Ibrahim) Potonié and Kremp, 1955, p.104. 16460. Loc. 6556.
- Figures 10, 11. Triquitrites bransonii Wilson and Hoffmeister, 1956, p.24. 16461, 16462. Loc. 6555, 6556.
- Figure 12. Convolutispora cf. sp.2 in Peppers, 1964, p.17. 16463. Loc. 6555.
- Figure 13. Triquitrites cf. T. crassus Kosanke, 1950, p.38. 16464. Loc. 6555.
- Figure 14. Apiculatisporis cf. A. irregularis (Kosanke) Potonié and Kremp, 1955, p.77, 1956, p.94. 16465. Loc. 6556.
- Figure 15. Apiculatisporis imbricatus (Kosanke) Potonié and Kremp, 1955, p.77, 1956, p.94. 16466. Loc. 6556.
- Figure 16. Convolutispora sp. 16467. Loc. 6556.
- Figure 17. Lycospora microgranulata Bhardwaj, 1957a, p.104. 16468. Loc. 6556.
- Figure 18. Lycospora cf. L. pusilla (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.54. 16469. Loc. 6556.
- Figure 19. Laevigatosporites minimus (Wilson and Coe) Schopf, Wilson, and Bentall, 1944, p.37. 16470. Loc. 6556.
- Figure 20. Raistrickia saetosa (Loose) Schopf, Wilson, and Bentall, 1944, p.56. 16471. Loc. 6556.
- Figure 21. Raistrickia cf. R. crocea Kosanke, 1950, p.47. 16472. Loc. 6556.
- Figure 22. Punctatosporites minutus Ibrahim, 1933, p.40. 16473. Loc. 6556.
- Figure 23. Laevigatosporites desmónensis (Wilson and Coe) Schopf, Wilson, and Bentall, 1944, p.37. 16474. Loc. 6556.
- Figure 24. Laevigatosporites vulgaris Ibrahim, 1933, p.39. 16475. Loc. 6556.
- Figure 25. Thymospora perrucosa (Alpern) Wilson and Venkatachala, 1963a, p.78. 16476. Loc. 6556.
- Figure 26. Gravisporites sphaerus (Butterworth and Williams) Bhardwaj, 1954, p.515. 16477. Loc. 6555.
- Figure 27. Vestispora laevigata Wilson and Venkatachala, 1963b, p.98. 16478. Loc. 7816.
- Figure 28. Vestispora fenestrata (Kosanke and Brokaw) Wilson and Venkatachala, 1963b, p.99. 16479. Loc. 6555.
- Figure 29. Punctatosporites sp. 16480. Loc. 6556.
- Figure 30. cf. Laevigatosporites crassus Peppers, 1964, p.24. 16481. Loc. 6556.
- Figure 31. Endosporites formosus Kosanke, 1950, p.36. 16482. Loc. 7816.
- Figure 32. ? Vitreisporites sp. 16483. Loc. 6556.
- Figure 33. Vesicaspora cf. V. ovata (Balme and Hennelly) Hart, 1960, p.73. 16484. Loc. 6556.
- Figure 34. Florinites eremus Balme and Hennelly, 1955, p.96. 16485. Loc. 6556.

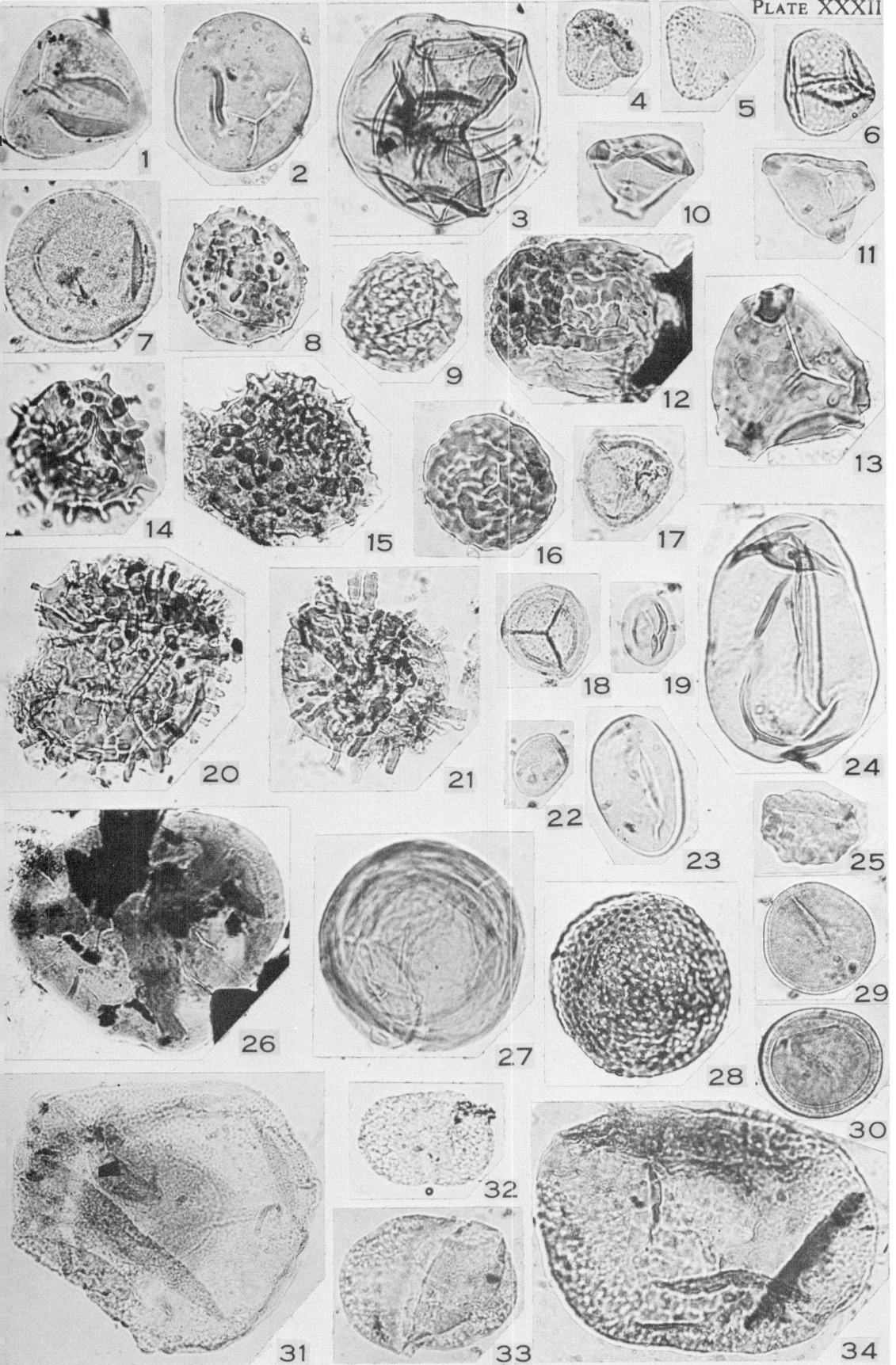


PLATE XXXIII

UPPER CARBONIFEROUS - Maritime Provinces

Probably Stephanian

Pictou Group (continued).

- Figure 1. Florinites visendus (Ibrahim) Schopf, Wilson, and Bentall, 1944, p.60. 16486. Loc. 6556.
- Figure 2. ? Cordaitina sp. 16487. Loc. 6556.
- Figure 3. Striomonosaccites sp. 16488. Loc. 7816.
- Figure 4. Illinites unicus Kosanke, 1950, p.51. 16489. Loc. 6556.
- Figures 5, 9. Limitisporites spp. 16490, 16494. Loc. 6556.
- Figures 6, 10. Vesicaspora spp. 16491, 16495. Loc. 6555.
- Figure 7. Limitisporites cf. L. monstruosus (Luber and Waltz) Hart, 1965, p.80. 16492. Loc. 6556.
- Figure 8. Protohaploxypinus sewardi (Virkki) Hart, 1964, p.1180. 16493. Loc. 6556.
- Figure 11. Potonieisporites sp. 16496. Loc. 6556.
- Figure 12. Taeniaesporites sp. 16497. Loc. 6556.
- Figure 13. Protohaploxypinus sp. 16498. Loc. 6556.
- Figure 14. Protohaploxypinus cf. P. globus (Hart) Hart, 1964, p.1181. 16499. Loc. 6556.
- Figure 15. Potonieisporites cf. P. novicus Bhardwaj, 1954, p.250. 16500. Loc. 6556.
- Figure 16. Schopfipollenites sp. 16501. Loc. 6556.

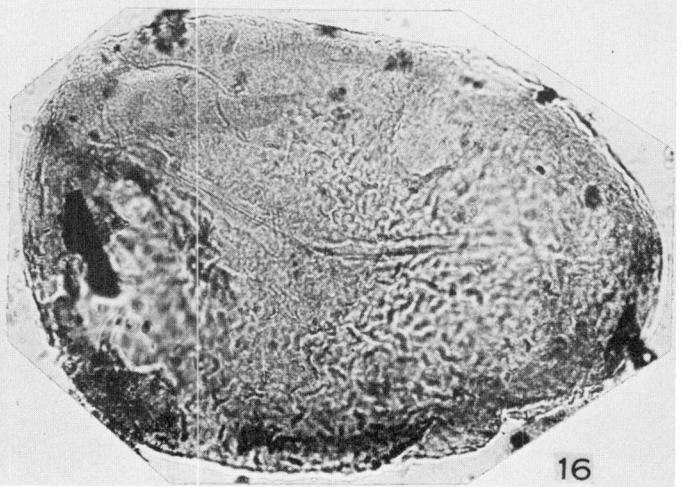
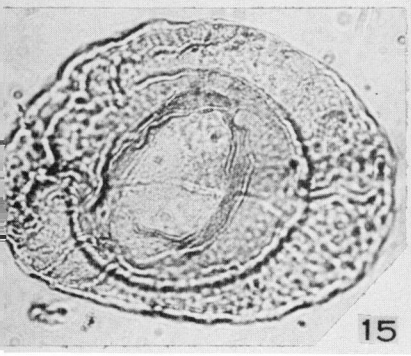
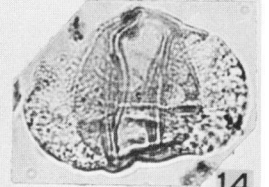
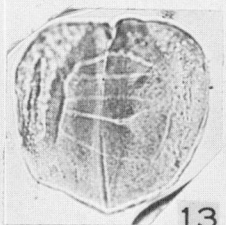
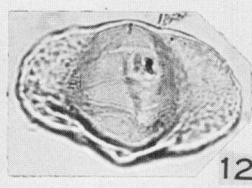
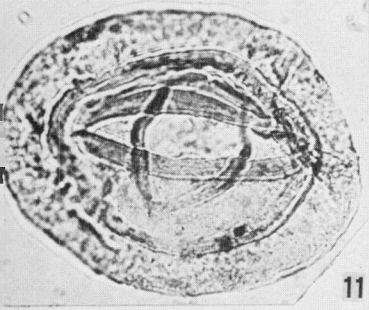
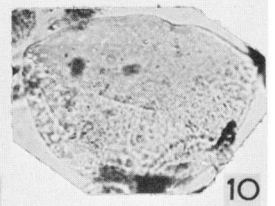
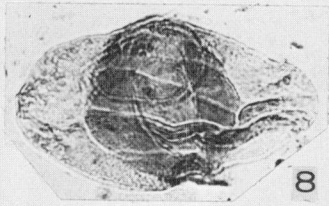
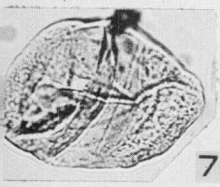
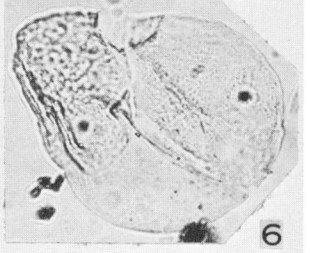
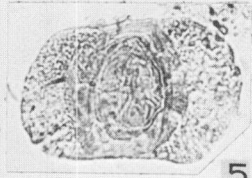
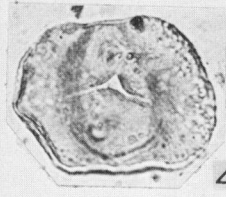
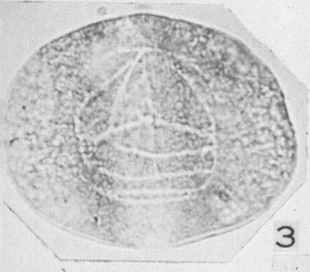
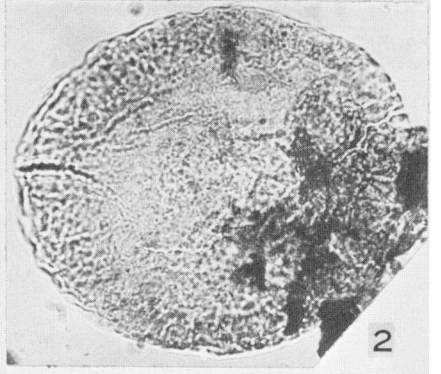
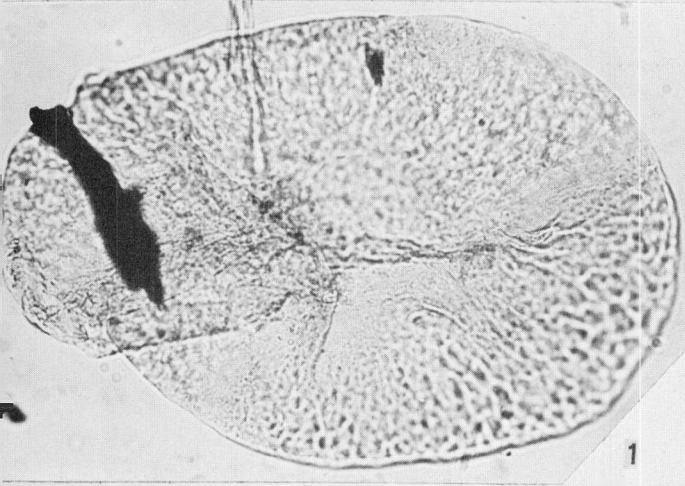


PLATE XXXIV

PERMIAN - Maritime Provinces

Wolfcampian

Pictou Group.

Reference: Langston, 1963:

- Figure 1. Calamospora breviradiata Kosanke, 1950, p.41. 16502. Loc. 7818.
Figure 2. Granulatisporites sp. 16503. Loc. 7818.
Figure 3. Leiotriletes sp. 16504. Loc. 7818.
Figure 4. ? Leiotriletes sp. 16505. Loc. 7818.
Figure 5. Dictyotriletes sp. 16506. Loc. 7818.
Figure 6. Lycospora punctata Kosanke, 1950, p.45. 16507. Loc. 7818.
Figure 7. Cyclogranisporites vagus (Kosanke) Potonié and Kremp, 1955, p.61. 16508. Loc. 7818.
Figure 8. Potonieisporites cf. P. novicus Bhardwaj, 1954, p.250. 16509. Loc. 7571.
Figure 9. Potonieisporites cf. P. simplex Wilson, 1962, p.14. 16510. Loc. 7818.
Figure 10. Cirratriradites splendens Balme and Hennelly, 1956, p.252. 16511. Loc. 7571.
Figure 11. ? Direticuloidispora sp. 16512. Loc. 7817.
Figure 12. Florinites eremus Balme and Hennelly, 1955, p.56. 16513. Loc. 7571.
Figures 13, 15. Cordaitina spp. 16514, 16516. Loc. 7571, 7818.
Figure 14. Unidentified. 16515. Loc. 7817.
Figure 16. Cordaitina cf. C. triangularis (Mehta) Hart, 1965, p.89. 16517. Loc. 7571.
Figure 17. Nuskoisporites sp. 16518. Loc. 7817.

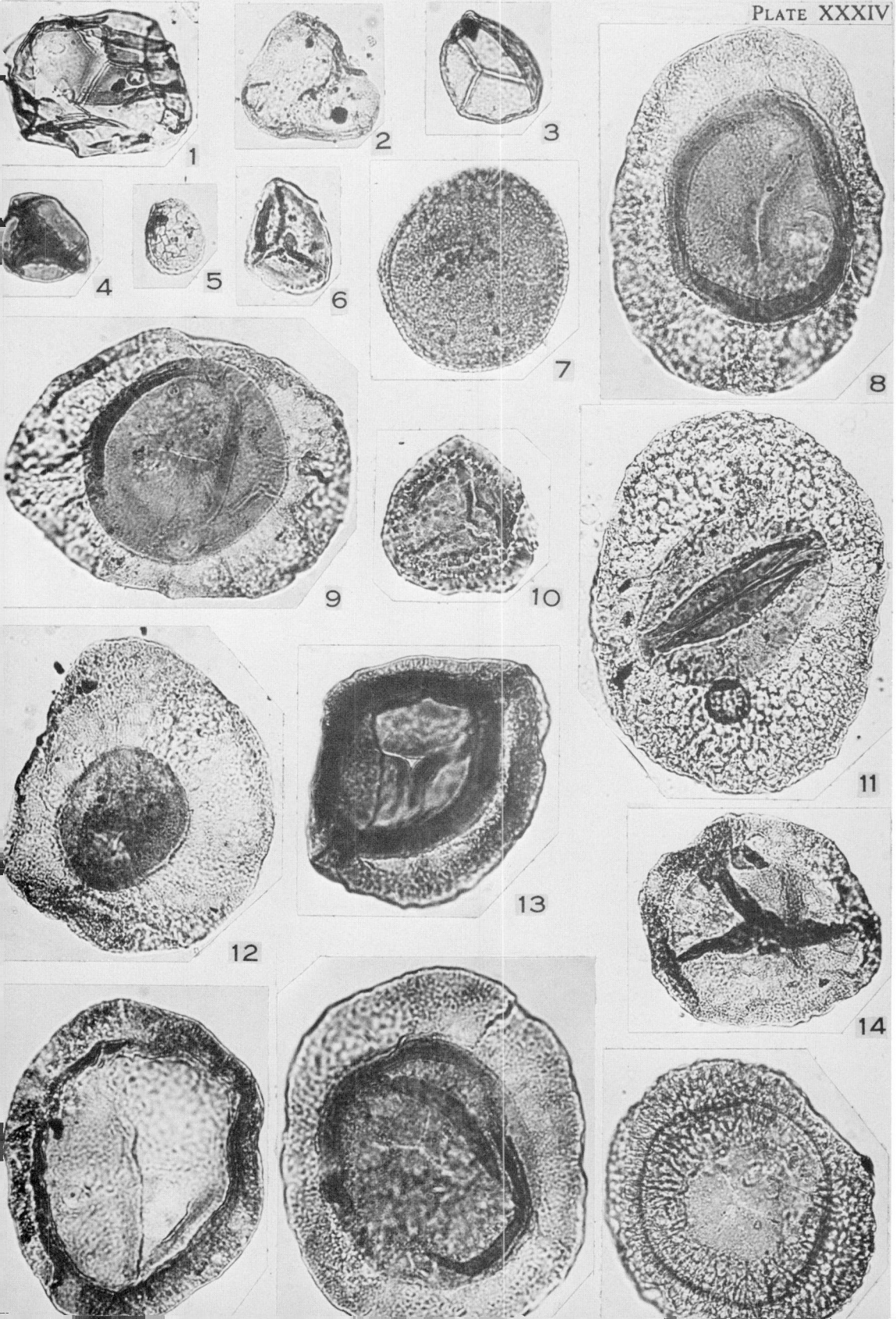


PLATE XXXV

PERMIAN - Maritime Provinces

Wolfcampian

Pictou Group (continued).

- Figures 1, 6. Cordaitina spp. 16519, 16524. Loc. 7817, 7571.
- Figure 2. Potonieisporites cf. P. novicus Bhardwaj, 1954, p.250. 16520. Loc. 7571.
- Figures 3, 4. Piceapollenites spp. 16521, 16522. Loc. 7571.
- Figure 5. Vestigisporites sp. 16523. Loc. 7817.
- Figure 7. Vesicaspora sp. 16525. Loc. 7571.
- Figure 8. ? Striatoabietites sp. 16526. Loc. 7571.
- Figure 9. Pityosporites papilionis (Potonié and Klaus) Hart, 1965, p.57. 16527. Loc. 7818.
- Figure 10. ? Limitisporites sp. 16528. Loc. 7571.
- Figure 11. Pityosporites sp. 16529. Loc. 7818.
- Figures 12, 13. Unidentified. Distal and proximal views. 16530. Loc. 7571.
- Figures 14, 15. Protohaploxylinus spp. 16531, 16532. Loc. 7818, 7817.
- Figure 16. Protohaploxylinus cf. P. samoilovichii (Jansonius) Hart, 1964, p.1181. 16533. Loc. 7571.
- Figure 17. Protohaploxylinus sewardi (Virkki) Hart, 1964, p.1180. 16534. Loc. 7571.
- Figures 18, 20, 22, 25, 26. Striatoabietites spp. 16535, 16537, 16539, 16542, 16543. Loc. 7571, figs. 18, 26; 7817, figs. 20, 22, 25.
- Figure 19. Protohaploxylinus cf. P. jacobii (Jansonius) Hart, 1964, p.1181. 16536. Loc. 7818.
- Figure 21. Limitisporites sp. 16538. Loc. 7571.
- Figures 23, 24. Protohaploxylinus cf. P. globus (Hart) Hart, 1964, p.1181. 16540, 16541. Loc. 7571.

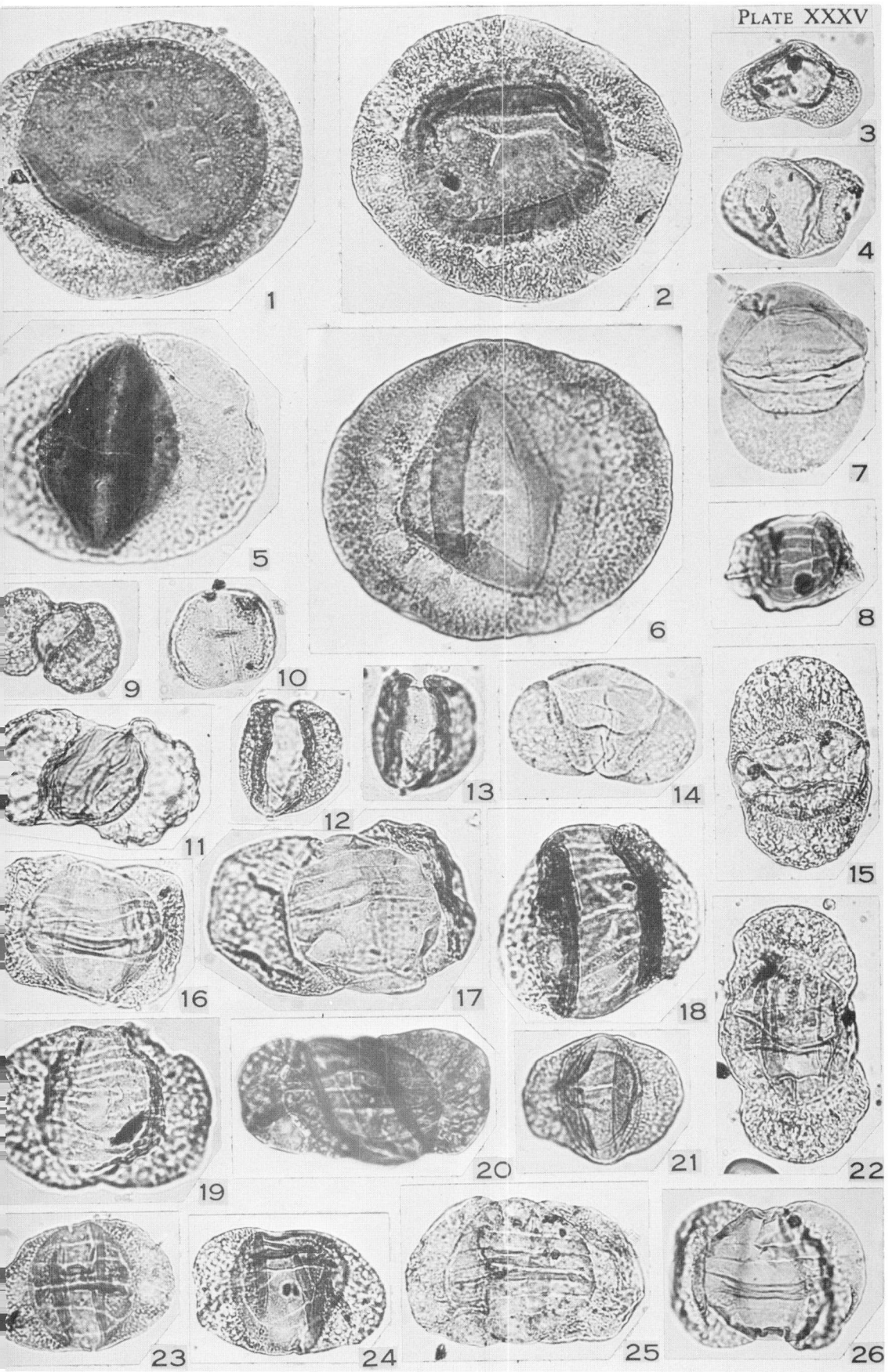


PLATE XXXVI

PERMIAN - Maritime Provinces

Wolfcampian

Pictou Group (continued).

- Figure 1. Protohaploxypinus sp. 16544. Loc. 7818.
Figure 2. Protohaploxypinus cf. P. globus (Hart) Hart, 1964, p. 1181. 16545. Loc. 7571.
Figure 3. Striatopodocarpites sp. 16546. Loc. 7818.
Figures 4, 5, 8. Vittatina spp. 16547, 16548, 16551. Loc. 7817, fig. 4; 7571, figs. 5, 8.
Figures 6, 7. Vittatina costabilis Wilson, 1962, p. 25. 16549, 16550. Loc. 7817, 7571.
Figure 9. Vittatina vittifer (Luber) Samoilovich, 1953, p. 45. 16552. Loc. 7571.
-

PERMIAN - Yukon Territory

Wolfcampian

Unnamed formation.

Reference: E. W. Bamber, personal communication; age determined by fusulinid Foraminifera.

- Figure 10. Cycadopites vetus (Balme and Hennelly) Hart, 1965, p. 109. 16553. Loc. 57036.
Figure 11. Cycadopites glaber (Luber and Waltz) Hart, 1965, p. 108, 16554. Loc. 57036.
Figure 12. Cycadopites sp. 16555. Loc. 56961.
Figure 13. Leittriletes sp. 16556. Loc. 57036.
Figure 14. Endosporites sp. 16557. Loc. 56956.
Figure 15. Cordaitina cf. C. crenulata (Wilson) Hart, 1965, p. 93. 16558. Loc. 56961.
Figure 16. Lophotriletes sp. 16559. Loc. 56961.
Figure 17. Latosporites sp. 16560. Loc. 56961.
Figure 18. ? Vesicaspora sp. 16561. Loc. 57036.
Figure 19. Protohaploxypinus sp. 16562. Loc. 56961.
Figure 20. Vestigisporites cf. V. methoris Hart, 1960, p. 78. 16563. Loc. 57036.
Figure 21. Potonieisporites cf. P. simplex Wilson, 1962, p. 14. 16564. Loc. 56961.
Figure 22. Potonieisporites cf. P. novicus Bhardwaj, 1954, p. 250. 16565. Loc. 56961.
Figure 23. Potonieisporites sp. 16566. Loc. 57036.

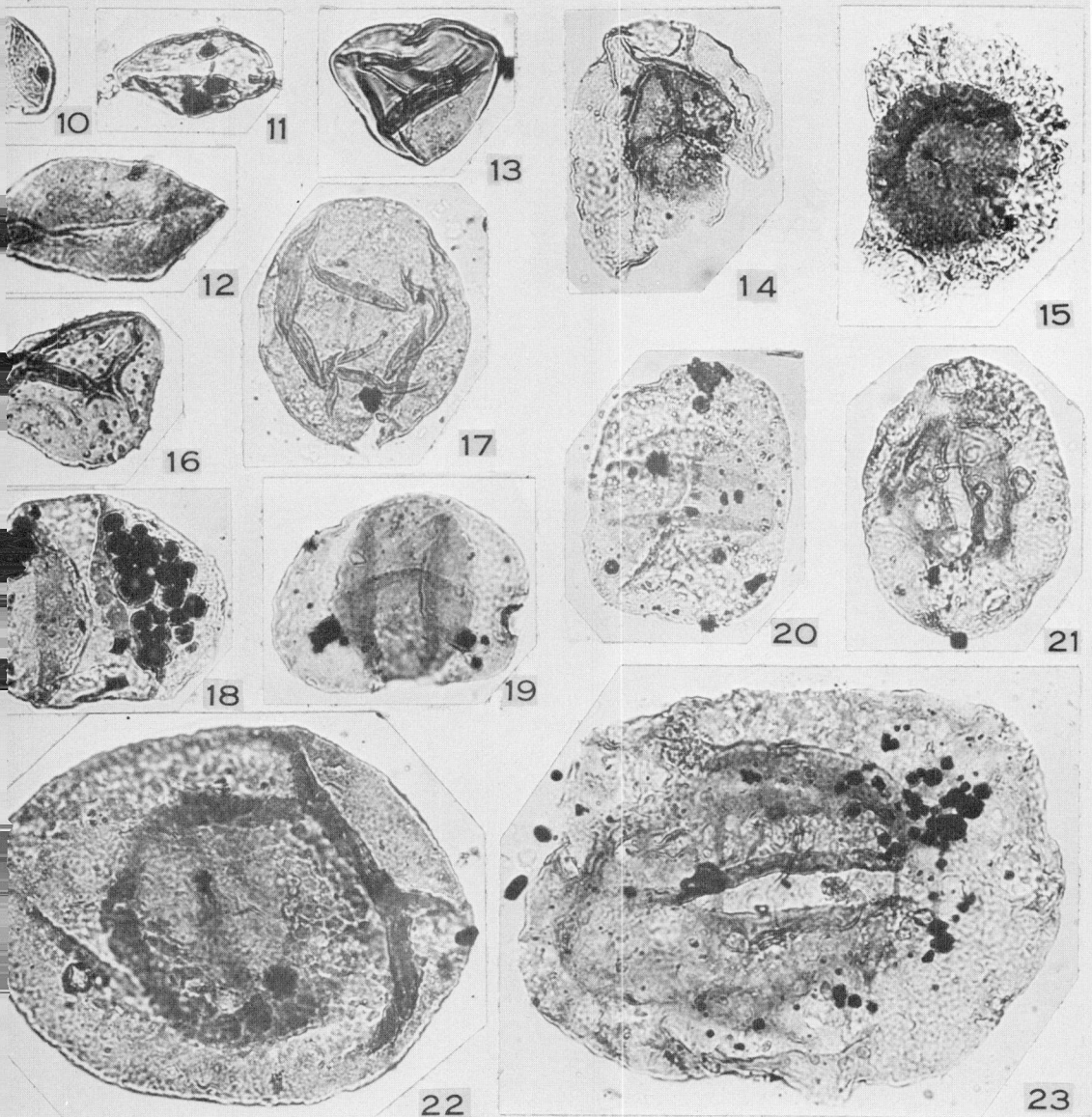
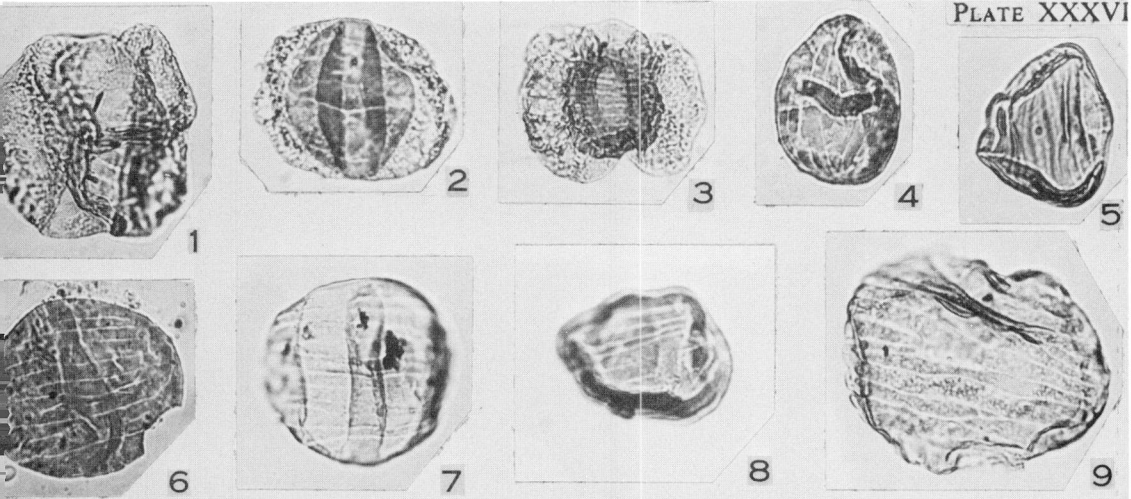


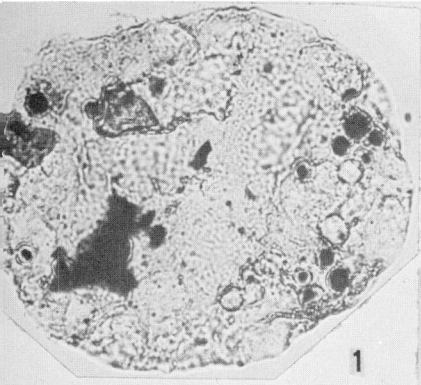
PLATE XXXVII

PERMIAN - Yukon Territory

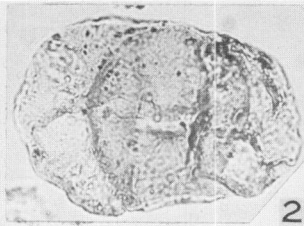
Wolfcampian

Unnamed formation (continued).

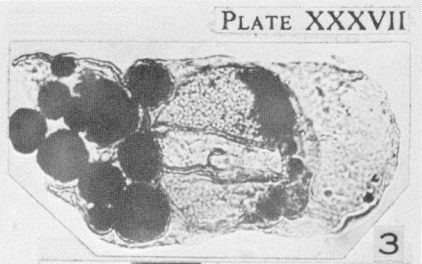
- Figure 1. Florinites eremus Balme and Hennelly, 1955, p.96. 16567. Loc. 57036.
- Figures 2, 4, 10. Limitisporites monstruosus (Luber and Waltz) Hart, 1965, p.80. 16568, 16570, 16576. Loc. 57036.
- Figure 3. Lueckisporites cf. L. virkkiae Potonié and Klaus, 1954, p.534. 16569. Loc. 57036.
- Figures 5, 17. Striatoabietites spp. 16571, 16583. Loc. 56961.
- Figure 6. ? Protohaploxypinus sp. 16572. Loc. 56961.
- Figures 7, 9. Striatopodocarpites spp. 16573, 16575. Loc. 57036, 56961.
- Figure 8. cf. Gardenasporites leonardi Klaus, 1963, p.297. 16574. Loc. 57036.
- Figure 11. Striomonosaccites sp. 16577. Loc. 56961.
- Figure 12. Piceapollenites sp. 16578. Loc. 57036.
- Figure 13. Vittatina subsaccata Samoilovich, 1953, p.44. 16579. Loc. 56961.
- Figures 14, 15. Protohaploxypinus cf. P. globus (Hart) Hart, 1964, p.1181. 16580, 16581. Loc. 56961.
- Figure 16. Striatopodocarpites cf. S. divaricata (Wilson) Hart, 1964, p.1184. 16582. Loc. 57036.
- Figure 18. Protohaploxypinus sp. 16584. Loc. 57036.
- Figure 19. Tumoripollenites sp. 16585. Loc. 56961.
- Figure 20. Striatopodocarpites cf. S. cancellatus (Balme and Hennelly) Hart, 1963, p.10. 16586. Loc. 57036.
- Figure 21. Hamiapollenites sp. 16600. Loc. 56961.
- Figures 22, 23. Hamiapollenites sp. proximal and distal views. 16601. Loc. 56961.
- Figure 24. cf. Vittatina wodehousei (Jansonius) Hart, 1964, p.1196. 16602. Loc. 56961.



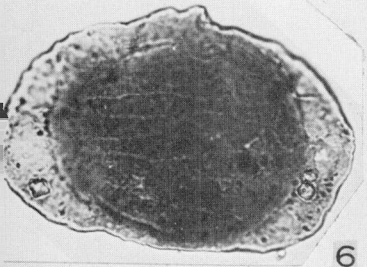
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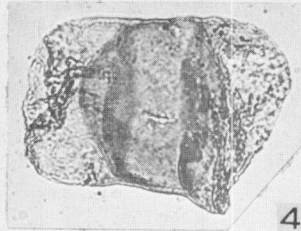
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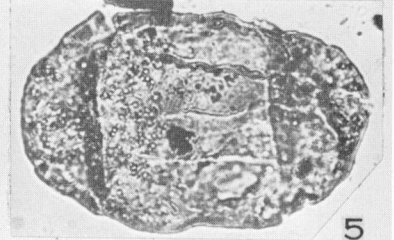
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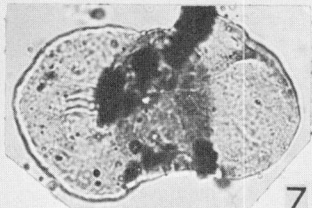
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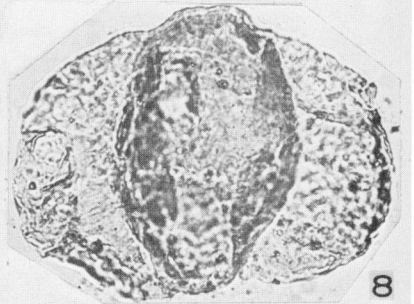
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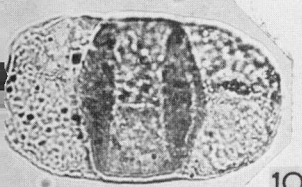
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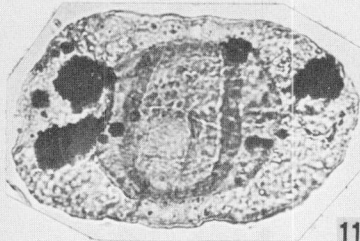
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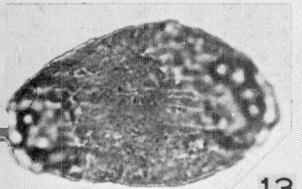
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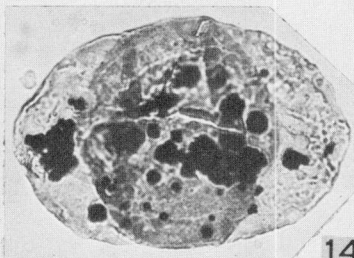
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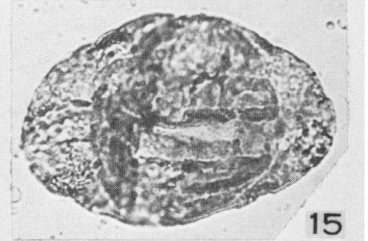
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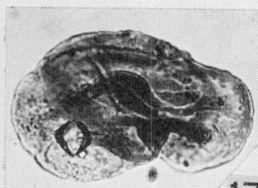
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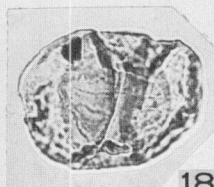
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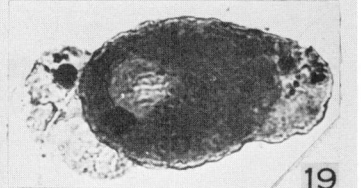
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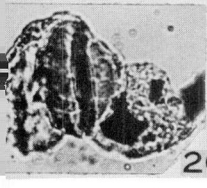
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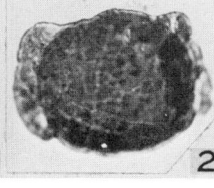
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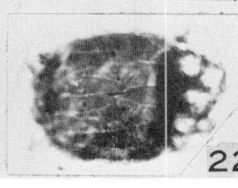
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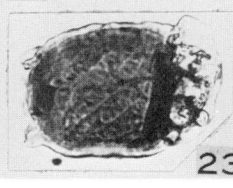
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PLATE XXXVIII
PERMIAN - Yukon Territory
Wolfcampian

Unnamed formation (continued).

- Figure 1. Vittatina subsaccata Samoilovich, 1963, p.44. 16603. Loc. 56961.
Figures 2, 9, Vittatina vittatafer (Luber) Samoilovich, 1953, p.45. 16604, 16611, 16614. Loc. 56956, fig. 2; 57036,
12. figs. 9, 12.
Figures 3, 6, Vittatina spp. 16605, 16608, 16610, 16612. Loc. 57036, figs. 3, 6, 8; 56961, fig. 10.
8, 10.
Figure 4. cf. Vittatina sp. L. in Jansonius, 1962, p.75. 16606. Loc. 56956.
Figure 5. Vittatina cf. V. saccifer Jansonius, 1962, p.74. 16607. Loc. 56961.
Figure 7. Vittatina costabilis ? Wilson, 1962, p.25. 16609. Loc. 57036.
Figure 11. Vittatina simplex Jansonius, 1962, p.75. 16613. Loc. 57036.
Figure 13. Vittatina vittifer (Luber) forma cinctus Samoilovich, 1953, p.46. 16615. Loc. 57036.

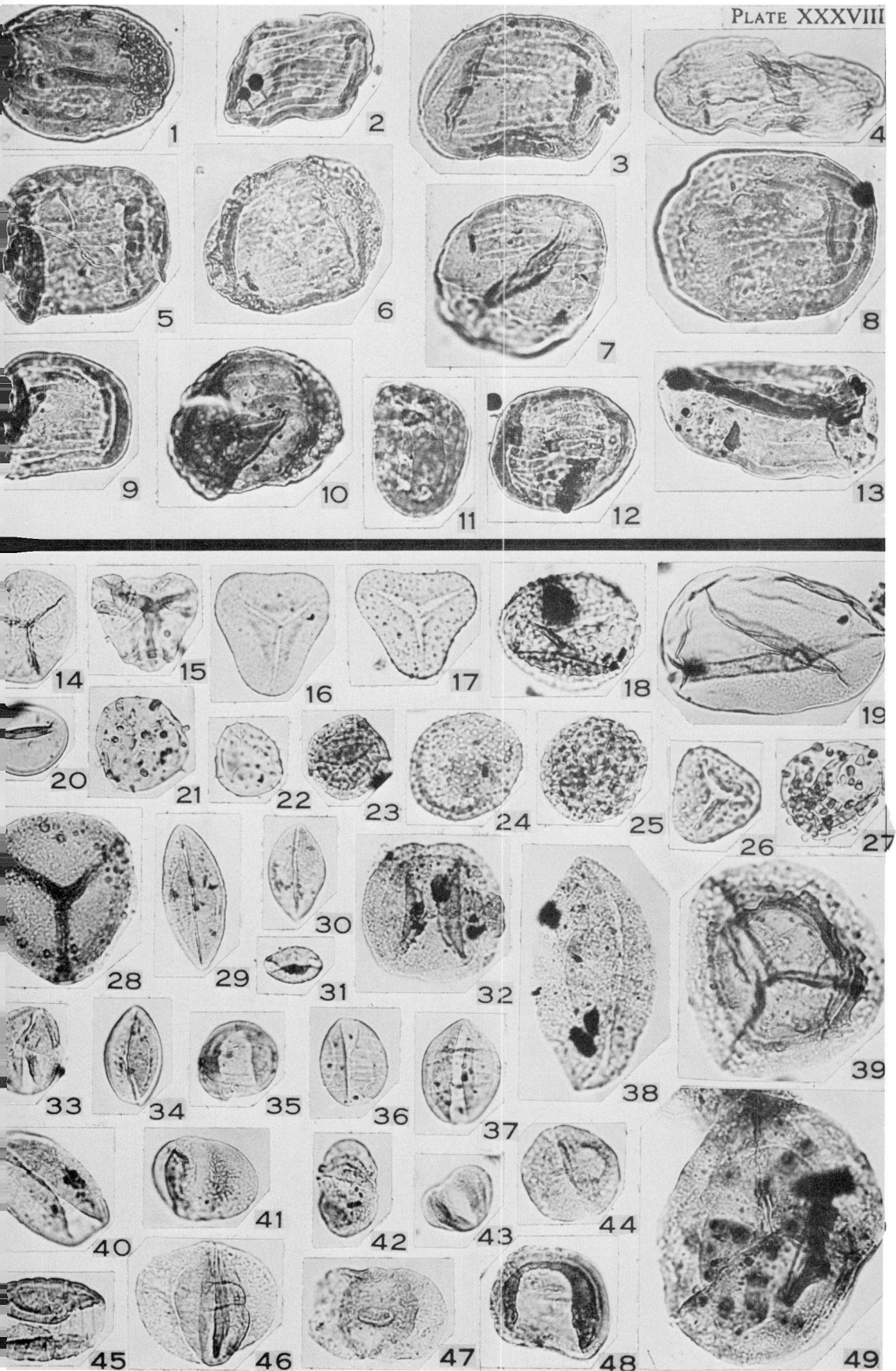
PERMIAN - Arctic Islands

Artinskian

Sabine Bay Formation, GSC loc. 5221.

References: Harker and Thorsteinsson, 1960; Nassichuk, 1965.

- Figure 14. cf. Anguisporites intonsus Wilson, 1962, p.12. 16616.
Figure 15. Granulatisporites sp. 16617.
Figure 16. Granulatisporites parvus (Ibrahim) Potonié and Kremp, 1955, p.59. 16618.
Figure 17. Lophotriletes cf. L. pseudaculeatus Potonié and Kremp, 1955, p.75. 16619.
Figure 18. ? Apiculatisporis sp. 16620.
Figure 19. Laevigatosporites vulgaris Ibrahim, 1933, p.39. 16621.
Figure 20. ? Laevigatosporites sp. 16622.
Figure 21. Apiculatisporis sp. 16623.
Figure 22. Anaplanisporites sp. 16624.
Figure 23. ? Enzonasporites sp. 16625.
Figure 24. Apiculatisporis decorus Singh, 1964, p.248. 16626.
Figure 25. Eupunctisporites sp. 16627.
Figure 26. Acanthotriletes cf. A. tereteangulatus Balme and Hennelly, 1956, p.247. 16628.
Figure 27. Raistrickia sp. 16629.
Figure 28. Aculeisporites variabilis Jansonius, 1962, p.49. 16630.
Figure 29. Cycadopites cf. C. conjunctus (Andreyeva) Hart, 1965, p.109. 16631.
Figure 30. Pakhapites sp. 16632.
Figures 31, 34. Cycadopites spp. 16633, 16636.
Figure 32. cf. Vestigisporites sp. 16634.
Figures 33, 44, Unidentified. 16635, 16646, 16651.
49.
Figure 35. Vittatina minima Jansonius, 1962, p.74. 16637.
Figures 36, 37. Pakhapites cf. P. pachyrrhachis (Andreyeva) Hart, 1965, p.105. 16638, 16639.
Figure 38. Cycadopites cf. C. cymbatus (Balme and Hennelly) Potonié and Lele, 1961, Pl. 3, fig. 87. 16640.
Figure 39. Cirratiradites ornatus (Luber and Waltz) Hart, 1965, p.122. 16641.
Figure 40. Cycadopites caperatus (Luber and Waltz) Hart, 1965, p.106. 16642.
Figure 41. Vitreisporites pallidus (Reissinger) Nilsson, 1958, p.78. 16643.
Figure 42. Vitreisporites signatus Leschik, 1955, p.53. 16644.
Figure 43. Piceapollenites sp. 16645.
Figure 45. ? Vittatina sp. 16647.
Figure 46. Protohaploxylinus sp. 16648.
Figure 47. Vestigisporites balmei ? Hart, 1960, p.14. 16649.
Figure 48. Vittatina saccifer Jansonius, 1962, p.74. 16650.



Illustrations of Canadian Fossils

The following Geological Survey Papers have already been issued under this general title:

- Devonian of Western Canada
Invertebrates - D.J. McLaren and A.W. Norris
Plants - D.C. McGregor GSC Paper 62-4
- Cambrian, Ordovician and Silurian of the Western Cordillera
- B.S. Norford GSC Paper 62-14
- Triassic of Western and Arctic Canada
- E.T. Tozer GSC Paper 62-19
- Jurassic of Western and Arctic Canada
- H. Frebald GSC Paper 63-4
- Early Lower Cretaceous (Berriasian and Valanginian) of the
Canadian Western Cordillera, B.C.
- J.A. Jeletzky GSC Paper 64-6
- Lower Cretaceous marine index fossils of the Sedimentary basin of
Western and Arctic Canada
- J.A. Jeletzky GSC Paper 64-11
- Triassic, Jurassic, and Lower Cretaceous spores and pollen of
Arctic Canada
- D.C. McGregor GSC Paper 64-55
- Lower Cretaceous floras of Western Canada
- W.A. Bell GSC Paper 65-5
- Upper Cretaceous and Paleocene Plants of Western Canada
- W.A. Bell GSC Paper 65-35
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- Carboniferous plants of Eastern Canada
- W.A. Bell GSC Paper 66-11
- Devonian spores of Eastern and Northern Canada
- D.C. McGregor and B. Owens
GSC Paper 66-30