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SOME NEW MEGASPORE SPECIES OF THE TRIASSIC OF POLAND

FUGLEWICZ, R.: Some new megaspore species of the Triassic of Poland. Acta Palaeont. Polonica, 25, 2, 233—241, July 1980.

Six new megaspore species from the Triassic deposits of the non-alpine Poland and one species from the Tatra Mountains are described. Most of the species are derived from the Keuper deposits (Lettenkohle and Schilfsandstein).

K e y w o r d s: Megaspores, Triassic.

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INTRODUCTION

This is the successive paper by the present author concerning the Triassic megaspores of Poland (Fuglewicz 1973, 1977). The recent study of an abundant megaspore material resulted in discovering a few new species. The present paper supplements the earlier work by the author (Fuglewicz 1977) on the stratigraphic importance of megaspores for the Triassic of central and NE Poland. The age of the deposits which yielded. *Erlansonisporites lobatus* sp.n. was determined by Kotański 1967, 1973; Zawidzka 1972; Gaździcki and Zawidzka 1973. The localization of the collecting sites is presented in fig. 1.

SEM micrographs have been made at the Nencki Institute of the Experimental Biology, Polish Academy of Sciences, Warsaw. The specimens described in the present paper are housed in the Institute of Geology, Warsaw University (abbreviated IGP).

The samples from the Tatra Mountains were provided by Dr. K. Zawidzka (Institute of Geology, Warsaw University) to whom the present author expresses his gratitude.

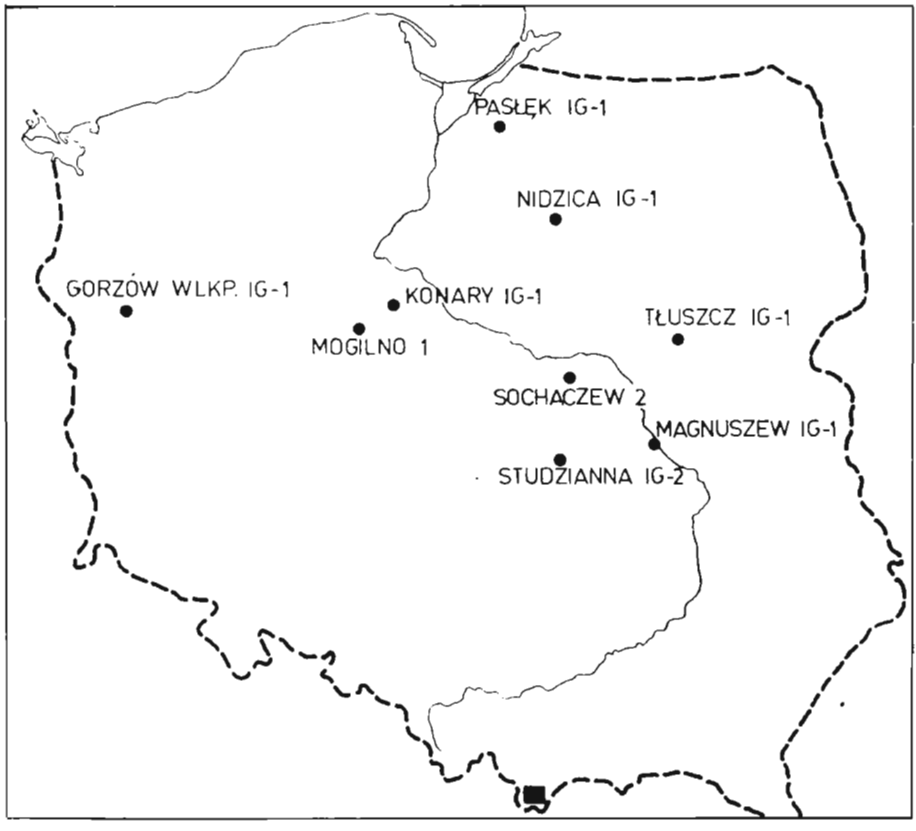

Fig. 1. Distribution of the sampled borings (black points) and outcrop (black quadrate).

DESCRIPTIONS

Genus *Trileites* (Erdtman, 1945, 1947) Potonié, 1956
Trileites robustus sp.n.
(pl. 23: 1)

Holotype: IGP/86; pl. 23: 1.

Type horizon: Ladinian (Lettenkohle).

Type locality: Pasłęk IG-1, depth 1047,0 m. Poland.

Derivation of the name: Lat. *robustus* — robust.

Diagnosis. — Trilete mark and curvatures well developed. Exine surface almost smooth.

Material. — 31 well preserved specimens.

Dimensions (in microns):

Diameter of megaspores	350—410.
Length of trilete rays	0,9R
Height of trilete rays	15—24.
Width of trilete rays	12—23.
Width of curvaturae	12—24.
Thickness of exine	20—25.

Description. — Megaspores of subtriangular to circular amb. Trilete mark and curvatures well developed, roll-like. Surface of exine almost smooth.

Remarks. — The megaspores are most similar to those of *Trileites polonicus* Fuglewicz, from which they differ in having thicker exine and widther trilete rays and curvaturae. Under magnification 2000 × an ornament of evenly high baculate processes is to be seen; this is the reason for the exine to appear rough under lower magnification.

Occurrence. — Poland: Ladinian (Lettenkohle), Nidzica IG-1, depth 1830,0—1831,0 m; Pasłęk IG-1, depth 1055,0—1072,0 m.

Genus *Bacutriletes* (van der Hammen, 1954) Potonié, 1956
Bacutriletes decipiens sp.n.
(p. 23: 2; pl. 24: 1, 2)

Holotype: IGP/87; pl. 23: 2.

Type horizon: Jul (Schilfsandstein).

Type locality: Mogilno 1, depth 1139,0 m, Poland.

Derivation of the name: Lat. *decipiens* — deceptive; ornamentation of the proximal side being different than that on the distal side.

Diagnosis. — Trilete mark well developed. Curvaturae absent. Contact areas ornamented with long pointed appendages; those occurring on the remaining exine surface are thick, club-like, with rounded heads.

Material. — 26 well preserved specimens.

Dimensions (in microns):

Diameter of megaspores	384—660
Length of trilete rays	0,7R—0,9R
Height of trilete rays	25—35
Width of trilete rays	23—35
Length of appendages close to trilete rays	up to 30
Length of appendages outside contact faces	6—12
Diameter of baculae heads	up to 25

Description. — Megaspores of subtriangular or circular amb. Trilete mark well developed, laesurae straight and high. Curvaturae absent. Entire exine surface densely covered with appendages. These occurring on the contact areas, are branched a number of times, with pointed apices; the longest appendages are those close to the laesurae. Towards the equator and on the distal side, the appendages thicken, are shorter and club-like. The laesurae are accompanied by long and pointed appendages, which increase in length and become thinner towards the apex.

Remarks. — The material studied displays a continuous transition from the specimens with ornamentation typical for the representatives of *Bacutriletes* to specimens with pointed, simple or dichotomous appendages along the laesurae.

Occurrence. — Poland: Jul (Schilfsandstein), Nidzica IG-1, depth 1813,5—1823,0 m; Mogilno 1, depth 1139,0 m.

Genus *Narkisporites* Kannegieser and Kozur, 1972
Narkisporites digitiformis sp.n.
(pl. 23: 3—5)

Holotype: IGP/88; pl. 23: 4.

Type horizon: Jul (Schilfsandstein).

Type locality: Mogilno 1, depth 1048,0, Poland.

Derivation of the name: Lat. *digitus* — finger; due to finger-like processes covering the exine.

Diagnosis. — Trilete mark distinct. Curvaturae absent. Entire exine surface covered with mostly finger-like appendages.

Material. — A few tens of well preserved specimens.

Dimensions (in microns):

Diameter of megaspores	440—986
Length of trilete rays	0,9R—R
Height of trilete rays	23—37
Width of trilete rays	12—16
Length of appendages	up to 116
Basal width of appendages	12—25 (most commonly c. 20)
Thickness of exine	18—20

Description. — Megaspores of subtriangular to circular amb. Curvaturae absent. Trilete rays developed as narrow laesurae. Entire exine surface covered more or less uniformly with numerous appendages which are often fused and finger-like. Exine surface shiny.

Remarks. — These megaspores are most similar to *Narkisporites harrisi* (Reinhardt and Fricke) Kozur, from which they differ in lacking curvaturae, having lower laesurae and numerous finger-like appendages. They also differ from *Echitriletes* sp. 2 (Fuglewicz 1973) in being larger and having higher laesurae and longer appendages.

Occurrence. — Poland: Jul (Schilfsandstein), Tłuszcz IG-1, depth 1286,0—1296,5 m; Mogilno 1, depth 965,0—1048,0 m.

Genus *Erlansonisporites* Potonié, 1956

Erlansonisporites micros sp.n.

(pl. 25: 1—3)

Holotype. IGP/90; pl. 25: 1.

Type horizon: Jul (Schilfsandstein).

Type locality: Nidzica IG-1, depth 1813,5 m. Poland.

Derivation of the name: Gr. *micros* = small, because of small dimensions.

Diagnosis. — Trilete mark distinct. Curvaturae absent. Contact faces rough or ornamented with weak appendages. The remaining exine surface ornamented with sinuous muri forming a reticulum.

Material. — A few tens of well preserved specimens.

Dimensions (in microns):

Diameter of megaspores	255—350
Length of trilete rays	0,6R—0,8R
Height of trilete rays	18—23
Width of trilete rays	6—10
Width of muri	3—4
Diameter of lumina	24—45
Height of muri	25—35

Description. — Megaspores of subcircular amb. Curvaturae absent. Trilete mark with sinuous, thin laesurae. Contact faces rough or ornamented with weak appendages. The remaining part of the exine ornamented with high, sinuous muri thinning from base to edge, forming a reticulum.

Remarks. — These megaspores are most similar to *Erlansonisporites sparassis* (Murray) Potonié, but they are smaller and lack muri on the proximal surface. From

Erlansonisporites licheniformis Fuglewicz they differ in lacking muri on the contact faces and in having higher muri on the distal hemisphere.

Occurrence. — Poland: Jul (Schilfsandstein) Nidzica IG-1, depth 1813,5—1823,0 m; Mogilno 1, depth 1139,0 m.

Erlansonisporites lobatus sp.n.
(pl. 24: 3—5)

Holotype: IGP/89; pl. 24: 3.

Type horizon: Uppermost Anisian — Lower Ladinian.

Type locality: Upper part of the Wielkie Koryciska valley.

Derivation of the name: Lat. *lobus* — lobe; due to the lobate ornamentation of the distal spore surface.

Diagnosis. — Trilete mark well developed. Curvaturae absent. Distal surface ornamented with lobate, discontinuous muri with segmented edge.

Material. — 23 well preserved specimens.

Dimensions (in microns):

Diameter of megaspores	290—580 (mostly c. 400)
Length of trilete rays	R
Height of trilete rays	15—23
Width of trilete rays	5—9
Height of lobate muri	up to 50

Description. — Megaspores of circular amb. Curvaturae absent. Trilete mark well developed, with high laesure thinning from base to edge. Exine structure finely reticulate. Distal spore side ornamented with lobate muri; bases of which have irregular "labirynthine" course whereas their edges are discontinuous.

Remarks. —These megaspores are most similar to *Horstisporites bertelseni* Fuglewicz, from which they differ in lacking curvaturae and in ornamentation.

Occurrence: the same as for the holotype.

Genus *Hughesisporites* Potonié, 1956
?*Hughesisporites calvescens* sp.n.
(pl. 26: 1—5)

Holotype: IGP/91; pl. 26: 4.

Type horizon: Upper oolitic Beds of the Middle Buntsandstein.

Type locality: Studzianna IG-2, depth 2807,8 m, Poland.

Derivation of the name: Lat. *calvescens* — growing bald.

Diagnosis. — Trilete mark distinct. Curvaturae weak. Contact faces ornamented with dichotomous, hair-like appendages. The remaining part of the exine granulate.

Material. — More than one hundred specimens.

Dimensions (in microns):

Diameter of megaspores	174—450
Length of trilete rays	0,8R—R
Height of trilete rays	10—20
Width of trilete rays	6—15
Length of appendages	up to 15

Description. — Megaspores of circular amb. Curvaturae weak. Trilete mark well developed, laesurae straight or slightly sinuous. Contact faces densely covered by dichotomous, pointed hair-like appendages which become shorter and thicker towards the equator. Outside the contact faces, exine distinctly granulate.

Remarks. — All specimens of this abundant material are poorly preserved which makes the generic assignment difficult. It should be added that all specimens of *?H. calvescens* sp.n. which have been derived from various sampling sites display the same type of ornamentation.

Occurrence. — Poland: Upper oolitic Beds of the Middle Buntsandstein, Gorzów Wielkopolski IG-1, depth 2103,7 m; Konary IG-1, depth 2915,8 m; Sochaczew 2, depth 3468,0 m; Studzianna IG-2, depth 2776,2—2809,0 m; Tłuszcz IG-1, depth 1445,8 m.

Genus *Aneuletes* Harris, 1961
Aneuletes porosus sp.n.
(pl. 25: 4—6)

Holotype: IGP/92; pl. 25: 4.

Type horizon: Ladinian (Lettenkohle).

Type locality: Nidzica IG-1, depth 1830,0 m, Poland.

Derivation of the name: Lat. *porosus* — porous; because of the porous nature of the exine.

Diagnosis. — Entire exine surface covered with numerous pores.

Material. — A few tens of well preserved specimens.

Dimensions (in microns):

Diameter of spores	290—360
Diameter of dehiscence mark	70—140

Description. — Spores of circular amb. Except for the contact faces, the entire spore surface covered with fine pits which results in the porous appearance of the exine.

Remarks. — In these spores, the contact faces are variable, from almost flat (pl. 25: 5) with poorly developed pores to crater-like depressions (pl. 25: 4) within which pores are more distinct.

Occurrence. — Poland: Ladinian (Lettenkohle), Nidzica IG-1, depth 1830,0 m; Magnuszew IG-1, depth 1762,0 m.

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RYSZARD FUGLEWICZ

KILKA NOWYCH GATUNKÓW MEGASPOR Z TRIASU POLSKI

Streszczenie

Praca niniejsza jest kolejną z serii prac autora poświęconych megasporom triasu Polski (Fuglewicz 1973, 1977). Ostatnie badania obfitego materiału megasporowego pozwoliły wyróżnić kilka nowych gatunków. Artykuł niniejszy stanowi uzupełnienie ostatniego opracowania autora (Fuglewicz 1977), w którym została omówiona stratygrafia osadów z megasporami z Polski Centralnej i z Polski NE. W przypadku *Erlansonisporites lobatus* sp.n. pochodzącego z obszaru Tatr, wiek tego gatunku określono na podstawie prac innych autorów (Kotański 1967, 1973; Zawidzka 1972; Gaździcki i Zawidzka 1973). Lokalizację opracowanych tu stanowisk przedstawia fig. 1.

EXPLANATION TO THE PLATES 23—26

All figures (except pl. 23: 3) are SEM micrographs

Plate 23

Trileites robustus sp.n.

1. *a* proximal surface, polar compression, × 200; *b* part of specimen illustrating ornamentation of proximal area of the megaspore, × 2000. Holotype, IGP/86. Pasłęk IG-1, depth 1047,0 m, Ladinian (Lettenkohle).

Bacutriletes decipiens sp.n.

2. Proximal surface, polar compression, × 100. Holotype, IGP/87. Mogilno 1, depth 1139,0 m, Schilfsandstein (Jul).

Narkisporites digitiformis sp.n.

3. Distal surface, polar compression in reflected light, × 100. Tłuszcz IG-1, depth 1290,0, Schilfsandstein (Jul).
4. Proximal surface, polar compression, × 150. Holotype, IGP/88. Mogilno 1, depth 1048,0 m, Schilfsandstein (Jul).
5. Proximal surface, polar compression, × 75. Mogilno 1, depth 965,0 m, Schilfsandstein (Jul).

Plate 24

Bacutriletes decipiens sp.n.

1. Megaspore in lateral view, × 150. Nidzica IG-1, depth 1813,5 m, Schilfsandstein (Jul).
2. Part of specimen illustrating ornamentation of proximal area of the megaspore, × 400. Mogilno 1, depth 1139,0 m, Schilfsandstein (Jul).

Erlansonisporites lobatus sp.n.

3. Megaspore in lateral view, × 200. Holotype, IGP/89. Wielkie Koryciska valley, Upper Illyrian? — Lower Ladinian.
4. Distal surface, polar compression, × 200. Wielkie Koryciska valley, Upper Illyrian? — Lower Ladinian.
5. Megaspore in lateral view, × 100. Wielkie Koryciska valley, Upper Illyrian? — Lower Ladinian.

Plate 25

Erlansonisporites micros sp.n.

1. Megaspore in lateral view, × 200. Holotype, IGP/90. Nidzica IG-1, depth 1813,5 m, Schilfsandstein (Jul).
2. Proximal surface, polar compression, × 200. Mogilno 1, depth 1139,0 m, Schilfsandstein (Jul).
3. Distal surface, polar compression, × 200. Nidzica IG-1, depth 1823,0 m, Schilfsandstein (Jul).

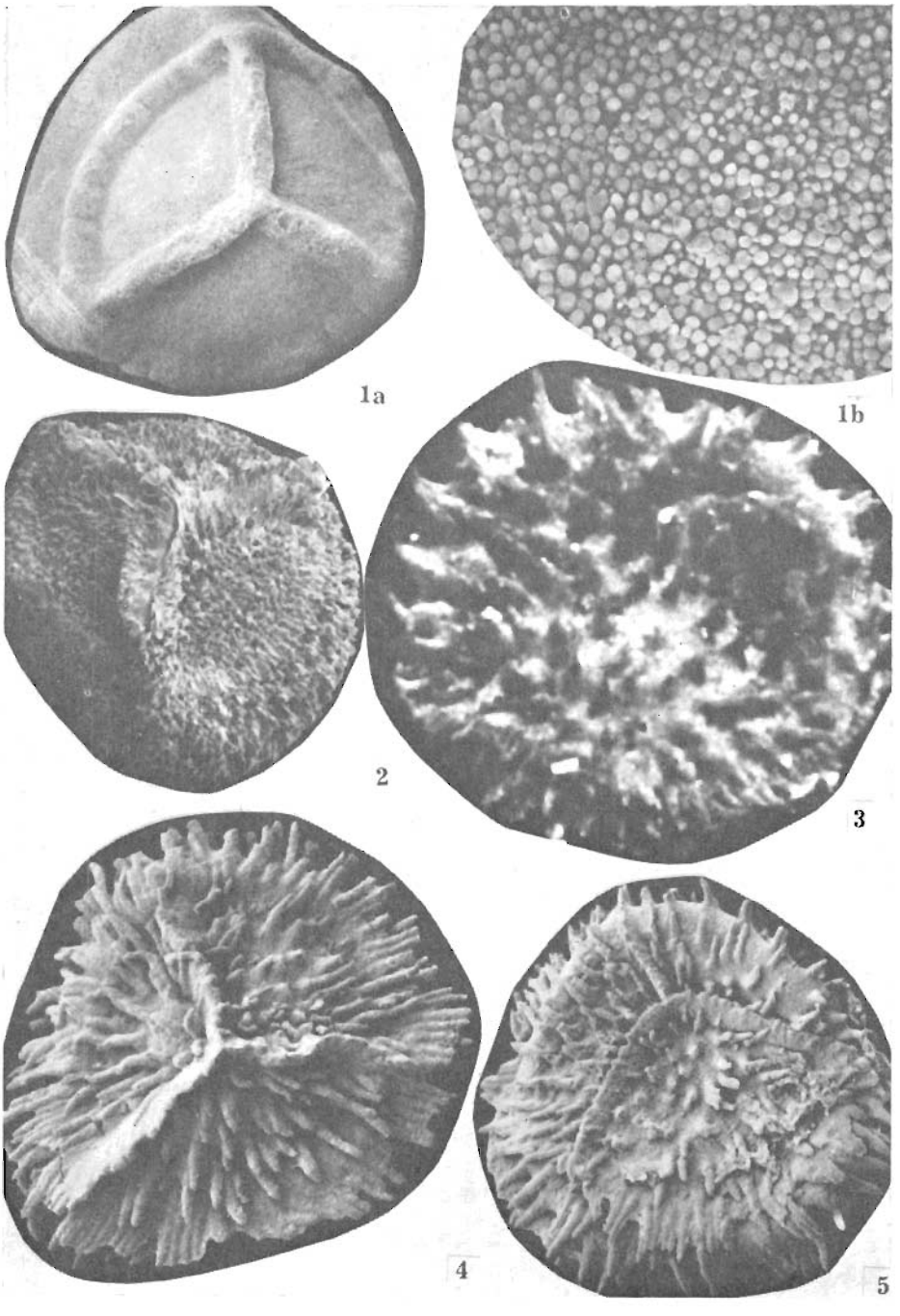
Aneuletes porosus sp.n.

4. Megaspore in lateral view, × 200. Holotype, IGP/92. Nidzica IG-1, depth 1830,0 m, Ladinian (Lettenkohle).
5. Megaspore in lateral view, × 200. Nidzica IG-1, depth 1830,0 m, Ladinian (Lettenkohle).
6. Part of specimen illustrating ornamentation of the megaspore, × 600. Magnuszew IG-1, depth 1762,0 m, Ladinian (Lettenkohle).

Plate 26

?Hughesisporites calvescens sp.n.

1. Megaspore in lateral view, × 200. Studzianna IG-2, depth 2807,8 m, Middle Buntsandstein, Upper oolitic Beds.
2. Proximal surface, polar compression, × 250. Studzianna IG-2, depth 2776,5 m, Middle Buntsandstein, Upper oolitic Beds.
3. Megaspore in lateral view, × 250. Studzianna IG-2, depth 2808,0 m, Middle Buntsandstein, Upper oolitic Beds.
4. *a* megaspore in lateral view, × 200; *b* part of specimen illustrating ornamentation of proximal area of the megaspore, × 750. Holotype, IGP/91, Studzianna IG-2, depth 2807,8 m, Middle Buntsandstein, Upper-oolitic Beds.
5. Megaspore in lateral view, × 200. Studzianna IG-2, depth 2777,0 m, Middle Buntsandstein, Upper oolitic Beds.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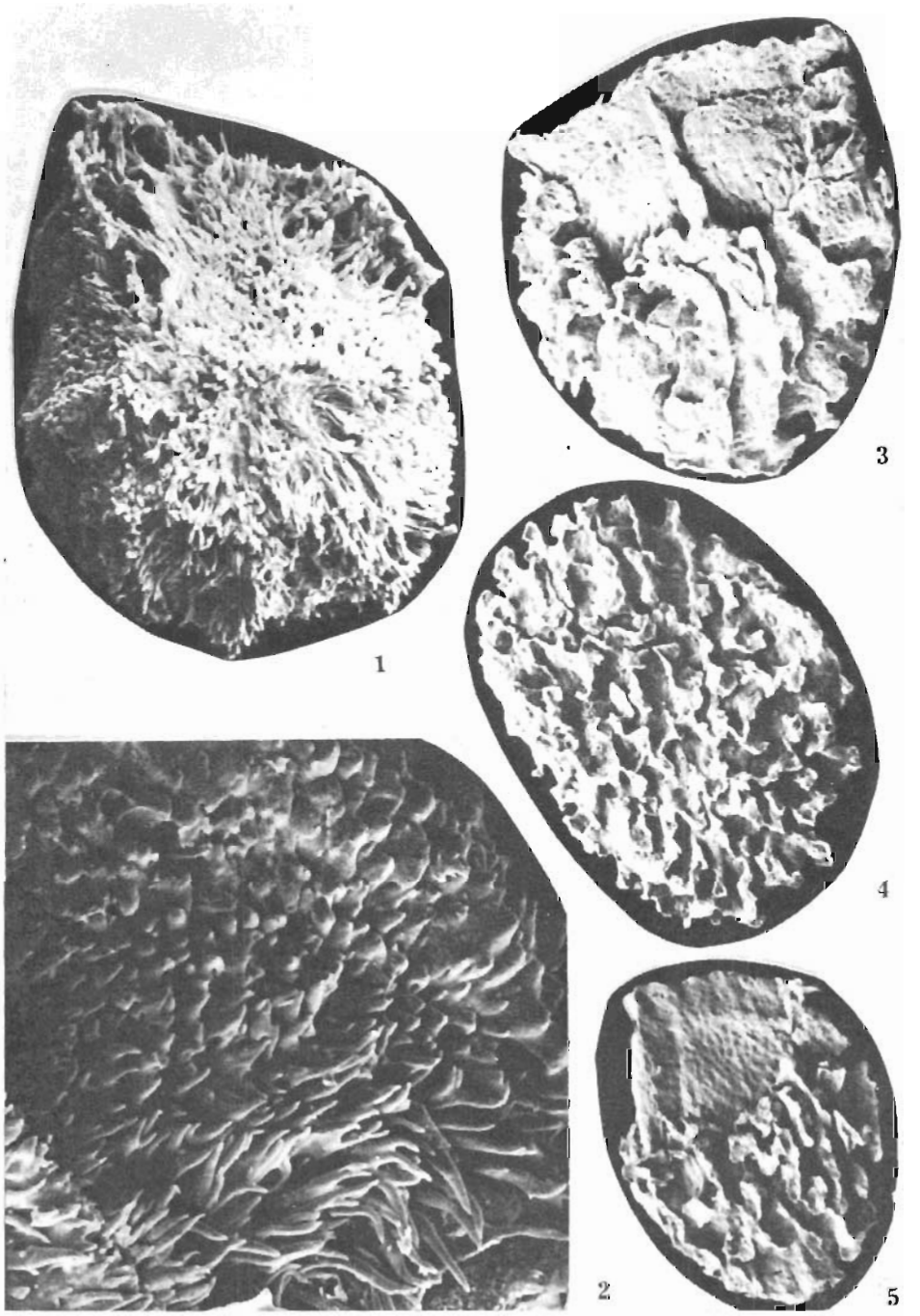
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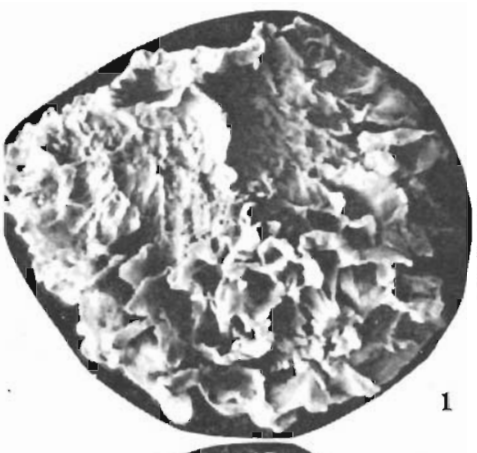
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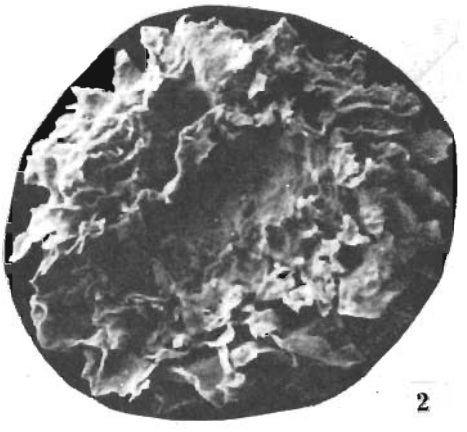
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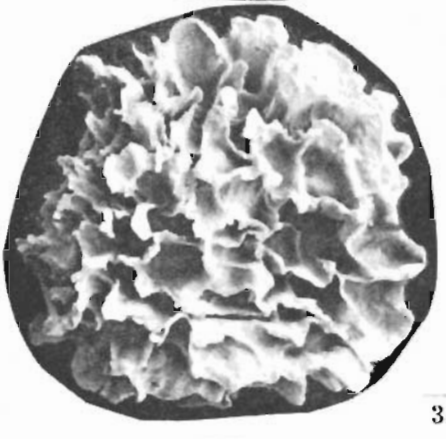
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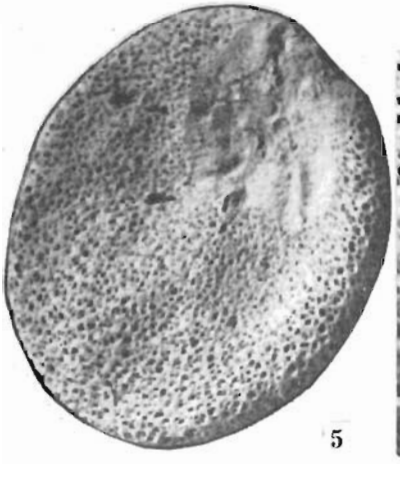
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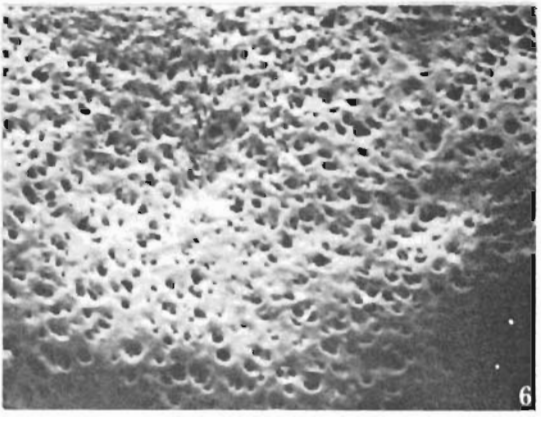
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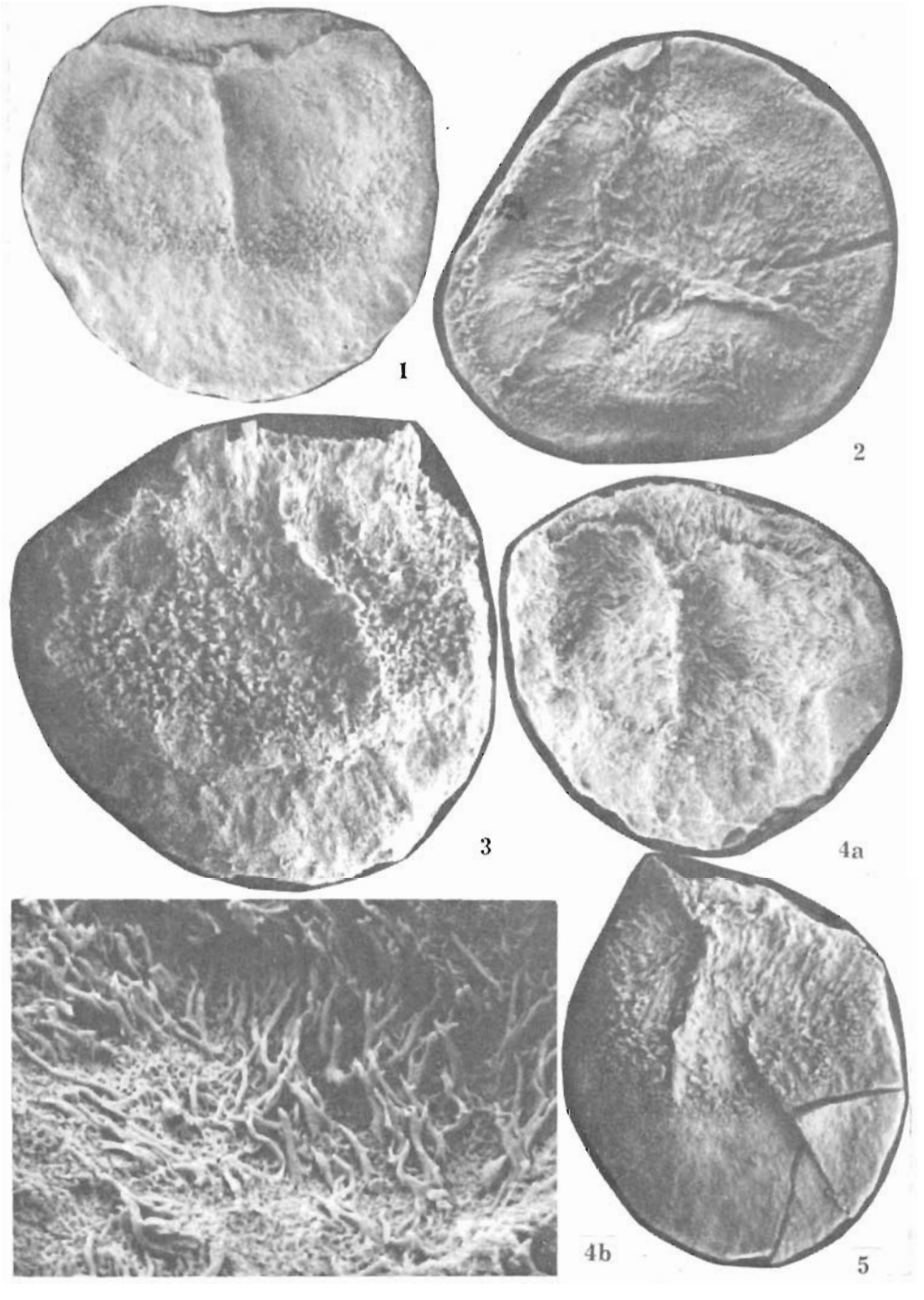
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