

DEVONIAN MICROFOSSILS FROM THE CĂLĂRASI ZONE OF THE MOESIC PLATFORM, RUMANIA

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ABSTRACT

The present paper deals with the systematic description of Devonian palynological fossils recovered from the subsurface sediments of the Moesian platform, south-east of Bucharest, Rumania.

INTRODUCTION

VENKATACHALA and Beju (1961) in a preliminary report assigned Upper Devonian age to an assemblage recovered from the Călărăși zone situated in the Moesian platform, south-east of Bucharest.

The Moesian platform is situated in the inner part of the Carpatho-balkan arch, bordered north-northwest by the Precarpathian depression and south-southwest by the Prebalkan depression.

Drillings in the Moesian platform show a succession from Palaeozoic to Neogene rocks. The only Palaeozoic formation well recognized here is the Gotlandian in the Bals-Optasi where fragments of *Monoprinoidea* have been recovered (VENKATACHALA & BEJU, 1961). In the basement, the drillings penetrated a complex of rocks formed of brown, poorly bituminous limestones in its upper part, greyish-black anhydrites in the middle and black bituminous limestones at the base. Whole complex shows more or less advanced dolomitization.

Four samples were processed for palynological fossils, except for a sample from an argillaceous intercalation in the middle anhydrite occurring at a depth of 3,134 metres; the other samples proved barren.

The present paper deals with systematic description of palynological fossils recovered from this sample.

SYSTEMATIC PALYNOLOGY

- Anteturma* — *Sporites* H. Pot. 1893
Turma — *Triletes* (Reinsch) Pot. & Kr. 1954
Subturma — *Azonotriletes* Lub. 1935
Infraturma — *Laevigati* (Benn. & Kids.) Pot. 1956

Genus — *Retusotriletes* Naum. 1953

Type Species — *Retusotriletes simplex* Naum. 1953.

Retusotriletes sp.

Pl. 1, Fig. 3

Description — Circular 70-80 μ . Trilete, rays extending upto three-fourths the radius. Contact area distinct, arcuate curvature well defined. Exine upto 2.5 μ thick, conate, sculptural elements very closely placed forming pseudomicroreticulate pattern.

Remarks — *Retusotriletes* is quite common in Devonian sediments and has been reported from Russia (NAUMOVA, 1953), Canada (RADFORTH & MCGREGOR, 1954) and Australia (BALME, 1960). The species described and figured by them generally show distinct arcuate curvature and psilate to ornamented exine.

Infraturma — *Apiculati* (Benn. & Kids.) Pot. 1956

Genus — *Apiculatisporis* Pot. & Kr. 1956

Type Species — *Apiculatisporis aculeatus* Pot. & Kr. 1955.

Apiculatisporis cf. *A. elegans* McGr. 1961

Pl. 1, Fig. 1

Description — Spore circular, 54 μ . Trilete hardly perceptible. Exine $\pm 2.5 \mu$

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thick, densely ornamented with conii to form pseudomicroreticulate surface. Conii $\pm 1 \mu$ long.

Remarks — *Apiculatisporis elegans* described by McGregor (1961) from the Melville island of Canadian Arctic Archipelago is bigger in size and possesses quite distinct trilete rays extending more than half the radius.

Genus — *Verrucosisporites* (Ibr.) Smith et al. 1964

Type Species — *Verrucosisporites verrucosus* Ibr. 1933.

Verrucosisporites sp.

Pl. 1, Fig. 2

Description — Spore subcircular, 40 μ . Trilete, rays ill-developed. Exine 3 μ thick, ornamented with irregularly distributed verrucae, sometime interspersed with conii.

Comparison — The specimen illustrated is comparable to *V. uncutus* (Naum.) Rich. and *V. grandis* (Naum.) Rich. 1964.

Genus — *Hystricosporites* McGr. 1960

Type Species — *Hystricosporites delectabilis* McGr. 1960.

cf. Hystricosporites sp.

Pl. 1, Fig. 8

Description — Spore originally radial, 82 μ . Trilete, rays indistinct, hardly traceable. Exine $\pm 3 \mu$ thick, ornamented with tapering, bifurcating processes on both sides; processes 6-22 μ long, 3-10 μ broad.

Turma — *Zonales* (Benn. & Kids.) Pot. 1956

Subturma — *Zonotriletes* Waltz 1935

Genus — *Ancyrospora* Rich. 1960

Type Species — *Ancyrospora grandispinosa* Rich. 1960.

Ancyrospora cf. A. grandispinosa Rich. 1960

Pl. 1, Figs. 5, 6, 9, 11

Description — Spores badly preserved, subtriangular to subcircular, size range 90-150 μ . Central body \pm indistinct, generally confronting with the overall shape.

Trilete distinct to indistinct, rays straight or slightly sinuous, extending \pm upto the equator in some specimens. Exine spinose, spines strongly built, bifurcate or pointed.

Anteturma — *Pollenites* Pot. 1931

Turma — *Saccites* Erdtm. 1947

Subturma — *Monosaccites* (Chit. 1951) Pot. & Kr. 1954

Genus — *Auroraspora* Hoffm. Stap. & Mall. 1955

Type Species — *A. solisortus* Hoffm., Stap. & Mall. 1955.

Auroraspora sp.

Pl. 1, Fig. 7

Description — Poorly preserved, subtriangular, 96 μ . Central body $\pm 40 \mu$, trilete mark distinct, reaching upto the margin of the pseudosaccus (saccizionate). Saccus infrareticulate.

Incertae sedis

Genus — *Tasmanites* (Newton) Sch., Wils. & Bent. 1944

Type Species — *Tasmanites punctatus* Newt. 1875.

Tasmanites sp.

Pl. 1, Figs. 4, 10, 12

Description — Circular, 60-130 μ , (illustrated specimens 80-130 μ) granulose, verrucose or pitted. This is perhaps due to secondary preservatory effect.

Comparison — Comparison with other known species is difficult because of bad preservation.

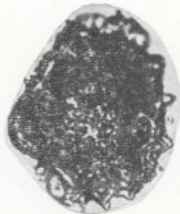
PALYNOLOGICAL COMPOSITION

The general preservation and representation is not satisfactory. The fossils are mostly mutilated during preservation.

Tasmanites is dominant in this association ($\pm 58\%$) followed by spores with bifurcate processes referred here to *cf. Hystricosporites* and *Ancyrospora* ($\pm 20\%$), the other spore genera are meagrely represented.



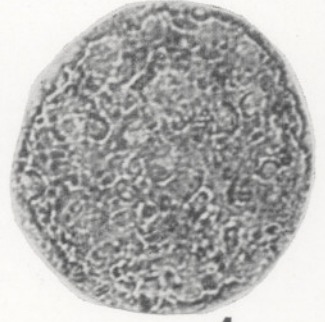
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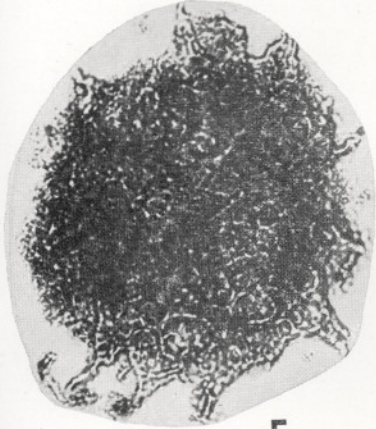
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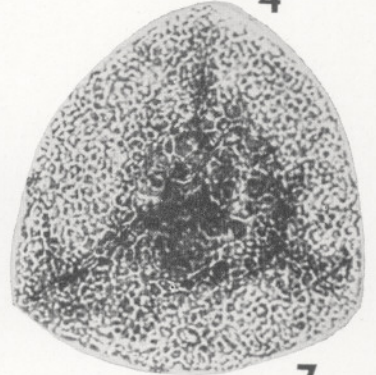
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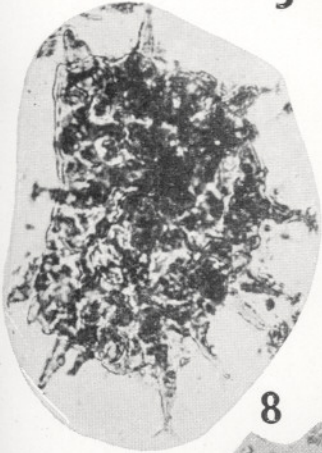
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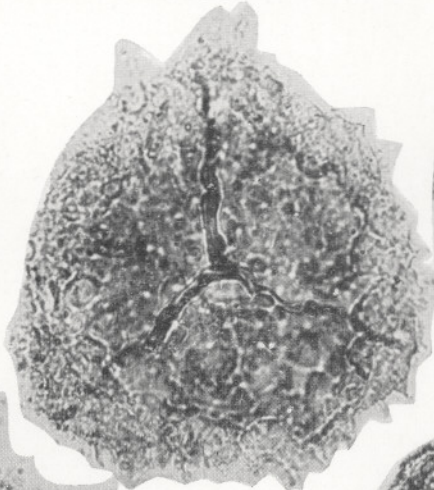
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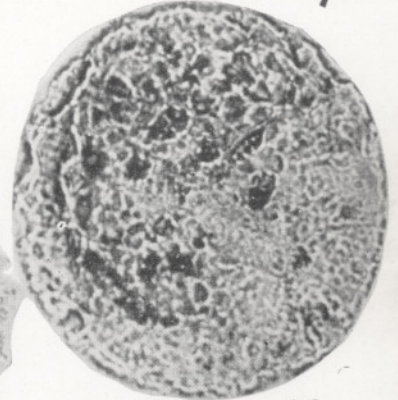
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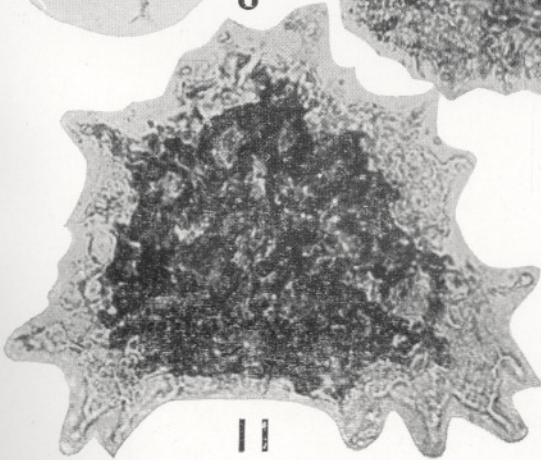
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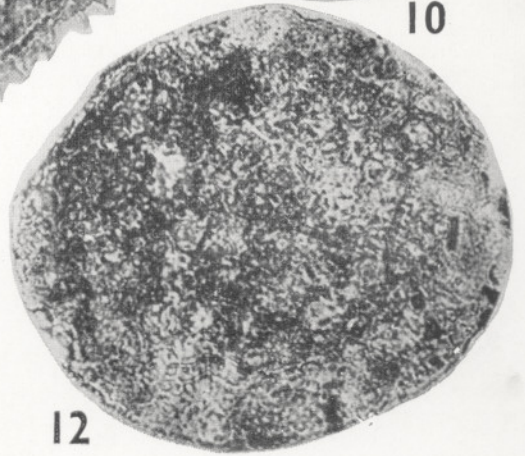
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EXPLANATION OF PLATE 1

(All photomicrographs \times ca. 500)

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|---|---|
| 1. <i>Apiculatisporis</i> cf. <i>A. elegans</i> | 5, 6, 9, 11. <i>Ancyrospora</i> cf. <i>A. grandispinosa</i> . |
| 2. <i>Verrucosisporites</i> sp. | 7. <i>Auroraspora</i> sp. |
| 3. <i>Retusotriletes</i> sp. | 8. Cf. <i>Hystricosporites</i> sp. |
| 4, 10, 12. <i>Tasmanites</i> sp. | |