

SPHINCTOZOA FROM THE REEF FACIES OF THE WETTERSTEIN LIMESTONE OF ALSÓHEGY-MOUNT (SOUTH GEMERICUM, WEST CARPATHIANS, NORTHERN HUNGARY)

K. BALOGH and S. KOVÁCS

The W—E striking limestone mass of Alsóhegy-mountain of 500 m average elevation and 45 km² extension is parted through its length by the Hungarian—Czechoslovakian border (Fig. 1). This mount belongs to the southernmost structural unit of the West Carpathians, i. e. to the South Gemericum. The mount is built up by Wetterstein limestone of Ladinian to Cordevolian age. Its tectonic position is shown

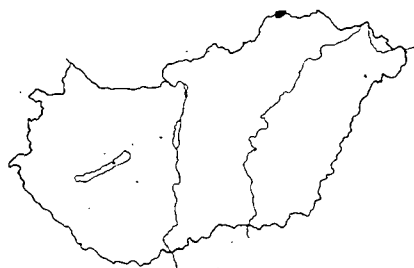


Fig. 1. Position of Alsóhegy in North-Hungary, along the Hungarian—Czechoslovakian border

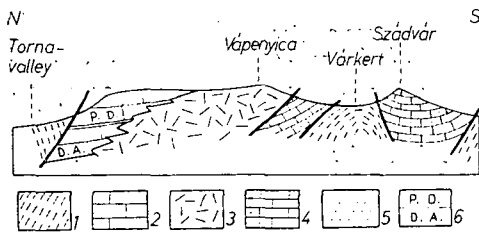
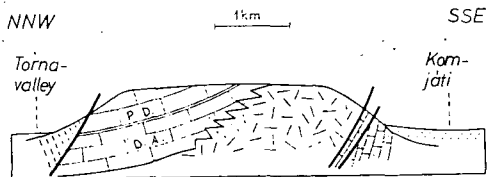
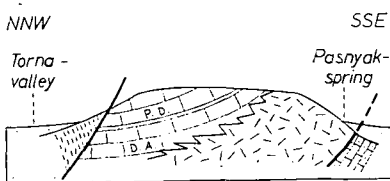


Fig. 2. Rough sketch on the tectonic position and facies arrangement of the limestone masses of Alsóhegy. 1. Lower Triassic; 2. Wetterstein limestone, lagoon facies; 3. Wetterstein limestone, reef facies; 4. Hallstatt limestone; 5. Pliocene and Quaternary; 6. P. D.: *Poikiloporella duplicata* [PIA]; D. A.: *Diplopora annulata* SCHAF.

on the profiles in Fig. 2. As it is clear from these illustrations, the Wetterstein limestone which forms the bulk of the mount is separated by northerly dipping tectonic surfaces from the Lower Triassic (Seisian and Campilian) outcropping on the north (in the Torna valley), and from the Upper Triassic of Hallstatt facies appearing on the S and SSE slope of the mount. Within the Wetterstein limestone mass two re-

placing facies can be recognized. On the north lagunal facies occurs characterized by *Diplopora annulata* SCHAFH. in the older (Ladinian) and *Poikiloporella duplicata* (PIA) in the younger (Cordevolian) part. On the south, both members of this lagoonal facies are interfingered with reef limestone characterized by the following fossils:

- Microproblematica: *Ladinella porata* OTT
Lamellitubus cauticus OTT
Microtubus communis E. FLÜGEL
Tubiphytes obscurus MASLOV
Baccanella floriformis PANTIĆ
- Inozoa: *Peronidella* sp.
Corynella sp.
Leiospongia sp.
- Hydrozoa: *Spongiomorpha* sp.
- Hexacorallia: *Montivaltia* sp.
Thecosmilia sp.
- Sphinctozoa: *Follicatena cautica* OTT
Vesicocaulis depressus OTT
? *Cystothalamia* sp.
Uvanella irregularis OTT
Colospongia catenulata catenulata OTT
Amblyosiphonella sp.
Dictyocoelia manon (MÜNSTER)
Cryptocoelia cf. *zitteli* STEINMANN
Stylothalamia dehmi OTT

The majority of the sphinctozoans listed here suggests Ladinian—Cordevolian age, only *Uvanella irregularis* and *Stylothalamia dehmi* range up into the Julian (OTT, E. 1967b, p. 61).

The *Sphinctozoa* material described here is repositied in the collection of Geologic and Palaeontologic Department of the József Attila University, Szeged.

Ordo: *Sphinctozoa* STEINMANN, 1882
Superfamily: *Aporata* SEILACHER, 1962
Family: *Celyphiidae* LAUBENFELS, 1955
Genus: *Follicatena* OTT, 1967

Follicatena cautica OTT, 1967

PLATE I, Fig. 2; PLATE III, Fig. 2

Follicatena cautica OTT (1967b, p. 22; Plate I, Figs. 1—7). — *F. cautica*, JABLONSKÝ (1971, p. 336; Figs. 1—2). — *F. cautica*, JABLONSKÝ (1974, p. 190; Plate 17. Fig. 1).

Material: 3 thin sections: No. 2/1972/c; 2/1972/E; 8/1972. — 1 peel: No. 222/1950 BK.

Diagnosis: OTT, E., 1967b, p. 32.

Description: Incomplete specimens. The 3 thin sections show more or less circular sections of single, separated segments of 2,45×2,52 mm, 3,64×4,20 mm and 4,41 mm diameter, respectively. The maximal wall-thickness in all specimens is 0,34 to 0,35 mm, but certain portions of the wall attains only 0,08—0,15 mm thickness. In the wall of specimen No. 8/1972 some triangular ostia appear, without penetration; their bottom-width is 0,1 mm, length 0,14 mm. In the specimen No. 2/1972/C two opposite ostia of 0,14 mm width completely penetrate the wall. On the third, fragmentary specimen ostia cannot be seen. The light-coloured spots of 0,02—0,1 mm diameter in the wall of specimen Nr. 8/1972 are presumably agglutinated grains.

Because of the cut orientation of the sections no sieve-fields are visible in the specimens. The inner parts of all the three specimens are filled with vesiculae (Plate I, Fig. 2; Plate III, Fig. 2).

Replica No. 222/1950/BK. (Plate I, Fig. 2) shows 5 chambers of a curved catenulate stem of originally 6 to 7 chambers. The diameters of the largest chambers are 5,39 to 5,43 mm, wall-thickness is 0,15 to 0,40 mm. The wall is doubled at the junction of the segments. The ostia tend to narrow outwards (bottom 0,14 to 0,35 mm). A 3 mm long basinal portion of a chamber can be regarded, on the basis of the densely appearing ostia, as a sieve-field.

Remarks: On the basis of their dimensions, thickness, imperforate wall, doubled walls, vesicular filling structure, the forms described here — despite of the fragmentary preservation — can be arranged into the species *Follicatena cautica* OTT.

Locality: On the side of the forestry road from Bódvaszilás to Szabó-parlag and western slope of the Vápenyica-hill. — Wetterstein reef limestone.

Stratigraphic range: Ladinian to Cordevolian.

Genus: *Vesicocaulis* OTT, 1967

Vesicocaulis depressus OTT, 1967

PLATE II, Fig. 3

Vesicocaulis depressus OTT (1967b, pp. 26—28; Plate 3, Figs. 1—4). — *V. depressus*, Jablonský (1971, p. 337; Fig. 3).

Material: 2 thin sections: No. 2/1972/G; 2/1972/H. — 1 peel: No. 2/1972/G.

Diagnosis: DIECI, G.—ANTONACCI, A.—ZARDINI, R. (1968) in JABLONSKÝ, 1971, p. 337.

Description: Thin section No. 2/1972/G shows a tangential cut of a subcylindrical stem of 3,85 mm diameter, with 3 shield-like overlapping chambers. Its 2,0—2,2 mm wide central channel system consists of 4—5 interwoven tubuli of 0,2—0,3 mm diameter, which form a characteristic central reticular structure. In the tubes vesiculae also occur. The height of the segments is 0,6 to 0,7 mm, and they show only vesiculae. Wall-thickness 0,15—0,20 mm. In the uppermost chamber two ostia of 0,03—0,06 mm diameter are visible. The replica made from this same specimen seems to be more complete, it shows five segments. In thin section No. 2/1972/H shows a fragment of a similarly built, upward narrowing stem of 3,3—3,9 mm diameter, with traces of the central channel system. Wall-thickness 0,06—0,15 mm, the width of the isolated ostia is 0,042 mm.

Remarks: The specimens resemble the section figured by OTT, E. (1967b) in his Plate 3, Fig. 3.

Locality: On the side of the forestry road from Bódavszilás to Szabó-parlag. — Wetterstein reef limestone.

Stratigraphic range: Ladinian to Cordevolian.

Superfamily: *Porata* SEILACHER, 1962

Family: *Cystothalamiidae* GIRTY, 1908

Genus: *Cystothalamia* GIRTY, 1908

? *Cystothalamia* sp.

PLATE III, Fig. 1

Material: 2 peels: No. 25/1972; T-197/1974.

Description: Oblique sections of glomerate, subcylindrical stems of 5 to 7 mm diameter, which avoid the central channel. The chambers are 1,2—2,8 mm wide and 0,8—2 mm high, and are filled with vesiculae. Pores of 0,1—0,2 mm diameter appear both on the outer and inner walls. Wall-thickness 0,12—0,25 mm.

Remarks: The sections suggest those of *Cystothalamia bavaria* (OTT, E. 1967b, pp. 36—37; Plate 1, Fig. 8; JABLONSKY, E. 1971, p. 340; Figs. 5—6), but this shows central channel, too. As the sections avoid the central channel, a closer determination is impossible.

Locality: On the side of the forestry road from Bódvaszilás to Szabó-parlag and the western slope of the Vápenyica-hill. — Wetterstein reef limestone.

Stratigraphic range: Ladinian to Cordevolian.

Genus *Uvanella* OTT, 1967

Uvanella irregularis OTT, 1967

PLATE II, Figs. 5—6

Uvanella irregularis OTT, E. (1967b, pp. 38—40; Plate 3, Fig. 8; Plate 5, Figs. 1—3; Plate 8, Fig. 1). — *U. irregularis*, OTT, E.—KRAUS, O. (1968, pp. 275—276; Plate 19, Fig. 6). — *U. irregularis*, JABLONSKÝ (1971, pp. 341—342, Fig. 7). — *U. irregularis*, OTT (1972, Plate 1, Fig. 1). — *U. irregularis*, JABLONSKÝ (1974, pp. 192—194; Plate 17, Fig. 3).

Material: 6 thin sections: No. T-193/A and B (sections of the same specimen); T-197/A; 4/1972/B; 25/1972/B; 35/1973/J. — 1 peel: No. T-193.

Diagnosis: OTT, E. 1967b, p. 38.

Description: Radial and tangential sections of incrusting nodules of nearly 2 cm in size. The body is an agglomerate of irregular chambers. The size of the chambers varies remarkably; the length (1—3,5 mm) sometimes exceeds multiply the height (0,3—2 mm). Walls with striped structure and comprise smaller cavities; their thickness varies between 0,08 and 0,5 mm. Walls usually imperforate, the chambers are connected only in some places with openings of 0,08—0,5 mm diameter. The light spots visible in the thicker walls can be due to the rock-particles agglutinated during the growth. The coarse and irregularly-walled vesiculae are particularly common in the lower part of the body. Other filling structure or central channel is missing.

Locality: Vecsembükk; on the side of the forestry road from Bódvaszilás to Szabó-parlag; the southern and southwestern slope of the Vápenyica-hill. — Wetterstein reef limestone.

Stratigraphic range: Ladinian to Middle Carnian.

Family: Sebargasiidae STEINMANN, 1882

Genus: *Colospongia* LAUBE, 1865

Colospongia catenulata catenulata OTT, 1967

PLATE I, Fig. 5

Colospongia catenulata OTT (1967b, pp. 32—34; Plate 7, Figs. 3—4; Plate 8, Figs. 1—5). — *C. catenulata*, OTT (1972, Plate 1, Fig. 1). — *C. catenulata catenulata* JABLONSKÝ (1974, pp. 194—195; Plate 68, Fig. 1).

Material: 1 thin section: No. 35/1973/F. — 2 peels: T-124/1974; 191/1974/a.

Diagnosis: OTT, E. 1967b, p. 32.

Description: Linearly arranged spheroidal chambers. Central tube or filling structure are missing, vesiculae cannot be seen. The shape of the chambers is circular in tangential section, and somewhat elongate, pyriform in axial section. Their size is nearly equal within the same specimen. The chamber-diameter measures between 1,3 and 3,5 mm, the height index is 1 to 1,15: Wall-thickness 0,1—0,4 mm. The chambers are connected to each other and to the outside by dense, identical pores. The pores are tapering outward, their diameter is 0,1 to 0,2 mm. The recrystallization of the walls may obliterate the perforation. Equatorial ostia cannot be seen.

Remarks: On the basis of all important features the specimens can be well identified with the specimens of this species given in the literature.

Locality: NNW from the Pasnyak-spring, on the edge of the plateau; southern slope of the Vápenyica-hill. — Wetterstein reef limestone.

Stratigraphic range: Ladinian to Cordevolian.

Genus: *Amblysiphonella* STEINMANN, 1882

Amblysiphonella sp.

PLATE I, Fig. 1

Material: 1 thin section: No. 17/1972/D

Description: 20 mm long oblique section of a catenulate stem of 8 to 10 mm diameter. The 1,6—2,0 mm high chambers are presumably arranged annularly around the central channel, but without complete encircling. The segments are connected with pores of 0,1 to 0,25 mm diameter. Filling structure, as well as vesiculae, are missing.

Remarks: Because of the oblique section, the closer determination is impossible.

Locality: On the side of the forestry road from Bódvaszilás to the Szabó-parlag. — Wetterstein reef limestone of Ladinian to Cordevolian age.

Family Verticillitidae STEINMANN, 1882

Genus: *Dictyoceolia* OTT, 1967

Dictyoceolia manon (Münster, 1841)

Plate II, Figs. 1—2

Dictyoceolia manon (MÜNSTER) in OTT (1967b, pp. 40—42; Plate 7, Figs. 1—2; Plate 9, Figs. 1—4; cum synonymis). — *D. manon*, JABLONSKÝ (1974, pp. 196—197; Plate 68, Fig. 2; cum synonymis).

Material: 1 thin section: 2/1972/H.

Diagnosis: OTT, E. 1967a p. 56.

Description: The oblique section of a catenulate, curved specimen shows 4 segments. The diameter of the most entire chamber is 5 mm. The clearances of the irregular network of the coarse, reticular filling structure are divided by vesiculae. The filling test is lamellar in structure. The central channel is of 0,9 mm in diameter, without visible vesiculae. The fine pores, which perforate the outer wall, can be seen very rarely; no vesiculae.

Remarks: On the basis of the coarseness of the filling texture, the specimen is near to those of JABLONSKÝ, E. (1974; Plate 68, Fig. 2) and KRAUS, O.—OTT, E. (1968; Plate 20, Fig. 1).

Locality: On the side of the forestry road from Bódvaszilas to Szabó-parlag. — Wetterstein reef limestone.

Stratigraphic range: Ladinian to Cordevolian.

Family: Cryptocoeliidae STEINMANN, 1882

Genus: *Cryptocoelia* STEINMANN, 1882

Cryptocoelia cf. *zitteli* STEINMANN, 1882

PLATE I, Figs. 3—4; PLATE III, Fig. 5

Cryptocoelia zitteli STEINMANN (1882, pp. 176—177; Plate 7, Figs. 1—2; Plate 8, Fig. 5; Plate 9, Fig. 4). — *C. zitteli*, SEILACHER (1962, p. 751). — *C. zitteli*, OTT, E. (1967b, pp. 42—44; Plate 9, Figs. 5—7). — *C. zitteli*, JABLONSKÝ (1971, pp. 342—343, Figs. 8—9). — *C. zitteli*, JABLONSKÝ (1973, pp. 185—187; Plate 1, Figs. 1—2; Plate 2, Figs. 1—2). — *C. zitteli*, JABLONSKÝ (1974, p. 198; Plate 68, Fig. 3; cum synonymis).

Material: 3 thin sections: No. 223/1950/BK; 3/1972/D; 35/1973/B.

Diagnosis: STEINMANN 1882, p. 176.

Description: Single, curved stems. The diameter of the segments is 1,8 to 2,9 mm; that of the larger chambers within the single stem is uniform. Because of the cut-effect, the apparent height of the segments is between 1,4 and 2,8 mm, most commonly 2,2 to 2,4 mm. The trabecular filling structure consists of irregularly shaped, sometimes anastomizing pillars, which arise from the chamber-roof. These pillars are coarse initially, but narrow downward, and reaching the base of the chamber become thick again. In the studied sections central channel cannot be seen. In the tubes, between the pillars, vesiculae are common. These tubes appear in cross section as white, irregular spots of 0,08—0,2 mm diameter, which are arranged near the chamber wall. The diameter of the pillars on the chamber-roof is 0,1 to 0,4 mm, their structure is microlamellar. The wall is penetrated by sparse pores of 0,08 to 0,16 mm diameter.

Remarks: The most characteristic features of the studied specimens resemble those of species *Cryptocoelia zitteli*. On the other hand, these differ from the figures in the literature in having greater chamber height and smaller diameter. Although, these partly can be due also to cut-effect, it seems more reasonable to refer only to the group in naming.

Locality: On the side of the forestry road from Bódvaszilas to Szabó-parlag; southwestern part of the Vápenyica-hill. — Wetterstein reef limestone.

Stylothalamia dehmi OTT, 1967

PLATE III, Figs. 3—4; PLATE IV, Figs. 1—4; PLATE V, Figs. 1—3

Stylothalamia dehmi OTT (1967b, pp. 44—46; Plate 10, Figs. 1—5). *S. dehmi*, JABLONSKÝ (1971, pp. 343—345; Fig. 10).

Material: 1 hand-specimen rendered out on the rock surface: No. 6/1972. — 6 thin sections: No. e/1971; 6/1972/B; 8/1972; 11/1972/A and C (from the same specimen); 11/1972/F; 35/1973/E; T-197/1974/B.

Diagnosis: OTT, A. 1967b, p. 44.

Description: The stems of 8 to 12 mm diameter and 15 to 20 mm height are built up by shield-like, overlapping flat segments. The segment-height is 0,8—1,2 mm generally, 1,6 mm maximally and 0,3—0,4 mm in the oldest chambers.

The trabecular filling structure consists of 0,09 to 0,27 (most commonly 0,15) mm

wide, irregularly spaced pillars. The shorter pillars are stalactite- or stalagmite-like, the larger ones span the entire chamber. These may tend to be thicker at their base, here hollows may appear. Vesiculae are common both in the lower and upper segments.

Wall-thickness 0,10 to 0,24 mm, most commonly about 0,15 mm. In some specimens towards the older chambers more and more endodermal layers can be seen as depositing onto the inner walls, pillars and even vesiculae. Consequently, in these specimens the older chambers are markedly filled endodermally. The wall is densely perforated, the diameter of the pores is 0,05 to 0,10 mm. The pores narrow to about one-third outwardly.

The retrosiphonate central channel is shown only on the hand-specimen (Plate IV, Fig. 1) and in the thin section No. 35/1973/E (Plate IV, Fig. 2). Its diameter is 1,5 to 2,0 mm in the former and 0,09 mm in the latter. The connection between the chambers and the central channel is maintained by pores of the same diameter as those penetrating the walls.

Thin section No. T-197/1974/B. shows a juvenile specimen consisting of 3 segments and an initial (?) chamber with strongly thickened wall (Plate III, Fig. 3). The shape is club-like, with 2,5 mm height and 2,3 mm maximal thickness. The height of the segments is 0,4 mm, wall-thickness 0,10 to 0,15 mm. The diameter of the pores (0,12 to 0,14 mm) is somewhat greater than that of the adult specimens. Vesiculae are not visible. Into the upper segments protrude trabeculae of 0,1 mm diameter.

Remarks: The shape of the hand-specimen is more elongated and the skeletal structure of the thin sections is somewhat coarser as compared to those figured from the Raiblian beds by OTT (1967b, *Text-fig. 4*; Plate 5, *Figs. 5—6*; Plate 6; Plate 10, *Figs. 1—5*). However, the subspecific separation is unprovable for the present. OTT presumed two, retrosiphonate and asiphonate ways of growth of this species. In our opinion the asiphonate growing is unproved, because the sections may easily avoid the narrow central channel.

The appearance of hollows in the bases of the pillars can be explained by taking into consideration that the pillar, during its thickening, may overgrow several pores of the chamber-roof.

Locality: Vecsembükk (near to the Góte-sump); on the side of the forestry road from Bódvaszilás to Szabó-parlag; southern and western slope of the Vápenyica-hill.

Stratigraphic range: The holotype came from the Raiblian beds (Julian). The specimen of JABLONSKÝ was yielded by an occurrence regarded as Ladinian (?) in age. The bulk of the specimens studied here came from the western part of the Alsó-hegy-mound, where the reef facies of the Wetterstein limestone interfingers with the *Poikiloporella duplicata*-bearing lagoonal facies. Consequently, their age is probably Lower Carnian (Cordevolian).

REFERENCES

- FLÜGEL, H. W. [1967]: Sphinctozoa aus den Klobenwand-Kalken (Trias, Mürtzaler Kalkalpen) — Österr. Akad. Wiss., math.-naturw. Kl., Abt. I. 176, 5—7. Wien. p. 61—63.
- FLÜGEL, H. W. [1972]: Catalogus Fossilium Austriae. — 3a—3b: Porifera—Archaecocyatha. Wien. 31 p.
- FLÜGEL, H. W. [1971]: Revision der von Toulou 1913 aus dem Jägerhäusalk bei Baden beschriebenen Spongien. — Anz. Österr. Akad. Wiss., math.-naturwiss. Kl., 3. Wien. p. 1—4.
- HERAK, M. [1944]: Zur Kenntnis triadischer Kalkschwämme (Sycones). — N. Jb. Miner. etc., Abh. (B) 88. Stuttgart. p. 107—135.
- JABLONSKÝ, E. [1971]: Segmentierte Kalkschwämme. Sphinctozoa der Westkarpaten (von der Lokalität Liptovská Osada). — Geol. Zborn. — Geologica Carpath. 22. 2. Bratislava. p. 333—346.

- JABLONSKÝ, E. [1972]: *Vesicocaulis reticuliformis* n. sp. (Sphinctozoa) aus der Trias der Westkarpaten. — Geol. Zborn. — *Geologica Carpath.* **23**, 2, Bratislava p. 361—364.
- JABLONSKÝ, E. [1973a]: Triassische Sphinctozoen aus den Westkarpaten. — Geol. Zborn. — *Geologica Carpath.* **24**, 1, Bratislava, p. 107—111.
- JABLONSKÝ, E. [1973b]: Microproblematica aus der Trias der Westkarpaten. — Geol. Zborn., — *Geologica Carpath.* **24**, 2, Bratislava, p. 415—423.
- JABLONSKÝ, E. [1973c]: Neue Erkenntnisse über die Morphologie der Art *Cryptocoelia zitteli* STEINMANN, 1882 (Sphinctozoa). — *Časopis pro mineralogii*, **18**, 2, Bratislava, p. 185—187.
- JABLONSKÝ, E. [1974]: Segmentierte Kalkschwämme (Sphinctozoa) aus Wettersteinkalken einiger Gebirge der Westkarpaten. — *Acta Geol. Geogr. Univ. Comenianae, Geologica* **26**, Bratislava, p. 189—202.
- LAUBENFELS, M. W. DE [1955]: Porifera. — *Treatise Invertebrate Paleontology*, E—21—122. Lawrence, Kansas.
- OTT, E. [1967a]: Die Beziehungen zwischen *Colospongia* LAUBE, *Takreamina* FONTAINE, *Girtyocoelia* KING und *Dictyoecolia* n. g. (Segmentierte Kalkschwämme) — *N. Jb. Geol. Paläont., Mh.* **1967**, Stuttgart, p. 44—58.
- OTT, E. [1967b]: Segmentierte Kalkschwämme (Sphinctozoa) aus der alpinen Mitteltrias und ihre Bedeutung als Riffbildner im Wettersteinkalk. — *Bayerische Akad. Wiss., math. nat. Kl. Abh., Neue Folge*, **131**, München, 96 p.
- OTT, E.—KRAUS, O. [1968]: Eine ladinische Riff-Fauna im Dobratsch-Gipfelkalk (Kärnten, Österreich) und Bemerkungen zum Faziesvergleich von Nordalpen und Drauzug. — *Mitt. Bayer Staatsamtl. Palaont. Hist. Geol.*, **8**, München, p. 263—290.
- SCHOLZ, G. [1972]: An Anisian Wetterstein Limestone Reef in North Hungary. — *Acta Miner. Petr., Szeged*, **20**, 2, Szeged, p. 337—362.
- SEILACHER, A. [1962]: Die Sphinctozoa, eine Gruppe fossiler Kalkschwämme. — *Akad. Wiss. Lit., Abh. math.-naturw. Kl.*, **10**, Mainz, p. 720—790.
- STEINMANN, G. [1882]: Pharetronen Studien. — *N. Jb. Miner. etc.* 1882, II, Stuttgart, p. 139—191.
- VINASSA DE REGNY, P. [1912a]: Trias Spongien aus dem Bakony. — *Result. wiss. Erforsch. Balatonsees. Paleont. Umgb. Balatonsees* **1**, 2, Budapest, 22 p.
- VINASSA DE REGNY, P. [1912b]: Neue Schwämme, Tabulaten und Hydrozoen aus dem Bakony. — *Result. wiss. Erforsch. Balatonsees, Paleont. Umgb. Balatonsees* **1**, 3, Budapest, 17 p.
- WILCKENS, O. [1937]: Korallen und Kalkschwämme aus dem obertriadischen Pharetronenkalk von Seran (Molukken) — *N. Jb. Miner. etc., Beil.* — Bd. **77**, Stuttgart, p. 171—211.

Manuscript received, June 30, 1976

PROF. DR. KÁLMÁN BALOGH
SÁNDOR KOVÁCS
Department of Geology and Palaeontology
Attila József University
H—6722 Szeged, Egyetem u. 2., Hungary

EXPLANATION OF THE PLATES I—V

PLATE I

1. *Amblysiphonella* sp. — Oblique longitudinal section. — 17/1972/D. — Along the forestry road leading to Szabó-parlag. — 3x
2. *Follicatena cautica* OTT. — Oblique longitudinal peel of a curved stem with 5 visible chambers. 222/1950. BK. — SW side of the Vápenyica-hill. — 3x
3. *Cryptocoelia* cf. *zitteli* STEINMANN. — Oblique longitudinal section of a curved stem. — 35/1973/B. — SW part of the Vápenyica-hill. — 5,3x
4. *The same.* — 3/1972/D. — Along the forestry road leading to Szabó-parlag. — 4,8x
5. *Colospongia catenulata catenulata* OTT. — Oblique longitudinal peel. — T-124/1974. — Towards NNW from the Pásnyak-spring, where the zigzag road cuts the edge of the limestone-plateau. — 11x

PLATE II

1. *Dictyoceolia manon* (MÜNSTER) (right); *Vesicocaulis depressus* OTT (left); *Celyphia* sp. (below). — 2/1972/H. — Along the forestry road leading to Szabó-parlag. — 5,8x
2. *Dictyoceolia manon* (MÜNSTER). — Enlarged from the Fig. 1. — Oblique section of a curved, catenulate stem with 4 segments. — 11x
3. *Vesicocaulis depressus* OTT. — Tangential section. — 2/1972/G. — Along the forestry road leading to Szabó-parlag. — 11x
4. *Uvanella irregularis* OTT. — Radial section of an incrusting clump. — T-193/A. — Vecsembükk. — 4,8x
5. *Uvanella irregularis* OTT. — Tangential section with vesiculae. — 35/1973/J. — From the SW side of the Vápenyica-hill. — 4,7x

PLATE III

1. ? *Cystothalamia* sp. — Oblique section of the glomerate stem with vesiculae. — T-197/1974. — West side of the Vápenyica-hill. — 11x
2. *Follicatena cautica* OTT. — Cross-section of a single segment with vesiculae. — 8/1972. — Along the forestry road leading to Szabó-parlag. — 15x
3. *Stylothalamia dehmi* OTT. — Juvenile specimen. — T-197/1974/B. — From the west side of the Vápenyica-hill. — 15x
4. *Stylothalamia dehmi* OTT. — 3 segments with trabeculae and vesiculae. — 11/1972/C. — Along the forestry road leading to Szabó-parlag. — 30x
5. *Cryptocoelia* cf. *zitteli* STEINMANN. — Oblique section with trabeculae and vesiculae. — 223/1950. BK. — SW part of the Vápenyica-hill. — 11x

PLATE IV

- 1—4. *Stylothalamia dehmi* OTT
1. Hand-specimen rendered out on the rock surface. Nearly longitudinal section with the filling of the central channel. — 5/1972. — 3x
 2. Slightly oblique cross-section with central channel and osculum (above). — 35/1973/E. — South side of the Vápenyica-hill. — 11x
 3. Oblique longitudinal section with trabeculae and vesiculae. — 6/1972/B. — 5x
 4. *The same.* — 11/1972/C. — 6x
- (1, 3, 4; Along the forestry road leading to Szabó-parlag).

PLATE V

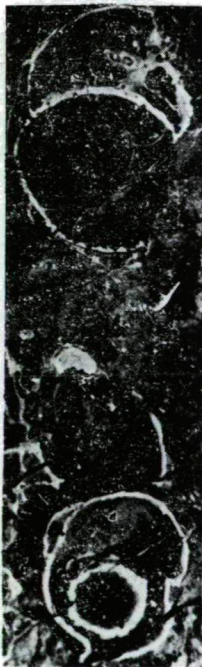
- 1—3. *Stylothalamia dehmi* OTT
1. A segment with trabeculae and close roof-pores. — 11/1972/C. — 30x
 2. Trabecular filling structure. — 11/1972/A. — 30x
 3. Endodermal filling of lamellar structure in the older chambers. — 11/1972/C. — 30x
- (All the specimens were collected along the forestry road leading from Bódivasziás to Szabó-parlag.)



1



3



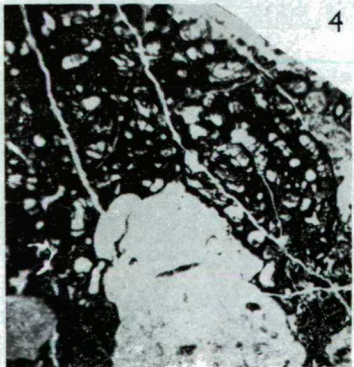
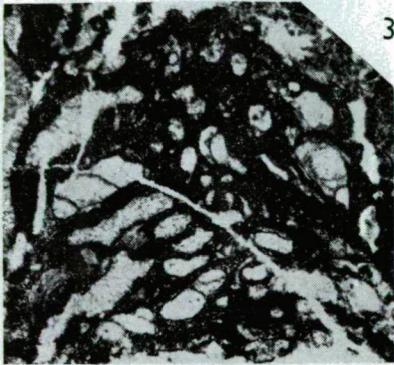
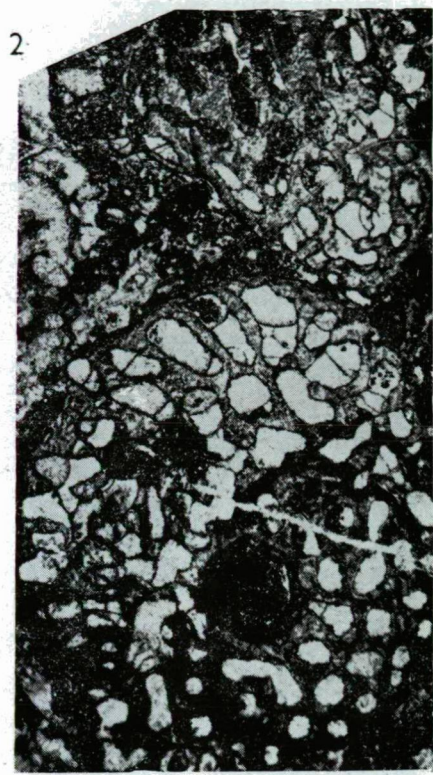
2

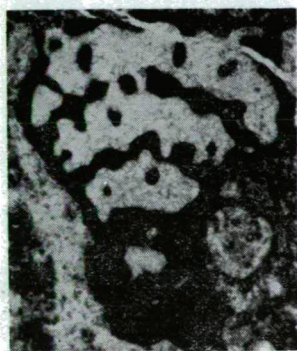
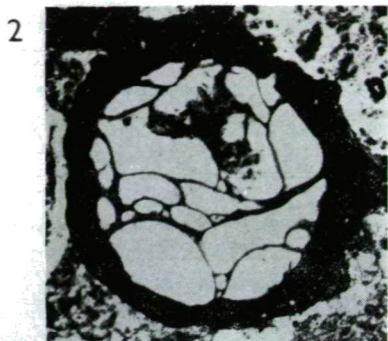
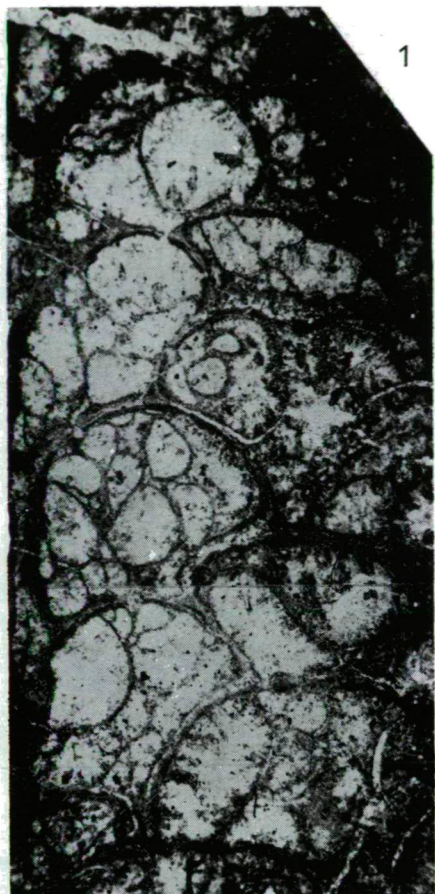


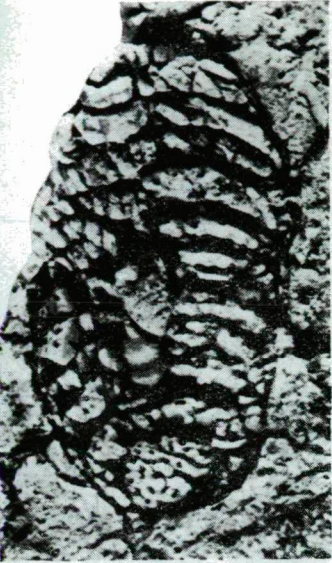
4



5



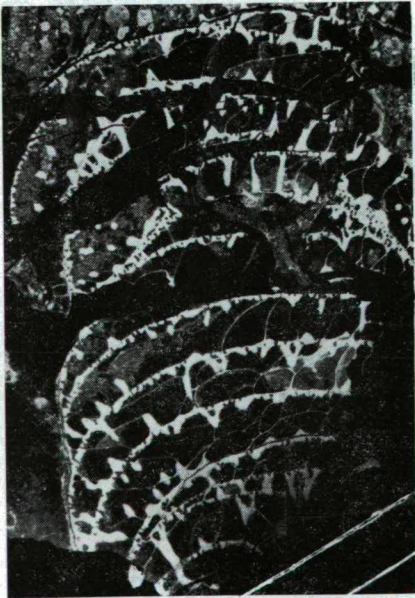




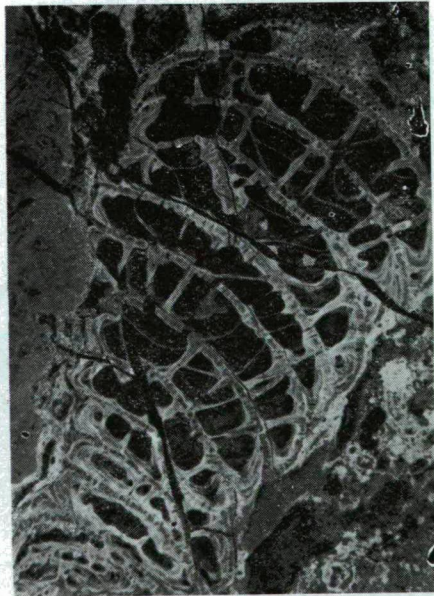
1



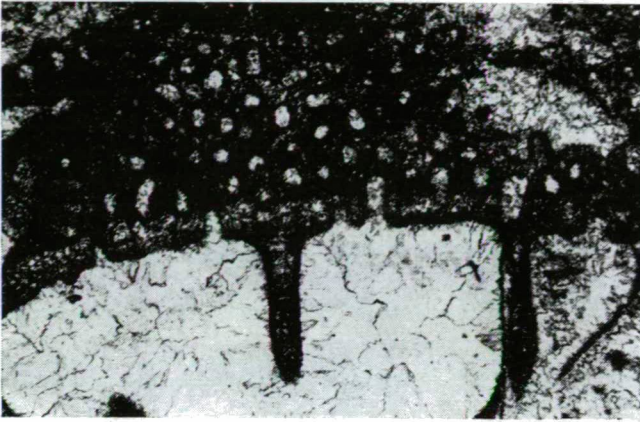
2



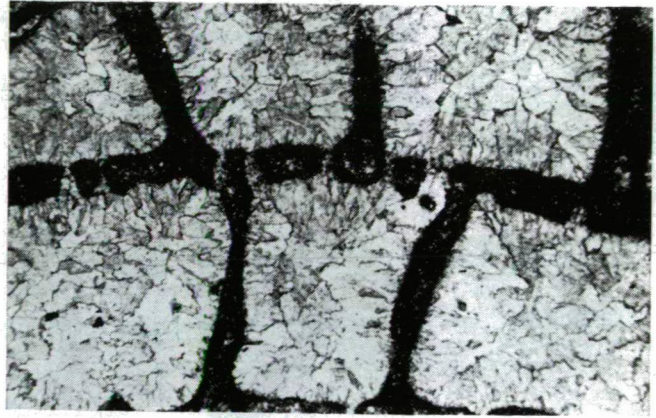
3



4



1



2



3