

KAROL BORZA*

**CARPISTOMIOSPHAERA VALANGINIANA N. SP.
AND COLOMISPHAERA LUCIDA N. SP. FROM THE LOWER
CRETACEOUS OF THE WEST CARPATHIANS**

(Figs. 11, Pls. 4, Tabs. 2)



Abstract: Occurrence of monothalamous microfossils, up to now unknown in literature, which were described as *Carpistomiosphaera valanginiana* n. sp. and *Colomisphaera lucida* n. sp. were established in the Lower Cretaceous sediments of the Križna nappe, Manín unit and Czorsztyn succession of the Klippen Belt.

Резюме: В нижнемеловых осадках крижиянского покрова, манинской единицы и чорштинской последовательности угесовой зоны мы обнаружили местонахождения однокамерных микроокаменелостей, до сих пор неизвестных в литературе, которые мы описали как *Carpistomiosphaera valanginiana* n. sp. и *Colomisphaera lucida* n. sp.

Introduction

In lithological-microfacial study of the Lower Cretaceous sediments of the Križna nappe in the Strážovské vrchy Mts. (Borza—Michalík—Vašíček, 1981), Vysoká unit of the Malé Karpaty Mts., Manín unit in the localities Butkov (Borza—Fedor—Michalík—Vašíček, 1983) and Bošáca (Borza—Köhler—Began—Samuel, 1980), as well as of the Czorsztyn succession near Rudník (Borza, 1969) occurrence of monothalamous microfossils with one-layered and two-layered tests, hitherto unknown in the literature, was established. Newly described species were called *Carpistomiosphaera valanginiana* n. sp. and *Colomisphaera lucida* n. sp. The studied localities are represented in Fig. 1.

Palaeontological description

Carpistomiosphaera NOWAK, 1968

Genus *Carpistomiosphaera* NOWAK, 1968 is represented by monothalamous microfossils with two-layered fibrous calcite wall, they show only discontinuous polarization in polarized light without dark axial cross. Two species of this genus from the Upper Cretaceous are known up to now, namely *Carpistomiosphaera borzai* (NAGY, 1966) and *Carpistomiosphaera tithonica* NOWAK, 1968.

* RNDr. K. Borza, DrSc., Geological Institute of the Slovak Academy of Sciences, Dúbravská cesta 9, 814 73 Bratislava.

Table 1
Dimensions of the specimens of *Carpistomiosphaera valanginiana* n. sp.

No.	L	l	t ₁	t ₂	t ₁ + t ₂	L/l
1	59.6	57.7	0—4.8	4.2—6.0	4.2—10.7	1.03
2	55.7	53.2	1.8—4.8	4.3—5.9	6.4—10.6	1.04
3	55.5	50.0	2.9—4.3	4.7	7.7— 9.0	1.10
4	60.3	50.2	3.5—4.4	4.1—6.7	8.0—10.3	1.20
5	55.5	37.5	1.7—2.9	2.7—4.6	4.9— 7.6	1.42
6	50.0	46.5	1.5—2.7	2.9—5.1	6.0— 7.8	1.07
7	56.7	54.3	0—3.9	2.9—4.7	4.5— 9.0	1.04
8	57.0	50.8	0—2.9	3.5—4.7	3.5— 7.1	1.12
9	51.0	47.0	0—3.1	4.3—5.0	5.0— 7.4	1.08
10	57.3	56.5	1.8—3.1	5.2—5.9	7.0— 9.0	1.01
11	52.2	49.7	0.8—3.9	3.7—5.3	5.9— 8.6	1.05
12	55.3	51.6	1.0—2.8	3.9—5.0	4.9— 7.8	1.07
13	47.7	47.6	1.7—2.5	3.3—6.0	5.3— 8.0	1.00
14	50.8	50.8	0—2.5	3.7—4.7	3.7— 6.4	1.00
15	48.0	45.1	0—3.1	3.5—4.9	4.6— 8.0	1.06
16	55.3	48.3	0—3.5	3.3—6.4	5.8— 7.6	1.14
17	48.3	45.1	2.1—3.1	3.7—4.1	6.0— 6.8	1.06
18	58.7	56.3	2.8—4.3	4.7—6.0	7.8—10.3	1.04
19	51.8	50.0	0.8—2.9	4.1—5.7	6.1— 8.7	1.03
20	52.8	49.0	0—3.9	3.1—6.2	5.2— 9.0	1.07
21	61.0	60.6	2.3—4.9	3.9—5.8	5.8— 9.0	1.00
22	50.0	49.8	0.3—3.1	3.9—4.9	4.3— 8.0	1.01
23	50.0	48.5	0—3.5	4.5—4.8	4.5— 9.3	1.03
24	54.5	52.8	0—3.7	4.3—5.0	4.3— 8.4	1.03
25	49.7	48.1	0—4.1	4.3—4.5	4.5— 8.6	1.03
26	53.4	52.8	0—3.7	3.5—5.5	5.5— 8.0	1.01
27	54.7	52.0	0—2.9	5.3—5.7	7.0— 8.2	1.05
28	40.4	39.5	1.7—2.7	3.3—3.9	5.5— 6.6	1.02
29	60.6	58.0	0—3.7	4.9—5.5	5.3— 9.2	1.04
						holotype

Continuation of Tab. 1

No.	L	l	t ₁	t ₂	t ₁ + t ₂	L/l
30	44.6	44.2	1.9—3.1	3.5—5.5	5.9— 7.2	1.00
31	45.4	42.6	2.3—2.5	3.7—4.1	6.1—6.6	1.06
32	47.3	47.1	2.0—3.3	4.7—5.3	6.6— 8.4	1.00
33	60.8	54.7	0—4.3	4.9—5.5	5.5— 9.4	1.11
34	52.2	47.5	0—3.3	3.5—4.6	3.5— 7.6	1.09
35	50.3	50.0	2.7—3.1	4.2—4.7	7.1— 7.8	1.00
36	54.6	46.7	0—2.5	2.9—7.8	5.5— 7.8	1.16
37	59.1	55.7	0—2.7	4.9—5.6	4.9— 8.2	1.05
38	59.7	51.2	1.6—3.9	3.3—6.1	6.2— 8.4	1.16
39	46.0	40.7	2.3—3.9	2.5—4.5	4.9— 8.0	1.12
40	52.2	49.6	0—4.4	4.3—8.2	6.3— 9.4	1.05
41	57.1	54.8	0—3.9	2.7—5.1	2.7— 9.0	1.04
42	54.4	51.9	0—3.8	5.0—6.3	6.3— 9.1	1.04
43	61.2	52.2	0—3.5	2.9—4.5	4.5— 6.8	1.17
44	56.7	56.5	3.5—4.1	4.5—5.3	8.0— 9.4	1.00
45	58.0	57.3	0—4.1	4.9—5.9	5.9— 8.8	1.01
46	59.6	56.5	1.8—3.3	4.9—5.6	7.2— 8.2	1.05
47	52.6	51.2	2.5—3.9	4.3—5.7	7.2— 8.4	1.02
48	49.7	44.4	1.8—2.9	3.5—3.9	5.5— 6.5	1.11
49	57.3	49.9	2.7—3.3	4.3—5.7	7.6— 8.2	1.14
50	44.4	44.2	1.2—2.5	4.1—4.5	5.3— 6.8	1.00
51	51.4	49.9	0—3.5	3.3—5.5	3.3— 9.0	1.03
52	50.6	50.6	0—3.3	4.3—4.9	4.9—8.2	1.00
53	50.6	49.7	0—3.1	3.7—5.9	4.9— 7.4	1.02
54	55.6	53.0	0—4.1	4.3—5.5	4.9— 9.6	1.04
55	49.3	45.8	2.7—3.3	3.3—4.5	6.7— 7.2	1.07
56	53.8	52.0	2.3—4.5	4.7—6.1	8.0—10.0	1.03
57	50.3	49.7	2.3—2.7	4.1—4.9	6.7— 8.8	1.01
58	50.7	45.4	0—2.7	4.1—5.3	5.3— 7.0	1.11
59	51.4	44.6	0—3.1	2.7—4.5	4.5— 6.2	1.15
60	45.6	43.6	0—3.1	3.3—3.9	3.3— 7.0	1.04

Carpistomiosphaera valanginiana n. sp.

(Fig. 2; Tab. 1, Figs. 1—6; Tab. 2, Figs. 1—6; Tab. 3, Figs. 1—6)

Holotype: the species represented in Tab. 1, Fig. 1, thin section St-11 152.4 m Butkov C is deposited in the collections of the Geological Institute of the Slovak Academy of Sciences, Bratislava.

Paratypes: Tab. 1, Figs. 2—6; Tab. 2, Figs. 1—6; Tab. 3, Figs. 1—6.

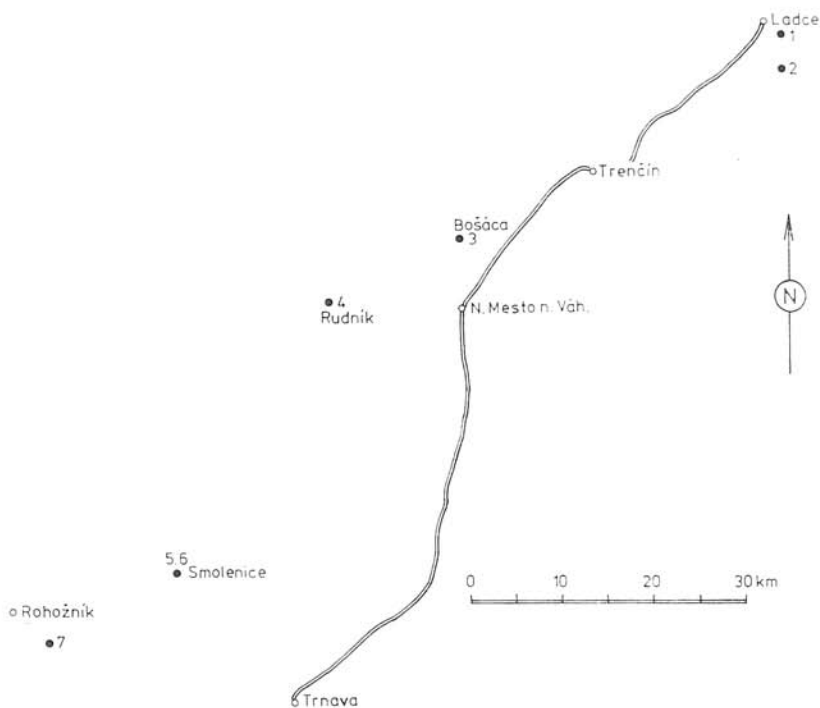


Fig. 1. Situation map of the studied localities.

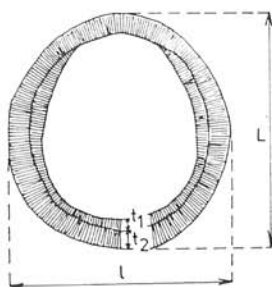


Fig. 2. Schematized shape of *Carpistomiosphaera* n. sp.

Derivatio nominis: after the Valanginian stage in which this species occurs.

Stratum typicum: brownish, slightly marly limestones — Valanginian, *Calpionellites* zone.

Locus typicus: quarry Butkov.

Material: over 100 various sections from thin sections.

Diagnosis: monothalamous microfossil, slightly oval, calcareous test consisting of two fibrous layers. Inner layer has one aperture, in the outer layer an aperture was not found.

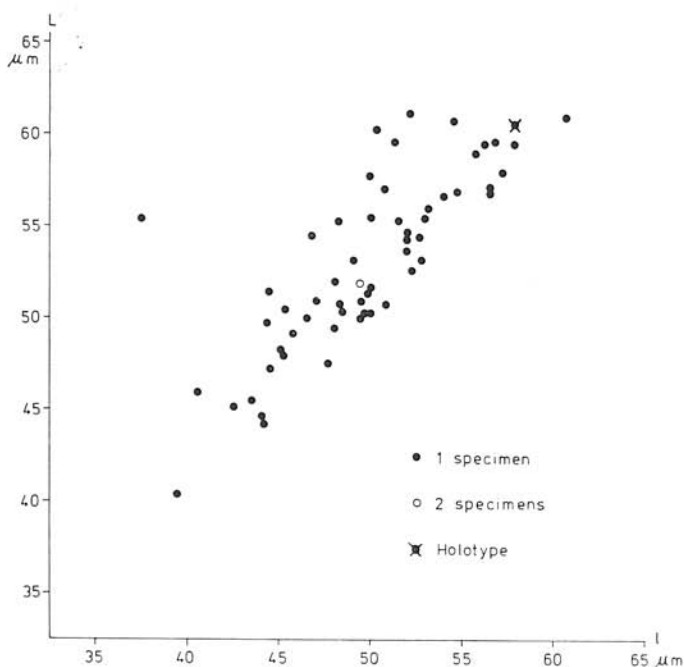


Fig. 3. Diagram representing relation of length of the test (L) and width of the test (l) of *Carpistomiosphaera valanginiana* n. sp.

Description: The test is slightly oval, calcite, composed of two fibrous layers. In transmitted light it is yellow-brownish, sometimes colourless, in incident light it is grey-white, in polarized light calcite fibres extinct discontinuously. Thickness of the layers is variable, the inner layer is always thinner than the outer one, or they are of the same thickness. In axial sections (Fig. 2; Tab. 1, Figs. 1—6, Tab. 2, Figs. 1—2) an aperture reaching max. 1/2 of the test diameter can be observed on the inner layer. The inner layer reaches the maximum thickness in the central part, it tapers towards the aperture and becomes thin towards the aboral part. The outer layer has more constant

thickness, but it is only rarely evenly thick. Aperture was not seen in the outer layer. Boundary between the layers is not expressive. In transversal sections the test is almost spherical, the inner layer has more even thickness (Tab. 2, Figs. 3—6). Length of the test (L) varies from 40.5 to 61.2 μm , width of the test (l) varies from 39.5 to 60.6 μm , height of the camera ranges from 28.3 to 50.8 μm , width of the camera ranges from 27.7 to 42.7 μm , thickness of the inner

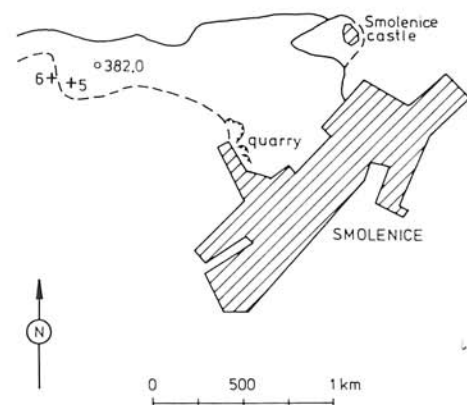
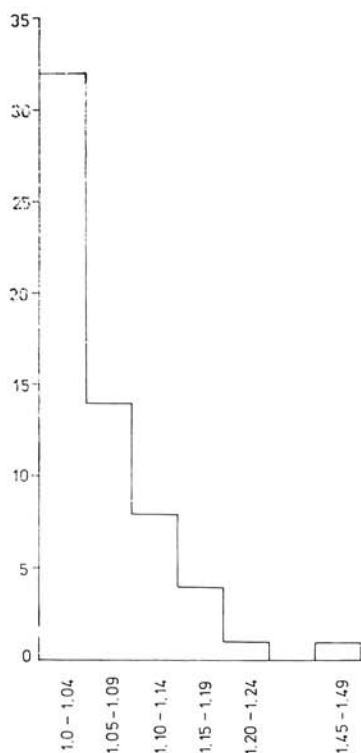


Fig. 5. More detailed map of occurrences in the localities 5 — ridge above Padl Voda and 6 — Hlbo.

Fig. 4. Diagram representing elongation (L/l) of *Carpistomiosphaera valanginiana* n. sp.

layer of the test (t_1) varies from 0 to 4.8 μm , thickness of the outer layer of the test (t_2) varies from 2.5 to 7 μm , thickness of the both layers ($t_1 + t_2$) ranges from 4.3 to 10.7 μm . Dimensions of the studied specimens, as well as of the holotype are given in Tab. 1. Relation of length (L) and width (l) is presented in Fig. 3. Elongation (L/l) varies from 1.0 to 1.24, only in one case it reaches the value of 1.47, what is caused by compression of the specimen (cf. Fig. 4).

In some cases the test may be disturbed owing to recrystallization (Tab. 3, Fig. 1), deformed by pressure (Tab. 3, Fig. 2). The tests are sometimes silicified. The inner layer is silicified most frequently. Various degree of silicification is seen in Tab. 3, Figs. 2—6.

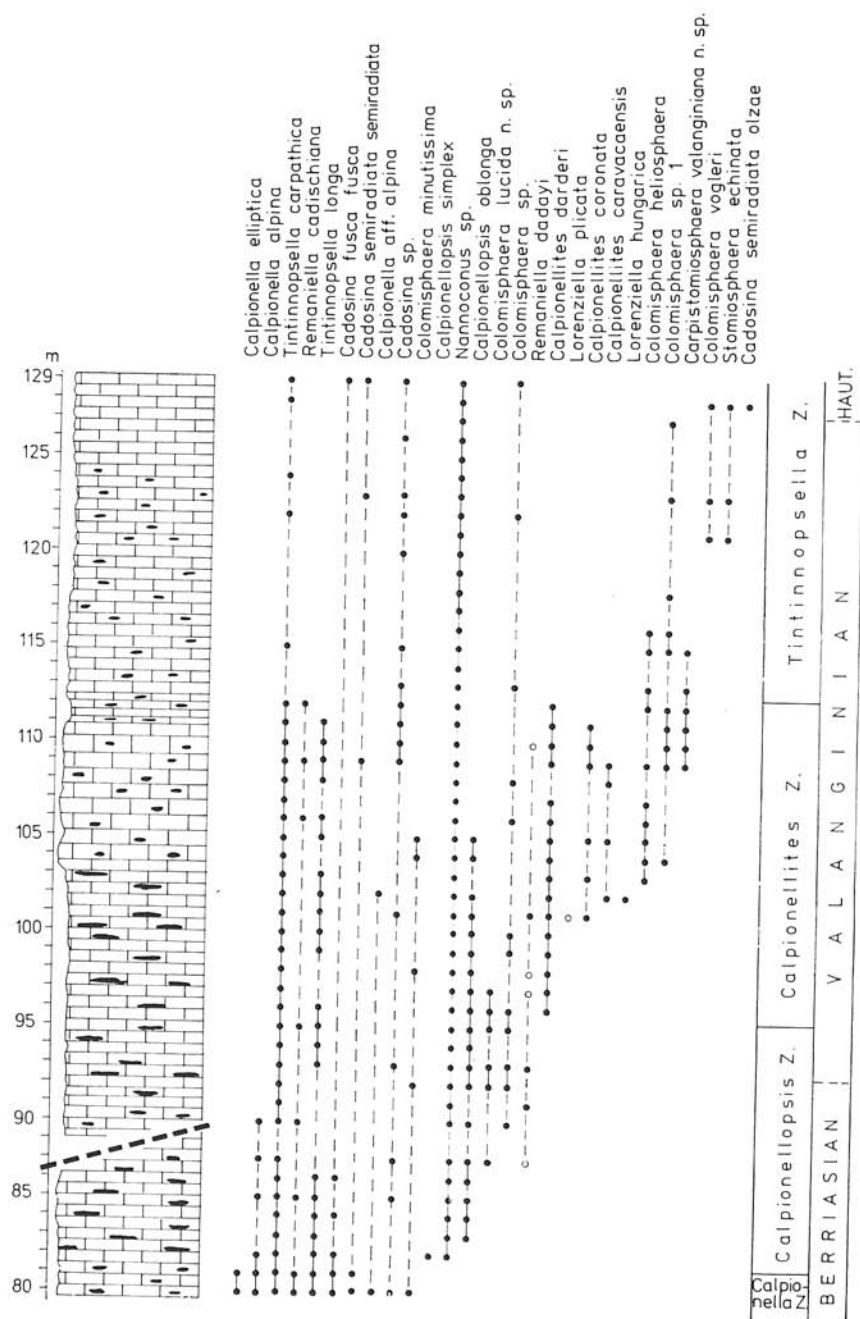


Fig. 6. Lithological profile through the ridge above the valley Padlá voda with microfossil associations.

Occurrence and association:

1. In the quarry Butkov, E of the village Ladce (Fig. 1, loc. 1), in the galleries Št-6 (124, 128, 128.4 m), Št-10 (104.5 m), Št-11 (139, 152.25, 152.4, 152.5 m), Št-12 (158 m), Št-13 (194 m), Št-14 (246, 248, 256, 258 m) in yellow-brownish to brown, slightly marly limestones. Limestones are micritic, they contain *Nannoconus* sp., *Calpionellites darderi* (COLOM), *Calpionellites coronata* TREJO,

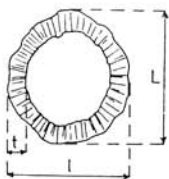
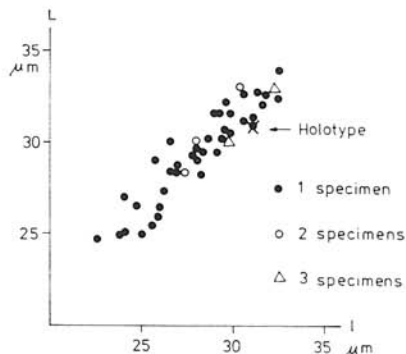


Fig. 7. Schematized shape of *Colomisphaera lucida* n. sp.

Fig. 8. Diagram representing relation of length of the test (L) and width of the test (l) of *Colomisphaera lucida* n. sp.



Calpionellites caravacaensis ALLEMAN, *Tintinnopsella carpathica* (MURG. et FILIP.), *Tintinnopsella longa* (COLOM), *Calpionellopsis oblonga* (CADISCH), *Lorenziella hungarica* KNAUER et NAGY, *Colomisphaera heliosphaera* (VOGLER), *Carpistomiosphaera valanginiana* n. sp., *Colomisphaera* sp., *Globochaete alpina* LOMBARD, *Patellina* sp., radiolarians and ostracods (*Calpionellites* zone — Valanginian).

Sporadic specimens of *Carpistomiosphaera valanginiana* n. sp. occur also in younger limestones — without calpionel association (Št-11 — 139 m). Most probably they are of the Upper Valanginian age.

2. W of the village Bošáca (Fig. 1, loc. 3) in brown spotted micritic limestones. Limestones contain *Nannoconus* sp., *Calpionellites coronata* TREJO, *Tintinnopsella carpathica* (MURG. et FILIP.), *Lorenziella hungarica* KNAUER et NAGY, *Carpistomiosphaera valanginiana* n. sp., *Colomisphaera* sp. and radiolarians (*Calpionellites* zone — Valanginian).

3. Ridge above the valley Padlá Voda, W of the village Smolenice (Fig. 1, loc. 5; Fig. 5, loc. 5). Grey and grey-brown micritic limestones with cherts occur in the profile through the ridge above Padlá Voda (Fig. 6). *Carpistomiosphaera valanginiana* n. sp. was established in the samples from 109 to 115 m in microfossil association given in the studied profile.

4. Grey stylolitic limestones with cherts occur in the valley Hlboč, W of Smolenice (Fig. 1, loc. 6; Fig. 5, loc. 6). Limestones contain *Nannoconus* sp., *Calpionellites darderi* (COLOM), *Tintinnopsella carpathica* (MURG. et FILIP.), *Stomiosphaera echinata* NOWAK, *Carpistomiosphaera valanginiana* n. sp., *Colomisphaera* sp., *Cadosina* sp., *Spirillina* sp., *Patellina* sp., radiolarians and ostracods (*Calpionellites* zone — Valanginian).

Table 2

Dimensions of the specimens of *Colomisphaera lucida* n. sp.

No.	L	l	t	L/l	No.	L	l	t	L/l
1	30.0	28.2	4.1—5.0	1.06	26	31.3	30.5	3.9—5.5	1.02
2	33.6	32.5	5.3—5.9	1.03	27	28.6	26.8	3.9—4.9	1.06
3	33.0	30.5	4.0—5.3	1.07	28	31.9	28.9	3.3—5.1	1.10
4	33.0	30.3	3.7—4.7	1.09	29	27.2	26.2	4.2—4.7	1.03
5	30.0	26.4	2.8—4.4	1.14	30	28.6	27.4	3.7—5.1	1.04
6	33.4	32.5	4.7—5.0	1.02	31	26.0	25.8	4.1—5.1	1.00
7	34.0	32.5	4.3—5.0	1.04	32	31.1	31.1	5.1—6.1	1.00
8	26.6	26.0	2.7—3.7	1.02	33	32.7	32.7	4.1—5.5	1.00
9	30.3	28.0	4.0—4.5	1.08	34	33.1	32.3	4.9—5.9	1.02
10	29.0	28.0	4.3—5.5	1.04	35	31.5	29.3	4.3—5.9	1.07
11	29.1	25.6	2.2—2.4	1.13	36	31.7	29.9	3.7—4.7	1.05
12	24.7	22.5	2.6—3.5	1.10	37	26.8	24.1	3.7—4.9	1.11
13	29.3	28.0	4.3—5.9	1.04	38	33.1	30.3	3.9—5.9	1.09
14	26.6	24.8	4.5—5.2	1.06	39	25.0	23.9	3.5—4.1	1.04
15	25.0	25.0	3.1—5.3	1.00	40	32.9	31.3	3.7—5.9	1.05
16	32.3	31.9	4.7—5.9	1.01	41	32.3	31.5	4.7—5.9	1.02
holotype					42	30.5	27.8	4.3—4.7	1.09
17	32.9	32.1	3.7—5.1	1.02	43	30.9	28.2	4.3—4.7	1.09
18	25.4	25.4	3.1—4.5	1.00	44	30.3	28.4	4.1—5.9	1.06
19	31.5	31.3	4.3—5.1	1.00	45	28.1	27.2	2.9—4.1	1.03
20	30.7	29.5	3.9—6.1	1.04	46	29.5	28.9	4.3—5.9	1.02
21	29.5	28.8	3.7—4.7	1.03	47	29.9	29.7	4.3—4.9	1.00
22	28.8	27.4	2.7—4.3	1.05	48	30.1	29.5	3.5—4.3	1.02
23	28.6	27.1	4.1—4.5	1.05	49	28.4	28.0	3.3—4.1	1.01
24	29.9	29.7	2.3—4.3	1.00	50	30.7	29.7	4.5—5.1	1.03
25	30.1	29.5	3.5—4.7	1.02					

5. On the hill Velká Biela Skala (Fig. 1, loc. 7), W of the town Rohožník, grey, slightly marly limestones contain *Nannoconus* sp., *Calpionellites darderi* (COLOM), *Tintinnopsela carpathica* (MURG. et FILIP.), *Tintinnopsela longa* (COLOM), *Carpistomiosphaera valanginiana* n. sp., *Colomisphaera* sp., radiolarians and ostracods (*Calpionellites* zone — Valanginian).

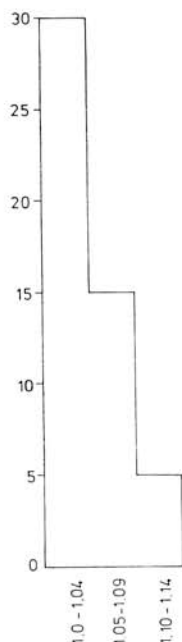


Fig. 9. Diagram representing elongation (L/l) of *Colomisphaera lucida* n. sp.

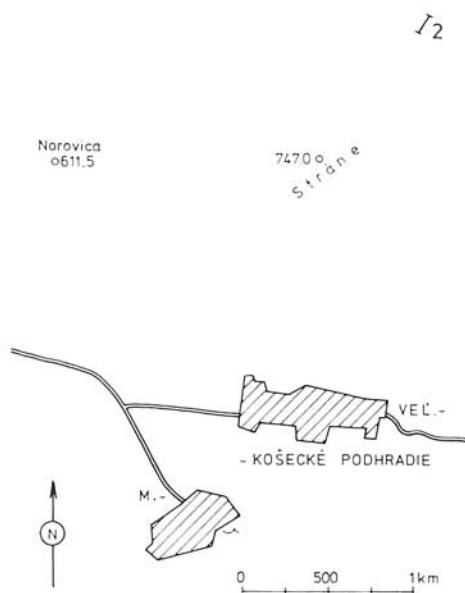


Fig. 10. More detailed map of occurrence in the locality of a ditch below the hill Stráne — 2.

Stratigraphic distribution: *Carpistomiosphaera valanginiana* n. sp. has been hitherto established only in the Valanginian limestones. Just in one case it was found in close overlying stratum above the association with calpionelles — most probably in the Upper Valanginian. More detailed stratigraphic position can be seen in the profile in Fig. 6.

Differentiation: Newly described species is very similar to the species *Carpistomiosphaera tithonica* NOWAK, from which it differs only by the fact that in *Carpistomiosphaera tithonica* NOWAK aperture on the inner side was not ascertained, the test is spherical, the inner layer has no varying thickness, and by its stratigraphic position. From *Carpistomiosphaera borzai* (NAGY) it differs expressively by structure of the test, and its both layers are markedly divided from each other.

Colomisphaera lucida n. sp.

(Fig. 7; Tab. 4, Figs. 1—12)

1969 *Cadosina* sp. 2 — K. Borza: Die Mikrofazies etc., p. 59, Tab. 60, Figs. 4—8.

Holotype: the species represented in Tab. 4, Fig. 1, thin section Jarok pod Stráne 8 is deposited in the collections of the Geological Institute of the Slovak Academy of Sciences, Bratislava.

Paratypes: Tab. 4, Figs. 2—12.

Derivatio nominis: lucida — lucid, after a lucid test.

Stratum typicum: light-grey, slightly marly limestones, the Upper Berriasian—the Lower Valanginian — *Calpionellopsis* zone.

Locus typicus: ditch below the hill Stráne.

Material: over 100 sections from thin sections.

Diagnosis: Monothalamous spherical to slightly oval microfossil with thin one-layered test of fibrous structure arranged radially.

Description: Spherical to slightly oval microfossil, test with one-layered wall composed of thin, short, radially arranged calcite crystals. In transversal section it has circular or slightly oval shape. In transmitted light the test is lucid, calcite, in incident light it is grey-white, in polarized light individual fibres have uneven extinction. In majority of cases surface of the test is smooth neither from the outer, nor from the inner side. Distinct aperture was not observed. Indistinct aperture can be observed in Tab. 4, Figs. 4, 11, it may be caused by secondary disturbance of the test. Core of the test is mostly composed of calcite monocystal or sparite aggregates. In oval shapes length of the test varies from 24.7 to 34.0 μm , width of the test varies from 22.5 to 32.6 μm , height of the camera ranges from 18.2 to 23.5 μm , width of the camera ranges from 16.0 to 22.6 μm , thickness of the test wall varies from 2.2 to 6.1 μm . Thickness of the test wall is uneven owing to

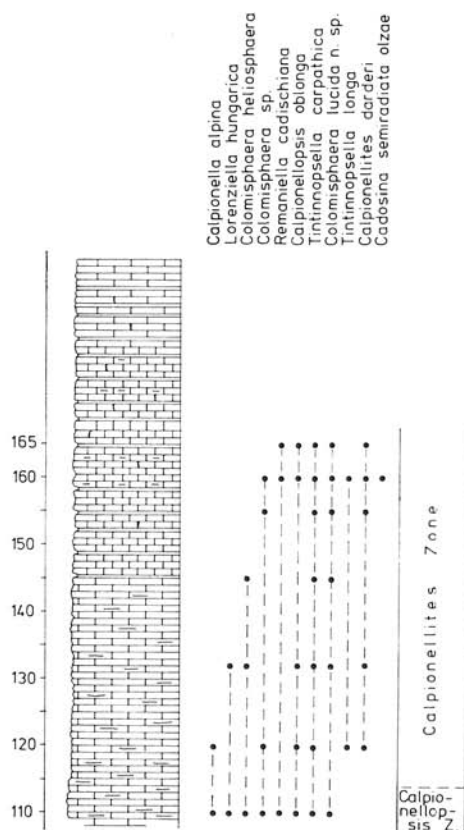


Fig. 11. Lithological profile of the locality of a ditch below the hill Stráne with microfossil associations.

corosion (Fig. 7). Dimension of the studied specimens, as well as of the holotype are given in Tab. 2. Relation of length (L) and width of the test (l) is presented in Fig. 8. Elongation (L/l) varies from 1.0 to 1.14, but overwhelming majority — from 1.0 to 1.04 (cf. Fig. 9).

Occurrence and association:

1. In the profile of a ditch below the hill Stráne (Fig. 1, loc. 2; Figs. 10, 11 — cf. also Borza et al., 1981) grey, slightly marly limestones, sporadically spotted with marls intercalations occur. Association of microfossils is presented in the profile in Fig. 11.

2. W of the village Bošáca (Fig. 1, loc. 3) *Nannoconus* sp., *Tintinnopsella carpathica* (MURG. et FILIP.), *Tintinnopsella longa* (COLOM), *Calpionellites darderi* (COLOM), *Lorenziella hungarica* KNAUER et NAGY and *Colomisphaera lucida* n. sp. (*Calpionellites* zone — Valanginian) occur in brown, slightly marly micritic limestones.

3. NW of the village Rudník (Fig. 1, loc. 4) the following species occur in pink micritic limestones:

a) *Nannoconus* sp., *Calpionellopsis oblonga* (CADISCH), *Lorenziella hungarica* KNAUER et NAGY, *Tintinnopsella carpathica* (MURG. et FILIP.), *Tintinnopsella longa* (COLOM), *Remaniella dadayi* (KNAUER), *Cadosina minuta* BORZA, *Colomisphaera lucida* n. sp., *Colomisphaera* sp. and radiolarians. *Calpionellopsis* zone is concerned (thin section No. Bo 2728).

b) *Nannoconus* sp., *Calpionellites darderi* (COLOM), *Calpionellopsis oblonga* (CADISCH), *Tintinnopsella carpathica* (MURG. et FILIP.), *Tintinnopsella longa* (COLOM), *Lorenziella hungarica* KNAUER et NAGY, *Cadosina fusca* WANNER, *Cadosina minuta* BORZA, *Colomisphaera lucida* n. sp., *Globochaete alpina*

Plate 1

Figs. 1—6. *Carpistomiosphaera valanginiana* n. sp.

Fig. 1. Holotype Figs. 1, 2, 5 — thin sections Št-11 152.40 B, Butkov; Fig. 3 — thin section 4/80 Bošáca; Fig. 4 — thin section Št-11 152.25, Butkov; Fig. 6 — thin section Št-10 104.5, Butkov. Magn. $\times 740$.

Plate 2

Figs. 1—6. *Carpistomiosphaera valanginiana* n. sp.

Figs. 1, 5 — thin sections Št-11 152.40 C, Butkov; Figs. 2, 6 — thin sections Št-11 152.40 A, Butkov; Figs. 3—4 — thin sections Št-11 152.25, Butkov. Magn. $\times 740$.

Plate 3

Figs. 1—6. *Carpistomiosphaera valanginiana* n. sp.

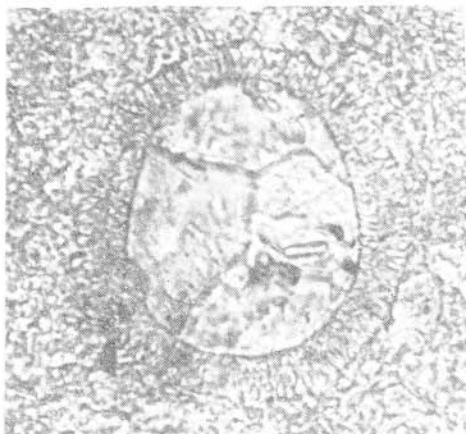
Fig. 1 — thin section Št-11 152.40 A, Butkov; Figs. 2, 3, 5 — thin sections Št-13 194, Butkov; Fig. 4 — thin section Št-6 142, Butkov; Fig. 6 — thin section Št-12 158, Butkov. Magn. $\times 740$.

Plate 4

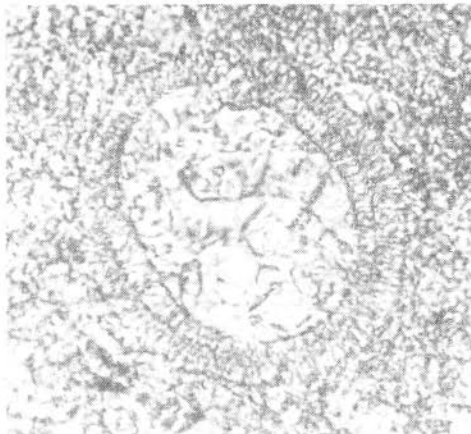
Figs. 1—12. *Colomisphaera lucida* n. sp.

Fig. 1. Holotype. Figs. 1—7 — thin section 8 — ditch below the hill Stráne; Figs. 8—12 — thin section 12 — ditch below the hill Stráne. Magn. $\times 740$.

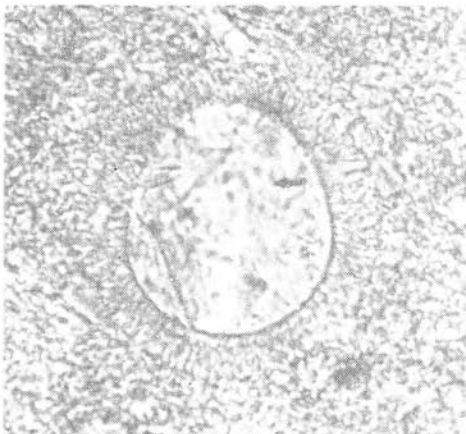
Plate 1



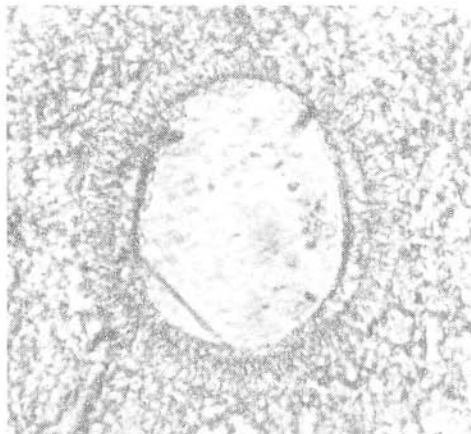
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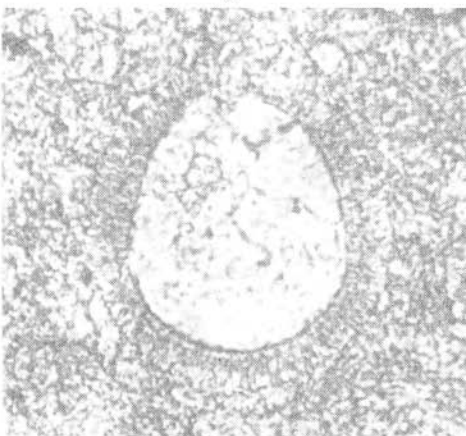
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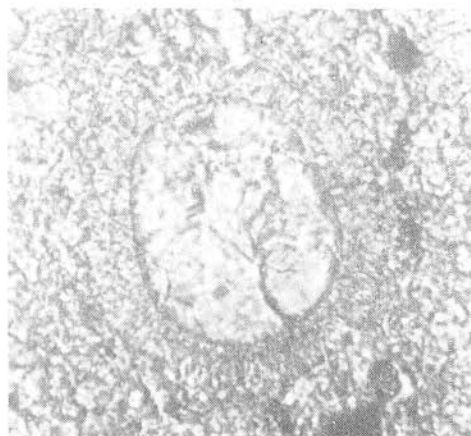
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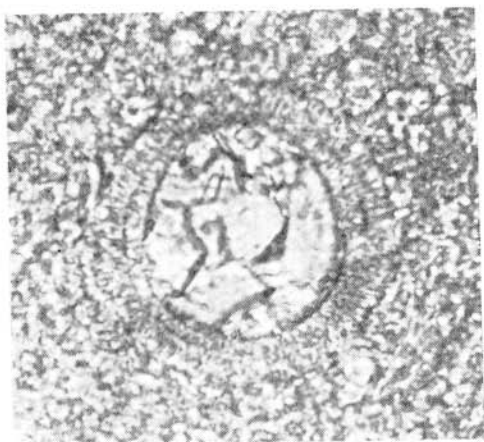
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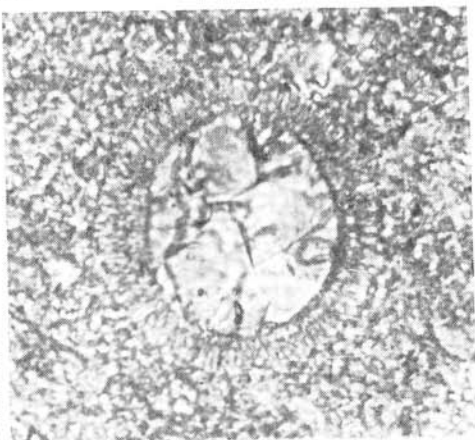
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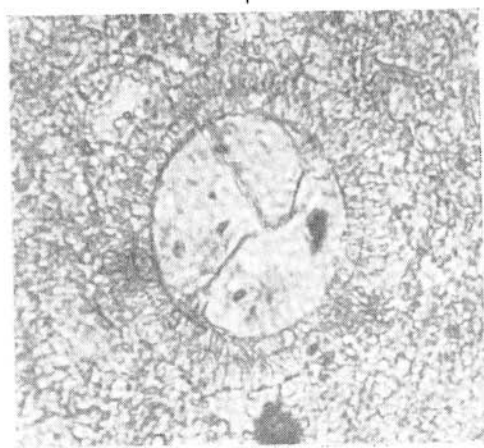
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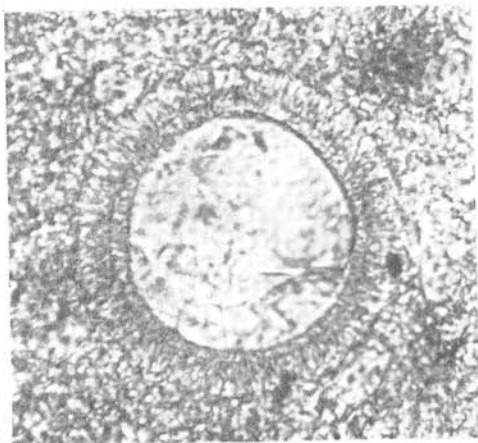
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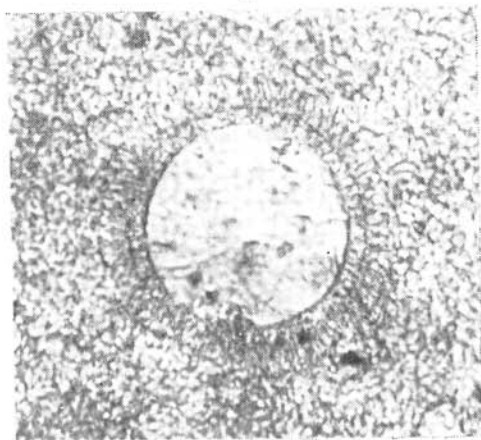
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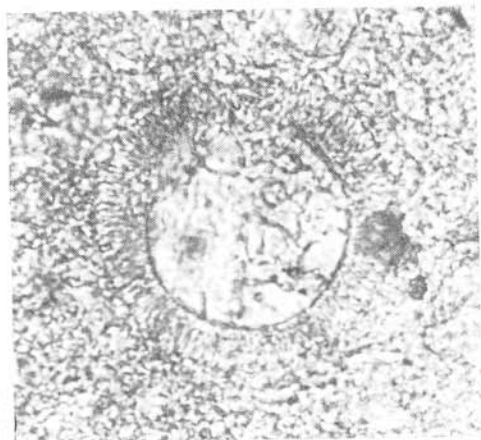
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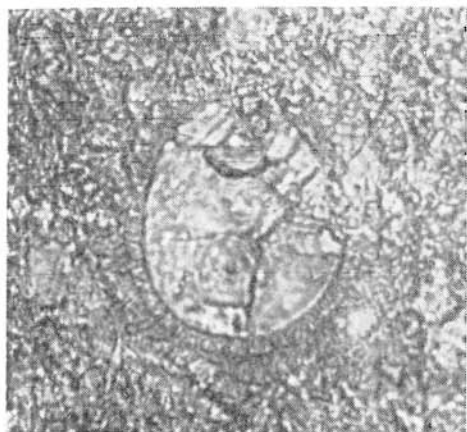


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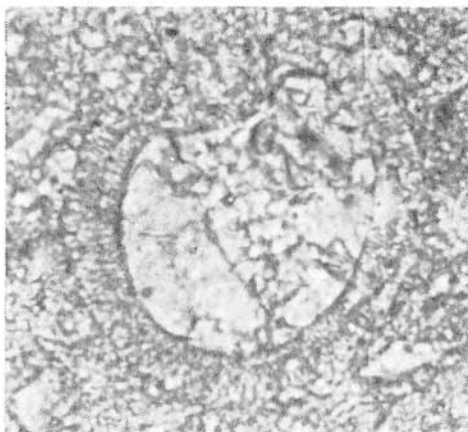


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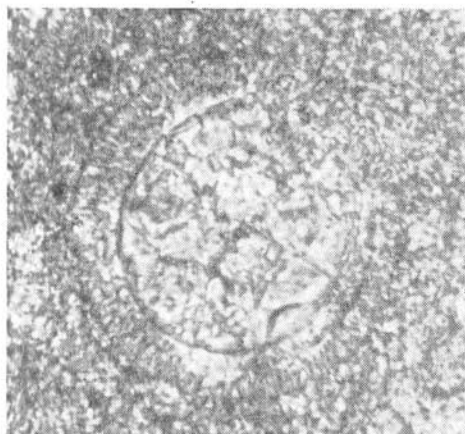
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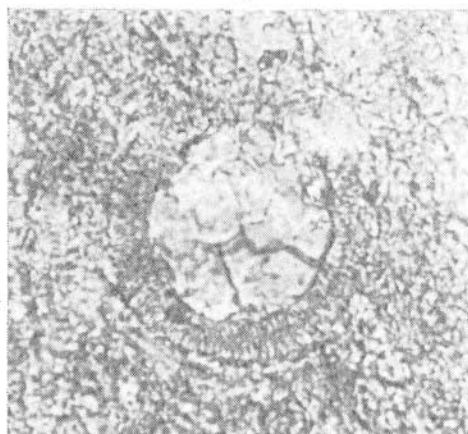
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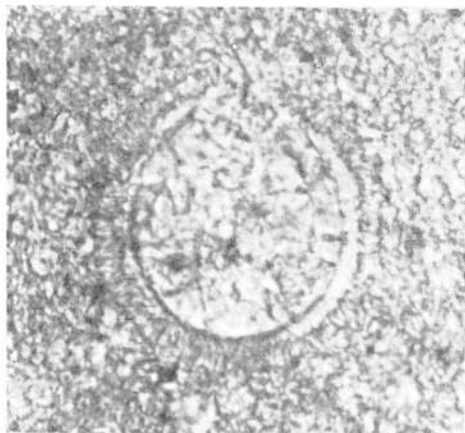
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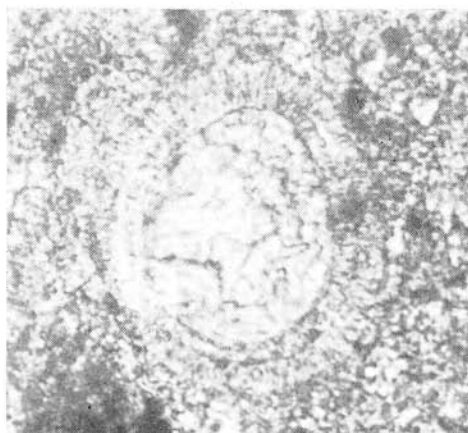
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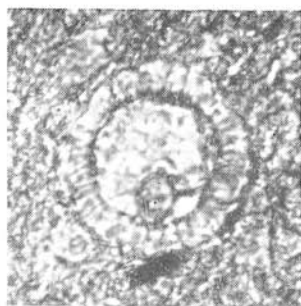
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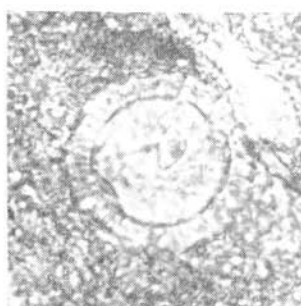
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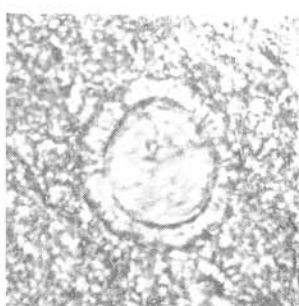
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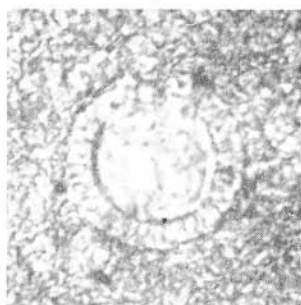
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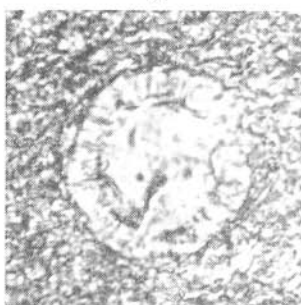
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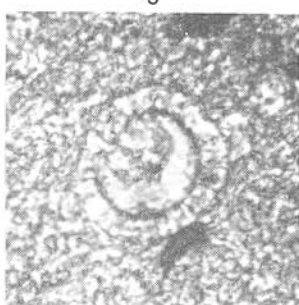
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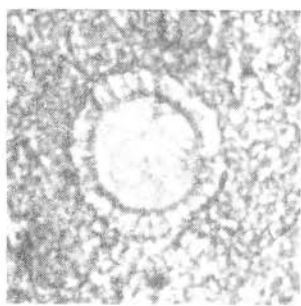
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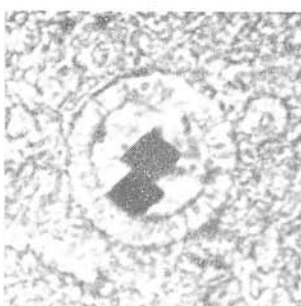
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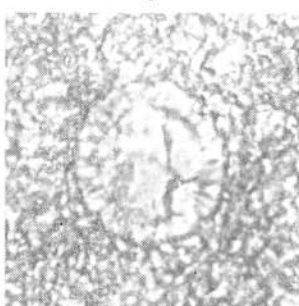
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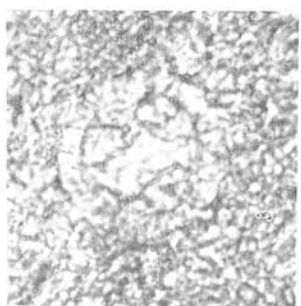
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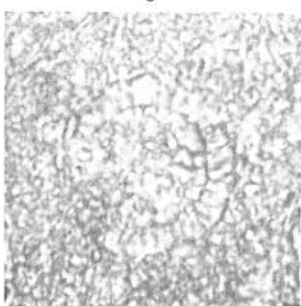
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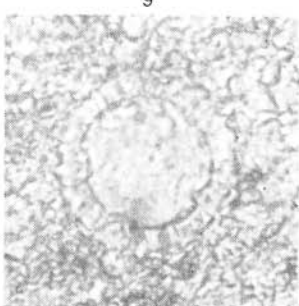
9



10



11



12

LOMBARD, *Colomisphaera* sp. and radiolarians (*Calpionellites* zone — thin section No. Bo 2729).

4. On the ridge above the valley Padlá Voda (Fig. 1, loc. 5; Fig. 5, loc. 5) grey micritic limestones with cherts occur. *Colomisphaera lucida* n. sp. was established here in the samples 87—97 m in association of microfossils, as they are presented in the profile in Fig. 6.

5. In the quarry Butkov, E of the village Ladce (Fig. 1, loc. 1), in the gallery St-1 (1 m) *Nannoconus* sp., *Colomisphaera vogleri* (BORZA), *Colomisphaera heliosphaera* (VOGLER), *Stomiosphaera wanneri* BORZA, *Cadosina* sp., *Stomiosphaera* sp., *Colomisphaera* sp., "*Hedbergella*" sp. and *Colomisphaera lucida* n. sp. occur in grey, slightly marly biomicritic nannocone limestones. Limestones are of the Barremian age.

6. In the 1th bench in the quarry Butkov, *Nannoconus* sp., "*Hedbergella*" sp., *Patellina* sp., *Cadosina fusca fusca* WANNER, *Cadosina* sp., *Stomiosphaera* sp. and *Colomisphaera lucida* n. sp. occur in dark-grey solid micritic Aptian limestones.

Besides this, *Colomisphaera lucida* n. sp. was established in the Aptian limestones of the envelope unit on the hill Bralo near the village Lučivná (cf. Polák—Bujnovský, 1979) and in the Aptian limestones on the hill Kavča, E of the village Záskanie.

Stratigraphic distribution: *Colomisphaera lucida* n. sp. has been hitherto established in the Upper Berriasian, Valanginian, Barremian and Aptian.

Differentiation: *Colomisphaera lucida* n. sp. is by its shape and size very similar to *Stomiosphaera molluccana* WANNER, from which it differs by structure of the test, in polarized light it has no axial cross, and by its stratigraphic position. From *Stomiosphaera wanneri* BORZA it differs by structure of the test.

Conclusion

Microfossils *Carpistomiosphaera valanginiana* n. sp. and *Colomisphaera lucida* n. sp. are ranged to incertae sedis. They occur in pelagic sediments with planktonic microfossils, and therefore, we presuppose that they are planktonic. *Colomisphaera lucida* n. sp. has been hitherto established in the Upper Berriasian, Valanginian, Barremian and Aptian, and *Carpistomiosphaera valanginiana* n. sp. was found only in the Valanginian sediments.

Translated by O. Mišániová

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