

New and Interesting Foraminifera Species

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Z. Schrétér gave me, in 1951, a MS fragment of Franzenau, for an eventual rewriting and subsequent publication. During its thorough perusal, I have found some notes, descriptions, and also figures of new species without the concurrent descriptions, all of which deserve publication with certain completing notes and modern criticism. By the way, as is to be seen from a memo attached to the MS, Z. Schrétér, as early as in the May of 1926, has called the attention of the Directorate of the National Geological Institute to the insufficiencies of the papers (scanty descriptions, wanting figures) published as short excerpts, indeed, as nothing very much more than faunistic lists, of the material in his possession originating from Romhány, Markusevec and Zsupane (near Zagreb). On the basis of his justified reasons, he begs the Directorate to supply the deficiencies with newer and a more detailed exposition, but this had inexplicably failed to come about. We aim to mend this failure at the occasion of the centenary of Franzenau's birth.

With a renewed perusal of the MS, that is, notes, — which, by the way, I have forwarded to the Department of Natural History Documentation of the Natural History Museum — I found in them, besides the faunas mentioned above, the faunistic lists together with the sketchy description of some species of the Hartel hill in Kismarton (Austria) and Szob (Hungary). So, for instance, one may find the description and the relevant figure in one case, and the figure of the new species in some other cases. I may remark in passing that the species published now will be discussed according to the modern, and eventually recent, systematical order.

The Types of the material under discussion are in the Paleontological Collection of the Hungarian Natural History Museum.

Markusevec

Franzenau [1] gives only the list of the secondarily situated Markusevec fauna nor does he give the figures of all of his new species in a less known paper (which contains however, two Plates) published in Zagreb [2]. Let us note that the figures of the two plates had been drawn by somebody else, since their composition is far behind the well-knowns, true and artistical figures of Franzenau. On the other hand, I had at my disposal, besides the Hungarian text, the original drawings of the author, save that those of the *Uvigerina* species had been missing.

Otherwise, in the cemented Markusevec sand, which, on the basis of its Molluska fauna originates from the Lower Pannonian, the Foraminifera are, as I have already observed, secondary and have landed from the adjacent Middle Miocene layers into the younger littoral deposits.

Glandulina hantkeni Franzenau (Plate I, fig. 18)

1875. *Glandulina laevigata* D'Orbigny, — Hantken, Földt. Int. Évk. IV. p. 34. Plate IV, fig. 7.
1894. *Glandulina Hantkeni* Franzenau, — Franzenau, Földt. Közl. XXIV. p. 25.
1894. *Glandulina Hantkeni* Franzenau, — Franzenau, Glasnika hrvat. naravoslov. drustva, VI. p. 10.

The figure of *Hantken* of the exceedingly variable specimens relegated to *G. laevigata* D'Orbigny of the Rupelian differs from the type, and on the same grounds of differences did *Franzenau* describe the species never figured as yet.

The test consists of three or four well demarcated chambers, all of which are almost twice as high as the one beneath. The upper third of the test is the broadest, narrowing toward the initial chamber, where it ends in a convex base. Its upper end is slightly protruding, with the radial aperture. The lower portion is supplied by a very short central spine.

It rarely attains a height of 1 mm. Not rare.

By its stocky shape it is well distinguishable from *G. laevigata*, and is in close relationship with *G. hosiusi*.

Not rare in the Rupelian strata of Buda, and the Tortonian layers of Markusevec.

Glandulina hosiusi Franzenau (Plate I, fig. 19)

1892. *Glandulina laevigata* D'Orbigny, — Hosius, Verhandl. naturhist. Ver. preuss. Rheinlande, 49. Jahrg. p. 154. Plate II. fig. 1.

1894. *Glandulina Hosiusii* (sic!) Franzenau, — Franzenau, Glasnika, etc. VI. p. 10.

1894. *Glandulina Hosiusi* Franzenau, — Franzenau, Földt. Köz. XXIV. p. 25.

The test is broadest on its upper third, ending in a blunt tip at the radial aperture, suddenly narrowing toward the older chambers, on which there is a small spine posteriorly. The youngest chamber is higher than the total height of the 3—4 older chambers together. The chamber sutures are linear.

Its height is 0,6—0,8 mm; not rare.

Hosius discusses the specimens conforming with the Markusevec specimens from the Miocene of Dindgen, considering them to be *G. laevigata*. It differs from it, however, by the shape of the form and the lack of the spine. It stands nearer to *G. hantkeni* Franzenau, from which it differs by the sizes and position of the chambers, too.

Glandulina schlichti Franzenau (Plate I, fig. 20)

1870. No. 82. Schlicht, Die Foraminiferen des Septarienthones von Pietzpuhl, p. 16. Plate VI. fig. 3.

1870. *Glandulina laevigata* D'Orbigny var. *inflata* Born.-Reuss, Sitzungsber. Akad. Wiss. Wien, LXII, p. 477.

The test conforms with the specimen figured and discussed by *Schlicht* from the Rupelian Septarian clay of Pietzpuhl, and which was identified by *Reuss* as *G. laevigata* var. *inflata*. Of this, however, it differs by the rounded and spherical closing of the older portion, and this part of the test has a blunt conical shape in the case of var. *inflata*, with also the spine lacking on the initial chamber.

Its height is 0,8—0,9 mm. Rare in the Tortonian of Markusevic.

Siphonodosaria scharbergana (Neugeboren) (Plate I, fig. 23)

1856. *Dentalina Scharbergana* Neugeboren, — Neugeboren, Denkschr. Akad. Wiss. Wien Bd. 12, p. 87. Taf. IV. Fig. 1—4.
 1894. *Nodosaria binominata* Franzenau, — Franzenau, Földt. Közl. XXIV, p. 25.
 1894. *Nodosaria binominata* Franzenau, — Franzenau, Glasnika, etc. VI. p. 16.
 1894. *Nodosaria pseudo-Scharbergana* Franzenau, — Franzenau, Földt. Közl. XXIV. p. 25.
 1894. *Nodosaria pseudo-Scharbergana* Franzenau, — Franzenau, Glasnika, etc. VI. p. 17.

The species *Nodosaria binominata* and *N. pseudo-Scharbergana* from Markusevec are identical with the Tortonian form *Siphonodosaria scharbergana* (Neugeboren) from Felsőlapugy.

Uvigerina venusta Franzenau (Plate I, figs. 36, 37)

1894. *Uvigerina venusta* Franzenau, — Franzenau, Glasnika, etc. VI. p. 36. Plate VI. solum 60. a, b.
 1953. *Uvigerina venusta venusta* Franzenau, — Papp és Turnovsky, Jahrb. Geol. Bundesanst. Wien, XCVI. p. 125. Tab. V. figs. 8, 13.

The test is elongated, margins almost parallel, somewhat compressed. Chambers strongly grooved, the spiral composition of the test is well observable by the spiral position of the chambers. The number of whorls are 5—6. The last chamber is but ribbed to half its length, and the aperture here is a small tube.

Franzenau mentioned also the strongly compressed specimens of *U. venusta*, — they belong, as will be seen, to another genus (*Hopkinsina*).

Its length varies between 1—2 mm. Locality: Markusevec. Rare in the lower and upper sandy-tested Tortonian levels and the bulimina — bolivina levels of boring No. 1. of Aderklaa, in the Viennese Basin (at 1420—1617 m).

Hopkinsina franzenau Majzon (Plate I, figs. 34, 35)

1894. *Uvigerina venusta* Franzenau, — Franzenau, Földt. Közl. XXIV. p. 26.
 1894. *Uvigerina venusta* Franzenau, — Franzenau, Glasnika, etc. VI. p. 36. VI. solum! 61. a, b.

The test is slender, laterally rather flat. The chambers are situated in two lines, very finely ribbed; the number of chambers are 17—18. The tubous aperture is on the last chamber. Papp and Turnovsky relegated it as a synonym to *U. venusta liensingensis* Toulou. This is not right, owing to the strong, rare and lamellatiform ribbing of the latter form. On the other hand, it stands near the *U. compressa* of Cushman, that is, *U. szakalensis* Majzon, and may be identical with these. Franzenau considered them to be strongly compressed specimens of his *venusta*, of which *Hopkinsina* can very well be distinguished. Unfortunately, for just this cause he did not describe it detailedly, nor is the figure his own, and so its identity with the forms *U. compressa* or *U. szakalensis* cannot be stated unreservedly, or they should be synonyms.

Its length is about 1 mm.

Candorbulina universa Jedlitschka (Plate I, figs. 39—42)**Candorbulina biloba** Jedlitschka (Plate I, fig. 43)

1894. *Orbulina universa* D'Orbigny, — Franzenau, Földt. Közl. XXIV. p. 26.
 1894. *Orbulina universa* D'Orbigny, — Franzenau, Glasnika, etc. VI. p. 37.

1934. *Candorbulina universon* Jedlitschka, — Jedlitschka, Verhandl. Nat. Ver. Brünn, Jahrg. 65, p. 21. Text figs. 1—7.
 1934. *Candorbulina biloba* Jedlitschka, — Jedlitschka, Ibid. Jahrg. 65, p. 20. Text figures.
 1956. *Candorbulina universon* Jedlitschka, — Majzon, Földt. Köz. LXXXVI. p. VIII. Táb. fig. 2.

The most frequent species in the Markusevec layer. The spheroidal test is densely perforated, the apertures are larger pore-like holes, delimiting slightly protruding portions from the surface of the test. The protruding parts do not alter the globelike form but if they are bigger, the test takes on a pear-like shape, that is, the younger chamber does not cover the older one in the usual degree, — this is Brady's so-called „supplementary chamber” — but the two chambers may have identical or almost equal diameters and in this case it is the form *C. biloba*, to be found also in Markusevec. The apertures are observable not only on the protrusions — which are really the chamber walls or sutures — but irregularly also on other parts of the test. It occurs in rare and lucky cases that, within the broken, globular and youngest chamber, chambers of the older globigerina composition (mostly similar to the shape of *G. triloba*) may, as if imbedded, be observed, on which the *Globigerina*-like aperture is invisible. (A similar phenomenon has been observed in the case of *Orbulina universon*.)

The *Candorbulina* are very frequent in the Tortonian deposits of the Carpathian's Basin, from Dés, Iza-völgye to Vát in the western Transdanubium. It may often be found in masses in the deposits of this age both on surface as in deep borings.

Zsupanek

Zsupanek lies north to Orsova, in the Tortonian calcareous clay of which (coming to the surface to the West of this locality) a *Bulimina* sp. n. had been found (3). This species was discussed by Franzenau in his note.

Bulimina scalena Franzenau (Plate I, figs. 10, 11)

1894. *Bulimina* n. sp. — Franzenau, Természetrzji Füz. XVII. p. 40.

The test is the broadest at its lower third, its lower portion blunt-tipped, the upper one bent in an arch. The coils are made by elongated chambers, of which the last makes up threefourth of the test. The sutural lines run in small furrows. The slit-like aperture is at right angles to the upper edge of the last but one chamber.

Its length is 0,5 mm. Rare.

A similar form is *Bulimina preoli* Reuss var. *pyrula* D'Orbigny, figured by Parker and Jones in 1865.

Romhány

Franzenau discusses the fauna — but does not publish the figures of the new species (4) — originating from the Rupelian clay marge from 8 m depth of the municipal well of Romhány.

Robulus anceps (Franzenau) (Plate I, figs. 29, 30)

1892. *Cristellaria anceps* Franzenau, — Franzenau, Természetráji Fü. XV. p. 110.

The rather inflated test of the one specimen is tapering at its upper end, its outline at the older portion rounded. Umbilical disc wanting, but the chamber walls fail to run to the middle of the test. The tapering last chamber is laterally compressed, and here the slit-like radial aperture lies.

Diameter: 1 mm.

It is just possible that, on the ground of the examination of more material, it could be a synonym of *R. subangulatus*.

Nodosaria contorta Franzenau (Plate I, figs. 27, 28)

1892. *Nodosaria contorta* Franzenau, — Franzenau, Természetráji Fü. XV. p. 109.

The test consisting of 4 chambers is straight. The oldest chamber is spherical, and the youngest, long, oval chambers are somewhat broader than the equally long chamber between them. Eight, slightly contorted ribs transsect the four chambers, almost parallel to the longitudinal axis of the test. The aperture lying in the longitudinal axis is a rounded hole. The end of the initial chamber is spinose.

The length of one specimen is 1 mm.

Bulimina parvula Franzenau (Plate I, figs. 44—46)

1892. *Bulimina parvula* Franzenau, — Franzenau, Természetráji Fü. XV. p. 108.

The test is, as shown by its name, relatively tiny, of a converted cone, ending above obliquely abscised, below in a blunt tip. The breadth of the four whorls is increasing, with three inflated chambers visible, separated by deeper furrows and situated in vertical rows. The lengthy, somewhat bent aperture is surrounded by a margin, running slightly obliquely on the inner edge of the last chamber.

Its length: 0,25 mm.

Reusella triquetra (Franzenau) (Plate I, figs. 31—33)

1892. *Bulimina triquetra* Franzenau, — Franzenau, Természetráji Fü. XV. p. 108.

The test is a trihedral prism, tapering on its lower end and gently narrowing on its upper end. The edges of the prism are demarcated by a narrow marginal rim, the lateral sides are slightly concave, the chambers are situated tritaxially, in three rows. The youngest chamber wholly covers the upper end of the test, the aperture here is an elongated slit, situated somewhat vertically to the last but one chamber. The chamber sutures are simple lines, well distinguishable on the younger part of the test, since they run in narrow furrows. They are, however, obsolete on the older lowest third. The shell is finely perforated.

Its length is 0,3 mm.

A similar form has been described by *S t a c h e* from the material collected in the Miocene marl in the port of Whaingarao by the Novara Expedition, naming it *Bulimina arcuata*. In this form, the rows of the chambers related to one another are of a different size.

***Cibicides romhányensis* (Franzenau) (Plate I, figs. 15—17)**

1892. *Pulvinulina Romhányensis* Franzenau, — Franzenau, Természetrázi Füzet. XV. p. 112

The test is rounded, its spiral area slightly vaulted, the umbilical area flatly conical, with an encircling ledgy margin on its rim. On the spiral area, only the last coil is visible, and the convex poreless, umbilical disc lies in the middle of the umbilical area. The last coil consists of 12 chambers of which the older ones are hardly observable.

Its diameter is 0,3 mm.

Kemence

Franzenau's note from 9. May, 1908, enumerates the following Tortonian fauna from Kemence:

<i>Textularia</i> sp.	<i>Amphistegina hauerina</i> D'Orbigny
<i>Triloculina consobrina</i> D'Orbigny	<i>Cibicides lobatulus</i> (Walker & Jakob)
<i>Lagena</i> sp.	<i>Cibicides dutemplei</i> (D'Orbigny)
<i>Nonion commune</i> (D'Orbigny)	<i>Elphidium crispum</i> (L.)
<i>Reusella spinulosa</i> (Reuss)	<i>Elphidium antonium</i> (D'Orbigny)
<i>Gyroidina girardana</i> (D'Orbigny)	<i>Elphidium macellum</i> (Fichtel & Moll)
<i>Discorbis planorbis</i> D'Orbigny	<i>Elphidium aculeatum</i> (D'Orbigny)
<i>Globigerina bulloides</i> D'Orbigny	<i>Rotalia calcar</i> (D'Orbigny)
<i>Globigerina triloba</i> Reuss	<i>Cymbaloporeta</i> sp.

Of the species of the fauna, the *Lagena* and *Cymbaloporeta* (*Cymbalopora*, according to Franzenau) forms are also figured which seems to indicate that he planned to discuss them more detailedly.

***Lagena pseudoacuticosta* Franzenau & Majzon (Plate I, fig. 24)**

The test, in the direction of its height, is a slightly flattened ribbed sphere, ending in an elongated tube on its upper portion. In its end the circular slit opens. The tube is the fusion of the meeting of the nine ribs running parallel to the margin, and then the appendage protruding from the surface of the test. In the center of the lower portion of the test, there is, similarly to the tube, a hemispherical, rather rarely developed knob (in the case of *Lagena* species), at the point of the meeting of the ribs.

Its height is 0,5 mm.

It is similar to *L. acuticosta*, described by Reuss from the tuffaceous chalk of Maastricht. It differs from this form by the length of the tube, the compressed shape of the test, and the hemispherical knob.

Cymbaloporetta tortonica Franzenau & Majzon (Plate I, figs. 4–6)

The periphery of the test is an irregularly lobed circle, its upper, spiral area, a broad flat cone, its umbilical area slightly recessing toward the centre, with the irregularly situated convex chambers of different sizes and shapes on this side. There is a sparse perforation to be found on one of the chambers. The separation of the chambers cannot be observed on the spiral area, the surface of the test being covered here by small knobs, larger and denser towards the middle of the test than toward the margin where there is a smooth encircling zone.

Diameter : 2 mm.

S z o b

The three new species from Szob, of the date 30 October 1908, are also from the Tortonian.

Gaudryina kerékhegyensis Franzenau (Plate I, fig. 38)

The test is finely agglutinated, proportionately narrowing in its lower part, whilst the upper, younger one is elliptical. The chambers are situated in two alternating lines. Its aperture is a circular hole on the last chamber, almost contacting the one beneath it.

Its length is 0,5 mm.

Fissurina szobensis Franzenau (Plate I, figs. 21–22)

The test is circular, laterally compressed, the protruding median portions are surrounded on both sides by a very narrow circular ring, on the outside of which there is a broad, circular margin. The surface of the test is smooth. The aperture is a rather broad terminal slit.

Diameter : 0,25 mm.

The test resembles the form *F. marginata* Williamson, reported by Terquem from the vicinity of Paris (Mém. Soc. Geol. France, 3, Tom. II. p. 30. Tab. I. fig. 20–22.), but *F. szobensis* is distinguishable from it.

Discorbis kerékhegyensis Franzenau (Plate I, figs. 12–14)

The test is mildly lobed, circular, finely perforated. Its spiral side a flat cone, its umbilical area weakly concave. There are five lobes on its periphery, agreeing to the number of chambers on the last coil. The chambers of the last coil on the umbilical area are formed and situated so that they make a flat, hexactinal star. The chamber walls spread in rather retroflexing arches on the spiral area. The fine, slitted aperture opens from the edge of the test in the inner part of the last chamber on the umbilical area.

Diameter : 0,2 mm.

Because of the stellar pattern on the umbilical area of the test, it is somewhat resembling *Asterigerina planorbis* D'Orbigny, but it is easily distinguished by the form of the star, the shape of the chambers, the number of whorls and the cross section too.

Kismarton

There is a mention made in literature of the Tortonian quartz sand of the Hartel hill north to Kismarton in Burgenland, with its frequent species *Terebratula macrescens* Dreg. (formerly *T. grandis* Blum., or *T. ampulla* Lam.) (5). On the basis of the collections and notes of Franzenau, we will discuss its Foraminifera below. The enumeration of the species in the note is complete, but only the figures of the new species found in this locality had survived. I wish now to supply the descriptions too. Franzenau remarks that he examined „a considerable quantity” of the rather coarse sand, in which the Foraminifera specimens were mostly damaged or covered by a calcareous layer, rendering their study difficult.

The fauna consisting of 54 species is the following :

- | | |
|--------------------------------------------------------------------|------------------------------------------------------------------|
| <i>Textularia deperdita</i> D'Orbigny | <i>Globigerina dutertrei</i> D'Orbigny |
| <i>Textularia subangulata</i> D'Orbigny | <i>Discorbina planorbis</i> D'Orbigny (frequent) |
| <i>Textularia abbreviata</i> D'Orbigny | <i>Discorbina valvulata</i> (D'Orbigny) |
| <i>Textularia bronniana</i> D'Orbigny | <i>Discorbina papillata</i> Karrer |
| <i>Textularia turris</i> D'Orbigny | <i>Discorbina</i> cf. <i>platyomphala</i> Rss. |
| <i>Textularia agglutinans</i> D'Orb. var. <i>porrecta</i>
Brady | <i>Discorbina</i> cf. <i>patella</i> Rss. |
| <i>Quinqueloculina</i> cf. <i>triangularis</i> D'Orbigny | <i>Discorbina</i> cf. <i>trochus</i> Münster |
| <i>Bolivina costata</i> D'Orbigny | <i>Cibicides lobatulus</i> (Walk. & Jac.) (frequent) |
| <i>Bolivina</i> sp. | <i>Cibicides kismartonensis</i> sp. n. (rare) |
| <i>Cassidulina laevigata</i> D'Orbigny | <i>Cibicides dutemplei</i> (D'Orbigny) (frequent) |
| <i>Cassidulina oblonga</i> Reuss (frequent) | <i>Cibicides dutemplei</i> var. <i>conoidea</i> Czjz. (frequent) |
| <i>Ehrenbergina serrata</i> Reuss | <i>Cibicides dutemplei</i> var. <i>brückneri</i> Rss. (frequent) |
| <i>Lagena marginata</i> Walker & Boys | <i>Gyroidina girardana</i> Rss. |
| <i>Lagena filicosta</i> Reuss | <i>Anomalina austriaca</i> D'Orbigny (frequent) |
| <i>Nodosaria</i> sp. | <i>Cymbaloporeta verrucosa</i> sp. n. |
| <i>Robulus vortex</i> Fichtel & Moll (frequent) | <i>Pulvinulina (Cancris) repanda</i> Fichtel & Moll |
| <i>Robulus austriacus</i> D'Orbigny | <i>Mississippina concentrica</i> (Parker & Jones) |
| <i>Robulus limbatus</i> Bornemann | <i>Pulvinulina (Cancris) boueana</i> D'Orbigny |
| <i>Robulus josephinus</i> D'Orbigny | <i>Rotalia calcar</i> (D'Orbigny) (frequent) |
| <i>Robulus</i> cf. <i>excisus</i> Bornemann | <i>Rotalia laciniata</i> sp. n. (rare) |
| <i>Guttulina problema</i> D'Orb. var. <i>delloidea</i> Rss. | <i>Nonion perforatum</i> (D'Orbigny) |
| <i>Guttulina aequalis</i> D'Orbigny | <i>Nonion pompiloides</i> (Fichtel & Moll) (frequent) |
| <i>Guttulina deplanata</i> Reuss | <i>Elphidium crispum</i> (Linné) |
| <i>Guttulina</i> cf. <i>angusta</i> Egger | <i>Elphidium macellum</i> (Fichtel & Moll) |
| <i>Guttulina</i> cf. <i>praelonga</i> Egger | <i>Elphidium fichtelianum</i> (D'Orbigny) |
| <i>Globigerina bulloides</i> D'Orbigny (frequent) | <i>Amphistegina haueriana</i> D'Orbigny |
| <i>Globigerina triloba</i> Reuss | |
| <i>Globigerina dubia</i> Egger | |

Of the 54 species, three proved to be new, according to Franzenau, the description of which I can give below, based on the figures.

Cibicides kismartonensis Franzenau (Plate I, figs. 7—9)

The test is round, weakly lobed and with a sharp margin. It is a compressed, flat form, the umbilical area convex. The umbilical area is higher than the spiral one, flattening towards the margin, owing to the broad rim. Because of the obliteration of the chamber walls and their inner, complicated and linear suture, only about the half of the last whorl of the spiral area can be separated. The slit-like aperture lies on the inner border of the whorl of the last chamber, and its outer margin is slightly swollen. The test is finely perforated, resembling somewhat *Cibicides licidus* (Reuss).

Its diameter is about 1 mm, or larger. Rare.

Gyroidina laciniata Franzenau (Plate I, figs. 46—48)

The margin of the test is wholly circular, laterally almost hemispheroidal. The eight chambers of the last coil on the spiral area are well observable, this side is completely flat and only the last chamber is mildly protruding. On the umbilical area, the older chambers end toward the central part forming a relatively large umbilical depression which (the umbilicus proper) is covered by the procession resembling a thin lamel, produced by the overlap beyond the incurve of the youngest three chambers though they retain the inbending form of the former chambers. This feature will, among others, distinguish it well from the nearly related forms of *G. soldanii* and *G. girardana*.

Its diameter is 0,15—0,2 mm.

Cymbaloporetta hungarica (Vadász) (Plate I, figs. 1—2)

1912. *Cymbalopora hungarica* Vadász, — Vadász, Balaton tud. tanulm. eredményei, Pal. Vol. I. Part. I. p. 29., Plate II. figs. 2.2, b, c. and text fig. 20.

F r a n z e n a u mentions it under the name *Cymbalopora verrucosa* sp. n. in his faunistical list, and I have found his figures without the description of the species in his notes.

The test is circular, the larger chambers building five lobes. The spiral area is a very flat cone, its central part being very densely covered by the characteristical knobs; they are rarer on the chamber portion along the margin. The chambers are smooth on the umbilical area, and there are only rare, large pores on the several chambers. The sizes and shapes of the chambers vary; quite small and thin chambers lie among the five big, lobulate chambers. The number of chambers is 10.

Its length is 2 mm. Rare.

Its near relation is *C. granulosa* (Karrer) which has a regular form, and *C. poeyi* (D'Orbigny) which is rounder and has its chambers ordered otherwise. V a d á s z mentions that forms identical with, or similar to, *C. hungarica* are known, according to F r a n z e n a u, from several localities from the Hungarian Tortonian layers, but they are not published. I have observed *Cymbaloporetta* specimens in layers of similar age in Kemence and the Transsylvanian Bujtur.

The Boring in Városliget

The following new species was labelled Városliget (older) artesian well, without data on depth and age.

Plectina perturbata Franzenau (Plate I, figs. 25, 26/a)

The test is elongated, slowly narrowing, its initial portion spheroidal, the upper oblique. The cross section of its upper portion is almost circular. The sutures among the chambers are furrowed, its chambers are broader than high. The narrow aperture lies above the suture of the last two chambers. The surface is rather smooth in spite of the sandy material.

Its length is 0,7—1,3 mm.

References: 1. Franzenau Á.: Markusevec (Zágráb környéki) fosszil foraminiferák (Földt. Közl., 24, 1894. p. 23). — 2. Franzenau Á.: Fossile Foraminiferen von Markusevec, in Kroatien (Glasnika hrvatskoga naravoslovnoga društva, 6, 1894). — 3. Franzenau Á.: A zsupaneki felső-mediterránkorú tállyag foraminiferái (Természetrizji Füzetek, 17, 1894, p. 38). — 4. Franzenau Á.: A romhányi tállyag (Természetrizji Füzetek, 15, 1892. p. 107). — 5. T. Roth L.: Kismarton vidéke (Magyarázatok a Magyar Korona országainak részletes földtani térképeihez 1904. p. 14).

Explanation of Plate I.

Fig. 1—3. *Cymbaloporeta hungarica* (Vadász); Fig. 4—6. *Cymbaloporeta tortonica* Franzenau & Majzon; Fig. 7—9. *Cibicides kismartonensis* Franzenau; Fig. 10—11. *Bulimina scalena* Franzenau; Fig. 12—14. *Discorbis kerékhegyensis* Franzenau; Fig. 15—17. *Cibicides romhányensis* (Franzenau); Fig. 18. *Glandulina hantkeni* Franzenau; Fig. 19. *Gl. hosiusi* Franzenau; Fig. 20. *Gl. schlichti* Franzenau; Fig. 21—23. *Fissurina szobensis* Franzenau; Fig. 24. *Lagena pseudoacuticosta* Franzenau & Majzon; Fig. 25. *Siphonodosaria scharbergana* (Neugeboren); Fig. 25, 26a. *Plectina perturbata* Franzenau; Fig. 27—28. *Nodosaria contorta* Franzenau; Fig. 29—30. *Robulus anceps* (Franzenau); Fig. 31—33. *Reussela triquetra* (Franzenau); Fig. 34—35. *Hopkinsina franzenau* Majzon; Fig. 36—37. *Uvigerina venusta* Franzenau; Fig. 38. *Gaudryina kerékhegyensis* Franzenau; Fig. 39—42. *Candorbulina univ*ersa Jedlitschka; Fig. 43. *C. biloba* Jedlitschka; Fig. 44—45. *Bulimina parvula* Franzenau; Fig. 46—48. *Gyroidina laciniata* Franzenau.



