NEW SPECIES OF AGGLUTINATED FORAMINIFERA FROM THE TURONIAN DEPOSITS OF THE ÎNTORSURA BUZĂULUI – PIETROŞIȚA AREA (Upper Buzău and Ialomița Valleys)

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Abstract. The careful study of the agglutinated and calcareous foraminifera associations has revealed the presence of new taxa due to the high degree of preservation. Seven new species *(Hyperammina venusta, Hyperammina ampulaeformis, Bicazammina nobilis, Eobigenerina voicui, Verneuilinoides absconditus*, and *Paratrochammina fallax)* and two new genera (***Grzybowskiammina*** and ***Bucovinammina***) are presently figured and described.

Key words: agglutinated foraminifera, calcareous foraminifera, new genera and species, remarkable degree of conservation, Cretaceous, Ialomița River Valley, Buzău River Valley, Romania.

Résumé. L'étude a relevé l'association des foraminifères calcareuses et agglutinnantes et aussi la présence d'une nouvelle classification grâce à l'étape avancée de préservation. On présente et décrit 7 nouvelles espèces (*Hyperammina venusta, Hyperammina ampulaeformis, Bicazammina nobilis, Eobigenerina voicui, Verneuilinoides absconditus*, and *Paratrochammina fallax)* et 2 nouveaux genres (***Grzybowskiammina*** and ***Bucovinammina***).

Mots clés: foraminifères agglutinantes, foraminifères calcareuses, nouveaux taxons et espèces, degrés remarquables de conservation, Cretace, Vallée de la rivière de Ialomița, Vallée de la rivière de Buzău, Roumanie.

INTRODUCTION

As has been shown by Neagu 2011, in the studied area, the Turonian deposits comprise two entirely different facies types. The Turonian lies upon the Dumbrăvioara Formation and this formation is clearly dated, both by macro and microfaunal elements as belonging to the Vraconian–Cenomanian *(Planomalina buxtorfi, Parahibolites tourtiae, Stoliczkaia* dispar biozones) and *(Whiteinella cretacea, Rotalipora cushmani* biozones) at the upper part.

The planktonic foraminifera associations are well represented in the Ialomița – Prahova Valleys in the dominantly reddish marls. In these marls, the Turonian is recorded in its entirety from a planktonic foraminifera biozonation perspective: *(Whiteinella archaeocretacea, Praeglobotruncana prahovae, Dicarinella algeriana, Helvetoglobotruncana helvetica, Sigalitruncana sigali, Sigalitruncana marianosi, Sigalitruncana schneegansi, Dicarinella primitiva, Dicarinella concavata),* the Upper Santonian is probably not represented. In the deposits of the second facies type, the dominant lithology is of a sandy/marly type, grayish and rich in mica or blackish gray with occasional interlacings of red or multicolored clays totally devoid of planktonic foraminifera and containing only sparse foraminifera associations with a small or very small size and primitive structure. In the foraminifera associations present in both types of facies, a particular series is well preserved, containing new or poorly known taxa. These taxa represent the subject of the present article. We also mention the fact that the Turonian deposits of the external flysch are represented by the Macla Formation. In the red or multicolored clay levels only a single similar agglutinated fauna can be found. This new formation preserves interlacings of white tuffs with planktonic foraminifera which are clearly allochtonous, most likely brought there by currents. The presence in these associations of Marginotruncanids is clear evidence of the age of the deposits (Macla Formation). The dominant genus in this association is the genus *Uvigerinammina*.

PALEONTOLOGICAL PART

Class FORAMINIFERA EICHWALD 1830
Subclass TEXTULARIIA Mikhalevich 1980
Order ASTRORHIZIDA Lankaster 1885
Suborder HYPERAMMININA Saidova 1981
Family HYPERAMMINIDAE Eimer & Fickert 1894
Subfamily HYPERAMMININAE Eimer & Fickert 1891
Genus HYPERAMMINA Brady 1878

Hyperammina venusta nov. sp.
Pl.1, figs. 1–7

Derivation of name: From the Latin "*venustus* - *a* - um", meaning recognizable, visible.

Type level: Turonian (Sigalitruncana sigali – Dicarinella concavata biozones)

Type locality: Pietroşiţa–Ialomiţa Valleys, Southern Carpathians Type specimens: Holotype; fig. 6, LPBIV: 12243; Paratypes; figs. 1–5, LPBIV: 12244

Description: Gracile, filiform test with a globulous-elongate to piriform proloculus, without any visible septa. Tubular chamber, filiform, without any constrictions, smooth test surface with a finely agglutinated wall and a large amount of silica cement giving it a translucent aspect. Terminal aperture on tend of the tubular chamber (because of the gracile test, this is poorly and fragmentarily preserved but characteristic, the fragments do not have any constrictions or septa).

Dimensions: Holotype: diameter of proloculus 0.17 mm, length of tubular chambers 0.12 mm; Paratype: diameter of proloculus: 0.12 mm – 0.19 mm: length of tubular chambers 0.46 mm – 0.66 mm, 0.96 mm, 1.00 mm.

Remarks: The Turonian specimens differ radically from *H. gaultina* ten DAM 1950 by their gracile aspect, tubular test without any constrictions and finely agglutinated wall structure with a translucent aspect, ten DAM's species has a "surface plus ou moin rugueses". The test is only flattened in exceptional conditions while in *H. gaultina* is "esteant toujours fortement et irregulierement comprime de cette espece caracteristique". From *H. elongata* BRADY, in CUSHMAN, 1946 pl. 1, figs. 12–13, the studied specimens differ radically by the piriform elongated aspect of the proloculus which are markedly different from the globulous-bulbous proloculus of the above mentioned species "bulbous proloculus and elongated cylindrical tubular second chamber". With regard towards the test aspect of *H. elongata* BRADY remarked that "as in the adherent material, there is considerable variation in the relative amount of cement used in the test and the surface has a considerably rough aspect" whereas in *H. venusta* the test surface is always fine, shiny and smooth.

Occurrence: Southern part of Eastern Carpathians (Pietroşiţa area, Prahova Valley, Ialomiţa Valley, Buzăului Valley).

Stratigraphic distribution: Turonian–Senonian

Hyperammina ampullaeformis nov. sp.
Pl. 1, figs. 8–12

Derivation of name: From the Latin "ampulla-ae", small vessel with a wide, pear shaped body.

Type level: Turtonian (Helvetoglobotruncana helvetica – Dicarinella concavata biozones).

Type locality: Pietroşiţa (IalomiţaValley), Southern Carpathians.

Type specimens: Holotype: fig. 9, L. P. B. IV. 12199; Paratypes: figs. 8, 10–12, L. P. B. IV. 122001.

Description: Free test, robust, bilocular, with a bulbous proloculus followed by second, simple chamber without septa or constrictions. Agglutinated wall composed of moderately large granules in silica cement matrix giving the test a roughened aspect, thick chamber walls without the hyaline/translucent aspect. Aperture terminal, located at the end of the tubular chamber.

Dimensions: Holotype: proloculus diameter 0.19 mm, length of tubular chambers 0.49 mm. Paratypes: proloculus diameter 0.24 mm – 0.53 mm, length of tubular chambers 0.43 mm – 1.34 mm.

Remarks: This species, with its peculiar aspect of the proloculus (globulous/ampulliform), differs from all associated species from the Cretaceous deposits. The rough aspects of the test as well as the total absence of any tendency towards flattening are defining characters setting it apart from *H. venusta*.

Occurrence: Southern part of Eastern Carpathians (Pietroşiţa area, Prahova Valley, Ialomiţa Valley).

Stratigraphic distribution: Turonian – Senonian.

Superfamily HORMOSINACEA Haeckel 1894
Family ASCHEMOCELLIDAE Vyalov 1966

Genus: ***Grzybowskiammina*** n. gen.

Type specimen: *Hyperammina grzybowskii* DYLAZANKA 1923

Description: Test free, tubular, with elongated-piriform shape proloculus, followed by widely and unequally spaced tubular chambers. Straight and weakly depressed sutures, smooth test wall, finely agglutinated with a large amount of silica cement. Terminal aperture corresponding to the open end of the last chamber, test surface perfectly smooth.

Remarks: By the characters of its test, this genus differs radically from Kalamopsis FOLIN 1883 from recent Holocene deposits with which it has been mistaken by the exclusively smooth aspect of the chamber wall, always devoid of the large particles that characterize Folin's genus and distinguish it from Silicotuba VIALOV, a difference in the finely agglutinated test with a large amount of silica cement giving it a translucent but not silicaceous aspect as defined in Silicotuba by Vialov. In 1960, Grun W, Lauer G, Niedermanny G, Schnabell W attribute *Hyperammina grzybowskii* DYLAJANKA 1923 to the recent genus Kalamopsis. In 1966, based on the specimens described and figured by Grzybowski (*Hyperammina sp.*) and Dylajanka (*H. grzybowskii*), Vialov described the new genus Silicotuba while Loeblich & Tappan 1988 diagnose this genus as follows: "Test with proloculus followed by a tubular part with irregularly spaced constrictions, wall finely agglutinated, aperture terminal". The authors however introduce a clear observation about this new genus: "Described from Cretaceous flysch deposits, most specimens are crushed and flattened into short fragments and the exact nature of the complete test is uncertain". In the Turonian deposits of the Pietrosiţa area, well preserved specimens have been encountered, many of them preserving their polythalamous appearance with strongly elongated elliptical proloculus (which can be confused with fragments of the tubular chamber of *Hyperammina* but from which it differs by the presence of septa), with evidently agglutinated wall with silica cement present in large amounts but not exclusively and very finely cemented allochtonous elements. In the Upper Cretaceous deposits of the Oriental Carpathians this genus has a clearer range from the Uppermost Cenomanian (Rotalipora reicheli biozone) to the Maastrichtian.

Grzybowskiammina grzybowskii (DYLAZANKA) 1923
Pl. 1, figs. 18–23

Hyperammina sp. aff. *subnodosiformis* GRZYBOWSKI 1901, p. 147, pl. 8, fig. 5 *Hyperammina grzybowskii* DYLAZANKA 1923, p. 210; GEROCH & GRADZINSKI 1955; p. 37, pl. 5, fig. 1; BUKOWY & GEROCH 1967, p. 314, pl. 30, fig. 11; GEROCH 1960, pl. 39, pl. figs. 22–23; NEAGU 1962, p. 55, pl. 1, fig. 6, pl. 3, figs. 38–39 *Kalamopsis grzybowskii* (DYLAZANKA) GEROCH 1966, p. 438, pl, 6, figs. 27–29; NEAGU 1970, p. 34, pl. 1, figs. 5–6.

Dimensions: length 0.72 mm – 1.29 mm; breadth 0.17 mm – 0.31 mm.

Remarks: The presence of a polythalamous test with straight sutures, fine and very finely agglutinated wall with a large amount of silica cement are clear and distinctive characters of this species. Biostratigraphically, this species is a valuable marker for the Turonian – Senonian interval.

Superfamily SPIROPLECTAMINACEA Cushman 1927
Family TEXTULARIOPSIDAE Loeblich & Tappan 1982.
Genus Bicazammina NEAGU & NEAGU 1995

Bicazammina nobilis nov. sp.
Pl. 1, figs. 34–38

Derivation of name: from the Latin "nobilis-ae" meaning easily recognizable, visible.
Type level: Turonian (Sigalitruncana sigali-Dicarinella concavata biozones)
Type locality: Pietroşiţa, Ialomiţa Valleys, Southern Carpathians.
Type specimens: Holotype: figs. 34–35, L.P.B.IV. 12245; Paratypes: figs. 36–38, L.P.B.IV. 12246.
Description: Gracile, biserial, weakly flattened test in its young stage and lax uniseriate in its adult stage. Slightly globular elongated chambers with straight, depressed sutures, thin, compact finely agglutinated wall with silica cement. Terminal aperture, slit like, elongated, occasionally bordered by a fine lip.
Remarks: By its dominantly lax, uniserial aspect and terminal slit like aperture, this species differs from *B. jurassica* (HAEUSLER) 1880 and from NEAGU & NEAGU 1995, pl. 2 figs. 44–45. The Turonian specimens differ by the more gracile test and weakly globular – elongated chambers with a marked tendency toward perpendicular flattening on the biserial plane and by the slit like aperture bordered by a lip. By its general structure, this species is closer to the genus Eobigenerina described by KAMINSKI *et al*. in 2011.
Occurence: Pietroşiţa area (Ialomiţa Valley – Prahova Valley)
Stratigraphic distribution: Turonian

Genus ***Bucovinammina*** nov. gen.

Type species: Siphotextularia NEAGU 1962
Derivation of name: from Bucovina, (northern part of the Romanian Eastern Carpathians)
Type species: *Siphotextularia minuta* NEAGU 1962
Description: Small to very small biserial test. Globular chambers gradually increasing in size up to the last widely globular chambers, deep straight sutures. Test wall very smooth and fine to rough, with a large amount of compact silica cement, non canaliculated. Terminal aperture on the last chamber, approximately centered, circular or weakly elliptical in shape and always located on a tubular neck.
Remarks: The typically biserial aspect lacking a lax biserial or uniserial tendency as well as their aperture which is always present on top of a short neck are characters which clearly distinguish it from the sister genus Bigenerina, in which the last chambers have a clear tendency towards a lax biserial aspect and the aperture is not at the top of a neck like structure. From Bimonilina EICHER 1960 with which it is similar by its dimensions and textularoid disposition of the chambers it differs by lacking the tendency toward torsion. From the genus Plectinella MARIE 1956, it differs clearly by the shape and disposition of its aperture. Based on the material studied by KRASHENINIKOW from D.S.D.P. vol. 21–23, 1973, the described species is similar in overall aspect despite the fact that Krasheninicov's species (1973 pl. 4 figs. 6–8) might be synonymous to our 1962 species.

Bucovinammina minima (NEAGU) 1962
Pl. 1, figs. 16–23 (refigured)

Siphotextularia minima NEAGU 1962, p. 62, pl. 6, figs. 64–72 *Pseudobolivina cuneata* KRASHENINIKOW 1974, p. 4, pl. 8, figs. 8–9
Original description:"Fine arenaceous test shape, gradually growing, the young stage is formed by a reduced number of biserial chambers. The adult stage is typically biserial, and occasionally presents

alternating chambers which have a more globulous character, the circular aperture centrally disposed on a short neck". Emending the description given by the author 50 years ago, we add: test is free, agglutinated, with a biserial structure and with a noncanaliculate wall, gradually increasing chambers with a globulous aspect and straight depressed straight. The last chamber has a weakly elliptical or circular aperture located centrally. We believe that to this genus also belong the specimens described by Krasheninikov 1974 on Pl. 4, figs. 6, 8, 9, non fig. 7 of his work.

Genus: Eobigenerina Cetean, Setoyama, Kaminski, Neagu, Bubik, Filipescu, Tyszka 2008

Description: Test with an early biserial stage comprising at least on third the length of the adult test followed by loosely biserial stage then a short stage of low chambers that are round in cross section, wall noncanaliculate composed of fine material often well silicified insoluble in HCl (Hydrochloric acid), aperture terminal small and round on a collar or short neck.

Eobigenerina voicui Neagu nov. sp.
Pl. 2, figs. 1–12.

Derivation of name: This species is dedicated to Gheorghe Voicu, a Romanian micropaleontologist who in 1952 considered the assemblage of agglutinated small foraminifera from the red clays in the Eastern Carpathians as representing the Turonian stage, solely by the use of the preserved foraminifera fauna.

Type level: Turonian

Type locality: Cheia – Pridvaria Valley, Teleajen area.

Type specimens: Holotype: fig. 1, L.P.B. IV. 12247; Paratypes: figs. 2–12, L. P. B. IV. 12243.

Description: Test of small size (usually less than 0.4 mm), free gracile, with globular chambers gradually increasing in size, arranged biserially. Sutures straight and moderately depressed, the last 2–3 groups of chambers are lax biserially. Thin test wall, compact, noncanaliculate, composed of very fine allotochtonous quartz grains held in a large amount of silica cement giving the wall a translucent, shiny appearance. The aperture on the last chamber has a slit like appearance and is bordered by a fine edge.

Dimensions: Holotype: length 0.55 mm; breadth 0.14 mm; Paratypes: length 0.48 mm – 0.34 mm; breadth 0.12 mm – 0.4 mm.

Remarks: This species differs from *Bicazammina nobilis* Neagu by the typically and dominantly biserial disposition of the chambers and the absence of the lax uniserial chambers. From *Eobigenerina parvissima* NEAGU 1970 it differs evidently by the absence of the last biserial adult stage which *E. parvissima* lacks.

Occurrence: Teleajen area, Pridvaria Valley, Cheia

Stratigraphic distribution: Turonian

Eobigenerina parvissima (NEAGU) 1970
Pl. 2, figs. 13–15

Pseudobolivina parvissima NEAGU 1970, p. 41, pl. 24, figs. 16–20.

Original diagnosis: Test small, elongated early stage, biserial up to 1/3 the length of the test, later stages irregular, uniserial (lax uniserial) are formed by inflated chambers gradually increasing in size, sutures oblique and depressed, wall finely agglutinated, smooth, aperture in the form of a terminal slit.

Dimensions: Holotype: length 0.48 mm; breadth 0.09 mm; Paratypes: length 0.36 mm – 0.46 mm; breadth 0.07 mm – 0.09 mm.

Emendation: The test possesses a noncanaliculate wall.

Occurence: Dobârlău and Şopârlei Valleys.

Stratigraphic distribution: Lower Turonian

Superfamily TROCHAMMINACEA Schwager 1877
Family TROCHAMMINIDAE Schwager 1977
Subfamily TROCHAMININAE Schwager 1877
Genus Paratrochammina Bronnimann 1979

Paratrochammina fallax nomen novum
Pl. 3, figs. 15–20

Derivation of name: From the Latin "*fallax-aci*", meaning deceptive, fake, teasing.

Type level: Cenomanian–Senonian

Type locality: Pietrosița area (Ialomița Valley, Prahova Valley area)

Type specimens: Holotype: figs. 18–20, L.P.B.IV. 12249; Paratypes; figs. 15–17, L.P.B.IV. 12250; *Trochammina globigeriniformes* CUSHMAN 1910, (non ONES & PARKER); Hanzlikova 1972 p. 50, pl. 10, fig. 12.

Trochammina umiatensis TAPPAN H., NEAGU Th. 1970, p. 41, pl. 5, figs. 20–21.

Description: Medium to robust test with a trochospiral coiling aspect of the chambers (almost planispiral), visible completely on the spiral side, 3 to 5, usually 4 globulous chambers on the umbilical side, narrow, shallow umbilicus, interiomarginal aperture with a narrow lip. Test wall moderately to strongly coarse, with allochtonous grains of quartz held together by a moderate amount of silica cement. Frequently the specimens are deformed or flattened. Sutures straight, moderately depressed, deeper on the umbilical side than on the spiral side.

Dimensions: Holotype: small diameter 0.43 mm – 0.36 mm – 0.26 mm; large diameter 0.48 mm, 0.43 mm, 0.29 mm; thickness 0.36 mm, 0.34 mm, 0.19 mm

Remarks: In the majority of works dealing with the agglutinated foraminifera faunas of the Cretaceous deposits from the Carpathians realm this taxon has a remarkable frequency and is identified as *Trochammina globigerinodes* (JONES & PARKER). In 1988 Bronnimann and Whitteker, on page 38 of their work on the revision of the Trochamminacea from the British Museum collections also deal with *Trochammina globigerinodes*. The authors mention "The aperture could be a *Paratrochammina* type or even *Trochamminopsis* type, see fig. 3b,c but one cannot be certain". For this reason, Parker & Jones's taxon "globigeriniformes" and the genus Ammoglobigerina are both considered *nomen dubia* and should not be used further in the taxonomy of Trochamminidae. In our opinion, no subsequent references of Globigeriniformes correspond to the original description. We consider these observations especially pertinent for the Cretaceous specimens and therefore requires a new name, for which we submit *Paratrochammina fallax* nom. nov.

Occurrence: Pietrosița area (Ialomița Valley, Prahova Valley, Buzăului Valley, Întorsura Buzăului)

Stratigraphic distribution: Vraconian–Upper Senonian.

Paratrochammina altiformis (CUSHMAN & RENZ) 1932
Pl. 3, figs. 21–3

Paratrochammina altiformis (CUSHMAN & RENZ) 1932 Pl. 3, figs. 21–3

Trochammina altiformis CUSHMAN & RENZ 1946, GEROCH 1960, p. 64, pl. 6, fig. 12 *Trochammina globigeriniformes* (PARKER & JONES) var. *altiformis* CUSHMAN & RENZ; KRASHENINIKOW 1974, p. 641, pl. 6, figs. 4–5

Dimensions: height 0.26 mm – 0.29 mm; diameter 0.43 mm – 0.36 mm

Remarks: This species is very well defined by the trochospiral aspect of its spiral side, the umbilical side having between 3–4 globulous chambers,

Occurence: Pietroşița area, Întorsura Buzăului area, Macla Valley.

Stratrigraphic distribution: Cenomanian–Upper Senonian

Superfamily VERNEUILINACEA CUSHMAN 191
Family VERNEUILINIDAE CUSHMAN 1911
Subfamily VERNEUILINOIDINAE Suleymanov 1973
Genus VERNEUILINOIDES Loeblich & TAPPAN 1949

Verneuilinoides absconditus nov. sp.
Pl. 3, fig. 1–14

Derivation of name: From the Latin "absconditus - a - um", meaning hidden, unknown.

Type level: Turonian

Type locality: Pietrosița, Voievozii Valley.

Type specimens: Holotype; figs. 1–3, L. P .B. IV. 12209 Paratypes; figs. 4–14, L. P. B. IV. 12242.

Description: Small to medium sized free test of globular chambers arranged as a rounded, angular triserial pyramid. Test wall moderately agglutinated (small to medium angular grains) cemented with a silica cement. Chambers gradually increasing in size, weakly depressed straight sutures often masked by coarser grains. Interiomarginal aperture at the base of the last chamber with an elongated, comma like appearance which is usually bordered by a weakly rounded lip.

Dimensions: Holotype: length 0.39 mm; breadth 0.17 mm; Paratypes: length 0.26 mm, 0.36 mm, 0.34 mm, 0.31 mm; breadth 0.09 mm, 0.17 mm 0.21 mm.

Remarks: This species differs from *V. hectori* (NAUSS) in Eicher D., pl. 19, fig. 2 to which it is similar in the general aspect of the test, by the shape of the test and from which it differs by the straight, weak sutures and slit, commas like aperture, interiomarginal on the last whorl. What Hanzlikova figured in 1972, pl. 13, fig. 7 as *Verneuilinoide polystropha* (REUSS) *sensu* CUSHMAN & JARVIS 1932, is very close to our species but which differs radically from *Verneuilina polystropha* REUSS 1845 which is clearly a buliminid and not an agglutinated genus.

Occurence: Pietrosița area (Ialomița Valley), Întorsura Buzăului area.

Stratigraphic distribution: Turonian

ACKNOWLEDGEMENTS

The author would like to express his thanks to Mrd. Geol. Eng. Mihai Dumbravă of Babeş-Bolyai University's Faculty of Geology and Biology for his help and support in translating the original manuscript into English and computer editing of the text and plates.

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Received: 7.11.2012

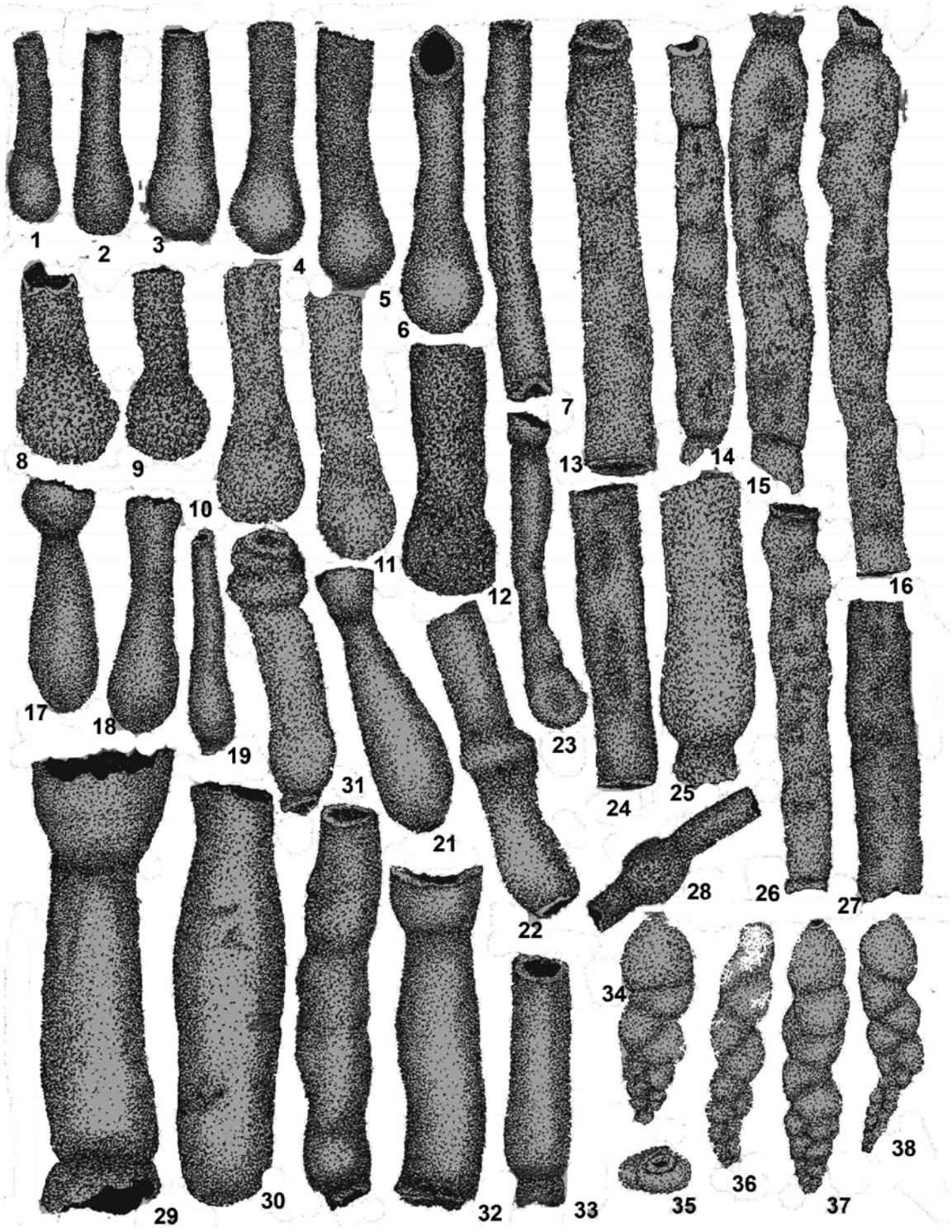

PLATE 1. Figs. 1–7 *Hyperammina venusta* NEAGU nov. sp., Turonian, Pietroşiţa area. Fig. 6 Holotype, L. P. B. IV. 12243; figs. 1–5, Paratype L. P. V. IV. 12244. Figs. 8–12 *Hyperammina ampullaeformisa* NEAGU nov. sp. Turonian, Pietroşiţa area. Fig. 9 Holotype L. P. B. IV. 12199; figs. 8, 10–12, Paratypes L. P. B. IV. 12209. Figs. 32–33 *Grzybowskiammina grzybowskii* (DYLAZANKA) 1923,Turonian, Pietroşiţa area, L. P. B. IV. 12201, 12202. Figs. 34–38 *Bicazammina nobilis* NEAGU n.sp., Turonian Pietroşiţa area, Figs. 34–35 Holotype L. P. B. IV. 1224, Figs. 36–38 parartypes, L. P. B. IV.12246.

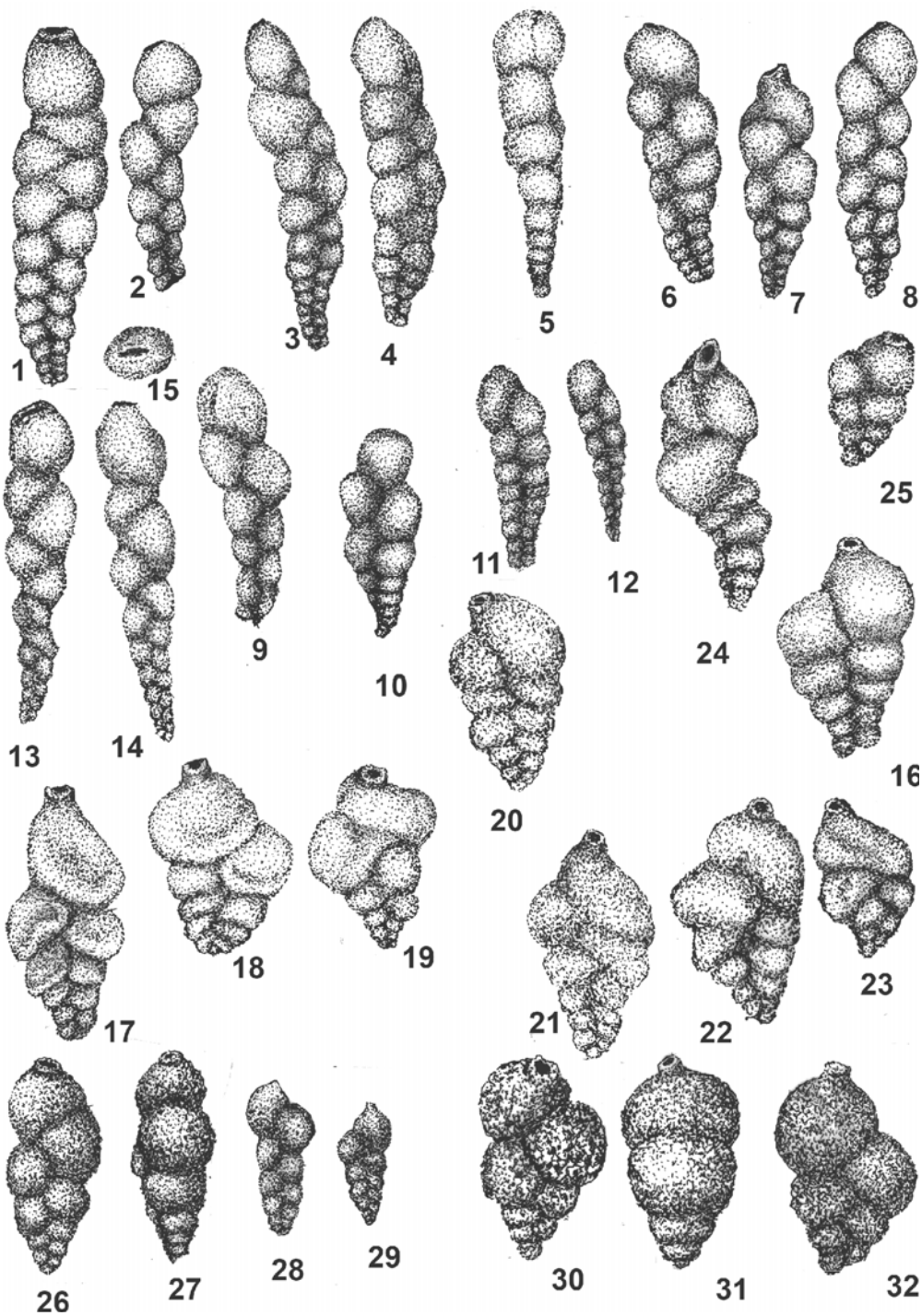

PLATE 2. Figs. 1–12 *Eobigenerina voicui* NEAGU nov. sp., Turonian, Pridvaria Valley. Fig. 1 Holotype L. P. B. IV. 12247. Figs. 2–12 Paratypes L. P. B. IV.12243. Figs. 13–15 *Eobigenerina parvissima* (NEAGU) 1970, Şopârlei Valley, Dobârlău. Holotype: L. P. B. IV. 5241 (refigured). Figs. 16–23 *Bucovinammina minuta* (NEAGU) 1962 (Refigured). Fig. 20 Holotype L. P. B. IV., 5182, Turonian, Sadova Valley. Figs. 17–19, 21–23 Paratypes: L. P. B. I. IV., 2252, Turonian, Sadova Valley. Figs. 24–25 Paratypes L. P. B. IV. 12252, Turonian, Macla Valley. Figs. 26–32, specimens refigured after Krasheninikov, figs. 28–29, pl. 2, figs. 10–11. Krasheninikov 1973 as *Psedobolivina munda* nov. sp. Figs. 30–32, also Krtasheninikov 1974, pl. 4, fig. 6, as *P. munda,* figs. 8–9 as *P. cuneata* nov. sp.

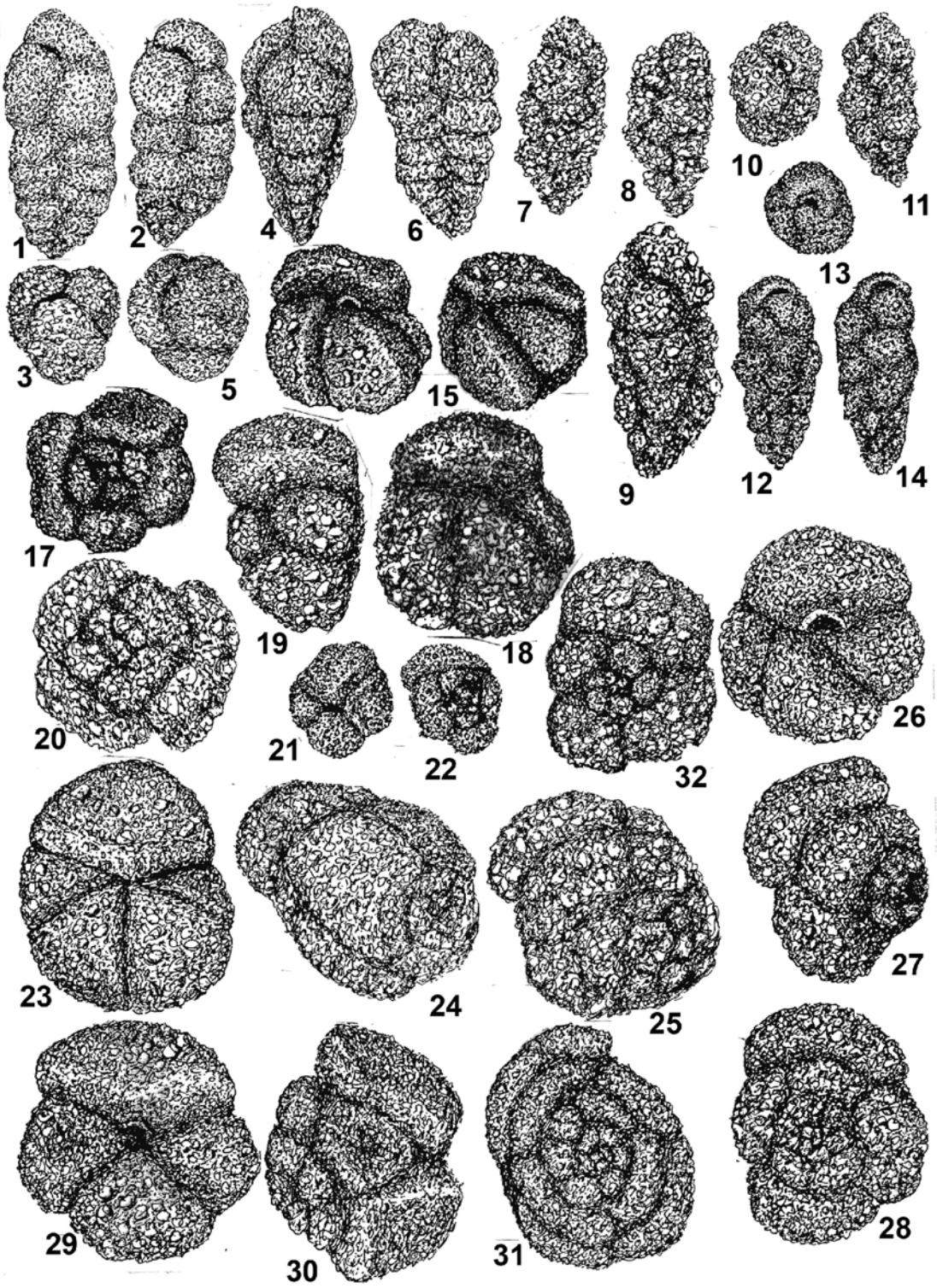

PLATE 3. Figs. 1–14 *Verneuilinoides absconditus* NEAGU nov. sp., Turonian, Pietroşiţa area. Figs. 1–3 Holotype L. P. B. IV. 12209, Turonian, Siliştea valley. Figs. 4–14 Paratypes L. P. B. IV. 12242 Turonian, SilişteaValley. Figs. 15–20, *Paratrochammina fallax* nom. nov. Turonian, Macla Valley. Type specimens: L. P. B. IV. 12249, 12250. Figs. 21–31, *Paratrochammina altiformis* (CUSHMAN & RENZ) 1946, Turonian Macla Valley, L. P. B. IV. 12153.