Paleontological Journal, Vol. 36, No. 6, 2002, pp. 591–597. Translated from Paleontologicheskii Zhurnal, No. 6, 2002, pp. 25–30.

On the Revision of Some Jurassic Gastropods from Central Russia: 2. Genus *Cosmocerithium*

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Received July 12, 2001

Abstract—The species of the genus *Cosmocerithium* Cossmann, 1906 are revised. It is shown that the understanding of the type species *C. nysti* (d'Archiac, 1843) by d'Archiac substantially differs from that of Cossmann. A new diagnosis of the genus, modified according to the original understanding of *C. nysti* by d'Archiac, is proposed. The taxonomic position of *Cosmocerithium* within either the family Triphoridae or the Cerithiopsidae is discussed. Embryonic shells of three species of the genus from the Jurassic deposits of Central Russia are described for the first time. A new species, *C. contiae*, is described.

This paper continues the study of the systematics of gastropods that are usually assigned to the order Ptenoglossa in foreign publications. The group under discussion is represented by several species bearing some similarity to early epitoniids (Guzhov, 2002). However, in contrast to the latter, the species under consideration are characterized by smaller shells with reticulate ornamentation, flattened teleoconch whorls, and a high protoconch with complex ornamentation. Rouillier (1849) was the first to describe one of these species, *Cerithium renardi* (Rouill.), from the Oxfordian strata in the vicinity of Moscow. Eichwald (1868) also mentioned the presence of this species in the Upper Oxfordian of the outcrops along the Moskva River. Gerasimov (1955) found this species in the Upper Oxfordian of Ryazan Region. Later, he published the results of the study of a rich gastropod collection, with a description of three species from the morphological group under discussion (Gerasimov, 1992). All of them were assigned to the genus *Procerithium*: *P. (Rhabdocolpus) renardi*, *P. (R.) pumilum* Geras., and *P. (R.) brateevense* Geras.

The study of the teleoconch morphology showed the similarity of these species to *Cosmocerithium nysti* (d'Archiac) from the Bathonian of France. *Cosmocerithium* was established by Cossmann (1906) as a subgenus of the genus *Procerithium*. *Cerithium nysti* d'Archiac, 1843 was designated as the type species of the subgenus. However, the description of Cossmann (1885, 1906, 1912) differs considerably from the material illustrated by d'Archiac (1843, p. 384, pl. 31, fig. 7) and Piette (1857, pl. 8, fig. 1). The author of this paper had the opportunity to study forms similar to *C. nysti* sensu d'Archiac, including *Cosmocerithium renardi* (Rouill.), *C. brateevense* (Geras.), and others, which are described below. All of them clearly differ from *C. nysti* sensu Cossmann by a fine reticulate ornament, flattened whorls, and a rhomboidal aperture with a groove. At the same time, these features are typical of *C. nysti* sensu d'Archiac. In a monograph on the type species of gastropods from the Jurassic of France, Gründel (1997) stated Cossmann's opinion. As a result of the different understanding of *C. nysti* by d'Archiac and by Cossmann, the morphology of the genus *Cosmocerithium* strikingly differs from the morphology of its type species. Therefore, I have modified the diagnosis of the genus and revised its species composition.

C. nysti sensu Cossmann has a high conical shell composed of numerous weakly convex whorls isolated by a shallow suture. The upper face of the whorl is ornamented by a few spiral ribs crossed by high plicae. The lower face of the whorl bears two rows of nodes. The upper half of the whorl is convex, while the lower one becomes concave. These features are visible in the illustrations by Cossmann (1885, pl. 5, figs. 20–22; 1906, pl. 8, figs. 15, 16; 1912, pl. 3, figs. 61, 62) and Gründel (1997, pl. 5, figs. 10, 12). *Procerithium picardi* Hirsch, 1980 from the Callovian of Israel (Hirsch, 1980, pl. 11, fig. 1) is another species similar to *C. nysti* sensu Cossmann. It has a shell composed of flat whorls ornamented by fine and dense threads. The middle of the whorl bears a furrow, below which short inflated plicae appear. *Procerithium (Cosmocerithium) dorvali* (Cossm., 1899) (p. 554, pl. 15, figs. 4, 5) has flat whorls with numerous threads crossed by short plicae in the upper part of whorls. A similar shell appearance is observed in *P. (C.) arabicum* Fischer, 2001. Due to their unusual shell ornamentation and the absence of data on the protoconch morphology, these forms cannot be assigned to any known taxa. However, the shell shape and the type of ornamentation of the species are similar

to those of the genera *Cimolithium* Cossmann, 1906 (e.g., *C. belgicum* (d'Archiac, 1847)) and *Diatinostoma* (e.g., *D. nodosicinctum* (Schlosser, 1881), *D. achilles* (d'Orb., 1850), and *D. (Ditretus) mairei* (Cossm., 1912)).

The study of the protoconchs of the genus *Cosmocerithium* suggests that they are similar to those of the Recent Triphoridae. The genera *Euthymella* Thiele, *Nanophora* Laseron, *Viriola* Jousseaume, and others have protoconchs composed of one or two rounded initial whorls with tubercles and three to three and a half subsequent whorls with one or two ribs and dense fine plicae (Nützel, 1998, pls. 8–12). In the Jurassic forms, the first whorl is smooth and followed by a half-whorl or whorl with two ribs. The protoconch ends with two and a half to three and a half whorls bearing fine and closely spaced plicae and two ribs, the latter of which are usually accompanied by several threads. Thus, only small differences in the whorl ornamentation exist, while the ontogeny and the protoconch shape are the same. The teleoconch morphology is also similar in these groups. The shells of the Jurassic and Recent forms are small and multispiral. The teleoconch ornamentation is reticulate, composed of thin dense plicae and ribs with nodes. The shell of *Cosmocerithium* bears a distinct siphonal canal, as do the shells of Recent triphorids; however, the siphonal structure is more primitive. Complete apertures of *Cosmocerithium* have not been found; however, the broken aperture is similar to those of Recent triphorids, for instance, "Triphoridae gelb-weiß-braun" (Nützel, 1998, p. 83, pl. 12, figs. A–D) or "Nov. Gen. D sp. rosa-weiß-braun" (Nützel, 1998, p. 81, pl. 11, figs. I–M). A significant difference concerns coiling, i.e., *Cosmocerithium* has a dextral shell, while all triphorids are sinistral. However, Nützel (1998, pp. 121–123) suggested that triphorids could originate from the dextral forms. As an example, he mentioned the Eocene genus *Antiphora* Nützel, which differs from typical triphorids by coiling only. He assigned this genus, along with *Metaxia* Monterosato and *Eorex* Nützel, to the subfamily Metaxiinae Marshall of the family Triphoridae. However, it is noteworthy that typical sinistral triphorids were already present in the Paleogene. Nevertheless, the origin of triphorids from a dextral ancestor is not inconceivable; consequently, the genus *Cosmocerithium* could be a member of the ancestral group of the Triphoridae.

At the same time, a review of studies on the Cerithiopsoidea suggests the similarity of *Cosmocerithium* to some genera of the family Cerithiopsidae. It is of importance that Cerithiopsidae, like *Cosmocerithium*, have dextral shells and similar structure of the aperture and siphonal canal. In contrast to the Triphoridae, the Cerithiopsidae lack the parietal canal, while the siphonal canal is open anteriorly (the same feature is supposed by the author to exist in *Cosmocerithium*).

The species of the genus *Vatopsis* Gründel, *V. bomonilifera* (Sandberger) and *Vatopsis* sp. from the Oligocene (Gründel, 1980, pp. 220–222), *Vatopsis* sp. 1 from the Miocene (Nützel, 1998, pl. 15, figs. I–J), *V. nodoliratum* (Wade) from the Campanian (Nützel, 1998, pl. 15, figs. S–V), etc., are especially similar in protoconch morphology. The genus *Tembrockia* Gründel from the subfamily Seilinae has a similar protoconch structure (Gründel, 1980, pp. 234–235; Nützel, 1998, pl. 16, fig. F). However, *Tembrockia* significantly differs by the type of teleoconch ornamentation, composed of very thick ribs without plicae. The genus *Vatopsis*, like *Cosmocerithium*, has a reticulate ornamentation consisting of several ribs and numerous fine plicae. The aperture can be also rhomboidal. The similarity between these two genera is clear from the comparison of *Cosmocerithium* with *Vatopsis* sp. 1. *Cosmocerithium* differs from *Vatopsis* by a more complicated protoconch ornamentation composed of two or more ribs (threads) and prominent plicae. Other members of the Cerithiopsidae have a smooth protoconch or a protoconch that is very short and poorly ornamented. In addition, they occasionally have a very tall shell. Since there are no significant differences in the morphology of *Cosmocerithium* and the Cerithiopsidae, while the Triphoridae show reverse coiling, the genus *Cosmocerithium* should be assigned to the Cerithiopsidae.

Gerasimov (1992) assigned the three species of *Cosmocerithium* to the subgenus *Rhabdocolpus* Cossmann, 1906. According to Walther (1951) and the author's observations, the protoconch of typical *Rhabdocolpus* is composed of several smooth whorls; the teleoconch contains numerous whorls ornamented by the plicae at the early stages and, later, by a combination of plicae and ribs. The shell of *Rhabdocolpus* is several times larger than that of *Cosmocerithium* and attains 3 cm. Thus, the genus *Rhabdocolpus* substantially differs from the studied species of *Cosmocerithium*.

The Early Cretaceous monotypic genus *Prisciphora* Schröder, 1995 (type species *P. beyschlagi* (Wollemann, 1903)) has an embryonic shell similar to that of *Cosmocerithium*. Its protoconch begins with two smooth whorls. The next two and a half to three whorls are ornamented by densely spaced fine plicae and two spiral ribs; several additional ribs appear on the last whorl of the protoconch (according to material from the Albian of Germany; see Schröder, 1995). The whorl and apertural structure are similar to *Cosmocerithium*. The genus *Prisciphora* is probably a descendant of *Cosmocerithium*. Therefore, I believe that *Prisciphora* was erroneously placed in the family Eumetulidae (Nützel, 1998) and this genus should be assigned to the family Cerithiopsidae.

The terminology used in the morphological description was discussed in my previous publication (Guzhov, 2002).

The material studied in the present paper is housed at the Paleontological Institute of the Russian Academy of Sciences (PIN, collection no. 4863), the State Geological Museum of the Russian Academy of Sciences (GGM, collection no. VI-222), and the Geological Mineralogical Museum of Krupskaya Moscow Pedagogical University (GMM MPU, collection no. 12).

SYSTEMATIC PALEONTOLOGY

Family Cerithiopsidae Gray, 1847

Genus *Cosmocerithium* Cossmann, 1906

Cosmocerithium: Cossmann, 1906, p. 26 (pars).

Type species. *Cerithium nysti* d'Archiac, 1843; Middle Jurassic, Bathonian; France.

Diagnosis. Shell small or medium-sized, highly conical, with straight tangent line. Protoconch composed of 4.0–4.5 whorls. First 1.0–1.5 whorls smooth, rounded, and almost planispiral. Subsequent whorl with two carina; next 2.5–3.5 whorls with collabral and spiral ornamentation (first type usually dominates). Last protoconch whorls with microsculpture composed of nodes or groups of nodes in spiral discontinuous rows. Whorls of protoconch convex. Teleoconch whorls slightly convex at first; late whorls flattened and nongradate. Coverage of whorls about 40%. Teleoconch ornamentation composed of several primary and secondary ribs. Densely spaced fine plicae cross ribs. Shell base high, widely conical, convex, with numerous ribs. Aperture rhomboidal or rounded rhomboidal. Narrow and deep groove of variable length running along base and curving towards columella. End of groove truncated and rounded rectangular. Growth lines opisthocyrt or opisthocline-opisthocyrt on whorl face and becoming prosocline-prosocyrt at basal surface. Senile changes consist in denser plication and more opisthocyrt direction of plicae.

Species composition. In addition to the type species, the genus includes the following species: *C. brateevense* (Geras., 1992), from the Upper Volgian of Russia; *C. contiae* sp. nov., from the Upper Oxfordian of Russia; *C. grandineum* (Buvignier, 1852), from the Lower–Middle Oxfordian of France; *C. pumilum* (Geras., 1992), from the Upper Oxfordian–Lower Kimmeridgian of Russia; *C. renardi* (Rouill., 1849), from the Middle Oxfordian of Russia; *C. sanctijacobi* (Greppin, 1888), from the Bajocian of France; and, probably, *C. brongniarti* (d'Archiac, 1843), from the Bathonian of France.

Comparison. The genus can be distinguished from other genera by the protoconch composed of a first smooth whorl followed by a whorl with two spiral ribs and by the type of microsculpture of the last protoconch whorls. A weakly developed siphonal canal distinguishes *Cosmocerithium* from the majority of genera of the family.

***Cosmocerithium renardi* (Rouillier, 1849)**

Plate 1, figs. 1–5

Cerithium renardi: Rouillier, 1849, p. 378, pl. L, fig. 96; Laguzen, 1883, p. 37, pl. 3, fig. 7 (non *Procerithium renardi*: Gerasimov, 1955, p. 189, pl. 40, figs. 2 and 3; non *P. (Rhabdocolpus) renardi*: Gerasimov, 1992, p. 71, pl. 19, figs. 1–4).

Holotype. Lost; Moscow Region, Krasnogorskii District, right bank of the Moskva River near the village of Gal'evo; uppermost Middle Oxfordian.

Neotype. GMM MPU, no. 12/4; Russia, Kostroma Region, Makar'evskii District, town of Makar'ev, North Makar'ev section; Upper Jurassic, Middle Oxfordian, *Tenuiserratum* Zone (designated here).

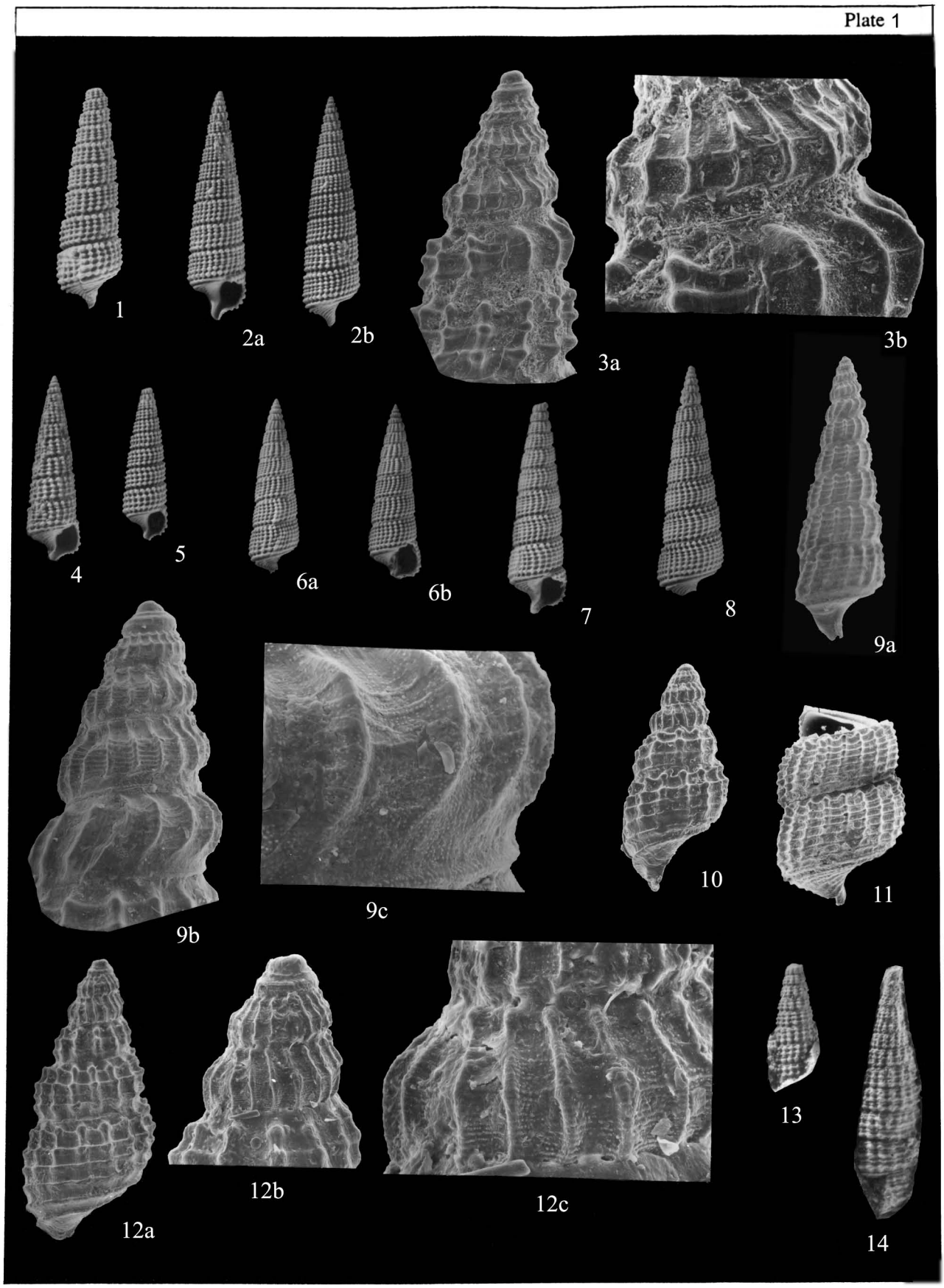
Description. The shell is up to 10.5 mm high. The protoconch is composed of five and a half whorls. The first whorl is smooth and rounded and followed by a whorl with two spiral ribs. The rest of the protoconch whorls bear plicae reaching the lower rib. The first plicae are evenly convex, while the later ones are inflated and crescent-shaped. Tubercles can appear on the upper part of the plicae near the upper suture. The spiral ornament of the last two protoconch whorls is in the form of two prominent ribs. The last three and a half whorls are densely ornamented by fine tubercles. The teleoconch consists of 9–11 flattened whorls. The angle between the tangent lines ranges from 15° to 20°. The teleoconch whorls are flat, and their coverage is about 40%. The suture is shallow and angular. The ornamentation is composed of four primary and up to two secondary spiral ribs. As the shells grow, the secondary ribs become as prominent as the primary ribs. The plicae are weakly opisthocline or, rarely, orthocline; their number is 26–35 per whorl (the diameter of a whorl is 2–3 mm). They are usually less prominent than the ribs. The plicae cross the ribs to form small spherical nodes. The height of the last whorl is 24–28% of the shell height. Seven or eight ribs extend along the shell base.

Ontogenetic variability. Ontogenetic changes occasionally manifest themselves as an increase in density and a more opisthocyrt position of the plicae. Some shells have coarse growth lines at the end of the last whorl; in this case, the plicae become indistinct and the nodes disappear.

Comparison. The species differs from *C. contiae* by unchanged spiral ornamentation of the last protoconch whorls, a smaller number of spiral ribs (4–6 as against 6–7) on the teleoconch (except for intermediate forms; see below), less prominent plicae as compared to the ribs, and flatter whorls.

Remarks. The intermediate forms between *C. renardi* and *C. contiae* are relatively common in the *Tenuiserratum* Zone of Kostroma Region. These forms are similar in teleoconch morphology to *C. contiae*, while the protoconch structure is similar to that of *C. renardi*. Thus, the early evolutionary changes probably involved the later ontogenetic stage, whereas the

Plate 1



Explanation of Plate 1

Figs. 1–5. *Cosmocerithium renardi* (Rouillier); Middle Oxfordian, *Tenuiserratum* Zone: (1) specimen GMM MPU, no. 12/1, dorsal view, ×4, town of Shchurovo; (2) specimen GMM MPU, no. 12/2, ×4, town of Shchurovo: (a) apertural and (b) dorsal views; (3) specimen GMM MPU, no. 12/3, town of Shchurovo: (a) protoconch, ×47; (b) fragment of ornamentation, ×105; (4) neotype GMM MPU, no. 12/4, apertural view, ×4, town of Makar'ev; (5) specimen GMM MPU, no. 12/5, apertural view, ×4, town of Shchurovo.

Figs. 6–9. *Cosmocerithium contiae* sp. nov.; Egor'evskii Phosphorite Mine, quarry no. 7-2 bis; Upper Oxfordian, *Serratum* Zone, *Serratum* Subzone: (6) holotype GMM MPU, no. 12/6, ×4: (a) apertural and (b) dorsal views; (7) specimen GMM MPU, no. 12/7, apertural view, ×4; (8) specimen GMM MPU, no. 12/8, dorsal view, ×4; (9) specimen GMM MPU, no. 12/9: (a) dorsal view, ×15; (b) protoconch, ×68; and (c) fragment of ornamentation, ×205.

Figs. 10–12. *Cosmocerithium pumilum* (Gerasimov): (10) specimen PIN, no. 4863/132, dorsal view, ×28; Moscow, Nizhnie Mnevniki, Upper Oxfordian, *Serratum* Zone; (11) specimen PIN, no. 4863/129, dorsal view, ×15; village of Poretskoe, Lower Kimmeridgian; (12) specimen PIN, no. 4863/133, Moscow, Nizhnie Mnevniki, Upper Oxfordian, *Serratum* Zone: (a) dorsal view, ×29; (b) protoconch, ×70; and (c) fragment of ornamentation, ×175.

Figs. 13 and 14. *Cosmocerithium brateevense* (Gerasimov); molds, ×4; Volgian Stage, *Nodiger* Zone, *Mosquensis* Subzone: (13) specimen PIN, no. 4863/130, lateral view; Moscow, D'yakovskoe; (14) holotype GGM, no. VI-222/38, lateral view; Moscow, quarry in Brateevo.

earlier stage evolved somewhat later. These intermediate forms are included in *C. renardi.*

Occurrence. Upper Jurassic, Middle Oxfordian, *Densiplicatum* Zone, *Densiplicatum* Subzone–*Tenuiserratum* Zone.

Material. Upper Jurassic, Middle Oxfordian, village of Tyrnovo (2 specimens); Middle Oxfordian, *Tenuiserratum* Zone, town of Makar'ev (235 specimens), town of Shchurovo (15 specimens); Middle Oxfordian, most likely, the *Tenuiserratum* Zone, village of Mikhalenino (47 specimens).

***Cosmocerithium contiae* Guzhov, sp. nov.**

Plate 1, figs. 6–9

Procerithium renardi: Gerasimov, 1955, p. 189, pl. 40, figs. 2 and 3.

Procerithium (Rhabdocolpus) renardi: Gerasimov, 1992, p. 71, pl. 19, figs. 1–4.

Procerithium (Rhabdocolpus) pumilum: Gerasimov, 1992, pl. 21, fig. 19 (non figs. 15, 17, 18).

Etymology. In honor of the Italian paleontologist M.A. Conti.

Holotype. GMM MPU, no. 12/6; Russia, Moscow Region, Voskresenskii District, Egor'evskii Phosphorite Mine, quarry no. 7-2 bis; Upper Jurassic, Upper Oxfordian, *Serratum* Zone, *Serratum* Subzone.

Description. The shell is up to 10–11 mm high. The protoconch is composed of five and a half whorls. The first whorl is smooth and rounded and followed by a whorl with two spiral ribs. The rest of the protoconch whorls bear plicae reaching the lower rib. The first plicae are evenly convex, while the later ones are inflated and crescent-shaped. Nodes occasionally appear on the plicae near the upper suture. The whorls become inflated and sag in the upper and lower parts. The spiral ornament considerably changes on the last two protoconch whorls. The pair of prominent ribs is replaced by a series of fine spiral threads in the middle of the whorls. The last protoconch whorl bears seven threads. The last three and a half whorls are densely ornamented by fine tubercles. The teleoconch consists of 9–11 flattened whorls. The angle between the tangent lines ranges from 15° to 20°. The teleoconch whorls are slightly convex, and their coverage is about 40%. The maximum whorl width is at the midheight. The suture is shallow and angular. The ornamentation is composed of five primary and one or two secondary spiral ribs. As the shells grow, the secondary ribs become as prominent as the primary ribs. The plicae are weakly opisthocline or, rarely, orthocline, 23–35 per whorl (the diameter of a whorl is 2–3 mm). They are usually more prominent than the ribs. The plicae cross the ribs to form small spherical nodes. The height of the last whorl is 24–28% of the shell height. There are seven to nine ribs on the shell base.

Ontogenetic variability. Ontogenetic changes are sometimes manifested as an increase in the density of the ribs and sometimes as crowded plicae which become more opisthocyrt. Some shells have coarse growth lines at the end of the last whorl; in this case, the plicae become indistinct and the nodes disappear.

Comparison. See the description of the previous species.

Remarks. I have found a large fragmentary teleoconch from the Lower Kimmeridgian in Gerasimov's collection. The morphology of this particular shell corresponds to *C. renardi.* However, there are no true *C. renardi* even as early as the Upper Oxfordian (I have examined over 1000 specimens). Most likely, in this case, we deal with a reversion of morphological features in *C. contiae* from the lowermost Kimmeridgian.

A single satisfactory preserved juvenile shell is known from the Upper Kimmeridgian of the Ulyanovsk Region. It is closely similar in protoconch and teleoconch morphology to *C. contiae.*

Occurrence. Upper Jurassic, Upper Oxfordian; Central Russia.

Material. Upper Jurassic, Upper Oxfordian, *Serratum* Zone, *Serratum* Subzone; Egor'evskii Phosphorite Mine, quarries nos. 10 (single specimen) and 7-2 bis (1275 specimens).

***Cosmocerithium pumilum* (Gerasimov, 1992)**

Plate 1, figs. 10–12.

Procerithium (Rhabdocolpus) pumilum: Gerasimov, 1992, p. 74 (pars), pl. 21, figs. 15, 17, and 18 (non fig. 19).

Holotype. GGM, no. VI-222/35; Russia, Moscow, Nizhnie Mnevniki, riverbed of the Moskva River near the Karamyshevskaya Embankment; Upper Jurassic, Upper Oxfordian, *Serratum* Zone.

Description. The height of incomplete shells attains 5 mm. The protoconch is composed of four whorls. The first whorl is smooth and rounded, followed by seven-tenths of a whorl that bears two spiral ribs. The rest of the protoconch whorls are ornamented by orthocline plicae. The first whorl that has plicae has two ribs; however, later, they disappear. The last two and a half whorls are densely ornamented by fine tubercles. Along the upper suture, these whorls bear a thickening, on which the plicae form small nodes. An incomplete teleoconch consists of four whorls. The angle between the teleoconch tangent lines is 31° (measured at the early whorls). The whorls are convex, and their coverage is 38%. The maximum width of the whorl is at the midheight. The suture is angular and shallow. The thickening disappears at the beginning of the teleoconch. Its ornamentation is composed of four primary and four secondary spiral ribs. The ribs are thin and widely spaced. The plicae are thin, dense, and rather prominent, 17 per whorl (the whorl diameter is 1 mm). The plicae gradually weaken downwards and do not reach the lower suture. Nodes are present on the upper three ribs. The largest nodes, which are conical, are restricted to the uppermost rib. The base of the shell bears six ribs; the upper rib is most prominent, the other ribs are weak.

Comparison. The species differs from the other members of the genus by more convex whorls, plicae and nodes which gradually weaken downwards, and a short protoconch. Because of the reversion of some features and the absence of data on the protoconch structure in the foreign species, it is difficult to compare *C. pumilum* (Gerasimov, 1992) with those species.

Occurrence. Upper Jurassic, Upper Oxfordian, *Serratum* Zone–Lower Kimmeridgian; Central Russia.

Material. Upper Jurassic, Upper Oxfordian, *Serratum* Zone, Moscow, Mnevniki, canal of the Moskva River (four specimens); Lower Kimmeridgian, village of Poretskoe (single specimen).

***Cosmocerithium brateevense* (Gerasimov, 1992)**

Plate 1, figs. 13 and 14

Procerithium (Rhabdocolpus) brateevense: Gerasimov, 1992, p. 72, pl. 18, fig. 30; Gerasimov, 1995, pl. 18, fig. 9.

Holotype. GGM, no. VI-222/38; Russia, Moscow, quarry in Brateevo; Upper Jurassic, Upper Volgian; *Nodiger* Zone, *Mosquensis* Subzone.

Description. The height of incomplete shells attains 6 mm. The protoconch is unknown. An incomplete teleoconch is composed of seven and a half whorls. The angle between the tangent lines is 21.5°. The whorls are flat and weakly widened downwards; thus, the maximum width is in the lowermost part. The suture is shallow and angular. The ornament consists of four ribs. Two additional ribs appear on the last whorls. The ribs are similarly prominent and evenly distributed. The plicae are fine, dense, and orthocline (straight opisthocline on the last whorls). The number of plicae is 17 per whorl (the whorl diameter is 2 mm). As the plicae cross the ribs, small spherical nodes are formed. The morphology of the aperture and shell base is unknown.

Comparison. The species is distinguished by more coarse and widely spaced spiral ribs and flat whorls widening downwards. Because of the reversion of some features and the absence of data on the protoconch structure in the foreign species, it is difficult to compare *C. brateevense* (Gerasimov, 1992) distinction from those species.

Occurrence. Upper Jurassic, Volgian Stage, *Nodiger* Zone, *Mosquensis* Subzone; Central Russia.

Material. Upper Jurassic, Upper Volgian, *Nodiger* Zone, *Mosquensis* Subzone, Moscow, quarry in Brateevo (three specimens) and D'yakovskoe (single specimen).

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