

SMILJKA PANTIC

PILAMMINA Densa N. GEN., N. SP. AND OTHER
AMMODISCIDAE FROM THE MIDDLE TRIASSIC IN THE
CRMNICA (MONTENEGRO)

With 4 plates

The new genus of the family *Ammodiscidae*, described here, is distinguished by its size and great number of dense whorls from other *Ammodiscidae* (*Glomospira* and *Glomospirella*) with which it comes associated. *Pilammina densa* n. gen. n. sp. has been found in the limestone beds of the Middle Triassic Flysch in the southern part of Montenegro.

INTRODUCTION

Until recently little had been done in the field of determining the Triassic fauna. For several years past, however, increasingly greater attention has been paid to examining Foraminifera of this period of the Mesozoic. A significant part of recent papers predominantly deals with the microfauna obtained by the decanting process. An exception to this is the paper by Ho Yen (1956), treating, on the basis of a profile, the foraminiferal association from the Anisian-Carnian series in the area of Southern Szechuan (China). It has enabled me to make a correlation with our Middle Triassic Foraminifera from the Outer Dinarids - Montenegro. Besides the common *Ammodiscids* species, I have noted in our material some species different from those known so far, so I have separated them as *Pilammina densa* n. gen., n. sp.

GEOLOGICAL DESCRIPTION OF LOCALITY

In the southern part of Montenegro Mesozoic sediments had been studied by a number of authors. The development of the complete Triassic has been determined on the basis of characteristic microfauna.

Particular attention has been devoted to the Middle Triassic (Anisian stage). It is developed in the Flysch facies which was found present in the Dinarids only in the area of the Montenegrin Littoral. The series of the Middle Triassic Flysch is represented by multicoloured schists, marls and sandstones, alternating with bedded arenaceous and marly limestones. From these last mentioned beds, comprising horizons of pure limestones, specimens were taken for micropaleontological analyses, and they have furnished significant data on the Anisic association of Foraminifera in this part of Dinarids.

In the course of several years I have been periodically engaged in the micropaleontological examination of Triassic sediments of the Crmnica area, previously not investigated micropaleontologically. These examinations have made it possible for me to register in the limestones of the Middle Triassic Flysch a characteristic Foraminifera association in which are predominantly present numerous representatives of the genus *Glomospira* and *Glomospirella*. Samples have been taken from several localities: 1. Sutorman pass, 2. Limljani, 3. Markov studenac, 4. Perov potok, 5. Brijegi, 6. Glibovi, and 7. the lower course of the Orahovačka rijeka. In the slides made of specimens from the listed localities a small number of species *Glomospira* and *Glomospirella* was found, but they are represented by very frequent individuals. From this association I have determined, according to Ho Yen (1956), the below given *Glomospirae* and *Glomospirellae*, leaving aside on this occasion the question of the justification of such a number of species:

Glomospira? *sygmoidalis* (Rauzer)
Glomospira articulosa Plummer
Glomospira gordialis (Jones and Parker)
Glomospira regularis Lipina
Glomospira sinensis Ho
Glomospirella irregularis (Moeller)
Glomospirella sp.

As already mentioned above, I have separated among the cited species from the Glibovi locality a new Foraminifera which will be described in this article.

TAXONOMICAL DESCRIPTION

Family *Ammodiscidae* R h u m b l e r, 1895
 Subfamily *Ammodiscinae* R h u m b l e r, 1895
 Genus *Pilamina*, nov. gen.

Diagnosis: The shell is free, large, spherical. It is made of a spherical initial chamber and an elongated, tubular and undivided one. The coiling of the tubular chamber around the proloculum is glomerated, the

coiling of whorls having taken place by pressing one whorl to another, while the angle of coils is changing gradually relative to preceding ones. The theca made of limestone, imperforate, including slight amounts of foreign admixtures.

Remarks: Regarding the manner of coiling, the new genus *Pilammina* comes nearest to the genus *Glomospira* R z e h a k, 1888. However, the coiling of the tubular chamber, present at *Glomospira* in different directions, exhibits other features in our specimens: it is not sharply pronounced, i. e., in rapid bends, on the contrary, it is found to be gradual, so that whorls coil directly one along another thus giving in section a picture of a much more regular coiling, somewhat disturbed only in outer whorls. Another characteristic of the genus *Pilammina* is a far greater number of whorls than is the case in the genus *Glomospira*. While the so far known *Glomospira* have up to 9 whorls, their number at *Pilammina* may be as high as 60.

The name derived of »pila« – coil and »ammos« – sand.

The typus of the genus is the species *Pilammina densa* n. sp., at present the only representative of the new genus.

Pilammina densa n. sp.

Plate I-III

Origin of the name: from the densely coiled works

Syntypes: Slides No. 2601-61, 757-62, 758-62, 759"-62, 759'"-62

Type locality: Glibovi near Sotonići in the Crmnica – Montenegro

Type stratum: Middle Triassic, Anisian stage

Description: Test large and spherical. Exceptionally it differs from this type becoming ellipsoidal or subquadratic in section. Composed of a spherical initial chamber, followed by a tubular one which is undivided. The tubular chamber winds around the initial one forming a coil. The initial volutions are tightly coiled around the proloculum, while the later ones are more rarely arranged; hence one can see two stages with a quite abrupt transition between them. The second chamber is very long and gradually increases in width in the younger whorls. It is very difficult to enumerate exactly the number of whorls. On the basis of present sections one can conclude on about 40-60 whorls. The wall quite thick.

Dimensions:

Diameter of the proloculum: 0,032–0,080 mm

Diameter of the second chamber in the last whorls: 0,040–0,064 mm

Diameter of the whole test: 0,512–1,040 mm

Diameter of the inner tightly coiled part of the test: 0,220–0,400 mm

Thickness of the wall: 0,013–0,016 mm

Examined material: 7 thin slides.

Containing rock: grey microcrystalline foraminiferal limestone.

Collection: The examined material is deposited in the micropaleontological collection of the Institute for geological and geophysical research in Beograd.

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Institute for geological and geophysical
research, Beograd, Karadorđeva 48.

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S. PANTIĆ

PILAMMINA DENSA N. GEN., N. SP. I DRUGE
AMMODISCIDAE IZ SREDNJEG TRIJASA CRMNICE
(CRNA GORA)

U toku poslednjih nekoliko godina autorica je radila na proučavanju trijasko mikrofaune sa područja Dinarida. Ovom prilikom prikazana je zajednica amodiscida anizijskog kata sa nekoliko lokalnosti iz oblasti Crmnice (spoljni Dinaridi). Određene su sledeće glomospire i glomospirele: *Glomospira? sygmoidalis* (Rauzer), *Glomospira articulosa* Plummer, *Glomospira gordialis* (Jones and Parker), *Glomospira regularis* Lipina, *Glomospira sinensis* Ho, *Glomospirella irregularis* (Moeller), *Glomospirella* sp. Među citiranim vrstama iz lokalnosti Glibovi kod Sotonića, autorica je konstatovala amodiscidu *Pilammina densa* n. gen., n. sp. Po svojim karak-

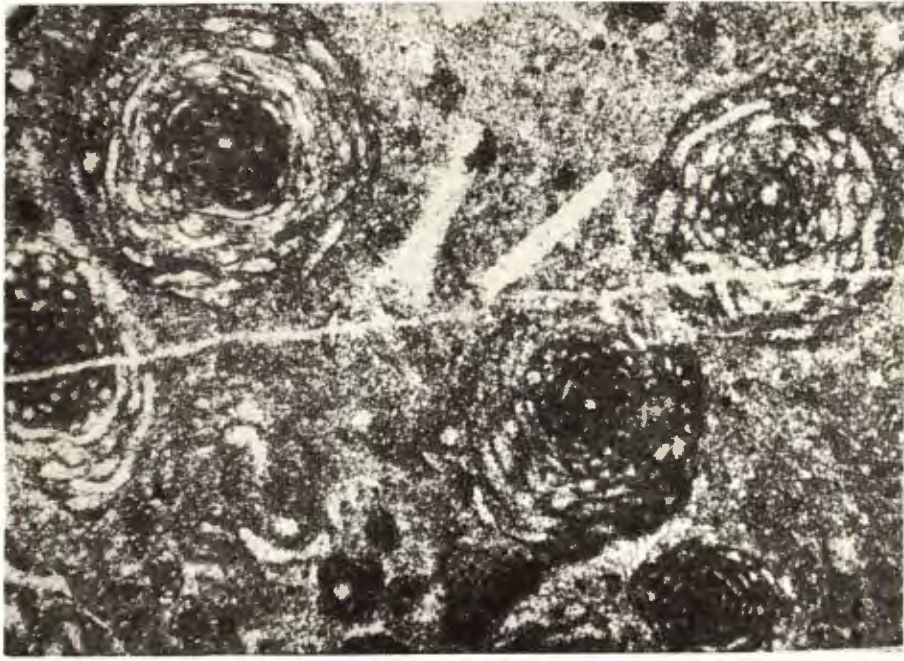
teristikama nov rod se najviše približava rodu *Glomospira* R z e h a k, 1888. Međutim, razlike se ogledaju u sledećem: prvo, klupčasto savijanje cevaste komore oko inicijalne nije izraženo u naglim zaokretima kao kod *glomospire*, nego naprotiv postupno, tako da se zavojci namotavaju jedan neposredno uz drugi što u preseccima daje sliku znatno pravilnijeg zavijanja, nešto poremećenog jedino u poslednjim zavojcima; drugo, daleko veći broj zavojaka kod roda *Pilamina* nego kod predstavnika roda *Glomospira*, tako, dok do sada poznate *glomospire* imaju do 9 zavojaka, dotle zasada jedini predstavnik našeg novog roda sadrži do 60.

Primljeno 20. 4. 1964.

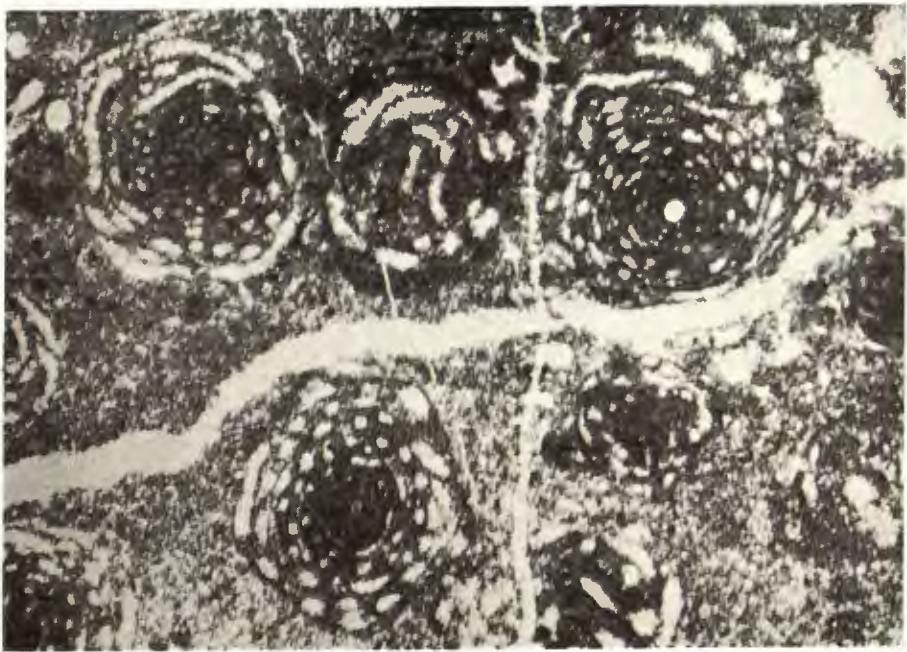
Zavod za geološka i geofizička istraživanja
Beograd, Karađorđeva ul. 48

PLATE - TABLA I

1. *Pilamina densa* n. gen., n. sp. A - *Glomospira? sigmoidalis* (Rauzer); B - *Glomospira gordialis* (Jones & Parker)
Slide (izbrusak) No. 759ⁿ-62. (X 42) Glibovi near Sotonići in Crmnica - Montenegro. (Glibovi kraj Sotonića u Crmnici - Crna Gora)
2. *Pilamina densa* n. gen., n. sp. No. 759ⁿ-62. (X 42).
Glibovi near Sotonići in Crmnica - Montenegro. (Glibovi kraj Sotonića u Crmnici - Crna Gora)



1



2

Tumač na str. 194. Explanation on page 194.

PLATE - TABLA II

- 1-9. *Pilamina densa* n. gen., n. sp. Equatorial sections (2-4, 8-9), Tangential sections (5-7). Ekvatorijalni prerezi (2-4, 8-9), tangencijalni prerezi (5-6). 2-6 No. 757-62. 7-9 No. 758-62.
10. *Glomospira articulosa* Plummer; No. 757-62.
- 11-12. *Glomospira* sp. No. 757-62.

(X 42) Glibovi near Sotonići in Crmnica - Montenegro. Glibovi kraj Sotonića u Crmnici - Crna Gora.

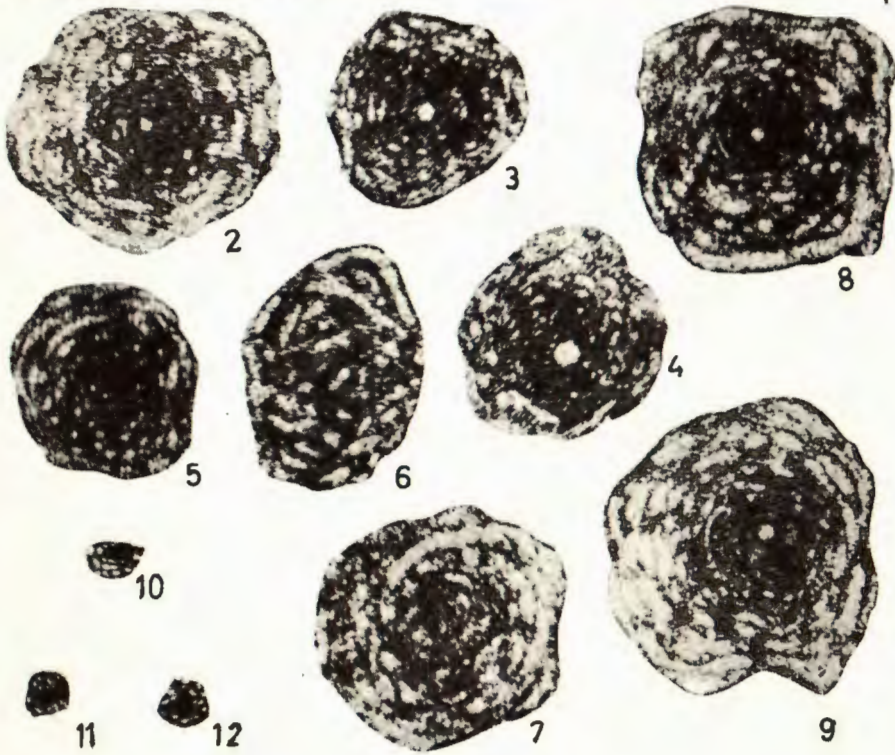
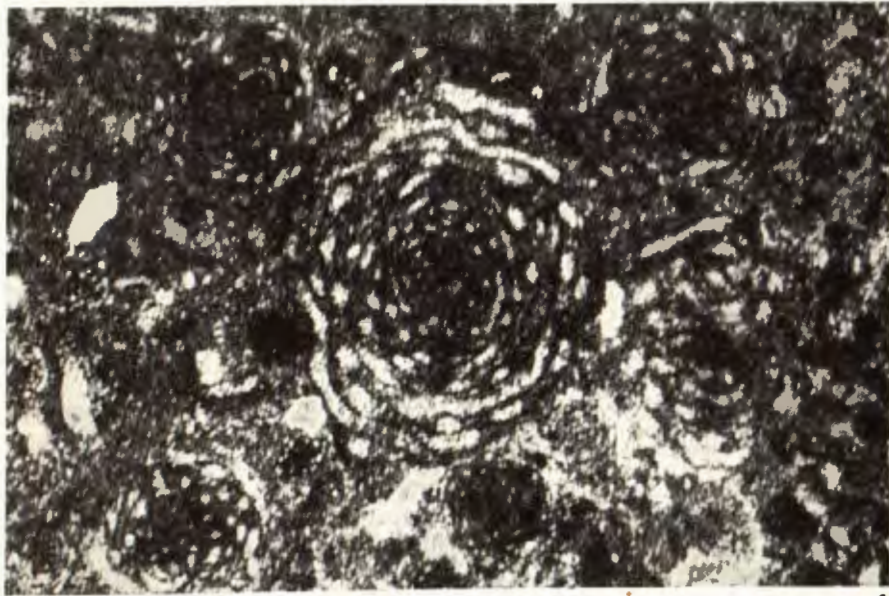
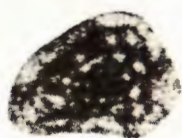


PLATE - TABLA III

- 1-2. *Glomospira?* *sygmoidalis* (Rauzer). No 759"-62.
3-6. *Glomospira articulosa* Plummer. No 2601-61, 759'''-62.
7-9. *Glomospira gordialis* (Jones & Parker). No. 2601-61, 759'''-62.
10-12. *Glomospira irregularis* (Moeller). Nos. 759'-62, 759'''-62.
13-17. *Glomospira* sp. Nos. 2601-61, 759-62.

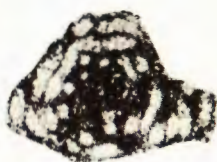
(X 100) Glibovi near Sotonići in Crmnica - Montenegro. (Glibovi kraj Sotonića u Crmnići - Crna Gora)



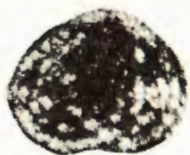
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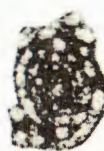
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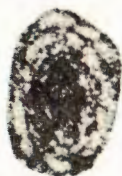
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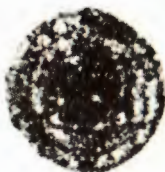
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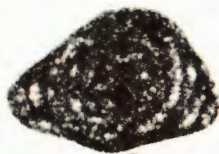
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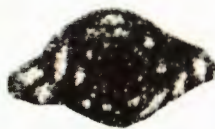
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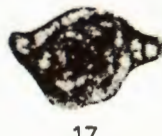
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PLATE - TABLA IV

- 1-6. *Glomospira?* *sygmoidalis* (Rauser), No. 385-56.
7-9. *Glomospira regularis* Lipina. Nos. 385-56, 387-56.
10-11. *Glomospira articulosa* Plummer. Nos. 385-56, 387-56.
12-14. *Glomospira sinensis* Ho. No. 385-56.
15-16. *Glomospirella irregularis* (Moeller). No. 385-56.
17. Mikrofacies with Glomospirids. (Mikrofacija sa glomospirama) No. 385-56.
(× 75) Limljani in Crmnica - Montenegro. (Limljani u Crmnici - Crna Gora)

