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Latest Ladinian–Early Carnian radiolarian assemblages from the Zlošnica section (Zlatar Mt., SW Serbia): biostratigraphic implications

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Abstract. The upper part of the Nova Varoš Formation (Late Longobardian) and the Zlošnica Formation (Late Longobardian to Early Carnian) are exposed in the valley of the Zlošnica River (Zlatar Mt. area) as a radiolarite-carbonate succession more than 50 m thick. The lower part of the section (uppermost part of the Nova Varoš Formation) is characterized by a radiolarian assemblage containing *Muelleritortis cochleata* (Nakaseko & Nishimura) and *Tritortis kretaensis* (Kozur & Krahl). Their co-occurence indicates the upper part of the Muelleritortis cochleata Zone (Latest Ladinian). The upper part of section (Zlošnica Formation) is characterized by an assemblage belonging to the Early Carnian Tritortis kretaensis Zone. The Early Carnian succession of the Zlošnica section was deposited in a basin situated between the Wetterstein Carbonate Platform of the Drina–Ivanjica Unit to the east and the Wetterstein Carbonate Platform of the East–Bosnian Durmitor Megaunit to the west. This succession records a short-lived, newly formed intraplatform basin that developed between rapidly prograding carbonate platforms during the Early Carnian.

Key words:
Radiolaria, Nova Varoš Formation, Zlošnica Formation, East–Bosnian Durmitor Megaunit, Serbia.

Апстракт. Горњи део формације Нова Варош (горњи лонгобардијан) и Злошничке формације (горњи лонгобардијан до доњи део карнијског ката) представљени су у долини реке Злошнице (подручје Златара) радиоларитско-карбонатном сукцесијом већом од 50 m. Доњи део профила (највиши део Нова Варош формације) карактерише радиоларијска асоцијација са врстама *Muelleritortis cochleata* (Nakaseko & Nishimura) и *Tritortis kretaensis* (Kozur & Krahl). Њихово заједничко присуство указује на горњи део Muelleritortis cochleata зоне (најмлађи део ладинског ката). Горњи део профила (Злошничка формација) карактерише радиоларијска асоцијација доњокарнијске Tritortis kretaensis зоне. Доњокарнијски део седиментне сукцесије Злошница профила депонован је у басену смештеном између Ветерштајнске карбонатне платформе Дрина–Ивањице јединице, на истоку и Ветерштајнске карбонатне платформе Источно-босанско дурмиторске мегајединице на западу, и представља доказ егзистовања краткотрајног, интраплатформског басена, који је настао између брзо проградирајућих карбонатних платформи током доњег дела карнијског ката.

Кључне речи:
Радиоларија, Нова Варош формација, Злошница формација, Источно босанско–дурмиторска мегајединица, Србија.

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Introduction

The early opening history and oceanic break-up of the Neo-Tethys Ocean are well documented and precisely dated in the Anisian depositional record of the Western Tethys Realm (Gawlick et al., 2017, 2021). During the latest Permian to Middle Triassic, the Dinarides were characterized by a graben stage related to extensional rifting processes (Gawlick et al., 2021). Within this tectonic framework, the shallow-water carbonates of the Ravni Formation were deposited in an epicontinental sea during the Early–Middle Anisian, prior to continental break-up (Sudar et al., 2013). The formation of Neo-Tethyan oceanic crust started around the Middle/Late Anisian boundary and was contemporaneous with the drowning of the Ravni/Steinalm Carbonate Ramp.

The demise of the Middle Anisian shallow-water carbonate ramp and the establishment of a horst-and-graben morphology in the Dinarides marked a major paleogeographic reorganization (Sudar et al., 2013, 2023; Gawlick et al., 2021, 2023). Two uplifted Late Anisian horsts can be reconstructed: one in the area of the later Drina–Ivanjica Unit (Gawlick et al., 2017) and another in the area of Durmitor Mountain within the East Bosnian–Durmitor Megaunit (Mrdak et al., 2024), with a complex graben structure developed between them (compare Rampnoux, 1974).

The subsequent evolution of the passive continental margin during the Middle–Late Triassic was characterized by the development of predominantly Late Triassic carbonate platforms (the Wetterstein and Dachstein carbonate platforms) and their transition into open-marine outer shelf and continental-slope environments. During the Latest Ladinian–Early Carnian, the evolution of the Wetterstein Carbonate Platforms marked the onset of the first major carbonate platform cycle (Missoni et al., 2012; Gawlick et al., 2017). These platforms developed mainly on pre-existing morphological highs and rapidly prograded from these areas into the basins formed during the late Anisian extensional phase. During the early Late Triassic, the western to northwestern Neo-Tethyan shelf consisted of several isolated and attached Wetterstein Carbonate Platforms separated by short-lived intraplatform basins (Gawlick et al., 2017). It is important to emphasize that the late Middle Anisian to Late Ladinian/Early Carnian deep-water sedimentary rocks cannot be interpreted as intraplatform-basin deposits, because no extensive carbonate platforms existed during this interval. Exceptions include locally developed Illyrian atoll reefs within the deep-water shelf, short-lived late Illyrian shallow-water carbonate production on flooded horsts and proximal shelf areas, and a restricted early Longobardian phase of shallow-water carbonate production (e.g., Sudar et al., 2013; Gawlick et al., 2017; Mrdak et al., 2025).

Because radiolarite deposition in shelf areas corresponds to periods of reduced or absent carbonate production, radiolarian assemblages provide an important tool for constraining the onset and evolution of several short-lived, independent Wetterstein Carbonate Platforms in the Drina–Ivanjica Unit and the East Bosnian–Durmitor Megaunit, as well as for documenting the short-lived intra-platform basins between them.

The aim of this paper is to present the precise bio-stratigraphic data based on radiolarian assemblages from a Late Ladinian–Early Carnian sedimentary succession in southwestern Serbia, characterized by a gradual transition from radiolarite to calcareous deposition.

Geological setting

The Zlošnica River area (Zlatar Mt.), located in southwestern Serbia within the Dinarides (Figs. 1, 2), exposes a well-preserved Middle to Upper Triassic succession. Overlying the Early–Middle Anisian shallow-water carbonates of the Ravni Formation, the Nova Varoš Formation comprises basalts overlain by laminated radiolarites, locally enriched in siliceous claystones, as well as occasional fine-grained breccias and volcaniclastic sandstones derived from eroded volcanos.

The Nova Varoš Formation represents the type formation of the Nova Varoš Group (Fig. 3) which includes all siliceous–radiolaritic sedimentary rocks and related deposits formed after the drowning of the Ravni Formation with its overlying limestones of the Bulog Group (Sudar et al., 2023) along the passi-

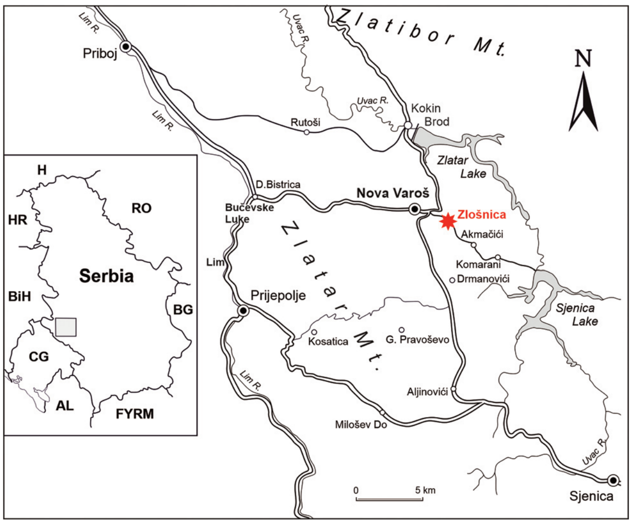

*Fig. 1. **A)** Geographic sketch map of Serbia with position of the studied section in southwest Serbia. **B)** Studied section on the left side of the Zlošnica River valley, near the Akmačići village.*

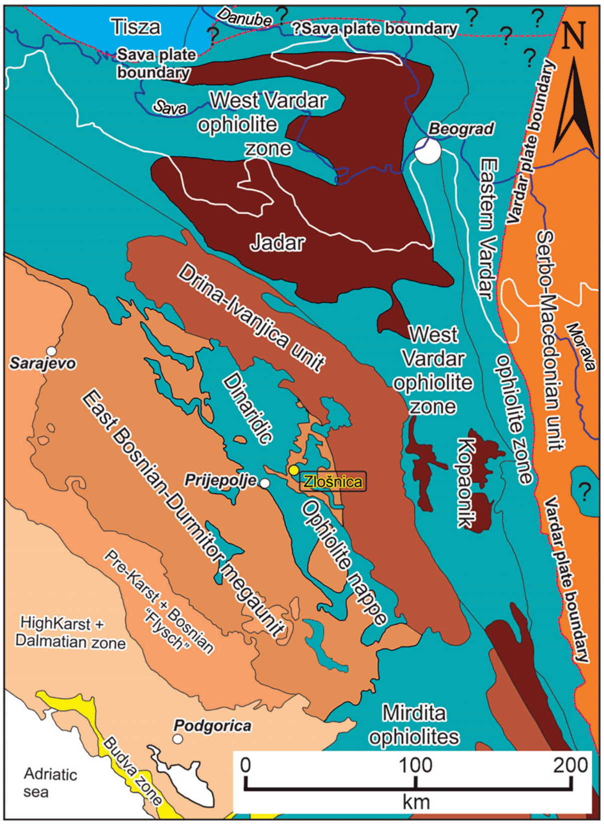

Fig. 2. Overall tectonic map of the Inner Dinarides in Serbia and adjacent countries redrawn after SCHMID et al. (2008, 2020), SUDAR et al. (2023, 2025) based on new results (GAWLICK et al., 2017, 2023; DJERIĆ et al., 2024). Study section indicated by a yellow circle.

ve continental margin facing the Neo-Tethys Ocean to the east. The Nova Varoš Group (Fig. 3), as defined by GAWLICK et al. (2017), encompasses several lithologically diverse formations characterized by facies transitions, mixed sedimentary successions, and lithostratigraphic units that cannot be mapped as basin-wide formations. In their interpretation, the group represents the paraautochthonous basement of the East Bosnian–Durmitor Megaunit (Fig. 2) and consists of heterogeneous Late Anisian–Late Ladinian deposits. The lithologically diverse formations of the Nova Varoš Group include basalt intercalations, volcanic ash horizons, radiolarites interbedded with cherty limestones and siliceous claystones, as well as siltstone and sandstone layers containing reworked basaltic material and polymictic mass-transport deposits.

The overlying Zlošnica Formation (Fig. 3) spans the uppermost Ladinian to lower Carnian, and is dominated by bedded grey siliceous limestones with thick chert layers, intercalated volcanic ash layers, and thin claystone horizons (GAWLICK et al., 2017). It was deposited in a short-lived, deep-water intraplatform basin situated between prograding Wetterstein Carbonate Platforms. Sedimentation was predominantly hemipelagic, with local input of resedimented shallow-water carbonate debris and volcanic ash material. Microfacies analyses indicate relatively low-energy conditions that were occasionally semi-restricted (GAWLICK et al., 2017). The Middle–Late Carnian (Julian 2–Late Tuvalian) Džegeruša Formation (Fig. 3), composed of fine-grained dark-grey carbonate-free siliceous claystones, overlies the Zlošnica Formation. GAWLICK et al. (2017) interpreted the Džegeruša Formation as representing fine-grained siliciclastic sedimentation within a short-lived Early Carnian intraplatform basin in southwestern Serbia, located between the Wetterstein Carbonate Platforms of the Drina–Ivanjica Unit and the East Bosnian–Durmitor megaunit, prior to the onset of Dachstein Carbonate Platform evolution. The basin remained deep and received only fine-grained siliciclastic input, which was insufficient to fill the available accommodation space.

Lithological description

The Zlošnica section, exposed along the road to Akmačići Village on the left side of the Zlošnica River

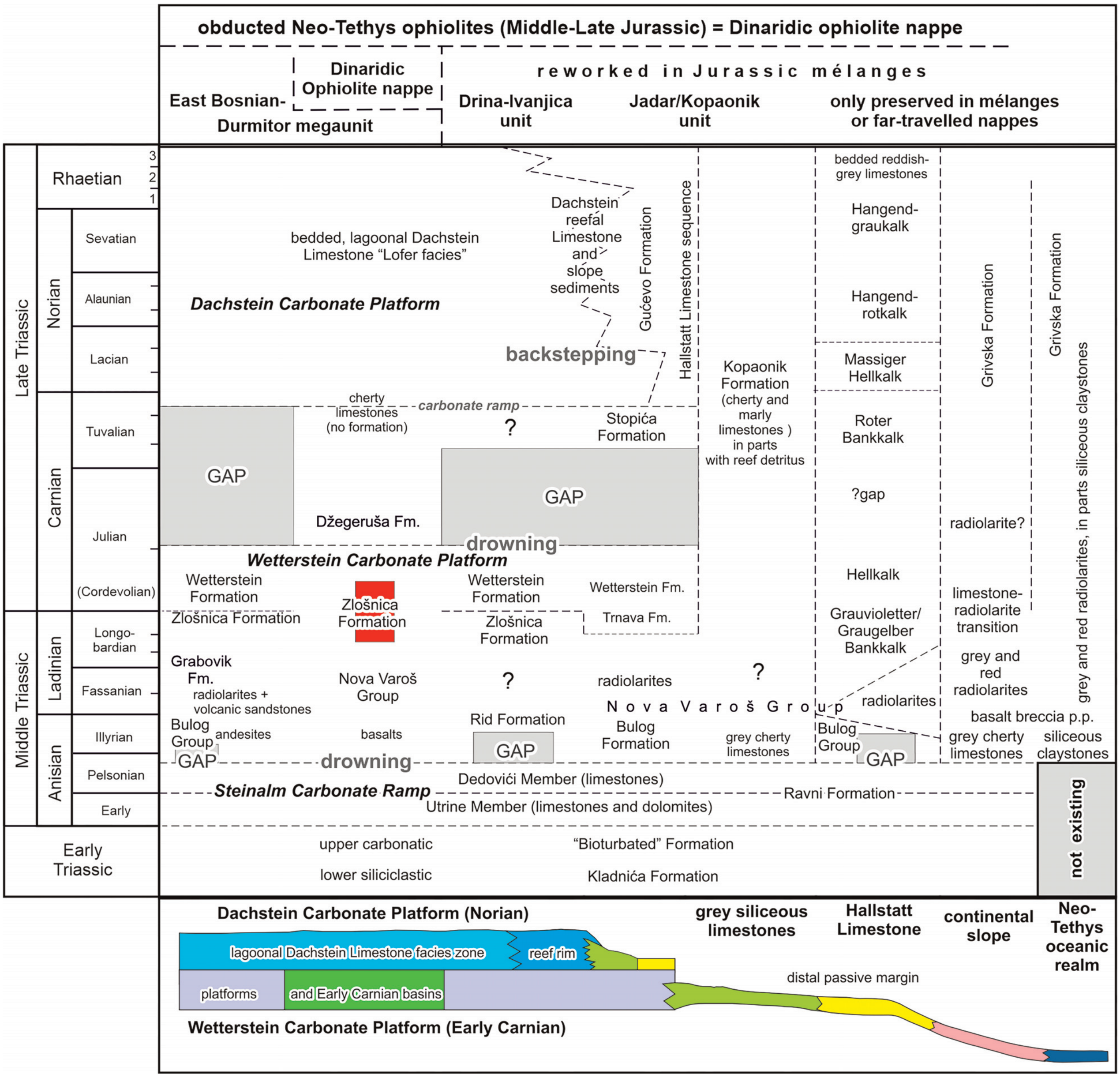

Fig. 3. *Stratigraphic framework of the Triassic in the Inner and Outer Dinarides, modified after Gawlick et al. (2017), Sudar et al. (2025). Descriptions, definitions, and emendations of several formations are given by Sudar et al. (2013, 2023), Sudar & Gawlick (2018), and Gawlick et al. (2017, 2023). The studied section is marked in red.*

valley, extends from 43°26′26.2″ N, 19°51′10.3″ E to 43°26′20.5″ N, 19°51′23.0″ E (Figs. 1, 2, 4). The stratigraphic framework and subdivision into formations follow Gawlick et al. (2017). A lithological profile of the section, based on field photographs, is presented in Fig. 4.

The Nova Varoš Formation at the Zlošnica section begins with more than 50 m of greenish-brown, greenish-grey, and reddish-brown basic volcanic rocks, typically strongly altered and tectonized, and locally crosscut by pink calcite veins (Unit 1 in Figs. 4, 5). These rocks are overlain by 1–1.5 m of red clayey thin-bedded radiolarites with intercalations of red siliceous mudstones (Unit 2 in Figs. 4, 5). A 2 m thick covered interval follows, interpreted as a fault zone because the overlying siliceous limestone succession occurs at a lower hypsometric position than the underlying Unit 2. The succeeding 20 m thick interval (Unit 3 in Figs. 4, 5) consists of light-yellowish-grey clayey radiolarites (Fig. 6A), grey cherty marls, light-grey micritic limestones, and dark-grey silicified calcarenites interbedded

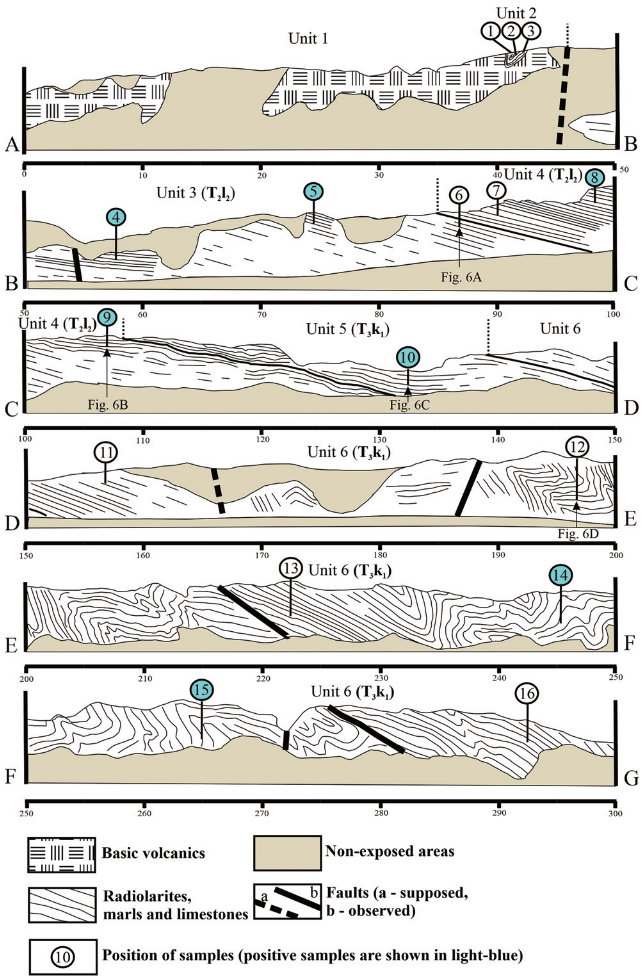

Fig. 4. *Section of the Middle–Upper Triassic deposits in the valley of Zlošnica River.*

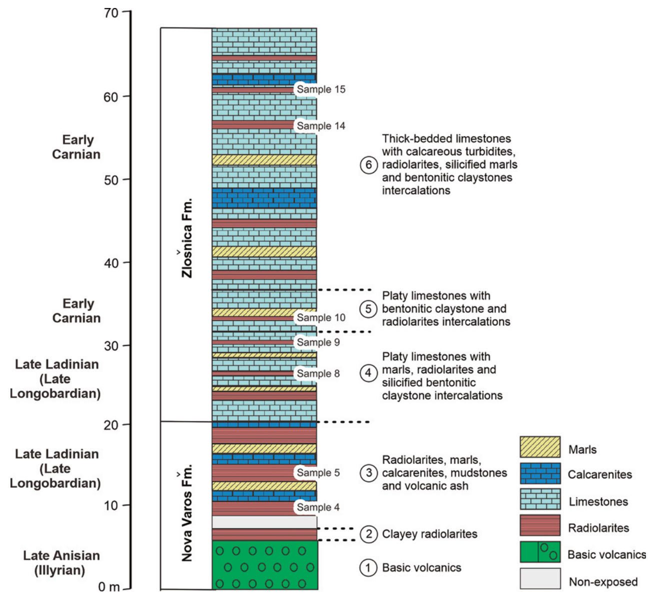

Fig. 5. *Late Anisian to Early Carnian sedimentary succession along the Zlošnica river valley. Positions of the radiolarian bearing samples are indicated.*

with subordinate yellowish-grey and greenish-grey mudstones, greenish-grey and reddish-grey radiolarites, and greenish-grey volcanic ash.

The overlying Zlošnica Formation (Unit 4 in Figs. 4, 5) begins with a 12 m thick interval characterized by light-grey to white and yellowish-grey platy limestones with thin intercalations of greenish-grey cherty marls (Fig. 6B) and greenish-grey silicified bentonitic claystones. The succession continues with 5 m of light-grey to yellowish-grey platy limestones interbedded with greenish-grey bentonitic claystones and greenish-grey radiolarites (Unit 5 in Figs. 4, 5). The upper part of the Zlošnica Formation (Unit 6 in Figs. 4, 5) is represented by more than 30 m of light-yellowish-grey thick-bedded (10–20 cm) limestones with abundant intercalations of grey silicified calcarenites (calcareous turbidites), greenish-grey radiolarites (Fig. 6C), greenish-grey silicified marls, and green to yellowish-green bentonitic claystones. This interval is characterized by numerous faults and intensive folding (Fig. 6D), although the faults display only limited displacement.

Methods

We collected 16 samples of siliceous rocks from Units 2–6 (Fig. 4). Only seven samples yielded radiolarians (Table 1). The radiolarian assemblages were extracted using diluted (5%) hydrofluoric acid (HF) for 12 hours; the residues were then rinsed with water and dried. The samples were initially examined under a light microscope (LOMO-MBS-10), after which the microfossils were collected, mounted on stubs, and analyzed in detail. Imaging was carried out using scanning electron microscopes (TESCAN 2300) at the Geological Institute RAS. The radiolarian assemblages are housed in the Geological Institute RAS, Moscow, Russia.

Radiolarian biostratigraphy

Well-preserved radiolarians (Figs. 7–9, Table 1) were recovered from Units 3, 4 and 5 (Fig. 4). The il-

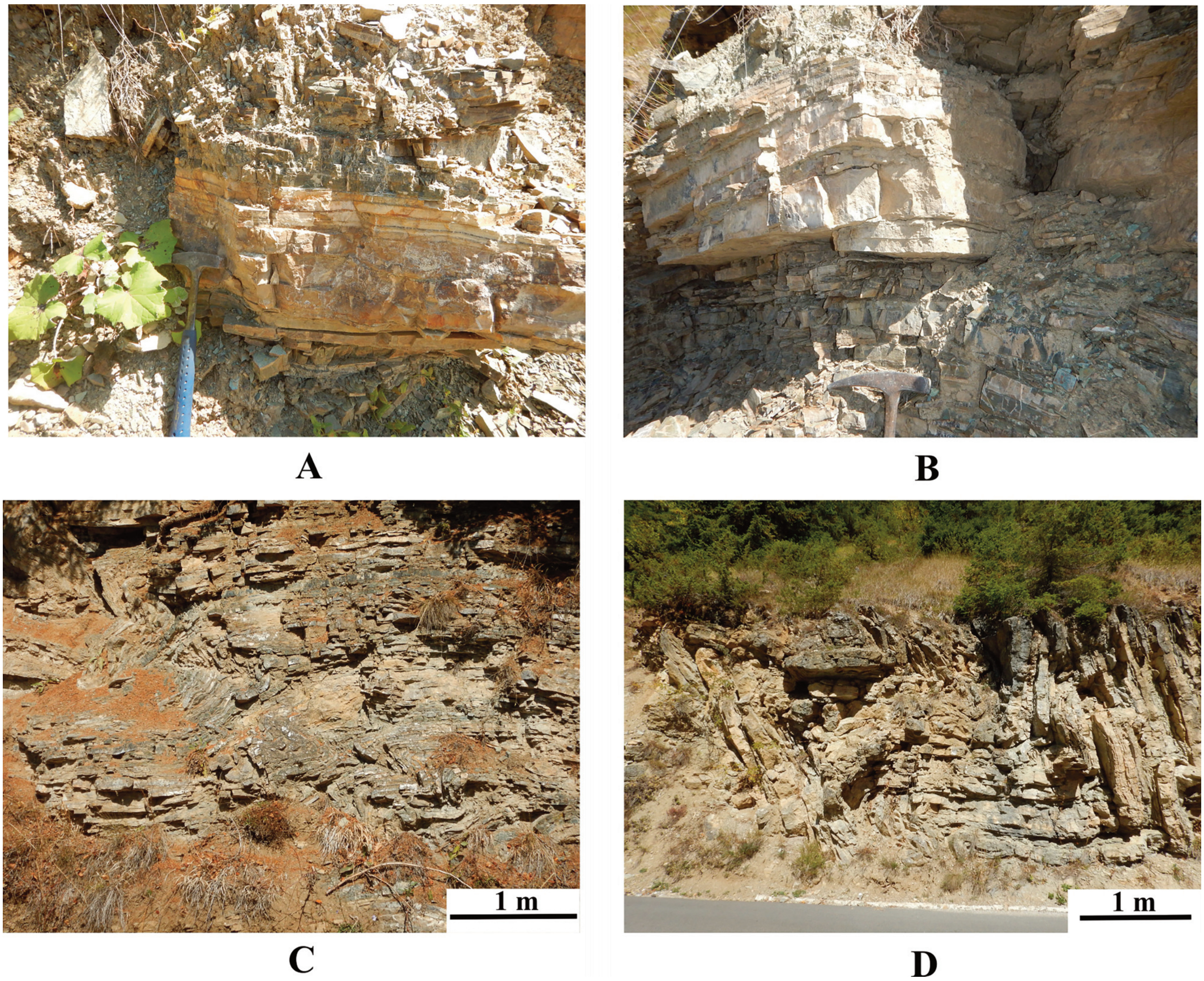

Fig. 6. Details of outcrops of Zlošnica section. ***A)*** *Light-yellowish-grey radiolarites interbedded with grey cherty marls, level of sample 6;* ***B)*** *White limestones interbedded with grey siliceous marls, level of sample 9;* ***C)*** *Folded siliceous marls with chert interbeds, level of sample 10;* ***D)*** *Strongly folded limestones and siliceous marls and volcanic ash layers, level of sample 12.*

lustrated specimens allow age determination based on their stratigraphic ranges (Fig. 10). Samples collected from Unit 2 (Fig. 4, samples 1–3) yielded only a few poorly preserved specimens that cannot be identified.

Unit 3 is characterized by a low-diversity assemblage comprising only four species represented by rare specimens (Table 1, samples 4 and 5). Among them are several taxa of stratigraphic importance. *Muelleritortis cochleata* (NAKASEKO & NISHIMURA) (Fig. 7E, F, I) is known from the Late Ladinian (NAKASEKO & NISHIMURA, 1979; BRAGIN, 1986; KOZUR, 1988a, b; KOZUR & MOSTLER, 1994, 1996; TEKIN, 1999; BRAGIN, 2000; O'DOGHERTY et al., 2010; GORIČAN et al., 2018; KHALIL et al., 2020) (Fig. 10).

Another taxon of stratigraphic significance is *Tritortis dispiralis* (BRAGIN) (Fig. 8 C, D, F–I), which is common in the Late Ladinian and Early Carnian (BRAGIN, 1986; KOZUR, 1988a, b; BRAGIN, 2000; KHALIL et al., 2020; ROBERTSON et al., 2025) (Fig. 10). The species *Tritortis kretaensis* (KOZUR & KRAHL) (Fig. 8A, B) is of particular interest. It occurs within the interval spanning the latest Ladinian to the early Carnian (KOZUR & KRAHL, 1984; BRAGIN, 1986; KOZUR, 1988a, b; TEKIN, 1999; O'DOGHERTY et al., 2010; GORIČAN et al., 2018; KHALIL et al., 2020) (Fig. 10) and represents the index species of the eponymous Early Carnian zone (KOZUR & MOSTLER, 1994, 1996). The interval represented by Unit 3 can be assigned to the latest Ladinian (Late Longobardian) based on the overlapping strati-

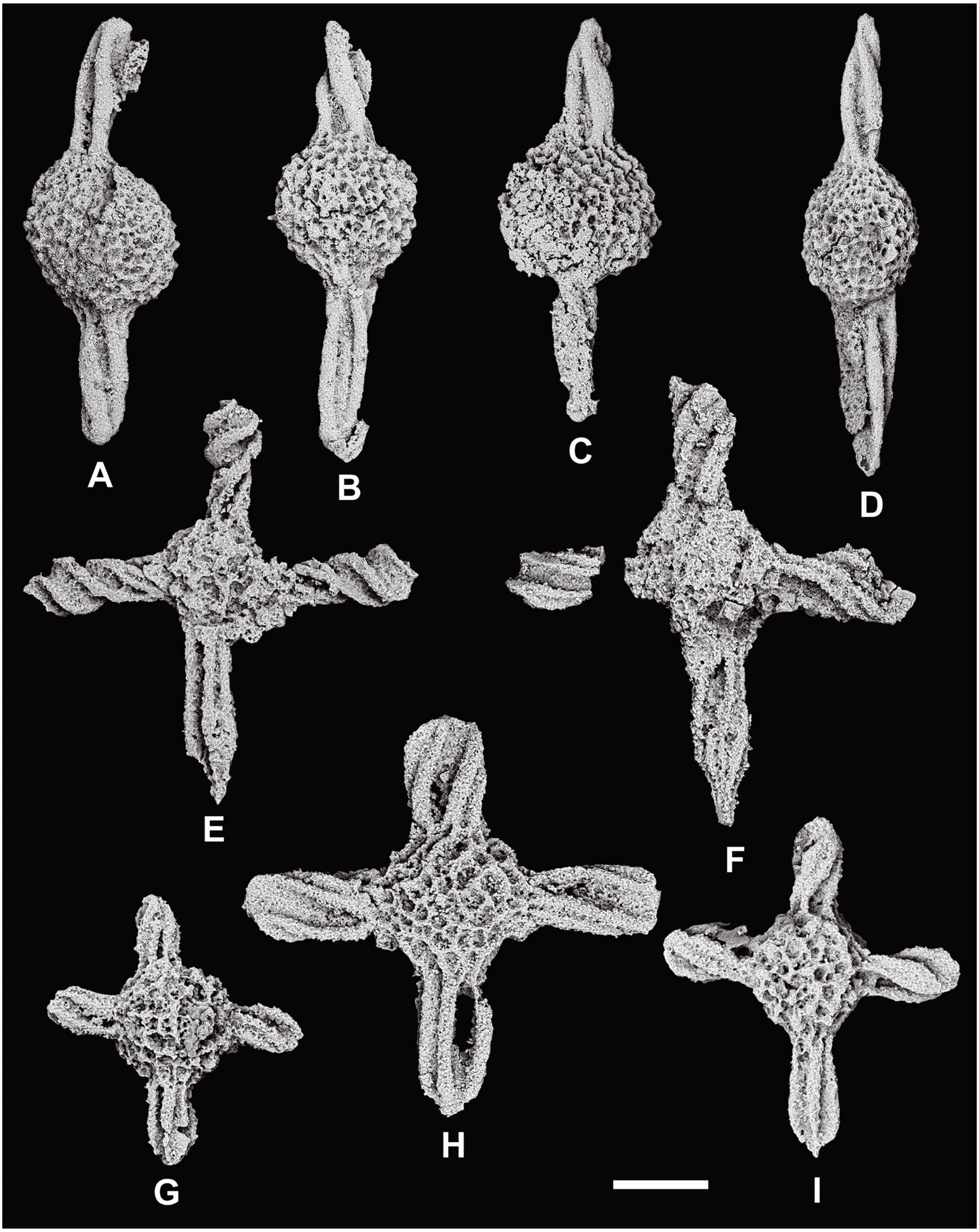

Fig. 7. *Entactinaria (genera Pseudostylosphaera and Muelleritortis) from Zlošnica section.* ***A, C*** *– Pseudostylosphaera imperspicua (Bragin, 1986), both – sample 9;* ***B*** *– Pseudostylosphaera inaequata (Bragin, 1986), sample 10;* ***D*** *– Pseudostylosphaera nazarovi (Kozur & Mostler, 1979), sample 10;* ***E, F, I*** *– Muelleritortis cochleata (Nakaseko & Nishimura, 1979),* ***E*** *– sample 5,* ***F*** *and* ***I*** *– sample 9;* ***G*** *– Muelleritortis* sp. cf. *M. cochleata (Nakaseko & Nishimura, 1979), sample 4;* ***H*** *– Muelleritortis expansa Kozur & Mostler, 1996, sample 9. Scale bar – 170 µm (A–D); 100 µm (E–H).*

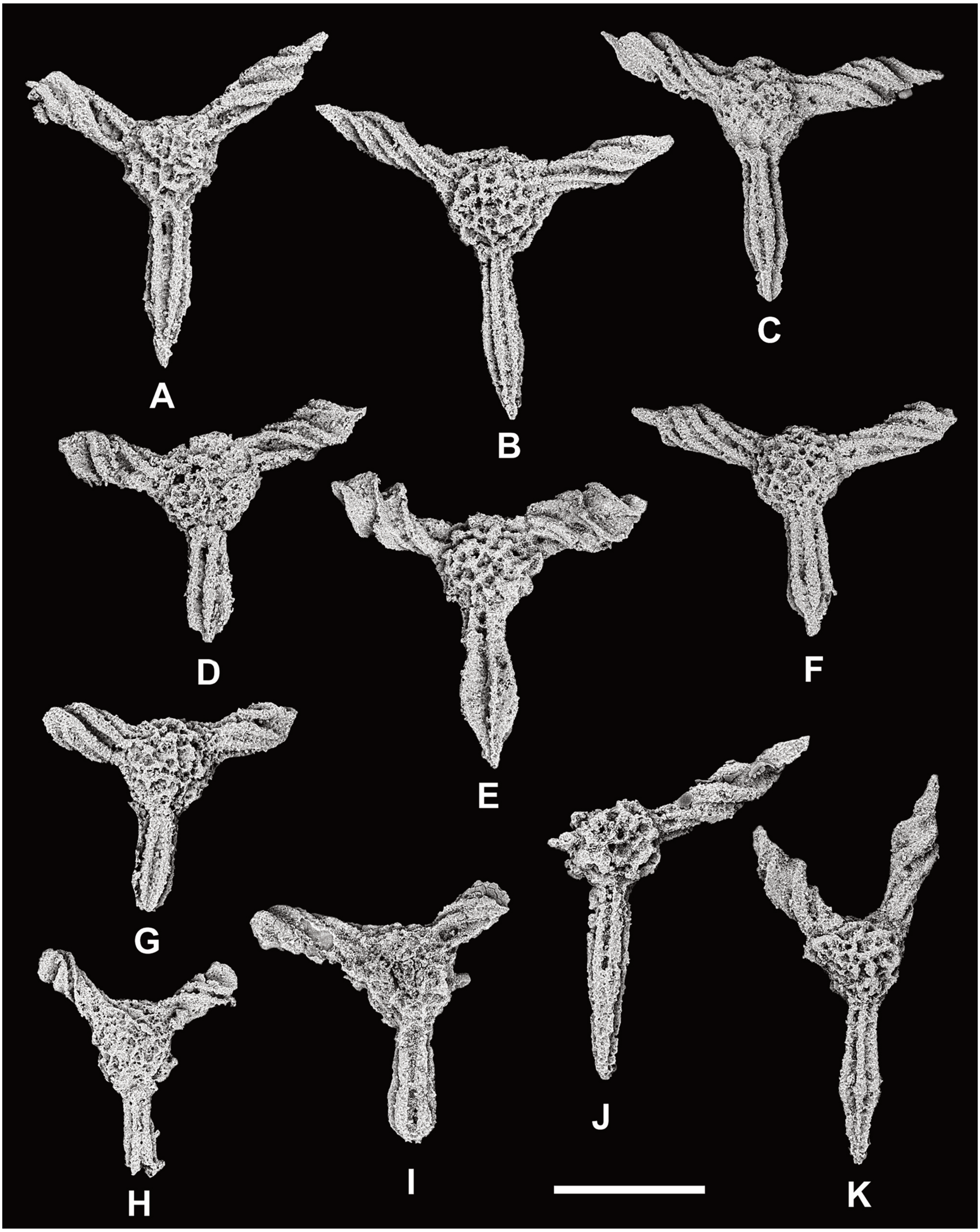

Fig. 8. *Entactinaria (genus Tritortis) from Zlošnica section.* ***A, B*** *– Tritortis kretaensis (Kozur & Krahl, 1984),* ***A*** *– sample 5,* ***B*** *– sample 10;* ***C, D, F–I*** *– Tritortis dispiralis (Bragin, 1986),* ***C*** *– sample 4;* ***D*** *– sample 8;* ***F–H*** *– sample 9;* ***I*** *– sample 10;* ***E*** *– Tritortis* sp. cf. *T. dispiralis (Bragin, 1986), sample 9;* ***J, K*** *– Tritortis ariana (Cordey, 1988), both – sample 10. Scale bar – 200 µm (A–F, H, J, K), 170 µm (G, I).*

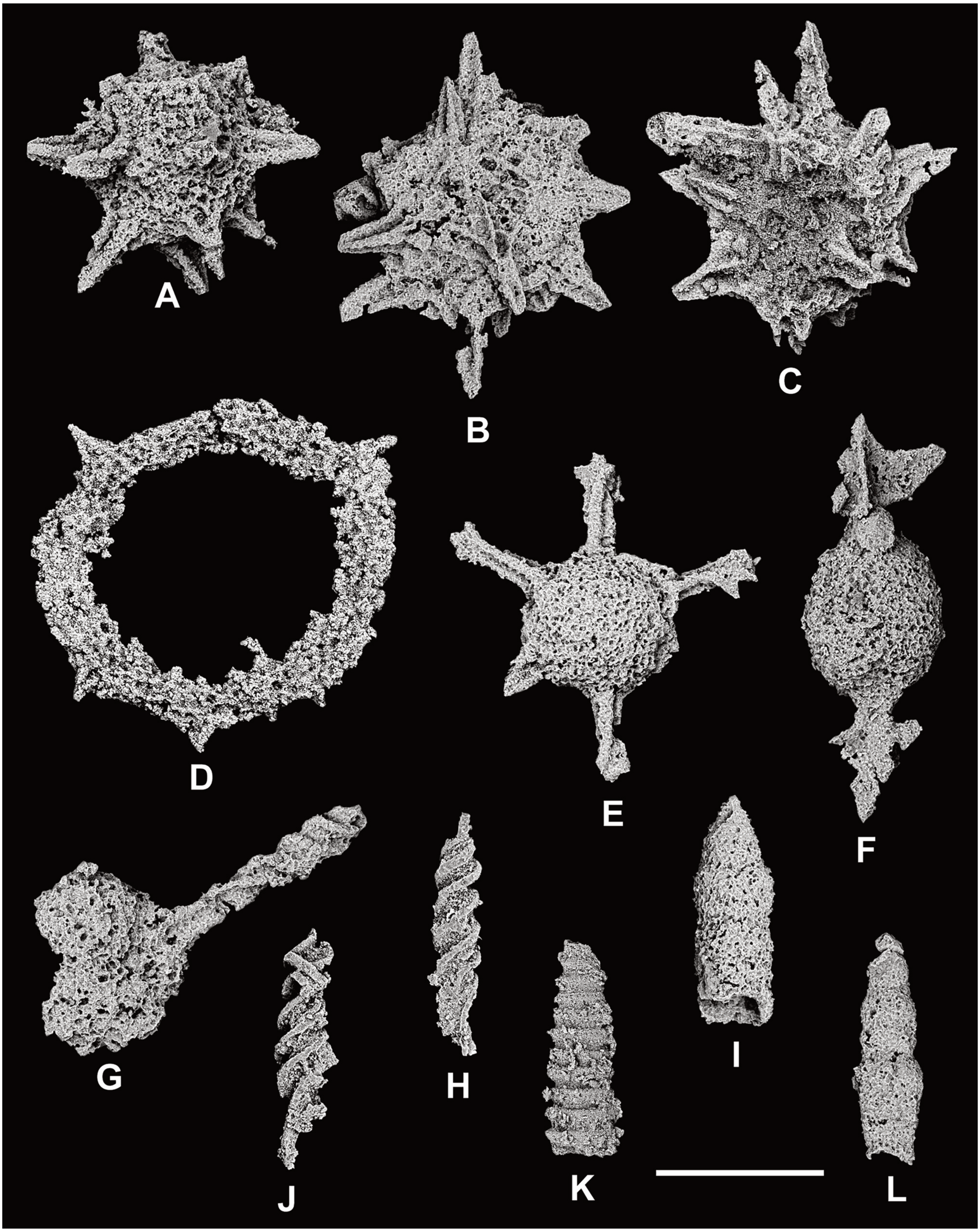

Fig. 9. *Spumellaria and Nassellaria from Zlošnica section.* ***A–C*** *– Carinaheliosoma carinata (Kozur & Mostler, 1979), all from sample 10;* ***D*** *– Orbiculiformella* sp. cf. *O. karnica (Kozur & Mostler, 1978), sample 10;* ***E*** *– Relindella* sp., *sample 10;* ***F*** *– Dumitricasphaera* sp. cf. *D. galeata Tekin & Mostler, 2005, sample 10;* ***G–H*** *– Spongotortilispinus tortilis (Kozur & Mostler, 1979), both – sample 10;* ***K*** *– Annulotriassocampe* sp., *sample 10;* ***I*** *– Canoptum* sp. aff. *C. cucurbita (Sugiyama, 1997), sample 15;* ***L*** *– Canoptum* sp. cf. *C. inornatus Tekin, 1999, sample 10. Scale bar – 170 µm for all specimens.*

graphic ranges of *Muelleritortis cochleata* and *Tritortis kretaensis*. Accordingly, this interval most likely corresponds to the upper part of the Muelleritortis cochleata Zone, where *Tritortis kretaensis* first appears Kozur & Mostler, 1994; Kozur, 2003).

sented by *Annulotriassocampe* sp., *Canoptum* sp. aff. *C. cucurbita* (Sugiyama) (Fig. 9I) and *Canoptum* sp. cf. *C. inornatus* Tekin (Fig. 9L). These representatives of *Canoptum* are also known also from the Late Ladinian–Middle Carnian interval (Tekin, 1999; Tekin et al., 2012). Accordingly, this unit can be assigned to the latest Ladinian (Late Longobardian).

***Table 1**. Composition and abundance of radiolarian assemblage in the Zlošnica Section (**A** – abundant, **C** – common, **R**-rare).*

Radiolarian species \ Samples	4	5	8	9	10	14	15
Pseudostylosphaera imperspicua (Bragin)				C	A		
Pseudostylosphaera inaequata (Bragin)					C		
Pseudostylosphaera nazarovi (Kozur & Mostler)					C		
Muelleritortis cochleata (Nakaseko & Nishimura)		R	R	R			
M. sp. cf. *M. cochleata* (Nakaseko & Nishimura)	R						
Muelleritortis expansa Kozur & Mostler				R			
Tritortis kretaensis (Kozur & Krahl)	R	R	C	C	C		
Tritortis dispiralis (Bragin)	R	R	C	A	A		
Tritortis sp. cf. *T. dispiralis* (Bragin)				R			
Tritortis ariana Cordey					R		
Carinaheliosoma carinata (Kozur & Mostler)					C		
Orbiculiformella sp. cf. *O. karnica* (Kozur & Mostler)					R		
Relindella sp.					R		
Dumitricasphaera sp. cf. *D. galeata* Tekin & Mostler					R		
Spongotortilispinus tortilis (Kozur & Mostler)					C		
Annulotriassocampe sp.	R			R	R		R
Canoptum sp. aff. *C. cucurbita* (Sugiyama)				R	R	R	R
Canoptum sp. cf. *C. inornatus* Tekin				R	R	R	R

Unit 4 yielded a slightly more diverse radiolarian assemblage (Table 1, samples 8 and 9). *Muelleritortis cochleata*, *Tritortis kretaensis* and *T. dispiralis* continue to occur and are common to abundant. *Muelleritortis expansa* Kozur & Mostler (Fig. 7H) has been reported from the Late Ladinian and earliest Carnian (Kozur & Mostler, 1996; Tekin, 1999). In addition, *Pseudostylosphaera imperspicua* (Bragin) appears (Fig. 9A, C). This species is present in the Late Ladinian – Early Carnian (Bragin, 1986; Tekin, 1999; Robertson et al., 2025). Rare Nassellaria are repre-

Unit 5 is characterized by an abundant and diverse assemblage that includes the previously mentioned taxa (except *Muelleritortis cochleata* and *M. expansa*) together with numerous additional forms (Table 1, sample 10). Among these, *Pseudostylosphaera inaequata* (Bragin) (Fig. 7B), known from the Late Ladinian to Early Carnian (Fig. 10; Bragin, 1986, 1991, 2000), and *P. nazarovi* (Kozur & Mostler) (Fig. 7D), ranging from the Late Ladinian to Middle Carnian

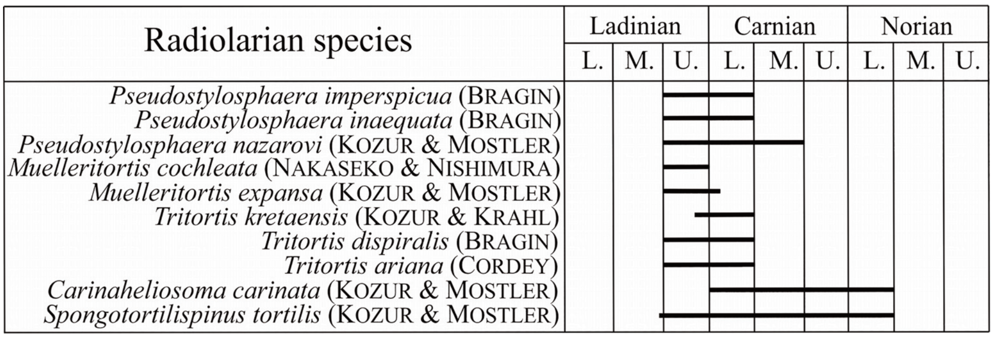

Fig. 10. *Stratigraphic ranges of selected radiolarian taxa from Zlošnica section.*

(Tekin, 1999; Tekin et al., 2012), are noteworthy. *Tritortis ariana* (Cordey) (Fig. 8J, K) also occurs in the Late Ladinian and Early Carnian (Fig. 10; Tekin, 1999). *Carinaheliosoma carinata* (Kozur & Mostler) (Fig. 9A–C) is known from the Carnian to Early Norian (Fig. 10; Kozur & Mostler, 1981; Bragin & Krylov, 1999; Bragin, 2007), whereas *Spongotortilispinus tortilis* (Kozur & Mostler) (Fig. 9G, H) ranges widely from the Late Ladinian to Early Norian (Fig. 10; Kozur & Mostler, 1979; Kozur & Mostler, 1981; Lahm, 1984; Tekin, 1999; Bragin & Krylov, 1999; Bragin, 2007; Tekin et al., 2012; Oszvárt et al., 2018). Other taxa in this sample were identified in open nomenclature and are therefore of secondary importance for age determination. Nevertheless, *Orbiculiformella karnica* (Kozur & Mostler) has been reported from the Late Ladinian–Middle Carnian interval (Kozur & Mostler, 1978; Tekin, 1999; Thassanapak et al., 2017). *Dumitricasphaera galeata* Tekin & Mostler is known from a single Middle Triassic locality of Late Ladinian age (Tekin & Mostler, 2005). Therefore, Unit 5 can be assigned to the Early Carnian Tritortis kretaensis Zone (Kozur, 2003).

The Unit 6 is chacterized by very sparce radiolarian occurences represented exclusively by nassellarians: *Annulotriassocampe* sp., *Canoptum* sp. aff. *C. cucurbita* (Sugiyama), and *C.* sp. cf. *C. inornatus* Tekin. These *Canoptum* taxa are known from the Late Ladinian–Middle Carnian interval (Tekin, 1999; Tekin et al., 2012). This part of the section may therefore represent a continuation of the Early Carnian succession.

Discussion

The transition from the top of the Nova Varoš Formation to the base of the Zlošnica Formation was previously defined on the basis of a poorly preserved radiolarian assemblage and the occurrence of *Annulotriassocampe* cf. *sulovensis* (Kozur & Mostler), indicating a latest Ladinian (Late Longobardian)–Early Carnian age (sample SCG 41; Gawlick et al., 2017). The base of the Zlošnica Formation was further constrained by the occurrence of the conodont specimen *Gladigondolella tethydis* (Huckriede), also suggesting a Late Longobardian–Early Carnian age (sample SCG 42; Gawlick et al., 2017), whereas slightly higher in the section the first appearance of *Paragondolella polygnathiformis* (Budurov & Stephanov) indicates a definite Carnian age.

According to Gawlick et al. (2017), radiolarite deposition prevailed until the Late Ladinian, whereas the first limestone layers, still strongly silicified, appeared during the latest Ladinian. This interval records a gradual transition from radiolaritic to calcareous sedimentation, as additionally confirmed by the radiolarian assemblages from Unit 4 (Late Longobardian), representing the lowermost part of the Zlošnica Formation. The interval marks the establishment and aggradation of a carbonate platform on the central shelf (Drina–Ivanjica Unit). During the Late Longobardian, the first major carbonate platform cycle began with the evolution of the Wetterstein Carbonate Platforms sensu stricto. In the initial phase, the platform developed in the more central parts of the passive-margin setting (Drina–Ivanjica Unit).

Conclusions

Radiolarian assemblages obtained from the uppermost part of the Nova Varoš Formation, characterized by predominant radiolarite deposition within a restricted deep-lagoonal setting, indicate a Late Longobardian age for these sediments.

Rapid aggradation during the Late Longobardian led to an increase in carbonate content within the restricted deep-lagoonal area west of the platform (Unit 4; Figs. 5, 6B). Subsequently, during the Early Carnian, carbonate platforms also developed in the more proximal parts of the passive margin (e.g., East Bosnian–Durmitor Megaunit).

During the Late Longobardian, a carbonate platform was initiated and rapidly aggraded on the central shelf (Drina–Ivanjica Unit), whereas the Early Carnian marks the onset of Wetterstein platform development in the more proximal shelf areas (East Bosnian–Durmitor Megaunit).

Between these rapidly prograding carbonate platforms, the Džegeruša intraplatform basin persisted throughout the Early Carnian and accumulated siliceous deep-water limestones and carbonate turbidites derived from the adjacent shallow-water platform of the Drina–Ivanjica Unit.

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Резиме

Горњоладинске до доњокарнијске радиоларијске асоцијације седиментне сукцесије локалитета Злошница (Златар, ЈЗ Србија): биостратиграфски аспекти

Радиоларијске асоцијације изоловане из највишег дела Нова Варош формације, коју карактерише преовлађујућа депозиција радиоларита у дубоководним лагунама, указују на горњолонгобардску старост ових седимената. Постепени прелаз из радиоларитске у карбонатну седиментацију (најнижи део Формације Злошница), такође се одвијао током горњег лонгобарда, што потврђују радиоларијске асоцијације. У том периоду дошло је до формирања и брзе аградације карбонатне платформе на централном шелфу Дрина–Ивањице јединице, док је почетком карнијског ката започео и развој Ветерштајнске платформе у проксималнијим деловима шелфа Источно босанско–дурмиторске мегајединице. Између ових платформи формиран је Џегеруша интраплатформски басен, у којем су током доњег дела карнијског ката депоновани силицијски дубоководни кречњаци и карбонатни турбидити, пореклом са суседне плитководне платформе Дрина–Ивањице једнице.

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