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New ostracod and conodont species from the Triassic strata of Slovenia (NW Yugoslavia)

Nova ostrakodna in konodontna vrsta iz triasnih plasti Slovenije (NW Jugoslavija)

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Abstract

A new ostracod species *Polycope ladinica* n. sp. from the Ladinian beds of the Julian Alps, and new conodont species *Neogondolella celeiana* n. sp. from the Langobardian-Cordevolian beds occurring near Celje, are described.

Kratka vsebina

Opisani sta dve novi vrsti: ostrakodna *Polycope ladinica* n. sp. iz ladinijskih plasti Julijskih Alp in konodontna *Neogondolella celeiana* n. sp. iz langobardsko-cordevolskih plasti pri Celju.

The extensive investigations of the isolated Triassic microfauna of Slovenia resulted among other achievements in finding of a new ostracod and a new conodont species.

The new ostracod species *Polycope ladinica* n. sp. is distinguished by fine irregular reticulation on the external surface of the valve. Besides ostracods and conodont fragments, the rich microfauna consists of numerous radiolaria among which a new genus and five new species have been described (Kolar-Jurkovšek, 1989a). The similarity of the microfossil assemblage-radiolaria mainly – of the Gorenja Trenta with that of the Pokljuka section allows the conclusion that the same stratigraphic level is probably in question: the *trammeri* conodont zone encompassing the upper part of the Fassanian and the lower and the middle part of the Langobardian substages (*"Protrachyceras" curionii, Gymnoceratites? poseidon* and *Meginoceras meginae* ammonoid zones) (Kolar-Jurkovšek, 1989b).

The small and medium size elements of the *Neogondolella celeiana* n. sp. are nearly flat with the posterior part only slightly produced downwards. The low carina consists of isolated denticles. The cusp is the strongest and bent posteriorly; behind it

is another thorn-like denticle. This conodont species occurs in the Langobardian--Cordevolian *foliata* conodont zone (*Maclearnoceras maclearni* and *Frankites sutherlandi* ammonoid zones) of the two localities near Celje. The microfossil assemblages of two find-spots consist, among others, of: *Epigondolella baloghi* (Kovacs), *E. mostleri* Kozur, *E. mungoensis* (Diebel), *Gladigondolella malayensis* Nogami, *G. tethydis* (Huckriede) and *Neogondolella foliata foliata* (Budurov) (Kolar-Jurkovšek, 1989 b).

Genus *Polycope* Sars 1866
Polycope ladinica n. sp.
Fig. 1

Derivatio nominis: Named after its stratum typicum.
Holotypus: Fig. 1, sample BE 8832 b (1893), Ljubljana Geological Survey .
Locus typicus: Gorenja Trenta.
Stratum typicum: Ladinian beds.
Material: Twelve valves from Gorenja Trenta BE 8832 b (1893).
Diagnosis: Subrounded valves with fine, irregular reticulations.
Description: Small valves are subround in lateral outline, greatest width is in the median area. The surface has fine reticulated microstructure; polygonal network of the median portion of the valve is surrounded by elongated reticulations. The hinge structure is not determinable in the specimens on hand.
Relations: According to Kozur (1972) the genera *Discoidella*, *Polycopsis* and *Polycope* are difficult to be distinguished one from another. The *P. levis* and the *P. hungarica* have been initially assigned to the genus *Polycopsis* (Kozur, 1970); however the specimens of the latter species have been later illustrated as *D. hungarica* (Kozur, 1972; Taf. 1. Fig. 8).
Small difference between the genera *Polycope* and *Polycopsis* was pointed out by Ulrichs (1972, 695) as well; he assigned the Triassic specimens to the genus *Polycope* in the same way as originally described by Appostolescu (1959). Consequently, the new species from Slovenia has been attributed to this genus.
The surface ornament of this species is distinguished from the other in the genus, which is marked by fine irregular reticulations. The shell surface appears to be smooth in *P. levis* (Kozur), but is characterized by distinct ribbing in *P. hungarica* (Kozur) and *P. cincinnata* Appostolescu.

Genus *Neogondolella* Bender & Stoppel 1965
Neogondolella celeiana n. sp.
Pl. 1, Figs. 1–3

Derivatio nominis: According to its finding in the vicinity of Celje (Celeia is the Latin name of the Celje town).
Holotypus: Pl. 1, figs. 2 a-d, sample CE/1-2 b (1788), Ljubljana Geological Survey.
Paratypus: Pl. 1, figs. 1 a-c, 3 a-c, sample CE/1-2 b (1788, 1858), Ljubljana Geological Survey.
Stratum typicum: Bed CE/1-2 b, (*Neogondolella foliata* – R.Z.).
Locus typicus: Škrjanec near Celje.
Material: Thirteen specimens from Škrjanec CE/1-2 b, d (1858, 1788) and three from Straža CE/2-5, CE/2-2, CE/2-1 (1863, 1856, 1860).

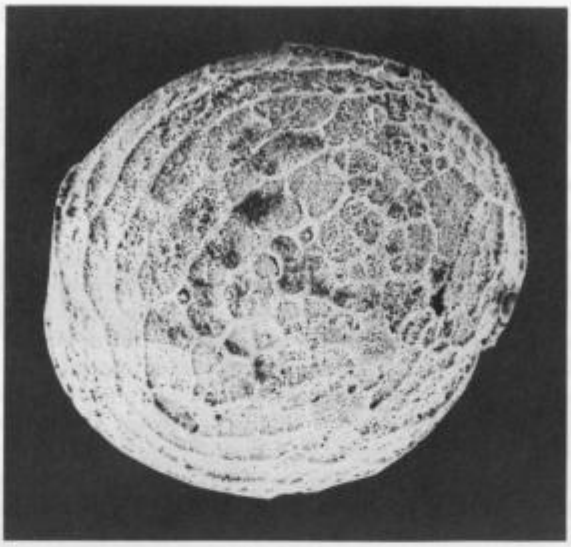

Fig. 1 – Sl. 1

Polycope ladinica n. sp.
Holotype. Ladinian stage – ladinijska stopnja, Gorenja Trenta BE 8832 b (1893), 150 ×

Photo by – Foto J. Rode (Institute of Biology, Ljubljana)

Diagnosis: Small to medium sized, almost straight element. Platform developed along most of the elements' length; it terminates just before the anterior and posterior edges. Low carina composed of low isolated denticles. Short free blade, cusp enlarged. Keel fairly narrow and high. Small basal pit surrounded by large loop.

Description: The unit is practically straight in lateral view, only the posterior part behind the pit is slightly inclined downwards. Platform is well developed in the central part, it tapers gradually toward the posterior and anterior edges leaving one or two denticles free at each edge. Platform widest near the center. Lateral margins of platform considerably thick with honeycomb structure at upper surface. Width to length ratio about 1:3.5. Entire unit length is totaling 0.34 to 0.58 mm, width 0.10 to 0.18 mm and height 0.10 to 0.23 mm.

The carina is low, but it nevertheless decreases in the center, composed of six to nine denticles. Denticle next to the posterior one is largest and projecting posteriorly. Posterior spine-like denticle is posteriorly inclined and asymmetrically located.

The underside is characterized by a narrow and high keel with deeply excavated groove. Terminally located pit is ovaloid and surrounded by flaring loop.

Relations: A morphologic relatioship exists with *N. shoshonensis* Nicora, especially in the development of the platform. The new form shows affinities with *N. constricta* (Mosher & Clark) in the platform shape and low, in the central portion decreased carina. *N. celeiana* n. sp. is distinguished from *N. constricta* in looplike extensions and its pointed posterior edge. *N. celeiana* n. sp. may have developed from *N. constricta*, what can be infered from small-sized unit and significant cusp. In evolution of the Triassic *Neogondolella* major changes took place at the posterior

part of the elements which lead into reduction of the posterior denticle, and is formed as posteriorly inclined spine in new species.

Distribution: This species is represented in the Langobardian-Cordevolian beds (*foliata* – R. Z.) of Škrjanec and Straža near Celje.

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Povzetek

V sklopu obsežnih raziskav izolirane triasne mikrofavne Slovenije sta bili najdeni po ena nova ostrakodna in konodontna vrsta.

Ostrakodno vrsto *Polycope ladinica* n. sp. označuje nežna nepravilna retikulacija na zunanji površini lupine. Bogato mikrofavno poleg ostrakodov in konodontnih fragmentov sestavljajo tudi številni radiolariji, izmed katerih je opisan en novi rod in pet novih vrst (Kolar-Jurkovšek, 1989a). Zaradi podobnosti mikrofosilne združbe, predvsem radiolarijev iz Gorenje Trente z združbo v profilu na Pokljuki sklepam, da gre verjetno za isti stratigrafski nivo, to je *trammeri* konodontno cono, ki obsega zgornji del fassanske in spodnji ter srednji del langobardske podstopnje (amonitne cone *»Protrachyceras« curionii, Gymnoceratites? poseidon* in *Meginoceras meginae*) (Kolar-Jurkovšek, 1989b).

Majhni do srednje veliki elementi vrste *Neogondolella celeiana* n. sp. so skoraj ravni, le zadnji del je nekoliko upognjen navzdol. Nizko karino sestavljajo izolirani zobje. Kusp je najmočnejši in usmerjen nazaj, za njim stoji še en trnu podoben zob. Ta konodontna vrsta se nahaja v langobardsko-cordevolski *foliata* konodontni coni (*Maclearnoceras maclearni* in *Frankites sutherlandi* amonitni coni) dveh nahajališč pri Celju. Mikrofosilni združbi obeh nahajališč poleg drugih sestavljajo še: *Epigondolella baloghi* (Kovacs), *E. mostleri* Kozur, *E. mungoensis* (Diebel), *Gladigondolella malayensis* Nogami, *G. tethydis* (Huckriede) in *Neogondolella foliata foliata* (Budurov) (Kolar-Jurkovšek, 1989b).

Plate 1 – Tabla 1

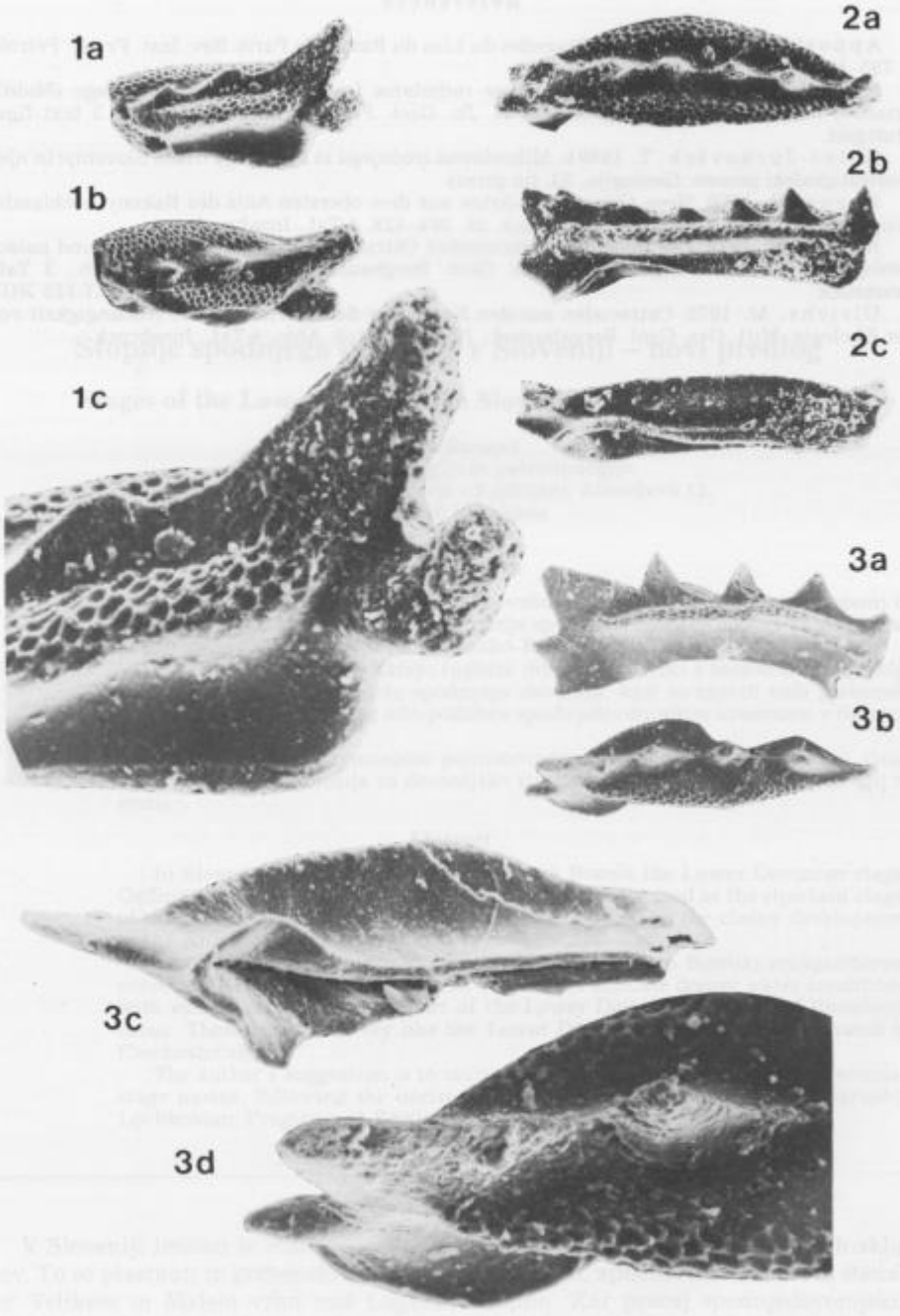
Neogondolella celeiana n. sp.

2 a-c holotype. *Neogondolella foliata* – R. Z. (Langobardian-Cordevolian), Škrjanec CE/1-2 b (1858)

Magnifications 100 × except figs. *1 c* 300 ×, *2 b* 200 ×, *3 c* 220 × and *3 d* 320 ×

Povečave 100 × razen sl. *1 c* 300 ×, *2 b* 200 ×, *3 c* 220 × in *3 d* 320 ×

Photo by – Foto M. Jakupović (Institute of Metallurgy, Ljubljana)


1a
1b
1c
2a
2b
2c
3a
3b
3c
3d

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