

## Late Triassic stratigraphy and paleogeography in Golo-bârdo Unit, SW Bulgaria

The detailed lithostratigraphy of Iskâr carbonatic Group (Triassic) has been studied by Тронков (1975, 1983), and Golo-bârdo tectonic Unit is of a paramount importance for establishing the paleogeographic relations in SW Bulgaria. New field and micropaleontological data supply critical evidence in that respect.

Grey or beige, medium- to thickly-bedded dolomites with typical weathering are referred to Rusinovdel Formation (Тронков, 1975) or to Trojan Formation (Чаталов, 1984). They cover with transition Radomir Formation (Upper Anisian — Lower Carnian) which contain in the uppermost part (Izvor Member) *Amphorella lageniformis* Borza & Samuel, *A. bilongicamerata* Borza & Samuel, *Ophthalmidium exiguum* Koehn-Zaninetti, *Nodosaria ordinata* Trifonova, *Austrocolomia marschali* (Oberhauser), *Duostomina* cf. *alta* Kristan-Tollmann. The dolomites of Rusinovdel(?) (or Trojan?) Formation contain only *Tubiphytes obscurus* Maslov, undeterminable attached foraminifers and few ostracods.

In the NW part of the unit (Golo-bârdo Mt.), this dolomitic Formation is covered by 3.5 m grey to blackish nodular and banded limestones, and red and blackish, partly marly limestones. Near the mountain hut Slavej they contain *Angulodiscus friedli* (Kristan-Tollmann), *A. cf. expansus* (Kristan-Tollmann), *Nodosaria ordinata* Trifonova, *Semiinvoluta clarii* Kristan, *Triadosphaera* sp., *Galeanella* sp. and ostracods. This corresponds to the Norian (Lacian — Alaunian?). These transitional beds are followed by 300-450 m of red beds (Komštica Formation): marls, sandstones and carbonate breccias which are dominant in the upper part of the section. The whole section is covered unconformably and transgressively by the Middle Jurassic Polaten Formation (Моев, 1967).

The thicknesses both of Rusinovdel (Trojan?) and Komštica Formations considerably decrease in the section on the SW slope of the summit Ostrica east of the village of D. Rakovec — only about 20 m for the first one, and 5-20 m for Komštica Formation (e. g. Моев, 1978). The section is covered unconformably and transgressively by the Middle Jurassic Gradec and Polaten Formations. To the SW of this section, at the railway station Čukovec, whitish limestones of Trân Formation contain *Nodosaria ordinata* Trifonova, *Pseudobolivina globosa* Kristan and *Austrocolomia marschali* Oberhauser which indicate the Carnian. Trân Formation (about 45 m thick) covers with transition (10 m of interbedded white aphanitic limestones with dolomites) Rusinovdel (Trojan?) Formation along the northern margin of the village of Bosnek. Here *Aulotortus friedli* (Kristan-Tollmann), *Galeanella panticae* Zaninetti & Broenmann, *Semiinvoluta clarii* Kristan, *Ichtyolaria* cf. *rhaetica* Kristan-Tollmann and *Oberhauserella* cf. *alta* Fuchs have been found. In the upper parts of the Formation *Aulotortus friedli* (Kristan-Tollmann) is accompanied by *Agathammina austroalpina* Kristan-Tollmann & Tollmann, as well as by numerous *Nodosaria ordinata* Trifonova, *Semiinvoluta clarii* Kristan and single Characeen oogonies. *Turrispirillina carpathoromana* Turculet has been found in the uppermost part of the Formation and possibly indicates the upper parts of the Norian Stage. They are covered transgressively by the Middle Jurassic Polaten Formation which contains typical Upper Bajocian — Bathonian foraminifers.

Therefore, the chronostratigraphic volumes of the formations are in Golo-bârdo Unit as follows:

— Rusinovdel (Trojan?) Formation: middle — upper parts of the Carnian stage (at D. Rakovec — only Middle Carnian?);

— Trân Formation: Norian (at Čukovec Station — from Middle? — Upper Carnian);

— Komštica Formation: Norian stage (at D. Rakovec — probably from the Upper Carnian).

The first manifestations of the Early Cimmerian phase should be sought for at the end of the Carnian and the beginning of the Norian when a block disintegration of the shallow evaporitic (dolomites) Triassic basin began. In the southernmost part of the unit a lagoonal basin with carbonatic sedimentation was preserved, until in the NW a fast subsiding basin with coarse red beds was formed. It has been fed by coarse material from the nearby uplifted blocks containing older (Anisian — Carnian) carbonatic rocks.

## References

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