

## **Drowning of the Ravni carbonate ramp and the overlying late Middle Anisian Bulog Formation in the Seljani area, Montenegro, Dinarides**

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Triassic sediments cover more than the half of the total territory of Montenegro. Most of them are shallow-water or deep-water carbonates. Dating by means of conodonts will result in a better picture of the paleogeographic, lithological-stratigraphic and tectonic structure of the terrain. In the village Seljani (Plužine) an Anisian section – Ravni Formation and overlying Bulog Formation – was investigated in respect to their exact biostratigraphic age by conodont dating and depositional environment using microfacies analysis. In the Ravni Formation at the Seljani locality appear two generations of neptunian dykes filled with red nodular limestone. In the investigated profile the shallow-water Ravni Formation contains in the upper part layers consisting of calcareous algae, and crinoid-rich layers, both overlain by a condensed layer of red nodular limestone (Bulog Formation) with deep-water organisms, e.g., ammonoids and conodonts, and shallow-water organisms (foraminifers). Litho- and microfacies clearly indicate a change in the depositional environment and the drowning of the Ravni carbonate ramp. The age of the two generations of neptunian dykes filled with red nodular limestones correspond to the evolution of the overlying Bulog Limestone succession. Within the older generation of fissure fillings (predominantly filament wackestones), crosscut by younger fissures (filament packstones with volcanic clasts), the following conodonts were determined: A) *Pg. bifurcata*, *Pg. hanbulogi*, *Ng. cornuta*, and B) *Pg. excelsa*, *Pg. trammeri*, *Gladigondolella*-ME and *Gladigondolella tethydis*. This mixed fauna indicates two different ages within one sample, namely the late Pelson-early Illyrian and the late Illyrian. In the younger fissure generation with brachiopods following conodonts were found: *Pg. excelsa*, *Pg. szaboi*, *Pg. trammeri*, and *Gladigondolella tethydis* indicating a late Illyrian age. The older type of the Bulog Formation above the Ravni Formation shows the following evolution: Directly above the Ravni Formation the radiolarian wackestones of the Bulog Formation contain few foraminifera beside ammonoids, filaments and conodonts. This 5 cm thick bed contains *Pg. bifurcata*, *Pg. bulgarica*, *Pg. hanbulogi*, *Pg. szaboi* (from fissure infilling), *Ng. cornuta*, and *Gladigondolella tethydis* indicating a late Pelsonian and an early Illyrian age, i.e. condensation. Higher up in the section *Ng. cornuta*, *Pg. praeszaboi*, *Gladigondolella tethydis* indicate an early to middle Illyrian age. The younger (late Illyrian) type of the Bulog Limestone with intercalated oligomictic breccia layers contains e.g., radiolarians, filaments, and volcanic grains, but is in the upper parts strongly recrystallized and siliceous. In the lowermost part this late Illyrian Bulog Limestone contains *Pg. trammeri* and *Ng. cornuta*. Higher up *Pg. excelsa*, *Pg. trammeri*, *Gladigondolella tethydis* and *Gladigondolella*-ME prove a late Illyrian to Fassanian age. In the highest part of the more and more recrystallized and siliceous Bulog succession a similar age is proven by the occurrence of *Pg. excelsa* and *Pg. trammeri*. The Bulog limestone evolution and the fissure infillings reflect two phases of tectonic extension and generally deepening of the depositional environment. The first event with the drowning of the Ravni carbonate ramp (Steinalm carbonate ramp in the Eastern Alps) is related to the onset of the opening of the Neo-Tethys and the second extensional event can be correlated with the intense volcanic activity during Late Illyrian times. It can be concluded that the Middle-Late Anisian depositional history due to the opening of the Neo-Tethys is contemporaneous in the Dinarides and in the Eastern Alps.