



Fig. 4: A – lagig wachsende Stromatopore (str) mit häufigen *Rothpletzella*-Krusten (ro), die das Wachstum der Stromatopore phasenweise immer wieder beeinträchtigen bzw. ganz unterbrechen, tab = tabulate Korallen; Probe HOB 8 (Anschnitt), Maßstab: 1 cm; B – massive *Rothpletzella*-Krusten (ro) mit Aufwuchs einer rugosen Koralle (rug) und Stromatopore (str); Probe HOB 2/3 (Dünnschliff), Maßstab: 1 mm; C – *Rothpletzella*-Kruste (ro) auf einer rugosen Koralle (rug); Probe HOB 2/2 (Dünnschliff), Maßstab: 1 mm; D – alternierendes Wachstum von Stromatoporen (str) und *Rothpletzella*-Krusten (ro); tab = tabulate Koralle; Probe HOB 5 (Dünnschliff), Maßstab: 5 mm.

UPDATED FUSULINID BIOSTRATIGRAPHY OF LATE PALEOZOIC ROCKS FROM THE KARAVANKE MTS. (SLOVENIA)

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Upper Carboniferous to Lower Permian rocks in the Karavanke Mts. have been subdivided traditionally into Gzhelian, “Orenburgian” (KOCHANSKY-DEVIDÉ & RAMOVŠ, 1966), and

Trogkofel stage (RAMOVŠ, 1963, 1968; BUSER, 1974). A restudy of some classical localities in the Karavanke Mts. (Dovžanova soteska, Košutnik river, Javorniški rovt) led to a refined biostratigraphic zonation and correlation with adjacent areas (Carnic Alps, Tarvis-Goggau).

The Dovžanova soteska represents the most complete section starting with Upper Carboniferous sandstones, shales, and limestones. Fusulinids in this part are represented by *Daixina alpina*, *D. communis*, *Dutkevitchia* aff. *multiseptata*, and *Quasifusulina ultima*. Closely similar assemblages are known from the Auernig and Carnizza Fms. in the Carnic Alps. Equivalents of the overlying Schulterkofel Fm. (Lower *Pseudoschwagerina* Limestone) of the Carnic Alps have not been found in the section along the Dovžanova soteska, but were encountered in the nearby Košutnik river section with an almost identical composition of facies and biota.

In the Dovžanova soteska, Upper Carboniferous deposits are overlain by a thick quartz conglomerate and a thick-bedded to massive limestone unit, the Dovžanova soteska Fm. The limestones, which grade from light grey into pinkish and dark red color on top have long been regarded as "Trogkofel Limestones". However, fusulinids as well as conodonts revealed an older (middle-late Asselian) age of the limestones (BUSER & FORKE, 1996; FORKE, 2002). Faunal assemblages are not known from the Carnic Alps, but probably represent part of the predominantly clastic facies of the Grenzland Fm.

The Dovžanova soteska Fm. is followed by a mixed clastic-carbonate succession (Born Fm.), rich in fusulinids and other benthic fossil remains. The occurrence of *Sphaeroschwagerina carniolica*, *Pseudoschwagerina* aff. *uddeni*, *Rugosofusulina latispiralis*, which are present also in the underlying unit, indicate late Asselian.

The uppermost part of the section below the Tarvis breccia is poorly exposed. Fusulinids from this interval indicate early Sakmarian due to the presence of *Dutkevitchia splendida* and *Cuniculinella?* aff. *narynica*. A similar faunal assemblage is present in the uppermost Grenzland Fm. of the Carnic Alps.

Equivalents of the Zweikofel Fm. (Upper *Pseudoschwagerina* Limestone) and Trogkofel Limestone (late Sakmarian-Artinskian), characterized by the genera *Robustoschwagerina* and *Zellia* have not been identified in the the Dovžanova soteska section. However, they are known from tectonically isolated occurrences in the Javorniški rovt area as well as from tectonic slices north of the Košuta range in the Austrian part of the Karavanke Mts. (KAHLER, 1983).

At Javorniški rovt and Kranjska Gora also the youngest fusulinid faunas (late Artinskian) with *Pamirina*, *Chalartoschwagerina*, and *Darvasella* could be identified. This faunal assemblage is only known from the easterly located Goggau Limestone in Italy.

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