

## UPPER CARBONIFEROUS AND LOWER PERMIAN OSTRACODS OF THE CARNIC ALPS (AUSTRIA/ITALY): SYSTEMATICS, BIOSTRATIGRAPHY AND PALEOECOLOGY

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Nine ostracod faunas from Upper Carboniferous and Lower Permian strata of the Carnic Alps (Austria/Italy) were investigated. The silicified material (about 12500 individuals) was dissolved by formic acid from limestones of the Auernig Group and Rattendorf Group (Lower Pseudoschwagerina Formation, Grenzland Formation and Upper Pseudoschwagerina Formation). The ostracods belong to 81 species of the orders Podocopida, Palaeocopida and Myodocopida.

Microfacies analysis and the examination of ostracod assemblages indicate distinct shallow water environments. One of the two main types of the Auernig Group microfacies is algal wackestone consisting of the dasycladacean *Anthracoporella spectabilis*. Red algae (*Archaeolithophyllum*) and phylloid algae are also common. The associated fauna exhibits a low diversity, only some encrusting organisms such as *Tubiphytes* or bryozoans, foraminifera and a few ostracods. The other main type is bioclastic wacke- or packstone with a very highly diverse fauna composed of algae, bryozoans, brachiopods, smaller foraminifera, fusulinids, gastropods and ostracods. There are additional facies types in the Lower Pseudoschwagerina Formation and the Grenzland Formation. For example, a facies type dominated by a highly diverse crust and gastropod fauna or the *Ramovsia* facies composed of many fragments of *Ramovsia*, a problematic encrusting organism, smaller foraminifera and fusulinids.

The biostratigraphic value of the ostracod faunas is quite different. It is of great value when it is possible to compare similar environments, but of little value, for example, in the crusts/gastropod milieu with its highly specialized ostracod fauna. So we have to differentiate between ecological and biostratigraphical aspects.

The most important group of ostracods for biostratigraphical purposes are the members of the family Hollinellidae. A widespread species in the upper part of the Auernig Group is *Hollinella (Hollinella) ulrichi*, which is absent in the Rattendorf Group. In the lower part of the Auernig Group this species is replaced by *Hollinella (Keslingella) aff. radiata*. A long ranging species is *Gortanella regina*, missing only in the Lower Pseudoschwagerina Formation because of this special gastropod/crust milieu. *Hollinella (Hollinella) aff. cristinae* is limited to the Rattendorf Group.

The occurrence of the entomozoan ostracod *Richterina (Richterina) aff. striatula* is very unexpected. Entomozoans are common in pelagic sediments of Devonian and Lower Carboniferous age, but they were unknown in Upper Carboniferous and Lower Permian shallow water environments.