

**NEW HINTS OF VARYING PROVENANCE AND PROTOLITH AGES OF  
DIFFERENT METASEDIMENTARY COMPLEXES OF THE KORALPE-WÖLZ  
NAPPE SYSTEM (EASTERN ALPS)**

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The Koralpe-Wölz nappe system is part of the Upper Austroalpine unit of the Eastern Alps (SCHMID et al., 2004). The individual nappes of the Koralpe-Wölz nappe system are composed of different metasedimentary complexes with mono-, bi-, or polymetamorphic history (HABLER & THÖNI, 2001; THÖNI & MILLER, 2009). They are characterized by medium to high grade (amphibolite and eclogite facies) Eo-Alpine (Cretaceous) metamorphism contemporaneous or subsequent to nappe stacking. Most of the complexes were also affected by Permian high-temperature – low-pressure metamorphism, basically related to lithospheric thinning subsequent to the Variscan orogeny. While the metamorphic conditions of most of the complexes are well constrained, very little is known about the protolith ages of the metasediments of the Koralpe-Wölz nappe system.

Based on U/Pb data of detrital zircons of these different metasedimentary complexes, we can give an overview about maximum ages of sediment deposition and about potential areas of provenance. Data records of additional locations, already sampled, will define this study more precisely in future and will give information about the structural and tectonic evolution of the Austroalpine nappes.

Zircon age spectra (based on <sup>206</sup>Pb/<sup>238</sup>U data) of sampled metasediments of the Koralpe, Rappold and Millstatt complexes indicate post-Variscan sedimentation of parts of these units with maximum ages of 308 Ma & 312 Ma (Koralpe), 328 Ma (Rappold) and 359 Ma (Millstatt). Zircon ages of the Koralpe Complex show main peaks at Ordovician and Carboniferous times. The age distribution of metasediments within the Rappold Complex and the Millstatt Complex is dominated by zircons with Cadomian ages. One micaschist sample from the Saualpe (Koralpe Complex) is dominated by zircons with an age of around 90 Ma. This age proves zircon growth during the Eo-Alpine metamorphic event.

HABLER, G., THÖNI, M. (2001): *Journal of Metamorphic Geology*, 19, 679–697.

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