Age and genesis of the Hallstatt Mélange in the Inner Dinarides of Serbia

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The late Middle to early Late Jurassic Hallstatt Mélange (Gawlick *et al*., 2017) in the Inner Dinarides (SW Serbia), defined as Zlatar Mélange (Gawlick *et al*., 2018), plays a crucial role for the reconstruction of: (1) the Triassic-Jurassic western passive margin configuration of the Western Neo-Tethys Ocean; and (2) the Middle to Late Jurassic geodynamic history of the Inner Dinarides.

Deformation and accretion of the western Neo-Tethys Ocean started with intra-oceanic thrusting in the late Early to early Middle Jurassic. The onset of the west-directed obduction of the accreted ophiolites onto the continental slope and outer shelf (Adria margin) is dated as Middle Jurassic (Bajocian). In the middle to late Middle Jurassic contractional tectonics reached in the course of west-directed ophiolite obduction the outer parts of the former shelf attaining now a lower plate position. Deep-water trench-like basins formed in sequence in front of the advancing nappes and obducted ophiolite sheets, respectively. Thick successions of gravitatively redeposited sedimentary rocks accumulated in these trench-like basins and a detailed analysis of the basin fills including matrix dating and component analysis allow: (1) to complete existing palaeogeographic reconstructions with until yet overlooked facies belts of the Neo-Tethys shelf configuration in the Dinarides; and (2) a more precise reconstruction of the Middle Jurassic mountain building processes related to ophiolite obduction in the Dinarides.

The sedimentary Zlatar Mélange occurs in a transported position below the west-directed obducted ophiolite mélange/ophiolites on top forming together a far-travelled nappe and mélange complex resting today in a position which corresponds to the Triassic–Jurassic central shelf of the Neo-Tethys (lagoonal Dachstein Limestone facies zone). An autochthonous position of a Triassic Ocean with its shelf sediments (Dinaridic or Pindos Ocean) between the Outer Dinarides and the Drina-Ivanjica Unit to the east as northward continuation of Pelagonia/Korabi units can be clearly excluded. This ocean would have existed in the lagoonal area of the Triassic carbonate platform in the Dinarides separating the open lagoon in two independent shelf areas without transition to open-marine environments.

The situation of the Zlatar Mélange in the Dinaridic Ophiolite Belt with the obducted ophiolite sheets on top corresponds to the situation known to the south in the Albanides, to the north in the Eastern Alps and Western Carpathians with similar mélanges formed in Middle to early Late Jurassic times and is therefore part of the same orogen, the Neotethyan Belt.

REFERENCES

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