

Late Cenomanian - Senonian paleomagnetic results from Ist and surrounding islands (Northern Adriatic Basin)

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Ist and its surrounding islands are palaeogeographically part of Adriatic carbonate platform and belong to a geotectonic unit, known as Adriaticum (Herak, 1991), or Imbricated Adria (Tari, 2002) depending on the geotectonic interpretation.

For the purpose of this work, paleomagnetic samples were drilled at nine localities from Late Cenomanian and Early Senonian shallow water limestones, and at a single locality from Senonian pelagic limestone. The samples were subjected to standard paleomagnetic laboratory analysis and statistical evaluation. As a result, six localities yielded statistically well-defined paleomagnetic directions which were shown to pre-date the folding.

The overall-mean paleomagnetic direction for Ist and surrounding islands practically coincides with paleomagnetic directions of similar ages from autochthonous Istria (Márton et al., 2008) which represents the hard core of the Adriatic microplate, and from the Kvarner islands (Márton and Veljović, 1987) which is part of imbricated Adria. This situation has an important tectonic implication, which is the lack of large scale relative movement between the respective areas, after the Senonian. In other words, autochthonous Istria and at least the NW part of its imbricated margin can be treated as a rigid block in the course of plate tectonic displacements from the Late Cretaceous onwards.

The declination of the overall-mean paleomagnetic direction obtained for the study area is 334°, which is the same as for a combined Pannonian–Pontian group of the Southern Pannonian basin localities (Márton et al., 2002, 2006). As the paleomagnetic signals in both cases are primary, the results of the present work support the conclusion that the rotating Adriatic microplate triggered rotations in the South Pannonian basin, and also suggest that the Adriatic platform did not change its orientation between the Late Cretaceous and the Early Pontian.

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