**Publications of the Institute of Geophysics, Polish Academy of Sciences**
Geophysical Data Bases, Processing and Instrumentation
vol. 423 (C-112), 2018, pp. 45-46
DOI: 10.25171/InstGeoph_PAS_Publs-2018-024
16th Castle Meeting New Trends on Paleo, Rock and Environmental Magnetism, Chęciny, Poland, 2018

# Upper Berriasian Magnetostratigraphy in the Mészkemence Section, Mecsek Mts (Southern Hungary)

J. GRABOWSKI[1,✉], G. CSÁSZÁR[2], E. MÁRTON[3], A. PSZCZÓŁKOWSKI[4], and D. LODOWSKI[5]

[1]Polish Geological Institute, National Research Institute, Warszawa, Poland

[2]Eötvös Loránd University, Budapest, Hungary

[3]Mining and Geological Survey of Hungary, Paleomagnetic Laboratory, Budapest, Hungary

[4]Institute of Geological Sciences, Polish Academy of Sciences, Warsaw Research Centre, Warszawa, Poland

[5]Institute of Geology, Warsaw University, Warszawa, Poland

✉ jacek.grabowski@pgi.gov.pl

A b s t r a c t

The Mecsek Mountains (southern Hungary) constitute a part of Tisia–Dacia megatectonic unit (Haas and Péró 2004, Császár *et al.* 2013), one of the key-area for the paleogeographic reconstructions of the Carpathians. Tisia was a separate tectonic unit since the Middle Jurassic after its rifting from the European Platform and prior to the beginning of the nappe-thrusting process in the Late Cretaceous (Turonian–Coniacian).

Paleomagnetic investigations in the Mecsek Mts have been applied so far only for paleotectonic reconstructions (e.g., Márton 2000). However, presence of primary magnetization was confirmed in the uppermost Jurassic–Lower Cretaceous sediments which was an indication for a possibly successful magnetostratigraphic study. The Mészkemence section is situated in the eastern part of the Mecsek Mts, a few kms to the NE of Komló. Continuous ca. 30 m thick section of pelagic limestones (Márévár Formation) is outcropped in a natural ravine. Biostratigraphical investigations based on calpionellids revealed the Late Berriasian age of the section, covering the upper part of Calpionellopsis Zone (Oblonga and Murgeanui Subzones). Two components of natural remnant magnetization (NRM) were identified. The component A of normal polarity (unblocking temperatures 20-250°C) is a viscous remanent magnetization while the component B (unblocking temperatures 300-550°C) of mixed polarity is interpreted as primary. Four successive intervals of normal and reversed magnetization were interpreted as magnetozones M16n, M15r, M15n, and M14r. S-ratio indicates presence of magnetite as the principal magnetic mineral. Magnetic susceptibility reveals a

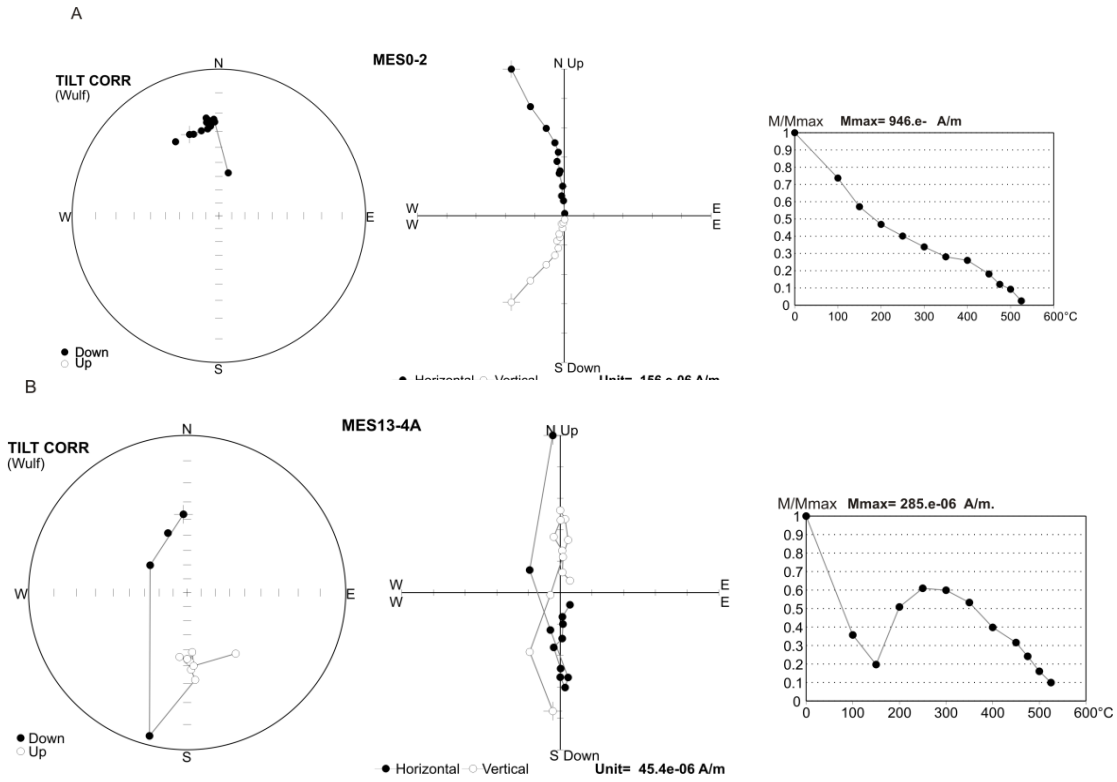


**Fig. 1.** Thermal demagnetization of typical specimens of normal and reversed polarity samples. Left: stereographic projection of demagnetization path; middle: orthogonal projection of demagnetization path; right: NRM intensity decay during thermal treatment. A – sample MES 0.2; normal polarity; magnetozone M16n. B – sample MES 13.4A; reversed polarity; magnetozone M15r.

substantial peak in the upper part of M16n magnetozone which is correlated with regional increase of lithogenic influx in the Upper Berriasian related most probably to the early phases of Alpine orogeny at the southern margins of the Tisia microplate and/or sea-level fall.

**Keywords:** magnetostratigraphy, Berriasian, pelagic limestones, Tisia unit.

**Acknowledgements.** Investigations were financially supported by the National Science Centre, Poland (project 2016/21/B/ST10/02941).

## References

Császár, G., B. Szinger, and O. Piros (2013), From continental platform towards rifting of the Tisza Unit in the Late Triassic to Early Cretaceous, *Geol. Carpath.* **64**, 4, 279–290.

Haas, J., and C. Péró (2004), Mesozoic evolution of the Tisza Mega-unit, *Int. J. Earth Sci.* **93**, 2, 297–313.

Márton, E. (2000), The Tisza Megatectonic Unit in the light of paleomagnetic data, *Acta Geol. Hung.* **43**, 3, 329–343.