

## Magnetostratigraphic Correlation around the Jurassic-Cretaceous Boundary in the Vocontian Basin, France

P. SCHNABL<sup>1,✉</sup>, T. ELBRA<sup>1</sup>, P. PRUNER<sup>1</sup>, Š. KDÝR<sup>1</sup>, K. CÍŽKOVÁ<sup>1</sup>, A. SVOBODOVÁ<sup>1</sup>,  
D. REHÁKOVÁ<sup>2</sup>, C. FRAU<sup>3</sup>, J. GRABOWSKI<sup>4</sup>, and W.A.P. WIMBLETON<sup>5</sup>

<sup>1</sup>Institute of Geology, Czech Academy of Sciences, Prague, Czech Republic

<sup>2</sup>Comenius University in Bratislava, Bratislava, Slovakia

<sup>3</sup>Groupement d'Intérêt Paléontologique, Science et Exposition, Toulon, France

<sup>4</sup>Polish Geological Institute, National Research Institute, Warsaw, Poland

<sup>5</sup>School of Earth Sciences, University of Bristol, Bristol, UK

✉ schnabl@gli.cas.cz

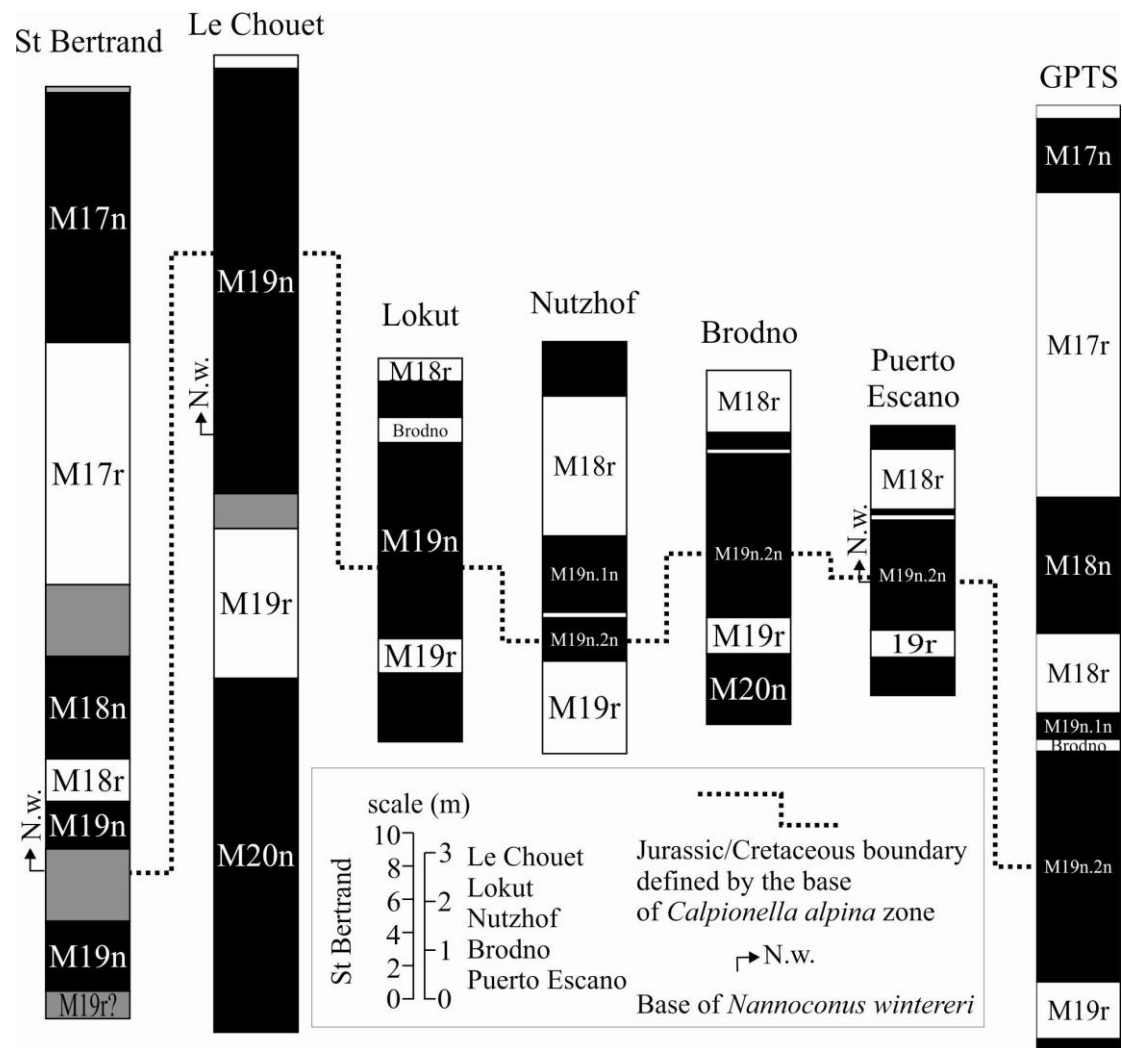
### Abstract

Five sections in the Vocontian basin have been studied for magnetostratigraphy and biostratigraphy (Le Chouet, Charens, Tre Maroua, Haute Beaume (Belvedere), and St Bertrand's Spring). The profiles together provide a robustly connected composite sequence across the J/K boundary.

The studied sections consists of well-bedded mostly micritic limestone with minor bioclastic interlayers. In the upper parts of all studied sections there are intercalations of marl (Elbra *et al.* 2017). In the Le Chouet, Charrens and the St Bertrand section there are intrabasinal breccias, which have been omitted from further evaluation. Preliminary results on the distribution of the age-diagnostic ammonite taxa show that Belvedere and St. Bertrand span most of the *B. jacobi* Zone auctorum, and the Le Chouet and Charens profile starts in the *Microcanthum* ammonite zone (Wimbledon *et al.* 2013, Frau *et al.* 2016).

All the sections show a sequence of magnetostratigraphic normal and reverse polarity zones. The base of *C. alpina* zone and the FAD of *Nannoconus wintereri* fall in a normal polarity zone, which is thus identified as M19n. The span of the studied sections is: i) M19n to M17r (Intermedia to Ferasini Sz.) for Belvedere, ii) M19n to M17n (Intermedia to Elliptica Sz.) for St Bertrand's Spring, and iii) M20n to M19n (Remanei to Alpina Sz.) for Le Chouet. Magnetic susceptibility rises from the negative values in the Tithonian intervals to positive values in the Berriasian, which might be caused by an input of terrigenous material.

**Keywords:** Vocontian Basin, magnetostratigraphy, Jurassic-Cretaceous boundary.



**Fig. 1.** Correlation of the J/K boundary sections between Vocontian Basin and other parts of the western Tethys and the ge polarity timescale.

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## References

- Elbra, T., P. Schnabl, K. Čížková, P. Pruner, Š. Kdýr, J. Grabowski, D. Reháková, A. Svobodová, C. Frau, and W.A.P. Wimbledon (2017), Palaeo- and rock-magnetic investigations across Jurassic-Cretaceous boundary at St Bertrand's Spring, Drôme, France: applications to magnetostratigraphy, *Stud. Geophys. Geod.*, DOI: 10.1007/s11200-016-8119-5.
- Frau, C., L.G. Bulot, D. Rehakova, W.A.P. Wimbledon, and C. Ifrim (2016), Revision of the ammonite index species *Berriasella jacobi* Mazenot, 1939 and its consequences for the biostratigraphy of the Berriasian Stage, *Cret. Res.* **66**, 94–114.
- Wimbledon, W.A.P., D. Reháková, A. Pszczółkowski, C.E. Casellato, E. Halásová, C. Frau, L.G. Bulot, J. Grabowski, K. Sobień, P. Pruner, P. Schnabl, and K. Čížková (2013), An account of the bio- and magnetostratigraphy of the Upper Tithonian-Lower Berriasian interval at Le Chouet, Drôme (SE France), *Geol. Carpath.* **64**, 6, 437–460.