

Analysis of lithology and microfacies of the Lower Cretaceous “Urgonian” complex in the Manín Straits section, the Manín Unit (Western Carpathians)

Kamil Fekete

Slovak Academy of Sciences, Geological Institute; Dúbravská cesta 9, 840 05 Bratislava, Slovakia;
e-mail: kamil.fekete@gmail.com

© 2015 Authors. This is an open access publication, which can be used, distributed and reproduced in any medium according to the Creative Commons CC-BY 4.0 License requiring that the original work has been properly cited.

A sequence of the Jurassic-Cretaceous beds of the Manín Unit was exposed in the Manín Straits in the area of Middle Váh Valley (Strážovské Vrchy Mts.), east of the Považská Teplá village. Hettangian-Bajocian sandy crinoidal strata are uncovered at the beginning of the section which continues with thick-bedded reddish nodular limestones of Bathonian-Kimmeridgian Czorsztyn Fm (*Ammonitico Rosso*) with breccias and fragments of planktonic crinoids (*Saccocoma* sp.) in the basal part. Berriasian strata are probably missing. Upper parts consist of Lower Valanginian light gray Ladce Fm (biancone, maiolica) and Upper Valanginian Mráznica Fm. Section continues with Hauterivian-Lower Barremian Kališče Fm with cherts. Dominant part of the Manín Straits consists of a typical member of the Manín Unit – organodetrital Lower Cretaceous “Urgonian-type” limestones. In the Manín Unit this complex is divided into organogenic reef to near-reef facies – the Manín Fm and into slope facies of organodetrital limestones, termed the Podhorie Fm by Borza et al. (1987), with lateral replacement of these two to a considerable extent coeval parts of one area of sedimentation (carbonate platform and its slope). Thickness of the “Urgonian limestones” in the

Manín Straits attains around 90 m. According to Köhler (1980), only Barremian strata are represented here. The upper part was eroded before Albian. Basal part is represented by mainly gray to light gray massive limestones of the Podhorie Fm (Borza et al. 1987). They represent bioclastic debris derived from central part of the carbonate platform without corals and terrigenous admixture. Limestones of Podhorie Fm are characterized by intrabiopelmicritic/ intrabiopelsparitic texture (intraclast-biogenic-peloid wackestone/packstone) with fragments of Barremian-Aptian foraminifers (*Orbitolina* sp., *Dorothia* sp., *Valserina* sp., *Hedbergella* sp.). They gradually pass into light gray organogenic massive fine grained rudist (*Praecaprotina* sp., *Offneria* sp.) limestones of the Manín Fm with fragments of gastropods and benthic foraminifers (Boorová 1991). Texture of limestones is intrabiosparitic/ intrabiosparruditic with rare presence of peloids (intraclast-rudist grainstone/ rudstone). The Manin Fm is terminated by hardground surface, which is followed by Albian-Cenomanian marlstones of the Butkov Fm with association of rare benthic and current planktonic foraminifers from the beginning of Late Albian *Thalmaninella ticinensis ticinensis* Zone (Boorová 1991).

REFERENCES

- Boorová D., 1991. Mikrofácie a mikrofauna vrchnej jury až strednej kriedy manínskej jednotky. *Kandidátska dizertačná práca*, Archív SAV, Bratislava.
- Borza K., Michalík J. & Vašíček Z., 1987. Lithology, biofacies and geochemical characterization of the Lower Cretaceous pelagic carbonate sequence of Mt Butkov (Manín Unit, West Carpathians). *Geologický zborník Geologica Carpathica*, 38, 3, 323–348.
- Köhler E., 1980. Stratigrafia kriedových sedimentov na základe orbitolinidných foraminifer. *Záverečná správa za r. 1976–1980*, GÚDŠ, Bratislava, 1–91.