

**Authors response to Reviewer 1 (RC1):**

**Supplement (detailed list of corrections)**

**Text:**

Line 53, additional sentence was added: Recently, several new buildups have been identified and interpreted using seismic data (Urbaniec, 2019). However those results represent more southern part of the basin, located beneath the Miocene of the Carpathian Foredeep Basin (about 50 km to the south from the study area).

Line 53, the next sentence was move to the new paragraph.

Lines 104-107, we have changed this part of the text according to the suggested corrections. Additional references were added (Gwinner, 1971). Reference to Fig.4a was additionally moved from line 107 to line 105. Modified part of the text is given below:

The Oxfordian and lower Kimmeridgian succession within the Polish part of the northern Tethyan shelf margin is commonly interpreted as a carbonate ramp or an open shelf deposits (e.g. Matyja et al., 1989; Kutek, 1994; Gutowski et al., 2005; Matyja, 2009; Krajewski et al., 2011; Fig. 4a). These deposits, sometimes termed the sponge megafacies, are built of sponges and microbialites, and are present within the entire European part of the northern Tethyan shelf margin (Gwinner, 1971; Matyja, 1977; Matyja and Pisera, 1991; Matyja and Wierzbowski, 1995, 1996, 2006; cf. Matyszkiewicz, 1997a; Gutowski et al., 2005, 2006).

Line 107, also, we added here additional reference (cf. Matyszkiewicz, 1997a)

Line 137, new reference was added (Olszewska et al. 2012)

Line 156, a new sentence related to the above reference (Olszewska et al., 2012) was added:

Further micropaleontological investigations allowed for stratigraphical reassessment of the Upper Jurassic strata beneath the central part of the Carpathian Foredeep basin, as well as for the regional correlations towards the south-western Ukraine (Olszewska et al. 2012).

Line 367, we comment on the work by A. Urbaniec in the new sentence added to the text, which is given below:

Recently, Urbaniec (2019) provided seismic examples of Upper Jurassic carbonate buildups of similar size that are located about 50 km south-east from the study area. Those buildups are characterised by complex geometries and probably consist of several levels of the massive limestones.

Line 381, additional references devoted to various aspects of differential compaction were added to the text: (Kochman & Matyszkiewicz, 2013; Matyszkiewicz and Kochman, 2016)

## **References:**

All suggested references were added to the reference list:

Gwinner, M. P.: Carbonate rocks of the Upper Jurassic in SW-Germany, in: Sedimentology of parts of Central Europe, edited by: Müller, G., Frankfurt a. M., 193-207 pp., 1971.

Kochman, A. and Matyszkiewicz, J.: Experimental method for estimation of compaction in the Oxfordian bedded limestones of the southern Kraków-Częstochowa Upland, Southern Poland, Acta Geol. Pol., 63, 681–696, <https://doi.org/10.2478/agp-2013-0029>, 2013.

Matyszkiewicz, J. and Kochman, A.: Pressure dissolution features in Oxfordian microbial-sponge buildups with pseudonodular texture, Kraków Upland, Poland, Ann. Soc. Geol. Po., 86, 355–377, <https://doi.org/10.14241/asgp.2016.008>, 2016.

Olszewska, B., Matyszkiewicz, J., Król, K., and Krajewski, M.: Correlation of the Upper Jurassic-Cretaceous epicontinental sediments in southern Poland and south western Ukraine based on thin sections, Biuletyn Państwowego Instytutu Geologicznego, 453, 29–80, 2012.

Urbaniec, A.: Lithofacial development of the Upper Jurassic and Lower Cretaceous deposits in the Dąbrowa Tarnowska-Dębica area based on the 3D seismic interpretations, Unpublished PhD Thesis (in Polish only), Faculty of Geology, Geophysics and Environmental Protection of AGH, Kraków, 2019.

## **Figures:**

Figure 16, the entire figure was removed together with related part of the text in the Discussion (lines 396–410); also the appropriate sentence in the Introduction was skipped (lines 68–71).

Łukasz Słonka

(on behalf of the authors)