

EGU2020-5033

<https://doi.org/10.5194/egusphere-egu2020-5033>

EGU General Assembly 2020

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## Upper Cretaceous and Eocene litho- and biostratigraphy of the Istria Basin (NW Black Sea)

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The Istria basin, situated in the NW Black Sea, is composed of Mesozoic to Cenozoic successions. The opening of the Western Black Sea, including the Istria basin, initiated in the late Early Cretaceous. Rifting and expansion continued in the Late Cretaceous, while in the Late Paleogene a compressional regime settled. In the Middle Eocene, the Western Black Sea basin margin inverted, due to the collision of Pontides and Taurides belts (Okay and Tüysüz, 1999; Dinu et al., 2005). The continuing compression shaped this basin until the Middle Miocene (Ionescu et al., 2002).

Tens of wells for hydrocarbon exploration were drilled in the Istria basin (Romanian offshore) since the 70's. In this study, we have interpreted the acquired core reports containing litho- and biostratigraphic data. Based on identified calcareous nannofossil biozones, a continuous deposition was found in the Cenomanian-Maastrichtian interval. Lithologically, the Upper Cretaceous is composed of carbonatic rocks, such as limestones and marlstones, with intercalations of calcareous sandstones. The Eocene deposits are unconformably lying on Upper Cretaceous ones. Lithologically, the Eocene is characterized by alternating calcareous and siliciclastic sandstones. Biostratigraphy on planktonic and benthic foraminifers, as well as calcareous nannofossils, indicate a late Early Eocene to Middle Eocene age (i.e., late Ypresian to Bartonian).

The observed large thickness variation, from W towards E in the Istria Basin, is a consequence of various tectonic settings. The western part (i.e., the Sinoe area) is situated in the hanging-wall of an inverted normal fault filled with Early Eocene deposits and was inverted by high angle thrust fault during the Late Eocene-Oligocene interval. In the E (i.e., the Lebda area), there is an uplifted normal fault foot-wall, showing a reduced thickness in comparison with the W (Munteanu et al., 2011). The erosion level increased eastward, removing the entire Upper Eocene and the top of the Middle Eocene. This feature may be linked to a large sea level drop towards the Eocene top, with

subaerial erosion and development of large-scale canyons system at the self to slope transition, like the Plio-Quaternary Viteaz Canyon of the NW Black Sea.

The financial support for this paper was provided by the Romanian Ministry of Research and Innovation, through the Programme Development of the National System of Research – Institutional Performance, Project of Excellence for Rivers-Deltas-Sea Systems No. 8PFE/2018.

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