Barremian–Aptian plankton foraminiferal stratigraphy of the southern framing of the East European platform (Crimea and Ulyanovsk Volga region)

Brovina, E.¹

1) Geological Institute of the Russian Academy of Sciences, Moscow, Russia, E-mail: brovina.ekaterina@gmail.com

Although detailed scale for this region was developed in 1986 (GORBATCHIK, 1986), a new stratigraphic and systematic data call for reinvestigation of mid-Cretaceous deposits of the Tethys realm of the former USSR (Crimea and Ulyanovsk Volga region).

Taxonomy of lower Cretaceous planktonic foraminifera is still under study and revision. There are several divergent views on the systematics of the group, which resulted in existence of genera with not distinct definitions (e.g. in hedbergellids – Hedbergella, Clavihedbergella, Praehedbergella, Blefuscuiana, etc.). According to the most accepted opinion, all the mid-cretaceous trochoid forms belong to the Hedbergella (except the late Aptian Paraticinella), and all planispiral forms belong to the Globigerinelloides (except ones with elongate chambers – Leupoldina, Pseudoshackoina). The present study, using a set of criteria, reveals a clear distinction between Blowiella and Globigerinelloides, and between Clavihedbergella and Hedbergella. These genera helped to divide the studied deposits into the following zones (using zone definitions from: COCCIONI et al., 2007; MOULLADE et al., 2015; GRADSTEIN et al., 2012; OGG et al., 2016): Upper Barremian: Blowiella blowi, Hedbergella ruka, H. excelsa. The lower border of latter is below for several meters the br/ap border (bazed on magnetic cron M0). Lower Aptian: H. excelsa, L. cabri, Clavihedbergella luterbacheri. Upper Aptian: Globigerinelloides ferreolensis, G. barri, G. algerianus, H. trocoidea, Paraticinella rohri.

Though all zones of the Mediterranean region were found, not all of them are detected in all outcrops. Everywhere the basis of the complex is Hedbergella infracretacea. The index types of taxa are rare (especially in the range from L. cabri to G. barri), besides Globigerinelloides represented only by juvenile forms. All these factors indicate the poor conditions for these genera in the basin. Probably, the reason for the almost absence of all other morphotypes, except Hedbergella infracretacea, is the lack of the open ocean conditions in this area during the Barrem–Aptian. However, not only Globigerinelloides meets these conditions, as it is widely known, but also other forms – such as Leupoldina, Clavihedbergella and Paraticinella. Therefore, in epicontinental basins, despite the presence of planktonic foraminifera, it is complicated to determine the exact zones.

RFBR Projects no. 16-35-00468, 16-05-00363.

GORBATCHIK, T.N., 1986. Jurassic and Early Cretaceous planktonic foraminifera of the south of the USSR, Akademia Nauk SSSR, Nauka, Moscow. [In Russian]

COCCIONI, R. et al., 2007. dx.doi.org/10.1016/j.revmic.2007.06.005
MOULLADE, M. et al., 2015. dx.doi.org/10.1016/j.cretres.2015.03.004