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ABSTRACT
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CALCAREOUS NANNOPLANKTON IN THE LOWER BERRIASSIAN DEPOSITS OF THE SOUTH-EASTERN CRIMEA

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The cuts of the Lower Berriasian deposits on the cape of Saint Il'ya, near the settlement of Yuzhnoe, and in the basin of the river of Tonas are most studied by many scientists: T.N. Gorbachik, K.I. Kuznetsova, V.V. Drushchits, L.F. Plotnikova, A.A. Fedorova, V.V. Arkadiev, E.Yu. Baraboshkin, B.P. Wimbeldon, and others (Arkadiev *et al.*, 2012).

The analysis of the associations of calcareous nannoplankton in a cut of the Lower Berriasian on the cape of Saint Il'ya showed that it is possible to admit the presence of subzone NJK-d/*Nannoconus steinmannii* minor only in the lower later of brown limestone 0.5 m in thickness. In all samples taken higher on the cut, the species-index *Nannoconus steinmannii* Kamptner *steinmannii* of the nannoplanktonic zone NK-1/*Nannoconus steinmannii* (Bralower, 1989) was observed. The complex is represented by 27 species from 15 genera (Matlai, 2009). *Nannoconus* make up 60–70% of the total number of species. Such bloom of nannocones is characteristic of a deep sea basin with transparent waters and a good aeration. The creation of a joint cut of the Berriasian to the south from the cape of Saint Il'ya is hampered by the strong dislocation of these deposits and requires a micropalaeontological substantiation.

The different conditions in the basin with sedimentation caused a decrease in the number of nannocones (down to 20%) in the associations of calcareous nannoplankton of the Lower Berriasian near the settlement of Yuzhnoe: *Watznaueria* sp., *Cyclagelosphaera margerelii* Noel, *Diazomatolithus lehmanii* Noel, *Biscutum constans* (Gorka) Black, *Helenea chlastia* Worsley, *Zeugrhabdotus erectus* (Deflandre) Reinhardt, *Z. embergeri* (Noel) Perch-Nielsen, *Nannoconus steinmannii* Kamptner *minor* Deres and Acheritequy, *N. steinmannii* Kamptner *steinmannii*, *Conusphaera mexicana* Trejo *mexicana*, *Rotelapillus laffitei* (Noel) Noel, *Schizosphaerella punctulata* Deflandre and Dangeard, *Polypodorhabdus escaigii* Noel, *Podorhabdus grassei* Noel, *Micrantolithus hoschulzii* (Reinhardt) Thierstein, *Cruciellipsis suvillieri* (Manivit) Thierstein, *Retecapsa angustiforata* Black, *Polycostella* sp. (Matlai, 2011).

The Lower Berriasian is represented in the volumes of nannoplanktonic zones NK-1/*Nannoconus steinmannii* and NK-2/*Retecapsa angustiforata* of Bralower, 1989 (Bown, 1998).

The nannoplanktonic zone NK-1/*Nannoconus steinmannii* is established by the results of studies of calcareous nannoplankton in clays of the right shore of the river of Tonas. On a mark of 262.1 m, the zonal species *Retecapsa angustiforata* Black of the nannoplanktonic zone NK-2/*Retecapsa angustiforata* is identified. The analysis of the associations of calcareous nannoplankton indicates that the stratigraphic break in the deposits of the Lower Berriasian in the basin of the river of Tonas is greater than that on the cape of Saint Il'ya.

In the cuts of the Lower Berriasian under study, the nannoplanktonic subzone NJK-d is represented only partially, which confirms the presence of a break on the Jurassic–Cretaceous boundary.

In the Crimea, the course of nannoplanktonic events on the Jurassic–Cretaceous boundary corresponds to that established by Bralower (1989) with regard for the dependence of the sizes of coccoliths on the salinity of a basin, which was proved by S.I. Shumenko.

References

- Arkadiev, V.V., Bogdanova, T.N., Guzhikov, A.Yu. *et al.*, 2012. Berriasian stage of the Mountainous Crimea. Lema, Saint-Petersburg [in Russian].
- Bown, P., 1998. Calcareous Nannofossil Biostratigraphy. Chapman and Hall, London.
- Matlai, L.M., 2009. Biostratigraphic separation of the Upper Tithonian and Berriasian deposits of the Eastern Crimea by calcareous nannoplankton. *Geologicheskii Zhurnal*, 2: 24–33 [in Ukrainian].
- Matlai, L.M., 2011. Nannoplankton biostratigraphic subdivisions across the Jurassic–Cretaceous boundary in the Eastern Crimea's deposits. *Reports of the NAS of Ukraine*, 1: 106–112 [in Ukrainian].