

Paleogene geodynamic processes in the Arctic region and their reflection on foraminiferal paleocoenosis

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Within the range of Arctic biogeografic region (West Siberian and Canadian provinces) we can see the abrupt change of paleocoenosis of agglutinated quartz-siliceous foraminifers to secreted calcareous ones in the section of marine Paleogene deposits.

During Paleocene and Eocene in almost closed Arctic basin (Arctic bay, McNeil, 1990) the part of which was Western Siberia, favorable conditions for the progress of the relatively cold water agglutinated quartz-siliceous foraminifers were defined.

In the Northern Hemisphere the transition from Eocene to Oligocene was marked by powerful tectonic and biologic changes. Thanks to spreading of the sea bottom between Greenland and Norway, the Arctic bay converted to the modern Arctic ocean. The sea connections between Arctic and Atlantic oceans were discovered and gradually were expanded. In the Arctic region agglutinated foraminifers were replaced by secreted calcareous forms connected with North European and North American Oligocene paleocoenosis. Similar foraminifers of Oligocene were widely spread within the range of West Siberian province.

In spite of the rise of central Arctic and appearance of the north bort of Western Siberia during Oligocene, there was possibility of the strait existence in Subarctic Ural. Atlantic microfauna consisting of secreted calcareous benthic and planktonic forms penetrated into West Siberian basin. Many species of Early Oligocene planktonic foraminifers are similar to Atlantic ocean ones.