ROLE OF THE DEVONIAN RUGOSA IN ORGANOGENIC CONSTRUCTIONS OF THE NORTH OF URALS

Vladimir S. TSYGANKO

Institute of Geology of the Komi Science Center Ural Division RAS, 167982, Syktyvkar, Russia; tsyganko@geo.komisc.ru

In the Early and Late Devonian for the Elets structural-facial zone of the west slope of the north of Urals characteristic was the development of a chain of organogenic constructions fixing the edge of the East-European (Russian) plain. They are established on the rivers Pechora, Ilych, Lemva, B.Nadota, Lek-Elets, Niyayu, Usa, Kara, on the Bely Nos cape. The role and importance of the Rugosa corals in the organogenic constructions was diverse: from not numerous individuals in the composition of the organisms-reef-lovers to active participation in the construction of the carcass.

In the constructions of the Lochkovian (rivers Ilych, Usa, Kara, Bely Nos cape) the Rugosa are not numerous. Nevertheless, some of them played the role of reef-constructors (Pseudamplexus sp., Rhizophylloides sp., Gyaloplasma agglomerata Zhav.). From the point of view of stages of the fauna development the given complex on the generic level is inherited from the previous Late Silurian one. On the species level these differences are more essential. Most forms of Rugosa are monofacial and do not occur in shallow-water beyond-reef depositions. The Rugosa are also not numerous in the constructions of the Pragian referring mainly to biogermal massifs (six species). Their complex has no common species with the Lochkovian. The role of Rugosa in the construction of the organogenic carcasses was insufficient.

In the Emsian almost all species that continued to exist from the Pragian, experience growth and are numerous in the limestone reef massifs and pre-reef depositions. Besides, there appear about ten new species also actively participating in the formation of the reef constructions and spatially related facias. In the Late Emsian, in the Kojva and Biy time, in relation to almost complete stop of the reef-formation, the Rugosa of corresponding facias are scanty. They are represented by four species having wide geographic and stratigraphic distribution. Considerable widening of the Rugosa fauna is related to the increasing of the processes of reef-formation in the Sibiryakov and Malypatok time (the Eifelian Age), where over ten species are established in the depositions. Greater part of them is characteristic for only reef facias. Among Rugosa-reef-constructors there are representatives of Polyadelphia, Centristela, Crista genera. The species of the above genera are numerous even in the organogenic constructions of the Givetian. The Rugosa are represented here by sixteen species. New taxons are represented by Nadotia genus. In the Eifelian and Givetian time the Rugosa acted as active carcass-constructors.

The reef-formation in the Frasnian is associated to its middle part and the end. In the Middle Frasnian in relation to the prevailing role of the lime-extracting algae in the organogenic constructions the role of Rugosa is insufficient. Here only two forms of wide distribution are distinguished: Disphyllum emsti (Wdkd) and Neostringophyllum sp. The Late Frasnian organogenic construction, with Rugosa participation in its formation, is established only within the Pre-Urals edge foredeep (north of the Chernyshov ridge, River Shernyadeita). The Rugosa are represented here by five species, three of which (Scruttonia bowerbanki (E. et H.), Neostringophyllum isetense Soschk., Heliophyllum (Charactophyllum) elongatum Soshk.) are characteristic of the reef constructions and related facias. In the organogenic constructions of the Famennian the Rugosa are not established.

This work was funded from the Russian Foundation for Basic Researches(grant 01-05 96405).