



Kazan Golovkinsky Stratigraphic Meeting

2017



Kazan Federal University
Institute of Geology and Petroleum Technologies

Kazan Golovkinsky Stratigraphic Meeting – 2017

and

Fourth All-Russian Conference “Upper Palaeozoic of Russia”

**Upper Palaeozoic Earth systems
high-precision biostratigraphy,
geochronology and petroleum resources**

Abstract Volume

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BIOSTRATIGRAPHIC SIGNIFICANCE OF THE PERMIAN CONCHOSTRACANS FROM EASTERN EUROPE AND WESTERN SIBERIA

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Continental deposits in Eastern Europe (the Volga-Kama region, Russia) and Western Siberia (Kuznetsk coal basin) are ideal places for studying the diverse biota of Permian and Triassic age including tetrapods, fishes, insects, ostracods, conchostracans, bivalves, and plant remains. Among them, the conchostracans (Crustacea: Branchiopoda) are one of the most promising invertebrate group for biostratigraphy of continental deposits, because of their high distribution potential. In addition, their eggs could easily be transported and widely distributed by winds or other animals. This makes them an ideal tool for interregional biostratigraphic correlations. The study of conchostracans has a long tradition in Russia (Lutkevitch, 1941; Novozhilov, 1950, 1960, 1970; Molin & Novozhilov, 1965).

Conchostracans often occur in sections of Eastern Europe (Cheremushka and Monastyrski Ravine sections; Middle–Late Permian) and Western Siberia (Babyi Kamen section; Late Permian–Early Triassic). These areas were described in detail by Silantiev *et al.* (2015), Mouraviev *et al.* (2015), Papin & Chunikhin (2007), Hounslow & Balabanov (2016) and other researches in order to realize litho- and biofacies analysis, palaeontological descriptions and palaeomagnetic determinations. More than 500 conchostracan samples were collected in the Cheremushka and Monastyrski Ravine sections and the Babyi Kamen section for taxonomic studies and biostratigraphic correlations.

Valves of Middle Permian conchostracans from the Cheremushka and Monastyrski Ravine sections often show an area of concave bending of growth lines at the anterior, ventral or posterior margins. Such prominent deformation often resulted in the definition of separate species in previous studies. This led to large numbers of taxonomical synonyms, which reduce the practical usability of conchostracans for biostratigraphy. Modern taxonomic investigation based on new methods of classifications and taxonomic revisions (e.g., Goretzki, 2003; Scholze & Schneider, 2015; Zharinova, 2017) is needed. In the present study, new material and literature data on the taxonomy of conchostracan species were summarized, the distribution of these species were documented in detail, and conclusions were made about the significance of the newly obtained results for the correlation of continental deposits between the studied sections and other regions (e.g., Schneider & Scholze, 2016). For example, conchostracan species were found in the Kuznetsk coal basin which also occur in Late Permian sections in Eastern Europe and even in Australia. Some species of conchostracans from the Cheremushka and Monastyrski Ravine sections were also found in the Kuznetsk basin and in the sections at the Nizhnaya Tunguska river (Fig. 1). This demonstrates the great importance of Permian conchostracans from Russia as a tool for regional and global correlation.

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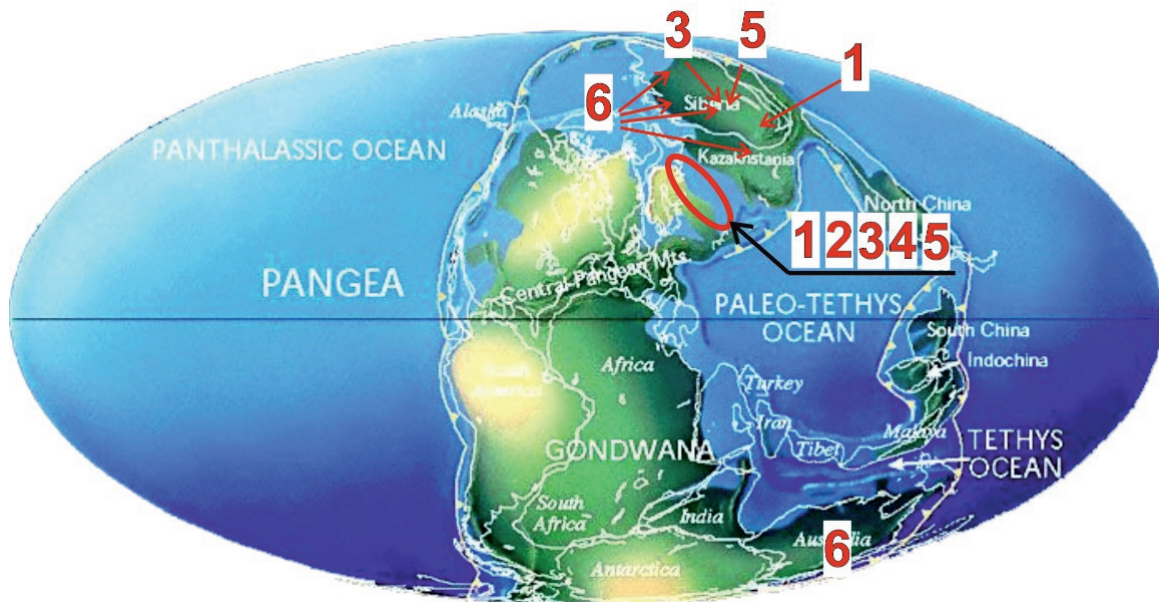


Fig. 1. Locations of the conchostracan species determined in the Cheremushka and Monastyrski Ravines sections and the Babyi Kamen section; palaeogeographic map of the Late Permian form C.R. Scotese (2002). 1: *Hemicycloleia rhodendorfi* (Novozhilov, 1952). 2: *Curvacornutus meshaensis* Novozhilov, 1970. 3: *Palaeolimnadiopsis lundongaense* (Novozhilov, 1970). 4: *Pseudestheria exigua* (Eichwald, 1860). 5: *Pseudestheria itiliana* (Novozhilov, 1950). 6: *Pseudestheria novacastrensis* Mitchell, 1927.

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