

Early–middle Cambrian stratigraphy and faunas from northern Siberia

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New assemblages of skeletal fossils chemically extracted from carbonates of the Cambrian Stage 2–Drumian Stage are reported from the lower reaches of the Lena River as well as from the Khorbusuonka, Malaya Kuonamka, and Bol’shaya Kuonamka rivers in northern part of the Siberian Platform. The fauna studied with scanning electron microscopy includes brachiopods, molluscs, hyoliths, halkieriids, cancelloriids, tommotiids, lobopodians, palaeoscolecids, bradoriids, echinoderms, anabaritids, hyolithelminths, and sponges showing similarity to previously described fossil assemblages from Siberia, Laurentia, and Gondwana. The material includes emended descriptions of *Halkieria proboscidea*, *Hadimopanella knappologica*, *Archaeopetanus typicus*, and first descriptions of *Hadimopanella foveata* Kouchinsky sp. nov. and *Archaeopetanus pachybasalis* Kouchinsky sp. nov. Affinity of *Archaeopetanus* to cancelloriids is suggested. Finding of an in-place operculum in a planispiral shell of *Michniakia minuta* enables reinterpretation of this form as a hyolith, not a mollusc. The cambroclavids *Cambroclavus* sp. and *Zhijinites clavus* and the earliest echinoderms belonging to the Rhombifera and Ctenocystoidea are reported respectively from the lower Botoman stage and Botoman–Toyonian transitional beds, correlated with Cambrian Stage 4. Carbon isotopes are analysed from sections of the Chuskuna (upper Kessyusa Group), Erkeket, Kuonamka, Olenyok, Yunkyulyabit-Yuryakh, Tyuser and Sekten formations. A major part of the $\delta^{13}\text{C}$ record is obtained from the Cambrian Stage 4–Drumian Stage strata which remain incompletely characterised by chemostratigraphy. The Lower *Anomocarioides limbataeformis* Carbon isotope Excursion (LACE) from the Drumian Stage of the Khorbusuonka River is introduced herein. New chemostratigraphic data are used for regional and global correlation and facilitate study of the evolutionary development of animals and faunas through the “Cambrian explosion”.

Key words: Small shelly fossils, carbon isotopes, stratigraphy, Cambrian, Siberia, Russia.

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