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Early–middle Cambrian stratigraphy and faunas from northern Siberia

Artem Kouchinsky, Ruaridh Alexander, Stefan Bengtson, Fred Bowyer, Sébastien Clausen, Lars E. Holmer, Kirill A. Kolesnikov, Igor V. Korovnikov, Vladimir Pavlov, Christian B. Skovsted, Galina Ushatinskaya, Rachel Wood, and Andrey Y. Zhuravlev
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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, chancelloriids, tommotiids, lobopodians, palaeoscolecidans, 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, Archaeopetasus typicus*, and first descriptions of *Hadimopanella foveata* Kouchinsky sp. nov. and *Archaeopetasus pachybasalis* Kouchinsky sp. nov. Affinity of *Archaeopetasus* to chancelloriids 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 $\delta^{13}C$ 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.

Artem Kouchinsky [artem.kouchinsky@gmail.com], Stefan Bengtson [stefan.bengtson@nrm.se], and Christian B. Skovsted [christian.skovsted@nrm.se], Department of Palaeobiology, Swedish Museum of Natural History, Box 50007, SE- 10405 Stockholm, Sweden. Ruaridh Alexander [ruaridh.alexander@ed.ac.uk], Fred Bowyer [fred.bowyer@ed.ac.uk], and Rachel Wood [rachel. wood@ed.ac.uk

], Grant Institute, School of GeoSciences, University of Edinburgh,
James Hutton Road, Edinburgh, EH9 3FE, UK. Sébastien Clausen [sebastien.clausen@univ-lille.fr
], Université des Sciences et Technologies de Lille, CNRS, UMR
8198-Evo-Eco-Paleo, F-59000 Lille, France. Lars E. Holmer[lars.holmer@pal.uu.se
], Department of Earth Sciences, Palaeobiology, Uppsala University,
Villavägen 16, SE-752 36 Uppsala, Sweden. Kirill A. Kolesnikov [kolesnikovk-msu@mail.ru
] and Andrey Y. Zhuravlev [ayzhur@mail.ru], Department of Biological
Evolution, Faculty of Biology, Lomonosov Moscow State University,
Leninskie Gory 1(12), Moscow 119234, Russia. Igor Korovnikov [korovnikovIV@ipgg.sbras.ru
], Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch,
Russian Academy of Sciences, pr. Akademika Koptyuga 3, 630090, Novosibirsk,
Russia and Novosibirsk State University, ul. Pirogova 1, Novosibirsk, 630090,
Russia. Vladimir Pavlov [pavlov.ifz@gmail.com], Schmidt Institute of Physics of the
Earth, Russian Academy of Sciences, Bol'shaya Gruzinskaya ul. 10(1), Moscow
123242, Russia and Kazan Federal University, ul. Kremlyovskaya 18, Kazan 420008,
Russia. Galina Ushatinskaya [gushat@paleo.ru], Borissiak Paleontological Institute, Russian Academy of
Sciences, Profsoyuznaya ul. 123, 117997 Moscow, Russia.

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