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The stromatolite-building microbiotas from the Precambrian of the South-Western Transbaikalia

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In the South-Western Transbaikalia there are widespread Precambrian deposits in stratigraphic subdivisions of the Baikal series. Stromatolites and microphitolites of the Baikal series are presented 25 of stromatolites forms and 35 microphitolites forms. A rich complex of microfossils (more than 40 taxa) is identified in the Baikal series. We received new data on siliceous microfossils. The remains of stromatolite-building microbiotas were found and identified in South-Western Trans-Baikalia in the columnar stromatolites Katavia borlogella Dol. The stromatolite builders were found in extensive number in the silicon parts of the stromatolite columns Katavia borlogella Dol and in the inter-columnar space of the same species. The microfossils found correspond with the stromatolite-forming community of the blue-green algae and other microorganisms, which are characteristic for the Riphean deposits. Among the identified microorganisms two dominant taxa that could play a principal role in the mat-building of the stromatolite. There were Eoentophysalis sp. and Eomycetopsis sp. In the Riphean layers remains of Eoentophysalis were found. In the modern sees, the blue-green entophysalis algae live in the lower layers of the littoral zone of the warmer hyper-salty water reservoirs, being isolated from the open ocean. They take part in the stromatolite formation. The presence of shrinkage cracks, conglomerate breccias and some other textural features of the littoral zone in the Precambrian siliceous-carbonate rocks which include also the algae remain Eoentophysalis allow us to extrapolate the environment of the modern species of the organic remains for ancient basins. The microfossils found in the Baikal series are supposed to be formed under conditions of

sublittoral zone, because typical features of the littoral zone in the hosting deposits are not stated. Eomycetopsis sp. is the most widespread Riphean form identified in the columnar and the laminae stromatolites. Some microfossils are similar to coccoid forms found among Eoentophysalis and Eomycetopsis colonies in the laminae stromatolites from the Bitter Springs Formation in the Australia. This research was financially supported by the Russian fund of basic researches project 07-05-00537 and University Paris-6 (“Patom Study” Project).