

New evidence on graptolite succession across the Ordovician-Silurian Boundary in the Asian Part of the USSR

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Continuous sections of the Upper Ordovician-Lower Silurian terrigenous-carbonate deposits in the Basin of the Kolyma River, Southern Kazakhstan and Tien Shan display a sequence of the following biostratigraphic units: the *supernus* Zone with the *longispinus* and *pacificus* subzones, the *extraordinarius*, *persculptus* and *acuminatus* Zones. Graptolites from the above sections are associated with diverse benthic fauna, namely: brachiopods, trilobites and corals. The *persculptus* Zone of Kazakhstan and its analogues in the basin of the Kolyma River are distinguished by the occurrence of the *Dalmanitina-Hirnantia* assemblage. The *supernus extraordinarius* and *persculptus/acuminatus* boundaries are the most distinct correlative levels as far as graptolites are concerned. The former is marked by full disappearance of typically Ashgillian graptoloids, while the latter displays distinct renewal of diplograptid fauna due to the simultaneous appearance of various morphologic features in several new lineages. The *extraordinarius* and *persculptus* Zones are distinguished by the development of impoverished diplograptid assemblages. They contain the few new elements, while species of the genus *Climacograptus* have broad Ashgillian-Llandovery biozones. The bottom of the *acuminatus* Zone coincides with the disappearance of brachiopod and trilobite associations which were traditionally believed to be Ordovician.

Key words: Graptolites, stratigraphic boundaries, Ordovician, Silurian, Asia.

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