

The Cambrian stage scale

ZHURAVLEV, A.Yu., Palaeontological Institute, Russian Academy of Sciences, Moscow, Russia.

The Cambrian System has not an official stage subdivision still. Over years, the ICS Subcommittee on Cambrian Stratigraphy and several IGCP project teams tried to find out the most plausible decision on the principals of the stage subdivision. Two main approaches have been worked out: (1) The use of an entire stage succession from a single region for each series; (2) the selection of 'golden spike' datum planes as zonal and series boundaries. The second approach would mean a complete revision of the entire stage subdivision if further studies would indicate an incompleteness of the selected section. When a succession approach is used, a detection of a latent hiatus would not require a significant revision, because a single boundary could be moved easily to a more suitable level within the same succession.

Nowadays, two principal points look weak in the succession approach: the endemicity of the Cambrian fauna and the extreme differences of correlation charts based on different fossil groups. These points, however, are rather claims than well proved statements. The selection of a succession containing the most diverse and less endemic fauna would deny this problem. Secondly, the difference of correlation charts is derived from unweighted data and not from a correlation potential of fossils. In summary, the stage stratotypes have to be chosen in strata which (1) are deposited a continues (as much as possible), normal marine basin, (2) contain rich and systematically diverse fossils, (3) are suitable for application of stable isotopic and magnetic methods, at least, (4) and the entire set of the above mentioned features have to be confined to the same section. A stage succession, which satisfies these criteria, occurs in the middle Lena-Aldan rivers' basin on the Siberian Platform.