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Integrated record of Ludlow (Upper Silurian) oceanic geobioevents – coordination of changes in conodont, and brachiopod faunas, and stable isotopes

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Abstract

The Ludlow Epoch (Silurian) was marked by several globally recognized but mechanistically poorly understood biotic events. The most pronounced of them was the Lau Event, which strongly decimated conodont, graptolite, and brachiopod faunas. Additionally, this event coincides with the largest positive stable carbon isotopic anomaly in the whole Phanerozoic, as well as the resurgence of the so-called “anachronistic” microbial facies that were frequently encountered during survival episodes of the major mass extinction events. In this contribution, based on the analysis of the outer shelf facies succession (Milaičiai-103 core), from the Lithuanian part of the Silurian Baltic Basin, as integrated quantitative record of conodont, brachiopod and $\delta^{13}C$ changes across most of the Ludlow is presented. The succession was subdivided into four conodont zones that served as a stratigraphic