



Thelodont biostratigraphy in the Lower-Middle Devonian palaeobasin of Svalbard, Norwegian Arctics

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The Lower and Middle Devonian of northwestern Spitsbergen (Svalbard, Norwegian Arctics) is one of the best examples of vertebrate implication in stratigraphy and palaeobasin analysis. Previous studies of the Red Bay Group (Lochkovian, Lower Devonian) made a notable analysis of the earliest Devonian vertebrate record, and their use in biostratigraphy (e.g. Karatajūtė-Talimaa, 1978; Blicek et al., 1987; Blom and Goujet, 2002). Our current study concerns the Lower to Middle Devonian of the Andrée Land Group, which comprises Wood Bay Formation, aging Pragian to Emsian, and Grey Hoek Formation, representing the Eifelian, as the stratigraphy in this region is yet largely based on the distribution of lithofacies.

We have defined two new thelodont assemblages, which represent different depositional phases of the late Lower - early Middle Devonian of the Andrée Land Group. The first, older assemblage comprises turiinid, talivaliid, and furcacid thelodonts, and identifies the lower Wood Bay Formation. The second, younger assemblage is prevailed by the talivaliid thelodont *Amaltheolepis winsnesi*, and is characteristic to the upper Wood Bay Fm., as well as the lower Grey Hoek Fm. Definition of these two new thelodont assemblages allows to precise the relative age of the Lower – Middle Devonian strata. Following this new vertebrate fossil record, certain lithostratigraphic units of the Andrée Land Group have to be regarded as contemporaneous lithofacies subjected to different sedimentary environment, rather than separate stratigraphic members. In addition, the distribution of newly discovered thelodont species (Žigaitė and Blom, in preparation) suggests the conclusion that all the three formations (the Red Bay Fm., the Wood Bay Fm., and the Grey Hoek Fm.) represent the gradual evolution of the same Early - Middle Devonian palaeobasin.

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Karatajūtė-Talimaa, V. N. 1978. Silurian and Devonian Thelodonts of the USSR and Spitsbergen. "Mokslas", Vilnius. 334 pp. [In Russian].