



A ca.1.89 Ga magmatic complex in eastern Lithuania: a link connecting with the domains in Estonia and the Bergslagen terrane in Sweden

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Concealed crystalline basement of the Latvia-East Lithuania (LEL) domain is covered by 200-500 m thick sediments. It is mostly composed of basic to acidic intrusive rocks and their volcanic counterparts that host ore deposits. Bogdanova et al (2015) suggested correlations between the 1.89-1.87 Ga Bergslagen microcontinent and Livonia megadomain (including Latvia-East Lithuania, South Estonia Granulite and West Estonia domains). However, apart from a ca. 1.887±7 Ma metadiorite in the south-western LEL (Bogdanova et al., 2015) and a much younger ca. 1.5 Ga AMCG suite in the south (Sundblad et al, 1994), almost none of the rocks from the LEL have been properly dated.

Four samples with calc-alkaline affinity from the LEL were selected for zircon U-Pb SIMS dating: two samples of granodiorite from the southern part of the LEL that might be a part of a TTG suite, a sheared diorite and a meta-rhyolite from the western border of the LEL. The two granodiorites yielded concordia ages of 1892.3±5.7 Ma (MSWD 1.01) and 1893.7±7.4 Ma (MSWD 1.9), whereas diorite is somewhat younger yielding 1876.1±4.8 Ma (MSWD 1.6). The meta-rhyolite recorded a concordant age of 1898±8.3 Ma (MSWD 1.4).

Our newly obtained U-Pb zircon ages support the model proposed by Bogdanova et al. (2015) in which the Livonia and Bergslagen terranes formed simultaneously and can be correlated across central part of the Baltic Sea. It is also consistent with the general southwest younging of terranes in the western East European Craton (and Baltica).

Bogdanova, S., Gorbatshev, R., Skridlaite G., Soesoo A., Taran L., D., K., 2015. Trans-Baltic Palaeoproterozoic correlations towards the reconstruction of supercontinent Columbia/Nuna. *Precambrian Research* 259, 5-33.

Sundblad, K., Mansfeld, J., Motuza, G., Ahl, M., Claesson, S., 1994. Geology, geochemistry and age of a Cu-Mo-bearing granite at Kabeliai, Southern Lithuania. *Mineralogy and Petrology* 50, 43-57.