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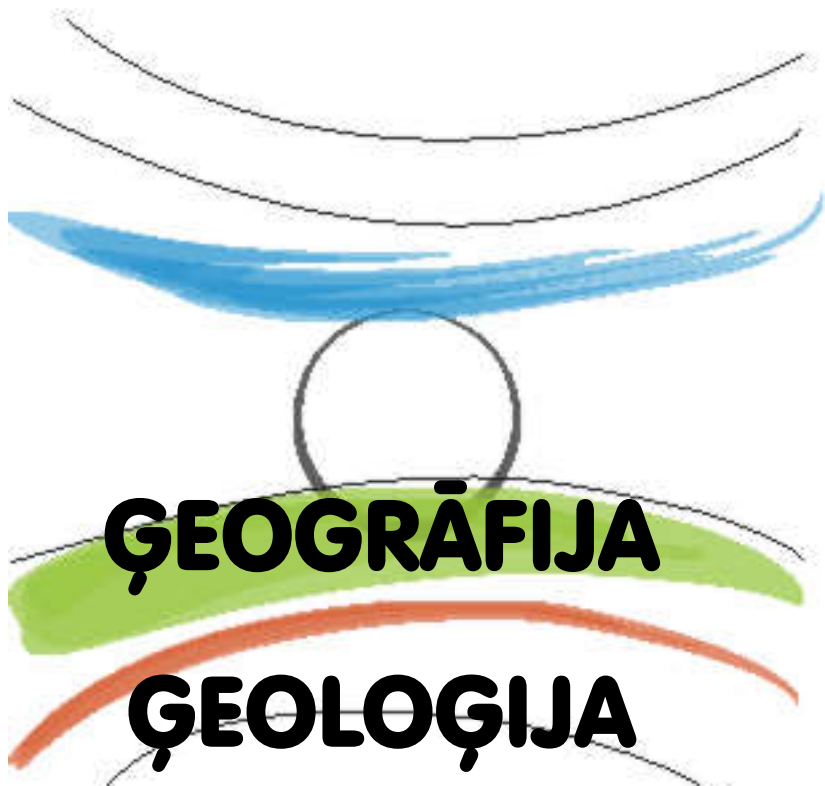


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LATE DEVONIAN TRACE FOSSILS FROM THE SOSNOGORSK FORMATION (SOUTH TIMAN, KOMI REPUBLIC)

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The Upper Devonian Sosnogorsk Formation crops out along the Izhma, Syuz'yu and Pon'yu rivers in the South Timan, Komi Republic, Russia. In the type section, outcrop No. 20 "Sosnovka" at the right bank of the Izhma River opposite the Sosnogorsk town, the Sosnogorsk Formation consists of carbonate clays, siltstones, limestones and dolomites (Beznosov 2009), and contains the low-diversity assemblage of various fossils including bacterial crusts, miospores, algal and ostracod microremains, vertebrate macro- and microfossils (Beznosov *et al.* 2011), as well as trace fossils discovered during the field seasons of 2009-2012.

The lower part of the formation is represented mostly by clay and probably belongs to the Frasnian Stage (J.E.A. Marshall, pers. comm.). The middle member corresponding to the lowermost Famennian is composed of the shallow water clayey deposits demonstrating desiccation cracks, traces of rain drops and other features typical for supratidal-intertidal zone. *Lockeia* isp. and *Undichna* isp. have been found in the same part of the section, preserved as the hyporeliefs.

The upper part of the section consists of a shallow-water carbonates of the most probably lagoonal origin (Beznosov *et al.* 2011). The bed No. 40 (*sensu* Beznosov 2009), the so-called "fish-dolomite" of previous authors, is the limestone body, varying in thickness from several to more than 45 centimetres (Fig. 1) in different outcrops, and of variable structure even in the 15-20 m² small area in the type site. This bed consists of several tempestites (the lowermost one is not continuous through the section) and yields abundant vertebrate fossils of placoderm, dipnoan and other sarcopterygian fishes, as well as one of the most primitive Devonian tetrapods (Ahlberg *et al.* 2010; Beznosov *et al.* 2011). The limestone is bioturbated to various degrees (see Fig. 1), but locally shows fine lamination in the upper part. The bed No. 40 contains J- and Y-shaped burrows,

horizontal networks and 3-D mazes, karst features, as well as possible rhizocretes in its middle and upper part. Trace fossils represented by the horizontal networks or three dimensional mazes of irregularly branching burrows, 3-4 mm in diameter, are provisionally referred to *Thalassinoides* isp., and vertical burrows to *Balanoglossites* isp. Modern *Thalassinoides*-like burrows are made by a variety of marine organisms, most usually decapods crustaceans such as thalassinid shrimps in intertidal and shallow subtidal environments; similar traces usually associated with hardgrounds are also rather common in the Palaeozoic deposits (Myrow 1995). Besides these relatively large traces, tiny vermiculating horizontal objects resembling *Pilichnus* sp. were found in the middle part of this bed. The uppermost part of the bed bears clear evidences of karst processes.

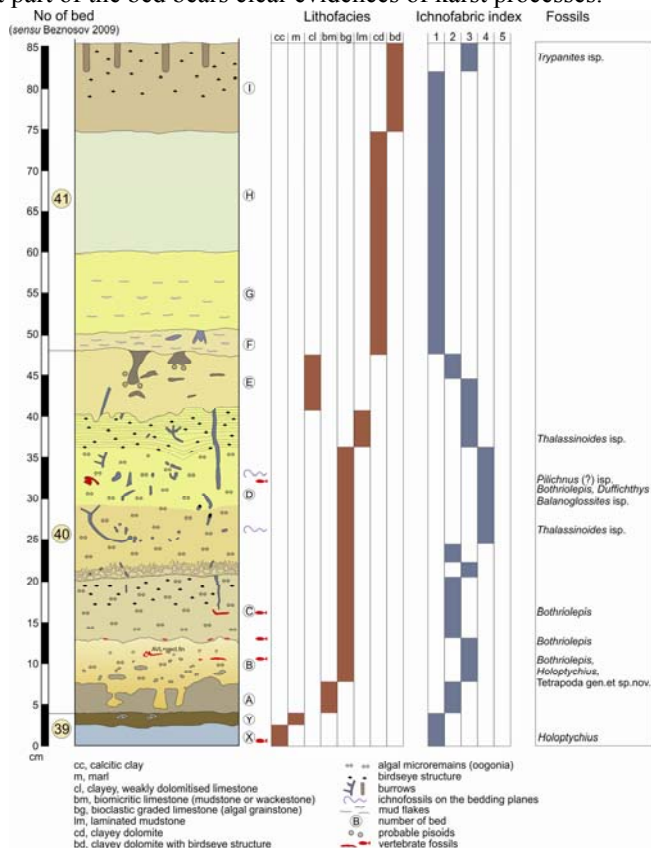


Figure 1. Geological section of the upper part of the Sosnogorsk Formation in the type site at right bank of Izhma River opposite Sosnogorsk town, Komi Republic, Russia.

The bed No. 41 (*sensu* Beznosov 2009) overlies the heavily eroded surface of the “fish dolomite” bed and consists of massive dolomite bearing burrows of *Trypanites* isp. in the middle part. *Thalassinoides*, *Balanoglossites* and *Trypanites* make suite that documents subsequent hardening of the substrate, i.e. development of the hardground. Possibly, two colonization horizons are present; hence two (?) transgressive events of the development of the shallow water basin in the beginning of the Famennian Epoch may be reflected in the uppermost part of the Sosnogorsk Formation.

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ELEJAS SVĪTAS MUGURKAULNIEKU ORIKTOCENOZE KALNAMUIŽAS ATSEGUMĀ

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Pirmos datus par mugurkaulnieku atlieku atradumiem augšējā devona nogulumos tuvu Franas un Famenas stāva robežai Baltijā sniedzis V. Gross (1942), kas pēc A. Meldera atradumiem Imulas krastā pie Bieņu mājām aprakstījis tolaik jaunu bruņuzivju sugu *Bothriolepis curonica* (= *B. leptochaira* Traquair, 1893). Pēc 40 gadu pārtraukuma pētījumus Imulas un Amulas lejtecē turpināja Ļ. Ļarska, L. Savvaitova un V. Sorokins, kas ieguva bagātīgu fosiliju materiālu atsegumā Amulas kreisajā krastā augšpus Kalnamuižas dzirnavām. Šajā