TRACE FOSSILS FROM THE SCANDINAVIAN AND BALTIC REGION ERRATICS IN SW POLAND (FORE–SUDETIC BLOCK; MOKRZESZÓW QUARRY)

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In the Pleistocene, glacial deposits exposed in the Mokrzeszów quarry (Fore–Sudetic Block), a rich assemblage of trace fossils has been found: *Arachnostega gastrochaenae*, *Chondrites* isp., *Diplocraterion* isp., ?*Gastrochaenolites* isp., *Maeandropolydora* isp., *Oichnus* isp., *Osprioneides kampto*, ?*Palaeosabella* isp., *Phycodes* isp., *Planolites montanus*, *Rosselia* isp., *Skolithos linearis*, *Talpina* isp., *Teredolites* isp., *Trypanites weisei*. This assemblage contains excellent and rare trace fossils, occurring in the erratic blocks, as well as in bones, stromatoporoids, corals, bivalves, belemnites, gastropods and wood (from Cambrian to Miocene in age), in the majority origin from Baltoscandia. Sedimentological studies point to a glaciomarginal lake filled mainly by a coarse-grained delta, situated near the active ice sheet margins (Salamon et al., 2013 and references therein). This outcrop provides interesting and amazing material for study of both macro- and trace fossils. Very well preserved corals (e. g. *Halysites* sp., *Favosites* sp.) and stromatoporoid / corals intergrowths were observed, as well as encrusted stromatoporoids on the brachiopods and crinoids or microconchids on the Paleozoic corals.

The most interesting are borings in Ordovician or Silurian stromatoporoids and bryozoans, especially *Osprioneides kampto*, the largest known, rare Palaeozoic boring, that were found so far in the Lower Wenlock of Gotland, Sweden (Beuck et al., 2008), Wenlock to Pridoli of Saaremaa, Estonia (Vinn, Wilson, 2010), and from Anticosti Island, Canada (Tapanila et al., 2004). Recently, Vinn et al. (2014) described for the first time *Osprioneides kampto* from the Late Ordovician (Sandbian) bryozoans of Estonia. The second rare trace fossil is *Arachnostega gastrochaenae* (on the Ordovician or Silurian trilobite), very rare in the Palaeozoic (Asceñolaza et al., 2003; Fatka et al., 2011). This burrow was originally described from the Jurassic and is usually found in the Mesozoic or the Cenozoic (Bertling, 1992). *Arachnostega* was reported from Baltica (Middle Ordovician of the St. Petersburg Region, Russia) by Mikuláš and Dronov (2005). Another interesting borings and burrows are *Talpina* isp. in belemnite rostrum, *Maeandropolydora* isp. in *Gryphaea* sp. shells, ?*Palaeosabella* isp. in stromatoporoids, *Oichnus* isp. in gastropod and bivalve shells and very well preserved *Teredolites* isp. and *Chondrites* isp. The most common is *Trypanites weisei* that occurred both in Devonian blocks and in stromatoporoids, bryozoans, corals, belemnites. This boring is regarded as the most common Paleozoic hard substrate trace fossil (Tapanila, Hutchings, 2012).

In the trace fossil assemblage, domichnia prevail (*Diplocraterion* isp., ?*Gastrochaenolites* isp., *Maeandropolydora* isp., *Osprioneides kampto*, ?*Palaeosabella* isp., *Skolithos linearis*, *Talpina* isp., *Teredolites* isp., *Trypanites weisei*). Less common are fodinichnia (*Arachnostega gastrochaenae*, *Chondrites* isp., *Phycodes* isp.), domichnia / fodinichnia (*Rosselia* isp.), and praedichnia (*Oichnus* isp.). Pascichnia (*Planolites montanus*) are rare. Possibly tracemakers of Paleozoic trace fossils are mainly worm-like animals, whereas Mesozoic and Cenozoic ones are bivalves, gastropods and phoronids.

Studies on trace fossils from the erratics show a global trend of bioeroders diversity (Bromley, 2004). The majority of borings were encountered in the Ordovician–Silurian and Devonian blocks what is in agreement with "the Ordovician Bioerosion Revolution" (Late Ordovician–Early Silurian) by Wilson and Palmer (2006) and "the Devonian Middle Paleozoic Revolution" by Wilson (2007). The studied trace fossils are characteristic mainly of the shallow-marine environments. The direction of source material movement was probably from the north and north-east (Scandinavian and Baltic area). Silurian stromatoporoids blocks might have been derived from Gotland (Sweden), Saaremaa (Estonia) or adjacent areas, where their excellent outcrops are situated (Sandström, Kershaw, 2002; Vinn, Wilson, 2010).

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