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## Ordovician conodonts of the South Urals: biogeographic affinity of the East European Platform's eastern margin

Tolmacheva T.Yu.<sup>1</sup>, Ryazantsev A.V.<sup>2</sup>

<sup>1</sup> A.P. Karpinsky Russian Geological Research Institute, Sredny pr. 74, 199106 St. Petersburg, Russia,  
[Tatiana\\_tolmacheva@vsegei.ru](mailto:Tatiana_tolmacheva@vsegei.ru)

<sup>2</sup> Geological Institute RAS, Pyzhevsky per. 7, 119017 Moscow

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In the South Urals the Ordovician conodonts have been found in deposits accumulated in wide range of geodynamic settings from continental margins to island arc and basinal environments. Up to recently the most attention was paid to conodonts from deep water siliceous deposits, since conodonts only provide confident dating of these poorly fossiliferous rocks. The Ordovician chert and siliceous-volcanic units in the South Urals (the Kurgan, Polyakov and Kosistek formations) yields conodonts of wide geographic distribution, typical of the Open-Sea Realm (Dubinina, Ryazantsev, 2007). These conodonts are also found in cherts of Kazakhstan, West Australia and Scotland (Zhen, Percival, 2003). Ordovician carbonates in the South Urals occur quite sparsely thus data on conodonts from them were minute. Only recently conodonts from relatively shallow-water carbonates of the Sakmar Zone have been studied, permitting estimation of biogeographic affinity of the Ordovician conodonts of this region.

The Upper Tremadocian South Urals conodont assemblages (the Kidryas and Abbylaksay formations) are strongly dominated (up to 89%) by *Decoriconus* sp. with a minor contribution of *Paltodus deltifer* (Lindstrom) and endemic species of *Drepanodus*. Elements of *Decoriconus* sp. are abundant in the siliceous sections of Kazakhstan and are considered to be the Upper Tremadocian cosmopolitan pelagic inhabitant. *Cornuodus longibasis* (Lindstrom) is dominating in the Early Floian *Paroistodus proteus* and *Prioniodus elegans* zones of the Kuagach Formation as well as in the Dapingian part of the Karakol-Mikhailov Limestone. The Upper Floian part of the Kuagach Formation likewise in many other regions is dominated by *Oepikodus evae* Lindstrom. The Darriwilian conodont assemblage recovered from the Karakol-Mikhailov limestone contains taxa of wide geographic distribution only. Only in the lowermost early Darriwilian part of the section elements of endemic *Prioniodus* were found. The Upper Ordovician Nabiul Formation and Torantul unit yields besides deep water cosmopolitan taxa as *Periodon grandis* (Ethington) *Scabbardella altipes* (Henningsmoen), *Hamarodus europaeus* (Serpagli) and other, the elements of *Gamachignathus ensifer* McCracken and *Nordiodus italicus* Serpagli rarely but found in Baltoscandia.

The Early Ordovician South Urals conodont assemblages are significantly discrepant from those of Kazakhstan and Siberia. The conodont faunas of latter two regions relate to the Australasian and Siberian provinces. However the most striking problem is the conodont faunas of the South Urals in the Ordovician biogeographically distinct from the Baltoscandian faunas? That may give an answer on a question whether a marine passage over the East European Platform really existed to connect it north-western and eastern margins.

Common conodont taxa in the Early and Middle Ordovician in the Baltoscandia and South Urals are only cosmopolitan that are also found in Kazakhstan, Argentina and Northern America. The elements of *Decoriconus* sp. and *C. longibasis* that are dominant in the South Urals are typically very scarce in the

Baltoscandia. Only in occasional rare localities *C. longibasis* makes up to 10% of conodont complexes. No regional Baltoscandian endemics have ever been found in the South Urals.

This suggests that at least during the Early and Middle Ordovician no conodont faunas exchange between the Baltoscandia and South Urals occurred. In turn this means Baltoscandian basin may be separated by dry land from its eastern margin or the studied South Urals units were far remote out of the platform allowing the former region faunas keep their biogeographic isolation. In the Upper Ordovician the conodont faunas of the South Urals demonstrate the North-Atlantic province affinity embracing the Baltoscandia, Great Britain and Poland. i

