



New paleomagnetic pole from Precambrian magmatic bodies of the Kotuy river basin (northwestern part of the Siberian platform)

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Apparent polar wander paths are powerful means for deciphering of tectonic history of the Earth lithosphere and its structural elements. At the same time APWP's can be used as a tool for dating of different geological events and objects. Importance of APWP's especially increases when dealing with Precambrian where possibilities of many other methods of dating become limited. Whereas Proterozoic APWP's of North American, East European and Australian ancient platforms are more or less developed, Siberian Apparent Polar Wander Path is at the first stage of its elaboration. Proterozoic and, especially, Meso- and Paleoproterozoic paleomagnetic poles are scarce and for long time intervals are practically absent. Thus every new reliable Siberian paleomagnetic pole of Proterozoic age is of paramount importance for elaboration of Proterozoic APWP of the Siberian platform.

To obtain such the pole we have carried out paleomagnetic investigation of Late Precambrian magmatic complex of northwestern part of the Anabar Uplift (Siberian platform). In total, six dolerite subvolcanic intrusions (dykes and sills) exposed along the Kotuy, Kotuykan and Djogdjo rivers have been studied. Clear paleomagnetic record was found in 5 intrusions. Thermal demagnetization isolates two magnetic components. The first of them is parallel to the recent geomagnetic field at the site and is removed in the low to middle temperature range. The second one (HTC) is isolated at higher temperatures (up to 600°C) and has dual magnetic polarities. Intrusions means form relatively tight cluster, which average direction corresponds to paleomagnetic poles with coordinates: Plat=-23.4°N, Plong=70.0°E, dp/dm = 3.4%/6.7°. Two polarity distribution of HTC vectors, no resemblance to paleomagnetic poles of younger age, and relative proximity to poles of close age (Ernst et al., 2000; Veselovskiy et al., 2006, 2009) – all these allow us to consider the paleomagnetic pole as reflecting the direction of geomagnetic field of time of intrusions emplacement. The proximity of obtained paleomagnetic pole and pole from magmatic complex of the Fomich river valley (Veselovskiy et al., 2006) allows to assume that age of the Kotuy river intrusions close to age of Fomich's complex – about 1.5 Ga.

At the nearest future we will carry out isotopic studies of sampled intrusions and paleomagnetic analyses of host sedimentary rocks which will increase the reliability of obtained paleomagnetic pole and allow to use it for decision of paleotectonic problems.

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