Rubidium-strontium geochronology of the granitoid magmatism in the island arc-system of the Polar Urals

ANDREICHEV, V.L. Institute of Geology, Komi Science Centre, Uralian Division, Russian Academy of Sciences, Syktyvkar, Russia

Voikar and Shchutch'ja volcano-plutonic belts are recognized in the Paleozoic island-arc system in the Polar Urals. Here, intrusive magmatism gave rise to granitoids which age determination is of prime importance to gain insights into the geological history of the region since if reflects the time of the newly-formed sialic crust formation.

Granitoids from Voikar belt are observed as Lagorta-Kokpela granodiorite-tonalite batholith and Yanaslor granite massif. The tonalites' age is estimated 398 ± 21 Ma, that of the granites – 383 ± 3 Ma which indicates the Early-Mid Devonian age for the magmatites.

Granitoids from Yanganape and Yurmeneku massifs of the Shchutch'ja belt are of approximately the same age, 399 ± 8 and 381 ± 4 Ma, respectively. However, here younger granites are also found forming Kharasavei (359 ± 6 Ma) and Kanyon (350 ± 4 Ma) massifs which took shape in Early Carboniferous. This suggests two stages in granite formation in Shchutch'ja volcano-plutonic belt.

Low values of initial isotopic strontium ratios for the granitoids (0.7039-0.7048) point that ophiolitic magmatites in the base of the island-arc system must have served as a protolith.