

A sudden powerful intermediate and acid magmatism in the Pechenga zone, North Fennoscandian Shield

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Large volumes of Paleoproterozoic intermediate and acid magmatic rocks (up to 30% of all igneous rocks) were suddenly revealed in the Pechenga (Petsamo) zone, Fennoscandian Shield (Romanko 1987-91, 1998). This zone was a 'rift-like' with mainly mafites-ultramafites and associated famous Cu-Ni deposits due to the traditional view (Predovsky et al., 1987; Mitrofanov et al. 1995 et al.) while andesites-granites are lesser interesting. Three independent units with studied rocks are following (isotopy is by Balashov et al., 1991-95): 2.45-(2.39)-2.33 Ga island arc?-related boninite-like andesites and gabbro-norites (MgO up to 12-15%, *INTRUSIVES*: $\text{ENd} = -2.5$ - -1.4 , $^{87}\text{Sr}/^{86}\text{Sr}$ or $\text{ISr} = 0.7026$ and *VOLCANICS*: $\text{ENd} = -0.6$ ($N=1$), $\text{ISr} = 0.7042$) and even 2.2 (2.0) Ga deeper cogenetic mafic-ultramafic coronites or drusites, North Karelia (Romanko et al., 1995); 2.21 (2.15) Ga continental or early rift-related trachybasalt-trachyandesite-trachydacites ($\text{ISr} = 0.7035$) and 1.97?-1.88-1.75 Ga Andean-type active margin granosyenite - K-andesite - dacites ($\text{ISr} = 0.7088$ -0.710) of south subzone.

Some several results could be noted as: large volume of acid-intermediate volcanic-intrusive products in the Pechenga zone, collision events (confirmation of earlier pure structural ideas) versus previous long-life 2.45-1.70 Ga rift; 1.9?-1.73 Ga; crustal contamination in the south subzone by geochemistry-geology (1986-88) and confirmed by Sr-isotopy (Balashov et al., 1995); new correlation of 2.49-2.2 (2.0) Ga boninite-like formation in the Pechenga-Pasvik-Varzuga-Salla-Kuola-Kumsa zones of Kola-Karelian region (Romanko et al., 1995-98) versus just revealed interesting and older 2.8 Ga boninites (Slabunov et al., 1999).