

MESOPROTEROZOIC GLOMEROPORPHYRITIC GRANITES: A CASE FROM SOUTHERN SWEDEN

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Among 1.5 – 1.4 Ga granites of southern Sweden, the glomeroporphyritic granites, the so-called Stenshuvud granite porphyries are of great interest. Two varieties of the rocks exist: granites and granodiorites. The former intrudes the latter. All the rocks are slightly peraluminous granites-adamelites to quartz-monzodiorites. Major element variations, trace and rare earth element features indicate that the granites and granodiorites might have derived from a common source. The Stenshuvud granite porphyries show geochemical affinity to upper crust and fall into the fields of A-type and within plate granites. The texture of these rocks is defined by monomineralic clots of plagioclase, microcline and quartz, and polymineralic clots of opaque, sphene, biotite, hornblende and accessories. All the clots are set in a fine-grained syenogranitic matrix. The plagioclase clots are largest and most numerous. Mainly subhedral, 2 - 4 mm grains compose clots up to 10 mm. The presence of concentric bands of numerous inclusions of secondary sericite and epidote reveal oscillatory zonation. Other clots are smaller in size and quantity. The texture suggests two possible explanations: (1) the clots represent fragments of unconsolidated cumulate layers that were disturbed, mixed with restite magma and rapidly transported to a subvolcanic depth where the matrix was crystallized, and (2) clots were formed during continuous magma ascent, when individual crystals of certain minerals became selectively attached to each other to minimize their surface free energy.