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Finding the terrane (boundary)

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The Paleoproterozoic Svecofennian orogenic domain of Southern Finland consists principally of belts of strongly migmatized infra- and supracrustal rocks and granitoids in upper amphibolite to granulite facies, with areas of less migmatized rocks in between. The granite-migmatite belts are presumably related to each other. However, their structural setting, deformation stages and thus tectonic setting are only vaguely known. Especially the southernmost granite-migmatite belt, which presents the last stages of the Svecofennian accretional orogeny in Finland, was last researched before the plate tectonic theory was established. Hence, the tectonic interpretations of the southernmost granite-migmatite belt are based on the areas around and the field studies after the WWII.

The southernmost granite–migmatite belt is 100 km long and E–W trending in the onshore and archipelago of the Gulf of Finland. Its location on the edge and below the Baltic Sea between Finland, Estonia and Sweden makes it a crucial piece in understanding the tectonic history of Svecofennian orogeny. In the west of the belt an old tectonic boundary is recognized, however its continuation and relation to granite–migmatite belt is unclear.

The goal of the study is to find out the deformation history of Southern Finland, to define the location of terrane boundaries and thus update the tectonic interpretations. The project is ongoing and is divided into research of migmatites and melt formation, and into structural interpretations.