

## Abstract

In the Taita Hills – Galana River area in SE Kenya, four tectonostratigraphic units can be distinguished. They differ in tectonic style, and in part in metamorphism, lithology and age of peak metamorphism as recently documented by U-Pb zircon dating. An older Pan-African granulite facies metamorphism (~644-629 Ma) is found in domains showing S-SW directed low angle thrusting (Taita Hills) and NNW-SSE strike slip deformation (western Galana River). In an eastward direction, a late Pan-African granulite facies metamorphism (~550 Ma) occurs in a domain where structures indicate ~NE-SW shortening (eastern Galana River). The nearby granulites of the Pare-Usambara mountains as well as rocks of the Uмба Steppe in NE Tanzania show similarities in age of high-grade metamorphism and structural appearance. Two tectonothermal events which were noticed in north-central Kenya could have affected both regions. The Samburuan-Sabachian event (starting at ~820 Ma), possibly associated with island arc accretion and structurally documented as early recumbent and overturned folds, may have resulted in granulite facies metamorphism at  $\geq 644-629$  Ma. The vestiges of a related suture are likely to be in SE Kenya and are assumed to continue southwards across the NE granulites of Tanzania. Geochemical and recent geochronological (U-Pb zircon) data suggest that arc-related magmatism started in the early Neoproterozoic (>900 Ma). The Baragoian-Barsaloian event ( $620-580 \text{ Ma} \leq \sim$ ), as a tectonometamorphic overprint, presumably caused S-SW directed thrusting in the Taita Hills, cross folding and thrusting in NE Tanzania as well as a distinct scatter of lineations. This event could involve another collision and suturing of the Pan-African cycle and may be manifested in metamorphism and tectonic style of the Galana River area.