



Geochronology and tectonic setting of the granitoidic intrusions in the Bitlis Massif, SE Turkey

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The Bitlis Massif is exposed as an extensive, flat-lying nappe within a thick, S-vergent fold and thrust belt (the Bitlis Suture Zone), formed by the collision of the Arabian Platform to the S with the E Anatolia to the N in Miocene. The age of the metamorphism of the Bitlis Massif is constrained by the unconformably overlying Late Cretaceous clastic sediments. The Massif is structurally underlain by the Miocene foreland basin sediments to the S.

The palaeo-tectonic setting of the Bitlis Massif during the Palaeozoic is highly controversial; both Eurasian and Gondwanan origins were suggested previously. Critical testing of these models was made during this study by investigating the U/Pb zircon geochronology and whole rock and Sm/Nd isotope geochemistry of the granitoidic intrusions in the Bitlis Massif.

Two groups of granitoidic plutons occur in the Bitlis Massif. The first group of plutons intrudes into the high-grade basement units and is characterised by LS-tectonites. These are peraluminous granites and granodiorites and exhibit calc-alkaline trends. These granitoids plot in WPG and POG fields in tectonic discrimination diagrams. The second group of plutons cut the Devonian metacarbonates and quartzites in the form of dykes and larger intrusions of a few km wide and long (e.g. Mutki area). These intrusions are relatively undeformed and are characterised by equigranular, medium grained, felsic intrusions. These are dominantly metaluminous granites and plot in the VAG field.

The radiometric ages and isotopic compositions of the felsic igneous rocks in the Bitlis Massif will be presented and their tectonic implications will be discussed during this presentation.