



## **The Neo-Tethyan subduction zone(s,?) in Azerbaijan, NW Iran: preliminary results**

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Azerbaijan in NW Iran, and in particular the Khoy ophiolitic complex, require more detailed documentation to integrate them as elements of the Alpine-Himalayan orogenic belt. They are attributed to multiple accretion and collision after subduction and closure of the Tethys Ocean and related seaways. We are interested in the pre- to syn-collisional relationships between the ophiolitic, arc and other magmatic units. This work investigates to what extent single or multiple collisions and orogeny have shaped the NW Iranian Plateau. In particular, we want to understand the changes in deformation style within the collision zone and the effects of several possibly coeval events such as closure of two suture zones separated by an arc and possibly followed by slab break-off(s). Fieldwork focused on sampling the different magmatic rock units to specify the structural record and the structural relationships between the various lithological units. Cretaceous to Quaternary, regionally distributed magmatic rocks were collected to have good resolution of their changes in space and time. Petrological, geochemical and isotope studies will characterize magmatic rocks and their sources. Major and trace element geochemistry of mantle and crustal suites of the Khoy ophiolitic complex help to constrain the tectonic setting. Two complexes were defined on the basis of K-Ar dating (Khalatbari-Jafari et al., 2004). An older, probably subducted ophiolite of Triassic-Jurassic age and a younger non-metamorphic ophiolite of Late Cretaceous age. Fossil-bearing sediments provide stratigraphic ages of important contacts. Preliminary results are present in form of bulk rock and trace element chemistry of ultramafic and mafic rocks of the Khoy ophiolite(s, ?) and offer a first possibility to compare the data with already existing publications. Additionally, petrological studies of various magmatic rocks present first products for a starting discussion on the geodynamic evolution of the NW part of Iran. This work is supported by SNF Research Grant (project 200021\_153124/1).

### REFERENCE

Khalatbari-Jafari, M., Juteau, T., Bellon, H., Whitechurch, H., Cotton, J. & Emami, H. 2004: New geological, geochronological and geochemical investigations on the Khoy ophiolites and related formations, NW Iran. *Journal of Asian Earth Sciences*, 23, 507-535.