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**Triassic limestone, turbidite and serpentinite – Cimmeride orogeny in the Central Pontides**

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**Mineral separation and analytical methods**

**Mineral Separation**

biotite and muscovite fractions from rock samples were separated in Istanbul Technical University using standard mineral separation procedures. This included crushing whole rock samples to sand-size grains, sieving, repeated rinsing and cleaning of samples in water and acetone and passing the samples through a Frantz magnetic separator. For zircon separation we used heavy liquids followed by handpicking under stereographic microscope. For mica separation we used the paper method following separation by the Frantz magnetic separator.

**40Ar/39Ar analyses**

The muscovite and biotite grains, were washed in acetone, methanol and water before packing into foil packets for irradiation. All samples were irradiated at McMaster University in Canada. Irradiation flux was monitored using the GA1550 biotite standard with an age of 98.79 ± 0.54 Ma (Renne *et al*. 1998). Sample J values were calculated by linear interpolation between two bracketing standards; a standard was included between every 8–10 samples in the irradiation tube. J values are included in the full dataset presented in the Auxiliary material. Results were corrected for blanks measured either side of every two mineral analysis (average blanks are included in the Auxiliary material), 37Ar decay and neutron-induced interference reactions. The correction factors used: (39Ar/37Ar)Ca = 0.00065, (36Ar/37Ar)Ca = 0.000265, (40Ar/39Ar)K = 0.0085 were based on analyses of Ca and K salts. Analyses were also corrected for mass spectrometer discrimination (283).

Samples were loaded into an ultra-high-vacuum laser port and placed under a heat lamp for 8 h to reduce atmospheric blank levels. Total fusion of single grains was achieved using a continuous wave SPI infrared (IR) laser (1050-1250nm) coupled to an automated gas handling vacuum system and admitted into an MAP 215–50 noble gas mass spectrometer. In situ spot dating of the phyllite slabs was achieved using the same laser and mass spectrometer but by controlling laser-sample coupling with an automated shutter and lasing spots of 30 micron diameter for up to 500 ms per analysis. Gases were gettered for 5 min using two SAES getters (at 450° C and room temperature) and a liquid nitrogen cold trap provided additional gas-cleaning before inlet into the mass spectrometer. Peaks from 36Ar to 40Ar were scanned 10 times each, and amounts were extrapolated back to the inlet time.

**References**

Renne, P.R., Swisher, C.C., [Deino, A.L.,](http://apps.webofknowledge.com/DaisyOneClickSearch.do?product=WOS&search_mode=DaisyOneClickSearch&colName=WOS&SID=W2ECKIFf8Ank@22dNA@&author_name=Deino,%20AL&dais_id=10915604) [Karner, D.B.,](http://apps.webofknowledge.com/DaisyOneClickSearch.do?product=WOS&search_mode=DaisyOneClickSearch&colName=WOS&SID=W2ECKIFf8Ank@22dNA@&author_name=Karner,%20DB&dais_id=11813441) [Owens, T.L. &](http://apps.webofknowledge.com/DaisyOneClickSearch.do?product=WOS&search_mode=DaisyOneClickSearch&colName=WOS&SID=W2ECKIFf8Ank@22dNA@&author_name=Owens,%20TL&dais_id=12939787) [DePaolo, D.J., 1998.](http://apps.webofknowledge.com/DaisyOneClickSearch.do?product=WOS&search_mode=DaisyOneClickSearch&colName=WOS&SID=W2ECKIFf8Ank@22dNA@&author_name=DePaolo,%20DJ&dais_id=73600) Intercalibration of standards, absolute ages and uncertainties in Ar-40/Ar-39 dating. *Chemical Geology*, **145**, 117-152, doi: 10.1016/S0009-2541(97)00159-9.