

SANTORINI, PART OF THE HELLENIC ARC AGE RELATIONSHIP OF ITS EARLIEST VOLCANISM

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Volcanic products are interbedded with fossil bearing marine sediments in several localities on the Akrotiri Peninsula, Thera. These palaeontological findings allow dating of the earliest volcanism in the region.

Our field studies and analysis of the foraminiferal content from the Archangelos - Loumaravi - Balos area, combined with a reevaluation of previously published palaeontological data, show that the volcanism started here within the interval from the uppermost Pliocene to the lowermost Pleistocene. These data are in accordance with absolute dates obtained from some volcanic products in the area.

Furthermore, the foraminiferal faunas reveal that a littoral environment prevailed in the Mt. Archangelos - Mt. Loumaravi district at the time of deposition. Sediments in the area between Cape Balos and Cape Loumaravi were deposited at a greater water depth in an inner to outer shelf environment.

PETROGRAPHICAL AND GEOCHEMICAL ASPECTS AND K/AR-DATING OF IGNIMBRITES IN CAPPADOCIA, TURKEY

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The Neogene/Quaternary volcanic activity in Central Anatolia resulting from the collision of the Afro-Arabian and Eurasian plates began in the Upper Miocene and lasted until historic times. The pyroclastic deposits in the area between the cities of Nigde, Nevşehir and Kayseri, comprise at least 9 major non-welded and welded rhyolitic ignimbrites. Individual deposits cover areas >5000 km². Ignimbrite stratigraphy comprises (from bottom to top) Lower - and Upper Göreme, AkDag, Cemilköy, Tahar, Sarımaden, Kizilkaya, İncesu, and Valibaba-ignimbrites. They are separated from each other in the field by Plinian pumice, minor surge, and extensive alluvial and shallow lacustrine sediments.

K/Ar-dating of bulk rock (pumice and glass) and biotite samples from the ignimbrites yielded ages between 9.0 and roughly 1-2 m.y. BP. In particular: 9.0 ± 0.2 for Lower Göreme; 7.6 for AkDag; 6.7 for Cemilköy, and 3.95 for Sarımaden-ignimbrite. The

subsequent moderately welded Kizilkaya-ignimbrite is of similar age, 3.8 ± 0.2 m.y., if bulk rock samples are regarded, while biotite and feldspars produce ages around 4.5 m.y. The discrepancy may result from deficits in Ar caused by alteration, tempering during welding, or both. Handpicked bulk-ignimbrite samples from Incesu-ignimbrite yield data of 2.8 m.y.

Geochemical analyses classified the Ignimbrites as high-K calc-alkaline rhyolites. Incesu-Ignimbrite is strongly enriched in incompatible and HFS - elements, and REE relative to the others. Discrimination diagrams classify the units as within-plate or A-type rhyolite while the others match the fields for orogenic/volcanic arc S and I-type. Crystallization differentiation of the rhyolites from mafic lavas may be a suitable petrogenetical model except for the A-type Incesu-Ignimbrite, unless age and stratigraphic relationships would not oppose for the hypothetical parental magmas occur only at the end of the volcanic activity in Cappadocia. Therefore, a model of a two stage crustal anatexis is favoured: the volcanic arc S and I-type rhyolites of the lower series represent the first phase of melt extraction while the A-type Incesu-Ignimbrite of the upper series, close to the end of the ignimbrite activity, generated during the second melt extraction phase.

PALEOGENE AND NEOGENE DEPOSITS OF KORÇA - MOKËR DEPRESSION AND THEIR COALBEARING (NORTHERN PART OF THE ALBANIAN - THESSALIAN TROUGH).

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This depression constitutes North - Western part of Albanian - Thessalian Trough (Meso-hellenic Trough) and represents a longitudinal depression from south of Kalam-baka (Greece) continuing near of Librazhd - Town (Albania).

Its length is 175 km and its wideness 10-30 km (D. Shkupi, 1984).

Albanian - Thessalian trough includes three main basins: Gora - Mokra basin, Mborje - Drenova basin (which is united with Grevena basin in Greece) and Kalambaka - Trikalas basin. This trough is located above Mirdita zone and Korabi (pelagonian) one and is created by the subduction of Ionian Zone during in Middle Eocene. This depression includes deposits from Middle-Eocene until Langhian. There are not Serralian and Pliocene deposits.

Gora-Mokra basin - Molasse deposits are placed above Upper Triassic-Lower Jurassic limestones, ophiolites, Cretaceous deposits and are represented by Middle-Upper Eocene, Oligocene, Aquitanian and Burdigalian deposits.