

## **Allanite-bearing metamorphic sequence in Talea Ori, central Crete, Greece**

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The Plattenkalk Group is the lowermost tectonic unit of the Nappe pile of Crete and Peloponnes and the most external part of the Hellenides. Its stratigraphy ranges from Late Carboniferous to Oligocene. The stratigraphic lower Formations of these "relative" autochthonous metamorphic Group, crops out in a tectonic window on the central northern coast of Crete, in the vicinity of the Talea Mountains (Ori). On the basis of detailed geological mapping in this area, an allanite-bearing metamorphic siliciclastic sequence is found.

Allanites were found within the upper part of the Sisses Beds, which has subsequently undergone tectonic movements. Along the national road Rethymnon-Herakleion allanites were found within the Sisses Beds in an intensely tectonised, 7 meters thick sequence, which constituted by intensely chemical weathered albitic slates intercalated with metasandstones. The slates pass over progressively in the marbles of Sisses Beds. Allanites are ubiquitous in the slates while in metasandstones the ilmenites. Small quantities from metabauxites confirm the progressive passage to the low stand sequences that are observed in these Beds.

The LREE carrier minerals were systematically investigated in various metapelite samples using the backscattered-electron imaging facility. It was found that a large number of samples contain mainly allanite and ilmenite. Allanite typically forms small crystals up 50  $\mu\text{m}$  in length. Textural relationships with albite crystals support its origin.

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