

MULTIPHASE CRUSTAL THICKENING IN THE CENTRAL PARTS OF THE BALKAN PENINSULA

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The anomalously thick (up to 50 - 55 km) crustal segment (Rhodope Massif) in the central parts of the Balkan Peninsula has an almost isometric oval shape. It resulted from Precambrian multiphase folding and shear, and from unconformably superimposed thickening (late Cadomian, Hercynian, Mid Cretaceous, Late Cretaceous and Paleogene) and thinning events.

ON THE ORIGIN OF VERMICULITE DEPOSITS IN THE BALKAN PENINSULA

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Recently, vermiculite deposits have been located in the Balkan peninsula. The most significant deposits are known in the Srednogie region, the Rhodope massif and Chalkidiki peninsula. Small occurrences of vermiculite at Zidani, Valandovo, Rabrovo and else-where are also found. Although vermiculite or mica-vermiculite intercalations are common, large deposits of economic interest are rare due to a complex combination of endogenic and exogenic processes (host rocks, degree and features of micasitization, nature of solutions), which is required.

Based on the associated rocks and their origin vermiculite deposits in the Balkan peninsula are distinguished to those related to tectonites (vermiculite - hydrophlogopite type) and those in the cumulate sequence of ophiolite complexes [hydrophlogopite (hydrobiotite) - vermiculite type]. Both occur in ophiolitic boudins in highly crystalline basement (gneisses, amphibolites, mica schists and marbles). In the former type the host rock is usually harzburgite, the main component is vermiculite and mica is high-Mg phlogopite with $f_{\text{com}}=4+12$. In the latter type the host rock may be peridotites-pyroxenites-gabbros, the main one component is hydrophlogopite (hydrobiotite) and mica is characterized by a higher Fe content, with $f_{\text{com}}=20+40$. A tectonic control for the zones of vermiculitization is a characteristic of the largest deposits in the Balkan Peninsula.