

## Lithology and Structural Features of the Trakia Unit, South Bulgaria

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The Trakia unit is defined as an individual litho-tectonic unit by Sarov et al. (2006) during the new mapping of 1:50 000. It is outcropped in the northernmost slopes of the Rhodopes along Maritsa River valley from the town of Kostenets in the West to the area of Dimitrovgrad, Haskovo and Harmanly in the East. One of its main features is the low-metamorphic (greenschist facies) to anchi-metamorphic Late Alpine overprint of the rocks, which otherwise are with different age and origin. However, the degree of metamorphism in the volume of the unit increases from East to West.

The Southern boundary of Trakia unit is marked by subvertical dextral strike-slip faults considered as a part of Maritsa shear zone. They separate its rocks from the high-grade metamorphites of the Rhodopes. Deformations along the border of the unit are predominantly brittle or brittle-ductile but in some sections ductile shearings are observed. In the transtensional segments of these strike-slip faults pull-apart basins and rhomboidal grabens were formed. These structures are filled with Paleogene and Neogene sediments. There are also some sections of the zone where transpressional kinematic is dominating. The most common structures in the Southern border of the unit are subhorizontal mineral lineations or striations, S/C mylonites and millimeter- to meter-scale drag folds with subvertical hinges and dextral asymmetry.

In general we can distinguish three different sections in the structure of the Trakia unit.

1) The first section is represented by biotitic orthogneisses enriched in pegmatitic veins undergone metamorphism in upper amphibolite facies during Variscan time. During Alpine stage these rocks were reworked in lower metamorphic conditions causing pervasive retrogression. In general (based on the main lithological and structural features) these rocks refer to Balkanide type of metamorphites (Ivanov, 1989), which build up the basement of Srednogorie zone and Ograzhden complex. We suppose that these metamorphites constitute the basement of Trakia unit.

2) Mélange of low-grade metamorphic rocks containing metaophiolite fragments. This section is presented by calc-schists, green schists, quartzites, metabasites and ultramafic rocks affected by serpentinization. The rocks are folded in isoclinal folds and also in drag folds near the southern strike-slip boundary of Trakia unit. This section is correlated with the rim of the Sakar granites in the area of Bulgarin, Shishmanovo and Konstantinovo villages.

3) Fine-grained white marbles intercalated with white mica schists and calc-schists are widely spread in Besapara hills South of Pazardzhik town. White or bright-grey marbles crops out at South of the villages Brestovitsa, Markovo, Brestnik and Kuklen. The marbles are often strongly brecciated. In some outcrops are discovered brown-yellowish slightly metamorphosed limestones. The same succession is observed near the village of Klokotnitsa and between the towns of Dimitrovgrad and Haskovo, where it is already dated as Triassic-Jurassic sequence.

We suppose that in regional scale the whole volume of Trakia unit is strongly folded. The folds are south-verging. Their cores are built up by Variscan orthogneisses and by undated mélange of metapelites and metaophiolitic fragments. The limbs consist of Triassic and Jurassic carbonate fragments. In contrast to the section near Dimitrovgrad and Klokotnitsa, in the area of Parvenets, Brestovitsa, Markovo and Brestnik villages apparently the Variscan orthogneisses overthrust the mélange and slightly metamorphosed the limestones.