

THE GEOLOGY OF THE BODRUM PENINSULA

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ABSTRACT. — At the Bodrum peninsula which is situated at the Western Anatolia, the basement rock is a slightly metamorphosed unit of Paleozoic age which is called as «Güllük formation» and which is composed of conglomerate-sandstone-shale detritic alternations. Units belonging to Mesozoic are seen as dolomitic limestones of Triassic-Lias age (Pazardağı formation); silt and marl bearing limestones of Lias-Malm age (Karadağ formation); pelagic limestones of Malm-Cenomanian age (Kışladağı formation); and a wild flysch which overlays all these deposits and which is of Upper Cretaceous-Paleocene age (Bodrum formation). Rock units of Cenozoic start with Oligocene aged deposits (Koyunbaba formation). Then, a severe magmatism has been dominant in the Peninsula that formed the plutonic and volcanic rocks in different stages. In the first stage, a monzonite intrusion is recorded in Middle Miocene. Afterwards a vast calc-alkaline volcanism has taken place in the region to produce the tuff-agglomerate beds and the lavas of andesite-trachyandesite-latitude-dacite type. After a certain period, this calc-alkaline volcanism which is a result of lithospheric material has been gradually transformed into alkaline olivine basaltic products which are the results of the activities involving the mantle. The second volcanic stage has been started by the way, and in this stage basalt-trachybasalt-trachyte type lavas which are in an alkaline nature and which have been found as dykes, have been formed. In the area of investigation, limestones which belong to Lower Pliocene are seen after the ending of the volcanism in Upper Pliocene. Finally in Quaternary, travertins, scree deposits, alluviums and some pieces of pumice and tuffs which have been probably transported through the air from the neighbouring island of Kos, are found.