



Tectono-stratigraphic features of the pre-Cenozoic Units in the Biga Peninsula and its tectonic implication, NW Turkey

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The Biga Peninsula is the junction including remnants of crustal and oceanic fragments and their genetic relations are not fully understood yet. The existence of the Intra-Pontide suture and the exhumation history of the metamorphic massifs in the peninsula are the most important problems of the region.

In the peninsula, there are different units which crop out under the Cenozoic volcano-sedimentary cover. These are; Kazdağ Massif, Çamlıca/Karabığa Massif and Karadağ Massif, which is composed different type of metamorphic rocks. Kazdağ Massif shows a NE-SW -trending structural high. While unmetamorphosed Mesozoic cover unit of the massif is represented by a carbonate platform succession in the SE of the Kazdağ structural high, Cretaceous flysch-like chaotic units (Çetmi Group) is seen in the NW of the Kazdağ. The Çetmi Group is the first unmetamorphosed unit overlying directly on the different metamorphic basements in the Biga Peninsula.

The Çetmi Group is a depositional sequence including olistostrome levels. Its age is Cretaceous and not reaching Paleocene-Eocene time as previously thought. The Çetmi Group and the Upper Cretaceous – Paleocene - aged chaotic associations in the region are developed in different time and tectonic settings. Cretaceous eclogitic metamorphic rocks have tectonic contact with the Çetmi Group.

The Çetmi Group overlies different metamorphic basements where include distinct contact relationships in different parts of the Biga Peninsula. In the west of the Kazdağ Massif, high grade metamorphic basement consisting of amphibolite, granitic gneiss, schist alternation with marble lenses is tectonically overlain by the unmetamorphosed Çetmi Group. On the other hand, Karabığa Massif consisting of highly metamorphosed and polyphase deformed garnet-mica schist, chlorite schist, phyllite, calc-schist and marble intercalations are unconformably overlain by the unmetamorphosed Çetmi Group in the northern part of the Biga Peninsula.

The data summarized above indicate that the metamorphic massifs of the peninsula were metamorphosed before the deposition of the Çetmi group and also the main exhumation of the massifs older than previously thought, i.e. Tertiary time.

Key Words: Northwest Anatolia, Biga Peninsula, Intra-Pontide Suture, Exhumation of Metamorphic Massifs