around Knidos and Çesmeköy area (Figure 1). These volcanic products are dominantly tuffs, with varying amoynts of lava and pumice fragments.

Besides these volcanic materials aerially transported due to the explosive volcanic activity occurred in Nisyros Island, pumice fragments probably representing the examples of sea water transport due to the low density of these fragments were also encountered in the shoreline of Datça Peninsula, typically and abundantly around the coastline of Bencik Port near MTA Recreation and Resort Establishment Site which is 75 km away from Nisyros Island. These pumice fragments were floated in the sea and arrived at the coast-line of Datça Peninsula by the wind action and abraded by the waves with time into gravels of 6-7 cm size and are found together with limestone and serpentine gravels which from one meter high benches (or terraces) above the sea level.

## STRATIGRAPHY AND TECTONIC EVOLUTION OF THE NORTHERN EDGE OF THE MENDERES MASSIF

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The Menderes Massif is represented by regionally metamorphosed rocks in the western Anatolia. In the Selçuk-Bayindir region, the lowermost unit is composed of micaschists, which is named in this study as the Bayindir formation. The beyindir schists are overlain gradationally by marbles that are named as kayaalti formation. The kayaalti formation is dominantly characterized by marbles and schist intercalations in its lower sections, whereas, the upper parts of the unit are represented by emery-bearing massive marbles. The marbles and schists intercalation have yieded a poorly-preservated coral fossil that gives an age of Triassic or Jurassic. In the uppermost parts of the massive marbles, rudist fragments are found. Thus, the age of the Kayaalti formation is presumably in the range of Late Triassic to Late Cretaceous. On the top of the Kayaalti marbles, rests conformably another micashist unit with mafic metavolcanic and metatuff lenses. This unit, which is called the Selçuk formation in this study, contains blocks of emery-bearing marbles and metaserpentinites. On the top of Menderes metamorphics, rests along a thrust fault, the nonmetamorphic Bornova melange.

In the Akhisar region, the stratigraphy starts again with thick micaschists of the Bayindir formation. In upper parts of the Bayindir schists, there is a thin lense of mafic metavolcanics and metaserpentinites, that was probably formed by submarine volcanic eruptions. The Bayindir schists grade upward into marbles of Kayaalti formation, the lower parts of which, yield fossils of Late Triassic and Jurassic ages. The uppermost part of the Kayaalti formation contains rudist fragments and upward in the section

 

pelagic limestones with planctonic foraminiferas are found. They yield an age of Late Campanian. Overlaying the pelagic limestones, the Hasköy formation is seperated, which is composed of sandstones, mudstones and lenses of limestones. The ophiolitic melange of the Izmir-Ankara Zone, along a low-angle thrust fault, overlies different units of Menderes metamorphics.

Stratigraphy of Menderes metamorphics shows similarity to that of the Karaburun Belt. The micaschists and the mafic volcanics of the Bayindir formation might be equivalent of Lower Triassic detrital and mafic volcanic rocks or the Karaburun Belt. In both, the Karaburun and the Menderes sections, the detrital units are overlain conformably and gradationally by a thick platform-type carbonate succession. In both of the belts, also, the Campanian-Maastrichtian sections are in pelagic facies and they pass upward into flysch-type detrital assemblages.

The resemblance of the Karaburun and Menderes platforms suggests that they were once connected to each other. To the north of this intact platform, the Izmir-Ankara Zone was probably opened starting from Menderes platform by a subordinate opening. After Danian, the izmir-Ankara Zone started to close rapidly, and in the final period of tha closing the Sakarya Continent collided with Menderes Massif and the melange unit formed in between, thrust over its northern edge.

## THE GEOLOGICAL SETTING OF THE TECTONIC UNITS SITUATED ON THE SW ANATOLIA (TURKEY) AND THEIR MESOZOIC GEODYNAMIC DEVELOPMENT

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At the recent time, all the tectonic units between the Menderas Massif and the Beydaglari carbonate platforms were emplaced onto foreland by multi-stage thrustings of major compressional regime. These tectonic units display different environmental characters from adjecent areas. Two different terranes are considered by the author for these units, the north and the south of the Menderes Massif. The units which derived from the north margin of the Menderes Massif are only the ophiolitic nappes which were transported southwards by the Upper Cretaceous-Middle Miocene thrustings. On the other hand, other units consisting mainly of carbonate nappes have been originated from a trough situated on the southern margin of the Menderes Massif. The trough was rifted by continental extension forces during the Upper Liassic time. The opening has lasted until the continental approaching as a result of compressional regime. During closure stage, clastics were deposited from Senonian to Langhian age.