

THE AGE AND LITHOSTRATIGRAPHIC CHARACTERISTICS OF KUMLUCA ZONE, ALAKIRÇAY GROUP; SW ANTALYA, TURKEY

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A sedimentary unit, described in the literature as Alakırçay unit (Marcoux, 1977), Kumluca Zone (Robertson and Woodcock, 1981), Kumluca complex (Yılmaz, 1981) and Alakırçay group (Şenel et al., 1981) is exposed in a N-S trending area of 30 km x 4 km at SW of Antalya and N of Kumluca. The unit consists of sandstone with plant fragments, conglomerate, siltstone, claystone, limestone with Halobia and chert nodules and bedded cherts, and is of Triassic age according to Marcoux (1977), but a Ladinian-Norian age is given to it by Şenel et al. (1981).

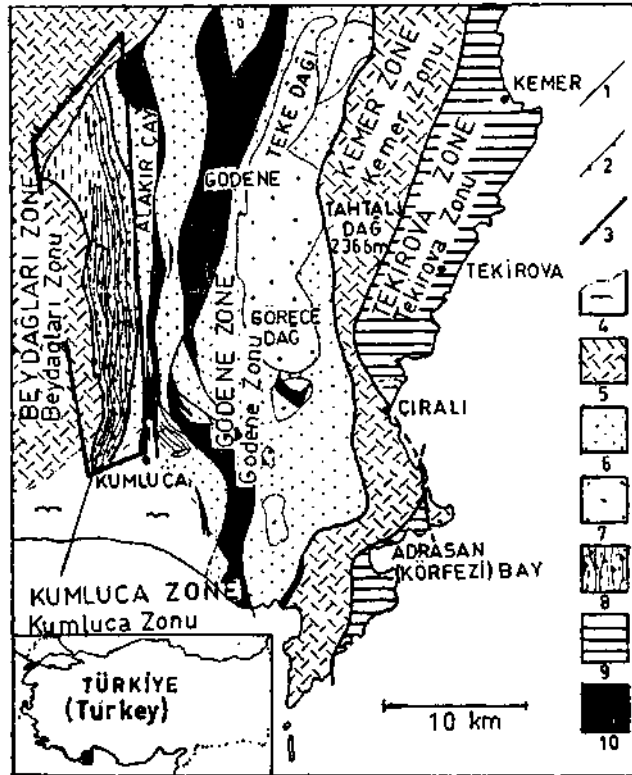


Fig. 1 - Location and geologic map (from Robertson and Woodcock, 1981). 1 - Stratigraphic contact; 2 - Thrust contact; 3 - Steeply dipping tectonic contact; 4 - Alluvium; 5 - Sediment on Pre-Triassic continental basement; 6 - Triassic mafic extrusives, thin sediment cover; 7 - Carbonate build-ups on salic Triassic mafic basement; 8 - Allochthonous sedimentary sequences in thrust sheets; 9 - Partial ophiolite sequence; 10 - Serpentinite.

Robertson and Woodcock (1981) have divided their Kumluca zone to three formations; Hatip and Bozyer formations of Upper Triassic and Karabük formation of Jurassic-Cretaceous. The Hatip formation has a transitional boundary with the overlying Bozyer and consists of interbedded sandstone with plant fragments, conglomerate, siltstone and claystone. The Bozyer formation is comprised of Halobia, Radiolaria and chert nodules containing micritic limestone and also has a transitional boundary with the Karabük formation which is represented by bedded cherts. Yılmaz (1981), has described the same unit (although she has called it Kumluca complex) as a sedimentary succession having shale, siltstone and sandstone with plant fragments at the base and limestone with Halobia, reef masses in marl and bedded chert succeeding each other in the upper part of the unit. She has proposed the same age intervals as Robertson and Woodcock (1981).

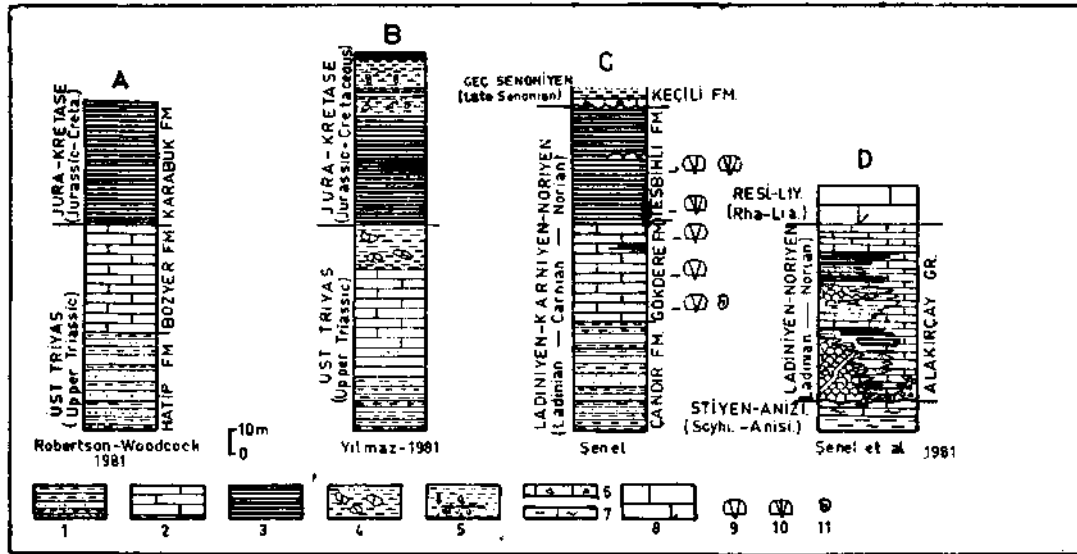


Fig. 2 - Generalized columnar sections. A-Kumluca zone; B - Kumluca complex; C - Columnar section of the Alakırçay group (vicinity of Karacaören) north of Kumluca; D - The generalized columnar section of the Alakırçay group.

1 - Claystone, siltstone, conglomerate, sandstone with plant fragments; 2 - Pelagic limestone; 3 - Bedded cherts; 4 - Reef masses, marl; 5 - Marl, claystone, siltstone, volcanogenic sandstone, mudstone, bituminous shale, redeposited calcarenite, calcsirudite; 6 - Breccia; 7 - Vermicular facies; 8 - Neritic limestone; 9 - Halobia; 10 - Daonella; 11 - Ammonites.

During the investigation that is carried out by the author in the area N of Kumluca zone, contrary to the Yılmaz's (1981) finding no reef masses in marl is observed in between limestone with Halobia and bedded cherts. However these marls can be seen further to the N in areas around Dereköy, İmecik yayla, Bilalyeri and Çataltepe (Dereköy unit, Marcoux, 1977; Çataltepe unit, Poisson, 1977) and have no primary stratigraphic relation with the limestone with Halobias and belongs to a different tectonic unit.

Furthermore a zone containing Halobia and Daonella was found a few m (5-6 m) above the limestone and chert transitional boundary in addition to a 10 cm thick Halobia containing lens in the middle of the bedded chert layers indicating a Middle-Upper Triassic age, rather than Jurassic-Cretaceous as previously proposed.

The unit which was described under number of different names in previous studies (see above), is thought to be the lateral extent of the Alakırçay group which is widely distributed on the W and N of Antalya Bay (Alakırçay unit of Marcoux, 1977, and Ispartaçay formation of Poisson, 1977) and is of Middle-Upper Triassic (Ladinian-Carnian-Norian) age. As was stated in Şenel et al. (1981) the Alakırçay group is known to show rapid lateral and vertical lithofacies variations and claystone, siltstone, sandstone with plant fragments, limestone with Halobia, Radiolaria and chert nodules and bedded cherts are characteristic lithologies of Alakırçay group which also contain thin to thick pillow lavas in places.

The present nomenclature, i.e. Kumluca complex etc., is causing considerable confusion and thus should be abandoned. Additionally, interpretations of the structural evolution of the region based on the assumption that bedded chert layers are Jurassic-Cretaceous in age, are bound to be wrong. Thus on the basis of these new findings it is proposed that the Middle-Upper Triassic bedded cherts ought to be included into the Alakırçay group.

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