Geophysical Research Abstracts
Vol. 18, EGU2016-6705, 2016
EGU General Assembly 2016

Revised Stratigraphy of The Nallıhan-Dudaş (Beypazarı) Area and Significance of the Campanian-Maastrichtian Reef Occurrences Based on the Foraminiferal and Rudist Data

Muhittin Görmüş (1), Muhammed Sami Us (2), Sacit Özer (3), Erdoğan Tekin (4), Serap Akpınar (5), and Büşra Kabakcı (6)

(1) Ankara University, Engineering Faculty, Geology Department, Ankara, Turkey , (2) Ankara University, Engineering Faculty, Geology Department, Ankara, Turkey , (3) Dokuz Eylül University,Engineering Faculty,Geology Department, İzmir, Turkey , (4) Ankara University, Engineering Faculty, Geology Department, Ankara, Turkey, (5) MTA Ankara, Turkey, (6) TUBİTAK, Ankara

Transgressive to regressive succession of the Cretaceous Period and Cretaceous Paleogene boundary from the Nallıhan-Beypazarı area have significant data to interpret the past geological history of northwestern Turkey. In the literature, main scientific differences are seen on the formation/lithodem names, their ages, contact relations and environmental interpretations. In the study, a revision has been made for a proper stratigraphy of the area. For the revised stratigraphy, the obtained results from our field and laboratory works and the literature information were used. The following stratigraphy were established from basement to top: the Permo-Triassic aged Sekli metamorphics, Jurassic to lower Cretaceous Soğukçam formation, Campanian to Maastrichtian aged Dereköy Group-Haremiköy conglomerates, Çeğiköy reefs, Nardin formation (Seben formation), Taraklı formation; the Paleogene aged Kızılçay group including Kızılbayır formation, Karaköy volcanoclastics, Selvipınar limestone, the Miocene-Pliocene terrestrial sediments, Çoraklar formation, Hırka formation, Akpınar formation, Çayırhan formation, Teke volkanics, Bozbelen formation, Kirmir formation. The main unconformities are between Jura and Campanian, Maastrichtian and Paleogene, Eocene and Miocene times. Among the geological units, the Çeğiköy reefs having rich rudist fauna overlie the Haremiköy conglomerates in both sides at the north-Yeşilyurt village and at the south-Gökçeöz village. Another outcrop, Emincik is between two mentioned villages. Biohermal reefs mainly includes very rich rudists up to 40 centimetres in size around the Yeşilköy such as: Pironaea polystyla, Vaccinites loftusi, Hippurites sublaevis. Larger foraminifera Orbitoides medius, O. apiculatus, Siderolites calcitrapoides, Pseodosiderolites vidali are also common in the fore reef areas. Around the Gökçeöz at the south part, the identified rudists are as follows: Vaccinites sp., Hippurites aff. sublaevis, Pironaea polystyla Joufia cf. reticulata, Hippuritella variabilis. In this location, smaller rudists are at the bottom, larger ones are at the top of the biostromal limestones. The first reefal occurrences are interpreted as local fringing type reefs. The reefs around the Emincik are the second occurrences of reefs. This was interpreted as patch reefs. Rudist fauna are less than the other locations and it occurs above the orbitoid rich siliciclastics. Extinction of rudists is at the end of middle Maastrichtian due to paleoenvironmental changes and open marine conditions. Transgressive succession continuous with regressive succession. The Taraklı Formation siliciclastics including rich Orbitoides apiculatus and O. gruenbachensis. The location is also important for the mass larger foraminifera-Orbitoides extinction on the Cretaceous/Paleogene boundary. Terrestrial siliciclastics overlies the very shallow marine Maastrichtian siliciclastics.

ACKNOWLADGEMENT: The authors thanks to Ankara University Scientific Research Projects Coordination Unit (BAP) for the financial support on the project 13B4343014.