

## **Microfacies analysis and environment deposition of Upper Jurassic-Lower Cretaceous Inalti formation, Boyabat area (Sinop, Middle Pontides)**

T. EROĞLU-GÜMRÜK<sup>1\*</sup> AND M. Z. KIRMACI<sup>1</sup>

<sup>1</sup>Karadeniz Technical University, Trabzon, Turkey

(\*correspondence: teroglu@ktu.edu.tr)

Upper Jurassic-Lower Cretaceous Inalti Formation crops out widely in Boyabat (Sinop) area (Middle Pontides, N Turkey). Inalti Formation consists of platform carbonates. This formation has laterally and vertically different lithofacies features. In order to determine the lithofacies features of this formation, a detailed stratigraphic section was measured at Akkaya Hill. In study area, the platform carbonates is medium-thick bedded and grey-beige coloured. General fossil community consists of benthic foraminifera, algae, coral, mollusc, brachiopoda, gastropoda, echinoid plate and spurs. The most abundant types of fauna are benthic foraminiferas (*Anchispirocyclus* sp., *Alveosepta* sp., *Everticyclammina* sp., *Rectocyclammina chouberti* sp., *Mohlerina basiliensis* sp., *Trocholina* sp., *Mesoendothyra* sp., *Miliolidae* sp., *Valvulina* sp.) and algae (green algae, *Rivularia* sp., *Actinoporella* sp., *Thaumatoporella* sp.). These fossils are very important because they demonstrate age of the formation and development of lithofacies. According to the carbonate components and textural features of the platform carbonates: *Alveosepta* oncoid packstone-floatstone lithofacies, *Thaumatoporella* oolitic packstone-grainstone lithofacies, *Trocholina* wackestone-floatstone lithofacies, oolitic grainstone-rudstone lithofacies. According to lithological and paleontological features of Inalti Formation was deposited in shallow marine environment. These environments change from lagoonal environment with low energy to oolite shoals with high energy. According to idealized sequence of standart facies in a carbonate ramp (Wilson 1975), this formation was deposited in winnowed edge sands (6) and shelf lagoon open circulation (7) environments. Dolomitization was seen in some rock examples as cement forms during microscope examination. Therefore later,  $\delta^{13}\text{C}$ - $\delta^{18}\text{O}$ - $^{87}\text{Sr}/^{86}\text{Sr}$  isotopes and trace elements (Sr, Na, Fe, Mn) geochemistry will use to determine origin of dolomite. Besides Mg content and the source of dolomitization solution will be examined.