

Upper Cretaceous radiolarian biostratigraphy of the Suhaylah Formation in the Wadi Jizzi area of the Oman Ophiolite

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The Oman Ophiolite, a member of the Tethyan ophiolites, crops out over 600 km long and up to 150 km wide in the Oman Mountains. The ophiolite suite consists of mantle peridotites, gabbros, a sheeted dyke complex, and extrusive lavas overlain by pelagic sediments. The pelagic sediments, called the Suhaylah Formation, have been studied by Fleet and Robertson (1980) in terms of depositional environments. Tippit et al. (1981) reported Late Cretaceous radiolarians from the Suhaylah Formation and estimated their age as early Cenomanian to Santonian; however detailed stratigraphic distributions of radiolarians were not shown in their study. In this study, the lithostratigraphy and radiolarian biostratigraphy of pelagic sediments overlying extrusive lavas of the Oman Ophiolite are reinvestigated in order to understand the history of the pelagic sedimentation and the faunal transition process and evolution of radiolarians during Late Cretaceous.

Radiolarian study has been conducted at Lasail section, about 35 km west of Sohar. The pelagic sediments of this section are subdivided into three lithologies: hydrothermal sediments (5 m), red shale with chert intercalations (13 m), and micritic limestone (18 m). Basal lava could not be observed at this section. The hydrothermal sediments are highly altered and intercalated with dark red to orange chert. The red shale is dark red purple in color in the lower part and dark red in the upper part. Several chert layers are interbedded with the red shale. The micritic limestone is muddy and red purple in color in the lower part. The upper part consists of red purple and greenish gray micritic limestone with fine lamination.

We obtained moderately preserved radiolarians by a combined HF-HCL etching technique. We recovered poorly preserved *Pseudodictyomitra pseudomacrocephala* (Squinabol) from the hydrothermal chert of the lowermost part. *Rhopalosyringium scissum* O' Doherty was obtained from chert in the lower red shale. Based on these occurrences, the hydrothermal chert in the lowermost part and the lower red shale are Turonian in age. In addition, *Dictyomitra koslovae* Foreman is recovered from muddy micritic limestone in the lower part of micritic limestone. The range of *D. koslovae* is late Coniacian to Maastrichtian based on Hollis and Kimura (2001). Thus, age of the lower part of micritic limestone is probably younger than late Coniacian.

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