

Lithostratigraphy and radiolarian age of the Upper Cretaceous Suhaylah Formation of the Oman Ophiolite

HARA, Kousuke^{1*}, KURIHARA, Toshiyuki²

¹Department of Geology, Faculty of Science, Niigata University, ²Graduate School of Science and Technology, Niigata University

In this study, the lithostratigraphy and radiolarian biostratigraphy of the Suhaylah Formation within the northern Oman Ophiolite are reinvestigated in order to understand the history of pelagic sedimentation and radiolarian faunal transition process during Late Cretaceous.

Radiolarian investigation has been conducted in "Wadi Jizzi" section, located at Suhaylah, about 40 km west of Sohar. In the analyzed section, three lithologies were recognized in ascending order: umber (metalliferous sediments) interbedded with thin chert layers (8 m), red shale with chert intercalations (4 m), and micritic limestone (6 m). The umber is dark purple to dark red in color, weakly stratified, and very fine grained with metallic luster. The thin lamination within the bed is frequently observable. The red shale is very fine grained. In the upper part of the shale sequence, several chert layers are intercalated with the shale. The micritic limestone is red in color in the lower part and greenish gray in the upper part.

We recognized three radiolarian assemblages from the section, based on the species composition. Assemblage A, recognized in the chert within umber and red shale, contains *Thanarla pulchra* (Squinabol) and *Guttacapsa biacuta* (Squinabol), indicating late Cenomanian in age. Assemblage B, characterized by the abundant occurrence of *Rhopalosyringium scissum* O'Dogherty and *Dictyomitra formosa* Squinabol, is recovered from red shale and micritic limestone. The age of this assemblage is assigned to early Turonian. Assemblage C is recognized in micritic limestone, including *Mylocercion* sp., *Schadelfusslerus* sp., *R. scissum*, and *Dictyomitra formosa* Squinabol. This assemblage is assignable to early Turonian or slightly younger age, based on the stratigraphic relationship to Assemblage B. Based on these radiolarian occurrences, the Cenomanian/Turonian boundary occurs within the red shale, being approximately 4 meters below the micritic limestone.

Keywords: Oman Ophiolite, Suhaylah Formation, radiolarians, Upper Cretaceous