

Lithofacies and Late Cretaceous radiolarians of pelagic sediments on the V2 lava of the Oman Ophiolite

Kousuke Hara^{1*}, Yumi Agui², Rina Hayashi², Tatsuya Hinohara¹, Toshiyuki Kurihara¹

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

The Oman Ophiolite consists of mantle peridotites, gabbros, a sheeted dyke complex, and extrusive lavas overlain by pelagic sediments. The basaltic rocks have been subdivided into three volcanic units: the V1 lava with the N-MORB signature, the V2 lava formed by intra-oceanic volcanism, and the V3 lava generated by intra-plate seamount magmatism (Ernewein et al., 1998). Pelagic sediments commonly occur at the boundaries between these volcanic units and consist of metalliferous sediments, red shale, chert, and micritic limestone. The V2 and V3 lavas are widely distributed in the Wadi Hilti area, about 25 km west of Sohar, northern Oman Mountains. Very recently, the emplacement mechanism of the V3 lava was studied by Umino (2012). Pelagic sediments, about 50 m thick at a maximum, overlie V2 effusive rocks and are covered by the V3 lava. The sediments also occur within the V3 lava. We observed lithostratigraphies of pelagic sediments for the following sections. 073 section: This section is composed of lower dark red purple metalliferous sediments and upper red shale intercalated with micritic limestone. The total thickness of these sediments is 12 m. 254 section: This section consists of red siliceous shale (3.5 m), black siliceous shale (1 m), and brown chert (0.5 m), in stratigraphic ascending order. 029 section: we measured light gray and red micritic limestone of ca. 7 m thick. The following species have been obtained from red micrite of 029 section (Kurihara and Hara 2012): *Dictyomitra formosa* Squinabol, *Pseudotheocampe urna* (Foreman), and *Rhopalosyringium scissum* O'Dogherty. Based on O'Dogherty (1994) and Musavu-Moussavou et al. (2007), *R. scissum* first appeared near the base of Turonian. Thus, these radiolarians are assignable to early Turonian or slightly younger age. Future detailed work for radiolarian biostratigraphy of these pelagic sediments will provide information about the age constraints for igneous activities of the V2 and V3 lavas.