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MESOZOIC ZIRCON GRAINS FROM THE DEVONIAN YOSHIKI FORMATION, TAKAYAMA CITY, JAPAN

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Many studies had made clear the post-Carboniferous radiolarian biostratigraphy in the world, and radiolaria nowadays receives wide recognition as an important tool for revealing the Earth history. Whereas the biostratigraphy of pre-Devonian radiolaria has not been made clear yet. In order to confirm practical ages of Devonian radiolarians, we did radiometric dating of zircons in the radiolarian-bearing Yoshiki Formation, Takayama city, Japan. The Yoshiki Formation, composed mainly of alternating beds of tuffaceous sandstone and tuffaceous mudstone, felsic tuff, and alternating beds of sandstone and mudstone, yields very well-preserved radiolarian fossils. Although the formation was once believed to be Ordovician in age based on ostracods from a mudstone float beside outcrop (Igo et al., 1980), it is now considered to be Devonian as a result of recent radiolarian studie (Kurihara, 2004). Well-preserved radiolarians and zircon grains were collected from 21 tuffaceous mudstone and 30 tuff horizons. Identified radiolarian species are *Zadrappolus* (?) *nudus*, *Zadrappolus lunaris*, *Oriundogutta* (?) *varisoina*, *Futobari solidus*, *Oriundogutta* (?) *kingi*, *Futobari morishitai*, *Zadrappolus tenuis* and *Zadrappolus yoshikiens*. These radiolarians show Late Silurian to Early Devonian. On the other hand, U-Pb SHRIMP ages ranging from163 Ma to 2605 Ma were obtained form 58 zircon grains in this formation. This fact suggests that the Yoshiki Formation could be formed with detrital Devonian radiolarian fossils in Middle Jurassic. But the critical question is how were the so well-preserved radiolarians deposited into the formation as detrital grains. This point remains as a matter to be discussed further.

Keywords: DEVONIAN YOSHIKI FORMATION, MESOZOIC ZIRCON