Late Triassic Phaeodarian radiolaria from a phosphatic nodule in melange rocks from the Northen Chichibu Belt, Shikoku, Japan

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Phaeodaria is one of the major radiolarian groups, which lives widely in modern ocean as a holoplankton. However its origin has been uncertain. Because the phaeodarian skeleton consisting of organic matter as well as biogenic silica is easily broken and/or dissolved in water column and sediments, phaeodarian radiolaria is rarely found in fossil state. The oldest geologic record of phaeodarian fossils has been that from the upper Cenomanian strata of Sakhalin Island, Russia (Bragina 2003). We present here Late Triassic phaeodarian fossils discovered from a phosphatic nodule in melange rocks from the Northern Chichibu Belt, Shikoku, Japan.

The phaeodarian radiolaria obtained has a large shell (c. 210-250 x 300-400 micron meters) possessing a long apical horn, and an aperture associated with terminal tooth. The shell shows hollow structure. These morphologic features suggest the specimens are belonging to the family Challengeriidae. Considering to co-occurring polycystine radiolaria such as *Fontinella primitiva*, *Ferresium* sp. A of Carter (1993), *Cantalum* spp., *Pantanellium* aff. *skidegatense*, *Kozurastrum decilobum*, *Kozurastrum* sp. B of Carter (1993), *Tetraporobrachia* sp. D of Carter (1993) and *Parabipedis acroslylus*, the age of the phosphatic nodule containing phaeodarian fossils is datable to Late Triassic (early Rhaetian?). This result reveals that phaeodarian radiolaria already appeared in Late Triassic ocean, and its origin might be extended back to Paleozoic (Cambrian?) as the same time as polycystine radiolaria that previous studies mentioned.

Bragina L. G. (2003) Late Cretaceous Representatives of the Superorder Phaeodaria (Radiolaria). Psleontological Journal, 37, 8-10.