

A new species of *Stacheoceras* (Permian ammonoid) from the Upper Permian in the South Kitakami Belt, Northeast Japan

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Introduction

Stacheoceras Gemmellaro is a well known, globally distributed genus of Permian ammonoids ranging from the Artinskian to Changhsingian (Kullmann *et al.*, 2000) or from the Kungurian to Changhsingian (Leonova, 2002). Over 50 species of the genus have hitherto been known worldwide, almost all of which are rather small in size, with diameters less than 10 cm. Only two species, *Stacheoceras xiukangense* Sheng and *S. raridentatum* Sheng from Xizang, southwest China, attain a diameter over 10 cm (Sheng, 1984, 1988). The following taxa of *Stacheoceras*, all regular-sized, have been reported from the Wordian to Changhsingian strata of the South Kitakami Belt, Northeast Japan: *Stacheoceras* aff. *grünwaldti* Gemmellaro (Hayasaka, 1965), *S. iwaizakiense* Mabuti (Mabuti, 1935; Ehiro and Bando, 1985), *S. otomoi* Ehiro, Shimoyama and Murata (Ehiro *et al.*, 1986), *S.* cf. *trimulti* Diener (Working Group on the Permian-Triassic Systems, 1975) and *S.* sp. (Hayasaka, 1940; Koizumi, 1975; Ehiro *et al.*, 1986; Ehiro and Araki, 1997; Ehiro, 2001).

Recently a considerably large specimen of *Stacheoceras* was recovered from the Upper Permian of South Kitakami Belt, Northeast Japan. It has also a more complex external suture line than all the previously known species. This paper describes it as a new species, *Stacheoceras giganteum* sp. nov.

Stacheoceras giganteum sp. nov. was collected by Hitoshi Hasegawa from a calcareous nodule included in mudstone of the lower part of the Suenosaki Formation exposed along the Pacific coast of Ishihama, Minamisanriku-cho (former Utatsu-cho), Motoyoshi-

gun, Miyagi prefecture. The fossil locality is the same as Loc. 3 of Utatsu district in Ehiro and Bando (1985) and yields such ammonoid fossils as *Stacheoceras iwaizakiense* Mabuti, *Timorites intermedium* (Wanner), *Pseudogastrioceras* sp., *Araxoceras* cf. *rotoides* Ruzhentsev, *A.* sp., *Vescotoceras japonicum* (Bando and Ehiro), *V.* sp., *Dzhulfoceras* cf. *furnishi* Ruzhentsev (Ehiro and Bando, 1985; Ehiro *et al.*, 1986; Ehiro, 2001). Based on these ammonoids, especially on the occurrence of *Pseudogastrioceras*, *Araxoceras*, *Vescotoceras* and *Dzhulfoceras*, the fossil horizon of the lower part of the Suenosaki Formation is correlatable with the Upper Permian Wuchiapingian (Ehiro and Bando, 1985; Ehiro, 2001)

Systematic description

Subclass Ammonoidea Agassiz, 1847
Order Goniatitida Hyatt, 1884
Suborder Goniatitina Hyatt, 1884
Superfamily Cycloloboidea Zittel, 1895
Family Vidrioceratidae Plummer and Scott, 1937
Genus *Stacheoceras* Gemmellaro, 1887

Type species.—*Stacheoceras mediterraneum* Gemmellaro, 1887

Stacheoceras giganteum sp. nov.

Figures 2a–d

Material.—Holotype, IGPS coll. cat. no. 109698 collected by H. Hasegawa from the lower part of the Suenosaki Formation at Ishihama (Loc. 3 of Ehiro and Bando, 1985), Minamisanriku-cho, Miyagi Prefecture.