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## **Discovery of *Seiocrinus* (an Early Jurassic crinoid) from the Kuruma Group, Toyama Prefecture, Central Japan**

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中部日本, 富山県の来馬層群から*Seiocrinus* (ジュラ紀前期のウミユリ類) の発見

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### **Introduction**

In July 1983 the author collected an interesting crinoid from the Lower Jurassic Kuruma Group distributed in the eastern part of Toyama Prefecture, north-central Japan. Jurassic crinoids were so uncommon in Japan that the author sent this specimen to Dr. Tatsuo Oji of the University of Tokyo for identification. As a result it became clear that this specimen is assigned to a species of *Seiocrinus* Gislén, 1924.

In September 1993, two amateur collectors; Mr. Takashi Nakahashi and Mr. Teruo Mizukami, found additional specimens of *Seiocrinus* at another locality.

All the specimens are kept in Toyama Science Museum.

### **Geological setting**

Kuruma Group is a thick series of clastic sediments consisting of sandstone and mudstone together with some layers of conglomerate and tuff. The total thickness exceeds 6,000m, and this group is divided, in ascending order, into Jogodani, Kitamatadani, Negoya, Teradani, Shinatani, Otakidani, Mizukamidani Formations (Kobayashi et al., 1957; Goto, 1983 etc.).

According to Sato (1955), late Pliensbachian age is confirmed by the occurrence of *Amaltheus* sp. and *Canavaria* sp. from the Teradani Formation, and latest Toarcian age by *Grammoceras* sp. from the Otakidani Formation.

Brackish and marine bivalves and fossils of land plants are also known at various horizons.

### **Occurrence and Characteristics of the specimens**

The specimen shown in Fig.2a-c was obtained from muddy sandstone of the Teradani Formation exposed at the right bank of the main stream of the Daira river (Fig.1-A). This

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\* Contribution from the Toyama Science Museum, No.152

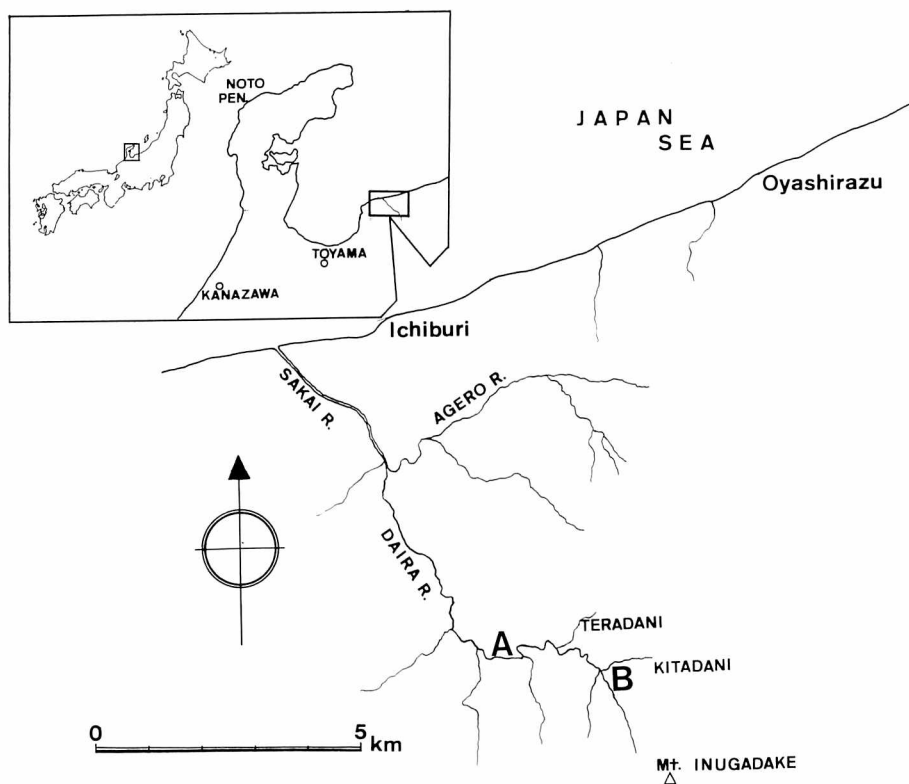


Fig.1 Location map of the specimens

- A: *Seiocrinus* sp. from the Teradani Formation at the right bank of the main stream of the Daira river  
 B: *Seiocrinus* sp. from the Negoya Formation at the Kitadani in the upper reaches of the Daira river

formation is intercalated with thin seams of coal and is associated with several pieces of petrified wood at this locality. Some species of ammonoids such as *Arietoceras* sp., *Amaltheus* sp. and *Canavaria* sp. occurred from this locality.

These specimens have characteristic articulum (facet) composed of five lobed divisions (petals) each of which consists of a groove of floor of rosette shape surrounded by crenulae (petalodium). And epifacet is characterized by the creases. The both specimens were safely assigned to *Seiocrinus* sp. because of these characteristic features of columnal in addition to the alternating size of columnals. Another specimen (Fig.2d,e) was obtained from muddy sandstone of the Negoya Formation at the Kitadani, in the upper reaches of the Daira river (Fig.1-B).

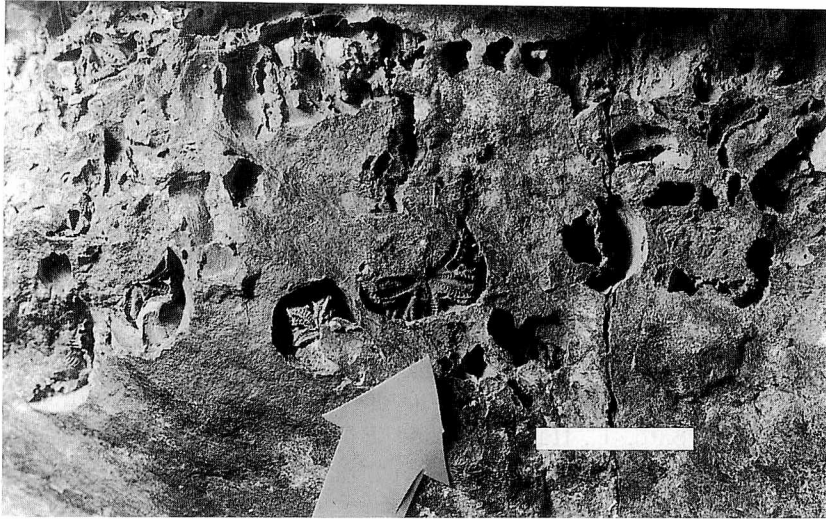
The genus *Seiocrinus* is well known from the Lower to Middle Jurassic of Europe, Southeast Asia and North America (Alaska)(Rasmussen, 1978). and this is the first record of this genus from Japan.

### Acknowledgements

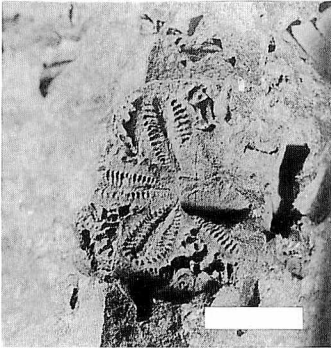
Author thanks Dr. Tatsuo Oji for critical reading of the first draft and giving valuable suggestion and information. And Mr. Takashi Nakahashi and Mr. Teruo Mizukami, members of the Toyama Amateur Fossil Research Society, for their kind supply of the specimens for this report.

### References

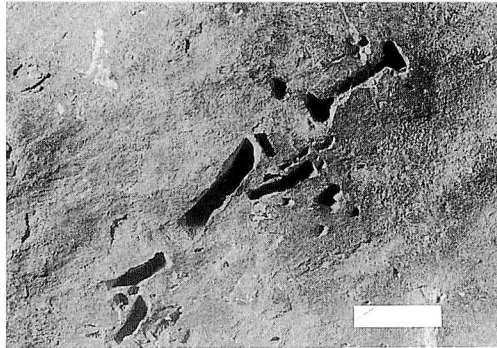
- Goto, M., 1983; Some Bivalves from the Lower Jurassic Kuruma Group of Central Japan. *Trans. Proc. Palaeont. Soc. Japan, N.S.*, 130, 79-84, pl.15.
- Jager, M., 1985; Die Crinoiden aus dem Pliensbachium (mittlerer Lias) von Rottorf am Klei und Empelde (Süd-Niedersachsen). *Ber. naturhist. Ges. Hannover*, 128, 71-151.
- Kobayashi, T., Konishi, K., Sato, T., Hayami, I. and Tokuyama, A., 1957; On the Lower Jurassic Kuruma Group. *Jour. Geol. Soc. Japan*, 63, 182-194. (in Japanese with English abstract)
- Moore, R. C. and Teichert, C. (eds), 1978; Treatise on Invertebrate Paleontology, part T, Echinodermata 2 (1). *The Geological Society of America and The University of Kansas, Boulder, Colorado and Lawrence, Kansas*.
- Rasmussen, H. W., 1978; Articulata. T863-T866, In Moore, R. C. and Teichert C. (eds), Treatise on Invertebrate Paleontology, part T, Echinodermata 2 (3). *The Geological Society of America and The University of Kansas, Boulder, Colorado and Lawrence, Kansas*.
- Sato, T., 1955; Les ammonites recueillis dans le groupe de Kuruma, nord du Japon central. *Trans. Proc. Palaeont. Soc. Japan, N.S.*, 20, 111-118, pl.18.



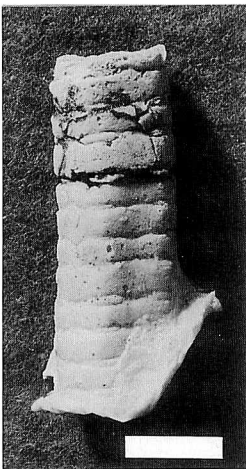
a



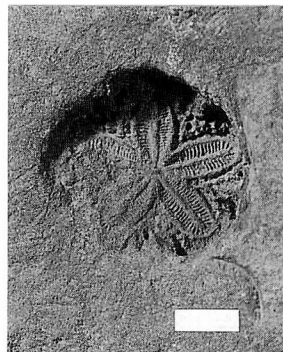
b



c



d



e

**Fig.2**

*Seiocrinus* sp. from the locality A (a-c) and B (d,e)

a: Scattered columnals in muddy sandstone

b: Articular face of column

c: External casts of columnals cut longitudinally

d: Columnal with internodals (rubber mould)

e: Articular facet of a column

scale: a, d; 1cm b, c, e; 0.5cm