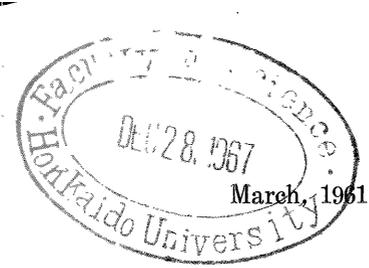




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No. 11

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THE AKKESHI MARINE BIOLOGICAL STATION

The Fauna of Akkeshi Bay
XXVI. Holothuroidea

By
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SAPPORO, JAPAN

The Fauna of Akkeshi Bay

XXVI. Holothuroidea

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Chitaru OGURO

(Akkeshi Marine Biological Station)

(With 7 text-figures)

The present paper is a preliminary report on the holothurian fauna of Akkeshi Bay, based on the collection in 1955~1960. The specimens collected contain 3 actinopodous and 1 apodous species, of which the apodous holothurian is referable to a new species forming a new genus. In the following will be given some ecological notes on the former 3 well-known species and the description of a new genus and a new species. Before proceeding further, the author wishes to express his cordial thanks to Professor Tohru Uchida, under whose direction this work has been carried out, for his kind guidance and revision of the manuscript. His thanks are also due to Professor Densaburo Inaba, Tokyo University of Fisheries, for his kindness in loaning the author a precious literature.

The species treated in this paper are listed below.

Order Aspidochirota

Family Holothuridae

Subfamily Holothurinae

1) *Stichopus japonicus* Selenka

Order Dendrochirota

Family Cucumaridae

2) *Cucumaria japonica* Semper

3) *Cucumaria chronhjelmi* Théel

Order Apoda

Family Synaptidae

Subfamily Chiridotinae

4) *Scoliodotella uchidai* n. gen. et n. sp.

Stichopus japonicus Selenka

This species is rather rare in Akkeshi Bay. Only a few specimens are secured by chance through a year by fishermen's gill-net for flat-fishes. This species inhabits rocky bottom of Cape Shiraha at a depth of 5~7 m.

Cucumaria japonica Semper

This species is very common in Akkeshi Bay, inhabiting rocky bottom areas of from 3 to 7 m depth, especially in the offing of the Station, Nakanose (Naka-shoal), Cape Shiriha. The largest specimens reach ca. 25 cm in length excepting tentacles.

Cucumaria chronhjelmi Théel

As well as the preceding species, this sea-cucumber is very common in rocky bottoms of Akkeshi Bay, but differing from the former, *C. chronhjelmi* is distributed from the intertidal zone to a depth of 7 m. The main inhabiting areas are as follows; Cape Aikappu, Cape Aininkappu, Daikoku Island, Cape Shiriha. The largest specimens reach 12 cm in length, excepting tentacles.

Scoliodotella n. gen.

Calcareous deposition; Wheels entirely wanting, sigmoid bodies and wedge-shaped rods present, the former forming no sigmoid-papilla, distributed all over the body, the latter existing only in tentacles. Tentacles; 10.

The present new genus is clearly included in the Chiridotinae in the possession of sigmoid bodies. Further, by this reason it resembles *Taeniogyrus* and *Trochodota*, though separable from them by absence of wheels. In this regard, this new genus is very similar to the genus, *Scoliodota*, which had been reported as only genus without wheels among sigmoid body-possessing genera. The genus *Scoliodota* represented by one species, *Scoliodota japonica* (v. Marenzeller), had been established by Clark (1907). As the characters of the genus he pointed out the following characters; 1) absence of wheels, calcareous particles forming only sigmoid bodies, commonly

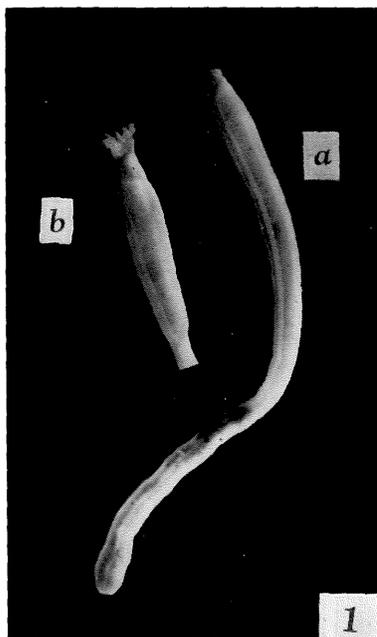


Fig. 1. Photographs of *Scoliodotella uchidai* n. gen. et n. sp. $\times 1$. a, Total picture with contracted tentacles; b, Anterior portion with elongated tentacles.

arranged in groups as sigmoid-papillae, 2) ten tentacles and 10 or more digits. Afterwards, Ohshima (1913, 1914) confirmed the presence of wheels, though small in number, in this species and afterwards Ohshima (1919) united this genus with *Trochodota* with the assent of Clark.

The present new genus resembles *Scoliodota* Clark as mentioned above, but is different from it by the reasons that sigmoid bodies do not form sigmoid-papillae and the presence of wedge-shaped rods.

Monotypic genotype: *Scoliodotella uchidai* n. sp.

Scoliodotella uchidai n. sp.

Syntypes: Collected under stones at high tide mark of Cape Aikapu, on November 4th, 1959, by C. Oguro. Specimens preserved at Akkeshi Marine Biological Station of Hokkaido University.

Description: Digits; 4 pairs in each tentacle. Color; in life, pale cinnamon pink, semi-transparent; in spirit, whitish opaque-gray. Size; 150 mm in elongated state, 40 mm in contracted condition, in length; 7 mm in the widest portion.

Habitat: Under stones in sandy mud, in high tidal zone.

Locality: Cape Aikappu, Daikoku Island (both in Akkeshi Bay, Hokkaido, Japan).

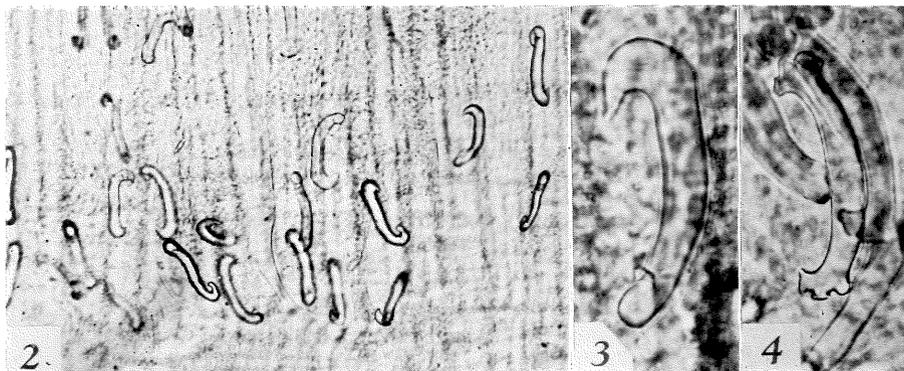
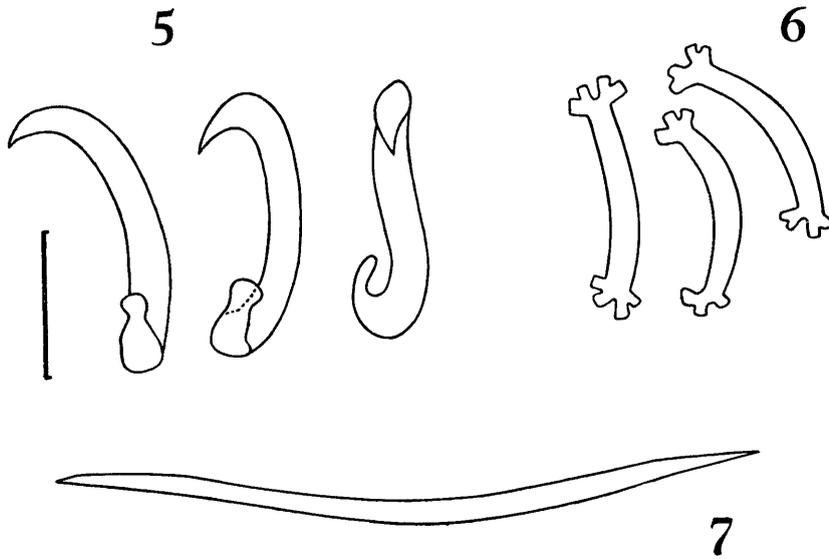


Fig. 2. A part of skin of *Scoliodotella uchidai* n. gen. et n. sp., showing distributed deposition of sigmoid bodies. $\times 110$. Figs. 3-4. Magnified pictures of spicules of *Scoliodotella uchidai* n. gen. et n. sp. $\times 500$. Fig. 3, Sigmoid body; Fig. 4, Wedge-shaped rod.

Remarks: The sigmoid bodies are 80μ in average length ($70 \sim 100 \mu$), tending to increase in length in the middle portion of the body and to decrease at both the ends. The sigmoid bodies are variable in number by individuals, some possessing numerous sigmoid bodies but



Figs. 5-7. Camera lucida drawings of spicules of *Scoliodotella uchidai* n. gen. et n. sp. Fig. 5, Sigmoid bodies; Fig. 6, Wedge-shaped rods; Fig. 7, Spindle-shaped spicule. Scale indicates 50 μ .

some containing a small number of them. Animals bearing few sigmoid bodies mostly possess spindle-shaped spicules, especially in the oral parts of the bodies. The body is cylindrical in form, tapering suddenly at both the ends. This species is clearly dioecious, but has no distinct external sexual difference. Spawning takes place in the middle of November. No swimming larva occurs and young hatch out directly breaking egg membranes at the end of November. Details of the development will be reported in future.

The new species is named in honor of Professor Tohru Uchida.

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