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Author(s)	HAYASHI, Ryoji
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The Fauna of Akkeshi Bay

XVI. Asteroidea¹⁾

By

Ryoji Hayashi

Research Institute of Natural Resources

(With one Textfigure)

In the vicinity of the Akkeshi Marine Biological Station seven forms of sea-stars are known, including interesting forms having curious breeding habits as *Henricia tumida* and *Leptasterias ochotensis similispinis*. Most of them were already described by the present writer in his previous papers, so here will be given a list of them with some supplementary notes.

Asterina pectinifera MÜLLER et TROSCHEL

Asterina pectinifera: GOTO, 1914, p. 643, pl. 18, figs. 272-273, pl. 19, fig. 274;
HAYASHI, 1940, p. 121.

The sea-star is most common in Japan. In Akkeshi Bay the species is collected commonly, but not so abundant as *Asterias amurensis* Lütken. The Akkeshi specimens do not differ from the southern forms of the species.

Distribution. Common from Hokkaido to Kyushu and Korea.

Henricia nipponica UCHIDA

Henricia nipponica: HAYASHI, 1924, p. 146, pl. 8, figs. 1-4.

Henricia leviuscula var. *nipponica*: UCHIDA, 1928, p. 794, pl. 32, figs. 6, 7.

The sea-star is a rather common *Henricia* in the northern regions of Japan. The sea-star was collected in shore of Daikoku-

1) Contributions from the Akkeshi Marine Biological Laboratory, No. 45.

jima at the entrance of Akkeshi Bay. Two specimens were examined, the one measuring 20 mm in R, 6 mm in r, the other 35 mm in R, 10 mm in r. The smaller specimen is quite similar to the specimens obtained from other localities. The larger one, however, lacks the secondary ventrolateral plates at the arm base as might be expected in such large specimens. But there are no essential differences enough to distinguish from the specimens in other localities.

Distribution. Northern regions of Japan.

Henricia tumida VERRILL

Henricia tumida. HAYASHI, 1940, p. 149, pl. 8, figs. 5-13.

The species is common in Akkeshi Bay. The writer gave already the detailed description in his previous paper. The sea-star develops directly, without pelagic larval stages. The breeding season extends from March to April. The largest specimen examined measures 30 mm in R, 11 mm in r. Rays five in number, but rarely four.

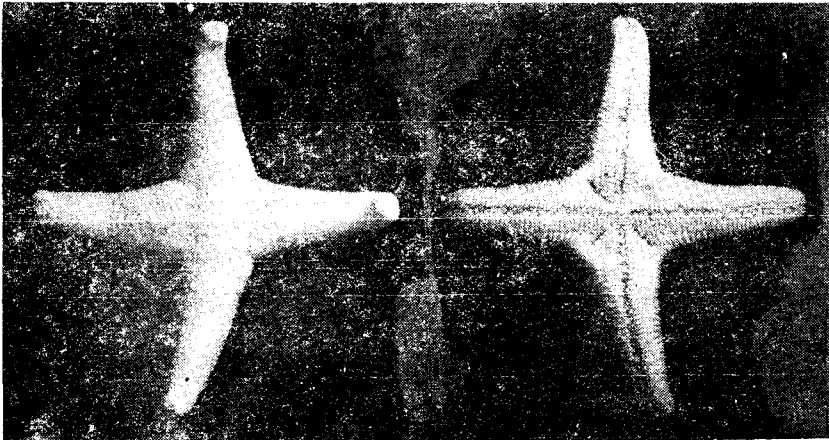


Fig. 1. *Henricia tumida*, 4-rayed specimen.
About natural size.

Distribution. Arctic Ocean, north of Bering Strait; westward along the Alaskan Peninsula and Aleutian Islands to the Bering Island and Kamchatka to Sea of Okhotsk and south to the Kurile Islands and Akkeshi.

***Distolasterias elegans* DJAKONOV**

Distolasterias elegans: DJAKONOV, 1931, p. 67, figs. 1, 2; HAYASHI, 1943, p. 205, pl. 15, fig. 1; pl. 17, fig. 6.

The large sea-star is not so common in the Bay as *Asterias amurensis*. The specimens were examined by the writer, measuring 250–290 mm in R. Concerning the specimens the writer described in detail in his previous paper.

Distribution. Castery Bay and North Pacific region of Papan.

***Lysastrosoma anthosticta* FISHER**

Lysastrosoma anthosticta: HAYASHI, 1943, p. 215, pl. 14, figs. 12, 13.

The species is not common in the Bay. The writer examined only one specimen in a considerably unfavorable condition. On closer examination the specimen is undoubtedly referable to the present species.

Distribution. Northern Pacific coast of Japan.

***Asterias amurensis* LÜTKEN**

Asterias amurensis: HAYASHI, 1936, p. 5, pls; 1, 2; 1943, p. 223.

The sea-star is the commonest sea-star in the Bay. The largest specimen examined by the writer measures 230 mm in R, 73 mm in r. The spines of the sea-star are variable in number and form according to stages. The external characteristics are completed in specimens measuring more than 160 mm in R. The species is widely distributed in the northern regions of Japan, and there is a tendency that the southern forms indicate as a rule the junior forms (*rollestoni*-form) of the northern ones.

Distribution. Widely distributed in the North Pacific regions and northern Japan.

***Leptasterias ochotensis similispinis* (CLARK)**

Leptasterias ochotensis similispinis: HAYASHI, 1943, p. 238, pl. 17, figs. 3–5, pl. 19, fig. 3.

The small sea-star is common in shore at Akkeshi. The form was first reported by Clark ('08) from Taraku Islands, near Nemuro, as a member of *Asterias*, but afterward pointed out by Fisher ('30)

that the form may be *Leptasterias*. Lately the writer described the form in detail as a member of *ochotensis*-group, with a note of the breeding habit.

The genus *Leptasterias* is one of the most puzzling groups in the classification of Asteroidea. It is probably due to the breeding habit. The sea-star develops directly, omitting the pelagic larval stages. The external forms are considerably variable in localities and living conditions, even in a single species. In Akkeshi Bay there are found two forms, one living under stones in front of the Akkeshi Marine Biological Station, the other obtained from Daikoku-jima at the entrance of the Bay, which lives on rocks in shore or under stones. The latter may become large in size comparing with the former. The largest specimen of the latter examined by the writer measures 57 mm in R, but the largest of the former only 24 mm. There are however, no essential differences between these two forms. The classification of the puzzling group seems to be very difficult without a good series of material.

Distribution. Only known in Akkeshi and Nemuro, northern Pacific coasts of Japan.

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