

Per 189943 d. 8 L1

報彙學物動本日

冊四第卷五第

發日八十二月七年八十三治明

ANNOTATIONES
ZOOLOGICÆ JAPONENSES.

Vol. V., Part IV.

PUBLISHED

BY

The Tokyo Zoological Society,

TOKYO.

July, 1905.



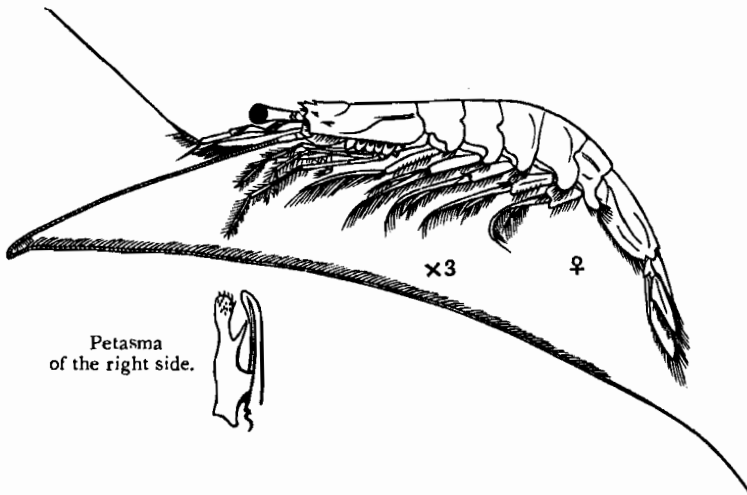
On a Species of *Acetes* from Japan.

BY

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The shrimp native to the western parts of Japan and vulgarly known under the name of "aki-ami,"* belongs to a new or little known species of the genus *Acetes*. On examining this species, I have found a peculiar point in the structure of the flagella of the second antennæ, which structure, so far as I know, has never before been described by naturalists.



The body is laterally compressed, naked and nearly smooth. The carapace is about two-sevenths of the total length of the animal. The rostrum is very short, and is armed with two dorsal teeth, of which the anterior is much smaller than the posterior. Supraocular and hepatic teeth are present. Both are sharply pointed, the former being a short

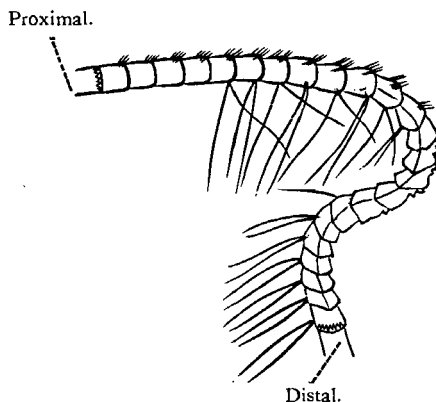
*"Aki" means autumn and "ami," small shrimp.

distance removed from the anterior margin of the carapace. There exist a cephalic suture and a slight ridge at the border between the cardiac and branchial regions.

The ophthalmopod is clavate; about two-fifths of the carapace in length.

The first pair of antennæ has the peduncle about twice as long as the ophthalmopod. The first joint is long and flat, and has an otolith in it. The two succeeding joints are cylindrical and support two flagella, of which the inner is short, while the outer is about twice as long as the peduncle.

The second pair of antennæ is furnished with an expodite which is equal in length to the two proximal segments of the peduncle of the first antennæ, and with a long flagellum of a very remarkable appearance. The flagellum is about twice the total length of the animal and may be said to



consist of two portions, proximal and distal. The latter is longer than the former, both being connected by a series of short and somewhat prismatic articuli, about ten in number. This connecting portion is bent somewhat like the letter S. Usually the proximal portion is held horizontally outwards and at right angle to the median longitudinal plane of the animal. The distal portion proceeds horizontally backwards, making nearly a right angle with the proximal portion. The proximal portion is rather stiff, and its articuli are furnished with very short hairs on the inner margin. The outer margin is free of hairs, except on eight distal articuli,

each of which shows a pair of very long ciliated hairs. Each articulus of the distal portion has a pair of long ciliated hairs on the outer margin, while its inner margin is provided with short hairs in some articuli. Some articuli in the proximal as well as the distal portion of the flagellum have the distal margin serrated. These serrated articuli are distributed at irregular intervals.

A species of *Sergestes*, caught in abundance during winter in the Bay of Suruga, has also the flagellum of the second antennæ similarly bent and divided into the two portions. Thus, I am inclined to think that this peculiar bending of the said flagellum is probably characteristic to the family *Sergestidæ*.

The mandibles are furnished with the synaphipod, long and two-jointed.

The second pair of maxillipeds is stout, flattened, and a little longer than the first pereopoda.

The third pair of maxillipeds is stout and long, being longer than the first and second pereopoda.

There are only three pairs of pereopods. These are all chelate. As in many other forms of the *Sergestidae*, both the propodos and carpos of the first pair of pereopoda have each a group of serrate hairs, which aid in their function as a prehensile organ. The fourth pair of pereopoda is entirely wanting. In the male, there is a pair of protuberances behind the third pair of pereopoda. These are the abortive fifth pair of pereopoda; the reproductive glands open on the inner side of the protuberances. The thoracic somite with the fourth pair of pereopoda is very short, and its pair of ganglia is very closely situated to that of the preceding somite. The somite with the fifth pair of pereopoda is very long.

In the female, the coxal joint of the third pereopoda is wide, and the oviducts open on the sternum by a pair of small transverse slits, situated very close to the root of the appendages. On the ventral side of the somite with the fourth pereopoda, there is a roof-like, notched protuberance turned backwards. This roof, together with a little cavity beneath it, may probably represent the thelycum.

The five anterior somites of the pleon are subequal in length. The

sixth somite is very long, being a little longer than the length of any two of the preceding somites. The lateral margins of the five anterior somites of the pleon are peculiarly notched.

The pleopods are longer and more slender anteriorly, and posteriorly become shorter and more compressed. The first pair in the female is single-branched; all the others are biramose. In the male, the peduncle of the first pleopoda carries a complicated petasma. The outer and inner laminæ of this are almost separated from each other. The former has entire margin, while the latter is divided into two lobes near the anterior end. The inner, longer lobe is rounded, and is armed with claw like, horny spines at the anterior extremity. The outer, smaller lobe gradually tapers to a point. The petasma is not united at the median line with its mate of the other side. The second pair of pleopoda in the male has a thick and specialized part at the base of the endopodite. The sixth pair of pleopoda, or the outer plates of the rhipidura, is much longer than the telson.

The telson is of about half the length of the sixth pleopoda. The posterior end is blunt, and is armed with a pair of small teeth. The upper half of the telson is somewhat rectangular. The lower half is triangular and is bordered with ciliated hairs.

The branchial system is just the same as that of *Acetes americanus* described by ORTMANN.*

The color of the animal is slightly pinkish. The ophthalmopod shows a few yellow chromatophores. The flagella of the second antennæ are pinkish. The sixth pleopoda have two pairs of bright reddish spots, one on the inner side of the peduncle and the other on the outer side of the endopodite.

The size of the animal is about 20 mm.

The species is found very abundantly on muddy flats in the Inland Sea, in Kiūshū and in Korea; f. i., the Bay of Ariake, the Bay of Kojima,

* ORTMANN.—Decapoden and Schizopoden der Plankton-Expedition. 1893. p. 39.

off Nagasu in Buzen, off Mokpho in Korea. Caught in summer and autumn with fyke-nets and dip-nets. The species seems to be annual.

So far as I am aware, there have been only two known species in the genus *Acetes*, viz., *A. indicus* and *A. americanus*.

The former* bears three or four teeth on the rostrum, while the latter only one, and both of them differ in that respect from the Japanese and Korean species, which has two teeth on the same. Hence I propose to distinguish our species under the name of *A. japonicus*.

* MILNE-EDWARDS.—Histoire naturelle des Crustacés. 1837. p. 430.