

DESCRIPTION OF A NEW SPECIES OF IDOTEA FROM
HAKODATE BAY, JAPAN.

By HARRIET RICHARDSON.

Two distinct species were included by Miers¹ with *Idotea ochotensis* Brandt. In a former paper² the author has endeavored to define the limits of *Idotea ochotensis* on the one side by preserving the specific distinctions of *Idotea rectilineata* Lockington. It is the object of the present paper to further define the limits of *Idotea ochotensis* on the other side by showing the specific differences of another species, formerly included. Two specimens from Hakodate Bay, Japan, in the collection in the U. S. National Museum, when compared with a large series of *I. ochotensis* from various localities, extending all the way from Kamchatka to Bering Sea and the Aleutian Islands, confirms the impossibility of uniting them with *I. ochotensis*. The specimen which Miers saw in the British Museum collection from Yeddo Island, and which he figures, undoubtedly belongs to the same species as our two specimens from Hakodate Bay. In regard to it Miers says:

It differs from Brandt's figure of *I. ochotensis* only in its relatively longer and slenderer body and somewhat shorter antennæ, which when retracted would not reach to the posterior margin of the fourth thoracic segment, but whose peduncular joints are longer than in Brandt's figure.

Further on he speaks of the tooth at the distal extremity of the terminal segment as being very prominent in the specimen from Japan. It is probable that Miers had specimens of all three species, the one spoken of obtained at Vancouver Island being *I. rectilineata* Lockington, the specimen from British Columbia being *I. ochotensis* Brandt, and the Japanese specimen the one herein described.

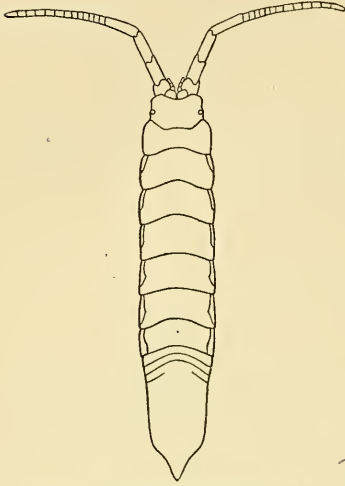
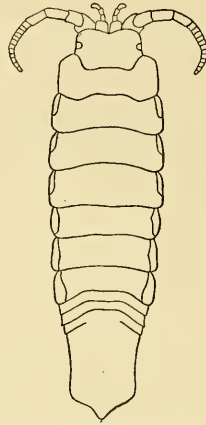
In comparing the species, specimens have been selected which are of nearly the same size, in order to better compare the corresponding parts.

¹ Journal Linnæan Society of London, XVI, 1883, pp. 32-34, pl. I, figs. 8-10.

² Proc. U. S. Nat. Mus., XXI, 1899, p. 845.

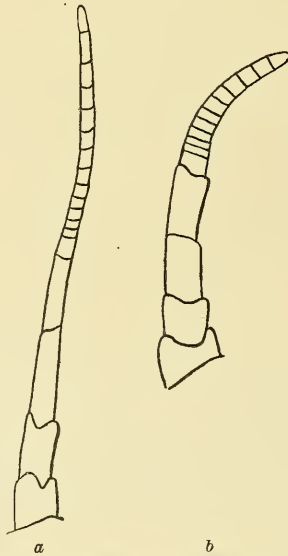
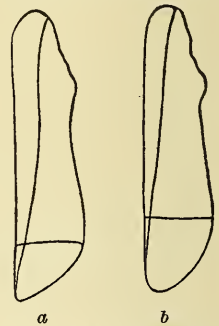
IDOTEA JAPONICA, new species.

Body slender, elongated, five times longer than broad, with sides parallel. A dorsal median keel extends the entire length of the body. Color, brownish yellow.

FIG. 1.—IDOTEA JAPONICA. $\times 2$.FIG. 2.—IDOTEA OCHOTENSIS. $\times 2$.

Head with the anterior margin deeply and roundly excavate and with the antero-lateral angles broadly rounded. Eyes situated on the extreme lateral margin in the median transverse line. The first pair of antennæ reach only a little beyond the second joint of the peduncle of the second pair of antennæ. The second pair of antennæ are half as long as the body, and when retracted would extend to the middle of the fifth thoracic segment; first peduncle short and con-
 antero-lateral angles in a
 second and third joints
 length; fourth and fifth
 length, and each equal
 third taken together;
 posed of 14 joints, and
 shorter than the pe-
 duncle.

Segments of the thorax about equal in length. First segment with a deep excavation and with antero-lateral angles rounded. Epimera narrow; those of the second, third, and fourth segments occupying only the anterior half of the lateral margins; those of the fifth and sixth segments, the anterior two-thirds, and of the seventh segment, the entire margin.

FIG. 3.—a, ANTENNA OF SECOND PAIR OF IDOTEA JAPONICA; b, ANTENNA OF SECOND PAIR OF IDOTEA OCHOTENSIS. $\times 8$.FIG. 4.—a, OPERCULAR VALVE OF IDOTEA OCHOTENSIS; b, OPERCULAR VALVE OF IDOTEA JAPONICA. $\times 8$.

The abdomen (including the terminal segment) is composed of three segments, with suture lines indicative of another partly coalesced segment. The terminal segment, with sides slightly converging, has the

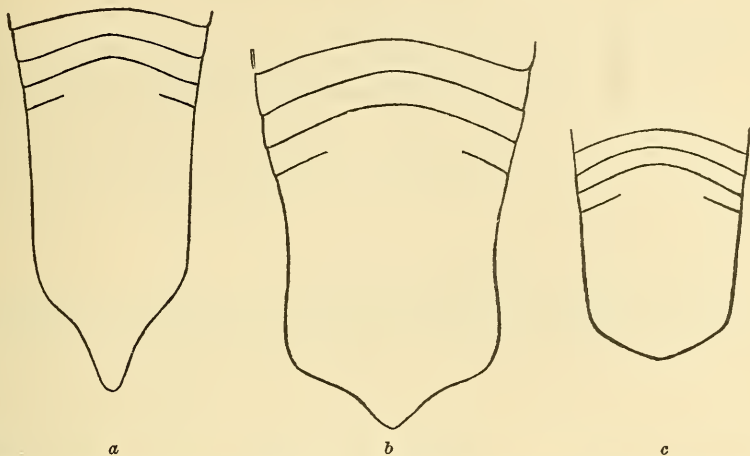


FIG. 5.—*a*, ABDOMEN OF *IDOTEA JAPONICA*; *b*, ABDOMEN OF *IDOTEA OCHOTENSIS*; *c*, ABDOMEN OF *IDOTEA RECTILINEATA*. $\times 8$.

apex triangulate and produced much beyond the lateral angles, which are roundly obtuse.

The legs are slender.

Two specimens come from Hakodate Bay, Japan; depth, 8 fathoms in gravel.

Type.—No. 9348, U.S.N.M.

This species differs from *I. ochotensis* Brandt in the following points:

1. The proportions of the body. *I. ochotensis* is stouter and shorter, the relative proportion of breadth and length being 2:7, while in *I. japonica* the body is longer and narrower, the relative proportion being 2:10.

2. The proportionately greater length of the second pair of antennæ.¹

In *I. ochotensis* the joints of both the peduncle and the flagellum are stouter and shorter and the antennæ extend only to the posterior margin of the third thoracic segment or the middle of the fourth thoracic segment, while in *I. japonica* these joints are longer and more slender, and the antennæ reach the middle of the fifth thoracic segment.

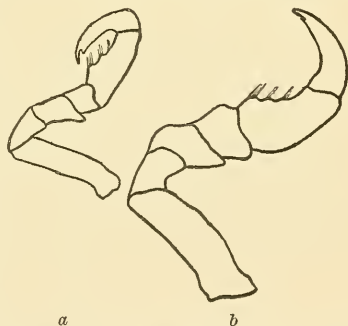


FIG. 6.—*a*, LEG OF SECOND PAIR OF *IDOTEA JAPONICA*; *b*, LEG OF SECOND PAIR OF *IDOTEA OCHOTENSIS*. $\times 10$.

¹ Although there is some variation in the length of the second pair of antennæ of *Idotea ochotensis*, nevertheless these antennæ are always shorter than those of *Idotea japonica* in specimens of the same size, and the peduncle of the antennæ is also shorter.

3. The form of the antero-lateral angles of the first thoracic segment. In *I. ochotensis* these angles are markedly truncate, while in the present species they are rounded.

4. The narrower epimera in *I. japonica*.

5. The shape of the terminal segment.

In *I. ochotensis* the lateral margins of this segment are concave, the lateral angles prominent and rectangular, the median posterior tooth or apex not greatly produced, while in *I. japonica* the lateral margins are straight, the lateral angles less prominent and obtuse, and the median posterior tooth or apex greatly produced, being twice the length of that in *I. ochotensis*.

6. The more slender and shorter legs of *I. japonica*.

7. The differently shaped opercular valves.

8. The more slender joints in the first pair of antennæ of *I. japonica*.