

WATER-MITES OF MARSH HINUMA*

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Marsh Hinuma in Ibaraki Prefecture is a brackish-water marsh, some ninety km north-east of Tokyo, and connected with the open Sea of Kashima, Pacific Ocean, by the river Hinuma which is some ten km long. There are found marine animals as well as fresh- and brackish-water ones. The author found two species of water-mites (Hydrachnellae) from the marsh. The one is a fresh-water form, *Arrenurus* (*Arrenurus*) *agrionicolus* Uchida, which is common in ponds in Honshu, and the other is a marine or brackish-water form, *Pontarachna hinumaensis* sp. nov. which descriptions are as given below.

Pontarachna hinumaensis sp. nov.¹⁾

Male (Fig. 1, holotype, prep. 1399). Body oval in outline, dorso-ventrally rather high, 323 μ long and 263 μ wide. Interval between eyes 70 μ . One pair of short antenniform hairs present in the frontal margin of body. Skin soft, elastic, figureless, colourless and transparent. Maxillar organ 76 μ long and 33 μ wide. Palps similar in shape to those of *Pontarachna pacifica* Uchida. First segment absence of spines. Second segment roundly curved in the extensor surface and with a spine at the terminal end. Third segment also with a spine at the extensor terminal end. Fourth segment rather slender and long. Palpal segments measured as shown in Table 1, in μ .

Epimera in two groups and the shapes are as shown in Fig. 1, a. Processes in the posterior inner and outer corners of each group not so long as in *Pontarachna capensis*, *cruciata* and *punctulum*. Each two glandular pores located at just behind the fourth epimera. Behind the glandular pores, present two pairs of large glandular pores which are characteristic of features as shown in Fig. 1, a. Legs with moderately long spines in each segment but absence of swimming hairs, and measured segments as shown in Table 2, in μ .

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1) The new species has been named in accordance with the locality, Marsh Hinuma.

Table 1.

Segment	1	2	3	4	5
Extensor surface	11	34	34	56	17
Dorso-ventral height	15	23	25	12	6

Table 2.

Segment	1	2	3	4	5	6
Leg						
I	35	27	31	31	43	62
II	39	31	35	35	51	62
III	39	31	37	45	70	84
IV	58	35	47	74	86	74

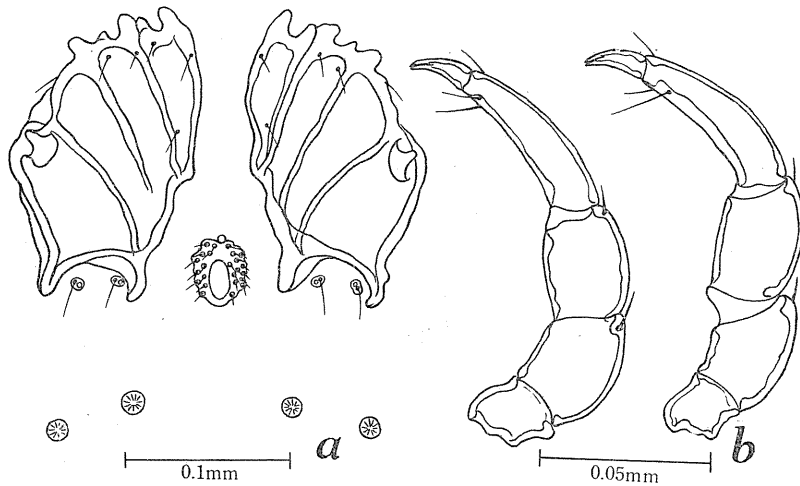


Fig. 1. *Pontarachna himamaensis* sp. nov., male: a, epimera, genital plate and glandular pores; b, palps.

Genital plates characteristic of shape, rugged in its contour as shown in Fig. 1, a, and measured $39\ \mu$ long, $31\ \mu$ wide and with many minute spine-like hairs on it. Excretory pore located in venter near at the posterior body margin. Body colour light reddish brown.

Nymphs (Fig. 2, prep. 1452). Body shape, colour, skin, epimera and legs all similar to those of the male. Body oval, $246\ \mu$ long and $200\ \mu$ wide in the widest portion. Interval between eyes $72\ \mu$. Maxillar organ $50\ \mu$ long and $24\ \mu$ wide. Palps almost equal in shape to those of the male and measured segments as shown in Table 3, in μ .

Glandular pores in venter also resemble those of the male as shown in Fig. 2, a. Genital aperture absent but there is a granulated portion at the ventral middle portion as shown in Fig. 2, a. Excretory pore located in venter near at the posterior body margin.

Table 3.

Segment	1	2	3	4	5
Extensor surface	—	—	25	33	13
Dorso-ventral height	—	—	18	10	6

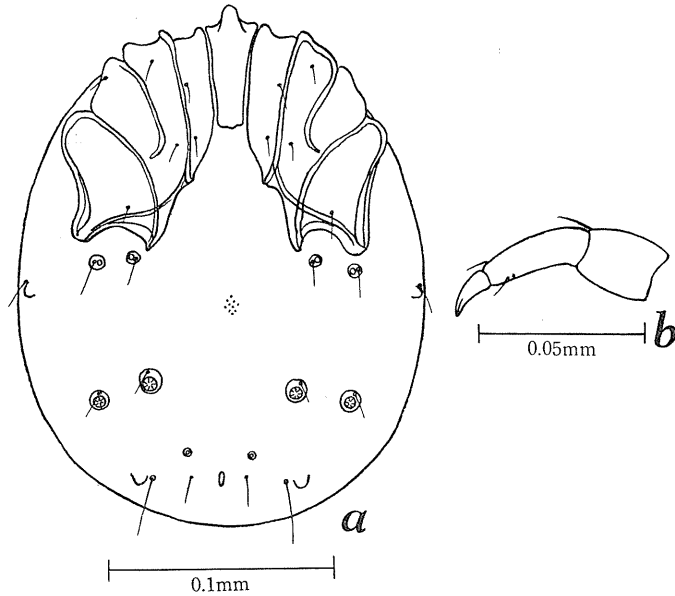


Fig. 2. *Pontarachna hinumcensis* sp. nov., nymph: a, venter; b, palp.

Locality. Mr. J. Kamiga caught one male on June 28, and each one male and nymph on Sept. 14, 1956 by dragging plankton-net at the central region of Marsh Hinuma.

Remarks. The present new species seems to be a brackish-water form. The species is similar to *Pontarachna pacifica* Uchida in the coast of Hokkaido, it is distinguished from the latter by the shapes of genital plate, and the features and locations of the glandular pores in venter. Though the new species resembles also *Pontarachna formosa* Lohmann from Takao in Formosa, the fourth segments of palps are relatively longer than those of *P. formosa* and is also different in the glandular pores in venter. This species is mostly similar to *Pontarachna anellata* Sokolow in the Okhotsk Sea in the features of the glandular pores in venter, but different in the shapes of epimera, especially in the posterior margins of the fourth epimera, and the fourth segments of palps are relatively longer than in *P. anellata*.

Arrenurus (Arrenurus) agrionicolus Uchida

Nymph (Fig. 3, prep. 1451). Body globular in shape, 480 μ long and 464 μ wide. Skin rather hard, elastic and ridged. Interval between eyes 136 μ . Maxillar organ short, 88 μ long and 76 μ wide. Palps almost equal in shapes to those of the adult and measured segments as shown in Table 4, in μ .

Table 4.

Segment	1	2	3	4	5
Extensor surface	20	60	46	76	56
Flexor surface	12	24	20	48	—
Dorso-ventral height	40	56	52	56	20

Table 5.

Segment	3	4	5
Leg			
II	2	4	4
III	3	4	3
IV	5	9	5

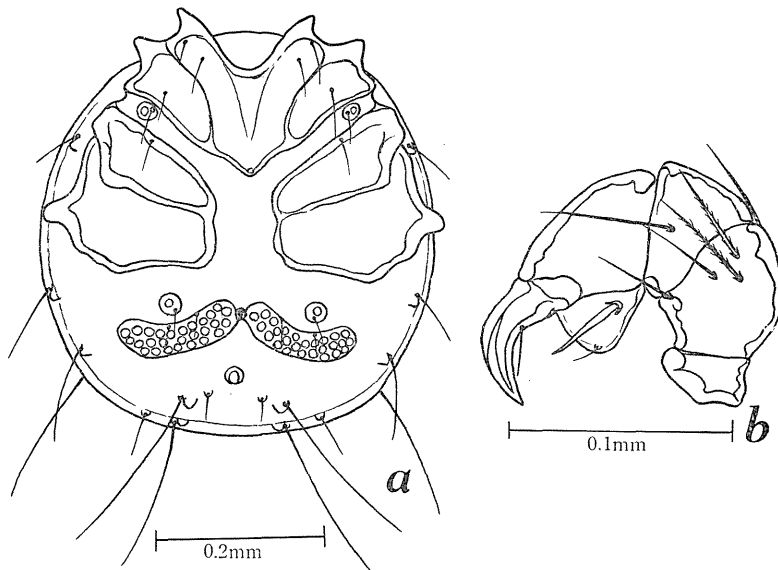


Fig. 3. *Arrenurus (Arrenurus) agrionicolus* Uchida, nymph: a, venter; b, right palp.

First segment spineless. Second segment with five spines, of which two are shortly feathered, in the inner surface. Third segment with a long spine in the inner surface. Epimera in three groups and the features are as shown in Fig. 3, a. Swimming hairs in each leg counted numbers as given in Table 5.

Provisional genital plates as shown in the text-figure and each measured 144 μ long. At the front of each provisional genital wing, presents a large circular glandular pore. Excretory pore opening in venter at the mid portion between the provisional genital organ and the posterior body margin. Body

colour bluish green but not so deep as in the adult.

Localities. The author collected five females at Miyagasaki and one nymph at Oyazawa-bana on July 18, 1957 among water weeds in the littoral regions of Marsh Hinuma.

Distribution. Japan (Ibaraki, Hiroshima, Kôchi and Kumamoto Prefectures) and China (Wuchang, Middle China).

Remarks. Though the male and female of the present species were described by Prof. T. Uchida (1937) and by the present author (1953), there has been no record on the nymph. The species was also reported by the author (1956) from Lakes Kasumigaura and Kitaura both in Ibaraki Prefecture. The larvae are parasitic on a dragon-fly of Agrionidae.

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