Some Water Mites from Kyushu[1)]

by

Taiji Imamura

Biological Institute, Hokkaido Gakugei University

(With 11 Text-figures)

Concerning water mites from Kyushu, so far as the author is aware, there have been published four papers, of which two by Prof. Tohru Uchida (1931, 1937) describing fourteen species, one by Dr. Tohru Uchida and Dr. I. Miyazaki (1935) and another by Dr. I. Miyazaki (1935) describing on the life-history of *Arrenurus madaraszi* on *Anopheles*. This report is mainly based on the specimens collected by the author in north Kyushu in October, 1938 to June, 1939, and preserved in the collections of Prof. T. Uchida, and partly on the specimens captured by Dr. I. Miyazaki in middle Kyushu in September, 1935 and also deposited in Uchida's collection. In these collections are included the following cosmopolitan species: *Hydrodroma despiciens* and *Unionicola crassipes*, and *Hydrachna uniscutata* which is widely distributed in the Palaearctic region and divided into several varieties. As the species endemic to Japan, are enumerated the three species : *Eylais takingyo*, *Arrenurus japonicus* n. sp. and *Arrenurus* (*Uchidacarus*) *sagaensis* n. subgen. et n. sp. As Indo-Malayan species can be counted the following species, *Limnesia buruensis* and *Arrenurus latipetiolatus*, while *Arrenurus soochowensis* seems to widely distribute in the Palaearctic region except European and Mediteranean subregions.

Before proceeding further, the writer should like to express his cordial thanks to Prof. Tohru Uchida for his kind guidance in the course of this research and forgiving the specimens from his custody at the writer's disposal. He is also indebted to Prof. I. Miyazaki, who collected a part of the collection in this research. The following eleven species were considered.

1) *Hydrachna* (*Schizo.*) *uniscutata* var. *yatsushiro* Uchida.
2) *Hydrachna* (*Schizo.*) *uniscutata* var. *lita* Uchida.

---

1) Contribution from the Biological Institute, Hokkaido Gakugei Univrrsity. This research owes to a grant in aid for Fundamental Scientific Research of the Ministry of Education.

3) *Eylais takingyo* Masuda
4) *Hydrodroma despiciens* (O. F. Müll.)
5) *Limnesia buruensis* Viets
6) *Limnesia tuberifera* Sokolow
7) *Unionicola* (*Hexatax*) *crassipes* (O. F. Müll.)
8) *Arrenurus* (*Arrenurus*) *japonicus* Uchida & Imamura n. sp.
9) *Arrenurus* (*Arrenurus*) *latipetiolatus* Piersig
10) *Arrenueus* (*Uchidacarus*) *sagaensis* n. subgen. et n. sp.
11) *Arrenurus* (*Micruracarus*) *soochowensis* Marshall

1. *Hydrachna* (*Schizo.*) *uniscutata* var. *yatsushiro* Uchida (Fig. 1)

Male. Body round in contour, measuring 2.3 mm long and 2 mm wide. Skin soft, colourless and covered with small papillae. Interval between eyes 517μ. Antero-dorsal plate 885μ long and 750μ wide. Frontal organ on the plate large, having no figures in it. Mandibles spine-like, slender in shape, measuring 975μ long. Palpus moderately thick, having in the second segment five short spines: one on the lateral side and the other four on the extensor side. The palpal segments being in Table 1 (in μ).

Table 1.

Segments	I	II	III	IV	V
Extensor side	211	204	238	102	48
Flexor side	163	106	217	75	47

The pedal segments being in Table 2 (in μ).

Table 2.

Legs \ Segmgnts	1	2	3	4	5	6
I	102	238	156	190	230	230
II	163	313	204	313	380	326
III	150	245	177	360	374	286
IV	278	313	285	503	503	333

Genital plate almost heart-like in shape, measuring 480μ long and 420μ wide. Penis scaffold 320μ wide and 272μ long. Body colour vermilion red.

Female (Fig. 1, e, f). The body and organs are same as those of the male, though different in the genital area and body size. The measurements of the

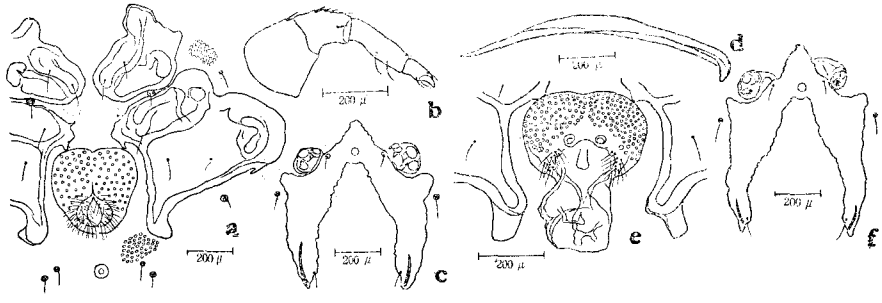

Fig. 1. *Hydrachna* (*Schizo*.) *uniscutata* var. *yatsushiro* Uchida
a. Epimera and genital plate of male. b. Left palpus of male. c. Eyes and antero-dorsal plate of male. d. Mandible of male. e. Genital area of female. f. Eyes and antero-dorsal plate of female.

body and organs are as follows. Body 3.8 mm long and 3.2 mm wide. Antero-dorsal plate 990μ long and 705μ wide. Interval between eyes 450μ. Eye capsule 154×102μ in diameters. Maxillar organ 780μ long. Mandibles 1080μ in length. The palpal segments being in Table 3 (in μ).

Table 3.

Segments	I	II	III	IV	V
Extensor side	286	204	252	109	48
Flexor side	197	136	204	61	45

Genital plate 422μ in width.

Localities. One male and female were captured by the author on June 4, 1939 in a pond at Furueda-mura, Saga Prefecture and one male and female were caught on June 5, 1939 in a rice nursery at Kashima-cho, Saga Prefecture.

Remarks. The species is first recorded as a new variety in 1937 by Prof. Tohru Uchida on the specimens captured by Dr. I. Miyazaki from Yatsushiro, Kumamoto Prefecture.

2. *Hydrachna* (*Schizo.*) *uniscutata* var. *lita* Uchida (Fig. 2)

Female. Body globular in shape, 2.2 mm long and 1.8 mm wide. Frontal organ on the antero-dorsal plate colourless, indicating granulated figures in it. Measurements of organs are as follows. Antero-dorsal plate 750μ long and 645μ wide. Interval between eyes 450μ. Maxillar organ 900μ long and 450μ wide. Mandibles 1050μ long. The palpal segments being in Table 4 (in μ).

Table 4.

Segments	I	II	III	IV	V
Extensor side	204	231	279	102	53
Flexor side	182	175	227	58	52

The pedal segments being in Table 5 (in μ).

Table. 5

Legs \ Segments	1	2	3	4	5	6
I	150	238	150	184	224	224
II	156	272	184	313	367	—
III	184	286	211	435	430	320
IV	320	340	286	564	—	—

Genital plate 388μ wide and 231μ long. Body colour red.

Male. Antero-dorsal plate rather stocky than that of the female. Genital plate roughly round in shape, 360μ long and 353μ wide. Measurements of the body and organs are as follows. Body 1.8 mm long and 1.6 mm wide. Antero-dorsal plate 600μ long and 555μ wide. Interval between eyes 420μ. Eye capsule 136×102μ in diameters. Maxillar organ 690μ long. Mandibles 930μ in length. The palpal segments being in Table 6 (in μ).

Table 6.

Segments	I	II	III	IV	V
Extensor side	143	190	224	95	37
Flexor side	136	143	184	41	37

The pedal segments being in Table 7 (in μ).

Table 7.

Legs \ Segments	1	2	3	4	5	6
I	120	218	129	163	184	204
II	129	252	143	158	—	—
III	142	232	165	360	360	265
IV	170	238	231	360	394	252

Penis scaffold 218μ long and 258μ wide.

Localities. Three males and one female were obtained by the author on June 4, 1939 in a pond at Furueda-mura, Saga Prefecture and one female on June 5, 1939 in a rice nursery at Kashima-cho, Saga Prefecture.

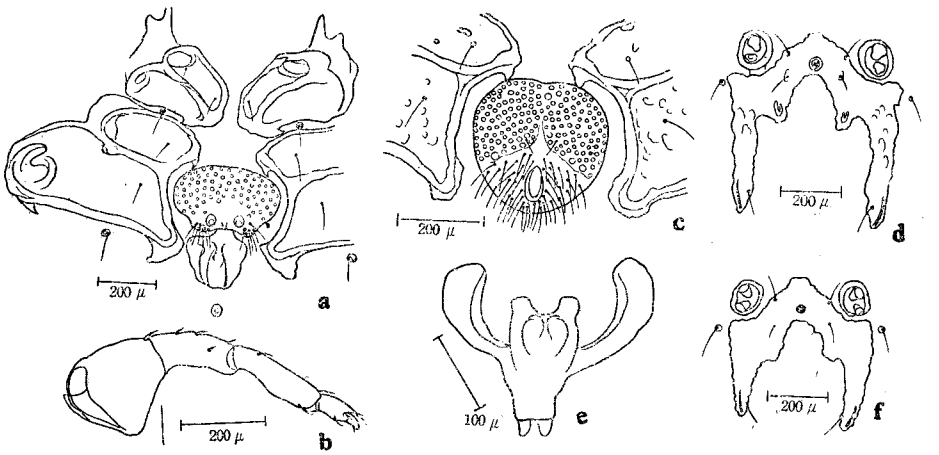

Fig. 2. *Hydrachna (Schizo.) uniscutata* var. *lita* Uchida.
a. Epimera and genital plate of female. b. Left palpus of female. c. Genital area of male. d. Eyes and antero-dorsal plate of female. e. Penis scaffold of male. f. Eyes and antero-dorsal plate of male.

Remarks. The species was described in 1937 as a new variety by Dr. Tohru Uchida on the specimens collected by Dr. I. Miyazaki from Yatsushiro, Kumamoto Prefecture. The present species is easily distinguished from the previous species by the following characters: the frontal organ indicating granulated appearances in it, the palpi more slender in shape and smaller body size than in the previous species.

3. ***Eylais takingyo* Masuda** (Fig. 3)

Body oval in shape, 2.2 mm long and 1.8 mm wide. Skin very soft, colourless, transparent, covering all body surface with fine striated figure. Ocular capsules 170μ long and 120μ wide, being connected each other with an intercapsular bridge of 60μ long. Ocular bridge widened in the middle part. Maxillar organ 540μ long and 320μ wide. Palpi provided with several feathered spines in the second and fourth segments, mostly near the terminal ends. The third segments bear many spines, mostly non-feathered, but two of them feathered. The palpal segments being in Table 8 (in μ).

Table 8.

Segments	I	II	III	IV	V
Extensor side	95	150	136	265	150
Flexor side	54	14	41	231	150

Epimera colourless and transparent, indicating fine meshed appearance. The first and second legs are provided densely with many spines in the terminal ends of the sixth segments, but the third and fourth legs have less spines in the terminal ends of the sixth segments. The pedal segments being in Table 9 (in μ).

Table 9.

Legs \ Segments	1	2	3	4	5	6
I	54	170	211	221	265	258
II	75	204	238	265	213	286
III	90	252	306	320	260	306
IV	170	258	381	401	442	388

Body colour red.

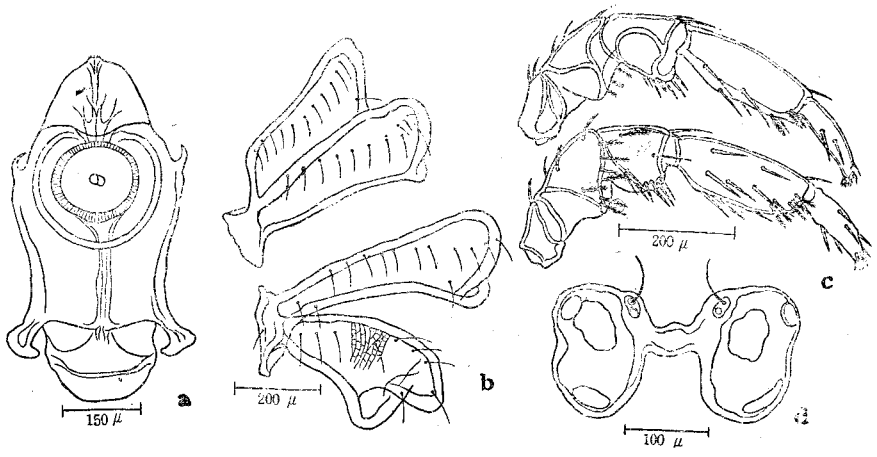

Fig. 3. *Eylais takingyo* Masuda.
a. Maxillar organ. b. Left epimera. c. Palpi (top, the right one ; bottom, the left one). d. Ocular plates.

Localities : The species is common in rice fields of Kansai region according to Y. Masuda. Five specimens were captured by the author on June 5, 1939 in a rice nursery at Kashima-cho, Saga Prefecture.

Remarks. The author identified the species with *Eylais* sp. described by Y. Masuda on 1935 as a new species and scheduled to be named by him as *Eylais takingyo*. *Eylais* sp. described by Prof. T. Uchida in 1937 from Yatsushiro seems also the same species here referred.

4. ***Hydrodroma despiciens*** **(O. F. Müll.)** (Fig. 4)

Male. Body globular in shape, 1190μ long and 970μ wide. Interval between eyes 560μ in the anterior pair. Maxillar organ 220μ long and 155μ wide. Mandibles 308μ long and 74μ high. Palpus has six hairs, five of which are feathered, in the second segment, and two slender hairs in the third segment. The palpal segments being in Table 10 (in μ).

Table 10.

Segments	I	II	III	IV	V
Extensor side	50	82	56	200	82
Flexor side	63	40	30	82	80

The pedal segments being in Table 11 (in μ).

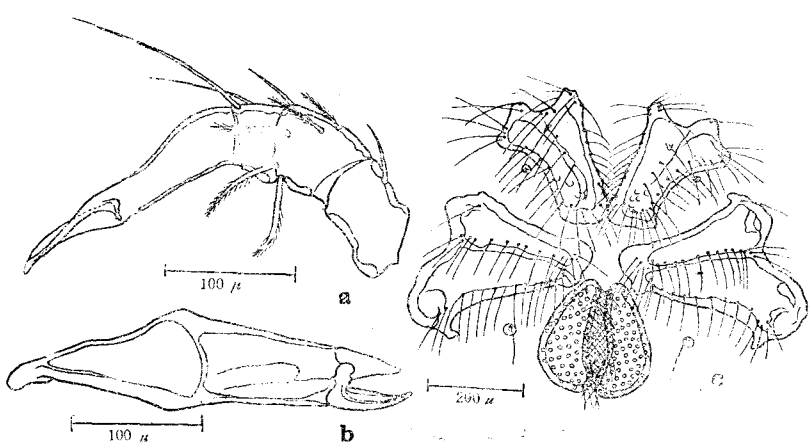

Fig. 4. *Hydrodroma despiciens* (Müll.).
a. Right palpus of male. b. Mandible of male. c. Epimera and genital plates of male.

Table 11.

Legs \ Segments	1	2	3	4	5	6
I	57	88	106	189	242	216
II	88	110	141	273	312	255
III	70	106	128	233	282	242
IV	106	154	194	312	330	282

Genital opening 250 μ in length. Body colour red.

Locality. Three males were captured by the author on Oct. 23, 1938 in a pond at Kimuro-mura, Fukuoka Prefecture. The cosmopolitan species seems to be found everywhere in Japan.

5. *Limnesia buruensis* Viets (Fig. 5)

Female. Body oval in shape, 1240μ long and 1080μ wide. Skin soft, colourless, having no figures. Maxillar organ 279μ long and 150μ wide. Mandibles slender and the membraneous appendages indicate alveolar figures. Palpi rather stout. The second segment of palpus is provided with five feathered spines and two non-feathered spines on the extensor surface, and on the flexor side a spine which has no stool. The third segment bears three long hairs near the extensor edge. The terminal dividings of the fifth segments can be scarcely seen. The palpal segments being in Table 12 (in μ).

Table 12.

Segments	I	II	III	IV	V
Extensor side	14	129	102	197	41
Flexor side	41	95	41	156	47

The epimera are brown in colour, indicating granulated appearance. Anterior groups of epimera are divided each other in right and left sides. The urpores are included in the second epimera near the postero-lateral margins. Fourth epimera very large. The bordering lines between the third and fourth epimera lean to the inner sides. The pedal segments being in Table 13 (in μ).
Terminal spines of the fourth legs 61μ in length. Genital plate 204μ long and 64μ wide. Genital suspender rather small measuring 122μ in length. No dorsal plate.

Localities. Only one female was captured by the author on June 4, 1939 in a pool at Furueda-mura, Saga Prefecture. The species was reported by Prof. Tohru Uchida in 1931 from Taihoku and in 1939 from Osaka.

Table 13.

Legs \ Segments	1	2	3	4	5	6
I	68	75	88	116	143	156
II	75	88	106	150	184	197
III	108	88	95	177	204	184
IV	123	122	150	224	252	252

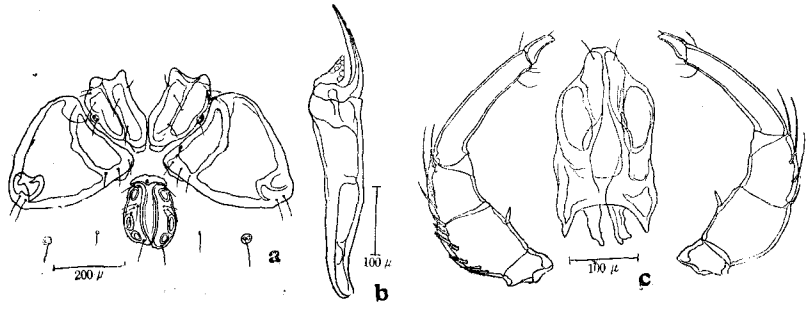

Fig. 5. *Limnesia buruensis* Viets.
a. Epimera and genital area of female. b. Mandible of female. c. Mouth parts of female : left and right, palpi ; middle, maxillar organ.

Distribution. Molucca and Formosa.

6. ***Limnesia tuberifera*** **Sokolow** (Fig. 6)

Male. Body oval in shape, 600μ long and 490μ wide. Skin soft, colourless and transparent, having neither striation nor papillous figure. The postero-dorsal plate 57μ in length and 46μ wide, indicating small papillae mostly on its lateral sides. Eyes double in pair, measuring 175μ in interval between them in the anterior pair. Maxillar organ 177μ long and 108μ wide. Mandibles rather high in shape, measuring 220μ long and 61μ high. Palpi stout. The second segments of palpi are thick and provided with four spines on the extensor margins. The third segment has four spines, one of which is feathered. The fourth segment is rather stout and short, having remarkable papillae on the flexor side. The palpal segments being in Table 14 (in μ).
The anterior epimeral groups are connected each other with their inner terminal ends. Urpores not included in the second epimeral margins. The inner margins of the posterior groups are as the Fgure 23. The pedal segments being in Table 15

Table 14.

Segments	I	II	III	IV	V
Extensor side	14	108	63	148	45
Flexor side	23	63	34	108	40

Table 15,

Legs \ Segments	1	2	3	4	5	6
I	34	57	80	91	108	103
II	57	68	91	114	143	137
III	51	57	80	120	137	125
IV	80	85	120	165	182	177

(in μ).

The terminal spines of the sixth segments of fourth legs are 128μ long. Genital plate 123μ long and 125μ wide. Genital opening 97μ in length. Body colour light-brown in the specimen preserved in acetic glycerin solution.

Female. Almost same in body shape and organs as those of the male except body size and genital area. The genital supporter is very large, measuring 100μ in width. The measurements of the body and organs are as follows. Body 825μ long and 675μ wide. Interval between eyes 255μ in anterior pair. Maxillar organ 180μ long and 130μ wide. The palpal segments being in Table 16 (in μ)

Table 16.

Segments	I	II	III	IV	V
Extensor side	25	114	72	156	46
Flexor side	26	72	34	117	42

The pedal segments being in Table 17 (in μ).

Table 17.

Legs \ Segments	1	2	3	4	5	6
I	41	61	85	95	109	83
II	48	75	102	129	143	120
III	61	68	88	129	143	156
IV	88	95	129	184	197	190

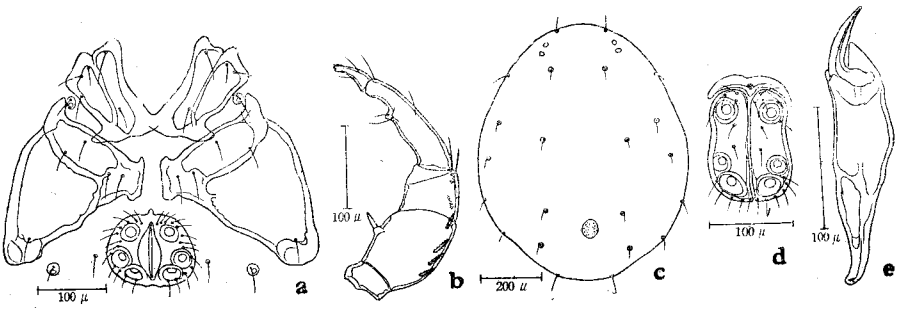

Fig. 6. *Limnesia tuberifera* Sokolow.
a. Epimera and genital plate of male. b. Right palpus of male. c. Dorsal view of female. d. Genital area of female. e. Mandible of male.

Terminal spines of the fourth legs 102μ long. Genital plate 137μ long and 50μ wide.

Localities. Captured by the author on the following dates: three males on Oct. 9, 1938 in a pond at Kashima-cho, Saga Prefecture; two males on Oct. 23, 1938 in a pool at Kimuro-mura, Fukuoka Prefecture; four males and five females on June 18, 1939 in a pond at Yamaguchi-cho, Saga Prefecture. The species was reported by Prof. Tohru Uchida in 1938 from Tokyo.

Distribution. Ussuri regions.

Remarks. The present species is somewhat different from *L. tuberifera* Sokolow of the Ussuri regions in palpi with feathered spines in the second segments and shorter fourth segments, but these variations seem not sufficient to build a new species.

7. ***Unionicola* (*Hexatax*) *crassipes* (O. F. Müll.)** (Fig. 7)

Specimen found from Saga Prefecture is somewhat different from the European species in

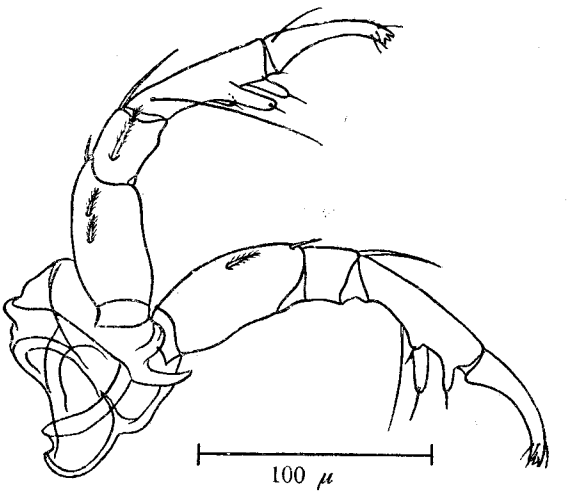

Fig. 7. Maxillar organ and palpi of *Unionicola* (*Hexatax*) *crassipes* (Müll.).

palpi, which have feathered spines in the second and third segments and are provided with a fine hair in the fourth segment as those of *U.* (*Pentax*) *affinis*. But the genital acetabula are six in each side. These variations seem not sufficient to make a new species.

Locality. One female was captured by the author on Oct. 9, 1938 in a pond at Kashima-cho, Saga Prefecture.

Distribution. Cosmopolitan.

8. *Arrenurus* (*Arrenurus*) *japonicus* Uchida & Imamura n.sp.

(Figs. 8, 9)

Male. Body 1180μ long, including petiolus, 750μ wide and 675μ high. Outline nearly round, having caudal appendages which are fairly long and postero-laterally stretched out. Antero-lateral margins moderately depressed close to the eyes. Dorsum well arched, with a pair of large lateral elevations outside the dorsal groove and a pair of large protuberances in the middle part, their crest being conically peaked bending a little forwards. Between the caudal appendages near postero-dorsal margin of the body are found two small protuberances and three small triangular elevations. The area enclosed by the dorsal groove is moderate in size and almost round in shape. Petiolus 375μ long, slightly stretched and thined out in the distal portion, curved upwards. Lateral bristles shorter than petiolus. On the ventral side are found a pair of moderately large humps, each having a long hair on the summit, which are situated on both sides of the excretory pore opening a little posterior to the genital aperture. Interval between eyes 330μ. Maxillar organ 190μ long and 106μ wide. Mandibles 190μ long and 72μ high having a stout claw. Palpus also stout. The second segment of the palpus has seven large bristles. The third segment is provided with one bristle. The

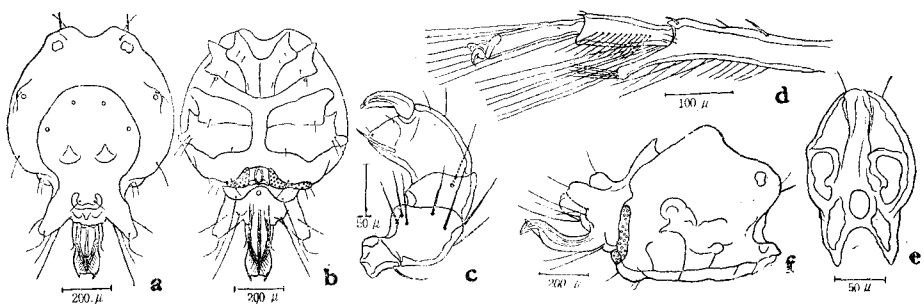

Fig. 8. Males of *Arrenurus* (*Arrenurus*) *japonicus* Uchida & Imamura n. sp.
a. Dorsal view of body. b. Ventral view of body. c. Right palpus. d. Fourth to sixth segments of left leg. e. Maxillar organ. f. Side view of body.

fourth segment is the largest of all, having three bristles, one standing on the flexor side is very strong and movable. The fifth segment is claw-like bearing three minute hairs. The palpal segments being in Table 18 (in μ).

Table 18.

Segments	I	II	III	IV	V
Extensor side	27	72	65	95	53
Flexor side	15	38	15	68	48

Epimera plates are moderately large, sharpened on their outer ends. The fourth segment of fourth legs is provided with a long spur measuring 114μ long, which bears five hairs on its distal end. The pedal segments being in Table 19 (in μ).

Table 19.

Legs \ Segments	1	2	3	4	5	6
I	76	84	125	160	144	232
II	84	87	144	175	171	243
III	103	110	148	186	179	228
IV	137	198	213	255	129	152

Genital wings moderate in size, measuring 170μ in length, narrowing in the middle portion. They are completely separated from each other on both sides of the genital apperture. Genital opening 63μ long. Body colour bluish green. Eyes reddish black.

Female. Body almost globullar in shape, narrowed anteriorly and 1080μ long and 960μ wide. Postero-lateral corner angulated characteristically and running to the posterior rounded margin. Dorsal groove approximately pyriform, 690μ in length and 660μ in width. Interval between eyes 360μ. Maxillar organ 190μ long and 118μ wide. Mandibles 202μ long including claws. The palpal segments being in Table 20 (in μ).

Table 20.

Segments	I	II	III	IV	V
Extensor side	38	80	68	106	57
Flexor side	19	34	15	72	57

The pedal segments being in Table 21 (in μ).

Table 21.

Legs \ Segments	1	2	3	4	5	6
I	82	88	136	170	150	204
II	82	90	143	197	177	218
III	108	102	143	190	177	218
IV	163	170	211	238	190	197

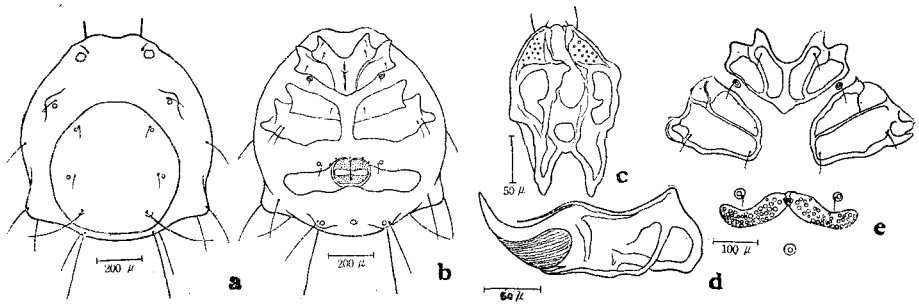

Fig. 9. *Arrenurus (Arrenurus) japonicus* Uchida & Imamura n. sp.
a. Dorsal view of female body. b. Ventral view of female body. c. Maxillar organ of female. d. Mandible of female. e. Epimera and provisional genital wings of nymph.

Genital opening 122μ long and 170μ wide. Genital wings 245μ long in the anterior margin slightly undulated.

Nymph. The measurements of the body in the largest specimen captured by the author are as follows. Body 760μ long and 696μ wide. Interval between eyes 263μ. Mandibles 122μ long and 50μ high. The palpal segments being in Table 22 (in μ).

Table 22.

Segments	I	II	III	IV	V
Extensor side	23	63	53	86	59
Flexor side	13	23	13	50	53

The pedal segments being in Table 23 (in μ).
Genital wings curved posteriorly in the outer one-third the portion, measuring 148μ in length.

Localities. Three males, one female and five nymphs were captured by the author on June 18, 1939 in a pond at Yamaguchi-cho, Saga Prefecture. The

Table 23.

Legs \ Segments	1	2	3	4	5	6
I	38	38	72	84	95	118
II	42	49	76	95	106	139
III	49	49	68	95	106	139
IV	68	84	99	114	125	133

species was also collected by the author from Hokkaido, Hiroshima and Hyogo Prefectures and Nagoya City.

Remarks. The present species was provisionally reported by Dr. Tohru Uchida as a new species without description in 1938 from Tokyo. This species is characteristic in male of its petiolus in shape. Though the female is somewhat similar to *A. congener* (Daday) and *A. daubihensis* Sokolow, differs in body contour which is more globular than the species above reffered, and besides the genital wings are more slender than those of *A. daubihensis*. The description has been made in joint by the two authors.

9. *Arrenurus* (*Arrenurus*) *latipetiolatus* Piersig (Fig. 10)

Male. Body 1105μ long and 765μ wide. The caudal lateral appendages are short and thick, with slightly concaved posterior margin. The dorsal groove is characteristic in the curve as shown in the Figure 10 and the encircled area measures 460μ wide in the widest portion. On the middle portion just anterior to the posterior margin on the dorsal side are found three conical elevations, the center of which is the largest. Interval between eyes 375μ. Maxillar organ 186μ long and 105μ wide. Mandibles 186μ long and 76μ high. The second segment of palpus is provided with seven hairs, two of which near the extensor terminal margin are feathered. The palpal segments being in Table 24 (in μ).

Table 24.

Segments	I	II	III	IV	V
Extensor side	34	76	57	87	53
Flexor side	19	34	15	65	53

The spur of the fourth segment of fourth legs is 82μ long, having seven hairs equal in length on the tip. The pedal segments being in Table 25 (in μ).
Petiolus oval in shape, short and compact, measuring 163μ long and 129μ wide in

Table 25.

Legs \ Segments	1	2	3	4	5	6
I	75	68	122	150	149	238
II	80	95	129	177	177	265
III	126	116	143	204	197	231
IV	150	204	231	320	116	170

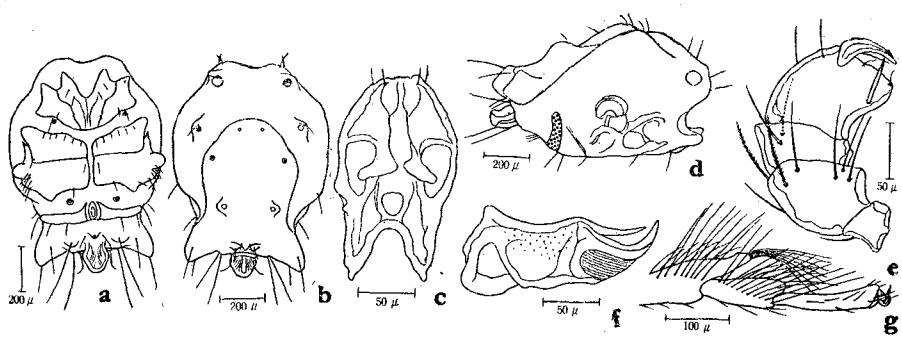

Fig. 10. Males of *Arrenurus* (*Arrenurus*) *latipetiolatus* Piersig.
a. Ventral view of body. b. Dorsal view of body. c. Maxillar organ. d. Side view of body e. Left palpus. f. Mandible. g. Fourth to sixth segments of left leg.

the widest portion. Genital wings rather broad and 210μ in length. Genital opening 48μ long.

Locality. One male was captured on September, 1935 from Yatsushiro, Kumamoto Prefecture by Dr. I. Miyazaki. This is the first record of the species from this country.

Distribution. Bismarck Archipelagoes.

Uchidacarus n. subgen.[1]

The subgenus belonging to the genus *Arrenurus* differs from the subgenus *Arrenurus* in the shape of the genital wings and in deficient in petiolus. The body shape is similar on the whole to that of the genus *Thoracophoracarus*, but is easily distinguished from the genus in having a dorsal groove. Though the new subgenus closely akin to the subgenus *Micruracarus* it lacks a petiolus, and the lateral caudal

1) The new subgenus has been named in honour of Dr. Tohru Uchida, the pioneer to the Hydracarinology in Japan.

appendages are distinct and apart each other. In the remaining characters the subgenus is well coincided with the subgenus *Arrenurus*. Only one male, a little deformed in the caudal portion of the body, was captured by the author in a pond at Yamaguchi-cho, Saga Prefecture.

Type species. *Arrenurus* (*Uchidacarus*) *sagaensis* Imamura.

10. *Arrenurus* (*Uchidacarus*) *sagaensis* n. subgen., n. sp.[1] (Fig. 11)

Male (type, prep. 714). Body almost globular in shape, 840μ long, 735μ wide, having short caudal lateral appendages. Petiolus absent. Interval between eyes 293μ. Maxillar organ 177μ long and 108μ wide. Mandibles 182μ long and 68μ high. Palpi similar to those of the other species of the subgenus *Arrenurus*. The second segment of palpi is provided with six spines. The palpal segments being in Table 26 (in μ).

Table 26.

Segments	I	II	III	IV	V
Extensor side	33	73	63	86	56
Flexor side	20	40	20	66	53

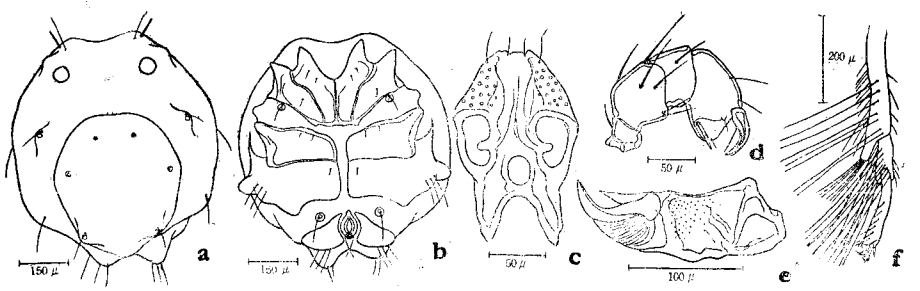

Fig. 11. Males of *Arrenurus* (*Uchidacarus*) *sagaensis* n. subgen., n. sp.
a. Dorsal view of body. b. Ventral view of body. c. Maxillar organ. d. Left palpus. e. Mandible. f. Fourth to sixth segments of left leg.

The epimeral plates and legs belong to the type of the subgenus *Arrenurus*. The fourth segment of fourth leg has in the terminal end a spur, having six hairs on the tip. The pedal segments being in Table 27 (in μ).

Genital wings short and broad, measuring 132μ in length. The genital opening is

1) The specific name refers to the locality where it was found.

Table 27.

Legs \ Segments	1	2	3	4	5	6
I	75	68	109	143	136	231
II	82	82	122	163	163	258
III	102	102	136	197	184	224
IV	136	197	211	272	109	163

distinct, measuring 46μ in length.

Locality. One male was captured by the author on June 18, 1939 in a pond at Yamaguchi-cho, Saga Prefecture.

Remarks. The new water mite is distinctly different from any other species of the genus *Arrenurus*, having no petiolus, short broad genital wings and the caudal lateral appendages.

11. *Arrenurus* (*Micruracarus*) *soochowensis* Marshall

Localities. Two males were captured by the author on Oct. 23, 1938 in a pool at Kimuro-mura, Fukuoka Prefecture. The present species were also collected from Hokkaido by the author.

Distribution. China, Manchuria and Ussuri regions.

Literature

Daday, E. V. 1898. Mikroskopische Süsswasserthiere aus Ceylon. Természetr. Fuzetek, Bd. 21, S. 85–117.

Lundblad, O. 1947. Zur Kenntnis Australischer Wassermilben. Archiv för Zool. Bd. 40, A, S. 1–82.

Masuda, Y. 1935. On the Life-history of a Fresh Water Mite, *Eylais* sp. (In Japanese). Bot. Zool. vol. 3, pp. 1460–1470.

Miyazaki, I. 1935. On a Water Mite Parasitic on *Anopheles* (In Japanese). Bot. Zool. vol. 3, pp. 725–729.

Piersig, R. 1904. Beiträge zur Kenntnis der Hydrachniden-Fauna des Bismark-Archipels. Arch. Naturg. Bd. 1, S. 1–34.

Sokolow, I. 1931. Beiträge zur Kenntnis der Hydracarinenfauna des Ussuri Gebietes. I. Hydracarinen der stehenden Gewässer. Zool. Jahrb. Abt. Syst. Oekol. Geog. Bd. 61. S. 453–522.

Uchida, Tohru 1931. Einige fernorientalische Arten der Wassermilben. Zool. Anz. Bd. 94, S. 129–138.

Uchida, Tohru & I. Miyazaki 1935. Life-history of a Water-mite Parasitic on *Anopheles*. Proc. Imper. Acad. vol. 11, pp. 73-76.

Uchida, Tohru 1937. Water Mites from Kyushu. Bull. Biog. Soc. Japan vol. 7, pp. 9–29.

————. 1938. Water Mites in the Environs of Tokyo. Fauna Musashinensis no. 2, pp,

1–3.

——. 1939. Water Mites in the Vicinity of Osaka. Volumen Jubil. Prof. Sadao Yoshida. pp. 449–451.

Viets, Karl 1923. Über einige Hydracarinen von den Molukken. Zool. Anz. Bd. 57, S. 189–191.