

## ROSEリポジトリいばらき（茨城大学学術情報リポジトリ）

Title	A New Cold Stenothermal Water-Mite, Hydrovolzia (Hydrovolzia) japonica n. sp., from the Okunikko Trout Hatchery
Author(s)	IMAMURA, taiji
Citation	茨城大学文理学部紀要, 自然科学(12): 57-60
Issue Date	1961-12
URL	<a href="http://hdl.handle.net/10109/5361">http://hdl.handle.net/10109/5361</a>
Rights	

このリポジトリに収録されているコンテンツの著作権は、それぞれの著作権者に帰属します。引用、転載、複製等される場合は、著作権法を遵守してください。

お問合せ先

茨城大学学術企画部学術情報課（図書館） 情報支援係  
<http://www.lib.ibaraki.ac.jp/toiawase/toiawase.html>

**A New Cold Stenothermal Water-Mite,  
*Hydrovolzia (Hydrovolzia) japonica* n. sp., from  
the Okunikko Trout Hatchery \***

Taiji IMAMURA \*\*

The family Hydrovolziidae Thor (1905) contains three genera, *Hydrovolzia* Thor (1905), *Stygovolzia* Imamura (1957), and *Acherontacarus* Viets (1932). The genus *Hydrovolzia* is divided into two subgenera, *Hydrovolzia* Thor (1905) and *Hydrovolziella* Viets (1953). I will regard in this paper the *Hydrovolziella* as a subgenus following the opinion of Dr. Karl Viets, though it is treated as a genus by Dr. R. Mitchell (1954). The species of the genus *Hydrovolzia* hitherto described are fourteen as listed below :

- H. (Hydrovolzia) birmanica* Lundblad 1941
- H. (Hydrovolzia) cancellata* Walter 1906
- H. (Hydrovolzia) crassidens* Lundblad 1941
- H. (Hydrovolzia) crassipalpis* Lundblad 1941
- H. (Hydrovolzia) gerhardi* Mitchell 1954
- H. (Hydrovolzia) infringata* Walter 1928
- H. (Hydrovolzia) javanica* Lundblad 1941
- H. (Hydrovolzia) mitchelli* Habeeb 1955
- H. (Hydrovolzia) montana* Habeeb 1959
- H. (Hydrovolzia) oscensis* Viets 1930
- H. (Hydrovolzia) placophora* (Monti 1905)
- H. (Hydrovolzia) tenuipalpis* Lundblad 1941
- H. (Hydrovolzia) vietsi* Angelier 1949
- H. (Hydrovolziella) lata* (Walter 1933)

In the autumn of 1954, I have collected two males and a nymph of the genus *Hydrovolzia* from pools (water temperature 9°C and pH, 7.0) at the Okunikko Trout Hatchery, 1,270 m above the sea level, in Tochigi Prefecture. It is proved to be a new species as described below. This is the first record of the genus from Japan.

---

\* Contribution from the Hinuma Hydrobiological Station of Ibaraki University, No. 10. Supported by a Grant-in-Aid for Scientific Research from the Ministry of Education.

\*\* Biological Institute, Faculty of Arts and Sciences, Ibaraki University, Mito, Japan.

*Male.* Body almost oval, dorso-ventrally flattened, 864  $\mu$  long and 580  $\mu$  wide. The posterior portion of the body rather peaked triangularly. Eyes double in a capsule, and the interval between them is 277  $\mu$ . The dimensions of the dorsal and ventral shields are as in the follows:

	Length	Width	Ratios of length divided by width
Anterior dorsal shield	210	464	0.45
Posterior dorsal shield	600	377	1.59
Genital plate	66	31	2.13
Anal plate	175	172	1.02
Post-anal plate	211 $\mu$	215 $\mu$	0.98

Posterior dorsal shield fringed by short hairs near at the lateral margins.

Maxillary organ 225  $\mu$  long and 150  $\mu$  wide. Mandibles 45  $\mu$  high and 210  $\mu$  long, including a claw. Dimensions of the palps:

Segment	I	II	III	IV	V
Dorsal surface	19	90	66	105	43 $\mu$
Ventral surface	25	31	86	90	— $\mu$
Dorso-ventral height	47	74	66	35	16 $\mu$

First segment short and hairless. Second segment with three feathered spines on the dorsal surface near at the distal portion. Third segment rather long and with

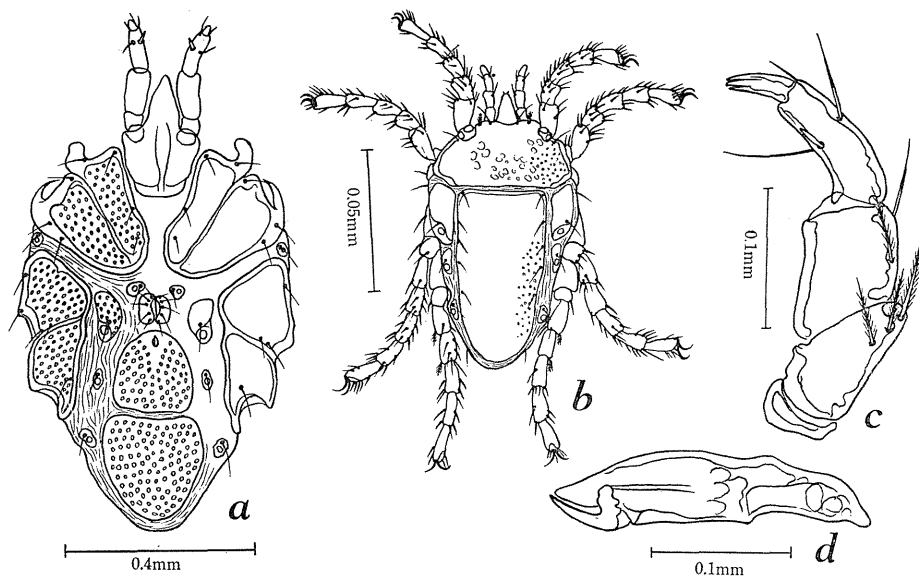


Fig. 1. *Hydrovolzia (Hydrovolzia) japonica* n. sp., ♂: a, venter; b, dorsum; c, left palp; d, mandible.

two spines on the dorsal surface. Fourth segment a little curved ventrally, having two spines on the dorsal, and a club-shaped short bristle and a long slender hair on the ventral surface. Fifth segment trifurcated in the distal portion.

Epimera rather large in shape, epimeral area  $562\ \mu$  long and  $555\ \mu$  wide. Legs with short spines in each. Dimensions of the legs:

Segment	1	2	3	4	5	6
Leg I	60	75	75	83	90	$112\ \mu$
II	60	83	75	83	90	$122\ \mu$
III	67	98	98	105	105	$128\ \mu$
IV	67	113	105	113	113	$128\ \mu$

Genital plates almost crescent in shape and with five short hairs along near the inner margins. Anus on anal plate located near to the anterior margin. Body bright red in color.

*Nymph.* Body of ellipse in outline,  $597\ \mu$  long and  $393\ \mu$  wide. Interval between eyes  $180\ \mu$ . Dorsal shields and glandularia as shown in Fig. 2, a. Anterior dorsal shield  $160\ \mu$  long and  $280\ \mu$  wide. Mid-dorsal shield almost quadrate in contour,  $204\ \mu$  long and  $196\ \mu$  wide. Posterior dorsal shield  $152\ \mu$  both in length and width. Lateral shield rhomboid in shape,  $124\ \mu$  long and  $76\ \mu$  wide. Four pairs of glandularia arranged almost in a line on each lateral side.

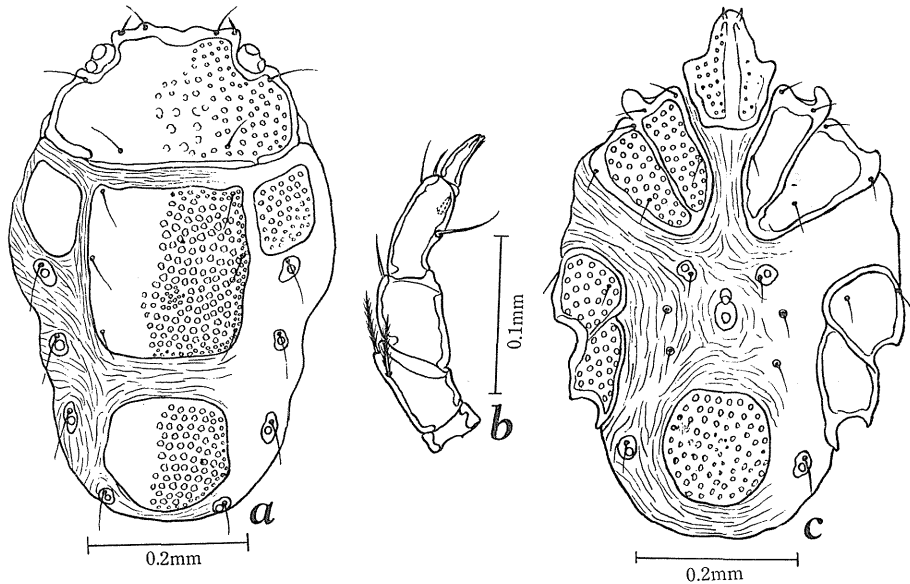


Fig. 2. *Hydrovolzia (Hydrovolzia) japonica* n. sp., nymph:  
a, dorsum; b, left palp; c, venter.

Maxillary organ  $135\ \mu$  long and  $105\ \mu$  wide. Mandibles  $150\ \mu$  long, including a claw. Palps almost similar in feature to those of the adult. Second segment with four feathered spines, two on each side near the terminal portion. Third segment with a spine. Dimensions of palps:

Segment	I	II	III	IV	V
Dorsal surface	12	59	39	66	37 $\mu$
Ventral surface	18	20	47	47	35 $\mu$
Dorso-ventral height	35	41	39	27	12 $\mu$

Epimeral area 405  $\mu$  long and 413  $\mu$  wide. Ventral (anal) shield roughly circular in contour, 144  $\mu$  long and 120  $\mu$  wide. Body color bright red.

*Type-locality.* Two males and a nymph were collected on Oct. 8, 1954 in pools at the Okunikko Trout Hatchery, Tochigi Prefecture.

*Type-specimens.* Holotype, Prep. No. 1372, ♂; Paratypes, Prep. No. 1373, ♀, and Prep. No. 1374, nymph. Those are all preserved in the collection of the Biological Institute of Ibaraki University.

*Remarks.* This new species is distinguished from the European species *H. (Hydrovolzia) placophora*, the most resembling species, by the shapes of dorsal and ventral shields. The present species seems also to be a glacial relict as *H. placophora*. The female is not yet found.

### References

- Angelier, C. 1949. Bull. du Muséum, 2 série, **21**, 83-87.  
 Habeeb, H. 1950. Le Naturaliste Canadien, **77**, 112-117.  
 ———— 1955. Leaflet. Acadian Biol. **5**, 1-4.  
 ———— 1959. Ibid. **19**, 1-6.  
 Imamura, T. 1957. Jour. Fac. Sci. Hokkaido Univ. Ser. VI, Zool. **13**, 49-53.  
 Lundblad, O. 1941. Särtryck ur Entom. Tidsk. **1-2**, 97-121.  
 ———— 1956. Stabil. Tipogr. Guglielmo Genovese, Pall. S. Chiara **22**, 640-656.  
 Mitchell, R. 1954. Nat. Hist. Miscer. **134**, 1-9.  
 Monti, V. R. 1905. Zool. Anz. **28**, 832-838.  
 Thor, S. 1905. Ibid. **28**, 505-509.  
 Viets, K. 1930. Arch. f. Hydrobiol. **21**, 359-446.  
 ———— 1932. Zool. Anz. **100**, 292-299.  
 ———— 1935. Ibid. **110**, 273-279.  
 Walter, C. 1906. Ibid. **30**, 570-575.  
 ———— 1928. Rec. Ind. Museum, **30**, part **1**, 57-108.  
 ———— 1935. Arch. f. Hydrobiol. **28**, 69-136.