

A New Genus and a New Species of Aquatic Oribatid Mite
(Acari : Oribatida) from Korea

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韓國產 水棲性 날개응애의 1新屬 1新種

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ABSTRACT

This paper deals with a new genus, *Mainothrus* gen. n., and a new species, *M. aquaticus* sp. n., belonging to Trhypochthoniidae Willmann, 1931 from Korea. The key characters of the new genus distinguishable from other genera of Trhypochthoniidae are 1) six pairs of genital setae, 2) two pairs of anal setae, 3) fifteen pairs of notogastral setae, and 4) epimeral setal formula: 3-1-3-2.

Key words : Taxonomy, Acari, Oribatida, Trhypochthoniidae, *Mainothrus* gen. n., Korea.

INTRODUCTION

Some mites were collected from dead leaves and sphagnum at the bottom of mountain stream while author was investigating oribatid mites at Mt. Mai in 1994. From them, a new species belonging to Trhypochthoniidae is found and a new genus is proposed based on the new species as a type species.

Trhypochthoniidae Willmann, 1931 contains 12 genera meanwhile 10 genera according to Balogh and Balogh, 1992, and 11 genera according to Fujikawa. Of 12 genera arranged by these authors, 4 genera (*Juracarus* Kriv., 1977, *Palaeochthonius* Kriv., 1977, *Linothrus* Tseng, 1982 and *Albonothrus* Tseng, 1982) have been excluded in this paper due

to the ambiguity of their materials and in this paper contents, and *Allonothrus* Hammen, 1953 is transferred to Allonothridae Lee, 1985 by Balogh and Balogh, 1992. Therefore, seven genera are surely confirmed in Trhypochthoniidae Willmann, 1931. The characters (Table 1) of the seven genera and the new genus are compared based on Balogh and Balogh (1992).

DESCRIPTION

Family Trhypochthoniidae Willmann, 1931

Mainothrus gen. nov.

[Diagnosis] Fifteen pairs of notogastral setae. Epimeral setal formula: 3-1-3-2. Anogenital setal formula: 6-0-2-3. All tarsi tridactylous. Sensillus

Table 1. Characters of the genera of Trhypochthoniidae Willmann, 1931.

	SS	Claws	Genital setae	AG. setae	AN. setae	AD. setae	Epi. setae	Noto. setae	Dark fleck	Exo. seta
<i>Afronothrus</i> Wallwork, 1961	P	3	4	0	0	0	3132	15	A	A
<i>Archegozetes</i> Grandjean, 1931	P	1	7	0	2	3	3133	15	P	A
<i>Hydronothrus</i> Toki, 1931	P	3	9	0	1	2	3132	14	P	P
<i>Mucronothrus</i> Trägårdh, 1931	A(P)	1	18~20	0	2	3(2)	3122		P	P
<i>Pseudonothrus</i> Balogh, 1958	P	3	12	0	2	3	3133		A	A
<i>Trhypochthoniellus</i> Willmann, 1928	A	3	16~18	0	1	3(2)	3132	14	P	P
<i>Trhypochthonius</i> Berlese, 1904	P	3	10	0	1	3	3133	15	P	A
<i>Mainothrus</i> gen. nov.	P	3	6	0	2	3	3132	15	P	P

* P : Present A : Absent

Genital setae, AG setae, AD setae, Noto. Setae : number of pairs

Epi. setae : number of pairs on epimeres I - IV

present. One pair of large and dark flecks located on each lateral side of notogaster. The new genus is very similar to *Hydronothrus* Aoki, 1964 and *Trhypochthonius* Berlese, 1904. However, the 3 genera are distinguished from each other as table 1.

Type species : *Mainothrus aquaticus* spec. nov.

Mainothrus aquaticus spec. nov. (Fig.1-3)

마이쌍무늬응애

Material examined. Holotype: Mt. Mai, Jinan-gun, Chonbuk, southern Korea. 17-IV-1994 by Choi, S. S. 7 paratypes : same locality and data as holotype. All the materials were collected from sphagnum on stones and dead leaves under water of stream of Mt. Mai. All the specimens are deposited in Lab. of Plant Protection, Coll. of Agr., Wonkwang Univ.

Measurements. Body length: 538(504-568) μ m, width: 300(288-312) μ m.

Colour. Yellowish brown or pale brown.

Prodorsum. Rostrum rounded and somewhat projected at tip. Rostral setae about 56 μ m long, straight, barbed and arising on the dorsal surface.

Lamellar setae about 94 μ m long, thick, straight, barbed and well extending beyond the rostral tip. Mutual distance of lamellar setae equal or shorter than that of rostral setae. Interlamellar setae 160~170 μ m long, barbed and directed upwards. Mutual distance of interlamellar setae nearly half the length of the seta. Sensillus about 80 μ m long; the stalk long and the head fusiform with rough. All the setae of prodorsum blunt at tip and similar to each other in shape. But exobothridial setae minute and inserted very closely on the bothridium laterally. Some rounded speckles found on the lateral sides and between interlamellar setae on the surface of prodorsum.

Notogaster. Whole surface ornamented with network. Fifteen pairs of notogastral setae various in shape and length; setae c, d series and f₂ short and smooth; setae e, h series long, distinctly barbed and blunt at tip; ps series relatively long and simple; setae f₁ only setal pores visible front of setae h₂. Setae e₁ about 80 μ m long and shorter than their mutual distance(ca. 108 μ m). Setae h₂ about 100 μ m long and shorter than their

mutual distance (ca. 120µm). But the mutual distance (ca. 92µm) of setae h_1 shorter than the length (ca. 112µm) of their setae. One pair of large and dark flecks found on each side laterally. One pair of glandulae present front of setae f_2 . Lylifissures located immediately behind setae c_3 and front of setae h_3 . The posterior part of notogaster slightly converging.

Ventral side. Apodemata I, II and III well developed. Epimeral plate finely punctated. Epimeral setal formula: 3-1-3-2; 1b longer than 1a and 1c; 3b also longer than 3a and 3c. All ventral setae smooth and various in length. Distal parts of trochanter I, II, III, antero-distal corner of epimeres III and IV found small tubercles, respectively. Anogenital setal formula: 6-0-2-3. Adanal setae longer than anal and genital ones. All tarsi tridactylous. Legs as Fig. 4-7.

Key to the genera of the Trhypochthoniidae :

- 1. - Sensillus present 3
- Sensillus absent 2

- 2. - Legs monodactyle
..... *Mucronothrus* Tragardh, 1931
- Legs tridactyle
..... *Trhypochthoniellus* Willmann, 1961
- 3. - Anal setae absent
..... *Afronothrus* Wallwork, 1961
- Anal setae present 4
- 4. - Anal plates with 1 pair of setae 5
- Anal plates with 2 pairs of setae 6
- 5. - Adanal plates with 2 pairs of setae
..... *Hydronothrus* Aoki, 1964
- Adanal plates with 3 pairs of setae
..... *Trhypochthonius* Berlese, 1904
- 6. - Epimeral setal formula: 3-1-3-2. Genital plates with 6 pairs of setae
..... *Mainothrus* gen. n.
- Epimeral setal formula: 3-1-3-3 7
- 7. - Genital plates with 7 pairs of setae. Legs monodactylous
..... *Archegozetes* Grandjean, 1931
- Genital plates with 12 pairs of setae. Legs tridactylous ... *Pseudonothrus* Balogh, 1958

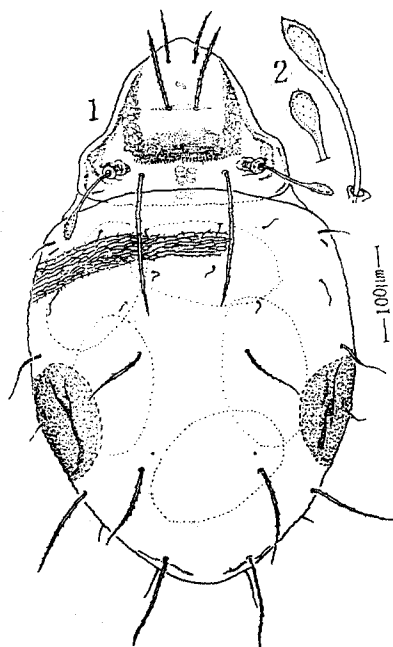


Fig. 1. *Mainothrus aquaticus* gen. et spec. nov.
1. Dorsal view 2. Sensillus.

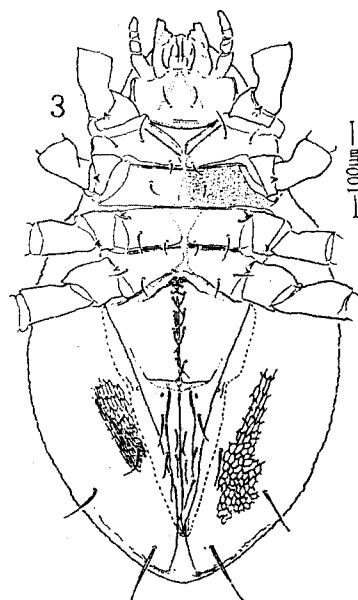


Fig. 2. *Mainothrus aquaticus* gen. et spec. nov.
3. Ventral view.

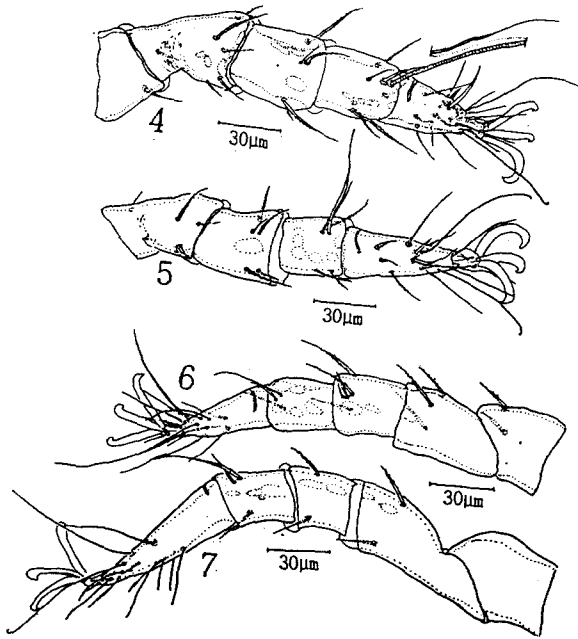


Fig. 3. *Mainothrus aquaticus* gen et spec. nov.,
4. Leg I, 5. Leg II, 6. Leg III, 7. Leg IV.

적 요

이 논문은 Trhypochthoniidae에 속하는 1신속 (*Mainothrus* gen. n.), 1신종 (*M. aquaticus* sp. n.)을

기재하였다. 이 신속과 Trhypochthoniidae의 다른 속들과 다른 특징은 1) 6쌍의 생식판털, 2) 2쌍의 항문판털, 3) 15쌍의 등판털, 4) 가슴판털식이 3-1-3-2인 점이다.

검색어 : 분류, 응애목, 날개응애아목, Trhypochthoniidae, *Mainothrus* gen. n.

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