

The Oribatid Mites (Acari : Cryptostigmata) of Korea (7)

Choi, Seong-Sik

(Lab. of Plant Protection, Coll. of Agr.,
Won Kwang Univ. Iri, 510 Republic of Korea)

韓國産 날개응애類(7)

崔 星 植
(圓光大學校 農科大學)

적 요

韓國産 날개응애類에 3新種과 1新亞種을 記載하였다. 그들은 지게털소매응애, 굵은지게 소매응애, 긴털오징어응애, 준수세발톱응애 이다.

Key Words: Oribatid, Acari, Taxonomy, Korea

DESCRIPTION OF SPECIES

Superfamily Oribatuloidea Woolly, 1956

Family Haplozetidae Grandjean, 1936

Protoribates crassisetiger n. sp. (지게털소매응애) (Fig. 1)

Material examined. Holotype: Mt. Naejang, Jeongeup-Gun, Jeonla Buk Do, Southern Korea. 15 IV 1985.—2 paratypes: the same data as the holotype. — 5 paratypes: around Donghak-sa Temple, Daejeon, Chungcheong Nam Do, Central Korea. 21 II 1986. All the specimens are deposited in Lab. of Plant Protection, College of Agriculture, Won Kwang University, Iri, Korea.

Measurement. Length: 460-500 μm , width: 265-315 μm .

Description. [Prodorsum] Rostrum broadly rounded. Lamellar setae simple, very thick, thicker than interlamellar setae, inserted on anterior end of lamella and incurved along the marginal line of rostrum, their tips almost meeting in front of rostrum. Rostral setae thin and barbed. Interlamellar setae barbed and shorter than their mutual distance. Sensillus bent backward at the basal part and expanded and barbed unilaterally in distal part.

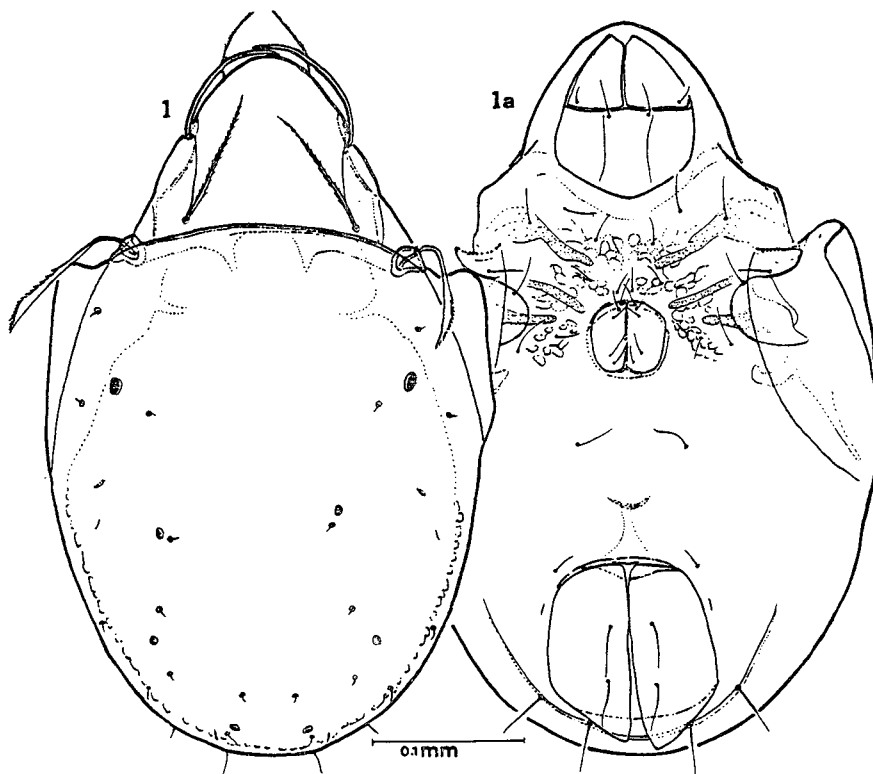


Fig. 1. *Protoribates crassisetiger* n. sp., 1a. Ventral side.

[Notogaster] Ten pairs of notogastral setae minute. Four pairs of areae porosae small; *Aa* the largest of them.

[Ventral side] Epimeral plates reticulated. All ventral setae distinct and simple; Setal formula of epimerata: 3-1-3-3 and anogenital chaetotaxy: 5-1-2-3; g_2 located far distance from each other. Seta ad_3 shorter than ad_1 and ad_2 and inserted on anterolateral to anal aperture.

Remark: In the new species, *P. crassisetiger*, lamellar setae are characteristically thicker than in any other members of the genus *Protoribates*.

Protoribates angulatus n. sp. (굽은지게소매응애) (Fig. 2)

Material examined. Holotype: around Geumsan-sa Temple, Kimjae-Gun, Jeonla Buk Do, Southern Korea. 1 X 1984.

Measurement. Length: 510 μm , width: 310 μm .

Description. Rostral margin rounded and smooth. Lamella located far laterally, tapering distally, curved inward almost at right angles and the end bears lamellar seta. Rostral setae thin, barbed and longer than or almost as long as their mutual distance. Lamellar setae thin, barbed, subequal to or longer than their mutual distance and longer than lamellar setae. Sensillus barbed on anterior margin; the head has expanded anterior border, straight posterior border and sharply pointed tip. Anterior margin of notogaster weakly convex. Pteromorphae not reaching so far anteriorly as the anterior margin of notogaster. Ten pairs of notogastral setae very thin, short and hardly visible. Araeae porosae distinct and oval; *Aa* larger than the remaining ones. Three pairs of lyrifissures,

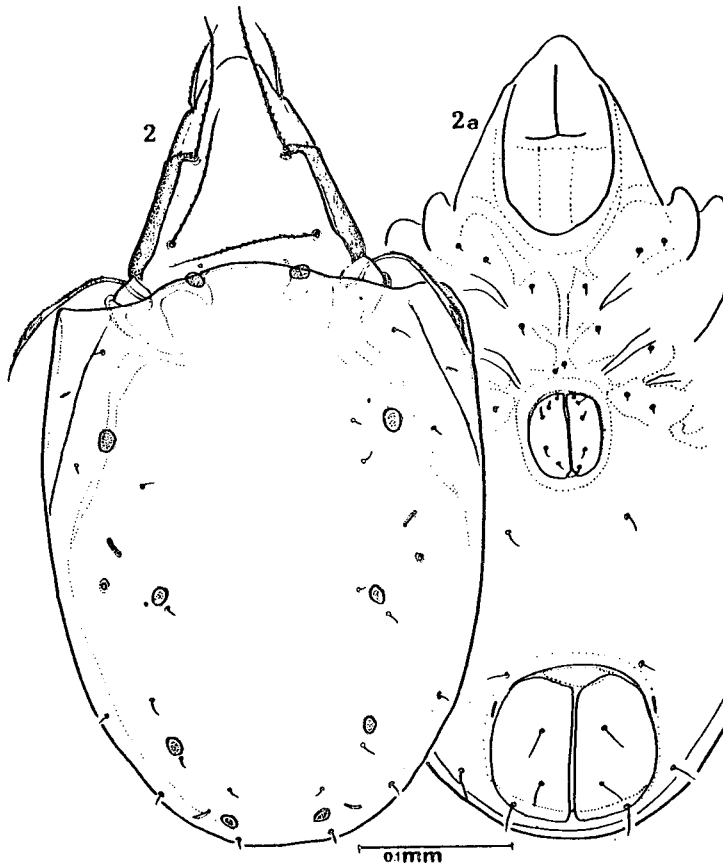


Fig. 2. *Protoribates angulatus* n. sp., 2a. Ventral side.

ia, *im* and *ip* and *gla* distinctly shown in dorsal view.

Remark: The new species is closely related to *P. monodactylus* (Haller, 1804) (see Aoki, 1959) but, in the latter, the anterior end of lamella is not strongly curved inward.

Superfamily Otocephleidea Balogh, 1972

Family Otocephleidea Balogh, 1961

Dolicheremaeus infrequens coreanus n. subsp. (긴털오징어응애) (Fig. 3)

Material examined. Holotype: Mt. Naejang, Jeongeup-Gun, Jeonla Buk Do, Southern Korea. 15 IV 1985.

Measurement. Length: 1,090 μ m, width: 530 μ m.

Description. [Prodrsum] Whole surface foveolated, excepting posterior portion of interlamellar setae. Rostrum broadly triangular. A wide feather-like sculpture found on the posteromedian portion of prodorsum. Prodorsal condyles well developed. Anterior end of lamella extending for a short distance beyond the insertion level of rostral seta. Bothridium opened anterolaterally. Rostral setae distinctly barbed on lateral border. Lamellar setae weakly barbed and inserted on behind a short distance from termination of lamella. Interlamellar setae straight, weakly barbed and 2.3 times as long as their mutual distance. Exobothridial setae short and minute. Sensillus elongate

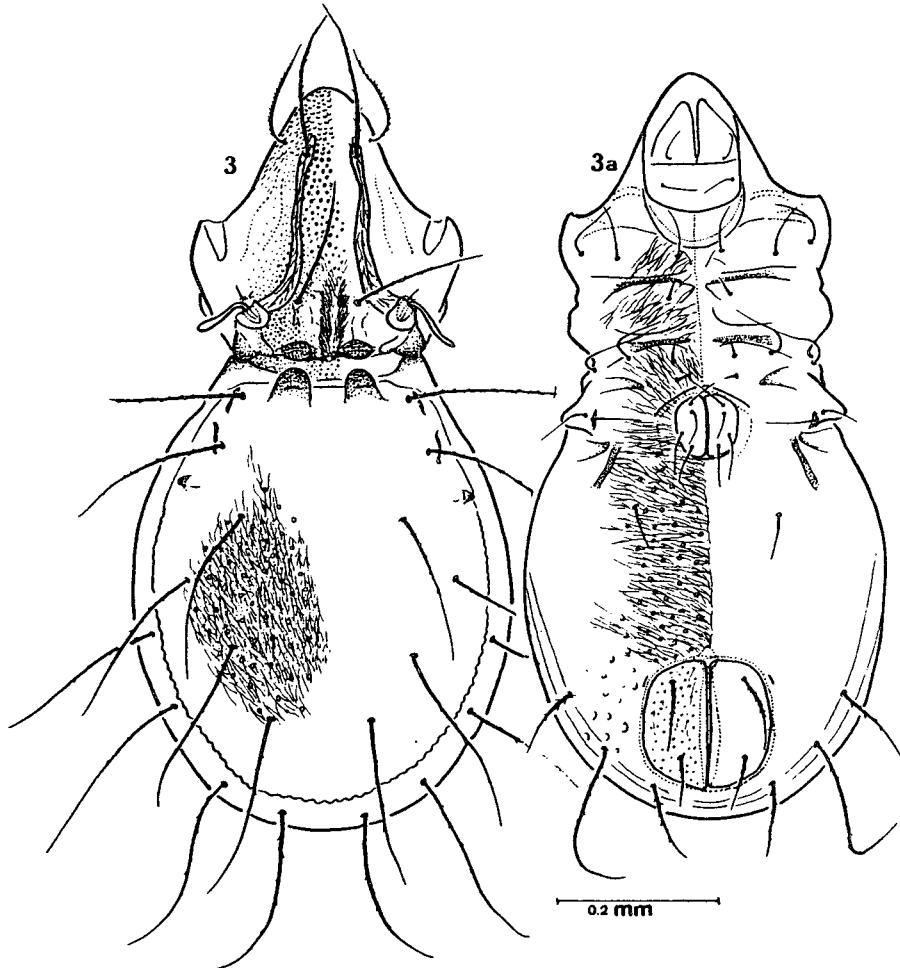


Fig. 3. *Dolicheremacus infrequens coreanus* n. subsp., 3a. Ventral side.

Table 1. Comparison of body length and RLN of body setae among the three subspecies in *Dolicheremacus infrequens* Aoki.

	Body length	RLN of body setae												in in-in	
		ta	te	ti	ms	r ₃	r ₂	r ₁	p ₃	p ₂	p ₁	ad ₃ ad ₁	ad ₂		in
<i>D. infrequens infrequens</i> Aoki	930 x 413	23	27	27	39	49	66	62	61	59	58	21 -	45 -	29	1.6
<i>D. infrequens hachijoensis</i> Aoki	1,055 x 480	23	28	27	29	33	31	31	44	44	36	-	-	29	3.0
<i>D. infrequens coreanus</i> n. subsp.	1,090 x 530	29	38	41	39	43	43	41	49	47	43	17 18	42	49	2.3

fusiform and they bent posterolaterally at the basal part.

[Notogaster] Notogastral surface showing punctuation, foveolation and marked capillary pattern. Ten pairs of notogastral setae long and weakly barbed; their RLN shown in Table 1. A short longitudinal ridge found each outside seta *tu* and *te*. Notogastral condyles (co. nm. and co. nl.) well developed.

[Ventral side] A faint median border line of ventral side runs between genital and anal apertures. Capillary pattern and foveolations also found on ventral side. Anal plate punctuated by small pits. A longitudinal chitinized ridge found on far lateral side of genital aperture. Epimeral chaetotaxy: 3-1-3-3. Discidium well developed. Genitoanal chaetotaxy: 4-1-2-3; g_3 and g_4 inserted close to each other; an_2 a little longer than an_1 ; ad_2 far longer than ad_1 or ad_3 .

Remark: The Korean subspecies is closely related to the Japanese subspecies, *D. infrequens infrequens* and *D. infrequens hachijoensis* Aoki, 1967. But the former different from the latter in length of body setae as shown in the Table 1. Namely, (1) RLN of the setae *t*-series in *D. infrequens coreanus* larger than in both the Japanese subspecies, (2) RLN of setae *r*- and *p*-series of the new subspecies smaller than those of *D. infrequens infrequens* but larger than those of *D. infrequens hachijoensis*, and (3) Length of interlamellar seta is 2.3 times as long as their mutual distance in *D. infrequens coreanus*, 1.6 times in *D. infrequens infrequens* and 3 times in *D. infrequens hachijoensis*.

Superfamily Nothroidea Grandjean, 1954

Family Malaconothridae Berlese, 1916

***Trimalaconothrus joonsooi* n. sp.** (준수세발톱응애) (Fig. 4)

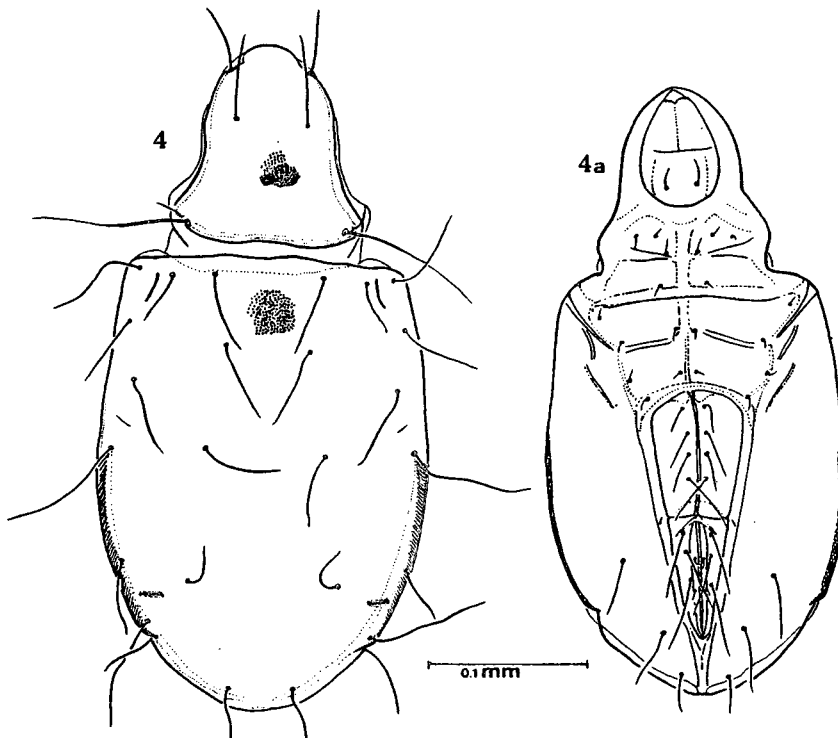


Fig. 4. *Trimalaconothrus joonsooi* n. sp., 4a. Ventral side.

Material examined. **Holotype:** Mt. Songli, 600m above the sea level, Chungcheong Buk Do, Central Korea. 2 IV 1983.—1 paratype: the same data as the holotype. Collected by J. S. Kwak.

Measurement. Length: 450 μm , width: 210 μm

Description. [Prodorsum] In dorsal view, whole shape of prodorsum "helmet-shape" in outline. Rostrum rounded. Anterior end of lateral ridge incurved in lateral side of rostrum; it bears a simple rostral seta. Interlamellar seta very long. Prodorsum punctuated with small dots. A wide cervical cavity found between prodorsum and notogaster.

[Notogaster] Notogaster with almost straight anterior border, parallel lateral borders and rounded posterior end. Whole surface of notogaster also densely punctuated with small dots as on prodorsum. Sixteen pairs of notogastral setae thin, simple, flagellate and different in length; c_3 , c_2 and h_2 slightly longer than the others. Lylifisure ia very long and aligned obliquely on anterolateral side, between the setae c_2 and c_3 of notogaster. A chitinized rim found along the lateral border between setae e_2 and h_3 .

[Ventral side] Three pairs of oblique ridges located on the lateral side of epimeral plates III and IV. Setal formula of epimera: 3-1-3-3; the epimeral setae minute. Genitoanal chaetotaxy: 4-0-2-3. Genital and adanal setae long; anal setae minute.

Remarks: The Korean species is closely related to *T. hakonensis* Yamamoto, 1977 from Japan. But the latter has not the chitinized rim along the posterolateral border of notogaster. The specific name *joonsooi* was named after Mr. Kwak Joonsoo, who is the collector of much samples of oribatid mites as Assistant of Laboratory of Plant Protection, College of Agriculture, Won Kwang University.

ABSTRACT

Three new species and one new subspecies of oribatid mites from Korea are described. They are *Protoribates crassisetiger* n. sp., *P. angulatus* n. sp., *Trimalaconothrus joonsooi* n. sp. and *Dolicheremaeus infreguens coreanus* n. subsp.

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