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| 题目 | 一些粉虱和蟑螂科的螨类（Acarina: Mesostigmata）的日本粉虱
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**HOKKAIDO UNIVERSITY**
Some Mites of the Families Phytoseiidae and Blattisocidae from Japan (Acarina: Mesostigmata) 1)

By

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(With 49 Text-figures)

The Phytoseiidae are of economic importance, because of their food habits of preying on photophagous mites. Mites of the closely related family Blattisocidae Garman (=Aceosejidae Baker and Wharton) are at least partly predaceous, though their feeding habits are not well known (Evans, Sheals and MacFarlane 1961, Ohant 1963).

Such being the case, phytoseiids and also blattisocids are now receiving attention in the field of biological control of agricultural pests. In recent years many taxonomic papers on these mites have been published. From Japan ten species of phytoseiids (Ehara 1958, 1959, 1962, Chant 1960) and four species of blattisocids (Berles 1924, Ehara 1961, Kamo and Hatsushika 1962, Chant 1963) were known prior to this study. These species are as follows:

Phytoseiidae

1. Typhlodromus (Neoseiulus) vulgari8 Ehara2)
2. Typhlodromus (Neoseiulus) juniperu8 Chant2,3)
3. Amblyseius finlan9icus (Oudemans)
4. Amblyseius larpon9is (Muma)
5. Amblyseius longispino9us (Evans)
6. Amblyseius japon9icus (Ehara)
7. Amblyseius sugawa9is Ehara
8. Amblyseius rademacheri Dosse
9. Amblyseius orientalis Ehara
10. Phyto9eius (Phyto9eius) nipponicus Ehara4)

Blattisocidae

1) Contribution No. 671 from the Zoological Institute, Faculty of Science, Hokkaido University, Sapporo, Japan.
2) Subgeneric name not given in the original description.
3) Known only from a female collected on juniper imported from Japan at Seattle, Washington, U.S.A.
4) Originally described as Phyto9eius (Dubininellus) nipponicus. Dubininellus Wainstein is a synonym of Phyto9eius Ribaga s. str. (Pritchard and Baker 1962).


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1. *Nesojordensia orientalis* Chant\(^1\)
2. *Proctolaelaps brevipilus* (Berlese)
3. *Blattisocius dentriticus* (Berlese)\(^2\)
4. *Blattisocius keegani* Fox\(^3\)

The present paper deals with twelve species of phytoseiids and blattisocids from Japan, as listed below, of which four are new to science and three are new to Japan.

**Phytoseiidae**
1. *Typhlodromus (Neoseiulus) bambusae* n. sp.
2. *Typhlodromus (Neoseiulus) vulgaris* Ehara
3. *Amblyseius sojaensis* n. sp.
4. *Amblyseius largoensis* (Muma)
5. *Amblyseius longispinosus* (Evans)
6. *Amblyseius chilenensis* Dosse
7. *Amblyseius oguroi* n. sp.
8. *Amblyseius tsugawai* Ehara

**Blattisocidae**
9. *Proctolaelaps pygmaeus* (Müller)
10. *Lasioseius porulosus* De Leon
11. *Lasioseius sugawarai* n. sp.
12. *Blattisocius dentriticus* (Berlese)

The types of the new species are preserved in the Zoological Institute, Faculty of Science, Hokkaido University.

**Family Phytoseiidae**

1. *Typhlodromus (Neoseiulus) bambusae* n. sp.

*(Jap. Name: Take-kaburidani)*

*(Figs. 1-4)*

**Female.** Dorsal shield reticulate, with at least four pairs of pores; six pairs of dorsocentral setae. Setae on dorsal shield smooth, dissimilar in length: \(L_1 > D_1; L_{10} \) (obscurely pectinate) = \(M_2 \geq L_7 > L_6 > L_9 > L_8\); dorsocentral setae \(D_1\) to \(D_4\) successively increasing in length, seta \(D_5\) minute. Setae \(S_1\) and \(S_2\) on interscutal membrane. Peritreme not extending beyond level of seta \(L_4\). Sternal shield with two pairs of setae, the third and fourth pairs of sternal setae not set on platelets. Ventrianal shield large, longer than wide, wider than genital shield, with three pairs of preanal setae; a pair of small pores much posterior to posterior pair of preanals, distance between pores longer than distance between posterior preanals. Four pairs of setae surrounding ventrianal shield, the caudal pair (\(VL_2\))

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1) Known only from a female collected on yam roots imported from Japan to Philadelphia.
2) Recorded as *Melichares (Blattisocius) dentriticus* (Berlese) (Ehara 1961).
3) Recorded as *Melichares keegani* by Kamo and Hatasuika (1962).
very long. Two pairs of slender matapodal platelets, the anterior pair very small; a few minute platelets near metapodal platelets. Spermatheca with cervix cylindrical. Chelicerae impossible to examine because of positions of specimens. Tibia IV with macrosetae; basitarsus IV with macroseta slightly longer than long setae on basitarsus and tarsus IV proper. Measurements in microns: idiosoma length 340, idiosoma width 200; lengths of setae: \(L_1\) 35, \(L_2\) 17, \(L_3\) 29, \(L_4\) 32, \(L_5\) 35, \(L_6 \) 44,

\[ \text{Figs. 1–4. } \text{Typhlodromus (Neoseiulus) bambusae n. sp., } \varphi. \text{ 1, dorsum of idiosoma. 2, sternal shield. 3, posterior ventral surface. 4, genu, tibia and tarsus of leg IV.} \]

\(L_7\) 46, \(L_8\) 35, \(L_9\) 28, \(L_{10}\) 57, \(M_1\) 22, \(M_2\) 60, \(D_1\) 22, \(D_2\) 32, \(D_3\) 39, \(D_4\) 49, \(D_5\) 54, \(D_6\) 9, \(S_1\) 17, \(S_2\) 19, \(VL_1\) 35, macrosetae of leg IV: tibia 49, basitarsus 54; largest seta on tibia IV 33.

**Male.** Not known.


**Remarks.** This species is similar to Typhlodromus (Neoseiulus) pectinatus Athias-Henriot from Algeria, but is different from *pectinatus* in its smooth
dorsal idiosomal setae and its large ventrianal shield.

2. *Typhlodromus (Neoseiulus) vulgaris* Ehara

*Typhlodromus vulgaris* Ehara, 1959, p. 286, Figs. 1-5.

*Specimen examined.* One ♀, Mt. Hikosan, northern Kyushu, 20–X–1955 (S. Ehara leg.), on plum.

This species has been known from Hokkaido, Honshu and Shikoku (Ehara 1959, 1962), and Hong Kong (Swirski and Shechter 1961). It is new to Kyushu.

3. *Amblyseius sojaensis* n. sp.

(Jap. Name: Kōzuke-kaburidani)

(Figs. 5–8)

*Female.* Dorsal shield reticulate, with a number of very small pores; six pairs of dorsocentral setae. Setae on dorsal shield: L₉ the longest, stout, very slightly pectinate; relative lengths: D₁ ≥ L₄ ≥ L₇; remaining setae shorter; L₉ = L₈; L₇ > L₅; L₆ > L₉ > M₂. Setae S₁ and S₂ on interseptal membrane. Peritreme reaching approximately to middle of coxa I. Sternal shield as figured. Ventrianal shield longer than wide, widest at level of anus, about as wide as genital shield. Three pairs of preanal setae on ventrianal shield, two mesial pairs of those being nearly in a line; pores inside and caudad from middle setae on each side; paranal setae at level of anterior end of anus. Four pairs of setae surrounding ventrianal shield. A pair of slender metapodal platelets. Cervix of spermatheca slender, narrower than atrium. Chelicera impossible to examine because of positions of specimens. Leg IV with macroseta on genu, tibia and basitarsus. Measurements in microns:

- Idiosoma length 370, idiosoma width 260;
- Lengths of setae: L₁ 23, L₂ 18, L₃ 17, L₄ 26, L₅ 13, L₆ 18, L₇ 21, L₈ 20, L₉ 51, M₁ 11, M₂ 14, D₁ 27, D₂ 10, D₃ 10, D₄ 12, D₅ 14, D₆ 6, S₁ 15, S₂ 14, VL₄ 28, macrosetae of leg IV: genu 36, tibia 33, basitarsus 50; length of peritreme 145.

*Male.* Not known.


*Remarks.* *Amblyseius sojaensis* resembles *A. victoriensis* (Womersley) (Australia), from which it differs in the relative lengths of setae D₁ and L₁, and of setae L₁ and L₇. Further, *A. sojaensis* is similar to *A. stipulatus* Athias-Henriot (Algeria), but has shorter dorsal idiosomal setae. For instance, the seta L₁ is shorter than the distance to seta L₂, whereas in *stipulatus* it reaches the base of seta L₂.

4. *Amblyseius largoensis* (Muma)


*Specimen examined.* One ♀, Miyazaki, Miyazaki Pref., 28–X–1955 (S. Inoue).
Ehara leg.), on papaya in greenhouse.
In Japan this species has been known from Honshu and Shikoku (Ehara 1959, 1962). It is new to Kyushu.

Figs. 5-8. *Amblyseius sojaensis* n. sp., ♀. 5, dorsum of idiosoma. 6, sternal shield. 7, posterior ventral surface. 8, genu, tibia and basitarsus of leg IV.

5. *Amblyseius longispinosus* (Evans)


*Specimens examined.* Seventeen ♀♀ & 1 ♂, Nase, Amami-ōshima Island, 17-IV-1964 (M. Sakaie leg.), on sugar cane.

This species is new to Amami-ōshima Island. It is common in Japan proper, and in laboratory culture of spider mites it occurs often to attack them.
6. **Amblyseius chilenensis** Dosse

(Jap. Name: Miyakō-kaburidani)

(Figs. 9–16)

*Typhlodromus chilenensis* Dosse, 1958a, p. 3, Fig. 4; Dosse, 1958b, p. 55, Figs. 11–15 (original description).

*Amblyseius chilenensis*, González & Schuster, 1962, p. 10, Fig. 3.

**Female.** Dorsal shield reticulate, with many pairs of very small pores; six pairs of dorsocentral setae. Setae on dorsal shield: L$_6$ and M$_2$ stout and pectinate; relative lengths: L$_9$ > M$_2$ > L$_8$ = L$_7$ > L$_6$ = L$_5$; L$_4$ > L$_3$ > D$_1$. Setae S$_1$ and S$_2$ on interscutal membrane. Peritreme not extending between setae D$_1$. Sternal shield well defined, longer than wide, reticulate, with three pairs of setae; metasternal platelets as figured. Ventrianal shield longer than wide, wider than genital shield, with lateral margins slightly concave. Three pairs of preanal setae on ventrianal shield; a pair of transverse, large pores between and slightly behind posterior pair of preanals. Four pairs of setae surrounding ventrianal shield, seta VL$_1$ very long. Two pairs of slender metapodal platelets, the anterior pair very narrow. Spermatheca with cervix broad and short. Chelicera impossible to examine because of positions of specimens. Leg IV with macroseta on tibia and basitarsus: the tibial macroseta slightly larger than remaining setae on this segment, the

![Diagram](image_url)

**Figs. 9–16.** *Amblyseius chilenensis*. 9, dorsum of idiosoma, ♀. 10, sternal shield, ♀. 11, ventrianal shield, ♀. 12, genu, tibia and basitarsus of leg IV, ♀. 13, 14, spermatheca. 15, ventrianal shield, ♂. 16, spermatophoral process of male chelicera.
basitarsal macroseta very long, with tip obscurely enlarged. Measurements in microns: idiosoma length 350, idiosoma width 190; lengths of setae: L1 23, L2 23, L3 21, L4 26, L5 24, L6 32, L7 31, L8 28, L9 63, M1 17, M2 44, D1 18, D2 16, D3 16, D4 20, D5 24, D6 12, S1 20, S2 20, VL 43, macrosetae of leg IV: tibia 23, basitarsus 46; largest seta on genu IV 18.

**Male.** Setae S1 and S2 on interscutal membrane. Peritreme reaching level of seta D1. Ventrianal shield with three pairs of preanal setae; a pair of transverse, large pores between and slightly behind posterior pair of preanals. Spermatophoral process of chelicera as figured. Macrosetae on leg IV as in female. Measurements in microns: idiosoma length 280, idiosoma width 170; lengths of setae: L1 18, L2 17, L3 17, L4 23, L5 22, L6 29, L7 26, L8 49, M1 15, M2 43, D1 17, D2 14, D3 14, D4 17, D5 22, D6 9, S1 17, S2 17, VL 31, macrosetae of leg IV: tibia 20, basitarsus 38; largest seta on genu IV 14.

**Specimens examined.** One ♀ & 4 ♂, Meguro, Tokyo, 28–VI–1963 (Y. Ito leg.), on *Boehmeria nivea* Gaud; 1 ♀, 5–VIII–1963, other data same as for the above. (The author has had a chance to examine a female specimen from Chile, presented by R. H. González.)

**Distribution.** Japan (Honshu), new locality record; Chile.

**Biology.** The present materials, together with individuals of *Phytoseius (Phytoseius) nipponicus* Ehara, were found preying on the cyclamen mite, *Tarsonemus pallidus* Banks, on *Boehmeria nivea* Gaud. In Chile, *A. chilenensis* is known to feed on *Brevipalpus chilensis* Baker (González and Schuster 1962).

**7. Amblyseius oguroi* n. sp.**

**(Jap. Name: Kita-kaburidani)**

**(Figs. 17–23)**

**Female.** Dorsal shield reticulate along lateral margins; with at least six pairs of pores; six pairs of dorso-central setae. Setae on dorsal shield: L9 and M2 long, pectinate; remaining setae short or minute; relative lengths: L9 > M2; D1 = L1 = L4; L3 > L2; L4 > L5. Setae S1 and S2 on interscutal membrane. Peritreme extending beyond seta D1. Sternal shield wider than long, with three pairs of setae; metasternal platelets as figured. Ventrianal shield longer than wide, wider than genital shield; the lateral margins concave. Three pairs of preanal setae on ventrianal shield; a pair of conspicuous pores being in line with posterior preanals. Four pairs of setae and several pairs of minute platelets surrounding ventrianal shield. Two pairs of slender metapodal platelets, the posterior pair much larger. Spermatheca as figured. Fixed digit of chelicera multidentate. Leg IV with macrosetae on genu, tibia and basitarsus. Measurements in microns: idiosoma length 340, idiosoma width 220; lengths of setae: L1 22, L2 13, L3 17, L4 24, L5 12, L6 18, L7 14, L8 13, L9 87, M1 10, M2 60, D1 23, D2 9, D3 9, D4 9, D5 12, D6 7, S1 14, S2 10, VL 32, macrosetae of leg IV: genu 37, tibia 32, basitarsus 55.

**Male.** Setae S1 and S2 may occur on the dorsal shield or on the interscutal...
Mites of Phytoseiidae and Blattisocidae

membrane. Ventrianal shield with three pairs of preanal setae, the caudal two pairs and a pair of pores being approximately in a line. Spermatophoral process of chelicera as figured. Macrosetae on leg IV as in female. Measurements in microns: idiosoma length 280, idiosoma width 180; lengths of setae: L₁ 25, L₂ 10, L₃ 16, L₄ 20, L₅ 10, L₆ 17, L₇ 14, L₈ 11, L₉ 57, M₁ 9, M₂ 40, D₁ 21, D₂ 9, D₃ 8, D₄ 10, D₅ 10, D₆ 5, S₁ 14, S₂ 10, VL 25, macrosetae of leg IV: genu 25, tibia 23, basitarsus 46.

Figs. 17–23. Amblyseius oguroi n. sp. 17, dorsum of idiosoma, ♀ 18, sternal shield, ♀ 19, ventrianal shield, ♀ 20, genu, tibia and basitarsus of leg IV, ♀ 21, spermatheca. 22, ventrianal shield, ♂ 23, spermatophoral process of male chelicera.


Remarks. Amblyseius oguroi is closely allied to A. asiaticus (Evans) (Southeast Asia), A. callunaev Willmann (Europe) and A. alpinus Schweizer (Europe), but is different from them in the relative lengths of the seta D₁ and the anterior lateral

1) 2) Of these species fine redescriptions are found in the paper of Westerboer and Bernhard (1963).
setae on the dorsal shield. Further, this species is similar to *A. dentilis* (De Leon) from Florida and *A. sabali* (De Leon) from Mexico. It is distinguished from *dentilis* by the lengths of setae L₂ and M₂ on the dorsal shield, and the shape of the spermatheca, and also from *sabali* by the shape of the spermatheca and the spermatophoral process of male chelicera. This species is named in honor of Dr. Chitaru Oguro who kindly offered specimens of mites treated in this paper to the author.

8. *Amblyseius tsugawai* Ehara

(Figs. 24–27)


**Male.** Setae S₁ and S₂ on interscutal membrane. Ventrianal shield with three pairs of preanal setae; a pair of pores between and caudad from posterior pair of preanals. Spermatophoral process of chelicera as figured. Leg IV with macroseta on genu, tibia and basitarsus. Measurements in microns: idiosoma length 280, idiosoma width 180; lengths of setae: L₁ 31, L₄ 37, L₆ 69, M₂ 38, D₁ 21, VL₂ 24, macrosetae of leg IV: genu 35, tibia 32, basitarsus 55.


Remarks. *Amblyseius tsugawai* was known only from a single female specimen found on apple in Kuroishi, Aomori Prefecture. Its spermatheca was described later (Ehara 1961). Male of this species is here described for the first time. The relative lengths of main dorsal setae of both sexes are: L₉ > M₂ ≥ L₄ > L₁ > D₁; L₉ ≥ L₂; L₁ > L₆. In both sexes, the macroseta of basitarsus IV is approximately one and a half times the length of the macroseta of genu IV, the latter being slightly longer than the macroseta of tibia IV. According to Mr. T. Oku (personal communication), this
mite, together with _Amblyseius rademacheri_ Dosse, actively preys upon _Tetranychus urticae_ Koch in soy bean fields.

**Family Blattisocidae**

9. *Proctolaelaps pygmaeus* (Müller)

(Jap. Name: Hosoge-mayoidani)

(Figs. 28-33)


*Hypoaspis hypudaei* Oudemans, 1902, Tijdschr. Ent., 45: 21, Figs.


*Proctolaelaps (Proctolaelaps) hypudaei*, Evans, 1958, p. 199, Figs. 33, 34; Hughes, 1961, The mites of stored food, p. 228, Figs. 308, 309, 310a, 311a.


**Female.** Dorsal shield reticulate, with a pair of conspicuous pores; with 43 pairs of simple setae, 20 on posterior region. Setae on dorsal shield mostly long and more or less similar in length; setae of _J_ series approximately as long as distances between bases; seta _Z_ noticeably longer than remaining setae. Setae _M_ and _M_ not set on dorsal shield. Peritreme extending to paravertical setae; peritrematal plate free posteriorly. Endopodal plates conspicuous in region of coxae III and IV. Sternal shield with three pairs of setae; metasternal platelets as figured. Genital shield with posterior margin convex. Anal shield typically oval, with large anus. Twelve pairs of setae surrounding anal shield. Two pairs of very slender metapodal platelets. Spermatheca not seen. Chelicera with fixed digit multidentate. Tectum variable, denticate. Corniculi sinuous, anterior pair of rostral setae stout, spine-like. Tarsus IV proper with a very long seta. Measurements in microns: idiosoma length 390, idiosoma width 260; lengths of setae: verticals 29, humerals 32, _Z_ 40, _Z_ 51, VL 34, macroseta of basitarsus IV 72.


**Specimens examined.** Three ♀♀ & 2 ♂♂, Okitsu, Shizuoka Pref., 18-VIII-1959 (N. Shinkaji leg.), on citrus fruit; 1 ♀, Kurume, Fukuoka Pref., 5-VI-1963 (K. Inoue leg.), from potato in laboratory.

**Distribution.** Japan (Honshu and Kyushu), new locality record; Europe, North America, Indonesia, Australia, New Zealand, Algeria, South Africa.

**Remarks.** *Proctolaelaps pygmaeus* is distinctive in having sinuous corniculi and stout, spine-like rostral setae (Evans, 1958, Chant 1963).

**Biology.** The biology of this mite was studied by Mathys and Tencalla (1959) and by others. In summary, it is not only saprophagous in habit but predaceous
upon mites and other small arthropods. Of the present specimens, those from citrus fruit were found associated with numerous individuals of the citrus rust mite, *Aculus pelekassi* Keifer\(^1\), while those from potato in laboratory were with the white peach scale, *Pseudaulacaspis pentagona* (Targioni).

Figs. 28-33. *Proctolaelaps pygmaeus*. 28, dorsum of idiosoma,♀. 29, sternal shield,♀. 30, posterior ventral surface,♀. 31, rostrum,♀. 32, tectum,♀. 33, spermatophoral process of male chelicera.

10. *Lasioseius porulosus* De Leon

(Jap. Name: Kobu-mayoidani)

(Figs. 34-40)

*Lasioseius porulosus* De Leon, 1963, p. 204, Figs. 36-38.

**Female.** Dorsal shield faintly reticulate, with a few pairs of very small pores; with 31 pairs of setae, 15 on posterior region. Setae on dorsal shield set on tubercles, mostly short, simple; vertical and humeral setae, sometimes and paravertical setae, faintly flanged; setae \(Z_4\) and \(Z_6\) long, stout; some caudal

\(^1\) Identified by Mr. H.H. Keifer.
setae, usually $Z_4$, $Z_5$ and $S_5$, serrate; setae of J series shorter than distances between their bases. Three pairs of marginal setae on interscutal membrane, one on anterior region. Peritreme extending to vertical setae; peritrematal plate fused posteriorly to exopodal plate. Endopodal plates poorly developed. Sternal shield with three pairs of setae; metasternal platelets as usual. Ventrianal shield triangular, slightly longer than wide, much wider than genital shield; four pairs of preanal setae; a pair of pores inside of and slightly caudal from posterior pair of preanals. An elongate, sometimes fragmented, platelet on membrane between ventrianal and genital shields. Four pairs of setae surrounding ventrianal shield, seta $VL_1$ longer, stouter, and serrate. Two pairs of unparallel metapodal platelets, the posterior pair wide. Spermatheca not observable. Fixed digit of chelicera with 10 to 12 teeth, the movable digit with four (rarely more) teeth. Tectum denticulate, without noticeable processes. Corniculi and rostral setae as figured. Tarsus II proper with two unpaired lanceolate setae; tarsus III proper with one lanceolate seta. Leg IV with one macroseta on basitarsus, and with one macroseta on tarsus proper. Measurements in microns: idiosoma length 440, idiosoma width 270; lengths of setae: verticals 25, humerals 38, $Z_4$ 34, $Z_5$ 62, $S_5$ 65, $S_4$ 32, $S_3$ 30, $VL_1$ 35.
macrosetae of leg IV: basitarsus 42, tarsus proper 47.


**Distribution.** Japan (Hokkaido), new locality record; U.S.A. (Tennessee).

**Remarks.** The female of *Lasioseius porulosus* is characterized in the lengths of setae Z₄ and Z₅, the shape of the ventrianal shield, and the position of the ventrianal pores. The male, previously unknown, is described here for the first time.

11. **Lasioseius sugawarai** n. sp.

*(Jap. Name: Kazari-mayoidani)*

(Figs. 41–49)

**Female.** Body heavily sclerotized. Dorsal shield reticulate as figured; with 36 pairs of setae, 21 on the anterior region. Setae on dorsal shield arising from small tubercles, those on anterior region flanged except for four pairs of minute setae (paraverticals and three pairs of peripheral setae including a pair of peg-like setae); humeral setae longer; all setae on posterior region flanged, caudal pairs except J₄ shorter than distances between bases. Marginal setae on interscutal membrane, one pair of flanged setae and one pair of simple setae in anterior region, and nine (seven upper and two lower) pairs of simple setae in posterior region. Peritreme not extending to vertical setae; peritremal plate fused posteriorly to exopodal plate. Endopodal plates conspicuous in region of coxae III and IV. Sternal shield longer than wide, with three pairs of setae; metasternal platelets with minute process anteriorly. Ventrianal shield large, wider than long, much wider than genital shield, with four pairs of preanal setae. Four elongate platelets on membrane between ventrianal and genital shields. Five pairs of setae surrounding ventrianal shield, seta VL₄ serrate and flanged. Two pairs of metapodal platelets, the anterior pair slender, the posterior pair longer and wide. Spermatheca small. Fixed digit of chelicera with 13 to 15 teeth, the movable digit with three teeth. Tectum with three denticulate processes. Corniculi and rostral setae as figured. Tarsus II proper with a long lanceolate seta. Basitarsus IV with one macroseta on dorsum, tarsus IV proper with one dorsal and one ventral macrosetae. Measurements in microns: idiosoma length 430, idiosoma width 270; lengths of setae: verticals 23, humerals 39, Z₄ 40, Z₅ 47, S₄ 37, S₅ 39, VL₄ 33, macrosetae of leg IV: basitarsus 35, tarsus proper (dorsal) 35, tarsus proper (ventral) 35.
Male. Not known.


Figs. 41–49. Lasioseius sugawarai n. sp., ♀, 41, dorsum of idiosoma. 42, flanged seta on dorsal shield. 43, flanged, serrate seta on dorsal shield. 44, sternal shield. 45, posterior ventral surface. 46, spermatheca. 47, tectum. 48, rostrum. 49, genu, tibia and tarsus of leg IV.

Remarks. This new species closely resembles Lasioseius analis Evans from Uganda, but differs from it in the chaetotaxy of tarsus IV. This species is named in honor of Dr. Hiroo Sugawara, Morioka Branch, National Horticultural Research Station, Morioka.

12. Blattisocius dentriticus (Berlese)

Lasioseius (L.) dentriticus Berlese, 1918, Redia, 13: 133.

Specimens examined. One ♂, Sapporo, Hokkaido, 19–VII–1957 (Sh. F. Sakagami leg.), from nest of 2nd generation of a social bee, LasioGLOSSUM (Evylaeeus) duplex (Dalla Torre); 4 ♀♀ & 1 ♂, Morioka, Iwate Pref., 9–IV–1964 (H. Sugawara leg.), on strawberry; 1 ♂, Susaka, Nagano Pref., 11–VIII–1962 (Y. Itō leg.), on apple; 5 ♀♀ & 2 ♂♂, Kurume, Fukuoka Pref., 5–VI–1963 (K. Inoue leg.), from
potato culture in laboratory; Kurume, 11–VI–1963 (K. Inoue leg.), from potato culture in laboratory.

In the male, two pairs of marginal setae are set on the dorsal shield, whereas those of female arise from the interscutal membrane. This mite was previously recorded from Hokkaido and Kyushu (Ehara 1961, as Melichares (Blattisocius) dentriticus), and is new to Honshu. Blattisocius dentriticus has been found in a variety of habitats in many parts of the world. Chant (1963) mentioned that this species seems very similar in its biology to those Phytoseiidae that have been studied and differs only in details. Of the specimens here studied, those from potato culture in laboratory were found associated with the white peach scale, Pseudaulacaspis pentagona (Targioni), or with the horned wax scale, Ceroplastes pseudoceriferus (Green).

Summary

1. This paper is concerned with twelve species belonging to the families Phytoseiidae and Blattisocidae from Japan.
2. The following four species are described as new: *Typhlodromus* (Neoseiulus) bambusae, *Amblyseius sojaensis*, *A. oguroi* and *Lasioseius sugawarai*.
3. *Amblyseius chilenensis* Dosse, *Proctolaelaps pygmaeus* (Müller) and *Lasioseius porulosus* De Leon are first recorded from Japan and redescribed.
4. The male of *Amblyseius tsugawai* Ehara is described for the first time.
5. New locality and habitat records are given of the following species: *Typhlodromus* (Neoseiulus) vulgaris Ehara, *Amblyseius largoensis* (Muma), *A. longispinosus* (Evans) and *Blattisocius dentriticus* (Berlese).

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