

The First Record of *Kaltenbachiella japonica* (Matsumura, 1917) (Hemiptera: Aphididae: Eriosomatinae) from Korea

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한국의 미기록종 *Kaltenbachiella japonica* (Matsumura, 1917) (노린재목: 진딧물과: 면충아과)에 대한 보고

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ABSTRACT: In this study, *Kaltenbachiella japonica* (Matsumura, 1917) is reported for the first time in Korea. Species distribution, measurement, host plants, description, and illustrations of diagnostic characters for fundatrix are provided.

Key words: *Kaltenbachiella japonica*, Eriosomatinae, New record, Korea

초 록: 본 연구에서 *Kaltenbachiella japonica*를 국내에서 처음으로 보고한다. 이 종의 분포지역, 기주식물, 형태학적 정보를 제공하였다.

검색어: 일본밤송이면충(신칭), 면충아과, 미기록, 한국

The genus *Kaltenbachiella* comprised of eight species in the world: *K. elsholtziae* (Shinji, 1936), *K. glabra* (Akimoto, 1985), *K. japonica* (Matsumura, 1917), *K. nirecola* (Matsumura, 1917), *K. pallida dongtaiensis* Zhang, 1997, *K. pallida pallida* (Haliday, 1838), *K. spinosa* Akimoto, 1985 and *K. ulmifusa* (Walsh and Riley, 1869). The pouch gall formed on the leaf midrib and the emigrant antennal characters completely conform to the diagnostic characters of this genus. In Korea, two species have been recorded: *K. elsholtziae* (Shinji, 1936) and *K. nirecola* (Matsumura, 1917) were firstly recorded by Paik (1972). In 2018, we newly collected samples of *K. japonica* (Matsumura, 1917) on *Ulmus davidiana* var. *japonica* in Korea. In this study,

we report fundatrix of *K. japonica* for the first time in Korea.

Materials and Methods

Samples were preserved in 95% ethanol and then mounted Canada balsam, following the method of Blackman and Eastop (2000) methods. Images and measurements were taken by LEICA (DM3000 LED) and LEICA (CTR6 LED). All specimens were deposited the Institute of Agriculture & Life Science, Gyeongsang National University. The following abbreviations are used in morphological features: BL - body length from the head to the end of cauda; Ant.I-VI - antennal segments, respectively; Ant.VIb - antennal segment base of VI; PT - processus terminalis; URS - Ultimate rostrum segment; 1HT - first tarsal segment of hind leg; 2HT - second tarsal segment of hind leg; HTB - hind tibia; GP - genital plate; ABDT - Abdominal tergite;

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Received September 21 2022; Revised October 25 2022

Accepted November 1 2022

SIPH - Siphunculi; Co - Costa; Cu - Cubitus; M - Media; Pt - Pterostigma; Rs - Radial sector.

Taxonomic Accounts

Kaltenbachiella japonica (Matsumura, 1917) (Fig. 1; Table 1)
Gobaishia japonica Matsumura, 1917.

Description. Fundatrix. Morphology. Body broadly rounded, 1.546 - 1.950 mm long; Head weakly sclerotized and with 28 - 35 setae which are maximally 0.04 mm long; Ant. brown, usually 4-segmented, 0.077 - 0.109 times as long as BL, 0.518 - 0.629 times as long as Hind femoro trochanter length, Ant.I with 1 - 3 hairs, Ant.II with 1 - 2 hairs, Ant.III with 0 - 4 hairs, Ant.IV with 2 - 5 hairs, at apex with short projecting primary rhinaria; Rostrum brown, not reaching to between middle coxae, URS brown and becoming dusky brown at apex, with 7 - 9 hairs which are maximally 0.012 - 0.014 mm long, 0.036 -

0.048 times as long as BL, 0.922 - 1.250 times as long as 2HT, width 0.037 - 0.047 mm long; Legs uniformly brown, Tibia and 43 tarsus smooth, Hind coxa 0.064 - 0.102 mm long, Hind femoro trochanter 0.272 - 0.336 mm long, width 0.059 - 0.077 mm long; Tarsus incompletely separated to 2-segment, Tarsus 0.061 - 0.084 mm long, Hind claws 0.022 - 0.025 mm long; SIPH absent; Abdomen pale brown, without wax gland.

Material examined. 5 fundatrices, Donghae-si, GW, Korea, 08.vi.2018, Colle JE-11, on *Ulmus davidiana* var. *japonica*, J.E. Lee, GNU; 3 fundatrices, Busan-si, Korea, 05.vii.2018, Colle JE-23, on *Ulmus davidiana* var. *japonica*, J.E. Lee, GNU.

Host plant. *Ulmus davidiana* var. *japonica* (Ulmaceae).

Distribution. Korea (new record), Japan, East Siberia, Sri Lank.

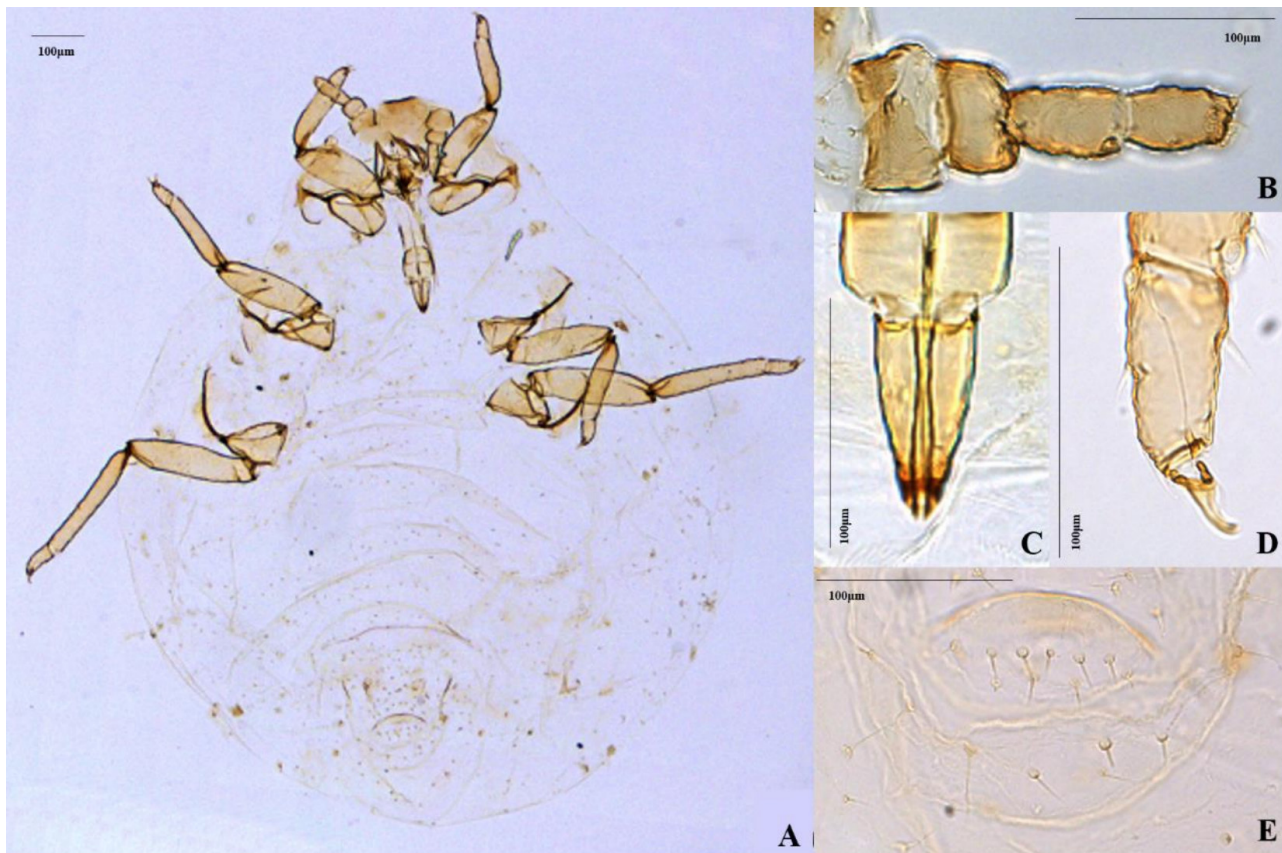


Fig. 1. Fundatrix of *Kaltenbachiella japonica* (A, whole body; B, Ant.; C, URS; D, hind tarsus; E, cauda).

Table 1. Biometric data of *Kaltenbachiella japonica*

	Body parts	Fundatrix (n=8)
		Mean (range)
Length (mm)	Body	1.743(1.546-1.950)
	Ant.	0.170(0.151-0.209)
	Ant.I	0.041(0.034-0.050)
	Ant.II	0.033(0.027-0.040)
	Ant.III	0.051(0.034-0.075)
	Ant.IV	0.045(0.034-0.059)
	URS	0.075(0.070-0.084)
	HTB	0.292(0.267-0.333)
	2HT	0.069(0.061-0.084)
No. of setae on	Ant.I	2(1-3)
	Ant.II	1(1-2)
	Ant.III	1(0-4)
	Ant.IV	5(2-5)
	URS	8(7-9)
	Cauda	8(4-12)
Ratio	Ant. / BL	0.099(0.077-0.109)
	URS / BL	0.043(0.036-0.048)
	URS / 2HT	1.097(0.922-1.250)

Remark. Galls are globular, covered with fine spine-like projections, green, projecting upward from the mid-rib, which tends to be bent downwards where the gall is attached.

Acknowledgments

The authors thank Dr. Shin-ichi Akimoto, Hokkaido University, Sapporo, Japan, for advising this research. This research was supported by the ‘Cooperative Research Program for Agriculture Science and Technology Development [Project No. PJ016285022022]’, Rural Development Administration, Republic of Korea.

Statements for Authorship Position & Contribution

Lee, J.: Gyeongsang National University, Researcher; Designed the research, wrote the manuscript and examined specimens

Lee, H.: Gyeongsang National University, Student in Ph.D; Collected and examined specimens

Son, S.: Gyeongsang National University, Student in M.S; Collected and examined specimens

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Lee, W.: Gyeongsang National University, Professor, Ph.D; Examined specimens and designed the research

All authors have read and approved the manuscript.

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