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New Records of Whiteflies (Homoptera: Aleyrodidae) from Korea

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Abstract : Five species of whiteflies, *Aleurolobus iteae* Takahashi, *Aleurolobus vitis* Danzig, *Asterobemisia takahashii* Danzig, *Bemisiella artemisiae* Danzig, and *Massilieurodes euryae* (Takahashi), are newly recorded from Korea.

Key words: Homoptera, Aleyrodidae, *Aleurolobus*, *Asterobemisia*, *Bemisiella*, *Massilieurodes*, New record, Korea

Introduction

Whiteflies (Aleyrodidae) have recently become major pests in Korea causing severe damage to agricultural crops, trees, and shrubs. Species such as *Bemisia tabaci* (Gennadius) and *Trialeurodes vaporariorum* (Westwood) have been notorious pests of crops in glasshouses and shade houses and are subsequently the most commonly reported whiteflies in Korea. Despite their importance, systematic studies of this group have been sporadic, resulting in only seven species of whiteflies being documented in Korea. Therefore, a taxonomic survey was initiated to provide basic information on Korean whiteflies.

In this paper, we add the following species to our knowledge of Korean whitefly fauna: *Aleurolobus iteae* Takahashi, *Aleurolobus vitis* Danzig, *Asterobemisia takahashii* Danzig, *Bemisiella artemisiae* Danzig, and *Massilieurodes euryae* (Takahashi), and provide illustrations and information on the distribution and hosts of each species. An asterisk (*) is used to indicate new host or distribution records.

1. *Aleurolobus iteae* Takahashi
(Figs. 1-3)

Aleurolobus iteae Takahashi, 1957.

Specimens examined. Korea. Gyeonggido: Surisan, 35 puparia, on *Melampyrum roseum*, 21. IX. 2003 (S.J. Suh).

Distribution. Japan and *Korea.

Host plants. **Melampyrum roseum* Max. (Scrophulariaceae). In addition, *Itea japonica* (Grossulariaceae) was listed as the host of this species in Japan (Takahashi, 1957).

2. *Aleurolobus vitis* Danzig
(Figs. 4-6)

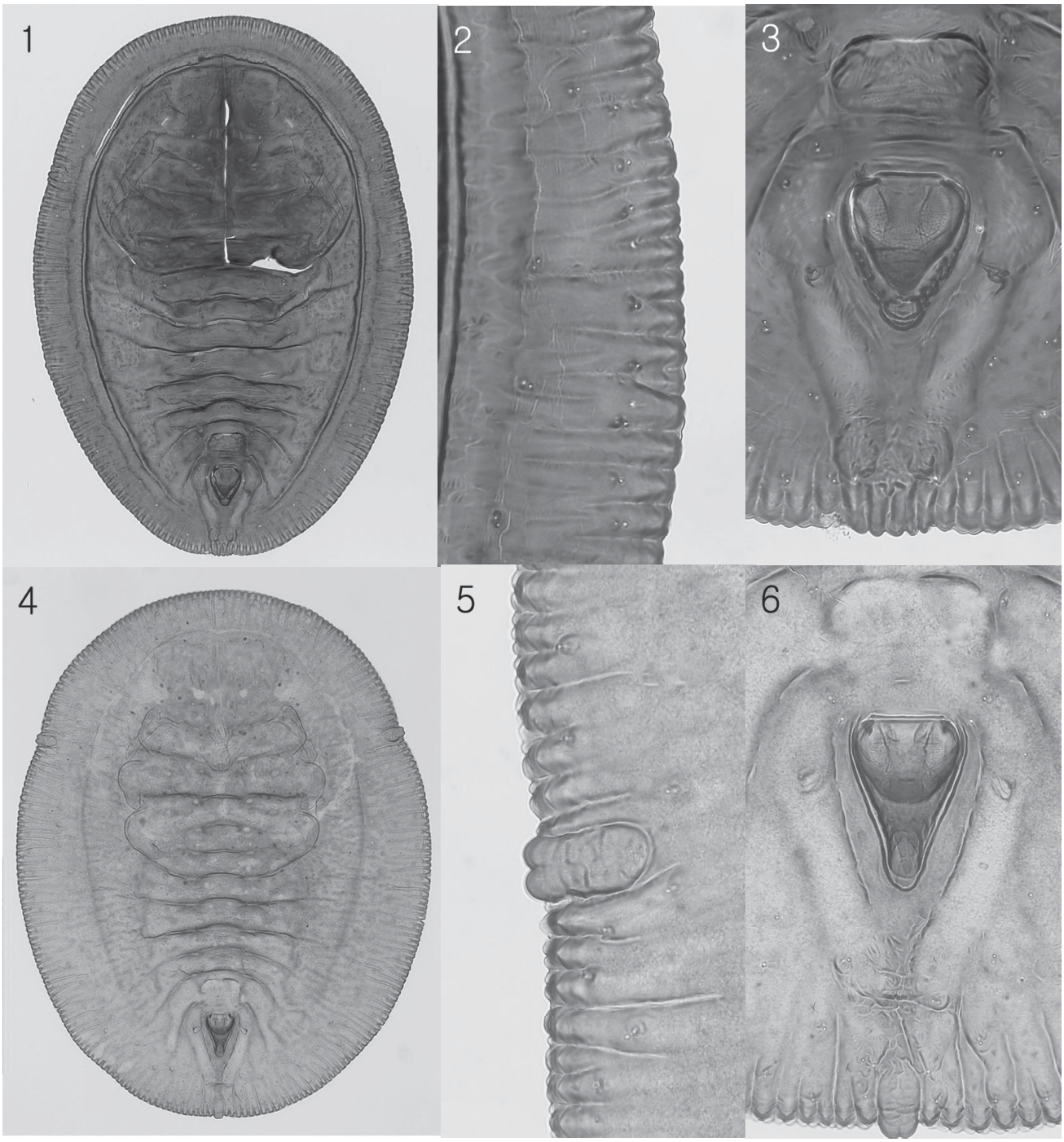
Aleurolobus vitis Danzig, 1966.

Specimens examined. Korea. Gyeonggido: Surisan, 6 puparia, on *Vitis coignetiae,* 21. IX. 2003 (S.J. Suh).

Distribution. *Korea and Russia (southern Maritime Territory).

Host plants. **Vitis coignetiae* Pulliat ex Planchon (Vitaceae). This species is also known from *Vitis amurensis* in Russia (Danzig, 1966).

3. *Asterobemisia takahashii* Danzig
(Figs. 7-9)



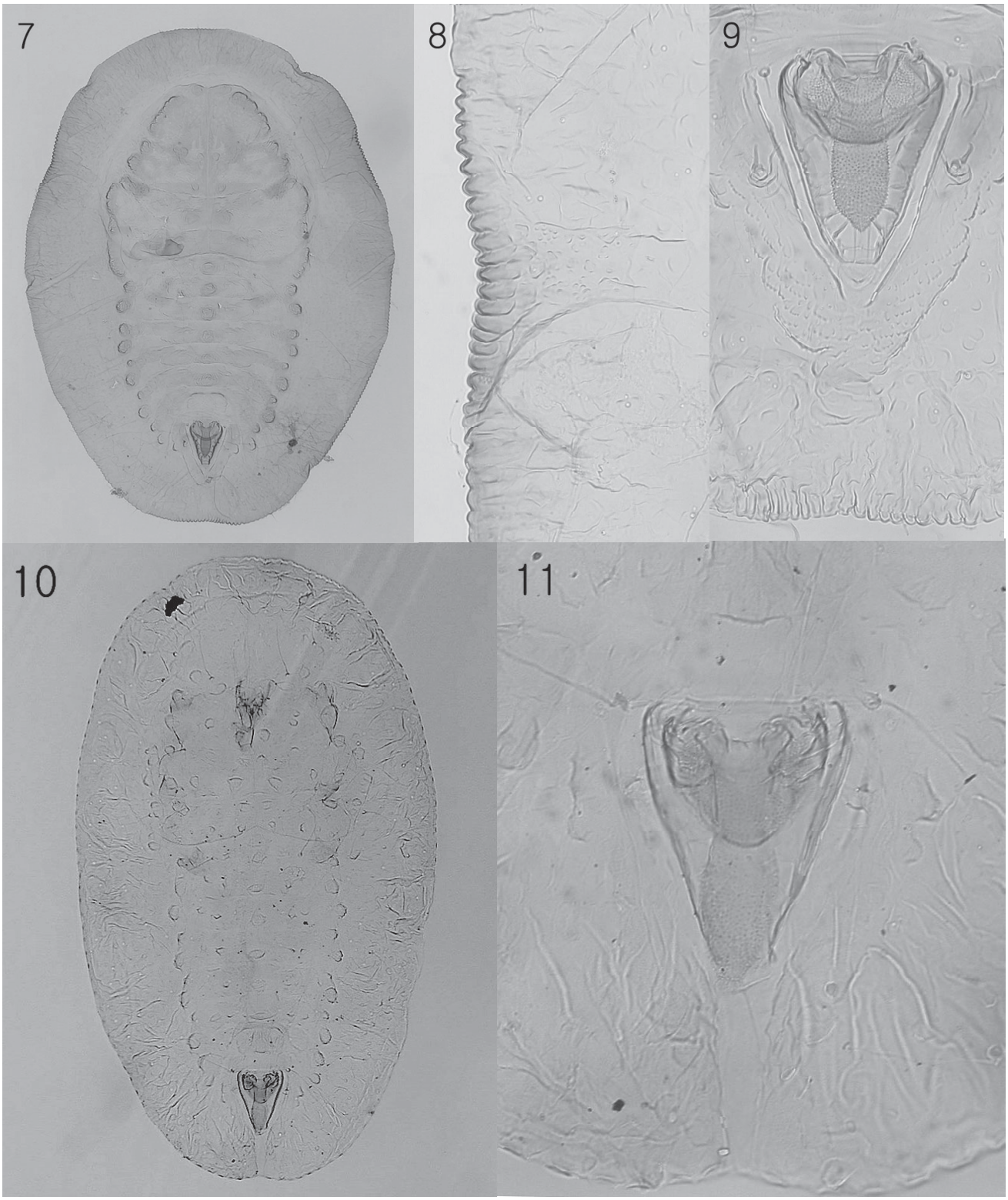
Figures 1-6. 1) *Aleurolobus iteae*, puparium; 2) *A. iteae*, margin; 3) *A. iteae*, vasiform orifice; 4) *Aleurolobus vitis*, puparium; 5) *A. vitis*, thoracic tracheal margin: 6) *A. vitis*, vasiform orifice.

Asterobemisia takahashii Danzig, 1966.

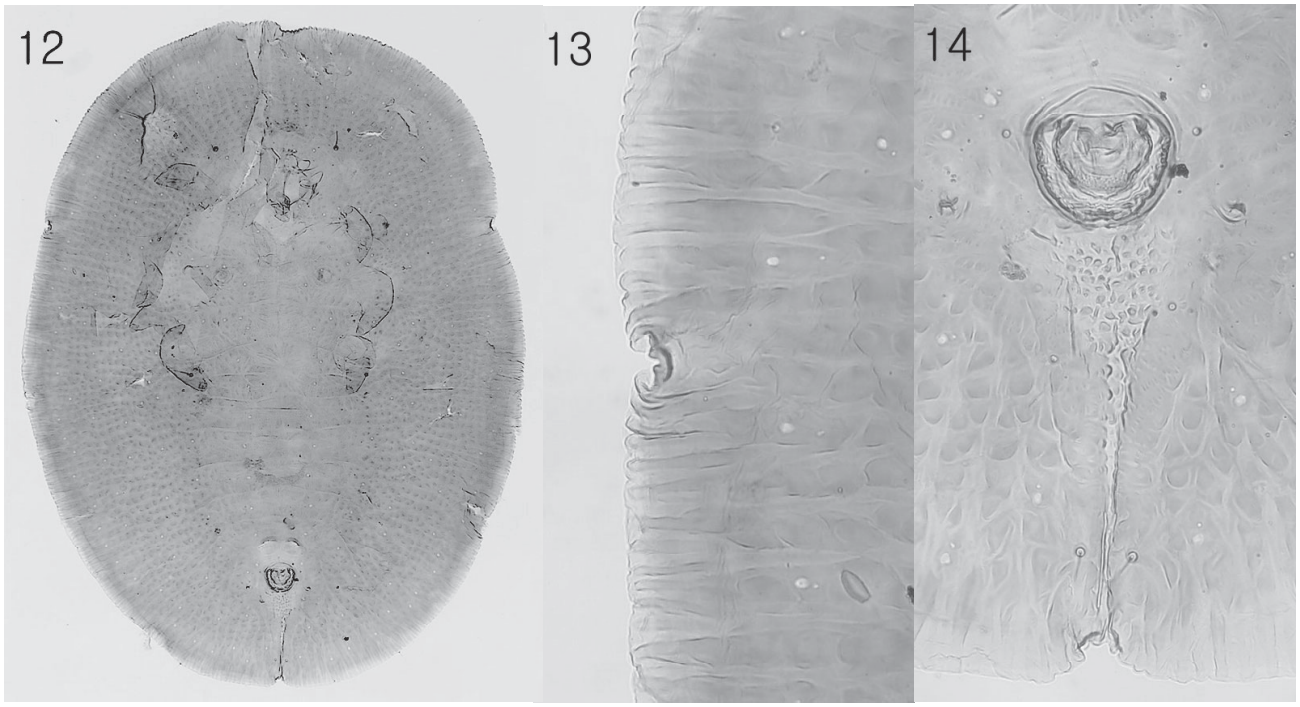
Specimens examined. Korea. Gyeonggido: Surisan, 3 puparia, on *Pueraria thunbergiana*, 21. IX. 2003 (S.J. Suh).

Distribution. *Korea and Russia (southern Maritime Territory).

Host plants. **Pueraria thunbergiana* Benth. (Leguminosae). This species was also reported on *Quercus mongolica* (Fagaceae) in Russia (Danzig 1966).



Figures 7-11. 7) *Asterobemisia takahashii*, puparium; 8) *A. takahashii*, thoracic tracheal margin; 9) *A. takahashii*, vasiform orifice; 10) *Bemisiella artemisiae*, puparium; 11) *B. artemisiae*, vasiform orifice.



Figures 12-13. 12) *Massilieurodes euryae*, puparium; 13) *M. euryae*, thoracic tracheal margin; 14) *M. euryae*, vasiform orifice.

4. *Bemisiella artemisiae* Danzig
(Figs. 10-11)

Bemisiella artemisiae Danzig, 1966.

Specimens examined. Korea. Chungcheongnam-do: Yeongi, 2 puparia, on *Artemisia princeps* var. *orientalis*, 19. VIII. 1997 (D.G. Park).

Distributions. *Korea and Russia (southern Maritime Territory, Crimea).

Host plants. **Artemisia princeps* var. *orientalis* (Pampan.) Hara (Compositae). This species was also reported on *Artemisia* sp. and *Chrysanthemum morifolium* in Russia (Danzig, 1966; Korobitsin, 1967).

5. *Massilieurodes euryae* (Takahashi)
(Figs. 12-14)

Dialeurodes euryae Takahashi, 1940.
Massilieurodes euryae (Takahashi) Jensen, 2001.

Specimens examined. Korea. Jejudo: Seongpanak, 2 puparia, on *Buxus microphylla* var. *koreana*, 24. V. 2000 (M.L. Lee).

Distribution. *Korea and Taiwan.

Host plants. **Buxus microphylla* var. *koreana* Nakai (Buxaceae). This species was also recorded on *Eurya glaberrima* (Theaceae) in Taiwan (Takahashi, 1940).

Discussion

Before the present study, only seven species of Aleyrodidae were reported as occurring in Korea; of these, *Bemisia tabaci* and *Trialeurodes vaporariorum,* the most commonly reported species, are the most prolific and widely distributed pest whiteflies. In this paper the following five species are added to the Korean whitefly fauna: *Aleurolobus iteae* Takahashi, *Aleurolobus vitis* Danzig, *Asterobemisia takahashii* Danzig, *Bemisiella artemisiae* Danzig, and *Massilieurodes euryae* (Takahashi). Additional collecting trips and examination of Aleyrodidae collections within Korea will likely result in the discovery of other species of aleyrodids occurring in Korea.

References cited

Danzig, E.M. 1966. The whiteflies (Homoptera, Aleyrodoidea) of the Southern Primor'ye (Soviet Far East). Entomologicheskoe Obozrenie 45:

364-386. [English translation in Entomological Review. Washington 45: 197-209.]

Jensen, A. 2001. A cladistic analysis of *Dialeurodes*, *Massilieurodes* and *Singhiella*, with notes and keys to the Nearctic species and descriptions of four new *Massilieurodes* species (Homoptera: Aleyrodidae). Systematic Entomology 26: 279-310.

Korobtsin, V.G. 1967. New and little known species of Aleyrodids (Homoptera, Aleyrodoidea) from Crimea. Entomologicheskoe Obozrenie 46: 857-859. [English translation in Entomological Review. Washington 46: 510-512.]

Mound, L.A., and S.H. Halsey. 1978. Whitefly of the world. 340pp. British Museum (Natural History) / John Wiley & Sons, Chichester.

Takahashi, R. 1940. Notes on the Aleyrodidae of Japan (Homoptera) VIII. Kontyu 14: 26-32.

Takahashi, R., and R. Mamet. 1957. Some Aleyrodidae from Japan (Homoptera). Insecta Matsumurana 21(12): 12-21.