

Phytoseiid Mites (Acari: Phytoseiidae) from the Pear Field of Naju District in Korea

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**나주지방의 배 과수원에서 서식하는 이리응애
(응애아강: 이리응애과)**

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ABSTRACT

Six species of the phytoseiid mites were recorded from the pear field of Naju District in Korea: *Amblyseius womersleyi*, *A. eharai*, *A. orientalis*, *A. makuwa*, *A. bakeri* and *Proprioiseiopsis nemotoi*. Of these, *A. bakeri* and *P. nemotoi* were previously unrecorded in this field, and genus *Proprioiseiopsis* is recorded for the first time in Korea.

Key words : Acari, *Amblyseius*, Korea, Naju District, pear field, Phytoseiidae, *Proprioiseiopsis*

Phytoseiid mites are predators of the plant feeding mites, tetranychids, tenuipalpids, tarsonemids, acarids, and so on. Of these, tetranychids are the most important phytophagous mites. Therefore, many phytoseiid mites are now used as biological control agents in a number of agricultural ecosystem. The existence of phytoseiid mites is affected various factors, such as species and number of the phytophagous mites, temperature, humidity, soil pH and daylight span. Tetranychids found on the pear field in Naju district are *Tetranychus urticae*, *Tetranychus kanzawai*, and *Panonychus ulmi*. Those pest mites feed on pear leaves and cause severe damages in the field (Lee and Jang 1998). The family Phytoseiidae found at a pear field in Naju district comprises 2 genera (*Amblyseius* and *Proprioiseiopsis*) and 6 species. Phytoseiid mites in the field are identified as *Amblyseius womersleyi*, *A. eharai*, *A. orientalis*, *A. makuwa*, *A. bakeri* and *Proprioiseiopsis nemotoi*. Of these, *A. bakeri* and *P. nemotoi* were previously unrecorded in this field, and genus *Proprioiseiopsis* is recorded for the first time in Korea. The female of the genus *Proprioiseiopsis* is characterized by seta J2 absent on the dorsal shield, whereas that of the genus *Amblyseius* is characterized by seta J2 present. The setal nomenclature is based on that of Rowell *et al.* (1978). All measurements are given in micrometers. Length of dorsal

shield is distance between seta j1 and J5, and width is distance between bases of the seta s4.

DESCRIPTION**Genus *Amblyseius* Berlese, 1914** 순이리응애속

The genus *Amblyseius* is characterized by having 17 pairs (j1, j3, j4, j5, j6, J2, J5, z2, z4, z5, Z1, Z4, Z5, s4, S2, S4, and S5) of setae on the dorsal shield of adult female.

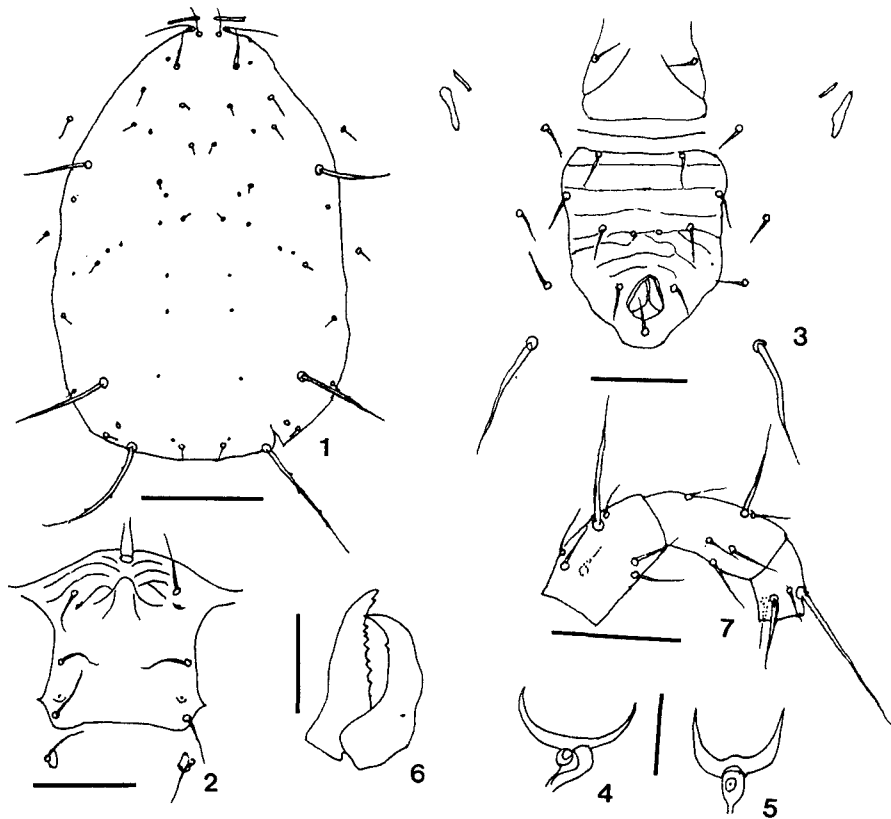
***Amblyseius womersleyi* Schicha** 긴털이리응애

Amblyseius womersleyi Schicha, 1975, p. 101, Figs. 1-9; Ryu, 1996, p. 58, Figs. 1-4.

***Amblyseius eharai* Amitai et Swirski** 긴꼬리이리응애
Amblyseius eharai Amitai et Swirski, 1981, p. 60, Figs. 1-3, 6-8, 12-13; Ryu, 1996, p. 60.

***Amblyseius orientalis* Ehara** 동양이리응애
Amblyseius orientalis Ehara, 1959, p. 291, Figs. 14-16; Ryu, 1996, p. 60.

***Amblyseius makuwa* Ehara** 알락이리응애



Figs. 1-7. *Proprioiseiopsis nemotoi* (♀). 1, dorsum of idiosoma; 2, sternal shield; 3, posterior of ventral surface; 4-5, spermatheca; 6, chelicera; 7, genu, tibia and basitarsus of leg IV. (Scales: 1 = 100 µm; 2,7 = 40 µm; 3 = 50 µm; 4,5 = 10 µm; 6 = 20 µm).

Amblyseius makuwa Ehara, 1972, p. 154, Figs. 70-74; Ryu, 1993, p.109. Figs. 77-81; Ryu, 1996, p. 60.

Amblyseius bakeri (Hughes) 나팔이리응애

Neoseiulus bakeri Hughes, 1948, p. 141, Figs. 200-206.

Amblyseius (*Amblyseius*) *bakeri* (Hughes), 1997, p. 130, Figs. 1-6.

Specimens examined. 3 ♀♀, Naju, Chonnam, 29-VII-1997 (Kim leg.) on pear.

Genus *Proprioiseiopsis* Muma, 1961 배이리응애속 (신칭)

The genus *Proprioiseiopsis* is characterized by having 16 pairs (j1, j3, j4, j5, j6, J5, z2, z4, z5, Z1, Z4, Z5, s4, S2, S4, and S5) of setae on the dorsal shield of adult female.

Proprioiseiopsis nemotoi (Ehara) 배이리응애 (신칭)

(Figs. 1-7)

Amblyseius (*Proprioiseiopsis*) *nemotoi* Ehara, 1998, p. 44, Figs. 47-54.

Female. Dorsal shield smooth; 341 long, 190 wide; at least

12 pairs of pores. Setae on dorsal shield: Z5 the longest, scarcely serrate; Z4 longer than s4; j3 longer than j1; the remaining setae much shorter, smooth. Sternal shield with posterior margin nearly concave, with 3 pairs of setae; metasternal platelets longer than wide. Ventrianal shield much longer than wide, broader than genital shield, with lateral margins scarcely concave; 3 pairs of preanal setae; a pair of crescentic pores between and behind setae JV2. Setae JV5 smooth. Two pairs of slender metapodal platelets. Spermatheca with cup-shaped cervix (Figs. 4-5). Fixed digit of chelicera with a subapical tooth and 6-7 adjacent; the movable unidentate. Peritreme extending beyond seta j1; peritrematal shield fused anteriorly with dorsal shield. Chaetotaxic formula: genu II, 2-2/1, 2/0-1; genu III, 1-2/1, 2/0-1. Leg IV with 4 tapering macrosetae, genu (1), tibia (1), and basitarsus (2). Lengths of setae. (n = 3, Mean): j1 22.1, j3 32.3, j4 5.6, j5 7.5, j6 8.0, J5 11.5, z2 16.8, z4 12.8, z5 6.1, Z1 8.5, Z4 71.3, Z5 104.7, s4 56.7, S2 9.9, S4 10.7, S5 11.2, r3 16.3, R1 11.2, JV5 68.0, macrosetae on leg IV: genu 52.3, tibia 32.0, basitarsus 61.1 and 24.3.

Male. Not known.

Specimens examined. 3 우우, Naju, Chonnam, 29-VII-1998 (Kim leg.) on pear.

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적 요

한국의 나주 지방의 배 과수원에 서식하는 이리응애는 6종이었다. 이 가운데 *A. bakeri*와 *P. nemotoi*는 이 과수원에서 처음으로 보고되며, *Proprioseiopsis*속은 한국에서 처음으로 보고되었다.

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