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Short communication

First record of the genus *Pseudoloxops* Kirkaldy (Hemiptera: Heteroptera: Miridae: Orthotylinae) from the Korean Peninsula

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ABSTRACT

A genus, *Pseudoloxops* Kirkaldy (Hemiptera: Heteroptera: Miridae: Orthotylinae), is reported from the Korean Peninsula for the first time based on two species: *Pseudoloxops miyatakei* (Miyamoto 1969) and *Pseudoloxops miyamotoi* (Yasunaga 1997). The morphological information such as diagnoses and descriptions of male genitalia are provided with the photographs and illustrations. A key to the Korean *Pseudoloxops* species is also provided.

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Introduction

The genus *Pseudoloxops* Kirkaldy, 1905 belongs to the subfamily Orthotylinae (Hemiptera: Heteroptera: Miridae) containing 41 species in the world (Schuh 2002–2013). Among the genus, 13 species are recorded in the Palaearctic Region, six species are recorded in China, and four species are recorded in Japan (Kerzhner and Josifov 1999; Aukema et al 2013). In this study, the genus *Pseudoloxops* is reported from the Korean Peninsula for the first time based on two species: *Pseudoloxops miyatakei* (Miyamoto 1969) and *Pseudoloxops miyamotoi* (Yasunaga 1997). Morphological information such as diagnoses and descriptions of male genitalia are provided with the photographs and illustrations. A key to the *Pseudoloxops* species from Korea is also provided.

Materials and methods

All measurements are given in millimeters (mm). Terminology mainly follows Yasunaga (1991) and Braimah et al (1982). The depository for specimens is the Laboratory of Systematic Entomology,

Chungnam National University (CNU), Daejeon, Korea. Distribution with an asterisk means it is a new record in this area.

Taxonomic accounts

Genus *Pseudoloxops* Kirkaldy, 1905 홍색들장님노린재속 (신칭)
Pseudoloxops Kirkaldy, 1905: 268. Type species: *Pseudoloxops coccineus* Meyer–Dür, 1843.
Aretas Distant, 1909: 450.
Zonodorellus Poppius, 1915: 68.

Diagnosis. Recognized by the body which is generally reddish pale brown, especially covered with densely long pubescences with brownish markings; frons anteriorly prominent in the dorsal view (Figures 1A and 1B) (see Yasunaga 1999 for details).

***Pseudoloxops miyatakei* Miyamoto, 1969** 홍색들장님노린재 (신칭) (Figures 1A and 2)
Pseudoloxops miyatakei Miyamoto, 1969: 75; Yasunaga, 1997: 12; Yasunaga, 1999: 175.

Diagnosis. Recognized by the body which is almost reddish brown with uniformly distributed dark spots; frons pointed in dorsal view; femur entirely yellowish brown (Figure 1A); left parame with wide sensory lobe (Figure 2A), vesica with three branched spicules (Figure 2C).

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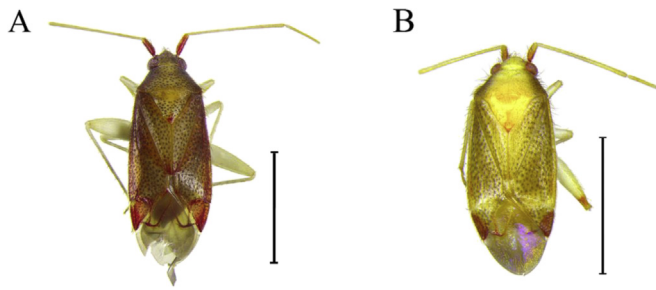


Figure 1. Dorsal habitus of female of *Pseudoloxops* spp: A, *Pseudoloxops miyatakei*; B, *P. miyamotoi*. <scale bar: 2.0 mm>

Description. Male: see Miyamoto (1969) for original description in detail. Female: as in male (see Yasunaga 1997).

Male genitalia. Genital segment rounded with asymmetric parameres (Figures 2A and 2B); left paramere with wide sensory lobe and narrow hypophysis, sensory lobe with sharp process and with erect setae (Figure 2A); right paramere with narrow sensory lobe and flat hypophysis, with setae (Figure 2B); vesica sclerotized with three branched spicules (Figure 2C).

Measurements (mm). Male ($n = 1$)/female ($n = 1$) Body length, tylus–apex of membrane: 4.18/3.90; head length, excluding collar: 0.31/0.27; head width, including compound eyes: 0.77/0.73; vertex width: 0.36/0.38; first antennal segment length: 0.40/0.35; second antennal segment length: 1.90/1.73; third antennal segment length: 0.72/0.68; fourth antennal segment length: 0.41/0.49; total antennal length: 3.43/3.25; first rostral segment length: 0.39/0.33; second rostral segment length: 0.33/0.34; third rostral segment

length: 0.35/0.35; fourth rostral segment length: 0.45/0.40; total rostral length: 1.52/1.42; anterior pronotal margin width (straight): 0.60/0.58; mesal pronotal length: 0.54/0.41; basal pronotal maximal width (straight): 1.29/1.18; anterior scutellum width: 0.90/0.80; mesal scutellum length: 0.69/0.62; outer embolial margin length (straight): 2.13/2.02; outer cuneal margin length (straight): 0.59/0.56; maximal width across hemelytron: 0.80/0.71; foreleg (femur: tibia: tarsus): 0.77:1.02:0.27/0.85:0.92:0.34; midleg (femur: tibia: tarsus): 0.98:1.26:0.30/1.00:1.14:0.35; hindleg (femur: tibia: tarsus): 1.58:2.27:0.38/1.46:1.90:0.43.

Material examined. CNU 1♀, Sinwol-ri, Dongsang-myeon, Wanju-gun, Jeollabuk-do, Korea, 4.viii.2014, by light trap, JG Kim; CNU 1♂, Geumcheon-ri, Daab-myeon, Gwangyang-si, Jeollanam-do, Korea, by light trap, 9.x.2015, WG Kim.

Distribution. Korea *(new record), Japan.

Remarks. This species has been attracted to the light trap (Yasunaga 1999).

***Pseudoloxops miyamotoi* Yasunaga, 1997** 다리홍점들장님노린재 (신칭)

(Figures 1B and 3)

Pseudoloxops miyamotoi, Yasunaga 1997: 15; Yasunaga 1999: 175.

Diagnosis. Recognized by the body which is generally reddish brown; frons rounded in dorsal view; hemelytra with distinct dark spots; hindfemur notable reddish spot at apex (Figure 1B); left paramere with narrow sensory lobe with one precess, hypophysis tapered at apex (Figure 3A), vesica with one wide spicule (Figure 3C).



Figure 2. Male parameres and genitalia of *Pseudoloxops miyatakei*: A, left paramere in dorsal view; B, right paramere in dorsal view; C, vesica. <scale bar: 0.2 mm>

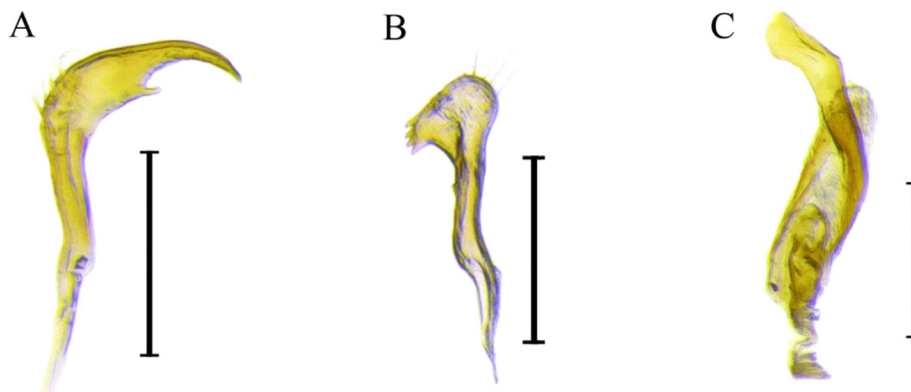


Figure 3. Male parameres and genitalia of *Pseudoloxops miyamotoi*: A, left paramere in dorsal view; B, right paramere in dorsal view; C, vesica. <scale bar: 0.2 mm>

Description. Male: see Yasunaga (1997) for original description in detail. Female: as in male (see Yasunaga 1997).

Male genitalia. genital segment rounded with asymmetric parameres (Figures 3A and 3B); left paramere with narrow sensory lobe and narrow hypophysis, sensory lobe with one process, hypophysis tapered at apex (Figure 3A); right paramere with narrow sensory lobe and somewhat broadened hypophysis with some tooth-like projections (Figure 3B); vesica sclerotized with one wide spicule, not branched (Figure 3C).

Measurements (mm). Male ($n = 1$)/female ($n = 1$) Body length, tylus–apex of membrane: 3.08/3.18; head length, excluding collar: 0.26/0.30; head width, including compound eyes: 0.70/0.69; vertex width: 0.31/0.37; first antennal segment length: 0.28/0.26; second antennal segment length: 1.46/1.39; third antennal segment length: 0.45/0.48; fourth antennal segment length: 0.39/0.40; total antennal length: 2.58/2.53; first rostral segment length: 0.25/0.29; second rostral segment length: 0.31/0.31; third rostral segment length: 0.26/0.28; fourth rostral segment length: 0.29/0.36; total rostral length: 1.11/1.24; anterior pronotal margin width (straight): 0.32/0.41; mesal pronotal length: 0.41/0.42; basal pronotal maximal width (straight): 1.06/1.04; anterior scutellumal width: 0.45/0.45; mesal scutellumal length: 0.56/0.79; outer embolial margin length (straight): 1.58/1.57; outer cuneal margin length (straight): 0.45/0.43; maximal width across hemelytron: 0.66/0.70; foreleg (femur: tibia: tarsus): 0.59:0.72:0.23/0.63:0.67:0.25; midleg (femur: tibia: tarsus): 0.79:0.97:0.24/0.75:0.97:0.26; hindleg (femur: tibia: tarsus): 1.20:1.71:0.31/1.21:1.73:0.34.

Material examined. CNU 1♀, Gung-dong, Yuseong-gu, Daejeon, Korea, 31.vii.2015, by light trap, HD Lee; CNU 1♂, Gung-dong, Yuseong-gu, Daejeon, Korea, 12.viii.2015, by light trap, JG Kim.

Distribution. Korea *(new record), Japan.

Remarks. This species has been attracted to the light trap, and it is associated strictly with *Quercus acutissima* Carruthers (Yasunaga 1997).

Key to *Pseudoloxops* species from Korea

1. Frons pointed in dorsal view; hindfemur without any spot; sensory lobe of left paramere wide; vesica with three branched

spicules; *P. miyatakei*. Frons rounded in dorsal view; hindfemur with reddish spot at apex; sensory lobe of left paramere narrow; vesica with one wide spicule: *P. miyamotoi*

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