



First record of the plant bug genus *Ulmica* Kerzhner (Heteroptera: Miridae: Orthotylinae) from Korea, with one new species

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ABSTRACT

The orthotyline plant bug genus *Ulmica* Kerzhner, 1988 is reported from Korean peninsula for the first time, based on finding of the second congener that is herein described as *Ulmica yasunagai* sp. nov. Morphological diagnosis for the genus is provided, dorsal habitus, female and male genital structure of *U. yasunagai* are also suggested and figured to distinguish it unequivocally from the other known species, *Ulmica baicalica* (Kulik). urn:lsid:zoobank.org:pub:94307D23-A84B-4FD9-B73B-E2C8904E37C7

Introduction

The genus *Ulmica* Kerzhner, 1988 is monotypic taxon containing only one species, *U. baicalica* (Kulik). Kerzhner (1988b) reclassified *Malacocoris baicalicus* Kulik to this monotypic genus based on some distinguishable characters (e.g. antennae and legs with black pattern, dorsum with scale-like setae and genital structure difference). To this day, no additional species has been described for this little known genus after first report.

In this paper, genus *Ulmica* newly recognized from Korea with one new species, *U. yasunagai* sp. nov. Morphological diagnosis is provided, with the dorsal habitus and male genital structure. The dorsal habitus and genitalia of both sexes are figured for new species. A key to the two *Ulmica* species is also provided to aid in their identification.

Material and methods

All type specimens are deposited in the collection of Insect Biosystematics Laboratory, Research Institute for Agriculture and Life Science, Seoul National University, Korea (SNU). Digital images of external characteristics were taken with a Canon EOS 70D, with a Canon MP-E 65 mm F2.8 1–5 × macro lens. Genital structures were dissected and observed under a Leica DM 4000B microscope, and images were taken using a digital camera combined with the microscope (Lumenera Infinity 3). All measurements (mean and range) are provided in millimeters.

Terminology used to indicate the male and female genitalic

structures follows Yasunaga (1999), Yasunaga and Duwal (2017), and indicated with the following abbreviations: Male: HP: hypophysis; PT: phalotheca; SI, SII: sclerite I, II; SL: sensory lobe. Female: DLP: dorsal labiate plate; IRL: interramal lobe; RMS: ramus; SCR: sclerotized ring.

Taxonomy

Genus Ulmica Kerzhner, 1988

Ulmica Kerzhner 1988b: 48 (gen. Nov.). Type species: *Malacocoris baicalicus* Kulik 1965, monotypic; Schuh 1995: 203 (catalog); Kerzhner and Josifov 1999: 275 (catalog); Schuh 2002–2014: (web catalog); Liu and Zheng, 2014: 205 (diagnosis, key).

Diagnosis

Ulmica can be recognized by the following characters: Body length 3.4–5.4, dorsum pubescent and greenish; head, pronotum and scutellum covered with pale setae; hemelytra covered with dark, suberect setae and silvery scale-like setae (in *U. baicalica*) or covered with suberect, pale setae (in *U. yasunagai*); antennae and legs with a black stripe pattern; head vertical, short; posterior part of head becoming narrow toward the neck; antennae and legs slender; metafemur more or less flattened; male endosoma with two serrate sclerites; left paramere scythe-shaped, basal part of sensory lobe with small protuberance; right paramere elongate, tapered basally; sensory lobe with small, or rather developed spinous structure; sclerotized ring ovoid; interramal lobe (IRL) of posterior wall developed. For more diagnostic characters and

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figures, see Kerzhner (1988a, 1988b) and Liu & Zheng (2014).

Distribution

Korea (New record), China, Mongolia, Russia (Far East).

Biology

On deciduous plant; known host plants are *Ulmus pumila* (Ulmaceae) (Kerzhner 1988b) and *Morus alba* (Moraceae). In this research, we observed *U. yasunagai* co-occurred with many adults and immatures of mulberry psyllids, *Anomoneura mori* Schwarz (Sternorrhyncha: Psyllidae). Based on this observation, the members of *Ulmica* are presumed to be predaceous.

Discussion

In Korea, genus *Zanchius* is superficially similar in general appearance to *Ulmica*, from which can be distinguished by suggested diagnostic characters above. Also, genital structure of *Zanchius* shows following differences: endosomal sclerites and lobes not fully sclerotized; all endosomal sclerites or more than one endosomal sclerite without serration; sensory lobe of left paramere with small basal protrusion; sensory lobe of right paramere without small, or rather developed spinous structure, often with small pointed-end or rounded protrusion; dorsal labiate plate rather developed, partly overlapped with sclerotized ring (Fig. 4A); interramal lobe comparatively more elongated, diverging apically (Fig. 4B, D); apex of valvula I more pointed (Fig. 4C). For more diagnostic characters and figures for genus *Zanchius*, see Kerzhner (1988a), Liu and Zheng, 2014, Linnavuori (1994) and Yasunaga (1999).

Ulmica yasunagai Oh & Lee, *sp. nov.*

(Figs. 1A–D; 2A–H; 3A–E)

Diagnosis

Recognized by its small, elongate oval body; basic coloration greenish (Fig. 1C–D), sometimes fading to yellowish green (Fig. 1A–B);

two wide, horizontal greenish markings on hemelytra; dorsum moderately covered with long, suberect pale setae, lacking scale-like setae (Figs. 1A–D). Male genitalia as in Figs. 2A–H; endosomal sclerite I serrate and rather elongated apically, with one long horn-like structure medially; endosomal sclerite II elongated and weakly curved, without lateral structure; right paramere straight and tapering basally, protuberance with teeth relatively small, not broadly developed. Female genitalia as in Figs. 3A–E; sclerotized ring ovoid, interramal lobe rather developed.

Description

Male. Body elongated oval, 3.4–3.8

Coloration. Body yellowish green to blueish green; Head greenish; frons greenish; clypeus green. Antennae dark brown; antennal segment I green, posterior half and extreme base with two dark markings; segment II blackish brown; segment III, IV and median part of segment II dark brown; extreme base of segment II, III pale. Labium green, often pale brown; apical part of segment IV darkened. Pronotum unicolorously greenish. Scutellum greenish, rarely tinged with brown. Hemelytra weakly shining, yellowish green to blueish green; basal 1/5, apical 1/8 and median part of hemelytra narrowly pale, semitransparent; cuneus yellowish green to blueish green, outer margin bright green; inner part of cuneus sparsely covered with green, mottled small patterns; membrane pale grey, outer margin dark brown; vein tinged with green, inner and outer margin partly tinged with brown. Legs pale green to bright green, partly darkened; metafemur pale green, thick blackish stripe at apical half; protibia and midtibia greenish, metatibiae blackish brown except narrowly pale subbasal part; all extreme base of tibiae blackish brown; tibial spines pale; tarsi dark brown, apical half of tarsomeres III darkened. Abdomen green, partly tinged with bright green

Surface and vestiture. Dorsal surface weakly shining, covered with long, suberect setae. Head rather matte, sparsely covered with long, suberect pale setae; frons smooth; Antennae densely covered with short, pale

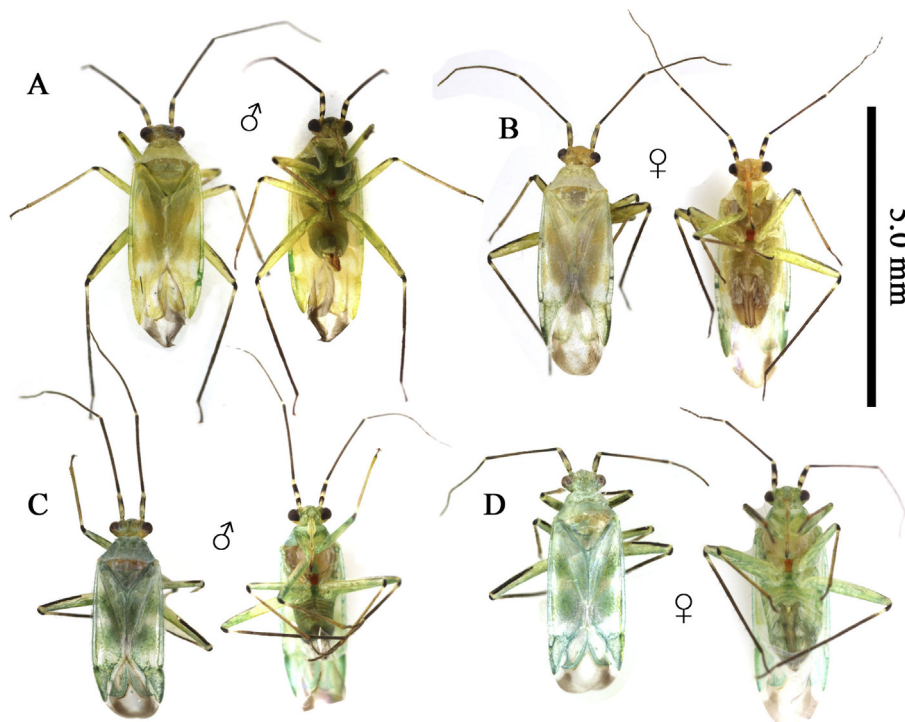


Fig. 1. – Dorsal and ventral habitus of *Ulmica yasunagai* sp. nov. (A, C: Male; B, D: Female)

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