

# Classification of the leafhopper genus *Macropsis* Lewis from Korea (Homoptera: Cicadellidae)

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## Abstract

Until now, a total of 8 species of the genus *Macropsis* Lewis, 1834, including the reconfirmation of *M. illota* (Horváth, 1899), are listed in the Korean fauna by the present authors (2021, 2022). During the continuous taxonomic survey on the leafhoppers in Korean peninsula, the authors have found further 7 unknown species new to science, and discovered 3 newly recorded species: *Macropsis costalis* (Matsumura, 1911), *M. irenae* (Viraktamath, 1912) and *M. jozankeana* (Matsumura, 1912).

Thus, a total of 18 species of the genus *Macropsis* are known to be occurred in Korea. Descriptions and illustrations of morphological features of these newly added taxa, and the revised key to the Korean species of the genus *Macropsis* are provided respectively.

**Key words:** Hemiptera, Auchenorrhyncha, Macropsini, taxonomy, identification, new species.

## Introduction

The leafhopper genus *Macropsis* Lewis (Homoptera: Cicadellidae), is one of the largest and most difficult taxonomic groups among the family Cicadellidae in the Northern Hemisphere. It includes four subgenera and about 235 known species. Many included species are superficially similar not only in external appearance but also in the shape of male genital structures, which has led to confusion. More recent authors have noted the importance of the dorsal and ventral internal apodemes at the base of the male abdomen, structures associated with acoustic communication, as characters for species identification. Recently Tishechkin (2002) extensively surveyed the acoustic behaviour and courtship in this group, which has led not only to recognition of various cryptic species and species complexes but also to the synonymies of some taxa previously treated as valid species. More behavioral study of live individuals will, therefore, be essential to validate morphology-based taxonomy in Macropsini. Study of acoustic behavior was not attempted in the present study and is currently impractical for routine species identification. Nevertheless, the included species, recognized based on morphology, are considered to be sufficiently distinctive that they can be diagnosed by morphology alone.

Previously, *Macropsis illota* (Horváth, 1899) had been listed in the Korean fauna since Nast (1972), without detailed information on the neither domestic localities or voucher material. It was excluded from the Korean inventory by the authors (2021), based on the examination of previously identified specimens that revealed only superficial resemblance to allied species. However, the authors have found the present species dwelling on Siberian elm trees (*Ulmus pumila*) in Central Korea, during the course of taxonomic survey on the leafhoppers in Korean peninsula. Thus, a total of 8 species of the genus *Macropsis* Lewis, 1834, are known to be occurred in Korea.

## Systematics

### Checklist of species of genus *Macropsis* Lewis, 1834 from Korea

Family Cicadellidae

Subfamily Macropsinae Evans, 1935

Genus *Macropsis* Lewis, 1834

1. *Macropsis costalis* (Matsumura, 1911)

2. *Macropsis flavida* Vilbaste, 1980

3. *Macropsis illota* (Horváth, 1899)

4. *Macropsis irenae* (Viraktamath, 1912), (new record)

5. *Macropsis jozankeana* (Matsumura, 1912), (new record)

6. *Macropsis koreana* Kwon *et al*, 2021

7. *Macropsis leporina* Tishechkin, 1997

8. *Macropsis matsumurana* (China, 1925)

9. *Macropsis notata* (Prohaska, 1923)

10. *Macropsis perpetua* Tishechkin, 1996

11. *Macropsis sophieae* Kwon *et al*, 2021

12. *Macropsis* sp. n.10 sp. nov.

13. *Macropsis* sp. n.11 sp. nov.

14. *Macropsis* sp. n.12 sp. nov.

15. *Macropsis* sp. n.13 sp. nov.

16. *Macropsis* sp. n.16 sp. nov.

17. *Macropsis* sp. n.17 sp. nov.

18. *Macropsis* sp. n.18 sp. nov.

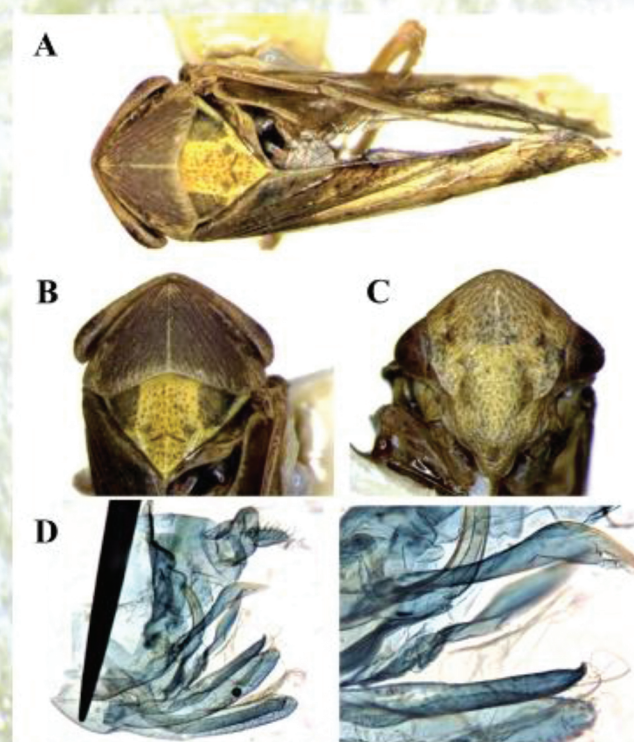


Fig. 1. *Macropsis* sp. n.10. A: adult, B: head, C: face, D: male genitalia in lateral view, E: pygofer and style.

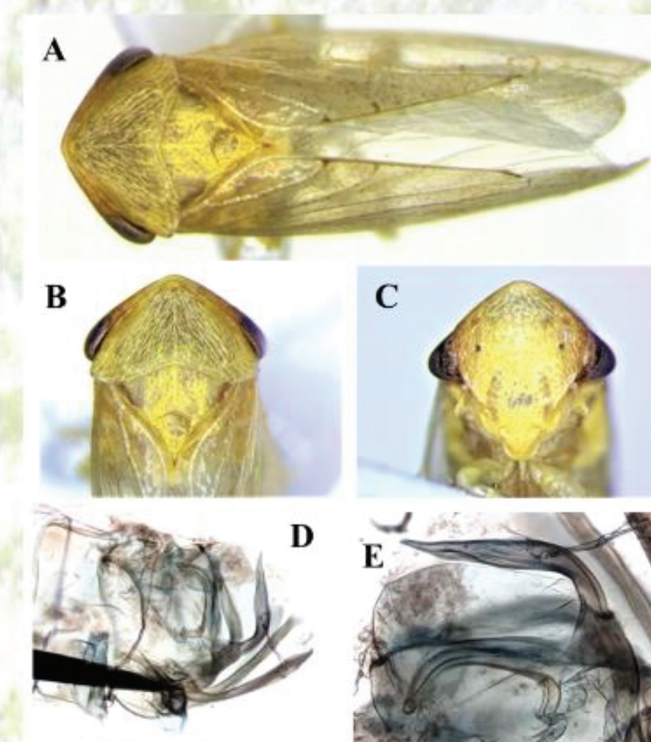


Fig. 2. *Macropsis* sp. n.11. A: adult, B: head, C: face, D: male genitalia in lateral view, E: aedeagus in lateral view.

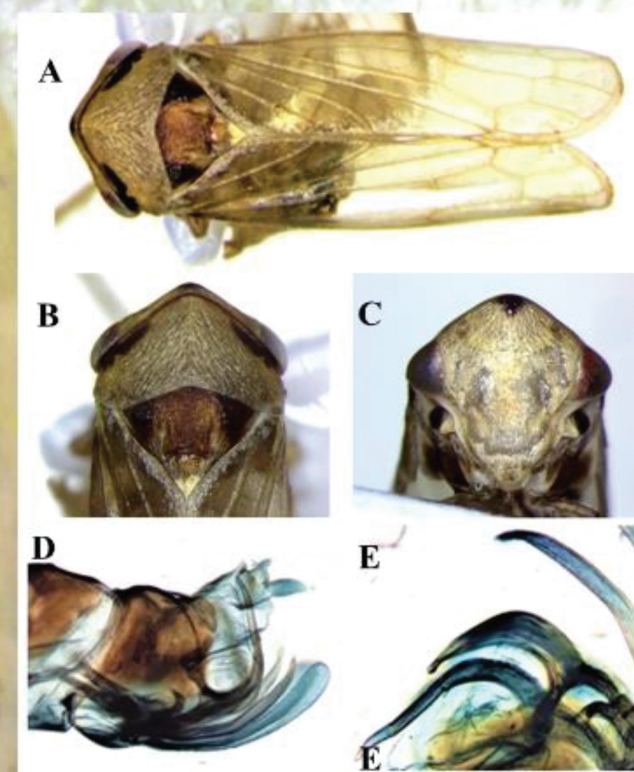


Fig. 3. *Macropsis* sp. n.12. A: adult, B: head, C: face, D: male genitalia in lateral view, E: aedeagus in lateral view.

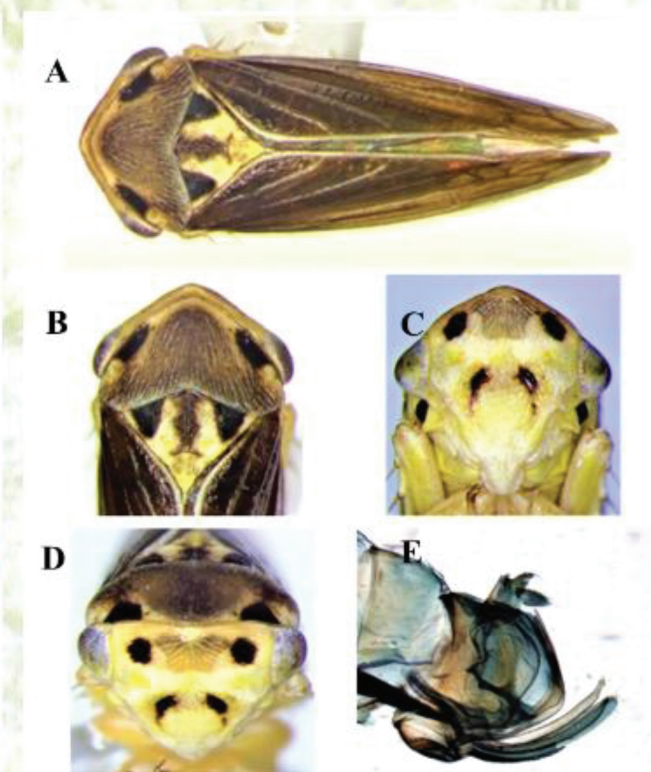


Fig. 4. *Macropsis* sp. n.13. A: adult, B: head, C: face, D: head in anterior, E: male genitalia in lateral view.

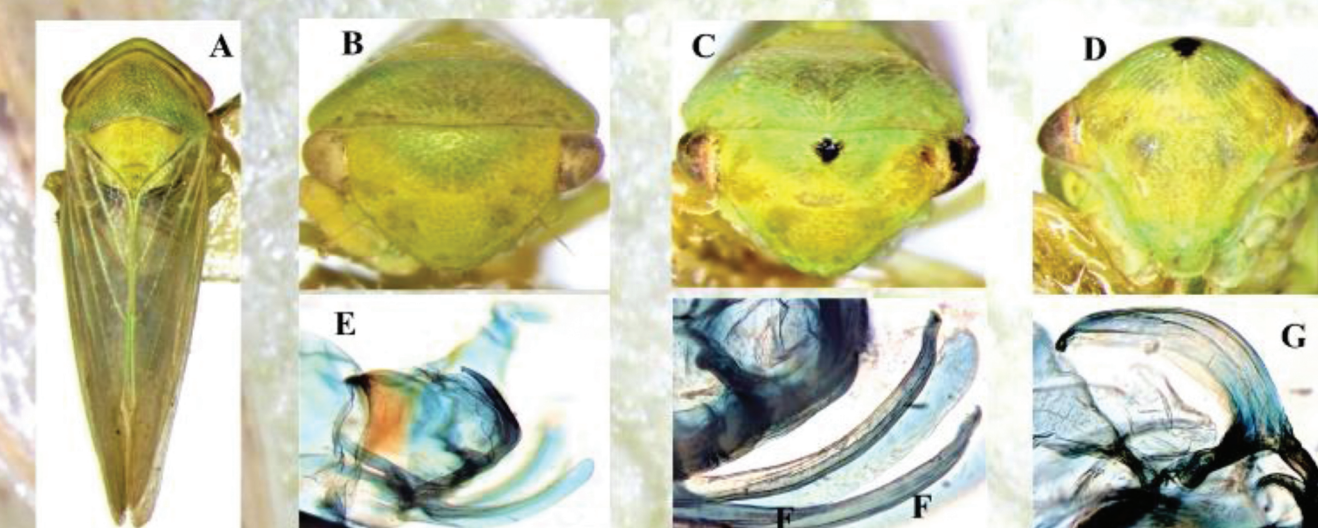


Fig. 5. *Macropsis* sp. n.16. A: adult, B: head in anterior, C: face, D: head in anterior, E: male genitalia in lateral view, F: style, G: aedeagus in lateral view.

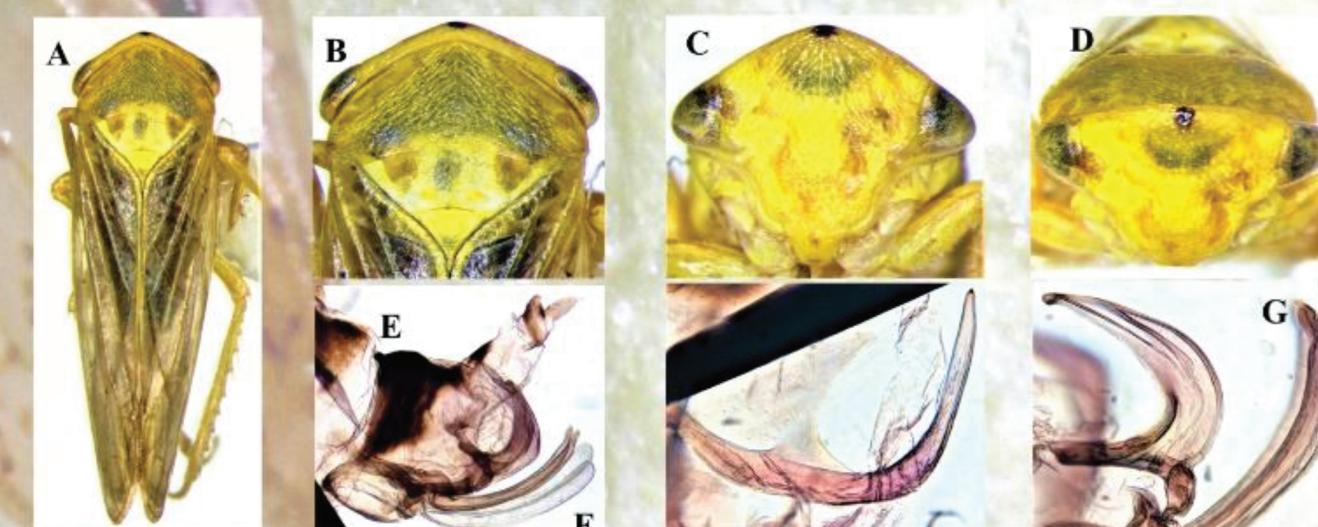


Fig. 6. *Macropsis* sp. n.17. A: adult, B: head, C: face, D: head in anterior, E: male genitalia in lateral view, F: pygofer, G: style, aedeagus.

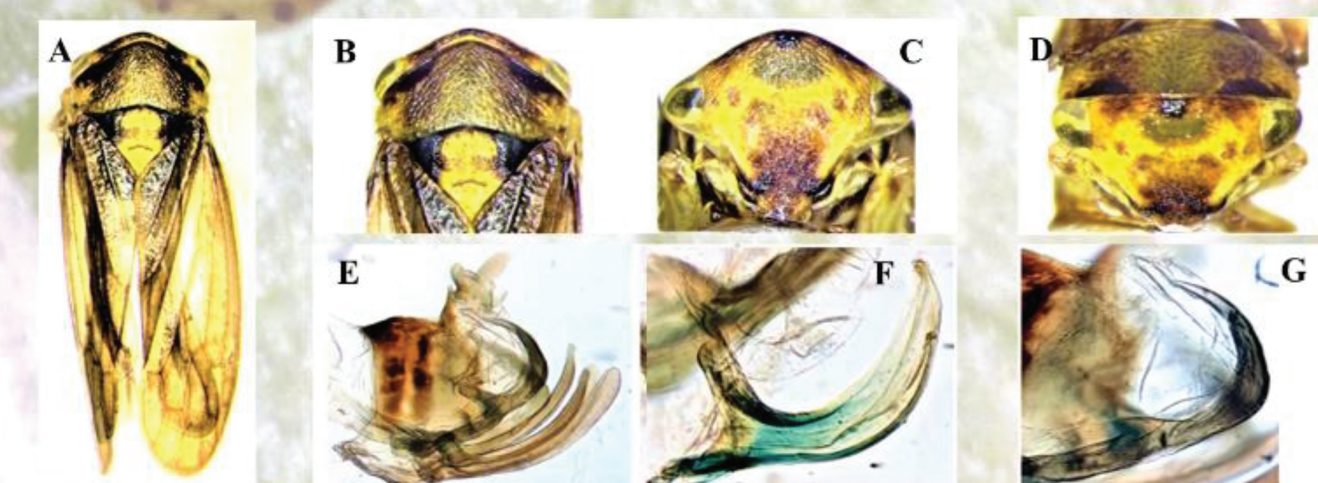


Fig. 7. *Macropsis* sp. n.18. A: adult, B: head, C: face, D: head in anterior, E: male genitalia in lateral view, F: aedeagus, G: pygofer process.