

Contributions to the knowledge of the three new genera of the microleafhopper tribe Empoascini from Korea (Homoptera: Cicadellidae: Typhlocybinae)

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Abstract

A total of 14 genera of the typhlocybinae microleafhoppers comprising the tribe Empoascini have been known from Korean peninsula, since Hossain's Ph.D. thesis (2018). As the continuous taxonomic survey on the subfamily Typhlocybinae in Korea, the authors have found further 3 genera unknown so far, based on each nominate species new to science: *Sarahempoa sarahae* gen. et sp. nov., *Yudalempoa yudalsana* gen. et sp. nov., and *Yunaempoa yunae* gen. et sp. nov. Descriptions and illustrations of morphological features of the present new taxa and keys to the Korean genera of the tribe Empoascini are provided respectively.

Key words: Hemiptera, Auchenorrhyncha, Typhlocybinae, taxonomy, identification, new genus.

Introduction

The microleafhopper tribe Empoascini is a large group among the subfamily Typhlocybinae. In his comprehensive review of New World Typhlocybinae, Young (1952) treated Empoascini as a junior synonym of Typhlocybini, but Mahmood & Ahmed (1968) included the genera of *Empoasca* complex in the tribe Empoascini.

After then, Dworakowska (1979) further refined the definition of Empoascini to accommodate genera lacking an appendix of the forewings and having the submarginal vein in the hindwings reaching but not exceeding the vein RP+MP' or RP (Dworakowska, 1979).

Dietrich (2013) adopted the classification of Ahmed (1983), which recognizes 5 tribes in the subfamily and distinguishes Empoascini from other leafhoppers in the subfamily by the absence of an appendix on the forewings and in having the submarginal vein between apices of veins MP' or RP+MP' and MP'+CuA' in the hindwings. For a representative survey on this group, Kwon & Huh (2001) revised and made a checklist of Auchenorrhyncha from Korea and reported 12 genera to be occurred in Korea. As a taxonomic survey on the Typhlocybinae species from Korea, Hossain, one of the authors, added further two genera for the first time from Korea in his Ph.D. thesis (2018): *Apheliona* Kirkaldy, 1907 and *Ghauriana* Thapa, 1985.

As the continuous taxonomic survey on the microleafhoppers in Korea, the authors have found further 3 genera unknown so far, based on each nominate species new to science: *Sarahempoa sarahae* gen. et sp. nov., *Yudalempoa yudalsana* gen. et sp. nov., and *Yunaempoa yunae* gen. et sp. nov. Thus, a total of 17 genera has been known to the Korean fauna including the above 3 new genera. Descriptions and illustrations of morphological features of the present new taxa and keys to the Korean genera of the tribe Empoascini are provided respectively.

Classification

Tribe Empoascini Distant, 1908

Type genus. *Empoasca* Walsh, 1862

Diagnosis: Ocelli well developed (except in *Paulomanus*); body not strongly depressed; face in profile oblique, not nearly horizontal. Appendix of forewings absent; hindwings submarginal vein present between apices of veins MA or RP+MA and MP.

Check list of the genera of the Tribe Empoascini from Korea

1. Genus *Alebroides* Matsumura, 1931
2. Genus *Apheliona* Kirkaldy, 1907
3. Genus *Asymmetrasca* Dlabola, 1958
4. Genus *Austroasca* Lower, 1952
5. Genus *Chlorita* Fieber, 1872
6. Genus *Dayus* Mahmood, 1967
7. Genus *Empoasca* Walsh, 1862
8. Genus *Ghauriana* Thapa, 1985
9. Genus *Helionides* Matsumura, 1931
10. Genus *Ishiharella* Dworakowska 1970
11. Genus *Jacobiasca* Dworakowska, 1972
12. Genus *Kyboasca* Zachvatkin 1953
13. Genus *Kybos* Fieber 1866
14. Genus *Schizandrasca* Anufriev 1972

15. *Sarahempoa sarahae* gen. et sp. nov.

Diagnosis: Male pygofer with ventral process elongate, roundly extended apically and forming two short dull branches; style slender and curved inwards before apex in lateral view.

16. *Yudalempoa yudalsana* gen. et sp. nov.

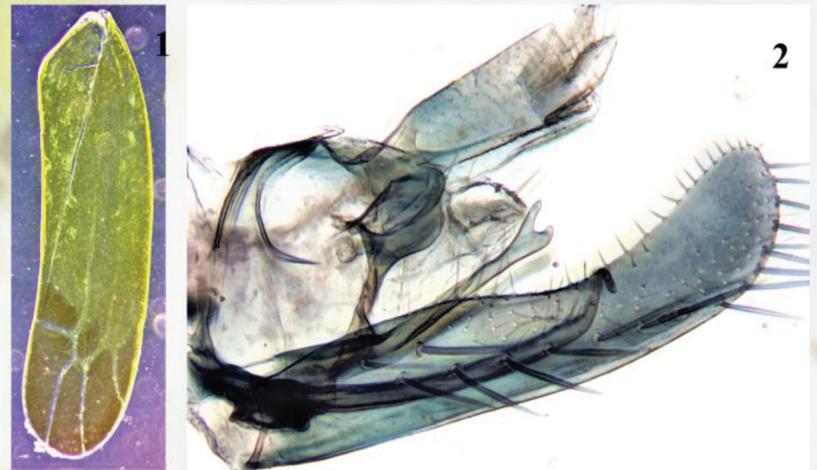
Diagnosis: Male pygofer lacking ventral process; style with apex abruptly extending to form foot-like in lateral view.

17. *Yunaempoa yunae* gen. et sp. nov.

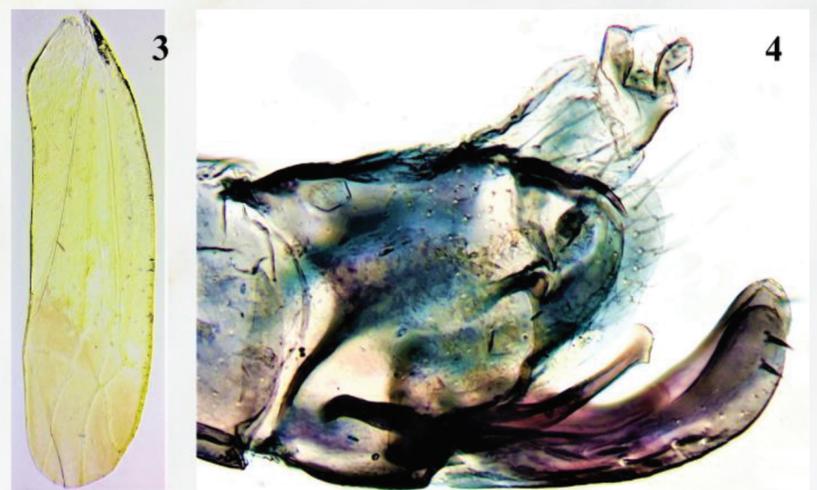
Diagnosis: Male pygofer with ventral process elongately curved, roundly terminated apically; style elongate, slender and roundly recurved downwards before apex in lateral view; aedeagus broad and flat latero-ventrally, with apex bearing a pair of short spine curved upwards.

References

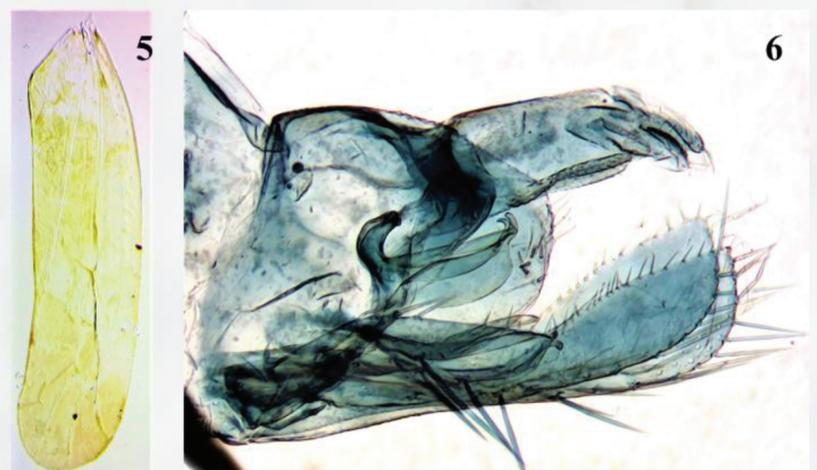
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Hossain MS (2016) Taxonomic revision of the microleafhopper subfamily Typhlocybinae from Korea (Homoptera: Cicadellidae: Typhlocybinae). Ph.D. Thesis, Kyungpook National University, 356pp.



Figs 1-2. *Sarahempoa sarahae* gen. et sp. nov.



Figs 3-4. *Yudalempoa yudalsana* gen. et sp. nov.



Figs 5-6. *Yunaempoa yunae* gen. et sp. nov.