



## Revision of the Oriental leafhopper genus *Parallygus* Melichar (Hemiptera: Cicadellidae: Deltocephalinae) with description of new species

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### Abstract

The Oriental leafhopper genus *Parallygus* Melichar is revised and redescribed based on study of its type species, *P. divaricatus* Melichar, from Sri Lanka. Based on its paired aedeagal shafts, a feature of some other tribes, it is only tentatively retained in Athysanini. Three new species, *Parallygus burmindicus* Viraktamath & Webb, **sp. nov.** (India: West Bengal, Meghalaya; Myanmar: Mishmi Hills), *P. jiuhuaensis* Dai & Zhang, **sp. nov.** (China: Anhui) and *P. rameshi* Viraktamath & Webb, **sp. nov.** (India: West Bengal) are described and illustrated together with *P. divaricatus* Melichar and *Parallygus guttatus* Matsumura **comb. reinstated** described from Taiwan. The latter species is reinstated into its original genus *Parallygus* from *Phlepsius* and is also recorded from mainland China and India (new records). A key to species is also provided.

**Key words:** Auchenorrhyncha, Cicadomorpha, taxonomy, morphology, distribution

### Introduction

For proper identification of leafhoppers (Auchenorrhyncha, Cicadellidae), external appearance needs to be supplemented by male genitalic characters. This is especially true for many species of the large subfamily Deltocephalinae. Often unrelated species of this subfamily are brought together in the same genus because of lack of information on the male genitalia structures and are erroneously placed in an unrelated tribe based on external appearance. Conversely, some similar male genitalia structures are found in unrelated taxa.

The genus *Parallygus* Melichar (1903), with *P. divaricatus* Melichar from Sri Lanka as its type species, has been traditionally placed in the tribe Athysanini (Metcalf, 1967; Oman *et al.* 1990). However, its male genitalia were unknown until the present study and therefore were unavailable for assessing the tribal placement of the genus. During our larger studies on Oriental Deltocephalinae, we discovered several specimens from India and China which externally resembled the genus *Parallygus*. To correctly place these species the type specimen of *P. divaricatus* was studied and found to match the other Oriental specimens including having an aedeagus with two shafts. This feature is characteristic of Opsiini (Emeljanov, 1962) but is also found in two other Deltocephalinae tribes, Mukariini and Scaphytopiini. It is not possible at this stage to definitely place the genus *Parallygus* to tribe as its style and subgenital plates show considerable modifications that distinguish the genus from all others. It is therefore tentatively retained in Athysanini pending further studies.

In this paper we give a revised description of the genus, describe three new species from India and China (new genus records) and re-instate *Parallygus guttatus* Matsumura from *Phlepsius* to *Parallygus*.

The material used in this study and the type specimens of the new species are deposited in the following institutions (along with abbreviations used in the text).