

## Two new species of tribe Agalliini (Hemiptera: Cicadellidae: Megophthalminae) with note on intraspecific variations

NARESH M. MESHAM<sup>1,2</sup>, STUTI RAI<sup>1</sup>, N. N. RAJGOPAL<sup>1</sup> & N. RAMYA<sup>1</sup>

<sup>1</sup>Division of Entomology, ICAR-Indian Agricultural Research Institute, New Delhi 110012, INDIA

<sup>2</sup>E-mail: nmmeshram@gmail.com

### Abstract

Two new species of leafhoppers, *Durgades sineprocessus* sp. nov. (From Himachal Pradesh: Kalpa) and *Japanagallia dolabra* sp. nov. (From Sikkim: Lachung) from India, are described and illustrated. Photographic illustrations of *Durgades aviana* Viraktamath and a detailed note on intraspecific variation in male genitalia of *Austroagallia sinuata* (Mulsant & Rey) are also provided. Material is deposited in the National Pusa Collection, Division of Entomology, Indian Council of Agricultural Research-Indian Agricultural Research Institute (ICAR-IARI), New Delhi, India.

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

### Introduction

Agalliini is one of the larger tribes belonging to subfamily Megophthalminae with 37 genera and 650 species worldwide (Oman 1949; Viraktamath 2005; Oman et al. 1990; Viraktamath 2011). This group commonly occurs on grassland mixed with broad leaved herbs in the Old World (Viraktamath et al., 2012). About 14 species of this tribe are known to transmit plant pathogenic viruses and phytoplasmas (Nielson 1979; Weintraub & Beanland 2006).

Genus *Durgades* Distant was established by Distant (1912) with type species *Durgades nigropictus* Distant. The cylindrical aedeagal shaft with apical processes bearing primary and secondary branches separate it from other genera of Agalliini (Viraktamath, 2012). Another genus *Japanagallia* Ishihara, was erected with the type-species *Agallia pteridis*. This genus closely resembles *Igernia* but differs in having one or two claval cross veins and dorsal pygofer spines or processes (Viraktamath et al., 2012). *Austroagallia sinuata* (Mulsant & Rey) is a cosmopolitan species found in the southern Palaearctic, Afrotropical and Western Oriental and Neotropical regions (Viraktamath, 2011). It has a wide host range including economically important plants, viz., *Ipomoea pes-caprae* Linn., *Vigna sinensis* (Linn.), *Aristida scensionis* Linn., *Cynodon dactylon*, *Sorghum helepense* (Linn.) Pers., *Arachis hypogaea* Linn., *Fagonia cretica*, *Medicagos ativa*, *Zea mays* Linn., *Solanum tuberosum* Linn., *Spinacea oleracea* Linn., *Beta vulgaris* Linn. var. *rapa* Dum., *Crotalaria juncea* (Linn.) (Viraktamath, 2011). To date, these genera include the following numbers of described species from the Oriental and Australian regions, excluding the species described here: *Austroagallia*, 9 species; *Durgades*, 10 species; *Japanagallia*, 18 species (Viraktamath, 2011).

Recent explorations of the high altitude regions of Himachal Pradesh and Sikkim, India yielded series of specimens of Agalliini. This led to discovery of two new species *Durgades sineprocessus* sp. nov. and *Japanagallia dolabra* sp. nov., described here, along with photographic illustrations of the previously described *D. aviana* Viraktamath and notes on the intraspecific variation in *A. sinuata*.

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### Material and methods

The terminology follows Viraktamath (2011). Photographs were taken with a Leica DFC 425C digital camera on the Leica M205FA stereozoom automontage microscope. Male genitalia dissections were carried out as described