



Review of the genus *Cystomutilla* André, 1896 (Hymenoptera: Mutillidae: Sphaerophthalminae: Sphaerophthalmini), with description of the new genus *Hemutilla* gen. nov. and four new species from China

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Abstract

The species of the genus *Cystomutilla* André, 1896 are reviewed. A new genus *Hemutilla* Lelej, Tu et Chen, **gen. nov.** (type species *Hemutilla granulata* Tu, Lelej et Chen, **sp. nov.**) and four new species: *H. tuberculata* Tu, Lelej et Chen, **sp. nov.** (China: Henan, Shaanxi), *H. ferrugineipes* Tu, Lelej et Chen, **sp. nov.** (China: Hunan), *H. granulata* Tu, Lelej et Chen, **sp. nov.** (China: Zhejiang), and *H. cheni* Tu et Lelej, **sp. nov.** (China: Fujian) are described and illustrated. New combinations are proposed for *Hemutilla hoozana* (Zavattari, 1913), **comb. nov.** and *H. bifurcata* (Chen, 1957), **comb. nov.** A key to males and females of two species of *Cystomutilla* André and six species of *Hemutilla* **gen. nov.** is given.

Key words: Mutillidae, velvet ants, *Cystomutilla*, *Hemutilla*, new genus, new species, China

Introduction

The family Mutillidae currently includes 210 genera and about 4300 described species (Lelej 2007; Lelej & Brothers 2008; Aguiar *et al.* 2013). In the Palaearctic region 523 species in 58 genera and in the Oriental region 637 species in 64 genera are reported (Lelej 2002, updated; Lelej 2005); 148 species in 32 genera are recorded from China alone (Lelej 2002, 2005). The velvet-ant fauna of China includes both Palaearctic (north of 30°N) and Oriental (south of 30°N) taxa. Because of their extreme sexual dimorphism, sex associations cannot be made based on morphology alone; most species and even many genera are known from one sex only. This has resulted in many taxonomic challenges in trying to make associations, and resulted in many synonymies recognized through matching of males and females.

The genus *Cystomutilla* André, 1896 was described as a subgenus of *Mutilla* Linnaeus, 1758 (André 1896). It was considered the single representative of the subfamily Sphaerophthalminae and tribe Sphaerophthalmini Ashmead in the Palaearctic region (Brothers 1975; Lelej & Nemkov 1997; Lelej 2007). At present, the genus *Cystomutilla* contains four species: *C. bifurcata* Chen, 1957, *C. hoozana* (Zavattari, 1913), *C. ruficeps* (Smith, 1855), and *C. teranishii* Mickel, 1935 which are known from the Palaearctic and Oriental regions (Mickel 1935; Chen 1957; Lelej 2002, 2005). After a study of material (see museums below) we discovered a total of eight species attributed to *Cystomutilla*, four of them new. We describe three new species based on males: *Hemutilla ferrugineipes* **sp. nov.**, *H. granulata* **sp. nov.**, *H. tuberculata* **sp. nov.**; and one based on the female: *H. cheni* **sp. nov.** A key to males and females is also presented.

Material and methods

The following acronyms are used for the collections where type specimens and other materials are deposited:

- Lateral section of clypeus not concave, granulate. Mandible beneath basally strongly widened. Volsellar cusps mesally with long setae (Figs 9A–B) *H. granulata* **sp. nov.**
- 7. Mesopleuron smooth with large punctures along vertical narrow ridge; propodeum laterally and metapleuron micropunctate, mixed with sparse large punctures. Metasternal posterior median process acuminate or rounded. Metasomal sternum 1 with simple longitudinal carina. *Cystomutilla* André 8
- Mesopleuron, metapleuron and propodeum laterally densely punctate. Metasternal posterior median process bifurcate. Metasomal sternum 1 with bifurcate carina. *Hemutilla* **gen. nov.** 9
- 8. Head ferruginous-red. Metasomal tergum 1 posteriorly with median tuft and lateral fringe of white setae *C. ruficeps* (Smith)
- Head black. Metasomal tergum 1 posteriorly with fringe of white setae, without median tuft *C. teranishii* Mickel
- 9. Mesonotum laterally with lamellate carina from pronotal to mesonotal spiracle tubercles. Metasomal tergum 1 posteriorly with tuft of golden setae. Tergum 2 posteriorly and tergum 3 with about same length bands of golden setae *H. cheni* **sp. nov.**
- Mesonotum laterally lacking lamellate carina. Metasomal tergum 1 posteriorly with fringe of fuscous setae. Tergum 2 posteriorly and tergum 3 with bands of yellow setae, latter much longer than on tergum 2 *H. bifurcata* (Chen)

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