

# First record of *Imasega* Krombein from China, with description of one new species (Hymenoptera, Chrysididae, Amiseginae)

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## Abstract

The genus *Imasega* Krombein, 1983 is recorded from China for the first time, and one new species, *I. bicolor* Li & Xu, **sp. n.** (China: Guangdong) is described and illustrated. An updated diagnosis of the genus and a key to species are provided.

## Keywords

Amiseginae, *Imasega*, new species, key, Oriental Region, China

## Introduction

The genus *Imasega* was erected in the subfamily Amiseginae by Krombein (1983) to accommodate the single species, *I. rufithorax* Krombein, 1983 with four males of the type species from Sri Lanka. The genus *Imasega* Krombein resembles *Kryptosega* Kimsey, 1986 in having flagellomeres 2–9 at least 2.0 × as long as wide, malar space with vertical sulcus, pronotum with median groove posteriorly, mesopleuron without scrobal sulcus or omaulus, and hind coxa without dorsobasal carina; but differs from

the latter by: prothorax yellowish brown, clypeal apex thickened, occipital carina absent, propodeum with blunt posterolateral tooth (Kimsey and Bohart 1991; Li and Xu 2016).

At present, the type species *I. rufithorax* Krombein is only known from Sri Lanka and the genus is unknown in China. In the course of our survey on the Chinese Chrysididae fauna, one new species of the genus *Imasega* was discovered and described herein.

## Materials and methods

The specimens were examined and described under stereomicroscope Leica MZ125. Photographs were taken with a digital camera CoolSNAP attached to Zeiss stereomicroscope Stemi 2000-CS. Images were processed using Image-Pro Plus software.

Morphological terminology follows Krombein (1983) and Kimsey and Bohart (1991). Abbreviations used in the descriptions as follows: **F1, F2, F3, etc.** = flagellomeres 1, 2, 3, etc.; **MOD** = midocellus diameter; **MOL** = the shortest distance between midocellus and compound eye; **MS** = malar space, the shortest distance between base of mandible and lower margin of compound eye; **OOL** = the shortest distance between posterior ocellus and compound eye; **PD** = puncture diameter; **POL** = the shortest distance between posterior ocelli; **Rs** = Radial sector vein of forewing; **S** = scape.

The holotype and paratypes of the new species are deposited in the Hymenopteran Collection of South China Agricultural University, Guangzhou (SCAU). The specimen of *Imasega rufithorax* Krombein (identified by Krombein in 1984) which is deposited in the Bohart Museum of Entomology, University of California, Davis, USA, was examined for comparison in this study.

## Taxonomy

### Genus *Imasega* Krombein, 1983

Figs 1–8

*Imasega* Krombein 1983: 41. Type species: *Imasega rufithorax* Krombein, 1983.

Monotypic and original designation.

*Imasega* Krombein: Kimsey & Bohart 1991: 111.

**Diagnosis.** *Male.* Antenna elongate; F4–F8 3.7–5.0 × as long as wide. Scapal basin slightly concave, with weak transverse rugulae. Malar space with vertical sulcus. Eyes bulging and with setulae. Occipital carina absent. Prothorax yellowish brown. Pronotum with longitudinal median groove posteriorly and pit before lateral lobe. Mesoscutum with notauli and faint parapsides. Notauli complete or incomplete. Mesopleuron without omaulus or scrobal sulcus. Metanotum 0.8–1.2 × as long as mesoscutellum medially, with large triangular median enclosure. Propodeum

with short dorsal surface, and abrupt posterior and lateral surfaces; posterolateral tooth short and blunt. Forewing with R1 two-thirds as long as stigma or longer; Rs extended by curved dark streak. Hind coxa without dorsobasal carina. Tarsal claw with large median tooth. Metasomal tergites and sternites punctate. *Female*. Unknown.

**Biology.** Unknown.

**Distribution.** Oriental Region: China (new record), Sri Lanka (Kimsey and Bohart 1991).

**Key to the species of *Imasega***

- 1 Prothorax yellowish brown, mesothorax (excluding upper mesopleuron), metathorax and propodeum black (Figs 1, 2, 5); scapal basin with longitudinal median ridge; notauli incomplete, present on posterior half (Figs 2, 5); head 1.4–1.7 × as wide as distance from clypeal apex to posterior ocelli; F4–F8 3.7–4.4 × as long as wide ..... ***I. bicolor* Li & Xu, sp. n.**
- Mesosoma yellowish brown, with brown to blackish brown marks on pronotum, mesoscutum and metanotum (Figs 6, 7); scapal basin without longitudinal median ridge; notauli complete (Fig. 7); head 1.2–1.4 × as wide as distance from clypeal apex to posterior ocelli; F4–F8 4.0–5.0 × as long as wide..... ***I. rufithorax* Krombein**

***Imasega bicolor* Li & Xu, sp. n.**

<http://zoobank.org/88596221-642F-433C-9DAF-1A00DAD85A83>

Figs 1–5

**Material examined.** Holotype ♂, CHINA: Guangdong, Fengkai, Heishiding Provincial Nature Reserve, 1.X.2003, leg. Ju-jian Chen, No. 20047672 (SCAU). Paratypes: 1♂, CHINA: Guangdong, Fengkai, Heishiding Provincial Nature Reserve, 1.X.2003, leg. Ju-jian Chen, No. 20047664 (SCAU); 1♂, CHINA: Guangdong, Fengkai, Heishiding Provincial Nature Reserve, 1.X.2003, leg. Ju-jian Chen, No. 20047642 (SCAU); 1♂, CHINA: Guangdong, Longmen, Nankunshan Provincial Nature Reserve, 2–3.V.2005, leg. Zai-fu Xu, No. 200509614 (SCAU).

**Description.** Holotype. *Male*. Body length 3.6 mm. Forewing length 2.8 mm. MOL = 2.0 MOD; OOL = 0.8 MOD; POL = 1.7 MOD; MS = 1.7 MOD. Relative length of S:F1:F2:F3 = 1.5:1.6:1.2:1.1.

*Head.* Head with setulae. Head 1.4 × as wide as distance from clypeal apex to posterior ocelli. Head (except scapal basin) punctate; punctures interspaced by 0.2–1.0 PD. Scapal basin slightly concave, with faint transverse rugulae and smooth longitudinal median ridge. Eye strongly bulging and with dense, erect setulae. Clypeal apex thickened. Mandible with one tooth. MS less than half of eye height. Ocellar triangle obtuse isosceles. Flagellum with dense, oblique setulae; flagellar setulae about



**Figure 1.** *Imasega bicolor* sp. n., male, holotype, habitus, lateral view.



**Figure 2.** *Imasega bicolor* sp. n., male, holotype, habitus, dorsal view.



**Figures 3–5.** *Imasega bicolor* sp. n., male, holotype. **3** Antenna **4** Head, frontal view **5** Head and mesosoma, dorsal view.

half as long as width of flagellar segment; F1 4.5 × as long as wide; F2 3.4 × as long as wide; F3 3.4 × as long as wide; F4 3.7 × as long as wide; F5 3.8 × as long as wide; F6 4.2 × as long as wide; F7 4.3 × as long as wide; F8 4.4 × as long as wide. Occipital carina absent.

*Mesosoma.* Mesosoma with setulae. Pronotum punctate; punctures interspaced by 0.3–0.6 PD; pronotum with longitudinal median groove on posterior third; pronotum 0.8 × as long as mesoscutum medially; Mesoscutum punctate; punctures interspaced by 0.3–0.6 PD. Notauli incomplete, present posteriorly. Parapsidal lines weakly impressed. Mesoscutellum punctate. Mesopleuron punctate, without scrobal sulcus or omaulus; punctures interspaced by 0.1–0.7 PD. Metanotum punctate, medially 0.8 × as long as mesoscutellum, with triangular median enclosure 0.8 × as long as basal width. Metapleuron mostly smooth. Propodeum with short and blunt posterolateral teeth; posterior and lateral surfaces weakly rugose. Hind coxa without dorsobasal carina. Tarsal claw with large median tooth.

*Metasoma.* Metasoma with setulae. Metasomal tergites and sternites finely and sparsely punctate; punctures interspaced by 3.0 to 10.0 PD.



Figures 6–8. *Imasega rufithorax* Krombein, male from Karunaratne, Sri Lanka. 6 Habitus, lateral view 7 Habitus, dorsal view 8 Labels.

*Colouration.* Body without metallic reflection. Head black. Antenna blackish brown, with scape and pedicel yellowish brown. Mandible yellowish brown, with tooth reddish brown. Clypeus yellowish brown. Pronotum and propleuron yellowish brown. Mesoscutum, mesoscutellum, metanotum and propodeum black. Mesopleuron black, with upper area brown. Metapleuron black. Legs with coxae and trochanters whitish yellow, femora, tibiae and tarsi yellowish brown. Wings hyaline, with stigma and veins brown.

*Variations.* Paratypes. Body length 3.4–4.1 mm. Head 1.4–1.7 × as wide as distance from clypeal apex to posterior ocelli. F4–F8 3.7–4.4 × as long as wide. Pronotum 0.7–1.0 × as long as mesoscutum medially. Metanotum 0.8–1.1 × as long as mesoscutellum medially.

*Female.* Unknown.

**Biology.** Unknown.

**Distribution.** China (Guangdong).

**Etymology.** The specific name “*bicolor*” refers to the colouration of the mesosoma.

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