

A new species of *Loboscelidia* (Hymenoptera: Chrysididae: Loboscelidiinae) from China

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Abstract: A new species *Loboscelidia longivena* Li & Xu sp. nov. is described from Zhejiang, China. This new species resembles *L. levigata* Yao, Liu & Xu but can be characterized by the triangular frontal projection, R1 shorter, cu-a longer and mid femoral flange shorter in *L. longivena* sp. nov. A key to males of the Chinese species of the genus *Loboscelidia* is provided.

Key words: Chryridoidea; cuckoo wasps; taxonomy

中国叶腿青蜂属一新种（膜翅目：青蜂科：叶腿青蜂亚科）

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摘要：记述采自中国浙江的叶腿青蜂属 1 新种：长脉叶腿青蜂 *Loboscelidia longivena* Li & Xu sp. nov. 该种与 *L. levigata* Yao, Liu & Xu 相似，但可以从以下几点进行区分：新种额前突呈三角形、R1 较短、cu-a 较长和中足腿节突缘较短。且编制了中国叶腿青蜂属分种检索表（雄性）。

关键词：青蜂总科；青蜂；分类

Introduction

Loboscelidiinae is a small subfamily in the family Chrysididae, composed of the genera *Loboscelidia* Westwood and *Rhadinosceldia* Kimsey. Their actual family placement has varied considerably over the years due to their aberrant appearance and high modifications. Westwood (1874) originally described *Loboscelidia* as a species of diapriid (Superfamily Proctotrupeoidea). Ashmead (1902) moved the genus to the family Figitidae (Superfamily Cynipioidea), and Maa and Yoshimoto (1961) moved the genus into its own family, Loboscelidiidae (Superfamily Bethyloidea). Finally, Day (1978) showed that *Loboscelidia* lacks a trochantellus, with thirteen antennomere in both sexes. The hind wing of *Loboscelidia*, similar to that of Chrysididae, lacks closed cells. It has a well-developed plical lobe. Thus, this group actually belongs to the Chrysididae (Superfamily Chryridoidea).

Loboscelidia has 48 species recognized all over the world (Kimsey & Bohart 1990; Terayama *et al.* 1998; Kojima & Ubaidillah 2003; Xu *et al.* 2006; Liu *et al.* 2010; Yao *et al.* 2010; Kimsey 2012). Only nine species are hitherto known from China (Lin 1964; Kimsey 1988; Xu *et al.* 2006; Liu *et al.* 2010; Yao *et al.* 2010; Rosa *et al.* 2014).

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Little is known of the biology of the Loboscelidiinae. The morphology of the ovipositor closely resembles that of the Amiseginae; suggesting Loboscelidiinae parasitize walkingstick eggs similar to members of the Amiseginae. Riek reports that one of the *Loboscelidia* was reared from the eggs of the phasmatid *Acrophylla* sp. (Riek 1970). Females may search for walkingstick eggs in ant nests due to the structural modifications of the Loboscelidiinae, including the antennal flanges, the large tegula and legs.

Material and methods

The specimens were collected from Qiandaohu, Zhejiang, China. Measurements were made using a Leica microscope MZAPO and Nikon AZ100. The holotype and paratype are deposited in the Insect Collection of Zhejiang Agriculture and Forestry University, Hangzhou, China.

The terminology follows that used by Kimsey and Bohart (1990). Abbreviations used are as the follows: MOD — diameter of midocellus; POL — minimum distance between the post ocelli; OOL — minimum distance between the posterior ocellus and the eye. The measurements are relative proportions, except for the length of body and wing.

Taxonomy

Loboscelidia Westwood, 1874.

Loboscelidia Westwood, 1874: 171. Type species: *Loboscelidia rufescens* Westwood. Monobasic.

Loboscelidoidea Rye, 1876: 365. Invalid emendation of *Loboscelidia* Westwood, 1874.

Lacconerista Cameron, 1910: 22. Type species: *Lacconerista rufescens* Cameron (= *Loboscelidia nixonii* Day, 1978). Monobasic.

Scelidoloba Maa and Yoshimoto, 1961: 529. Type species: *Scelidoloba antennata* Fouts. Monobasic and original design.

Diagnosis. Body length 2–4 mm. Head prolonged posteriorly into cervical projection. Cervical projection parallel or trapezoid in dorsal view, curved in profile. Frons prolonged forward as a frontal projection. The antenna inserted on a shelf-like extension with 13 antennomeres in the middle of the face. Male scape often has a long and narrow transparent flange. Male 2–10 antennomeres long are 1.50–3.00 times of the width. Antennomere XI is longer than other antennomeres. Pronotum subquadrate, with sides parallel or diverging posteriorly in dorsal view. Mesonotum trapezoidal, with notauli parallel. Scutum with or without notauli. Scutellum longer than or as long as scutum. The tegula is very large. Metanotum narrow. Front wing vein is simple with a transparent stripe marking. Hind wing has no obvious vein. Femora and tibiae have transparent flange, tarsus 1-2-2. Males have five external metasomal segments.

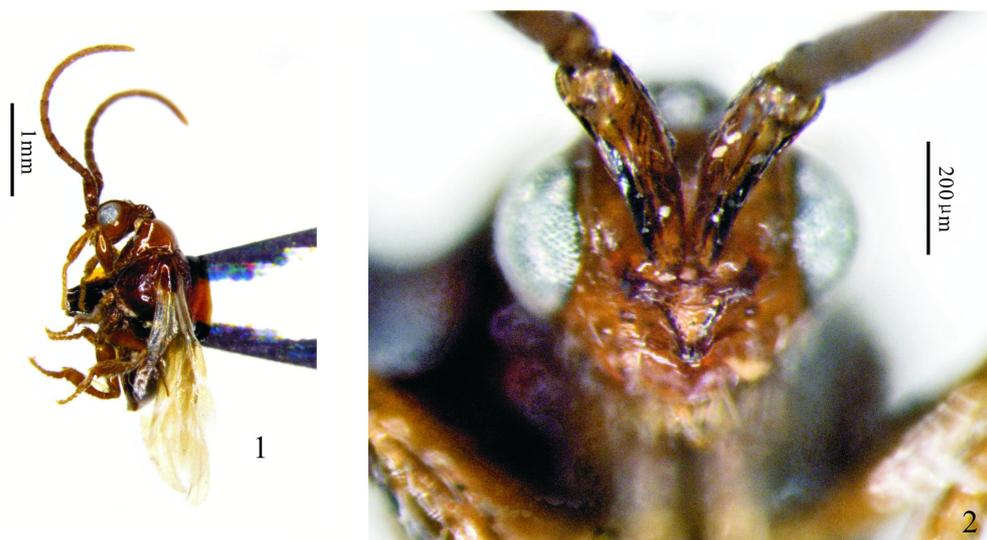
Loboscelidia longivena Li & Xu sp. nov. (Figs. 1–7)

Holotype. ♂, Body length 2.89 mm. Forewing length 2.28 mm.

Head, mesosoma and tarsi brown, antenna, metasoma and leg red-brown. Fore and hind wings are translucent, with brown markings smoke and with transparent stripes.

In dorsal view, the head as wide as mesosoma and 1.70 times the interocular distance.

Head hemispherical in lateral view. Frontal projection triangular in frontal view, frons with weak reticulate wrinkles, with lateral ridge extending to the inner margins of the eyes, which end up at occiput. Face with a medial longitudinal carina extending from frontal projection to clypeus superior margin. The medial longitudinal carina with sparse striae on each side. Face and clypeus with sparse upright hairs. MOD = 3, POL = 5, OOL = 6. Cervical projection trapezoidal, strongly curved in profile, gradually broadening the end to the base. Antenna filiform, clothed with numerous short setae, 0.98 times as long as body. Scape 3.1 times as long as wide, with a transparent flange on lower margin, about 0.96 times as scape length. Pedicel is as long as broad. First to tenth antennomeres subequal, about 2.2 times as long as wide. Antennomere XI converges among middle, length is 1.50 times antennomere X. Antennomeres in the following proportions: 40 : 10 : 17 : 19 : 21 : 21 : 21 : 21 : 21 : 20 : 20 : 20 : 30.

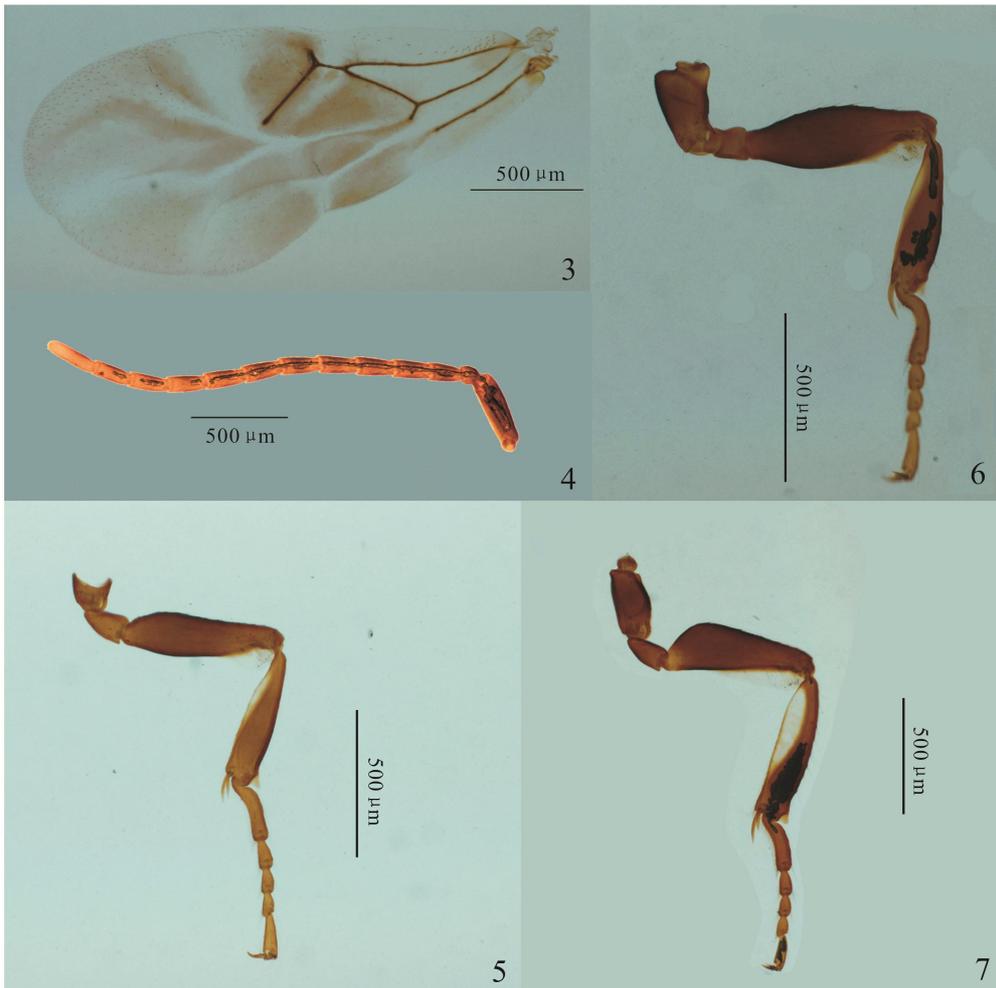


Figures 1, 2. *Loboscelidia longivena* Li & Xu sp. nov. ♂. 1. Habitus, lateral view; 2. Frontal projection, frontal view.

Pronotum smooth, with sparse short hair. Pronotum broader than long along transverse and longitudinal midlines (32 : 25), anterior width of pronotum 0.71 times posterior width. Anterior half of pronotum with a shallow impression from near anterolateral corner toward midline and posterior half with a shallow impression from posterolateral corner toward midline. Posterior angle acute. Mesonotum is smooth, with sparse short hairs. Scutum with notauli parallel and complete. Between notauli parts slightly concave, posterior projection lamellate. The tegula is large, with dense network of fine engravings and sparse hairs, beyond the end of the scutellum. Scutellum smooth, with sparse punctures. Propodeum weakly convex with a smooth surface, with “W” projection in dorsal view, and with several thin longitudinal striae on each side.

Fore wings are translucent, with light brown markings and transparent streaks. A1 vein 0.86 times as long as M + Cu vein. R1, Rs and cu-a 0.5, 2.90 and 0.60 times as long as stigma

vein respectively. Hind wing has no obvious veins.



Figures 3–7. *Loboscelidia longivena* Li & Xu sp. nov. ♂. 3. Forewing; 4. Antenna; 5. Fore leg; 6. Mid leg; 7. Hind leg.

Legs, femora and tibia bicarinate along posterior margins and covered with numerous macrochaetae. Fore femoral flange short and broad, extending 0.35 times femoral length, fore tibia flange narrow, extending 0.80 times tibia length; mid femoral flange short, extending 0.43 times mid femoral length, mid tibial flange narrow, extending 0.83 times mid tibial length; hind femoral flange extending 0.63 times hind femoral length; hind tibial flange wide, extending 0.82 times hind tibial length.

Metasoma has 5 visible segments, smooth, diamond in dorsal view.

Female. Unknown.

Holotype. China, ♂, Zhejiang, Qiandaohu, 23-VII-2015, Tianqi LI leg. **Paratype.** 1♂, the same data as holotype.

Distribution. China (Zhejiang).

Etymology. The specific epithet derives from Latin adjective ‘longus’, referring to the long cu-a of the fore wing.

Remarks. This new species resembles *L. levigata* Yao, Liu & Xu, 2010, but can be distinguished from it by the triangular frontal projection (rectangular in *levigata*), R1 0.54× as long as R (R1 as long as R in *levigata*), cu-a 0.6× as long as R (cu-a 0.44× as long as R in *levigata*), midfemoral flange 0.43× as long as femur (0.72× as long as R in *levigata*), R1 reaching R at an obtuse angle (nearly at a right angle in *levigata*).

Key to males of *Loboscelidia* species in China

1. Cell of fore wing incomplete..... *L. guangxiensis*
- Cell of fore wing complete..... 2
2. Scutellum without punctations..... *L. maai*
- Scutellum with punctations..... 3
3. Scape without distinct transparent flange..... 4
- Scape with distinct transparent flange..... 5
4. Fore wing cu-a 0.4× as long as R; Rs 1.8× as long as R; midfemoral flange 0.3× as long as femur.....
..... *L. sinensis*
- Forewing cu-a 0.69× as long as R; Rs 2.4× as long as R; midfemoral flange short and round, about 0.2× as long as femur..... *L. striolata*
5. Forewing A1 equal to or more than M + Cu..... 6
- Forewing A1 shorter than M + Cu..... 7
6. Hind tibia flange wide and short, 0.75 times tibia; forewing A1 equal to M + Cu..... *L. zengae*
- Hind tibia flange narrow, 0.9 times tibia; forewing A1 more than M + Cu..... *L. hei*
7. Forewing cu-a less than 0.3× as long as R..... 8
- Forewing cu-a more than 0.3× as long as R..... 9
8. Frontal projection triangular in frontal view..... *L. zhejiangensis*
- Frontal projection trapezoid in frontal view..... *L. orbiculata*
9. Fore femoral flange 0.35× as long as femur; midfemoral flange 0.43× as long as femur; forewing R1 0.5× as long as R..... *L. longivena* Li & Xu **sp. nov.**
- Fore femoral flange 0.6× as long as femur; midfemoral flange 0.72× as long as femur; forewing R1 0.9× as long as R..... *L. levigata*

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