

# Three new species of *Chelipoda* (Diptera: Empididae) from Chongqing, China

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**Abstract:** The genus *Chelipoda* Macquart, 1823 is one of the largest genera in the subfamily Hemerodromiinae with over 100 known species distributed worldwide. The genus is reported from Chongqing for the first time with four species. The following three species are described as new to science: *Chelipoda bispina* **sp. nov.**, *Chelipoda dorsinigra* **sp. nov.**, and *Chelipoda fuscimarginata* **sp. nov.** A key to separate these species is presented.

**Key words:** dance fly; taxonomy; key

中国重庆鬃螳舞虻属 *Chelipoda* 三新种 (双翅目: 舞虻科)

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**摘要:** 鬃螳舞虻属 *Chelipoda* Macquart, 1823 是舞虻科中最大的属之一, 已知 100 余种, 分布在全球各地。本文报道重庆阴条岭鬃螳舞虻属 4 种, 包括如下 3 新种: 双刺鬃螳舞虻 *Chelipoda bispina* **sp. nov.**, 黑背鬃螳舞虻 *Chelipoda dorsinigra* **sp. nov.** 和褐缘鬃螳舞虻 *Chelipoda fuscimarginata* **sp. nov.**, 编制了重庆鬃螳舞虻属分种检索表。

**关键词:** 舞虻; 分类; 检索表

## Introduction

The genus *Chelipoda* Macquart, 1823 is characterized by the following features: arista distinctly longer than first flagellomere; scutum with some discal bristles; laterotergite with bristles; crossvein h present; Sc apically reaching C, R<sub>4+5</sub> not furcate, M<sub>1+2</sub> obtusely furcate; discal and anal cells present, anal cell nearly as long as basal cells (Collin 1961; MacDonald 1993). This genus contains 103 known species distributed across all faunal realms except the Afrotropical. Of these, 21 species have previously been reported from China (Yang & Yang 2004; Plant 2009).

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Chongqing is located in the inland southwest of China at the upper reaches of the Yangtze River, adjacent to Hubei and Hunan in the east, Guizhou in the south, Sichuan in the west and Shaanxi in the north. It covers an area of 82,400 square kilometers, and its landform is dominated by hills and mountains with a subtropical humid monsoon climate. This genus is newly reported from Chongqing with four species, including three new species. A key to separate these species of the genus *Chelipoda* is presented.

## Material and methods

The specimens were examined and illustrated using a ZEISS Stemi 2000–C Stereo Microscope. Genitalic preparations were made by macerating the apical portion of the abdomen in cold 10% NaOH for about 6 hours. The type specimens are deposited in the Entomological Museum of China Agricultural University (CAU), Beijing. The following abbreviations are used for bristles: av — anteroventral; dc — dorsocentral; ih — inner humeral; npl — notopleural; oc — ocellar; prsc — prescutellar; pv — posteroventral; sa — supraalar; sc — scutellar; vt — vertical.

## Taxonomy

### Key to species of *Chelipoda* from Chongqing

1. Head brown or black ..... 2
- Head yellow ..... *C. xanthocephala*
2. Thorax mostly dark yellow ..... 3
- Thorax dark brown to blackish; fore coxa with 1 short thick anterior bristle ..... *C. bispina* **sp. nov.**
3. Thorax dark yellow, but pronotum dark brown and mesonotum with dark brown lateral margin .....  
..... *C. fuscimarginata* **sp. nov.**
- Thorax pale yellow, but dorsally black; posterior portion of mesopleuron and posterior area behind it dull black ..... *C. dorsinigra* **sp. nov.**

#### 1. *Chelipoda bispina* **sp. nov.** (Fig. 1)

Description. Male. Body length 2.0–2.1 mm, wing length 2.6–2.7 mm.

Head black with pale gray pollen. Eyes dull black, tinged metallic purple, separated widely on frons but very narrowly on face; face much narrower than frons. Hairs and bristles on head blackish; 1 long vt. Ocellar tubercle weak, with 2 rather long oc. Antenna blackish except arista white; first flagellomere about 2.0 times longer than wide, arista very long. Proboscis dark brown with blackish hairs; palpus dark brown with blackish hairs.

Thorax dark brown with pale gray pollen, but blackish dorsally. Hairs and bristles on thorax blackish; 1 long ih, 1 short and 1 long npl, 1 long sa, 1 somewhat short prsc, scutellum with 2 long sc. Laterotergite without outer hairs. Legs brownish yellow except all tarsomere 5 blackish. Hairs and bristles on legs blackish. Fore coxa with 1 short thick bristle at extreme base. Fore femur rather thick, 3.3 times as thick as fore tibia, with two rows of very short spine-like black ventral bristles and one row of long thick blackish outer av and long thick blackish outer pv. Fore tibia with row of very short black v recumbent. Wing nearly hyaline; veins brown to dark brown. Squama brown. Halter brownish.

Abdomen apically weakly curved downward, dark brown with pale gray pollen. Hairs and bristles on abdomen blackish.

Male genitalia. Fused epandrium and hypandrium distinctly wider than long. Cercus basally thick, apically divided into two spine-like processes, anterior process short and curved, posterior process long and nearly straight. Subepandrial process short spine-like. Phallus very long, curved forward.

Female. Body length 2.6–3.5 mm, wing length 2.6–3.6 mm. Similar to male, but thorax rarely wholly blackish brown.

**Holotype.** ♂, **China**, Chongqing, Wuxi, Yingtiaoling, Ganheba, 1258 m, 25-VI-2022, Xulong CHEN (CAU). **Paratypes.** 5♂9♀, same data as holotype (CAU).

Etymology. The specific epithet is from the Latin *bi* (“two”) and *spina* (“spine”), referring to the cercus apically divided into two spine-like processes.

Diagnosis. Thorax dark brown, but blackish dorsally. Antenna blackish, but arista white. Fore coxa with 1 short thick bristle at extreme base. Sternite 8 with short acute lateral process. Male cercus apically divided into two spine-like processes.

Remarks. This species is similar to *C. forcipata* Yang & Yang, but may be separated from the latter by the cercus apically divided into two spine-like processes. In *C. forcipata*, the cercus has a single spine-like process (Yang & Yang 2004).

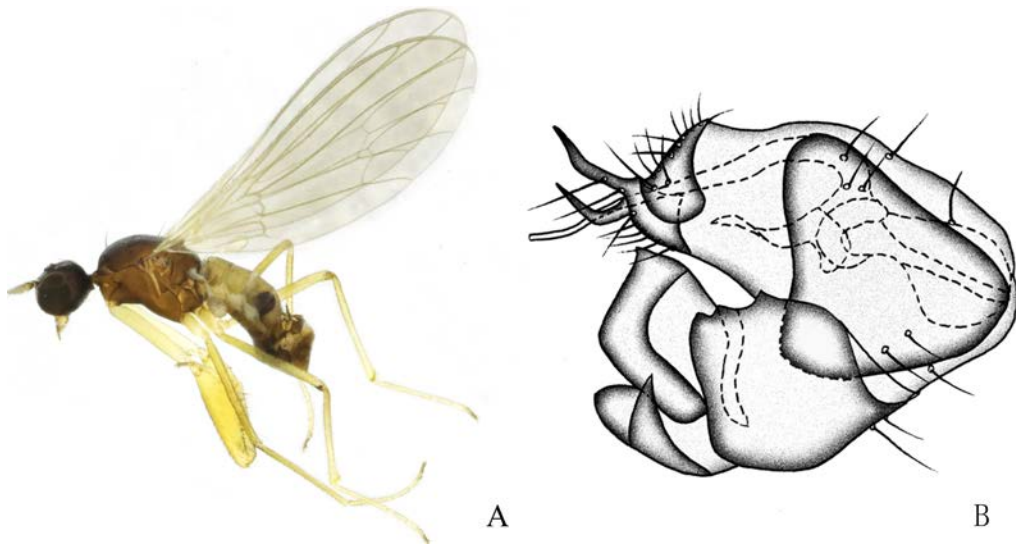


Figure 1. *Chelipoda bispina* sp. nov. A. Male habitus, lateral view; B. Male genitalia, lateral view.

## 2. *Chelipoda dorsinigra* sp. nov. (Fig. 2)

Description. Male. Body length 2.7–2.8 mm, wing length 3.1–3.2 mm.

Head black with pale gray pollen. Eyes dull black, tinged metallic purple, separated widely on frons but very narrowly on face; face much narrower than frons. Hairs and bristles on head dark yellow or brownish yellow; 1 long vt. Ocellar tubercle weak, with 2 long oc. Antenna dark yellow except arista brownish; first flagellomere about 2.0 times longer than wide, arista very long. Proboscis dark yellow with brownish hairs; palpus dark yellow with brownish hairs.

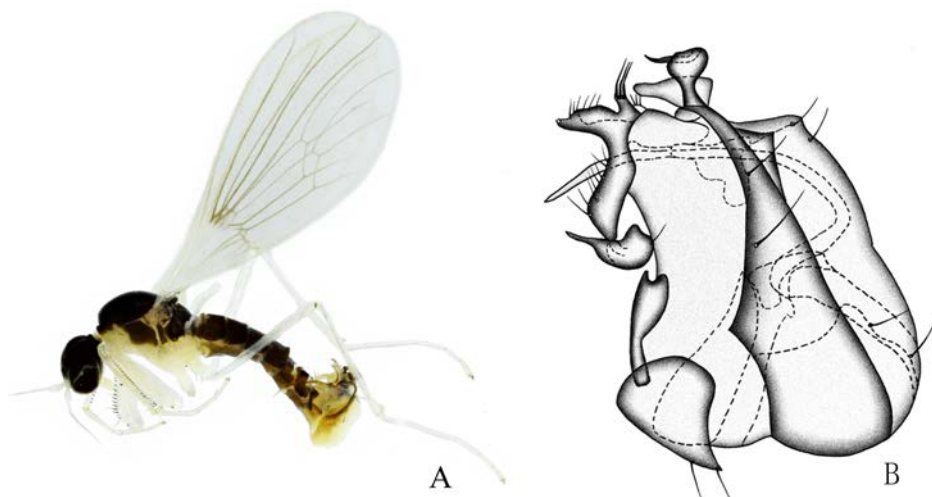


Figure 2. *Chelipoda dorsinigra* sp. nov. A. Male habitus, lateral view; B. Male genitalia, lateral view.

Thorax pale yellow with pale gray pollen, but dorsally black and pleuron black on posterior portion of mesopleuron and posterior area behind it dull black. Hairs and bristles on thorax dark brownish yellow; 1 long ih, 1 short dc at middle, 1 short and 1 long npl, 1 long sa, 1 somewhat short prsc, scutellum with 2 long sc. Laterotergite with 3–4 brown hairs. Legs yellow except all tarsomere 5 brownish yellow. Hairs and bristles on legs brownish yellow. Fore femur 2.5 times as thick as fore tibia, with one row of very short spine-like black ventral bristles (but biseriate only at base) black and one row of long thick outer av and long thick outer pv dark brownish yellow. Fore tibia with row of very short, spine-like black v. Wing nearly hyaline; veins brownish yellow to brown. Squama dark yellow. Halter pale yellow.

Abdomen apically weakly or strongly curved downward, black with pale gray pollen, but hypopygium mostly brownish yellow and partly blackish to black. Hairs and bristles on abdomen brown.

Male genitalia. Fused epandrium and hypandrium distinctly wider than long, with folded dorsal appendage. Cercus furcated; anterior lobe narrow, anterior margin with 1 long spine-like dorsal bristle on very short process; posterior lobe rather wide, apical margin with 1 curved dorsal bristle and one bundle of dark brown ventral bristles. Subepandrial process basally thick, apically long, spine-like. Phallus very long, curved forward.

Female. Body length 2.5–2.6 mm, wing length 3.1–3.2 mm.

**Holotype.** ♂, **China**, Chongqing, Wuxi, Yingtiaoling, Naning, Huangcaoping, 2071–2136 m, 13-VIII-2022, Rao YAO (CAU). **Paratypes.** 4♂12♀, same data as holotype (CAU); 3♂2♀, **China**, Chongqing, Wuxi, Yingtiaoling, Naning, Huangcaoping, 2039 m, 14-VIII-2022, Xulong CHEN (CAU).

Etymology. The specific epithet is from the Latin *dorsum* (“dorsal”) and *nigra* (“black”), referring to the thorax pale yellow, but dorsally black.

Diagnosis. Thorax pale yellow, but dorsally black; posterior portion of mesopleuron and posterior area behind it dull black. Antenna dark yellow except arista brownish. Fore femur 2.5 times as thick as fore tibia, with one row of very short spine-like black ventral bristles (but

biseriate only at base) black.

Remarks. This species is peculiar and easily separated from the known species of the genus by the bicolored thorax and modified genitalia (Yang & Yang 2004; Plant 2009).

3. *Chelipoda fuscimarginata* sp. nov. (Fig. 3)

Description. Male. Body length 2.2–2.6 mm, wing length 2.6–3.0 mm.

Head brownish with pale gray pollen. Eyes dull black, tinged metallic purple, separated widely on frons but very narrowly on face; face much narrower than frons. Hairs and bristles on head blackish; 1 long vt. Ocellar tubercle weak, with 2 long oc. Antenna brownish except first flagellomere dark brown and arista brown; first flagellomere about 2.5 times longer than wide, arista very long. Proboscis dark brown, partly dark yellow, with blackish hairs; palpus dark yellow with blackish hairs.

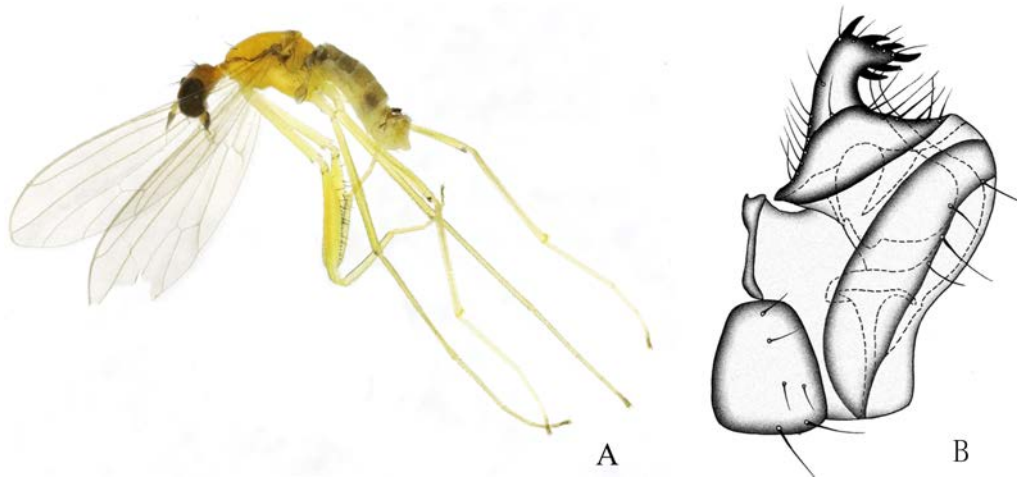


Figure 3. *Chelipoda fuscimarginata* sp. nov. A. Male habitus, lateral view; B. Male genitalia, lateral view.

Thorax mostly dark yellow with pale gray pollen, but pronotum dark brown and mesonotum with dark brown lateral margin. Hairs and bristles on thorax blackish; 1 long ih, 1 short dc at middle, 1 short and 1 long npl, 1 long sa, 1 somewhat short prsc, scutellum with 2 long sc. Laterotergite with 4 blackish outer hairs. Legs brownish yellow except all femora dark brownish yellow and all tarsomeres 4–5 brown to dark brown. Hairs and bristles on legs blackish. Fore femur somewhat narrow, 2.4 times as thick as fore tibia, with two rows of very short spine-like black ventral bristles and one row of long thick blackish outer av and long thick blackish outer pv. Fore tibia with row of very short black v recumbent. Wing nearly hyaline; veins brown to dark brown. Squama brown. Halter gray.

Abdomen straight, dark yellow with pale gray pollen except tergites 1–6 grayish. Hairs and bristles on abdomen blackish.

Male genitalia. Fused epandrium and hypandrium distinctly wider than long. Cercus basally very wide with anterior inner process very short and somewhat acute, apically finger-like with six black spine-like denticles. Subepandrial process short, apically knob-like. Phallus long, curved forward.

Female. Unknown.

**Holotype.** ♂, China, Chongqing, Wuxi, Yingtiaoling, Naning, Huangcaoping, 2039 m,

14-VIII-2022, Xulong CHEN (CAU). **Paratypes.** 1♂, **China**, Chongqing, Wuxi, Yingtiaoling, Zhuanping, 1456 m, 28-VI-2022, Xulong CHEN (CAU).

Etymology. The specific epithet is from the Latin *fuscus* (“brown”) and *marginatus* (“margin”), referring to the mesonotum with the brown lateral margin.

Diagnosis. Fore femur somewhat narrow. Head brownish. Thorax mostly dark yellow, but pronotum dark brown and mesonotum with brown lateral margin. Cercus apically finger-like with six black spine-like denticles.

Remarks. This species is similar to *C. gansuensis* Yang & Yang from Gansu, but may be separated from the latter by the following features: head brownish; mesonotum with brown lateral margin; cercus apically finger-like with six black spine-like denticles. In *C. gansuensis*, the head is greyish brown; the mesonotum has the dark yellow lateral margin; and the cercus is thick with one black spine-like denticle.

#### 4. *Chelipoda xanthocephala* Yang & Yang

*Chelipoda xanthocephala* Yang & Yang, 1990: 486. Type locality: China (Hubei: Shennongjia).

*Chelipoda xanthocephala*: Yang & Yang, 2004: 83.

**Specimens examined.** 3♂16♀, **China**, Chongqing, Wuxi, Yingtiaoling, Naning, Huangcaoping, 2039 m, 14-VIII-2022, Xulong CHEN (CAU). 1♀, **China**, Chongqing, Wuxi, Yingtiaoling, Ganheba, 1258 m, 25-VI-2022, Xulong CHEN (CAU).

Distribution. China (Chongqing, Hubei).

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