

Two new species in the genus *Elaphropeza* (Diptera: Empididae) from Shennongjia, China

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Abstract: *Elaphropeza* is one of the largest genera in the family Empididae with over 220 known species distributed worldwide. 61 species were known to occur in China. But members of this genus have never been recorded in Shennongjia before. Here 3 species are added to the fauna of Shennongjia, including the following 2 new species: *Elaphropeza erecta* sp. nov. and *Elaphropeza shennongana* sp. nov. A key to the species of *Elaphropeza* from Shennongjia is presented.

Key words: dance fly; taxonomy; key

中国神农架黄隐肩舞虻属 *Elaphropeza* 二新种 (双翅目: 舞虻科)

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摘要: 黄隐肩舞虻属 *Elaphropeza* 是舞虻科中最大的属之一, 已知 220 余种, 分布世界各地。我国已知 61 种, 神农架没有记录过该属。本文报道神农架黄隐肩舞虻属 3 种, 其中包括 2 新种: 直鬃黄隐肩舞虻 *Elaphropeza erecta* sp. nov. 和神农架黄隐肩舞虻 *Elaphropeza shennongana* sp. nov.。并编制神农架黄隐肩舞虻属分种检索表。

关键词: 舞虻; 分类; 检索表

Introduction

Elaphropeza Macquart is one of the largest genera in the family Empididae with over 220 known species distributed worldwide (Yang *et al.* 2007; Shamshev & Grootaert 2007; Grootaert 2019). It has the following features: occiput convex; antenna not upturned; first flagellomere conical, usually with lower margin as straight as upper margin; arista apical; mesopleuron bare; wing with shortened basal cells; abdominal intersegmental modifications usually present between tergites 3–5 or 4–5 (Chvála 1975; Yang & Gaimari 2005; Shamshev & Grootaert 2007).

The species from the Chinese mainland were reviewed by Yang & Gaimari (2005). Yang *et al.* (2006) revised species of *Elaphropeza* from Guangdong. The fauna of Taiwan was

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revised by Wang *et al.* (2012), where they recorded 14 species with a key to the species of Taiwan. Grootaert (2019) revised species of *Elaphropeza* from Hong Kong. Up to now, 61 species were known to occur in China (Luo *et al.* 2023). None of them were known to occur in Shennongjia (Yang *et al.* 2018). Here three species are added to the fauna of Shennongjia, of which two species are described as new to science. A key to the species of *Elaphropeza* from Shennongjia is presented.

Material and methods

The specimens were examined and illustrated with a ZEISS Stemi 2000-c. 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: acr — acrostichal bristle(s); ad — anterodorsal bristle(s); av — anteroventral bristle(s); dc — dorsocentral bristle(s); h — humeral bristle(h); npl — notopleural bristle(s); oc — ocellar bristle(s); prsc — prescutellar bristle(s); psa — postalar bristle(s); pv — posteroventral bristle(s); sa — supraalar bristle(s); sc — scutellar bristle(s); vt — vertical bristle(s).

Taxonomy

Key to species of *Elaphropeza* from Shennongjia

1. First flagellomere elongated with nearly straight ventral margin, 3–4 times longer than wide; hind femur blackish at apical 1/2..... 2
- First flagellomere short with more or less convex ventral margin, 2.2 times longer than wide; hind femur blackish at apical 2/5..... *E. shennongana* **sp. nov.**
2. First flagellomere long, 3 times longer than wide; left cercus apically very thick and without bundle of long needle-like bristles *E. apiciniger*
- First flagellomere much elongated, 4 times longer than wide; left cercus apically more or less tapered and with bundle of long needle-like bristles *E. erecta* **sp. nov.**

1. *Elaphropeza apiciniger* (Yang, An & Gao, 2002)

Drapetis apiciniger Yang, An & Gao, 2002: 33. Type locality: China: Henan, Baotianman.

Specimens examined. 1♂, China, Hubei, Shennongjia, Guanmenshan, 02-VII-2009, Liang LIANG (CAU). 1♂3♀, Hubei, Shennongjia, Yinyuhe, 18-VII-2009, Qifei LIU (CAU).

Diagnosis. First flagellomere long, 3 times longer than wide. Apical half of hind femur blackish. Hind tibia blackish. Hairs on mesonotum short and dense. Palpus dark brown.

Distribution. China (Hubei, Henan).

2. *Elaphropeza erecta* **sp. nov.** (Fig. 1)

Description. Male. Body length 2.0–2.4 mm, wing length 2.2–2.5 mm.

Head black with pale gray pollinosity. Setulae on head dark brownish yellow, setae blackish. Eyes very narrowly separated on face, face linear. Ocellar tubercle with 2 rather long oc and 4 short posterior setulae; 1 very long vt curved inward, nearly as long as oc. Antenna brown; scape bare, shorter than pedicel; pedicel with circlet of blackish apical setulae; first flagellomere much elongated, 4.0 times longer than wide, short blackish pubescent; arista

rather long (2.0 times longer than 1st flagellomere), dark brown, short blackish pubescent. Proboscis brown to dark brown with dark brown setulae; palpus somewhat rounded, brown with dark brown setulae and 1 dark brown apical seta.

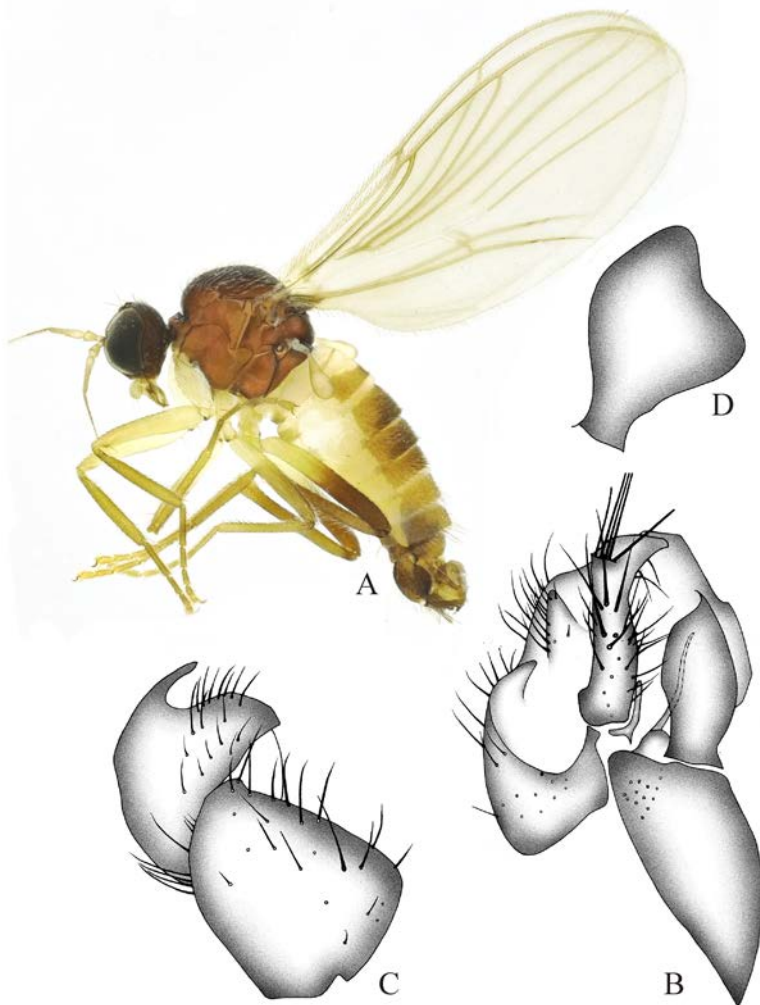


Figure 1. *Elaphropeza erecta* sp. nov. A. Male habitus, lateral view; B. Male genitalia, dorsal view; C. Right epandrial lamella; D. Left surstylus.

Thorax black with thin pale gray pollinosity. Setulae and setae on thorax brownish yellow, setae dark brown; setulae on mesoscutum dense; acr and dc not separated; h absent, 2 npl, 1 sa, 1 psa, 1 prsc; scutellum with two pairs of sc (basal pair very short and weak, about 1/5 as long as very long apical pair). Legs yellow except fore and mid femora brown apically and apical 3/5 or 4/5 of hind femur black; all tibiae and tarsi dark brown. Setulae and setae on legs brown to dark brown; fore coxa with anterior setae; mid coxa apically with 2 long anterior setae; hind coxa with 2 outer setae. Fore femur 1.1 times as thick as mid femur, mid and hind femora subequal in thickness. Fore and mid femora each with 1 long pv at extreme base (pv very long thick at fore femur); mid femur with 1 preapical anterior seta; hind femur with 5 erect dorsal bristles at base, apically with 1 av. Fore tibia apically with 1 long thick pv.

Mid tibia with row of short spine-like dark brown ventral setae, apically with 1 av and 1 pv. Hind tibia without ad, apically with 1 av; apical projection very short and obtuse with dense dark brown pubescence. Hind tarsomere 1 with several irregular, short av. Wing nearly hyaline, veins brown to dark brown; R and M nearly parallel apically, crossvein m-cu somewhat oblique. Calypter brownish with brown setulae. Halter brown.

Abdomen nearly straight, dark brown with thin pale gray pollinosity. Tergite 1 stripe-like; tergite 2 with anterior incision. Setulae and setae on abdomen dark brown except tergites 3–5 with short blackish spine-like bristles laterally. Tergites 4–5 with brown anterior band with very short dark brown pubescent.

Male genitalia. Left surstylus small lobate, bare, basally rather narrow, apically obtuse. Right epandrial lamella rather large and broad; right surstylus rather large, with incised apical margin. Left cercus long thick, apically weakly bent, more or less tapered and with bundle of long erect, needle-like bristles at tip. Right cercus rather short, subconical.

Female. Body length 2.4 mm, wing length 2.35 mm.

Holotype. ♂, China, Hubei, Shennongjia, Guanmenshan, 02-VII-2009, Liang LIANG (CAU). **Paratypes.** 1♀, same data as holotype (CAU); 1♂, Hubei, Shennongjia, Yinyuhe, 18-VII-2009, Qifei LIU (CAU).

Etymology. The specific epithet is from the Latin *erectus* (“upright”), referring to the left cercus with bundle of erect bristles at tip.

Diagnosis. Thorax entirely black. First flagellomere much elongated, 4.0 times longer than wide. Hind femur blackish at apical 3/5 or 4/5; all tibiae and tarsi dark brown. Left cercus with bundle of long erect, needle-like bristles at tip.

Remarks. This species is somewhat similar to *Elaphropeza apiciniger* (Yang *et al.*) from Henan, but may be separated from the latter by the first flagellomere elongated, 4 times longer than wide. In *Elaphropeza apiciniger*, the first flagellomere is relatively short, 3 times longer than wide (Yang *et al.* 2002, 2010).

3. *Elaphropeza shennongana* sp. nov. (Fig. 2)

Description. Male. Body length 2.1 mm, wing length 2.6 mm.

Head black with pale gray pollinosity. Setulae on head dark brownish yellow, setae blackish. Eyes very narrowly separated on face, face linear. Ocellar tubercle with 2 rather long oc and 2 short posterior setulae; 2 rather long vt curved inward, outer vt slightly shorter than inner vt. Antenna brown; scape bare, shorter than pedicel; pedicel with cirlet of blackish apical setulae; first flagellomere short with convex ventral margin, 2.2 times longer than wide, short blackish pubescent; arista very long (3.0 times longer than 1st flagellomere), dark brown, short blackish pubescent. Proboscis brown with dark brown setulae; palpus somewhat rounded, brown with dark brown setulae and 1 dark brown apical seta.

Thorax black with thin pale gray pollinosity. Setulae and setae on thorax brownish yellow, setae dark brown; setulae on mesoscutum dense; acr and dc not separated; h absent, 2 npl, 1 sa, 1 psa, 1 prsc; scutellum with two pairs of sc (basal pair very short and weak, about 1/5 as long as very long apical pair).

Legs yellow except apical 2/5 of hind femur black, mid tibia brownish yellow and hind tibia blackish; all of tarsomere 5 brown. Setulae and setae on legs brown to dark brown; fore coxa with anterior setae; mid coxa apically with 2 long anterior setae; hind coxa with 2 outer

setae. Fore femur 1.1 times as thick as mid femur, mid and hind femora subequal in thickness. Fore and mid femora each with 1 long pv at extreme base; mid femur with 1 preapical anterior seta; hind femur with 5 erect dorsal bristles at base, apically with 1 av. Fore tibia apically with 1 long pv. Mid tibia with row of short spine-like blackish ventral setae, apically with 1 av and 1 pv. Hind tibia without ad, apically with 1 av; apical projection very short and obtuse with dense dark brown pubescence. Hind tarsomere 1 with several irregular, short av. Wing nearly hyaline, veins brown to dark brown; R and M somewhat divergent apically, crossvein m-cu somewhat oblique. Calypter brownish with brown setulae. Halter brown.

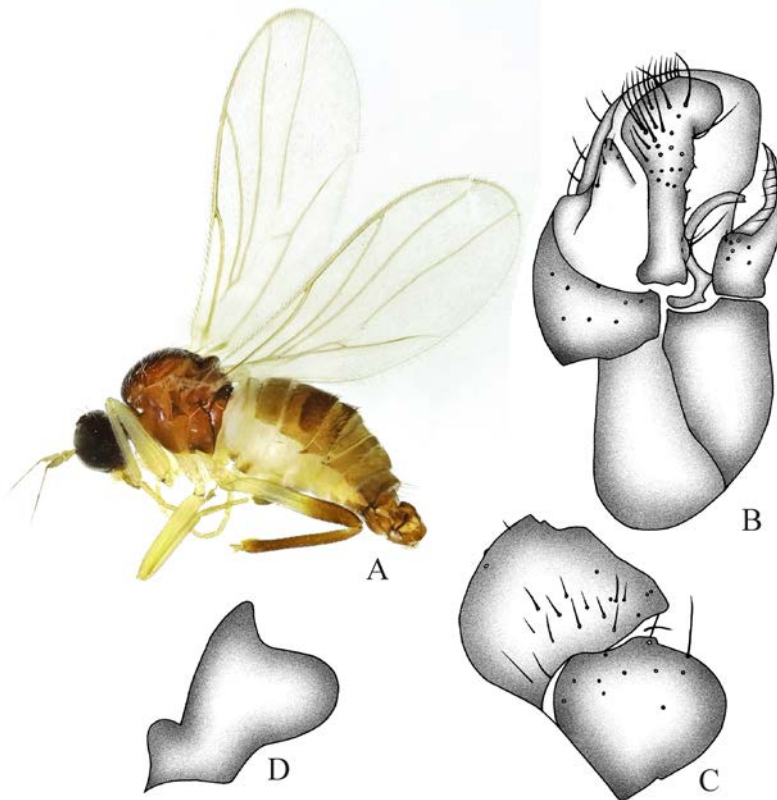


Figure 2. *Elaphropeza shennongana* sp. nov. A. Male habitus, lateral view; B. Male genitalia, dorsal view; C. Right epandrial lamella; D. Left surstylus.

Abdomen nearly straight, dark brown with thin pale gray pollinosity. Tergite 1 stripe-like; tergite 2 without distinct anterior incision. Setulae and setae on abdomen dark brown except tergites 3–4 with short blackish spine-like bristles laterally. Tergites 4–5 with brown anterior band very short dark brown pubescent.

Male genitalia. Left surstylus large lobate, bare, basally thick, apically acute. Right epandrial lamella rather large and broad; right surstylus rather large, with weakly incised apical margin. Left cercus long, thick, apically swollen with distinct bristles. Right cercus rather short, subconical.

Female. Unknown.

Holotype. ♂, **China**, Hubei, Shennongjia, Guanmenshan, 02-VII-2009, Liang LIANG (CAU).

Etymology. The specific epithet refers to the type locality Shennongjia.

Diagnosis. 2 vt. First flagellomere short with more or less convex ventral margin, 2.2 times longer than wide. Fore and mid femora not dark at tip, hind femur blackish at apical 2/5. Mid tibiae brownish yellow, hind tibia blackish.

Remarks. This species is very similar to *Elaphropeza apiciniger* (Yang *et al.*) from Henan, but may be separated from the latter by the somewhat short first flagellomere 2.2 times longer than wide and hind femur black at apical 2/5. In *Elaphropeza apiciniger*, the first flagellomere is rather long, 3 times longer than wide; and the hind femur is blackish at apical 1/2 (Yang *et al.* 2002, 2010).

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