

# Two new species of *Syneches* (Diptera: Empididae) from Tibet

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**Abstract:** Two new species in the genus *Syneches* from Tibet are described as new to science: *Syneches medoganus* **sp. nov.** and *Syneches nigriritibia* **sp. nov.** An updated key to the species of *Syneches* from Tibet is presented.

**Key words:** Hybotinae; taxonomy; key

## 西藏柄驼舞虻属 *Syneches* 二新种 (双翅目: 舞虻科)

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**摘要:** 记述西藏柄驼舞虻属 *Syneches* 2 新种, 即墨脱柄驼舞虻 *Syneches medoganus* **sp. nov.** 和黑胫柄驼舞虻 *Syneches nigriritibia* **sp. nov.**, 提供了西藏柄驼舞虻属分种检索表。

**关键词:** 驼舞虻亚科; 分类; 检索表

## Introduction

The genus *Syneches* Walker is a large genus that is distributed worldwide with over 140 known species (Yang *et al.* 2007; Wang *et al.* 2014). This genus is characterized by the following features: eyes with upper facets enlarged; palpus rather short and thin; Rs rather long; anal cell nearly as long as basal cells; hind femur weakly to distinctly thickened, with distinct ventral setae; male genitalia symmetrical (Chvála 1983; Yang & Yang 2004). The major references dealing with the Palaearctic and Oriental species of the genus *Syneches* are as follows: Brunetti 1920; Chvála 1983; Collin 1961; Frey 1954; Saigusa 1964; Yang & Yang 2004; Wang *et al.* 2014.

Thirty-eight species of *Syneches* are reported from China (Yang & Yang 2004; Zhang *et al.* 2018). The species from Tibet were reviewed by Wang *et al.* (2014) with 8 known species. In this paper, two new species are added to the fauna of Tibet. An updated key to the known

species of *Syneches* from Tibet is provided.

## Material and methods

Genitalic preparations were made by macerating the apical portion of the abdomen in warm 10% NaOH for about 20 min. After examination, it was transferred to fresh glycerine and stored in a microvial pinned below the specimen. The specimens examined were deposited in the Entomological Museum of China Agricultural University (CAU), Beijing. The following abbreviations are used: ad — anterodorsal seta(e); av — anteroventral seta(e); h — humeral seta(e); npl — notopleural seta(e); oc — ocellar seta(e); pd — posterodorsal seta(e); psa — postalar seta(e); pv — posteroventral seta(e).

## Taxonomy

### Key to species of *Syneches* from Tibet (modified from Wang *et al.* 2014)

1. Thorax black; antenna at most partly pale ..... 2
- . Thorax brownish yellow; antenna entirely yellow; pterostigma indistinct ..... *S. xanthocromus*
2. Wing hyaline; first flagellomere at most with 6 dorsal setulae ..... 3
- . Wing slightly tinged gray ..... 8
3. Pterostigma present ..... 4
- . Pterostigma absent ..... 7
4. First flagellomere with 6 dorsal setulae; pterostigma not filling apex of cell R1 ..... 5
- . First flagellomere with 1 dorsal setula; pterostigma filling apical 1/3 of cell R1 ..... *S. flavicoxa*
5. Femora and tibiae black except extreme tips of tibiae brownish or brownish yellow ..... 6
- . Femora and tibiae dark brownish yellow except extreme bases and tips of femora and extreme bases of tibiae brown or dark brown ..... *S. indistinctus*
6. First flagellomere dark yellow; palpus brownish yellow; all tarsi uniformly dark yellow ..... *S. tibetanus*
- . Antenna entirely black; palpus black; fore tarsus brown except tarsomere 5 dark brown, mid and hind tarsi dark yellow except tarsomeres 3–5 brown to dark brown ..... *S. wangae*
7. Hind coxa and trochanter yellow; hind tibia black; hind femur with only one row of av; wing hyaline ..... *S. astigma*
- . Hind coxa and trochanter black; hind tibia yellow; hind femur with two close rows of av; wing indistinctly tinged grayish ..... *S. medoganus* **sp. nov.**
8. First flagellomere with 1 dorsal setula; fore and mid femora black with yellow apex, hind femur yellow ..... 9
- . First flagellomere with 8 dorsal setulae; all femora black with yellow apex ..... *S. distinctus*
9. Fore tibia blackish, mid and hind tibiae yellow; hind femur with 6 long black bristles ..... *S. medoganus* **sp. nov.**
- . All tibiae blackish; hind femur with 4 long dark brownish yellow bristles ..... *S. nigritibia* **sp. nov.**

### 1. *Syneches medoganus* **sp. nov.** (Figs. 1A, 2A, B)

Description. Male. Body length 2.8–2.9 mm. Wing length 3.3–3.4 mm.

Head dull black with grayish brown pollen. Eyes contiguous on frons for a long distance, brownish yellow with enlarged upper facets yellow. Setulae and setae on head blackish; ocellar tubercle distinct, with 2 slightly long oc and 4 short posterior setulae. Antenna brown; first flagellomere nearly quadrate with 1 blackish dorsal setula; arista dark brown, very short

pubescence except apical 1/5 thin and bare. Proboscis brown; palpus brown with blackish setulae and 1 long blackish seta at extreme tip.

Thorax dull black with grayish brown pollen. Setulae on thorax blackish, setae black; mesoscutum with short setulae except mid-posterior area with several slightly long setulae and one transverse row of 2 prescutellar setae; h absent, 2 npl, 1 psa; scutellum with long marginal setulae and setae. Legs dull blackish except tips of fore and mid femora and entirely hind femur yellow; all tibiae except fore tibia grayish with yellow tip; all tarsi dark yellow except tarsomere 5 dark brown. Setulae and setae on legs blackish to black. Fore femur 1.1 times as wide as mid femur, with row of weak pv; mid femur with row of weak pv; hind femur 1.1 times as wide as mid femur, with 6 mostly very long av. Fore tibia with 5–6 weak ad, apically with 1 ad and 1 pv. Mid tibia with 1 very long ad at base, apically with 5 setae including 1 very long av and 1 very long pv dark yellow. Hind tibia with 1 very long ad near base, apically with 5 setae. Wing tinged grayish brown; stigma long and dark brown; veins dark brown, R4+5 and M1 nearly parallel apically. Squama brown with blackish setulae. Halter dark brown with yellow base.

Abdomen slightly curved downward, dark black with grayish brown pollen. Setulae and setae on abdomen blackish to black. Male genitalia (Figs. 2A, B). Epandrial lamella narrowed toward tip with very short apico-dorsal corner. Hypandrium about 2.5 times longer than wide, with apical portion slightly narrowed; its apical margin with trapezoid incision at middle and short acute lateral process; aedeagus with widely obtuse apical margin and short acute subapical lateral process.

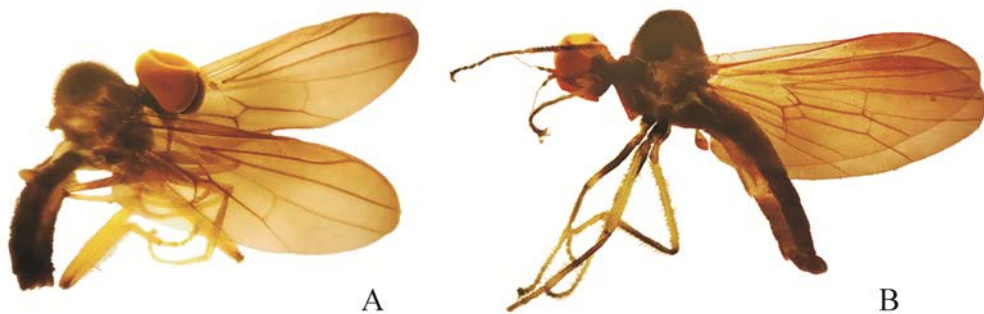


Figure 1. A. *Syneches medoganus* sp. nov., ♂ holotype; B. *Syneches nigritibia* sp. nov., ♂ holotype. Male habitus, lateral view.

Female. Body length 3.3–3.4 mm. Wing length 3.5–3.6 mm. Wing pale grayish brown.

**Holotype.** ♂, **China**, Tibet, Medog, Renqingbeng, 1049 m, 31-V-2019, Qicheng YANG (CAU). **Paratypes.** 1♂3♀, same data as holotype (CAU).

**Distribution.** China (Tibet).

**Diagnosis.** Antenna brown; first flagellomere with 1 dorsal setula. Wing tinged grayish brown. Fore tibia grayish with yellow tip, mid and hind tibiae entirely yellow. Hind femur with 6 long black bristles. Epandrial lamella with very short apico-dorsal corner. Hypandrium about 2.5 times longer than wide, with trapezoid apical incision at middle.

**Remarks.** This new species is somewhat similar to *Syneches rusticus* Brunettis, 1913 from India, but can be separated from the latter by the antenna brown, fore tibia grayish and

hind femur with 6 mostly very long ventral bristles. In *Syneches rusticus*, the antenna is blackish grey, all tibiae are brownish yellow, and the hind femur has one row of long hairs (Brunetti 1920).

Etymology. The specific epithet refers to the type locality.

## 2. *Syneches nigritiba* sp. nov. (Figs. 1B, 2C, D)

Description. Male. Body length 3.5 mm. Wing length 3.5 mm.

Head dull black with grayish brown pollen. Eyes contiguous on frons for a long distance, brownish yellow with enlarged upper facets yellow. Setulae and setae on head blackish; ocellar tubercle distinct, with 2 slightly long oc and 4 short posterior setulae. Antenna brown; first flagellomere nearly quadrate with 2 blackish dorsal setulae; arista dark brown, very short pubescence except apical 1/5 thin and bare. Proboscis brown; palpus brown with blackish setulae and 1 long blackish seta at extreme tip.

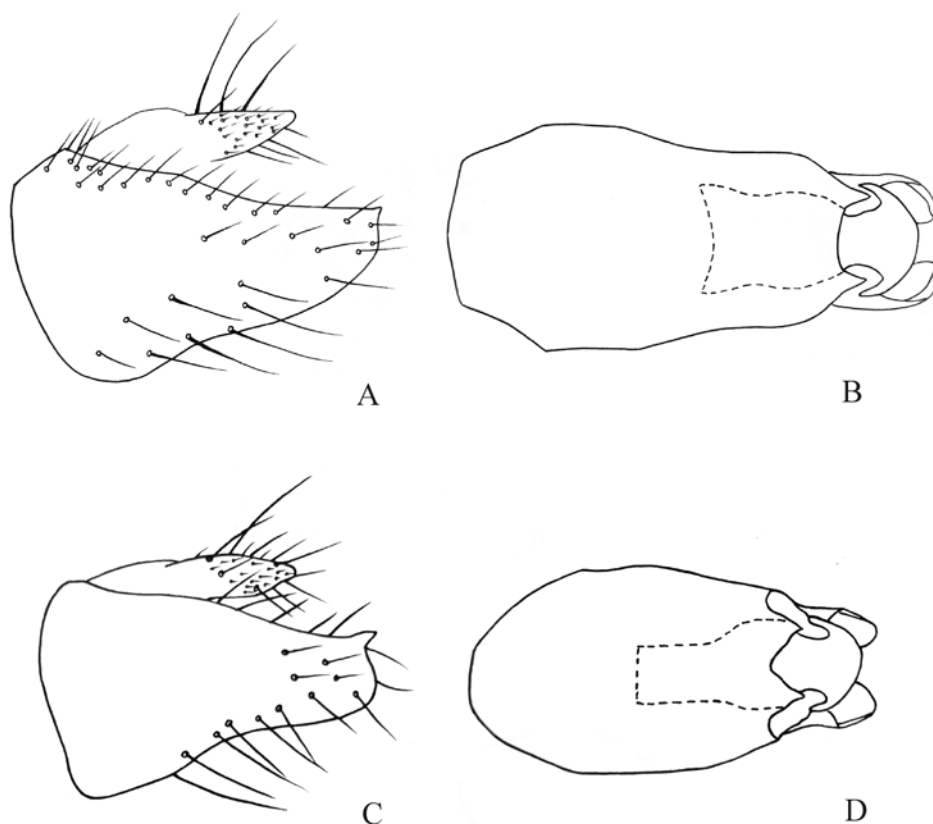


Figure 2. A, B: *Syneches medoganus* sp. nov., C, D: *Syneches nigritiba* sp. nov. Male genitalia. A, C. Epandrium and cercus, lateral views; B, D. Hypandrium and phallus, ventral views.

Thorax dull black with grayish brown pollen. Setulae on thorax blackish, setae black; mesoscutum with short setulae except mid-posterior area with several slightly long setulae and one transverse row of 2 prescutellar setae; h absent, 2 npl, 1 psa; scutellum with long marginal setulae and setae. Legs dull blackish except tips of fore and mid femora and entirely hind

femur yellow; tips of all tibiae yellow or brownish yellow; fore tarsus brown and mid and hind tarsi dark yellow except all tarsomere 5 dark brown. Setulae and setae on legs blackish to black. Fore femur 1.1 times as wide as mid femur, with row of weak pv; mid femur with row of weak pv; hind femur 1.1 times as wide as mid femur, with 4 long or very long dark brownish yellow bristles. Fore tibia with 5–6 weak ad, apically with 1 ad and 1 pv. Mid tibia with 1 very long ad at base, apically with 5 setae including 1 very long av and 1 very long pv dark yellow. Hind tibia with 1 very long brown ad near base, apically with 5 setae. Wing distinctly tinged grayish brown; stigma long and dark brown; veins dark brown, R4+5 and M1 weakly convergent apically. Squama brown with blackish setulae. Halter dark brown with dark yellow base.

Abdomen slightly curved downward, dark black with grayish brown pollen. Setulae and setae on abdomen blackish to black. Male genitalia (Figs. 2C, D). Epandrial lamella narrowed toward tip with short acute apico-dorsal corner. Hypandrium about 2 times longer than wide, with apical portion slightly narrowed; its apical margin with V-shaped incision at middle and short acute lateral process; aedeagus with widely obtuse apical margin and short acute subapical lateral process.

Female. Body length 3.7 mm. Wing length 3.8 mm. Wing pale grayish brown.

**Holotype.** ♂, **China**, Tibet, Medog, Renqingbeng, 1049 m, 31-V-2019, Qicheng YANG (CAU). **Paratype.** 1 ♀, same data as holotype (CAU).

Distribution. China (Tibet).

Diagnosis. Antenna brown; first flagellomere with 2 dorsal setulae. Wing distinctly tinged grayish brown. All tibiae blackish. Hind femur with 4 long or very long dark brownish yellow bristles. Epandrial lamella with short acute apico-dorsal corner. Hypandrium about 2 times longer than wide, with V-shaped apical incision at middle.

Remarks. The new species is somewhat similar to *Syneches rusticus* Brunetti, 1913 from India and *Syneches medoganus* **sp. nov.** from Tibet, but can be separated from *Syneches rusticus* by the antenna brown, all tibiae blackish and hind femur with 4 long or very long ventral bristles. In *Syneches rusticus*, the antenna is blackish gray, all tibiae are brownish yellow, and the hind femur has one row of long hairs (Brunetti 1920). Also, it may be separated from *Syneches medoganus* as shown in couplet 9 of the key.

Etymology. The specific epithet refers to all tibiae blackish.

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