

TWO NEW SPECIES OF *TRICHOPEZA* RONDANI (DIPTERA: EMPIDIDAE) FROM SOUTH CHINA, WITH A KEY TO WORLD SPECIES

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ABSTRACT. – The following two species of the genus *Trichopeza* Rondani collected in Guangdong Province (South China) are described as new to science: *Trichopeza sinensis* new species, *Trichopeza liliae* new species. A key to the species of the world is presented.

KEY WORDS. – Empididae, Trichopezinae, *Trichopeza*, new species, South China, Oriental region.

INTRODUCTION

The genus *Trichopeza* Rondani is a small group in the subfamily Trichopezinae (Sinclair, 1995). It is characterized by the following features: Body slender with slender legs; eyes hairy, contiguous on face for a long distance; first flagellomere much elongated, often fused with arista; male genitalia asymmetrical with fused epandrium and hypandrium. For detailed description of the genus, see Collin (1961). The genus is distributed in the Palearctic and Oriental realms with the following three species (Chvála & Wagner, 1989; Smith, 1975): *T. longicornis* (Meigen, 1822) - Europe; *T. albocincta* (Boheman, 1864) - Europe; *C. fusca* Brunetti, 1913 - India.

Two species are described as new to science, based on material taken in Guangdong, China. Guangdong is located within South China. It belongs to the Oriental realm with a subtropical and tropical climate. A key to the species of the world is given. The types are mainly deposited in the insect collection of China Agricultural University (CAU), Beijing except some paratypes kept in the Zoological Reference Collection (ZRC) of the Raffles Museum of Biodiversity Research, National University of Singapore and the Royal Belgian Institute of Natural Sciences in Brussels.

The following abbreviations are used: ad-anterodorsal, av-anteroverventral, d-dorsal, dc-dorsocentral, h-humeral, ih-inner humeral, ph-posthumeral, npl-notopleural, oc-ocellar, pd-posterodorsal, psa-postalar, pv-posteroverventral, sa-supralar, v-ventral, vt-vertical.

TAXONOMY

Key to male *Trichopeza* of the world

1. Thorax or abdomen partly pale; male mid tarsomere 3 not modified 2
- Thorax and abdomen wholly black; male mid tarsomere thickened with incised ventral margin. Europe
..... *longicornis* (Meigen)
2. Legs mostly dark brown 3
- Legs mostly pale yellow 4
3. First flagellomere separated from arista; scutellum yellowish; thoracic pleura with lower half yellowish brown; legs dark brown with coxae, trochanters and basal portions of femora pale yellow; male abdomen with basal three segments brownish yellow. China (Guangdong) *sinensis* new species
- First flagellomere fused with arista; scutellum brownish black; thoracic pleura with lower half dark brown (or thorax wholly black); legs brown with coxae and trochanters pale yellow; fore tarsus dark brown, mid and hind tibiae and tarsi black; male abdomen with basal three segments brown. China (Guangdong)
..... *liliae* new species
4. Legs pale yellow. Europe *albocincta* (Boheman)
- Legs pale yellowish except tarsi blackish. India
..... *fusca* Brunetti

Trichopeza sinensis, new species (Figs. 1-4)

Diagnosis. – First flagellomere separated from arista. Scutellum yellow. Thoracic pleura with lower half dark yellow. Legs dark brown with coxae, trochanters and basal

portions of femora pale yellow. Male abdomen with basal three segments brownish yellow.

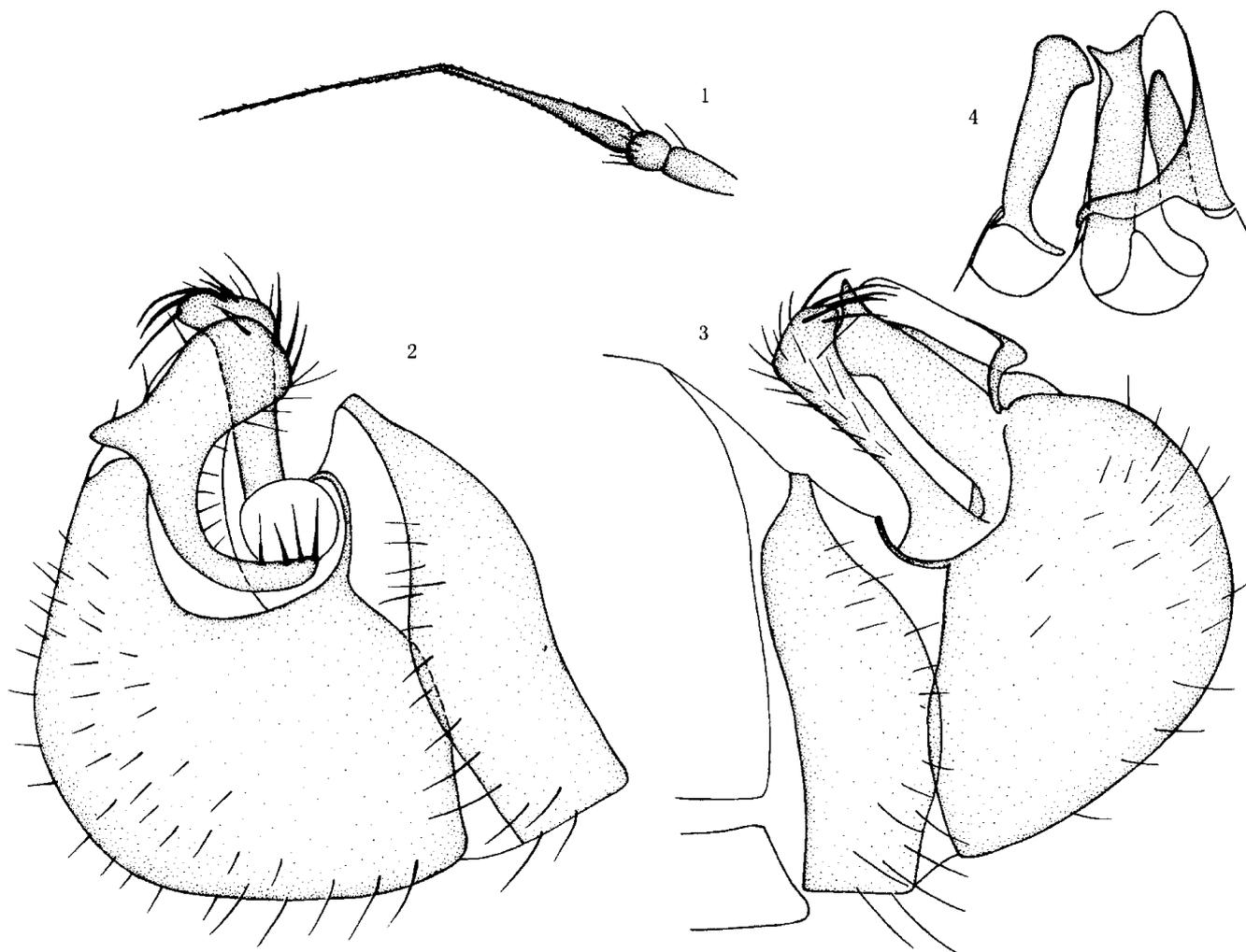
Male. – Body length 4.0 mm, wing length 5.0 mm.

Head black with pale grey pollen. Eyes contiguous on face for a long distance, with very short erect hairs. Hairs and bristles on head black; ocellar tubercle weakly prominent with 2 oc. 1 vt (longer than oc). Antenna black; scape distinctly longer than wide, with 2-3 dorsal hairs; pedicel with a circlet of apical hairs; first flagellomere much elongated, 6.0 times longer than wide, very short pubescent; arista 1.2 times longer than first flagellomere, one-segmented, black, and very short pubescent. Proboscis directed downward, 0.6 times as long as head height, brownish yellow, and with black hairs; palpus short and thin, dark brown, and with 1 ventral hair and 1 long, black apical hair, nearly as long as palpus.

Thorax black with pale grey pollen; humeri, ventral side of notopleural depression and scutellum yellowish brown i.e. contrastingly paler than dorsum of thorax. Pleura with upper half dark brown, lower half dark yellowish (on alcohol specimens the lower half of the pleura have the same pale

colour as the coxae). Hairs and bristles on thorax black; 1 short h, 1 ph, 2 npl (anterior npl short), 1 sa, 1 psa, 4 dc; scutellum with two pairs of bristles (apical pair long). Legs dark brown; coxae, trochanters and basal portions of femora pale yellow. Hairs and bristles on legs black. Fore femur with 6-7 long pv; mid femur with 2 preapical anterior bristles, 1 long av and 6-7 long pv; hind femur with 2 preapical anterior bristles, and with 3 very long av on apical half. Fore tibia with 2 short pd on basal 2/5. Mid tibia with 1 very long ad and 2 pd (basal pd short) at base. Hind tibia with 1 very long ad, 1 short pd and 1 long av at base. Mid and hind tarsomere 1 with 1 short v at extreme base. Wing hyaline, slightly tinged greyish; veins dark brown. Halter dark yellow; base of stalk dark, middle white, bearing 1 short black bristle.

Abdomen black with pale grey pollen; basal three segments brownish yellow. Hairs and bristles on abdomen black. Tergite 8 and sternite 8 fused into a circular band rather narrow dorsally. Male genitalia (Figs. 2-4): left and right epandrial lamella connected basally by very narrow dorsal sclerite; left surstylus long and rather thick with acute apex; right surstylus shorter than left surstylus, nearly acute in posterior view; left cercus nearly straight with large and



Figs. 1-4. *Trichopeza sinensis* new species (male). 1. antenna; 2. genitalia, right lateral view; 3. genitalia, left lateral view; 4. genitalia, posterior view.

curved apex bearing several long strong bristles; right cercus strongly curved, rather narrow basally but rather wide apically, and with a posterior process.

Female. – Body length 4.5-5.3 mm, wing length 5.3-5.6 mm. Similar to male, but abdomen wholly black. The acanthophores are triangular knobs in dorsal view, bearing about 60 small black acanthae (spinules).

Types. – Holotype male, Guangdong: Ruyuan, Nanling National Nature Reserve, 26. III. 2003, Lili Zhang (CAU). Paratypes 3 females, same data as holotype (CAU, ZRC); 1 female, Guangdong: Ruyuan, Nanling National Nature Reserve, 25. III. 2003, Ding Yang (CAU). 1 female, Nanling National Nature reserve (alt. 1500 m), 25.III.2003 (sample 23005, RBINS); 1 female Nanling National Nature Reserve, gardens outside entrance of Park (alt. 500 m), 26.III.2003 (sample 23008, RBINS); 1 female, forest near entrance of Park (alt. 500 m), leg. P. Grootaert (sample 23010, RBINS).

Distribution. – China (Guangdong).

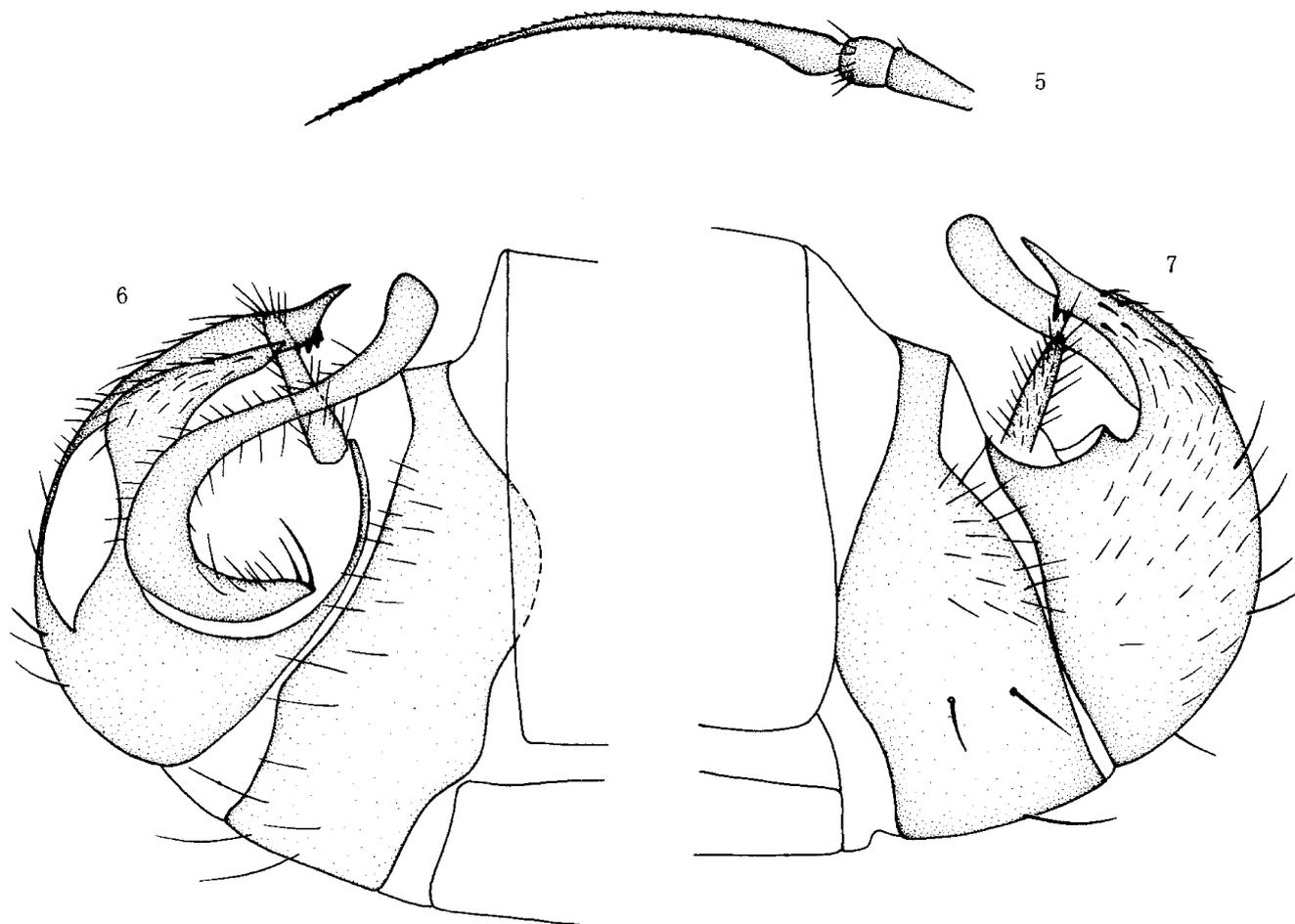
Etymology. – The species is named after its country of the origin.

Remarks. – The new species is similar to *T. liliae* new species, but can be distinguished from the latter by the first flagellomere separated from the arista, thoracic pleuron with lower half yellow or brownish yellow, femora with basal portions pale yellow; male abdomen with basal three segments brownish yellow. In *T. liliae*, the first flagellomere is fused with the arista, the thorax is wholly black, the femora are wholly brown, and male abdomen has the basal three segments brown.

The acanthophore is quite unusual for empidids. Here it is a triangular piece bearing many short spinules of about the same size (about 60). In the type species, *T. longicornis*, there is an apical row of large acanthae (spinules) followed by some minute spinules.

***Trichopeza liliae*, new species**
(Figs. 5-7)

Diagnosis. – First flagellomere fused with arista. Scutellum dark brown. Legs brown; coxae and trochanters pale yellow (coxae contrastingly paler than lower half of thoracic pleura); fore tarsus pale brown, mid and hind tibiae and tarsi black. Male abdomen with basal three segments brown.



Figs. 5-7. *Trichopeza liliae* new species (male). 5. antenna; 6. genitalia, right lateral view; 7. genitalia, left lateral view.

Male. – Body length 4.6 mm, wing length 5.0 mm.

Head black with pale grey pollen. Eyes contiguous on face for a long distance, with very short erect hairs. Hairs and bristles on head black; ocellar tubercle weakly prominent with 2 oc. 1 vt (nearly as long as oc). Antenna black; scape three times as long as wide, with 1 or 2 dorsal hairs; pedicel with a cirlet of apical hairs; first flagellomere much elongated, fused with arista, black, and very short pubescent. Proboscis directed downward, 0.7 times as long as head height, brownish yellow with black hairs; palpus tubular, about 4 times as long as wide, dark brown (yellowish brown in alcohol), and with 3 ventral hairs, shorter than palpus is long.

Thorax black with pale grey pollen. Hairs and bristles black; h absent, 1 ih, 1 ph, 2 npl (posterior npl very long), 1 sa, 1 psa, at least 4 short dc; scutellum with one pair of long bristles. Legs brown; coxae and trochanters pale yellow; fore tarsus pale brown, mid and hind tibiae and tarsi black. Hairs and bristles on legs black. Fore femur with 1 minute preapical anterior bristle and 1 basal anterior bristle, and with 5 av and 2 long pv at base; mid femur with 1 preapical anterior bristle, with 11-12 av nearly on whole length (4 apical av rather long and flattened, pale and curved), 4-5 pv at base and 3 long, flattened, pale pv at apex; hind femur with 1 preapical anterior bristle. Fore tibia with 1 pd at base. Mid tibia with 2 long ad on basal half, apically with 1 pv. Tip of hind tibia dilated with 1 very long ad and 1 very long av at base (which are located at the same level), and with 1 very long ad at middle. Hind tarsomere 1 with 1 v at extreme base. Wing slightly tinged greyish; veins dark brown. Halter yellow (almost white in alcohol preserved specimens) with a short black bristle halfway the long stalk. Squamae pale without ciliation.

Abdomen largely black with pale grey pollen; basal three segments brown. Hairs and bristles on abdomen black; long on basal tergite, minute on following tergites. Tergite 8 and sternite 8 fused into a circular band rather narrow dorsally. Male genitalia (Figs. 6-7): left and right epandrial lamella connected basally by very narrow dorsal sclerite; left surstylus long rather thick with acute apex; right surstylus distinctly shorter than left surstylus, with acute apex; left cercus straight and finger-like; right cercus rather long and strongly curved.

Female. – Body length 5.3-5.5 mm, wing length 5.9-6.0 mm. Similar to male, but abdomen wholly black, fore femur only with 4-5 av and 4-5 pv at base.

Types. – Holotype male, Guangdong: Ruyuan, Nanling National Nature Reserve, 26. III. 2003, Lili Zhang (CAU). Paratypes: 3 females, same data as holotype (CAU); 1 male 2 females, Guangdong: Ruyuan, Nanling National Nature Reserve, 26. III. 2003, Ding Yang (ZRC). 1 male Nanling National Nature Reserve, gardens outside entrance of Park, 26.III.2003; 1 male, forest near entrance of Park, leg. P. Grootaert (RBINS).

Distribution. – China (Guangdong).

Etymology. – The species is named after the collector Mrs. Lili Zhang.

Remarks. – The new species is similar to *T. sinensis* new species, but can be distinguished from the latter by the first flagellomere fused with the arista, thorax wholly black, femora wholly brown, and male abdomen with the basal three segments brown.

DISCUSSION

There are 5 known species of the genus *Trichopeza* in the world now. Two species are distributed in Europe and so belong to the Palearctic realm: *T. longicornis* (Meigen, 1822) and *T. albocincta* (Boheman, 1864). Three species are distributed in the Oriental realm, of which one species (*T. fusca* Brunetti, 1913) is endemic to India and two new species (*T. sinensis* new species, *T. liliae* new species) are endemic to the South China region.

ACKNOWLEDGEMENTS

We are much indebted to Prof. Zaifu Xu (South China Agricultural University, Guangzhou) for his kind help during the survey in Guangdong, and to Mrs. Lili Zhang (China Agricultural University, Beijing) for collecting some specimens. DY wishes to express his thanks to Mrs. Mengqing Wang (China Agricultural University, Beijing) for her help during the study. The research was funded by the National Natural Science Foundation of China (No. 30070100, No. 30225009).

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