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Report on crane flies of the genus *Tipula* (Diptera: Tipulidae: Tipulinae) from Anhui Province, China

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Abstract. One new species of the subgenus *Tipula* (*Emodotipula* Alexander, 1966), *Tipula* (*Emodotipula*) *yaoluopingensis* sp. nov. (Anhui, Southern China), is described and illustrated. A key for identification of known species in this genus is provided. This is the second species of the subgenus *Emodotipula* from Mainland China. The new species is similar to *Tipula* (*Emodotipula*) *hemmingseni* Alexander, 1968 in the colors of body and legs, and in the structures of outer gonostylus and inner gonostylus, but separated from the latter by the structure of tergite nine. In addition, *Tipula coxitalis* Alexander, 1935 and *Tipula* (*Pterelachisus*) *biaciculifera* Alexander, 1937 are redescribed based on new morphological characters and detailed illustrations. *Tipula coxitalis* is reported from Mainland China for the first time.

Key words. Diptera, Nematocera, Tipuloidea, crane flies, taxonomy, redescription, China

Introduction

Emodotipula Alexander, 1966 is a relatively small subgenus in *Tipula* Linnaeus, 1758 with 22 species worldwide, mainly distributed in the Palaearctic and the Oriental Regions (Oosterbroek 2015). This subgenus was established by Alexander (1966) with the type species *Tipula marmoratipennis* Brunetti, 1912 from India by original designation. It is characterized by the following characters: nasus present; claws simple; calypter covered with setae; tergite nine and sternite nine fused into a ring, both generally with long hairs, tergite nine with lateral or median lobes, outer gonostylus elongate, apically with a single black point or densely covered with small black setae (Alexander 1966, Young 2014). Until now, two Chinese species have been recorded in this subgenus, *T.* (*E.*) *multisetosa* Alexander, 1935 from Sichuan and *T.* (*E.*) *lishanensis* Young, 2014 from Taiwan Island (Alexander 1935a, Young 2014).

Anhui Province is located in Southeastern China, divided by the Yangtze River. Many crane flies including numerous *Tipula* species were reported from the south of Anhui Province. During sorting and identification of crane fly species recently collected from Anhui Province, specimens from two subgenera of *Tipula* were noticed, one new species of the subgenus *Emodotipula* was found, which is described and illustrated here. In addition, *Tipula* (*Pterelachisus*) *biaciculifera* Alexander, 1937 and *Tipula coxitalis* Alexander, 1935 are redescribed based on new morphological characters and detailed illustrations. *Tipula coxitalis* is reported from Mainland China for the first time. Both subgenera represent the first records form Anhui Province, China.

Material and methods

The specimens examined during the present study are pinned specimens, which were collected during a scientific exploration in the Yaoluoping National Nature Reserve and Huangshan Mountain, Anhui Province, undertaken by the author and students. The genital segments of the specimens were soaked in 10% NaOH overnight, observed and drawn using a Leica MZ125 (Leica, Germany) stereomicroscope, and finally preserved in glycerin jelly in 0.2 ml centrifuge tube. All measurements are in millimeters (mm), made with the aid of a digital caliper. The terminology and methods of description and illustration follow that of Alexander & Byers (1981), Frommer (1963), Men & Yu (2015) and Ribeiro (2006).

Taxonomy

Tipula (*Emodotipula*) *yaoluopingensis* sp. nov.

(Figs 1, 4–13)

Type locality. China, Anhui Province, Yaoluoping National Nature Reserve, 31°2'N, 116°5'E.

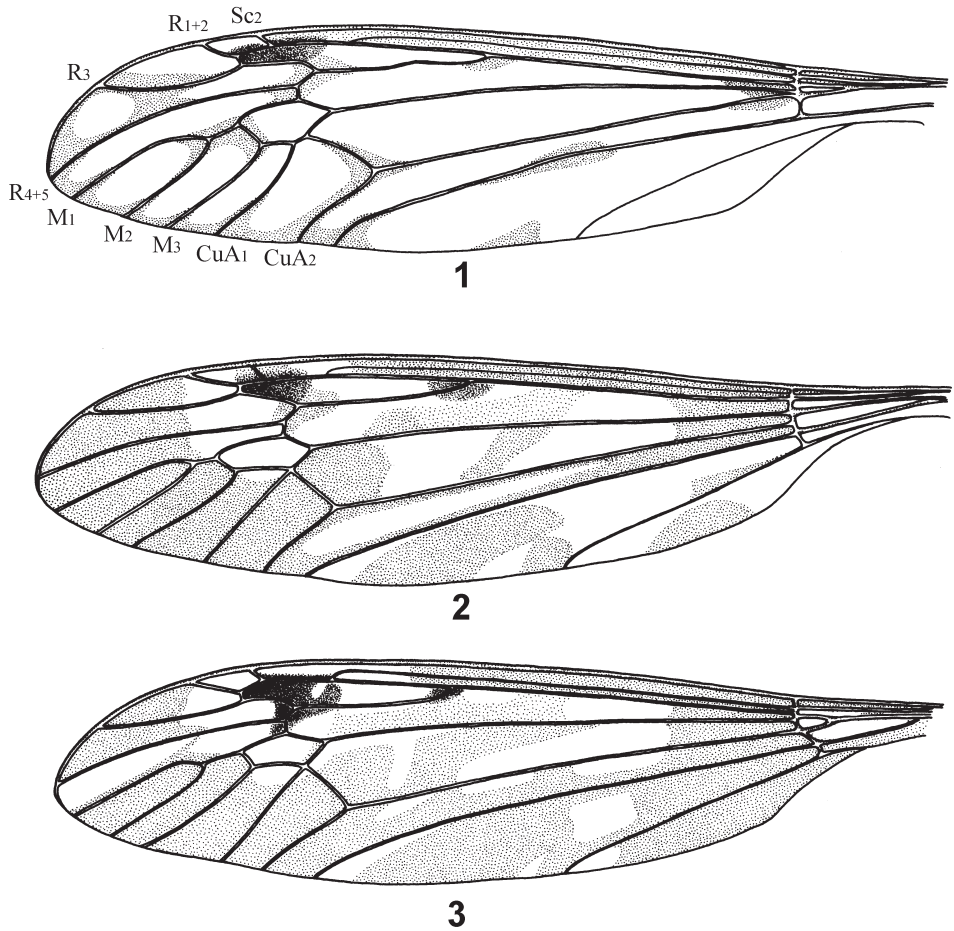
Type material (3 ♂♂). Holotype: **CHINA:** ♂, 'China: Anhui Province, Yuexi County, Yaoluoping National Nature Reserve, 1000 m, 15. Viii. 2013, Qiulei Men coll. / HOLOTYPE [red] ♂, *Tipula* (*Emodotipula*) *yaoluopingensis* sp. n. Men det., 2013'. Paratypes: **CHINA:** 2 ♂♂, same data as the holotype. All paratypes bear the following label: 'PARATYPE [yellow] ♂, *Tipula* (*Emodotipula*) *yaoluopingensis* sp. n. Men det., 2013'.

Diagnosis. Antenna with scape and pedicel light yellow, flagellum blackish brown; prescutum gray with four dark gray stripes; wings subhyaline, R_{1+2} entire, petiole of cell m_1 distinctly shorter than discal cell; abdominal tergites with lateral and median dark stripes, sternites uniformly yellow, hypopygium brownish black; tergite nine with two finger-shaped processes at hind margin medially.

Description. ***Male*** (n = 3). Body length 13.2–13.4 mm, wing 16.5–16.7 mm, antenna 4.6–4.8 mm.

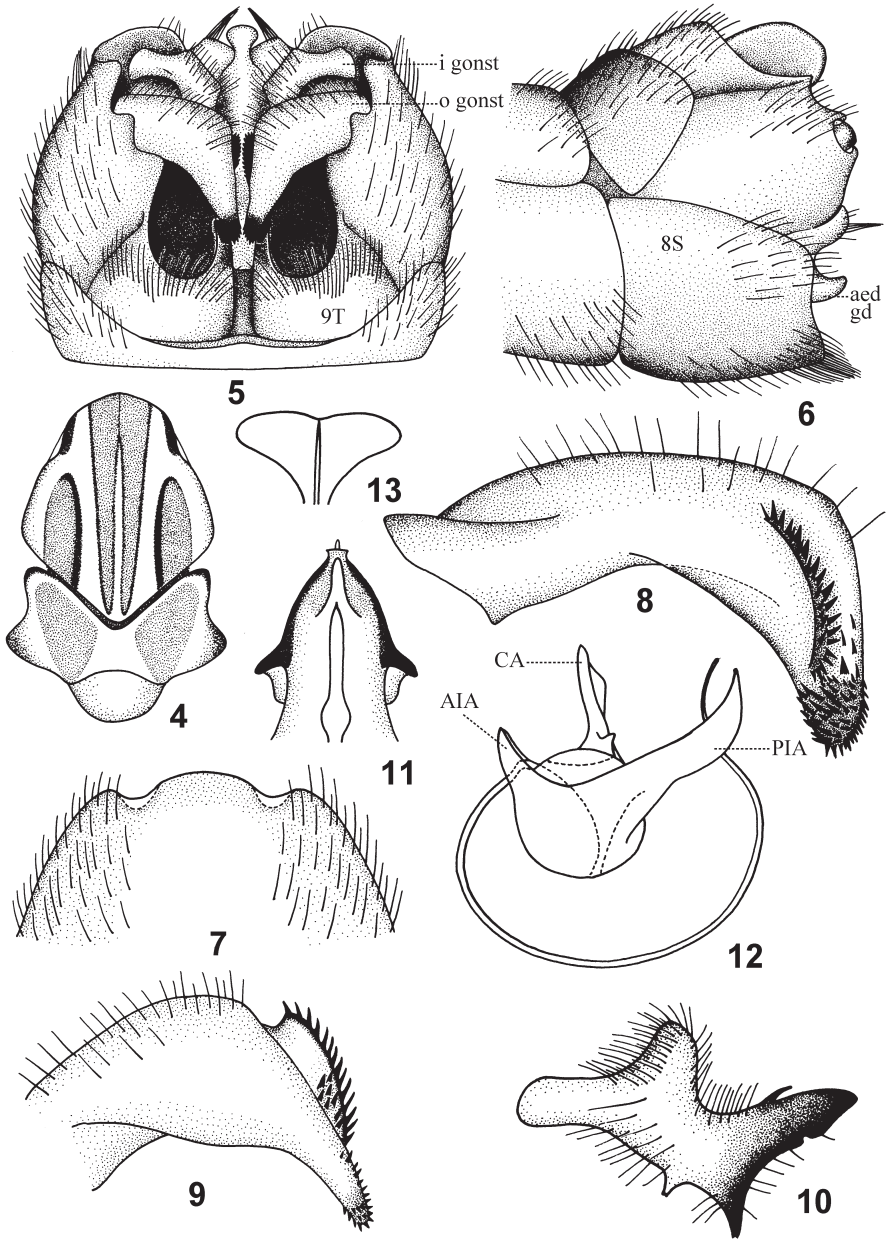
Rostrum yellow with lateral sides blackish brown, nasus light yellow, palpi dark brown, surface of rostrum densely covered with black setae. Antenna relatively long, bent backward extending to first abdominal segment, scape and pedicel light yellow, flagellum blackish brown, verticils black, slightly shorter than coordinate segments. Head yellow, vertex with median stripe, gradually narrowed directed cephad.

Pronotum grey with one median and two lateral brown areas. Prescutum (Fig. 4) grey with four dark grey stripes, median two narrowly separated by greyish line in middle, connected



Figs 1–3. Wing.1 – *Tipula* (*Emodotipula*) *yaoluopingensis* sp. nov.; 2 – *Tipula coxitalis* Alexander, 1935; 3 – *Tipula* (*Pterelachisus*) *biaciculifera* Alexander, 1937.

apically; lateral stripes bordered by black on inner margins. Scutum grey, each lobe with two dark grey areas. Scutellum and postnotum dark grey with black median line. Pleura brownish grey, variegated by dark brown on anepisternum, meron, and ventral half of katepisternum. Halter with stem yellow, knob dark brown. Legs with coxae and trochanters yellow, femora yellow with black tips; tibiae and tarsi dark brown. Wings (Fig. 1) subhyaline, cells c and sc slightly darker than ground color; stigma black; Rs slightly tinged with dark brown at branch point, wing-apex and outer margin of wing suffused with dark brown, R_3, branch point of Rs, r-m, m-m, petiole of cell m_1, branch point of CuA, and middle point of A_1 suffused with dark brown as illustrated in Figure 1. Venation: Rs relatively long, curved in basal two fifths, R_{1+2} entire, discal cell relatively broad, petiole of cell m_1 distinctly shorter than discal cell.



Figs 4–13. *Tipula* (*Emodotipula*) *yaoluopingensis* sp. nov.: 4 – thorax, dorsal view; 5 – hypopygium, dorsal view; 6 – hypopygium, lateral view; 7 – sternite eight, ventral view; 8 – outer gonostylus, ventral view; 9 – outer gonostylus, dorsal view; 10 – inner gonostylus, ventral view; 11 – aedegal guide, ventral view; 12 – semen pump, lateral view; 13 – compressor apodeme, dorsal view. Abbreviations: aed gd = aedeagal guide, AIA = anterior immovable apodeme, CA = compressor apodeme, i gonst = inner gonostylus, o gonst = outer gonostylus, PIA = posterior immovable apodeme.

Abdomen yellow, tergites with lateral and median dark stripes, sternites uniformly yellow, hypopygium brownish black. Hypopygium with tergite nine and sternite nine fused (Figs 5–6); sternite eight relatively widened in lateral view, produced into a rounded apex medially, slightly sunken in lateral angles (Figs 6–7); tergite nine with narrow notch medially, apically divided into two finger-like processes, densely covered with blackened spinulae at apex, many long hairs located on surface of tergite nine (Figs 5–6); outer gonostylus boomerang-shaped, apically covered with blackened spinulae, with a row of blackened spinulae on ventral side (Figs 5, 8–9); inner gonostylus with two black beaks on ventral and dorsal sides, near dorsal beak with small black spinous process, near ventral beak with cone-shaped process, lobe projecting from ventral margin densely covered with long hairs (Fig. 10); aedeagal guide bell-shaped (Fig. 11); aedeagus elongate, slender, acute apically (Fig. 12).

Semen pump with compressor apodeme fan-shaped, slightly depressed medially, with ridge in the middle, forming 90° angle with posterior immovable apodeme (Figs 12–13). Posterior immovable apodeme distinctly longer than compressor apodeme, gradually narrowed to apex in lateral view (Fig. 12). Anterior immovable apodeme gradually narrowed to apex (Fig. 12).

Female. Unknown.

Differential diagnosis. *Tipula* (*Emodotipula*) *yaoluopingensis* is the second species in this subgenus recorded in Mainland China. The new species was compared to another species, *T.* (*E.*) *multisetosa*, from mainland China and several other related regional species based on published descriptions and illustrations, and it is mostly similar to the Indian species *Tipula* (*Emodotipula*) *hemmingseni* Alexander, 1968 in the colors of body and legs, the boomerang--shaped outer gonostylus, and the similar arrangement of beaks on inner gonostylus. It can be easily separated from the latter by hind margin of tergite nine with a pair of finger-shaped processes medially and without cushion as illustrated in Figure 5 (tergite nine with a pair of bifid processes, more ventrally with a pair of lateral blackened cushions in *T.* (*E.*) *hemmingseni* as described by Alexander 1968: 358).

Etymology. The specific epithet is an adjective composed of the noun '*yaoluoping*' with Latin suffix '*-ensis*', referring to the type locality of this new species.

Distribution. China (Anhui) based on current records.

Tipula coxitalis Alexander, 1935

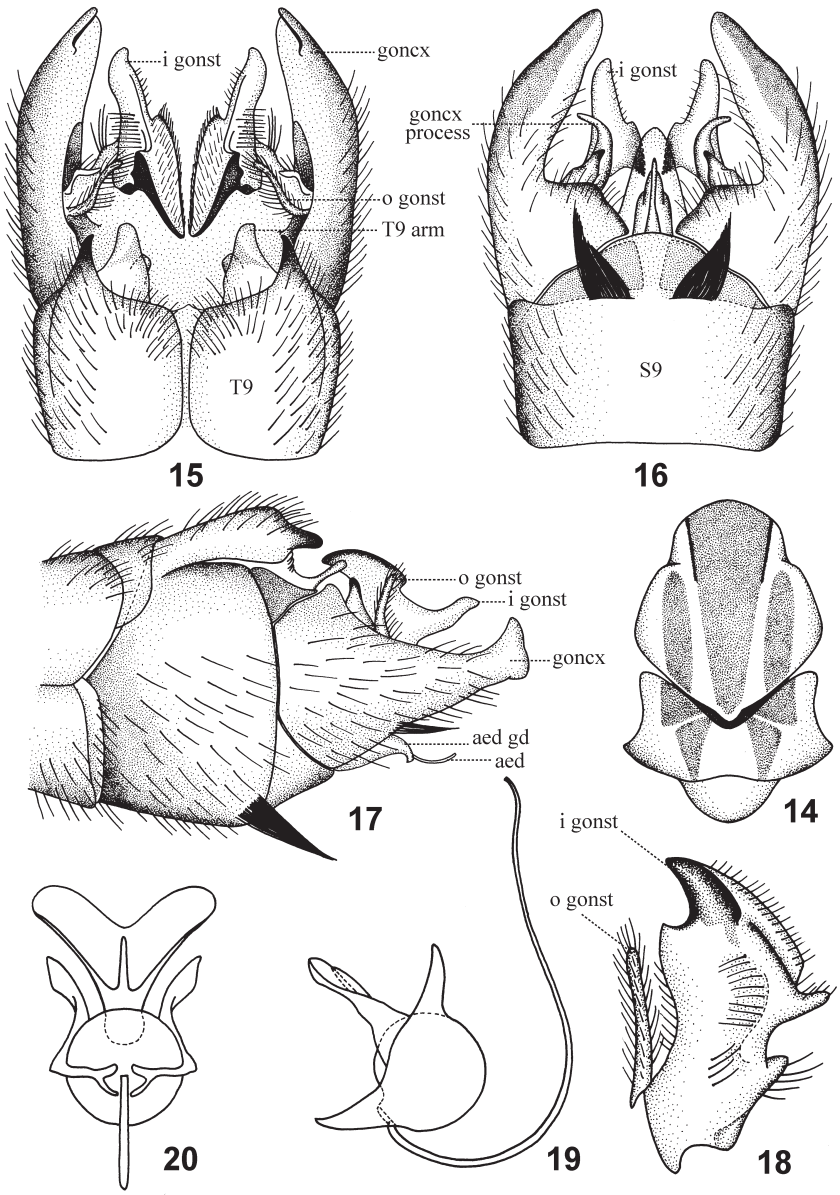
(Figs 2, 14–20, 32–33)

Tipula (*Oreomyza*) *coxitalis* Alexander, 1935a: 532 (original description), Pl. 1, Fig. 5, Pl. 2, Figs 30–31.

Type locality. China, Taiwan, Hassensan.

Material examined. CHINA: Anhui: 2 ♂♂, Huangshan Moutain, Hougu, 25.v.2012, collector unknown; 1 ♂, Huangshan Moutain, Hougu, 1.vi.2013, collector unknown; 2 ♂♂ 3 ♀♀, Huangshan Moutain, Hougu, 5.vi.2014, Qiulei Men.

Diagnosis. Antenna with scape, pedicel and first flagellomere yellow, flagellomeres two to four bicoloured, black basally and yellow apically, rest of flagellomeres uniformly black; prescutum grey with three brownish grey stripes; wing obscure brown with dark stigma, R_{1+2} entire, petiole of cell m_1 distinctly shorter than discal cell; abdominal tergites with indistinct lateral and median dark stripes; hypopygium brownish black, tergite nine produced into two horn-shaped processes, sternite nine with two strands of long hairs, gonocoxite long, paliform apically.



Figs 14–20. *Tipula coxitalis* Alexander, 1935: 14 – thorax, dorsal view; 15 – hypopygium, dorsal view; 16 – hypopygium, ventral view; 17 – hypopygium, lateral view; 18 – outer gonostylus and inner gonostylus, lateral view; 19 – semen pump, lateral view; 20 – compressor apodeme, dorsal view. Abbreviations: aed = aedeagus, aed gd = aedeagal guide, goncx = gonocoxite, goncx process = process of gonocoxite, i gonst = inner gonostylus, o gonst = outer gonostylus, S9 = sternite nine, T9 = tergite nine, T9 arm = arm of tergite nine.

Redescription. ***Male*** (n = 5). Body length 13.3–13.5 mm, wing 17.5–17.7 mm, antenna 4.5–4.7 mm.

Rostrum entirely yellow with nasus yellow, surface of rostrum densely covered with black setae, palpi with basal two segments yellowish brown, other segments black. Antenna relatively long, bent backward extending to first abdominal segment, scape and pedicel yellow, flagellum with 10 segments, first flagellomere yellow, second to fourth flagellomeres black basally, yellow apically, basal enlargement with black verticils, subequal to coordinate flagellomeres, other flagellomeres uniformly black. Head yellow, vertex with brown median vitta, sometimes indistinct.

Pronotum light brown, getting darker in middle. Prescutum (Fig. 14) grey with three brownish grey stripes, median one expanded apically, sometimes separated by indistinct light grey line, lateral stripe rounded apically. Scutum yellowish brown, each lobe with two pale brown areas. Scutellum and postnotum yellowish brown with pale brown median line. Pleura yellowish brown, variegated by dark brown on ventral sides of anepisternum and katepisternum. Halter with stem yellowish brown, knob dark brown. Legs with coxae and trochanters yellow; femora yellowish brown with dark brown tips; tibiae brown, sometimes with narrow dark brown tips; tarsi dark brown. Wings (Fig. 2) light brown, cells c and sc suffused with brown; stigma dark brown; Rs tinged with dark brown at origin point; apex of wing tinged with light brown including bases of cells r_{1+2}, r_3, r_{4+5}, cua_1 and cua_2; discal cell transparent; some large hyaline areas in cells r, m and a (Fig. 2).Venation: R_{1+2} entire, discal cell narrow, elongate, petiole of cell m_1 distinctly shorter than discal cell.

Abdomen yellowish brown, tergites with indistinct lateral and median dark stripes, fifth to eighth sternite with median dark stripes, hypopygium brownish black. Tergite nine separated medially, produced into a pair of horn-shaped processes in lateral angles, a pair of angular arms arising from ventral surface of tergite nine, arm with a truncated process directed inwards (Fig. 15); sternite nine with caudal margin rounded, ventral surface of sternite nine with two strands of long hairs (Fig. 16); gonocoxite elongate, separated from sternite nine, gradually narrowed to apex, paliform apically, finger-like process generated from base of gonocoxite in ventral view (Figs 15–17); outer gonostylus narrow, filiform (Figs 17–18); inner gonostylus with black beak at apex, with two narrowed processes at dorsal margin (Figs 15–18); aedeagal guide gradually narrowed to apex, curved ventrad in lateral view (Figs 16–17); aedeagus tubular and elongate (Fig. 19).

Semen pump with compressor apodeme V-shaped, divided by V-shaped notch medially, forming 90° angle with posterior immovable apodeme (Figs 19–20). Posterior immovable apodeme shorter than compressor apodeme in lateral view, gradually narrowed to apex in lateral view (Figs 19–20). Anterior immovable apodeme equal in length to posterior immovable apodeme, gradually narrowed to terminus (Figs 19–20).

Female (n = 3). Body length 18.5–18.7 mm, wing 18.2–18.4 mm, antenna 2.8–2.9 mm.

Antenna relatively short, bent backwards, not extending to root of wing, scape and pedicel yellow, first flagellomere yellow, succeeding flagellomeres black basally, dark brown apically, basal enlargement with black verticils, distinctly longer than coordinate flagellomeres.

Abdominal tergites with widened median stripes and narrowed lateral stripes, sternites with median stripes. Ovipositor brown, hypovalva and base of tergite ten variegated by black

(Figs 32–33). Sternite ten distinctly longer than cercus, basal half widened and gradually narrowed to apex in dorsal view (Figs 32–33). Cercus narrowed, acinacifoliate (Fig. 32). A median ridge arising on lateral surface of cercus. Hypovalva not surpassing end of sternite ten, gradually narrowed proximally (Fig. 32).

Distribution. China (Anhui, Taiwan) based on the current study.

Remarks. *Tipula coxitalis* was originally placed in the subgenus *Oreomyza* Pokorny, 1887, which was subsequently treated as a synonym of the subgenus *Pterelachisus* Rondani, 1842. Until now, the subgeneric position of *Tipula coxitalis* has not been defined (Oosterbroek 2015). In my opinion, *Tipula coxitalis* should be placed in the subgenus *Vestiplex* Berri, 1924 because of the character of its male hypopygium with distinctly elongated gonocoxite, which is generally observed among the species of *Vestiplex*. However, the subgeneric placement of *Tipula coxitalis*is cannot be defined for certain in this study.

Tipula (*Pterelachisus*) *biaciculifera* Alexander, 1937

(Figs 3, 21–31, 34–35)

Tipula (*Pterelachisus*) *biaciculifera* Alexander, 1937: 17 (original description), Figs 20–22.

Type locality. China, Jiangxi Province, Kuling.

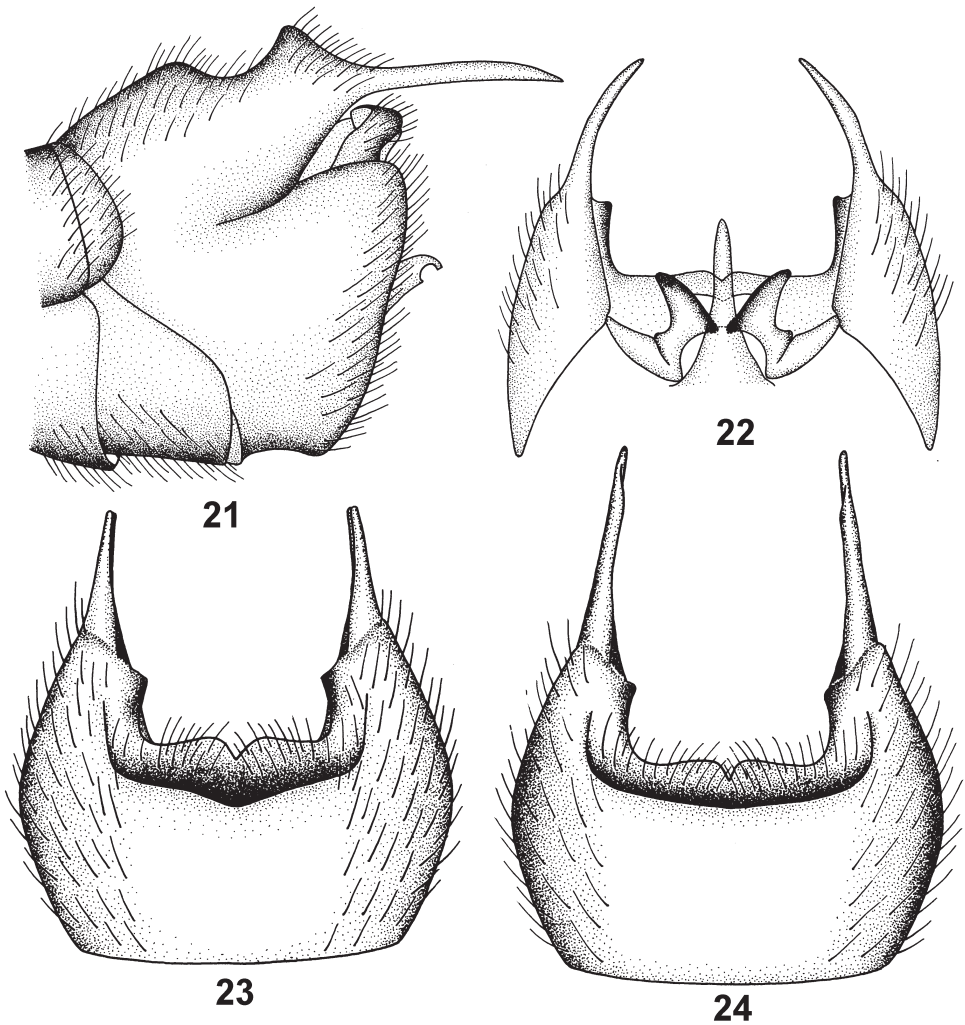
Material examined. CHINA: Anhui: 7 ♂♂ 8 ♀♀, Yuexi County, Yaoluoping National Nature Reserve, 1000 m, 16.viii.2013, Qiulei Men; 8 ♂♂ 12 ♀♀, Yuexi County, Yaoluoping National Nature Reserve, 1000 m, 17.viii.2013, Qiulei Men.

Diagnosis. Antenna with scape, pedicel and first flagellomere light yellow, flagellomeres two to four bicoloured, black basally and yellow apically; prescutum light brown with three dark brown stripes; R_{1+2} entire, petiole of cell m_1 distinctly shorter than discal cell; abdominal tergites with lateral stripes; hypopygium dark brown, tergite nine produced into two spinous processes in lateral angles.

Redescription. ***Male*** (n = 15): body length 12.8–13.0 mm, wing 15.2–15.4 mm, antenna 4.8–5.0 mm.

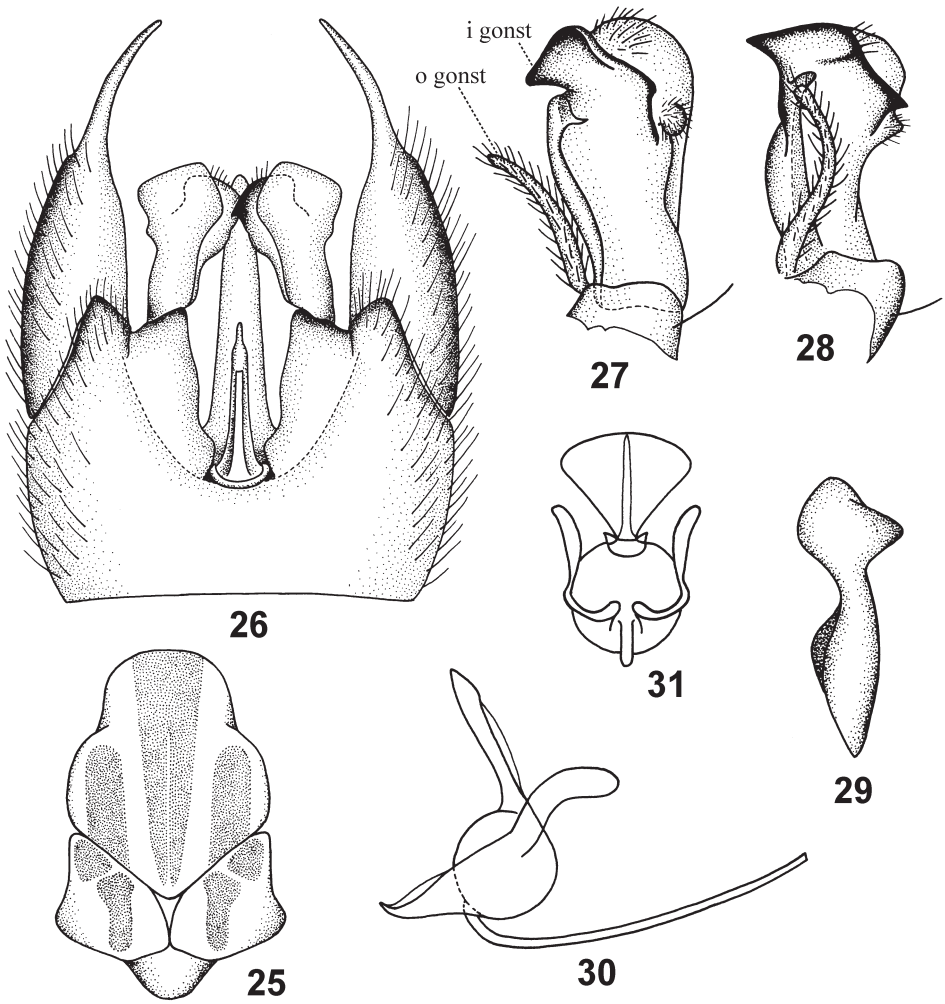
Rostrum light yellow with lateral side brown, nasus light yellow, surface of rostrum densely covered with black setae, palpi black. Antenna relatively long, bent backwards, extending to first abdominal segment, scape and pedicel light yellow, flagellum made of 10 segments, first flagellomere light yellow, segments two to four bicolored, black basally, yellowish apically, other flagellomeres uniformly black, verticils black, slightly shorter than coordinate segments. Head yellow, vertex with indistinct light brown median stripe.

Pronotum light brown, laterally and medially brown. Prescutum (Fig. 25) light brown with three dark brown stripes, median one expanded apically, narrowly separated by median light brown line. Scutum yellowish brown, each lobe with two dark brown areas. Scutellum and postnotum dark brown. Pleura yellowish brown. Halter with stem yellowish brown, knob dark brown. Legs with coxae dark brown, trochanters yellow, femora yellowish brown with black tips; tibiae and tarsi dark brown. Wings (Fig. 3) tinged with light brown, cells c and sc darker than ground color; stigma dark brown; Rs tinged with dark brown at origin point; apex of wing tinged with light brown including bases of cells r_{1+2}, r_3, m_1, m_2, m_3, cua_1 and cua_2; cell r_{4+5} and discal cell subhyaline; some large hyaline areas in cells r, m and a (Fig. 3). Venation: R_{1+2} entire, discal cell narrow and elongate, petiole of cell m_1 distinctly shorter than discal cell.



Figs 21–24. *Tipula* (*Pterelachisus*) *biaciculifera* Alexander, 1937: 21 – hypopygium, lateral view; 22 – tergite nine, ventral view; 23 – tergite nine (short form), dorsal view; 24 – tergite nine (long form), dorsal view.

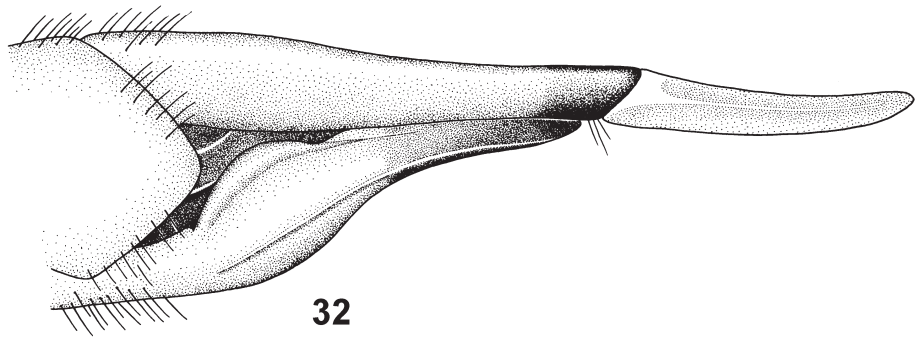
Abdominal tergites light yellow, blackened laterally, basal tergite variegated by brown, sternites uniformly light yellow, hypopygium dark brown. Male hypopygium relatively large, tergite nine fused in basal portion with sternite (Fig. 21); tergite nine produced into narrowed, sword-shaped process in lateral angle, some individuals with process shorter and truncated (Fig. 23), caudal margin of tergite nine with V-shaped notch in middle, ventral surface of tergite nine with pair of arms (Figs 22–24); sternite nine with deep notch at hind margin, with pair of blades at lateral angles (Figs 26, 29); outer gonostylus narrow, filiform; inner

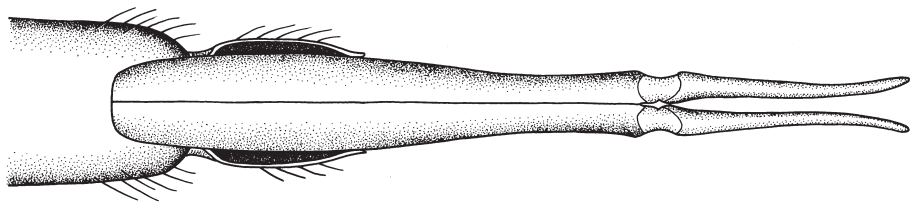


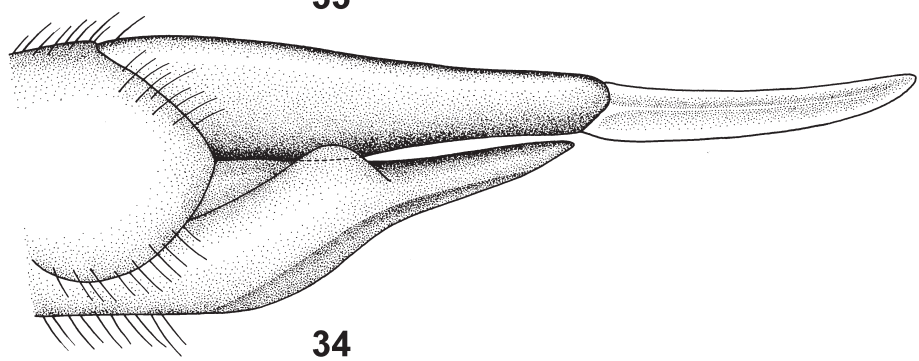
Figs 25–31. *Tipula* (*Pterelachisus*) *biaciculifera* Alexander, 1937: 25 – thorax, dorsal view; 26 – hypopygium, ventral view; 27 – outer gonostylus and inner gonostylus, dorsal view; 28 – outer gonostylus and inner gonostylus, lateral view; 29 – blade of sternite nine, lateral view; 30 – semen pump, lateral view; 31 – semen pump, dorsal view.

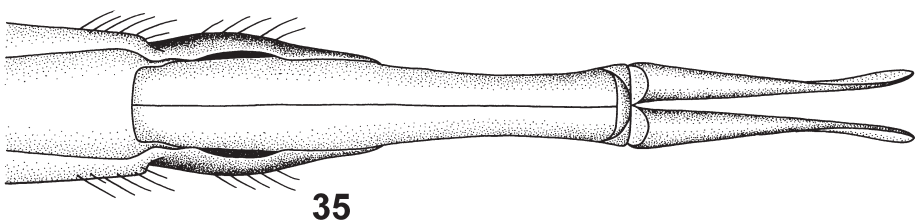
gonostylus relatively widened, apical beak black (Figs 27–28); aedeagal guide gradually narrowed to apex, with rounded incision in lateral view (Figs 21, 26); aedaegus relatively short, straight (Fig. 30).

Semen pump with compressor apodeme fan-shaped, with ridge in middle, forming 90° angle with posterior immovable apodeme (Figs 30–31). Posterior immovable apodeme equal in length to compressor apodeme, parallel laterally and rounded apically in lateral view (Figs 30–31). Anterior immovable apodeme shorter than posterior immovable apodeme, curved upwards, gradually narrowed to apex (Figs 30–31).









Figs 32–35. Ovipositor. 32–33 – *Tipula coxitalis* Alexander, 1935: 32 – lateral view; 33 – dorsal view. 34–35 – *T.* (*P.*) *biaciculifera* Alexander, 1937: 34 – lateral view; 35 – dorsal view.

Female (n = 20). Body length 16.0–18.0 mm, wing 15.2–15.4 mm, antenna 2.6–2.8 mm.

Antenna relatively short, bent backwards, not extending to first abdominal segment, scape and pedicel light yellow, first flagellomere light brown, succeeding segments black basally, dark brown apically, verticils black, distinctly longer than coordinate segments.

Abdominal tergites brown with widened median black stripes and widened lateral black stripes, sternites with median black stripes. Ovipositor brown. Cercus narrowed, acinacifoliate, with median ridge in lateral side (Figs 34–35). Hypovalva not surpassing end of sternite ten, gradually narrowed to apex (Fig. 34).

Distribution. China (Anhui, Zhejiang, Jiangxi) based on current records.

Key to species of the subgenus *Emodotipula*

This key is compiled based on the published literature in an effort to facilitate the separation of the new species from other known species.

1 Scutum with 3 light brown areas (see Alexander 1968: 358). ..... ***T.* (*E.*) *hintoniana*** Alexander, 1968

– Scutum with less than 3 areas. 2

2 Scutum with 2 connected or separated spots. 3

– Scutum with a stripe or variegated by brown or grey in central area. 4

3 Tergite nine with sublateral bilobed projection, lateral and median lobes (see Alexander 1966: 247, Pl. 3, Fig. 29). ..... ***T.* (*E.*) *fabriciana*** Alexander, 1966

– Tergite nine not as above. 10

4 Tergite nine with hind margin produced into 2 rounded lobes, with a pair of smaller rounded lobes near them (see Alexander 1970: 331, Fig. 30). ..... ***T.* (*E.*) *goetghebuerana*** Alexander, 1970

– Tergite nine with hind margin not produced into 2 rounded lobes as above. 5

5 Caudal margin of tergite nine with 2 connected median finger-shaped processes (see Young 2014: 236, Fig. 4B). ..... ***T.* (*E.*) *thailandica*** Young, 2014

– Caudal margin of tergite nine without such process. 6

6 Caudal margin of tergite nine with a rounded median process (see Alexander 1935b: 134, Pl. 2, Fig. 25). ..... ***T.* (*E.*) *multibarbata*** Alexander, 1935

– Caudal margin of tergite nine without such median process as above. 7

7 Outer gonostylus rounded apically (see Alexander 1936: 399, Pl. 3, Fig. 38). ..... ***T.* (*E.*) *submarmoratipennis*** Alexander, 1936

– Outer gonostylus acute apically. 8

8 Caudal margin of tergite nine with a pair of spinous processes in middle or lateral angles. 9

– Caudal margin of tergite nine without such processes (see Alexander 1920: 16; Alexander 1953: Pl. 1, Fig. 8). ..... ***T.* (*E.*) *naviculifer*** Alexander, 1920

9 Sternite nine with a fleshy proximal appendage (see Dufour 2003: 70, Fig. 2C). ..... ***T.* (*E.*) *gomina*** Dufour, 2003

– Sternite nine without fleshy proximal appendage (see Dufour 1991: 90, Fig. 7E). ..... ***T.* (*E.*) *leo*** Dufour, 1991

10 Tergite nine with a pair of finger-shaped processes in middle. 11
– Tergite nine without such process in middle. 12
11 Flagellum uniformly colored. 13
– Flagellum bicolored in basal segments. 15
12 .. Caudal margin of tergite nine with central area sunken, apex bilobed (see Alexander 1961: 440, Pl. 3, Fig. 28). ..... ***T.* (*E.*) *stylostena*** Alexander, 1961
– Caudal margin of tergite nine not as above. 16
13 Abdominal tergites with median stripes (see Alexander 1924: 464). .... ***T.* (*E.*) *holoteles*** Alexander, 1924
– Abdominal tergites without median stripes. 14
14 Caudal margin of tergite nine with a pair of blackened cushions (see Alexander 1968: 358, Pl. 2, Fig. 17). ..... ***T.* (*E.*) *hemmingseni*** Alexander, 1968
– Caudal margin of tergite nine without such cushions (see Young 2014: 234, Fig. 2B). ..... ***T.* (*E.*) *lishanensis*** Young, 2014
15 Outer gonostylus with a lateral process (see Alexander 1971: 2, Fig. 4). .... ***T.* (*E.*) *tenuiloba*** Alexander, 1971
– Outer gonostylus without a lateral process (see Fig. 15). .... ***T.* (*E.*) *yaoluopingensis*** **sp. nov.**
16 Tergite nine separated by a U-shaped notch in caudal margin. 17
– Tergite nine without such a U-shaped notch. 18
17 Scutum with dark grey spots; flagellum dark brown (see Alexander 1921: 184). .... ***T.* (*E.*) *shogun*** Alexander, 1921
– Scutum with brown spots; flagellum black (see Alexander 1953: 53). .... ***T.* (*E.*) *breviscapha*** Alexander, 1953
18 Tergite nine with a median process in caudal margin. 19
– Tergite nine without a median process in caudal margin (see Alexander 1964: 92, Pl. 3, Fig. 32). ..... ***T.* (*E.*) *vaillantiana*** Alexander, 1964
19 Caudal margin of tergite nine with a pair of horn-shaped processes (see Alexander 1935a: 540, Pl. 3, Fig. 36). ..... ***T.* (*E.*) *multisetosa*** Alexander, 1935
– Caudal margin of tergite nine without such horn-shaped processes. 20
20 Inner gonostylus with posterior angle distinctly produced (see Dufour 1991: 82, Fig. 1D); hypovalva with a pair of lateral processes (see Dufour 1991: 83, Fig. 2B). .... ***T.* (*E.*) *saginata*** Bergroth, 1891
– Inner gonostylus with posterior angle slightly produced (see Dufour 1991: 85, Fig. 4D); hypovalva without lateral processes (see Dufour 1991: 83, Fig. 2D). .... ***T.* (*E.*) *obscuriventris*** Strobl, 1900

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