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Two new species of *Pentacentrus* Saussure, 1878 from China (Orthoptera, Gryllidae, Pentacentrinae)

by Liu Hao-Yu & Shi Fu-Ming

Abstract. Two new species of *Pentacentrus* Saussure, 1878 are described and illustrated, *P. multicapillus* sp.nov. and *P. bituberus* sp.nov. Both are located in Guangxi, China.

Key words. Orthoptera – Gryllidae – Pentacentrinae – *Pentacentrus* – new species – China

Introduction

The genus *Pentacentrus* was established by SAUSSURE (1878) for *P. pulchellus*. Contributions to the taxonomy of this genus have been made by KARNY (1915), CHOPARD (1925, 1927, 1929, 1930, 1937, 1940, 1951, 1969), CAUDELL (1927), OTTE & ALEXANDER (1983) and GOROCHOV (1986). Before this study, this genus included 27 species, distributed in the Oriental and Australian Regions (OTTE 1994; EADES, OTTE, CIGLIANO & BRAUN 2011). Two species are currently known from China (YIN & LIU 1995). In our recent study, two new species of this genus were discovered, *P. multicapillus* sp.nov. and *P. bituberus* sp.nov., both from Guangxi, China.

Material

The material studied is deposited in the Museum of Hebei University, Baoding, China (MHBU).

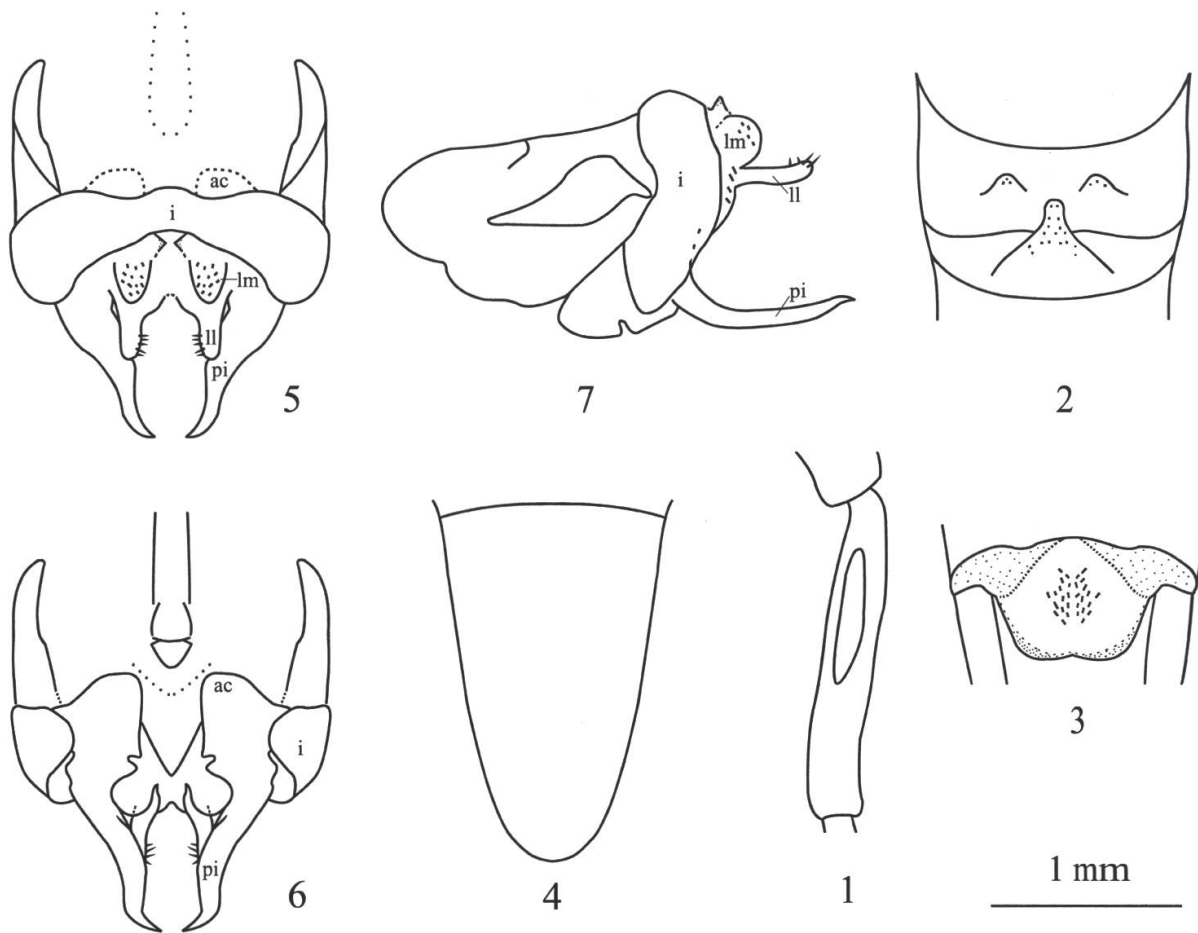
Taxonomy

Pentacentrus bituberus sp.nov.

(Figs 1–7)

Type material. Holotype ♂: China, Guangxi, Mt. Mao'er, Daxiagu, 16 June 2001, leg. Huang Jian-Hua (MHBU). Paratypes, 1♂, same data as holotype; 1♀, 1 July 2001, other data same as holotype (MHBU).

Description. Male. Body small and slender. Head rather short, frontal rostrum distinctly wider than scapus; ocelli large and round; eyes oval and distinctly projecting; apical joint of maxillary palpus distinctly widened and sloped at apex, nearly as long as third joint; apical joint of labial palpus slightly widened, nearly as long as second joint. Pronotum distinctly longer than wide, disc with a pair of nearly triangular impressions; anterior margin straight, posterior margin sinuate and slightly protruding around midway; lateral lobes longer than high, anterior lower angles widely rounded, posterior lower angles narrowly rounded, lower margin straight. Tegmina slightly extending over apex of abdomen; hind wings distinctly longer than tegmina. Fore-tibia with a large and oblong internal tympanum, nearly half the length of tibia (Fig. 1), without external

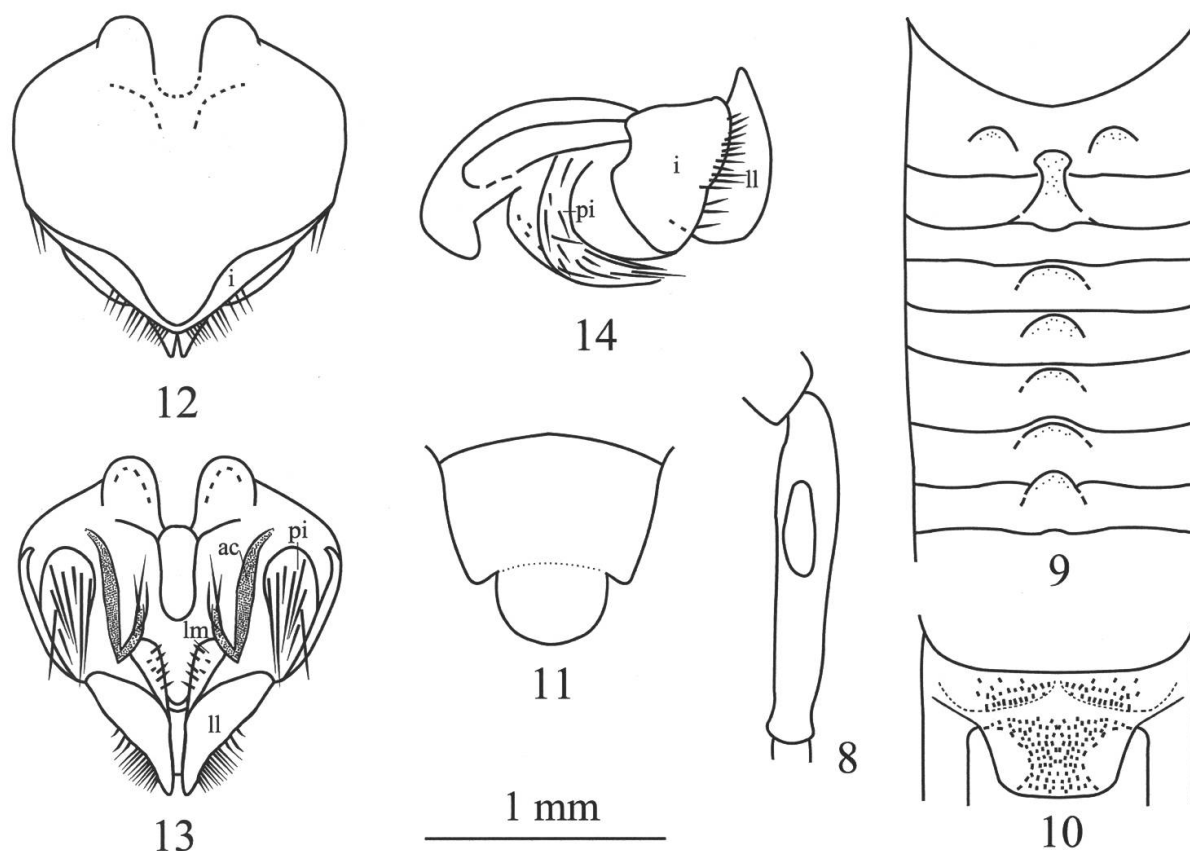


Figs 1–7. *Pentacentrus bituberus* sp.nov., male: 1 – fore-tibia, inner view; 2 – abdominal tergites I–II, dorsal view; 3 – supra-anal plate, dorsal view; 4 – subgenital plate, ventral view; 5–7 – genitalia (5 – dorsal view, 6 – ventral view, 7 – lateral view). Abbreviations: ac = ectophallus apodeme, i = epiphallus, ll = lateral lobes of epiphallus, lm = medial lobes of epiphallus, pi = epiphallus parameres.

tympanum. Hind tibia with three long spines on each margin of apical part and several small spines on basal half of upper sides. Abdominal tergite I with a pair of small swellings, II with a large swelling at centre and inclined forwards (Fig. 2).

Supra-anal plate distinctly wider than long, slightly narrowed apically, distinctly convex on both sides of base, densely covered with short setae at centre (Fig. 3). Subgenital plate quite long, distinctly narrowed apically, posterior margin narrowly rounded (Fig. 4). Genitalia (Figs 5–7): epiphallus quite short, posterior margin distinctly emarginated midway; medial lobes of epiphallus sac-like, densely covered with short setae, with a pair of small, acute teeth at bases; lateral lobes of epiphallus narrow and rounded at apical margins, with several spines along apical parts of inner margins; epiphallus parameres long, distinctly narrowed apically and curved inwards at apices.

F e m a l e . Similar to male, but the subgenital plate wider than long, slightly wide at base; posterior margin distinctly emarginated midway; posterior angles protruding in angular fashion. Ovipositor short and slightly curved.



Figs 8–14. *Pentacentrus multicapillus* sp.nov., male: 8 – fore-tibia, inner view; 9 – abdominal tergites I–VIII, dorsal view; 10 – supra-anal plate, dorsal view; 11 – subgenital plate, ventral view; 12–14 – genitalia (12 – dorsal view, 13 – ventral view, 14 – lateral view). Abbreviations same as Figs 1–7.

Coloration. Body brown. Antennae white at bases, other parts mixed brown with white. Tegmina light brown, each transverse vein surrounded by a small brown spot. Fore- and mid-femora light brown, yellow at apices; hind femora yellow, each with two light brown bands on outer side.

Measurements (mm). Male: body 7.5–9.0, length with wings 11.5–13.5, pronotum 0.9–1.1, tegmina 6.5–7.8, hind femur 4.4–5.1; female: body 7.8, length with wings 13.5, pronotum 1.1, tegmen 7.3, hind femur 6.2, ovipositor 2.9.

Distribution. China (Guangxi).

Etymology. This new specific name is derived from the Latin *bi* [two] + *tuber* [swelling, lump], a reference to abdominal tergite I with a pair of small swellings.

Differential diagnosis. The new species is related to *P. pulchellus* Saussure, 1877, but differs from it in abdominal tergite I with a pair of small swellings, IV to VIII without swellings; supra-anal plate slightly narrowed apically, distinctly convex on both sides of base; differs in shape of male genitalia, especially epiphallus parameres distinctly long.

***Pentacentrus multicapillus* sp.nov.**

(Figs 8–14)

Type material. Holotype ♂: China, Guangxi, Mt. Mao'er, Daxiagu, 19 May 2001, leg. Huang Jian-Hua (MHBU). Paratypes, 4♂, same data as holotype; 1♀, 1 July 2001, other data same as holotype (MHBU).

Description. Male. Body small and slender. Head quite short, frontal rostrum nearly as wide as scapus; ocelli large and round; eyes oval and distinctly projecting; apical joint of maxillary palpus widened and slightly sloped at apex, nearly as long as third joint; apical joint of labial palpus clavate, longer than second joint. Pronotum distinctly longer than wide, anterior margin straight, posterior margin sinuate and slightly protruding around midway, disc with a pair of nearly triangular impressions; lateral lobes longer than high, anterior lower angles widely rounded, posterior lower angles narrowly rounded, lower margin straight. Tegmina slightly extending over apex of abdomen; hind wings distinctly longer than tegmina. Fore-tibia with a large and oblong internal tympanum, nearly one-third the length of tibia (Fig. 8), without external tympanum. Hind tibia with three long spines on each margin of apical part and several small spines on basal half of upper sides. Abdominal tergite I with a pair of small swellings, II with a large swelling at centre, which is widened at apex and inclined forward; IV to VIII each with a small swelling at centre (Fig. 9).

Supra-anal plate distinctly wider than long, slightly narrowed apically, distinctly convex on both sides of base, densely covered with short setae in dorsal area (Fig. 10). Subgenital plate quite long, distinctly narrowed apically, apex with a semicircular lobe (Fig. 11). Genitalia (Figs 12–14): epiphallus quite short, anterior margin distinctly emarginated around midway, each side densely covered with long, black setae along apical margin; medial lobe small, with several small spines along inner margin; lateral lobe quite large and sac-like, distinctly longer than epiphallus; epiphallus parameres hooked, surface densely covered with long, black setae; ectophallus apodeme strongly sclerotized and geniculate, sparsely covered with long, black setae.

Female. Similar to male, but the subgenital plate trapeziform, narrowed apically, posterior margin widely rounded. Ovipositor short and slightly curved.

Coloration. Body brown. Antennae yellowish at bases, middle parts brown, and other parts mixed brown and yellowish. Head with three longitudinal yellow stripes on vertex, the middle one distinctly narrowed. Disc of pronotum with a median yellow stripe, longitudinal. Tegmina light brown, each transverse vein surrounded by a dark brown spot. All legs yellow.

Measurements (mm). Male: body 5.2–5.8, length with wings 9.5–10.1, pronotum 0.8–1.1, tegmina 5.3–5.6, hind femur 4.2–4.7; female: body 6.0, length with wings 10.5, pronotum 1.1, tegmen 6.0, hind femur 4.8, ovipositor 3.1.

Distribution. China (Guangxi).

Etymology. This new specific name is derived from the Latin *multi* [many]+ *capillus* [hair], a reference to ventral parts of the genitalia covered in copious long, black setae.

Differential diagnosis. The new species is related to *P. pulchellus* Saussure, 1877, but differs from it in head with three longitudinal yellow stripes on vertex; disc of pronotum with a median longitudinal yellow stripe; supra-anal plate slightly narrowed apically and distinctly convex on both sides of base, densely covered with short setae in dorsal area; differs in shape of male genitalia, especially ventral side covered in copious long, black setae.

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