

<https://doi.org/10.25221/fee.452.2>

<http://zoobank.org/References/06CE0F1D-9FAC-4C3B-BEF9-DB30BD93E8AA>

**DESCRIPTION OF THE UNKNOWN MALE OF *CONOCEPHALUS*
YUNNANENSIS SHI ET FENG, 2009 (OTHOPTERA: TETTIGONIIDAE)**

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Summary. The previously unknown male of *Conocephalus* (*Anisoptera*) *yunnanensis* Shi et Feng, 2009 is described for the first time. The female of this species is redescribed. The photographs of habitus and characteristic taxonomic features of both sexes are also provided.

Key words: Conocephalinae, Conocephalini, *Conocephalus*, taxonomy, China.

Я. Х. Дуань, Ф. М. Ши. Описание ранее неизвестного самца *Conocephalus yunnanensis* Shi et Feng, 2009 (Orthoptera: Tettigoniidae // Дальневосточный энтомолог. 2022. N 452. С. 7-11.

Резюме. Приводится описание ранее неизвестного самца и переописание самки кузнечика *Conocephalus* (*Anisoptera*) *yunnanensis* Shi et Feng, 2009. Также даны фотографии общего вида и таксономически важных структур обоих полов этого вида.

INTRODUCTION

The genus *Conocephalus* Thunberg, 1815 consists of nine subgenera and more than 150 species all over the world (Cigliano *et al.*, 2022). Up to now, there are more than 20 species of this genus recorded from China (Xia & Liu, 1992; Shi & Zheng, 1994, 1999; Shi & Liang, 1997; Liu & Zhang, 2007; Shi & Feng, 2009; Zhou *et al.*, 2010; Shi & Wang, 2015; Li & Shi, 2018; Li *et al.*, 2019).

Conocephalus (*Anisoptera*) *yunnanensis* Shi et Feng, 2009 was described from Hekou (China: Yunnan) based on a unique female holotype (Shi & Feng, 2009). The last year we collected both female and male specimens of this species in Maguan, Yunnan that is contiguous county of the type locality. In this paper we describe the male of *C. yunnanensis* in detail for the first time, and give supplementary description of the female. Additionally, we provide habitus photographs of male and female of this species and characteristic figures. The specimens examined are deposited in the Museum of Hebei University.

Morphological observation and further identification was conducted by using Stereo microscope Nikon SMZ800. Photos were taken with Leica M205A digital imaging system. The following conventions were adopted for the specimen measurements: body length – distance from apex of fastigium of vertex to posterior margin of tenth abdominal tergite; pronotum length – distance from anterior to posterior margin of pronotum; tegmen length –

distance from base of tegmen to the apex; hind femur length – distance from base of hind femur to apex of genicular lobe; ovipositor length – distance from base of subgenital plate to apex of ovipositor.

TAXONOMY

Genus *Conocephalus* Thunberg, 1815

Subgenus *Anisoptera* Latreille, 1829

***Conocephalus (Anisoptera) yunnanensis* Shi et Feng, 2009**

Figs 1, 2

Conocephalus (Anisoptera) yunnanensis Shi & Feng, 2009: 343, 345 (♀).

TYPE MATERIAL EXAMINED. Holotype: ♀, **China**: Yunnan, Hekou, 22.VII 2006, coll. Hao-Yu Liu.

OTHER MATERIAL EXAMINED. **China**: Yunnan, Maguan, Gulinqing, 4–5.VIII 2021, 4♂, 4♀, coll. Qi Guo & Yan-Hao Duan.

DESCRIPTION. Male (previously unknown). Body small, comparatively stout. Head slightly hypognath. Fastigium of vertex with apex blunt, about half the width of antennal scape, lateral margins almost parallel in dorsal view, with a weak median furrow; in frontal view fastigium of vertex slightly broad, gradually narrowing ventrad, separated from frons by a distinct suture. Antenna filiform and quite long (at least five times longer than body). Eyes globular, protruding forwards. Apical segment of maxillary palpi slightly longer than subapical one, apex swollen.

Pronotum comparatively wide and short with anterior margin arc-shaped, posterior margin obtusely rounded, metazona of pronotum slightly elevated. Lateral lobe nearly triangular, long equal to high, humeral sinus inconspicuous, the corresponding area of thoracic auditory spiracle semitransparent and plump. Thoracic auditory spiracle hidden under lateral lobe of pronotum. Prosternum bispinose.

Procoxa with 1 spine. All femora unarmed on ventral surfaces. Inner and outer margins of ventral surface of fore tibia with 6 spines separately, tibial tympana slit-shaped on both sides. Mesotibia with 5–6 spines on internal and external margins of ventral surface. Genicular lobes of hind femora with 1 spine on both sides separately, posttibia with 25–28 spines on internal and external margins of dorsal surface, and 5–7 spines of ventral surface, as well as 1 pair of dorsal apical spurs and 2 pairs of ventral apical spurs.

Tegmen reaching about posterior margin of tenth abdominal tergite, slightly broadened in basal area, apical area narrowing gradually and with apex obtusely rounded. Cu2 vein of left tegmen elevated and straight; stridulatory area of left tegmen trapezoidal. Hind wing slightly longer than tegmen.

Tenth abdominal tergite comparatively broad and short, posterior margin protruding backwards and divided near middle into two conspicuously lobes with apices obtusely rounded and slightly curved ventrad. Cercus stout, narrowing gradually, apex conical, internal margin near the middle area depressed widening; cercus with two incurved spines; basal spine relatively short, cylindrical near base and apical half depressed ventro-dorsally; subapical spine long, appearance as basal one. Subgenital plate slightly narrow near base, apex broad, with well-developed medial keel throughout the whole length and a V-shaped notch in the middle of posterior margin, lateral areas upcurved. Styli long and cylindrical with apices obtusely rounded, inserted on subapical area of lateral margins of subgenital plate.

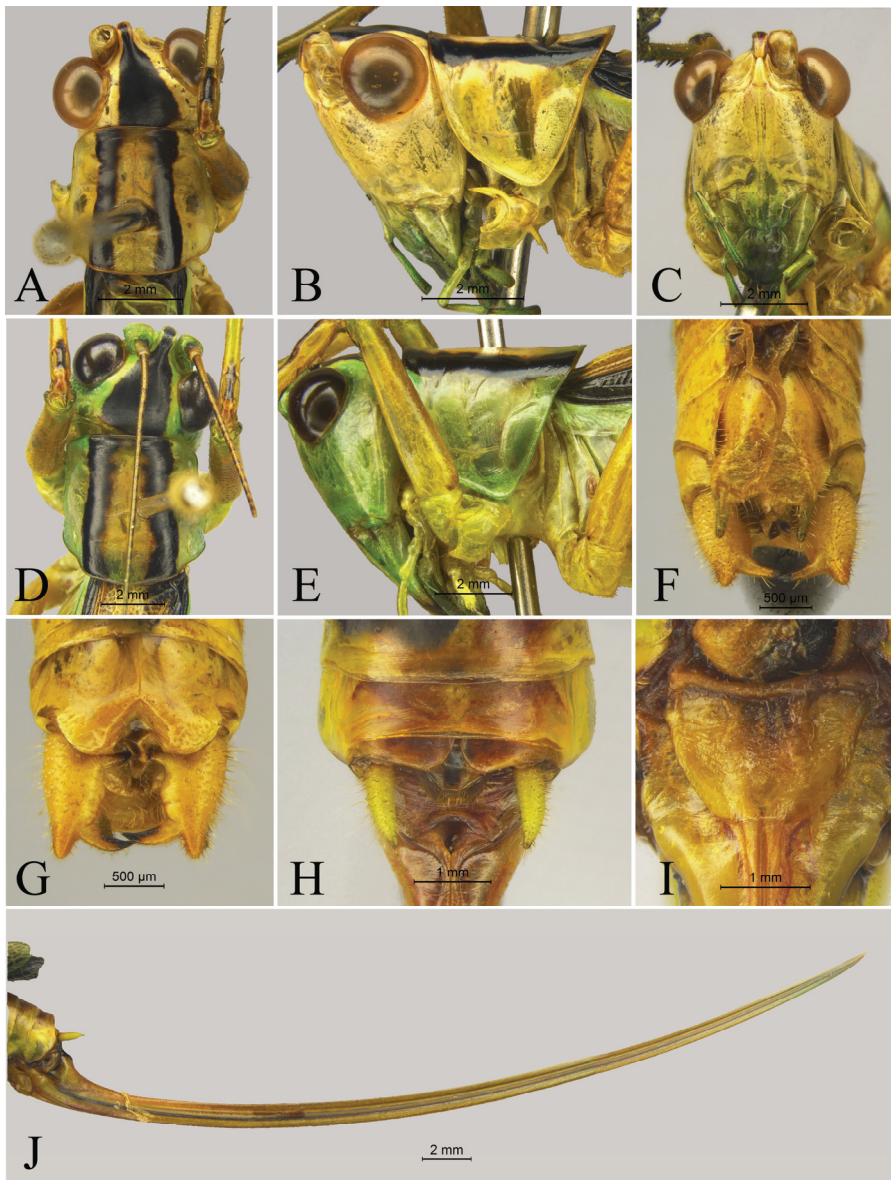


Fig. 1. *Conocephalus (Anisoptera) yunnanensis* Shi et Feng, 2009 (A–C, F–G – male; D, E, H–J – female). A, B, D, E – head and pronotum: A, D – dorsal view; B, E – lateral view; C – frons; F–I – apex of abdomen: F – ventral view; G, H – dorsal view; I – subgenital plate, ventral view; J – ovipositor, lateral view.

FEMALE. Appearance is similar to male. Tegmen and hind wing not surpassing posterior margin of eighth abdominal tergite. Tenth abdominal tergite divided by a wide median furrow into separate sclerites, apex obtusely rounded. Cercus long, conical, apex subacute. Subgenital plate approximately semicircular with lateral areas upcurved and apical margin feebly concave. Ovipositor slightly upcurved and exceptionally long, much longer than length of body, dorsal valvula longer than ventral one, dorsal and ventral margins parallel and smooth, apex acute.

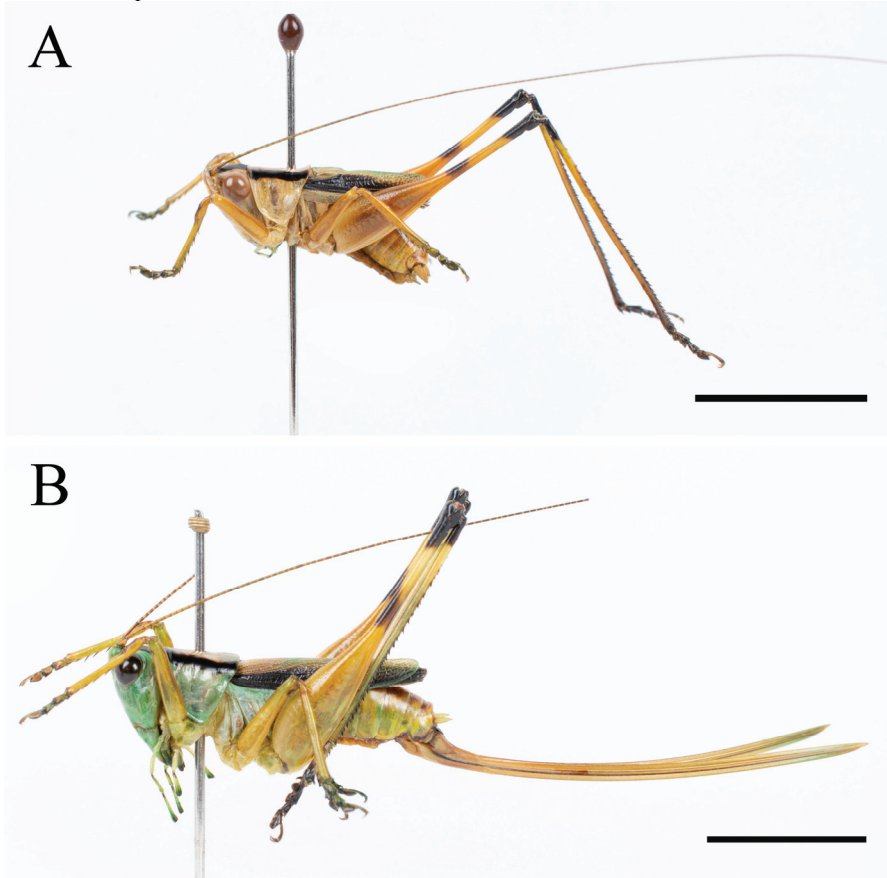


Fig. 2. Habitus of *Conocephalus (Anisoptera) yunnanensis* Shi et Feng, 2009, lateral view. A – male; B – female. Scale bars: 10mm.

COLORATION. General color yellowish green. Dorsal surface of head with a triangular longitudinal black stripe, extending to apex of fastigium of vertex. Antennal scape green, pedicel and flagellum yellowish brown. Eyes yellowish brown. Most part of face and pronotum green in female but yellow in male (may be discolored). Apex of mandible black. Disc of pronotum with a pair of parallel broad longitudinal black stripes. Fore and middle femur yellowish brown as well as fore and middle tibia; basal half of hind femur yellowish brown,

with a broad black ring stripe near the middle, apical area of hind femur and basal area of hind tibia black, apex of hind tibia and tarsus black. All spines and spurs of legs black. Subcostal area and radial areas of tegmen black, other areas of tegmen yellowish brown. Abdomen yellowish brown, apical part of spines of male cercus black. Ovipositor yellowish brown.

MEASUREMENTS. Length of body: ♂ 12.8–13.1, ♀ 20.8–22.2; pronotum: ♂ 4.3–4.5, ♀ 5.2–5.4; tegmen: ♂ 7.6–7.9, ♀ 12.8–13.2; postfemur: ♂ 14.5–15.2, ♀ 20.1–21.2; ovipositor: 26.5–29.8 mm.

REMARKS. This species appears similar to some species of the genus *Conanalus* Tinkham, 1943 in the structure of male cerci and length of tegmina as well as hind wings. The phylogenetic relationship of them still need further research in the future.

ACKNOWLEDGEMENTS

This project is supported by the National Natural Science Foundation of China (Nos. 31750002, 31872268).

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