

The cricket genus *Abaxitrella* (Orthoptera: Gryllidae: Podoscirtinae) in China, with description of one new species

Род *Abaxitrella* (Orthoptera: Gryllidae: Podoscirtinae) в Китае и описание нового вида

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The genus *Abaxitrella* Gorochov, 2002 is recorded from China for the first time. *Abaxitrella uncinata* sp. nov. is discovered in the Chinese province Fujian; its description and illustrations as well as a key to *Abaxitrella* species are given.

Род *Abaxitrella* Gorochov, 2002 впервые отмечен в Китае. *Abaxitrella uncinata* sp. nov. обнаружен в китайской провинции Фуцзянь; даны его описание и изображения, а также ключ для определения видов рода *Abaxitrella*.

Key words: crickets, taxonomy, China, Orthoptera, Gryllidae, Podoscirtinae, *Abaxitrella*, new record, new species

Ключевые слова: сверчки, таксономия, Китай, Orthoptera, Gryllidae, Podoscirtinae, *Abaxitrella*, новое указание, новый вид

INTRODUCTION

The cricket genus *Abaxitrella* was established by Gorochov (2002) for its type species (*A. hieroglyphica* Gorochov, 2002) only. *Abaxitrella* is similar to the other genera of the tribe Podoscirtini but clearly distinguished by its male genitalia having a very characteristic rachis (= guiding rod), which is membranous, long, rather thin, with a more or less finger-like distal part having numerous distinct setae. Both the type species and new one, described here, are collected in primary forests of Ha Tinh Province of Vietnam and Fujian Province of China. Based on their distribution, we may conclude that this genus must be also distributed in the other forest regions of northern part of Vietnam and southern part of China. The Chinese species is here de-

scribed and illustrated, and a key to known *Abaxitrella* species is also provided.

At present, identification of *Abaxitrella* species is based on males. Their genitalia were prepared by placing the preparations in a concentrated solution of KOH for about five hours. Figures of genitalia and small body parts were produced using a highly sensitive QIMAGING Retiga 2000R digital camera (CCD) and Auto-montage imaging software. Whole bodies were photographed with a Nikon D100 using a Micro-Nikkor 105 mm macro lens. Nomenclature of the male genital structures is given after Gorochov (2015); it is based on some older publications (Randell, 1964; Alexander & Otte, 1968; Gorochov, 2002). The specimens studied are deposited at the following institutions: Zoological Institute, Russian Academy of Sciences, St Peters-

burg (ZIAS); Shaanxi Normal University, Xi'an, China (SNNU); Shenyang Agriculture University, Shenyang, China (SYAU); Entomological Museum of Northwest A & F University, Yangling, China (NWAFU).

SYSTEMATICS

Tribe **PODOSCIRTINI** Saussure, 1878

Genus *Abaxitrella* Gorochov, 2002

Type species *A. hieroglyphica* Gorochov, 2002

Diagnosis. Body typical of Podoscirtini having long wings, clearly developed tegminal stridulatory apparatus in male, slit-like inner tympanum and open (oval) outer one (Fig. 1, A). Metanotal gland distinct, without median or paired processes but with characteristic bristles (Fig. 1, B). Male anal plate with posterolateral lobes and with areas having short dense setae between these lobes (Fig. 1, D). Male genital (= subgenital) plate rather short (Fig. 1, C). Male genitalia (Figs 2, A–F): epiphallus with a pair of long posterolateral lobes; rachis (= guiding rod) membranous, long, rather thin, with a more or less finger-like distal part having numerous distinct setae; ectoparameres well separated from epiphallus, with acute apex and ventrolateral hook-like denticle situated less distally; sacculus (= spermatophore sac) undeveloped; formula (= mold of spermatophore attachment plate) rather small and with short and slightly bifurcate apodeme; endoparameres very small, with long and rather narrow apodemes.

Key to *Abaxitrella* species (for males only)

1. Genital plate more or less roundly angular at apex. Genitalia: posterolateral lobes of epiphallus moderately curved upwards behind their middles; rachis (= guiding rod) and ectoparameres shorter (apex of rachis located near epiphallic apices; apex of ectoparamere located near place of curvature of epiphallic posterolateral lobe); ectoparameres with ventromedial tooth situated near their apex.....*A. hieroglyphica* Gor.

- Genital plate roundly truncate at apex. Genitalia: posterolateral lobes of epiphallus strongly curved upwards near their bases; rachis (= guiding rod) and ectoparameres long (apex of rachis located much behind epiphallic apices; apex of ectoparamere located clearly behind place of curvature of epiphallic posterolateral lobe); ectoparameres with ventrolateral tooth situated near their middle part.....*A. uncinata* sp. nov.

Abaxitrella hieroglyphica Gorochov, 2002

Material studied. Male (holotype); **Vietnam**, Ha Tinh Prov., Huon Son Vill. near Rao An River, 18°21'N, 105°13'E, primary forest, April 2000, N. Orlov (ZIAS).

Remark. This species is known from one specimen (holotype) only. Its detailed description is given by Gorochov (2002).

Abaxitrella uncinata sp. nov.

(Figs 1, A–D; 2, A–F)

Holotype. Male; **China**, Fujian Prov., Minxi (western region of this province), Meihuashan, Fujian Meihua Mountain National Nature Reserve, 21 July 1988, Zhang Zhiliang (NWAFU).

Paratypes. Two males, same data as for holotype (SNNU and SYAU); 1 male, same province, Minxi, Meihuashan, 23 July 1988, Zhang Zhiliang (SNNU).

Description. Male (holotype). Body (Fig. 1, A) somewhat dorsoventrally compressed. Head also distinctly dorsoventrally compressed, with flattened dorsum, clearly angular rostrum in profile and low sinuate ridge between rostrum and rest part of head dorsum; scape slightly less than twice wider than rostrum between antennal cavities; median ocellus large, longitudinally oval, situated at middle of dorsal surface of rostrum; lateral ocelli small, transverse and almost indistinct (more or less fused with ridge between rostrum and rest part of head dorsum). Anterior view of head widely triangular, typical of Podoscirtini but with rather low anterior part of epicranium; maxillary palpi thick and short, with apical segment clearly distally widened (almost triangular). Pronotal disc laterally ridged,

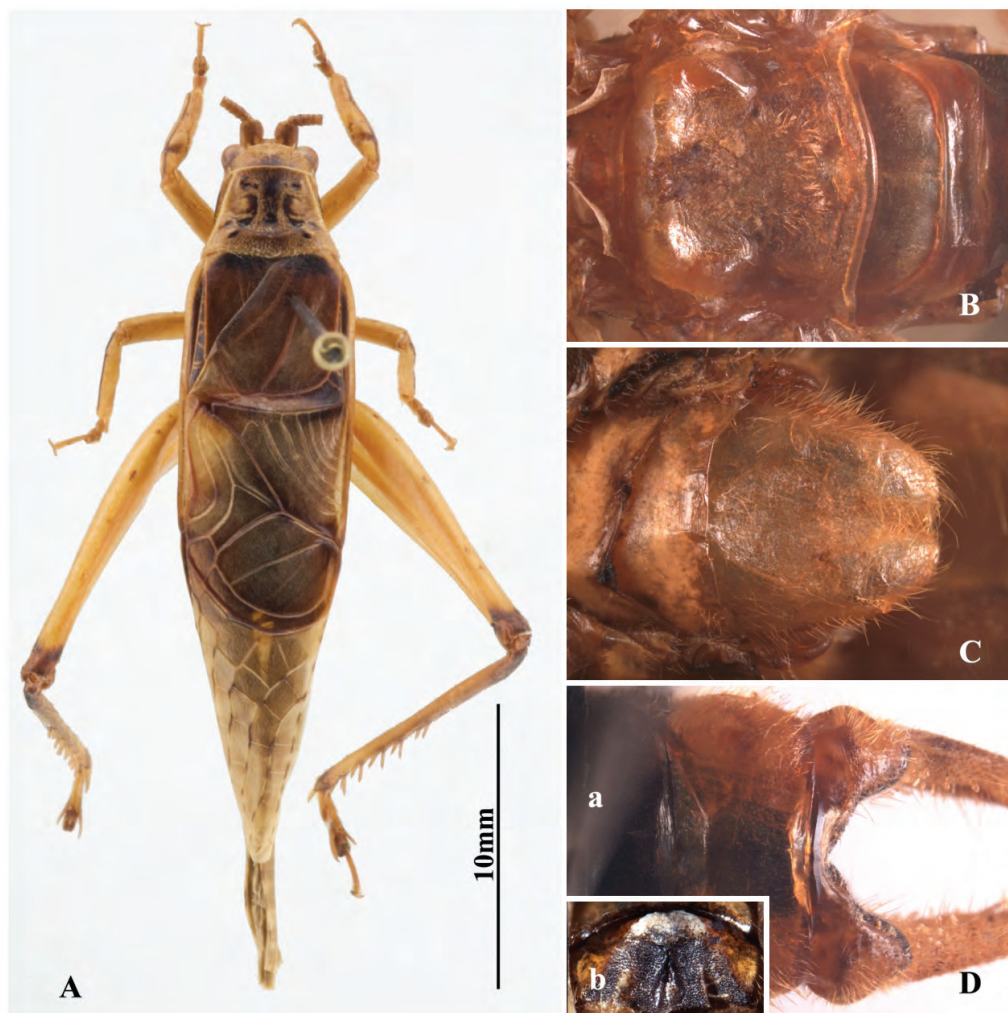


Fig. 1. *Abaxitrella uncinata* sp. nov., male: A, body, dorsal view; B, metanotal gland, dorsal view; C, genital plate, ventral view; D, anal plate (a, dorsal view; b, caudal view).

slightly depressed at middle and raised as platform at hind part, with slightly convex anterior margin and sinuate posterior margin; lateral lobes slightly concave in middle part and with posteroventral parts somewhat medially curved. Metanotal gland with anterior part formed convex transverse ridge and with somewhat narrower and concave middle part having rather long and dense bristles (Fig. 1, B). Tegmina long, with rather long basal area of dorsal field, with long and slightly arcuate stridulatory vein having clearly transversal position,

with seven slightly and moderately arcuate oblique veins, with straight diagonal vein, with approximately rounded mirror (its distal part almost reaching abdominal apex), with apical area of dorsal field having five longitudinal veins, and with lateral field having 12–13 branches of Sc; hind wings much longer than tegmina (Fig. 1, A). Fore and middle legs rather short and thick; hind legs rather long, with tibiae having five inner and six outer articulated spines as well as six apical spurs (outer apical spurs short; inner ones longer; middle inner apical spur

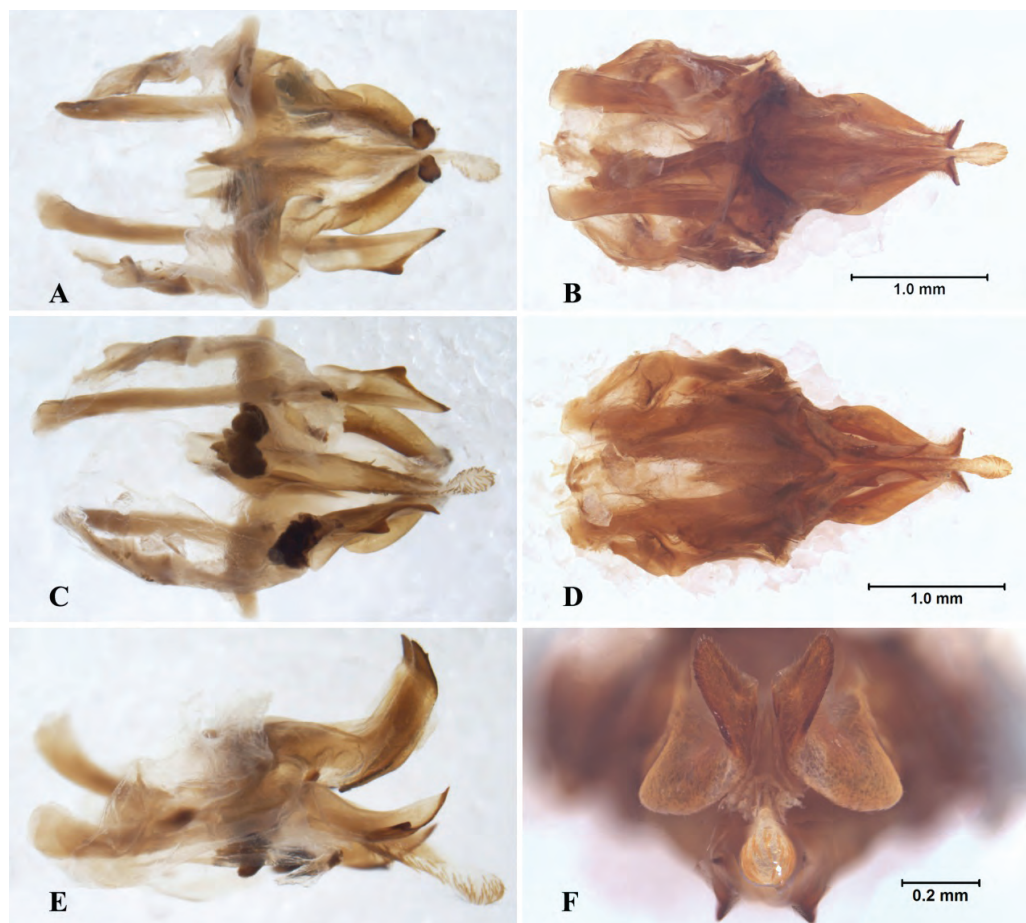


Fig. 2. *Abaxitrella uncinata* sp. nov., male genitalia (A, C, E, treated with KOH; B, D, F, in original condition): A, B, dorsal view; C, D, ventral view; E, lateral view; F, caudal view.

longest). Anal plate divided into two rather short lateral lobes; outer parts of these lobes smooth, but inner ones with very short dense setae situated approximately as in *A. hieroglyphica* (Fig. 1, D). Subgenital plate roundly truncate at apex (Fig. 1, C). Genitalia (Figs 2, A–F) similar to those of *A. hieroglyphica*, but with following differences: posterolateral lobes of epiphallus strongly curved upwards near their bases (Fig. 2, E); rachis (= guiding rod) and ectoparameres long (apex of rachis located much behind epiphallic apices, and apex of ectoparamere located clearly behind place of curvature of epiphallic posterolateral lobe; Figs 2, A–E); ectoparameres with hook-like ventrolateral

tooth situated near their middle part (Figs 2, C, D).

Colouration. Body yellowish with light brown to dark brown marks and areas: median area of hind part of vertex ornamented with almost dark brown semiovoid spot, a pair of large brown dots situated near anterior edge of this semiovoid spot, and a pair of light brown longitudinal stripes located along lateral edges of latter spot; eyes brown with light brown and dark brown longitudinal stripes; low transverse ridge between rostrum and rest of head dorsum very light, almost whitish; pronotal disc with characteristic dark marks (Fig. 1, A) and with anterior and lateral margins

light yellowish; lateral lobes of pronotum light brown with narrow brown longitudinal stripe near dorsal margin and with dark brown ventral margin; basal area of dorsal field of tegmina brown with dark brown marks; middle part of this field brown to light brown and with yellowish to light brown venation; apical area from light greyish brown to almost whitish but with short and narrow dark brown stripes situated on light longitudinal veins; dorsal surface of fore and middle tibiae with dark brown longitudinal line; apical part of hind femur and dorsal surface of hind tibiae brown.

Variations. Sometimes posterior margin of pronotal disc almost straight, tegmen with six oblique veins, tegminal dorsal field with six or seven longitudinal veins in apical area, and tegminal lateral field with 14–15 branches of Sc. Body colouration varied from slightly darker to somewhat lighter.

Female unknown.

Measurements in mm. Body length (from rostrum of head to tip of abdomen) 16.07 ± 0.39 ; head width 3.36 ± 0.11 ; eye width 1.12 ± 0.08 ; pronotum length 3.19 ± 0.1 ; pronotum width 4.36 ± 0.14 ; tegmen length 20.24 ± 0.18 ; length of exposed part of hind wing (uncovered by tegmen) 4.35 ± 0.16 ; length of diagonal vein in tegmen 4.50 ± 0.06 ; tegminal mirror length 3.72 ± 0.1 ; fore tibia length 3.92 ± 0.28 ; middle tibia length 3.90 ± 0.09 ; hind femur length 11.87 ± 0.54 ; cercus length 8.14 ± 0.42 .

Comparison. Differences between all the *Abaxitrella* species are given in the key placed above. In colouration, the new species possibly additionally differs from *A. hieroglyphica* in a slightly darker median area of the pronotal disc as well as distinct-

ly darker proximal and middle parts of the tegminal dorsal field; however, these differences may be insufficient for species identification because variability of colouration in *A. hieroglyphica* is unknown.

Etymology. The species epithet “uncinata” (hooked in Latin) refers to ectoparameres having a hook-like tooth near their middle part.

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