# Eighth addition to the revision of Itarinae (Orthoptera: Gryllidae) Восьмое добавление к ревизии Itarinae (Orthoptera: Gryllidae)

A.V. GOROCHOV

А.В. Горохов

A.V. Gorochov, Zoological Institute, Russian Academy of Sciences, 1 Universitetskaya Emb., St Petersburg 199034, Russua. E-mail: orthopt@zin.ru

Two new species [Itara (Itara) tioman sp. nov. and I. (Maxitara) kinabalu sp. nov.] are described from Malaysia (from a small island near the Malacca Peninsula and from the Borneo Island, respectively). They differ from all the other congeners in some characters of male tegmina and male genitalia.

Описываются два новых вида [*Itara* (*Itara*) tioman sp. nov. и *I*. (*Maxitara*) kinabalu sp. nov.] из Малайзии (с маленького островка у полуострова Малакка и с острова Борнео соответственно). Они отличается от других близких видов особенностями строения надкрылий и гениталий самца.

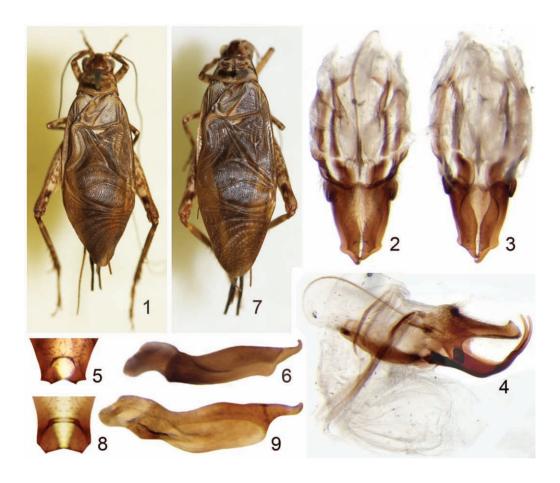
Key words: crickets, taxonomy, Malaysia, Orthoptera, Gryllidae, Itarinae, Itara, new species

**Ключевые слова:** сверчки, таксономия, Малайзия, Orthoptera, Gryllidae, Itarinae, *Itara*, новые виды

### INTRODUCTION

This paper is the eighth communication on taxonomy of the subfamily Itarinae Shiraki, 1930 containing an immediate addition to the partial revision of this subfamily (Gorochov, 1997). The previous additions (Gorochov, 2001a, 2001b, 2004, 2007, 2008, 2009, 2012) included descriptions of new taxa and some other new data on the genus Itara Walker, 1869. In one of these papers (Gorochov, 2008), some mistakes in the internet catalogue of Orthoptera for 2008 concerning the generic classification of Itarinae were registered. It is necessary to note that one of these mistakes is now corrected (Eades et al., 2013): the genera Pseudotrigonidium Chopard, 1915 and Tremellia Stål, 1877 are correctly transferred from Itarinae to Phaloriinae Gorochov, 1985. But the second mistake is still present: the genus Parapentacentrus Shiraki, 1930, having an unique synapomorphy with *Itara* in the structure of the male genitalia (the endoparameres are anteriorly fused or almost fused with each other under the spermatophore sac, but not above the latter as it occurs in the most part of Gryllidae with the large spermatophore sac) and lacking any important difference from *Itara*, is erroneously placed in Pentacentrinae Saussure. 1878, a subfamily belonging to another phylogenetic group of Gryllidae. In addition, Chopard (1968) is erroneously indicated as the author of Itarinae in this catalogue, but in accordance with the Code of Zoological Nomenclature, it's author is Shiraki (1930) who first used this name and gave diagnostic characters of Itarinae in the key.

The two new species described here belong to the subgenera *Itara* s. str. and *Maxitara* Gorochov, 2001. The type material is deposited at the Zoological Institute of RAS, St Petersburg, Russia.



**Figs 1–9.** *Itara*, male: **1–6**, *I. tioman* **sp. nov**.; **7–9**, *I. kirejtshuki*. General view from above (1, 7); genitalia from above (2), from below (3), and from side (4); epiphallic apex from above (5, 8); right ectoparamere from below and slightly from side (6, 9).



**Figs 10–15.** *Itara*, male: **10–12**, *I. kinabalu* **sp. nov**.; **13–15**, *I. parallela*. General view from above (10, 13); genitalia from above (11, 15) and from side (12, 14).

## **TAXONOMIC PART**

Order ORTHOPTERA

Family **GRYLLIDAE** 

Subfamily **ITARINAE** 

Genus Itara

*Itara (Itara) tioman* sp. nov. (Figs 1–6)

Holotype. Male; Malaysia, Pahang State, Tioman I. not far from Mersing City in Johor State, environs of Juara Vill. on eastern coast of island, secondary forest, on leaf of bush at night, 6–14 Apr. 2010, A. Gorochov, M. Berezin, E. Tkatsheva.

*Paratype*. Four males, same data as for holotype.

Description. Male (holotype). Body rather small for this genus. Colouration of body vellowish with following marks: clypeus, labrum, palpi, scapes and pronotal disc with light brown indistinct spots; median part of vertex, upper half of each lateral lobe of pronotum, and most part of longitudinal veins in lateral tegminal field brown; area between ocelli, apical area of tegmina, and distal part of hind wings dark brown; spots behind eyes, spots and narrow stripes on femora, and large areas on tibiae and tarsi brownish grev (fore and middle tarsi as well as distal part of hind tarsi almost completely brownish grey); marks on proximal part of tegmina almost whitish (Fig. 1). External structure of body typical of this subgenus; however dorsal tegminal field rather wide and with strongly transverse mirror having somewhat angular proximal edge, and apical area of this field 1.1 times shorter than width of mirror (Fig. 1). Genitalia very similar to those of I. (I.) kirejtshuki Gorochov, 1997 but distinguished by acute (not obtuse) lateral corners of epiphallic apex (Figs 2, 5), an acute-angled (not obtuse-angled) anterolateral lobe of ectoparamere in profile (Fig. 4), and a narrower and more laterally concave middle (widened) part of ectoparamere (Figs 3, 6).

Variations. Some paratypes darker: head dorsum with dark brown median band

from ocelli to hind part of vertex; pronotal disc with distinct brown spots partly fused with each other; tibiae almost completely brownish grey; dorsal tegminal field almost brownish grey with smaller whitish marks on proximal part and with colouration of apical area as in holotype; epiphallus with short anteromedian projection (Fig. 2) or without it; ectoparameres slightly varied in width

Female unknown.

Length in mm. Body 13–16; body with wings 17–19; pronotum 1.8–2.2; tegmina 13–14.5; hind femora 8–9.

Comparison. The new species is most closely related to I. kireitshuki from another state of Malaysia (Perak). It is distinguished from the latter species by a shorter apical area in the male tegmina, and by the above-mentioned characters of the male genitalia (for comparison see Figs 1-6 and 7–9). From all the other species of this subgenus, the new species differs in the anteromedian part of the epiphallus which is not curved backwards, and in a distinctly narrower middle part of the ectoparamere. However, the latter character is slightly variable, and it cannot be excluded that the new species is only a subspecies of *I. kirejt*shuki.

*Etymology*. The species is named after the Tioman I.

# *Itara (Maxitara) kinabalu* sp. nov. (Figs 10–12)

Holotype. Male; Malaysia, Sabah State, southern part of Kinabalu National Park, 1500–2000 m, primary forest, on large leaf of low plant near brook at night, 26 Apr. – 1 May 2013, A. Gorochov, M. Berezin, V. Gorochova, E. Tkatsheva.

*Paratypes*. Male and 2 females, same data as for holotype.

Description. Male (holotype). Body large for this genus. Colouration of body greyish brown with following marks: face slightly lighter; areas behind lateral ocelli yellowish and connected with yellowish spot under median ocellus by yellowish bands; area between ocelli and proximal part of outer side of mandibles dark brown; antennae and areas on palpi dark grev: tegmina with semitransparent vellowish grev membranes in lateral field; hind wings with dark grevish brown distal part; femora light brown with darkened apical part and narrow stripes on outer surface of hind femora; spines of hind tibiae light brown with yellowish inner side; rest of body with almost yellowish thoracic sternites, light brown abdominal sternites, cerci and most part of genital plate, and darkened distal part of this plate. External structure of body typical of majority of representatives of Maxitara [but not as in I. (M.) megacephala Gorochov, 2007]: head small; pronotum distinctly narrowing to head; tegmina very large, with strongly transverse mirror, with rather small distal cell formed by longest oblique vein, and with very long and distally rather wide apical area (this area 1.3 times longer than width of mirror: Fig. 10); hind wings long, distinctly longer than tegmina. Genitalia similar to those of *I.* (*M.*) parallela Gorochov, 2007, but epiphallus with less rounded ventrolateral lobes in middle part and with longer apical part (from apex to subapical dorsal transverse keel), and ectoparameres with clearly shorter membranous and longer sclerotized parts (latter part distinctly projected behind epiphallic apex; Figs 11, 12).

Variations. Scape with few small light spots; clypeus with dark (almost dark brown) upper half; mandibles with larger dark area; pronotum with anterior part somewhat darker than posterior one.

Female. General appearance similar to that of male holotype, but labrum and lower part of clypeus partly yellowish, tegmina narrow and with dorsal field having 14–15 oblique longitudinal veins and numerous almost regularly located crossveins. Genital plate not long (its visible part with almost equal length and width); ovipositor typical of this genus in shape, approximately equal to hind femur in length.

Length in mm. Body: male 19–20, female 16–18; body with wings: male 35–37,

female 33–34; pronotum: male 3.5–3.7, female 3.1–3.3; tegmina: male 27–28, female 23–24; hind femora: male 13–13.5, female 12.3–13.2; ovipositor 12–13.5.

Comparison. The new species is most similar to *I. parallela* from another mount (Trus Madi) of the same state. It differs from the latter species in the male tegmina with a somewhat shorter mirror and a slightly smaller distal cell formed by the longest oblique vein, as well as in the characters of the male genitalia listed above (for comparison see Figs 10–12 and 13–15); and from all other species of this subgenus in clearly longer ectoparameres and/or much longer tegmina, or a distinctly narrower epiphallic apex.

*Etymology*. The species is named after the Kinabalu Mount.

#### ACKNOWLEDGMENTS

The author is grateful to all the colleagues who helped him in collecting the insects during the field trips in Malaysia. This study was supported by the Presidium of the Russian Academy of Sciences (Program "Biosphere Origin and Evolution of Geo-biological Systems").

## **REFERENCES**

Chopard L. 1968. Gryllides. Orthopterorum catalogus, 12: 213–500.

Eades D.C., Otte D., Cigliano M.M., Braun H. 2013. Orthoptera Species File. Version 5.0/5.0. Visited 6 November 2013. Available from: <a href="http://Orthoptera.SpeciesFile.org">http://Orthoptera.SpeciesFile.org</a>

**Gorochov A.V.** 1997. Partial revision of the subfamily Itarinae (Orthoptera: Gryllidae). *Zoosystematica Rossica*, **6**(1/2): 47–75.

Gorochov A.V. 2001a. Additions to the revision of Itarinae (Orthoptera: Gryllidae). *Zoosystematica Rossica*, **9**(1), 2000: 36.

**Gorochov A.V.** 2001b. Second addition to the revision of Itarinae (Orthoptera: Gryllidae). *Zoosystematica Rossica*, **9**(2), 2000: 298.

**Gorochov A.V.** 2004. Third addition to the revision of Itarinae (Orthoptera: Gryllidae). *Zoosystematica Rossica*, **12**(2), 2003: 184.

**Gorochov A.V.** 2007. Forth addition to the revision of Itarinae (Orthoptera: Gryllidae). *Zoosystematica Rossica*, **16**(2): 201–207.

- **Gorochov A.V.** 2008. Fifth addition to the revision of Itarinae (Orthoptera: Gryllidae). *Zoosystematica Rossica*, **17**(1): 55–56.
- Gorochov A.V. 2009. Sixth addition to the revision of Itarinae (Orthoptera: Gryllidae). *Zoosystematica Rossica*, **18**(2): 218–223.
- **Gorochov A.V.** 2012. Seventh addition to the revision of Itarinae (Orthoptera: Gryllidae). *Zoosystematica Rossica*, **21**(1): 60–62.
- Shiraki T. 1930. Orthoptera of the Japanese Empire Part I (Gryllotalpidae and Gryllidae). *Insecta Matsumurana*, 4(4): 181–252.

Received October 11, 2013 / Accepted November 25, 2013