

## New data on the genus *Peracca* (Orthoptera: Tettigoniidae: Conocephalinae) in Malaysia, with description of two new species

## Новые данные по роду *Peracca* (Orthoptera: Tettigoniidae: Коносерфалинае) в Малайзии с описанием двух новых видов

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*Peracca omissa* sp. nov. and *P. derelicta* sp. nov. from western part of Malaysia are described. These species are very similar to *P. conspicuithorax* Griffini, 1897 and *P. mirzai* Tan et Ingrisch, 2014 but differs from them in the shape of some male abdominal structures. *Peracca macritchiensis* Tan et Ingrisch, 2014, syn. nov. from Singapore is synonymized to *P. tiomani* Gorochov, 2011 described from Tioman I. near southern part of Malacca Peninsula.

Описаны *Peracca omissa* sp. nov. и *P. derelicta* sp. nov. из западной части Малайзии. Эти виды очень похожи на *P. conspicuithorax* Griffini, 1897 и *P. mirzai* Tan et Ingrisch, 2014, но отличаются от них формой некоторых структур брюшка самца. *Peracca macritchiensis* Tan et Ingrisch, 2014, syn. nov. из Сингапура сведен в синонимы к *P. tiomani* Gorochov, 2011, описанному с о. Тиоман у южной части полуострова Малакка.

**Key words:** katydids, taxonomy, Malaysia, Orthoptera, Tettigoniidae, Conocephalinae, *Peracca*, new species, new synonym

**Ключевые слова:** кузнечики, таксономия, Малайзия, Orthoptera, Tettigoniidae, Conocephalinae, *Peracca*, новые виды, новый синоним

### INTRODUCTION

At present, the genus *Peracca* Griffini, 1897 includes not less than 15 species distributed in Southeast Asian Region and belonging to three subgenera: *Peracca* s. str., *Odontoconus* Fritze, 1908 and *Sumatracca* Gorochov, 2011 (Ingrisch, 1998; Gorochov, 2011; Tan and Ingrisch, 2014). Type of this genus is *P. conspicuithorax* Griffini, 1897 described from Perak State of Malaysia; type material on this species is not revised, and all the above-mentioned authors were forced to use the old description and not very distinct pictures from the original description (Griffini 1897). It is a reason that some of these authors considered two similar species from more northern and more eastern states of Malaysia as *P. conspicuithorax* (In-

grisch, 1998: fig. 74, A, B; Tan and Ingrisch, 2014: fig. 5, B, C). However, study of an additional material on this genus and restudy of the published data show that there is a group of closely related species similar to *P. conspicuithorax* in the general appearance and some features of the male abdominal apex: type species; *P. mirzai* Tan et Ingrisch, 2014; and two new species described here. Also, one species from another group of *Peracca* s. str. [*P. subulicerca* (Karny, 1926) from Java; *P. sarawakensis* Ingrisch, 1998 from Borneo; *P. tiomani* Gorochov, 2011 and *P. macritchiensis* Tan et Ingrisch, 2014 from islands near southern part of Malacca] is twice described under two names, and these names must be synonymized (see below).

The material studied (including types of new species) is deposited at the Zoologi-

cal Institute of RAS, St Petersburg, Russia. All the specimens are dry and pinned. The photographs of some morphological structures were made with a Leica M216 stereomicroscope.

## SYSTEMATICS

Tribe **AGRAECIINI** Redtenbacher, 1891

Genus **Peracca** Griffini, 1897

***Peracca (Peracca) omissa* sp. nov.**

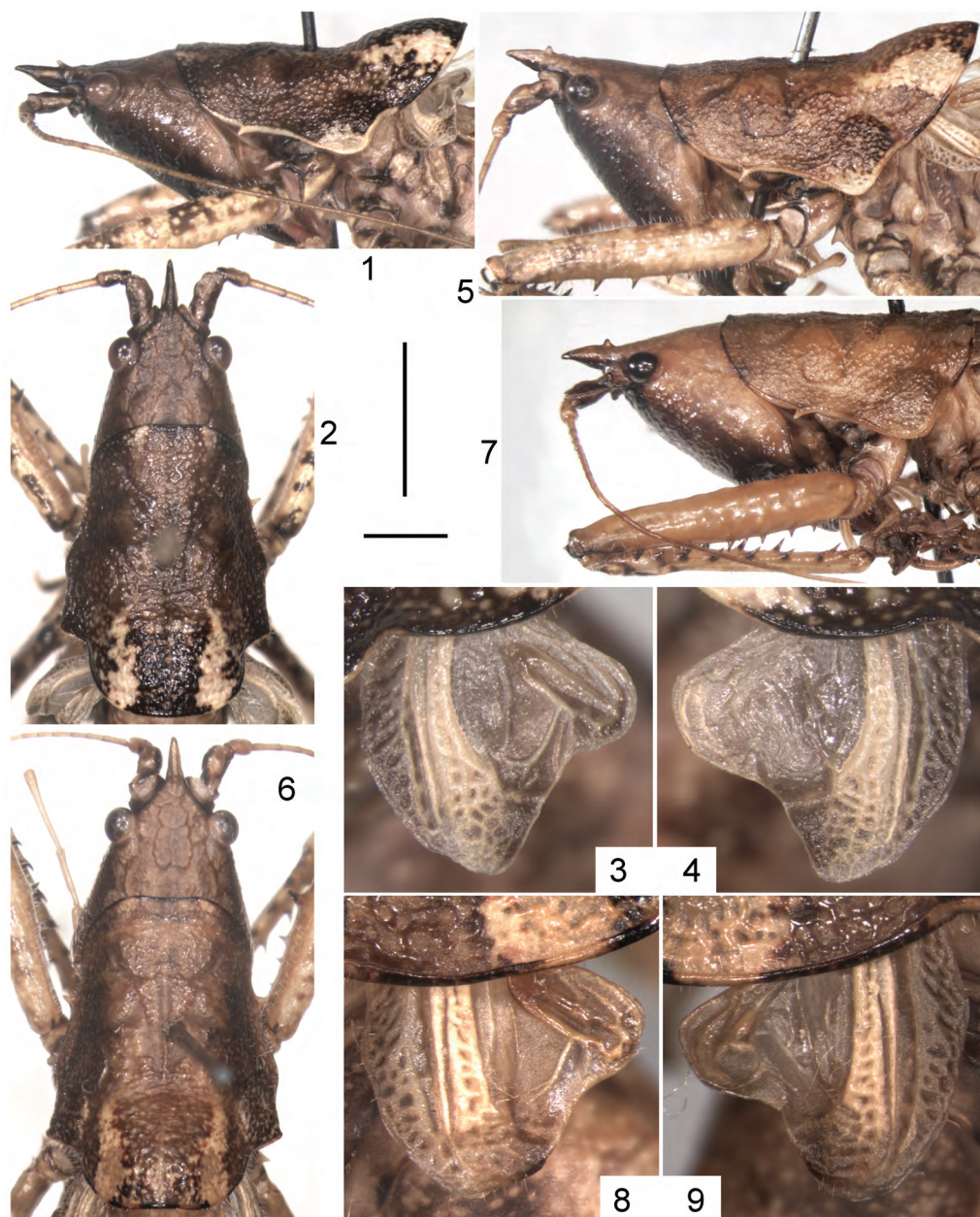
(Figs 1–4, 12–15)

*Holotype*. Male; **Malaysia**, Penang I. between Malacca and Sumatra, Penang Mt, ~800 m, secondary forest, on branch of bush at night, 20–24 November 2014, A. Gorochov, M. Berezin, E. Tkatsheva (collected as deutonymph, imago in January 2015).

*Description*. Male. Body colouration rather spotted: head with dark brown anteroventral half of epicranium (from ventral part of rostrum and antennal cavities to clypeus and subgenae), proximal part of clypeus, mandibles and subgenae; rest part of epicranium brown with a pair of rows from small yellowish marks along lateral edges of rostrum; rest of mouthparts yellowish with light reddish brown labrum and part of maxillae; antennae light brown with brown ventral surface of scape and of pedicel as well as with brown lateral surface of pedicel and two longitudinal stripes on dorsal surface of scape; pronotum brown with yellowish ventral border of lateral lobes (this border widened in posteroventral part of these lobes) and a pair of longitudinal areas in posterior third of disc as well as with almost dark brown three narrow areas along anterior pronotal edge (anterior part of disc with rather small almost yellowish marks between these dark areas) and three much larger areas in posterior pronotal half (Figs 1, 2); legs yellowish to light brown with distinct and rather numerous brown spots on dorsal half of fore and middle femora, with more or less brown dorsal and lateral surfaces of proximal half of hind femur having rather large yellowish dorsal area, with two

rather small brownish grey areas on dorsal part of distal half of this femur, with dark brown ventral part of latter half, with dark brown spots on fore tibia near tympana and at base of middle and hind tibiae as well as at base of all tibial spines; tegmina with light greyish brown lateral field, yellowish white longitudinal veins between lateral and dorsal fields, barely darkened small distal part of dorsal field and more or less light (almost transparent) rest of dorsal field (Figs 3, 4); rest of thorax yellowish with light brown sternites and a few small brown marks on pleurites; abdomen light brown with brown interrupted median stripe running from metanotum to last tergite, with almost brown lateral parts of tergites having very numerous yellowish and light brown dots, and with more or less yellowish cerci, epiproct and distal part of genital plate.

Structure of body following: head distinctly cone-like, opisthognathous, with rostrum thin, elongate and acute (spine-like) but having very small dorsomedian spinule directed upwards / forwards (Figs 1, 2); lateral ocelli indistinct; median ocellus strongly convex (almost tubercle-like) and located between ventral edges of antennal cavities; scape approximately twice wider than space between these cavities; pronotum elongate, with roundly truncate anterior and posterior edges of disc, with characteristic outlines of lateral lobes (Figs 1, 2), with rather large and somewhat inflate hind part of pronotum, and with posteroventral part of lateral lobes also inflate but having its ventral half distinctly curved medially; tegmina small, almost completely covered by hind pronotal part, with rather narrow lateral field, somewhat arcuate *M* and widened area between *M* and mirror, clearly projected medial part of basal area (provided with plectrum and stridulatory vein), and short and almost triangular rest part of dorsal field (Figs 3, 4); abdominal tergites (excepting last one) with barely developed median ridges and practically without posteromedian projections (Fig. 12); last tergite with rather widely truncate



**Figs 1–9.** *Peracca* Griff., male (1–6, 8, 9) and female (7): 1–4, *P. omissa* sp. nov.; 5–9, *P. derelicta* sp. nov. Head and pronotum from side (1, 5, 7) and from above (2, 6); left (3, 8) and right (4, 9) tegmina. Scale bars: 5 mm (one vertical bar for 1, 2, 5–7) and 1 mm (one horizontal bar for 3, 4, 8, 9).

apex of its posteromedian part (Figs 12, 13); lateral branch of cerci slightly narrowed in proximal part, not widened in distal part and with base of narrow ventral ribbon located almost in middle part of this branch

(Figs 12, 15); genital plate with posterior border somewhat curved downwards and rather narrow (short) in median part (this part clearly shorter than styli of this plate; Fig. 14); genitalia membranous.

Female unknown.

Length in mm. Body 32; pronotum 9.2; tegmen 3.6; hind femur 16.2; hind tibia 18.

*Comparison.* The new species might be indicated for “Kuala Lompat” (Pahang State of Malaysia) as *P. conspicuithorax* (Tan and Ingrisch 2014: figs 5, B, C). It is distinguished from true *P. conspicuithorax* by a truncate posteromedian part of the last tergite in male and by the lateral branch of male cercus slightly narrowed in the proximal part, not widened in the distal part and with the base of narrow ventral ribbon located almost in the middle part of this branch [in male of *P. conspicuithorax*, judging by Griffini’s pictures, posteromedian part of the last tergite is slightly bilobate, distal part of the lateral branch of cercus clearly widened in the profile, and base of the narrow ventral ribbon is located almost at the place of bifurcation of the lateral and medial branches of cercus; such position of this ribbon is distinctly visible in the both pictures by Griffini (1897: figs A, C); for comparison see Figs 10, 11 and 12, 15]. From *P. mirzai*, the new species differs in the same character of last tergite in male, a less strongly S-shaped male cercus in the profile and clearly longer ventral ribbon located in the middle part of lateral branch in this cercus (in *P. mirzai*, this ribbon is located in the distal part of lateral cercal branch; see Figs 15 and 21).

*Etymology.* This species name is the Latin word “omissa” (missed).

***Peracca (Peracca) derelicta* sp. nov.**  
(Figs 5–9, 16–20)

*Holotype.* Male; **Malaysia**, Pahang State, Taman Negara National Park, ~100 m, primary forest on bank of Tembeling River not far from Kuala Tahan Vill., on leaf of bush at night, 28 November – 5 December 2014, A. Gorochov, M. Berezin, E. Tkatsheva.

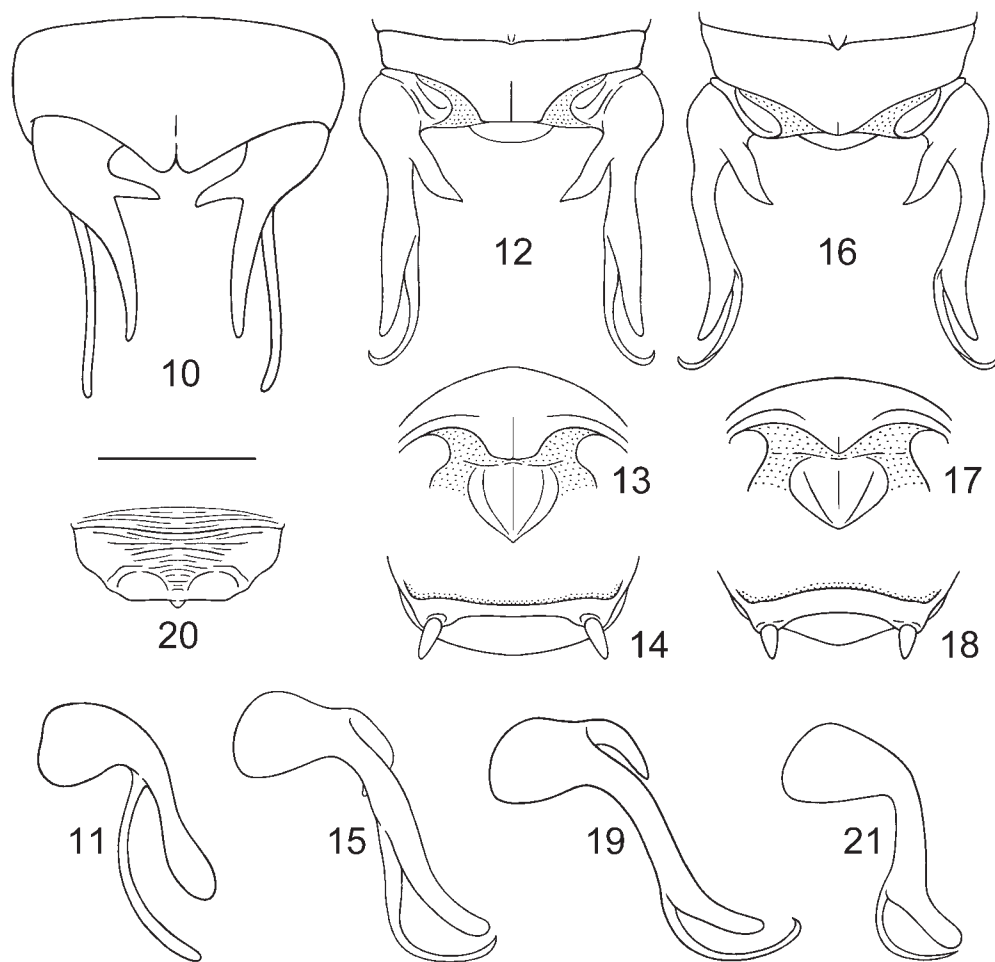
*Paratype.* Female, same data as for holotype.

*Description.* Male. Body colouration similar to that of *B. omissa*, but lateral parts of rostrum almost uniformly brown, labrum brown to dark brown, distal half of clypeus

and maxillae (excepting palpi) light brown, scape with almost completely light brown dorsal surface, pronotum more uniformly brown (with anterior and posterior edges partly dark brown, with ventral border of lateral lobes and a pair of rather large spots on hind third of disc light brown, and with areas near posteroventral corners of these lobes and between light brown spots on disc darkened, darker than brown but lighter than dark brown), legs light brown with small indistinct darkish marks on fore femur and on most part of middle femur (distal third of latter femur with distinct brown area on dorsal surface) as well as with clearly darkened subapical part of middle tibia, abdomen with short posteromedian brown spot on each tergite from metanotum to subapical tergite and with light brown cerci, epiproct and distal part of genital plate.

Structure of body also similar to that of *B. omissa* but with following differences: rostrum with small dorsomedian tubercle directed upwards (Fig. 5); posterior (inflated) part of pronotum slightly shorter; tegmina with less arcuate *M* and slightly narrower area between *M* and mirror (for comparison see Figs 3, 4 and 8, 9); seventh–ninth abdominal tergites with very small posteromedian projections (Fig. 16); posteromedian part of last tergite with almost angular apex (Figs 16, 17); cercus with base of narrow ventral ribbon located in distal part of lateral branch and with proximal part of this branch (between its base and place of location of ventral ribbon) distinctly longer and clearly arcuate in dorsal view (Figs 16, 19); genital plate with posterior border slightly arcuate in posterior view and rather wide (long) in median part which not shorter than styli of this plate (Fig. 18).

Female. General appearance similar to that of male, but head dorsum, pronotum and femora almost uniformly light brown (however, hind femur with slightly darkened median part of proximal two thirds of outer surface and with almost indistinct



**Figs 10–21.** *Peracca* Griff., male (10–19, 21) and female (20): 10, 11, *P. conspicuithorax* Griff.; 12–15, *P. omissa* sp. nov.; 16–20, *P. derelicta* sp. nov.; 21, *P. mirzai* Tan et Ingr. Male abdominal apex from above (10, 12, 16); male left cercus from side (11, 15, 19, 21); posteromedian part of last tergite and epiproct in male from behind (13, 17); distal part of male genital plate from behind (14, 18); female genital plate from below (20). Scale bar 2 mm (one bar for 12–20). [10, 11, after Griffini (1897), modified; 21, after Tan and Ingrisch (2014), from photograph.]

darkenings on dorsal surface near base and in middle part), ovipositor more or less brown, pronotum with much shorter and not inflate hind lobe of disc and with somewhat concave posterior edge of disc, tegmina very small (scale-like) and with traces of longitudinal veins, last abdominal tergite with a pair of small angular posteromedial lobes and narrow angular notch between them, epiproct somewhat smaller, and paraproct simple (small and with short and al-

most angular posterior projection). Genital plate transverse and widely truncate at apex (most part of this plate and last sternite semimembranous and with numerous transverse wrinkles; Fig. 20); ovipositor typical of this subgenus in shape (similar to that of *P. mirzai*; Tan and Ingrisch 2014: fig. 6, L).

Length in mm. Body: male 35, female 33; pronotum: male 9.8, female 8; tegmen: male 3.5, female (exposed part only) 0.7–0.8; hind femur: male 16.7, female 17.5; hind

tibia: male 18.4, female 19; ovipositor 16.

**Comparison.** The new species might be pictured by Ingrisch (1998: figs 74, A, B) as *P. conspicuithorax*. It differs from true *P. conspicuithorax* in an angular (not bilobate) posteromedian part of the male last tergite and the same characters of male cercus as *P. omissa* (ventral ribbon of *P. derelicta* is located even in a more distal part of the lateral cercal branch; see Figs 10, 11 and 16, 19). From *P. omissa*, the new species is distinguished by an angular (not truncate) posteromedian part of the male last tergite, shorter ribbon located in a distal part of the lateral cercal branch in male, and somewhat arcuate proximal part of this branch (in *P. omissa*, this part shorter and straight; see Figs 12, 13, 15 and 16, 17, 19), as well as distinctly wider (longer) and arcuate (in posterior view) distal part of the male genital plate (Figs 14 and 18); and from *P. mirzai*, by an angular (not bilobate) posteromedian part of the male last tergite, a less strongly S-shaped lateral branch of the male cercus in the profile and clearly longer ventral ribbon of this branch (Figs 19 and 21).

**Etymology.** This species name is the Latin word “derelicta” (abandoned).

***Peracca (Peracca) tiomani***  
Gorochov, 2011

**Note.** This species, described from Tioman I. near southern part of Malacca Peninsula (Gorochov, 2011: figs 7, 8, 20–22, 29–32), is distinguished from similar *P. subulicercus* by a clearly smaller (shorter) medial branch of the male cerci in relation to their lateral branch (Ingrisch 1998: fig. 74, L), and from slightly less similar *P. sarawak-*

*ensis* by a longer hind (inflate) part of the pronotum and non-denticulate distal edge of the medial cercal branch in male. These characters also distinguish the both latter species from *P. macritchiensis* described from Singapore (Tan and Ingrisch 2014: figs 7, A–I). Differences between *P. tiomani* and *P. macritchiensis* are unclear, and it is reasonable to consider *P. macritchiensis* **syn. nov.** as a junior synonym of *P. tiomani*.

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