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## CRICKETS OF THE SUBFAMILY PTEROPLISTINAE (ORTHOPTERA: GRYLLIDAE) FROM MALACCA

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### ABSTRACT

Two new species of Pteroplistinae (*Kerinciola tabulophila* sp. nov. and *Changiola pahangi* sp. nov.) from Malaysian part of Malacca are described. *Tembelingiola plana* Gorochov, 2004 is firstly recorded for mountain part of this peninsula.

**Key words:** Gryllidae, Malacca, Malaysia, new taxa, Orthoptera, Pteroplistinae

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## СВЕРЧКИ ПОДСЕМЕЙСТВА ПТЕРОПЛИСТИНАЕ (ОРТХОПТЕРА: ГРЫЛЛИДАЕ) ИЗ МАЛАККИ

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### РЕЗЮМЕ

Описываются два новых вида Pteroplistinae (*Kerinciola tabulophila* sp. nov. и *Changiola pahangi* sp. nov.) из малазийской части Малакки. *Tembelingiola plana* Gorochov, 2004 впервые указывается для горной части этого полуострова.

**Ключевые слова:** Gryllidae, Малакка, Малайзия, новые таксоны, Orthoptera, Pteroplistinae

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## INTRODUCTION

The subfamily Pteroplistinae is distributed in tropical forests of Indo-Malayan Region only (Gorochov 2004, 2010). All its representatives are rather similar to each other in general appearance, as they have very similar mode of life on trunks and branches of living trees: at night, they walk on the bark; at daytime, they hide themselves inside the fissures under the dead parts of bark; their eggs are laid into the narrow cracks of bark. However the male genitalia of Pteroplistinae are very diverse, and on base of their structure, this subfamily is divided into eight genera:

*Pteroplistes* Brunner-Wattenwyl, 1873; *Tramlapiola* Gorochov, 1990; *Crockeriola* Gorochov et Kostia, 1999; *Kerinciola* Gorochov, 2004; *Changiola* Gorochov, 2004; *Tembelingiola* Gorochov, 2004; *Pangrangiola* Gorochov, 2004; *Asymmetriola* Gorochov, 2010. Four of these genera are recorded for Malacca. Up to now, they are presented by the following Malaccan species: *Pteroplistes acinaceus* Brunner-Wattenwyl, 1873, from "Malacca"; *Kerinciola similis* (Chopard, 1969) and *Changiola? perakensis* (Chopard, 1969), both from Perak State of Malaysia; *Tembelingiola plana* Gorochov, 2004, from Pahang State of Malaysia. Here, two new species of Pteroplistinae are

added to this list. It is necessary to note that both Chopard's species are described for two specimens (Chopard 1969): *K. similis*, for a male (holotype) from Perak and a female ("allotype") from Pahang; *Ch.? perakensis*, for a female (holotype) from Perak and a male ("allotype") from Pahang. So, belonging of the "allotypes" from Pahang to these species and of the latter species to *Changiola* may be erroneous.

## MATERIAL AND METHODS

The specimens considered below were collected at night in the forest stations on trunks of trees not far from soil. Majority of them sat on the bark under the metallic tables with the names of trees situated along forest tourist trails. The material studied (including types) are deposited at the Zoological Institute of the Russian Academy of Sciences, Saint Petersburg. These specimens are dry and pinned; the preparations of male genitalia are worked up by KOH solution and deposited in glycerin.

## SYSTEMATICS

### Family Gryllidae Laicharting, 1781

#### Subfamily Pteroplistinae Chopard, 1951

#### *Kerinciola tabulophila* sp. nov.

(Figs 1, 3–7)

**Etymology.** The name originates from *tabula* (Lat.) – a table.

**Type material.** Holotype – male, MALAYSIA: Pahang State, Fraser's Hill near border with Selangor State, 17–18 km SW of Raub Town, 1000–1300 m, 15–23.IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva. Paratypes: 2 males, 4 females, same data.

**Description.** *Male* (holotype). Coloration moderately spotted: head brown with light brown ocelli, areas on scapes, a few longitudinal stripes on dorsum behind ocelli, wide band on epicranium along posterior and posterolateral edge of each eye, and most part of clypeus and labrum; pronotum with almost dark brown lateral lobes and brown disc having several light brown spots; fore femora light brown with slightly darker small marks and dark basal spot; middle femora light brown with distinctly darker transverse band not far from apex; hind femora light brown with numerous narrow and oblique brown stripes on dorsolateral part and darkened spots at

apical part; all tibiae and tarsi brown with three lighter transverse bands on each tibia and light brown proximal half of hind basitarsus and spurs of this basitarsus; tegmina brownish with yellow area between R and M, yellowish rest of venation, and two whitish spots near plectrum and in region of chords; abdomen with darker dorsum and lighter venter (including cerci). All ocelli developed, but small; fore tibiae with oval inner tympanum only; dorsal tegminal field as in Fig. 1; lateral tegminal field with weakly sclerotized (almost semimembranous) R–M area and with numerous and partly almost transverse branches of Sc, however without crossveins between latter branches; hind wings approximately reaching apex of tegmina, but not extending behind them; abdominal apex without distinct spines, hooks, or tubercles; anal plate with almost flat dorsal surface and round hind part; genital plate not long, with comparatively wide distal part having rather deep median notch (Fig. 3); epiphallus of genitalia with wide and more or less angular posteromedial lobes, deep and comparatively narrow notch between them, small and almost hooked posterolateral lobules, and rather narrow and moderately long anterolateral parts fused with rather short, narrow, and strongly curved rami; genital guiding rod strongly curved in profile, with a pair of ribbon-like sclerites (fused at base with arcuate endoparameres) and asymmetrical lamellar distal half (having a few small and more or less acute projections and hooks); mold of spermatophore attachment plate transverse and with additional unpaired sclerotized ribbon directed upwards (Figs 4–6).

**Variation.** Paratypes with darker (brown) clypeus and elongate spot between two hind (anal) chords; one paratype with brownish lower half of tegminal R–M area, and other paratype with distinctly spotted antennal flagellum.

**Female.** General appearance as in male, but with following differences: tegmina with somewhat lighter most part of membranes (sometimes almost whitish), slightly darker venation, and distinctly darker (brown) narrow areas around veins and crossveins of dorsal field, 7–9 slightly oblique and rather irregular longitudinal veins in this field, more or less sparse crossveins between these veins, and somewhat more oblique branches of Sc in lateral field; genital plate similar to that of female from Pahang included by Chopard (1969: fig. 152) in *K. similis*, but with very small median notch at apex (Fig. 7).



**Figs 1, 2.** Dorsal tegminal field of male: 1 – *Kerinciola tabulophila* sp. nov.; 2 – *Changiola pahangi* sp. nov. Scale bars = 1 mm.

**Length (mm).** Body: male 11.5–13.5, female 11.5–14.5; body with wings: male 12.5–14, female 14–16; pronotum: male 2.5–2.7, female 2.9–3.3; tegmina: male 9–10, female 9.5–10.5; hind femora: male 9–9.7, female 9.5–10.5; ovipositor 7–7.5.

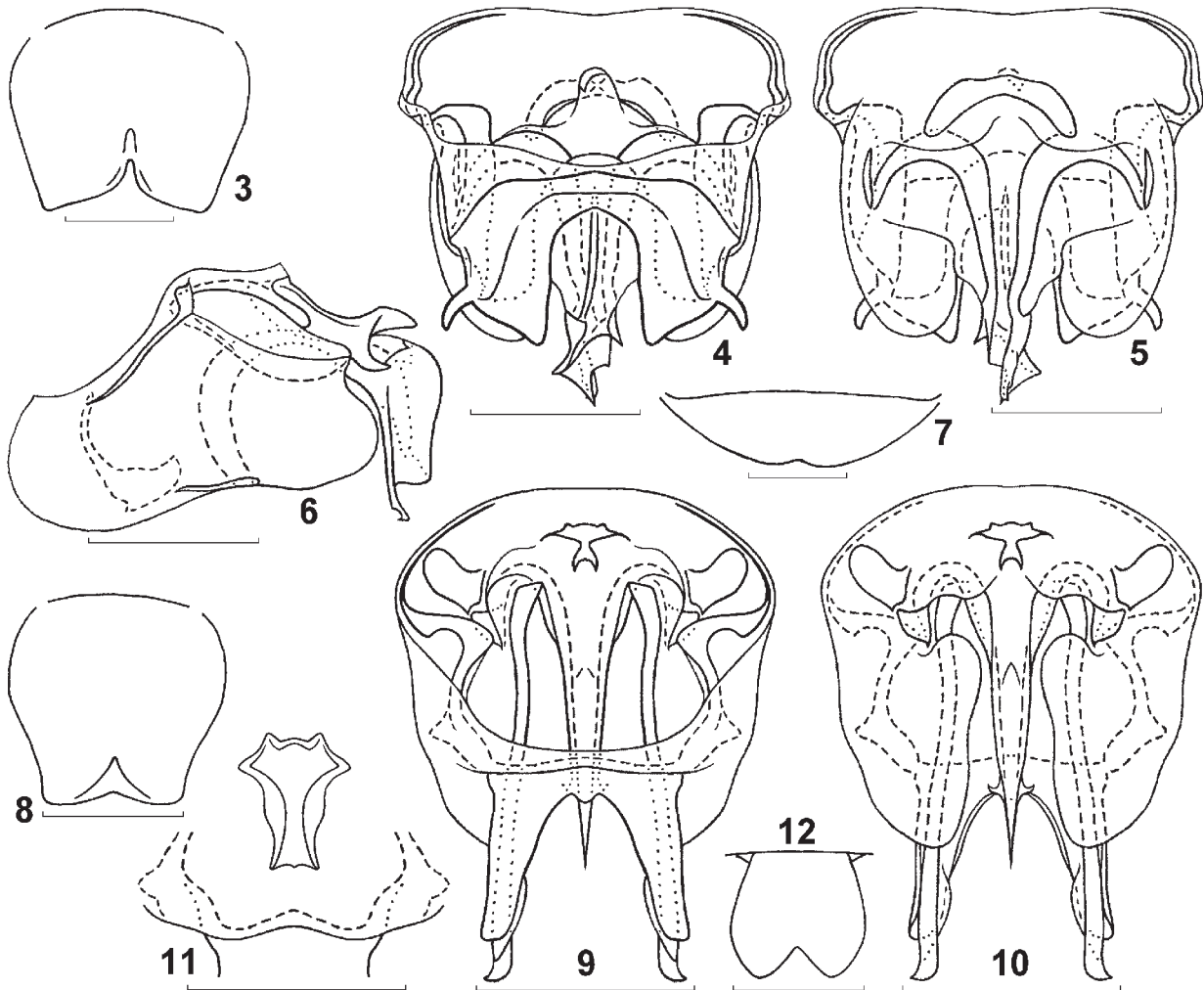
**Comparison.** The new species is most similar to *K. similis*, but clearly distinguished by the distinctly narrower hind median notch of epiphallus and asymmetrical distal half of guiding rod. From *K. sonora* Gorochov, 2004 (Sumatra), the new species differs in the same characters as well as in the truncate apex of posteromedial lobes of epiphallus and almost straight (in profile) guiding rod.

***Changiola pahangi* sp. nov.**  
(Figs 2, 8–12)

**Etymology.** The name originates from Pahang State.

**Type material.** Holotype – male, MALAYSIA: Pahang State, Fraser's Hill near border with Selangor State, 17–18 km SW of Raub Town, 1000–1300 m, 15–23.IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva. Paratypes: 1 male, 2 females, same data.

**Description.** *Male.* Size of body clearly smaller than in *K. tabulophila*. Coloration similar to that of above-mentioned species, but distinguished by following characters: head brown with dark brown epicranium under lateral ocelli, wide median band running from previous dark area to hind part of vertex, distal half of scape, most part of antennal flagellum (excepting rather sparse lighter spots), and areas behind eyes (mouthparts, excepting mandibles, distinctly lighter: from light brown to yellowish); pronotum with uniformly brown disc and very dark lateral lobes; legs light brown with large brown spots not far from apex of fore and middle femora and on distal part of hind femora, two brown spots on all



**Figs 3–12.** *Kerinciola tabulophila* sp. nov. (3–7) and *Changiola pahangi* sp. nov. (8–12): 3, 8, male genital plate from below; 4, 9, male genitalia from above; 5, 10, same from below; 6, same from side; 7, 12, female genital plate from below; 11, mold of spermatophore attachment plate and proximal part of epiphallus from above. Scale bars = 1 mm.

tibiae (in middle and hind tibiae, proximal spot very large, and in hind tibiae, proximal spot with lighter mark not far from base of tibia), and brown tarsi (excepting light brown proximal 2/3 of hind basitarsus); tegmina with brown R–M area, semitransparent membranes of rest of lateral field, rather spotted (with brown and light brown spots) membranes of dorsal field, and yellowish venation; cerci slightly darker than abdominal venter. External body structure also similar to that of *K. tabulophila*, but lateral ocelli very small, median ocellus indistinct, dorsal tegminal field as in Fig. 2, and genital plate with somewhat narrower apex having distinctly smaller

median notch (Fig. 8). Genitalia similar to those of *Ch. subita* Gorochoy, 2004 (Thailand), but with distinctly longer posterolateral lobes of epiphallus and proximal part of ectoparameres, small median tubercle between these lobes, a pair of small lateral hooks at distal part of guiding rod, strongly arched proximal part of its paired ribbon-like sclerites, and smaller sclerotized areas around mold of spermatophore attachment plate (Fig. 9, 10).

**Variation.** Paratype with somewhat wider lateroproximal parts of epiphallus (behind fusion with rami) and middle part of mold of spermatophore attachment plate (Fig. 11).



**Female.** General appearance as in male (including relative length of tegmina and hind wings), but tegminal venation and R–M area brown, rest of tegmina contrastingly light brown with several brown spots on dorsal field, structure of tegminal veins and crossveins in lateral field similar to that of females of *K. tabulophila*, venation of dorsal tegminal field distinguished from that of the above-mentioned females by distinctly more irregular longitudinal veins and somewhat more sparse crossveins (this venation almost cellular), and genital plate (if to see from below) narrowing to base (as its lateroproximal parts curved upwards) and with distinct apical notch (Fig. 12).

**Length** (mm). Body: male 9.5–10, female 10–11; body with wings: male 10.5–12, female 11–11.7; pronotum: male 2.2–2.4, female 2–2.2; tegmina: male 7.5–8.5, female 7.8–8.3; hind femora: male 6.5–6.8, female 7; ovipositor 5.6–5.7.

**Comparison.** The new species is similar to *Ch.? perakensis* in the size of body and shape of apical notch in the female genital plate, but distinguished by the not uniform coloration of head, distinctly spotted female tegmina, clearly lighter legs, shorter hind wings which are not extending behind tegminal apex, and female genital plate narrowing to base. The male from Fraser's Hill included by Chopard (1969) in *Ch.? perakensis* has more spotted coloration and shorter hind wings than holotype (female) of this species from Perak; this male probably belongs to the new species described here. Differences from *Ch. subita* are listed above (see the description of male genitalia above).

### ***Tembelingiola plana* Gorochov, 2004**

**Material examined.** Male, MALAYSIA: Pahang State, Fraser's Hill near border with Selangor State, 17–18 km SW of Raub Town, 1000–1300 m, 15–23. IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva.

**Remarks.** This species was described from the more low-lying locality of the same state: environs of Taman Negara National Park near Tembeling River, ~100 m (Gorochov 2004). Now it is firstly recorded for mountain territory.

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