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## Review of the subfamily Pteroplistinae (Orthoptera Gryllidae)

**Abstract** - The Indo-Malayan subfamily Pteroplistinae is shortly characterized and partly revised. All known genera of Pteroplistinae are considered. Four new genera (*Kerinciola* **gen. n.**, *Tembelingiola* **gen. n.**, *Changiola* **gen. n.**, *Pangrangiola* **gen. n.**) and eight new species (*Pteroplistes lagrecai* **sp. n.**, *P. borneoensis* **sp. n.**, *P. sumatranus* **sp. n.**, *K. sonora* **sp. n.**, *T. plana* **sp. n.**, *Ch. subita* **sp. n.**, *Pangrangiola bona* **sp. n.**, *P. propria* **sp. n.**) are described. Some other new data and redescrptions are given.

**Riassunto** - Revisione della sottofamiglia Pteroplistinae (Orthoptera Gryllidae).

L'autore, dopo avere brevemente presentato e parzialmente revisionato i caratteri della sottofamiglia Indo-Malese Pteroplistinae, prende in considerazione tutti i generi conosciuti. Quindi, descrive quattro generi nuovi (*Kerinciola* **gen. n.**, *Tembelingiola* **gen. n.**, *Changiola* **gen. n.**, *Pangrangiola* **gen. n.**) ed otto specie nuove (*Pteroplistes lagrecai* **sp. n.**, *P. borneoensis* **sp. n.**, *P. sumatranus* **sp. n.**, *K. sonora* **sp. n.**, *T. plana* **sp. n.**, *Ch. subita* **sp. n.**, *Pangrangiola bona* **sp. n.**, *P. propria* **sp. n.**). Inoltre, per altre specie fornisce un descrizione più dettagliata e nuovi dati distributivi.

**Key words:** Pteroplistinae, taxonomy, new taxa, Indo-Malayan region.

### INTRODUCTION

The subfamily Pteroplistinae was established by Chopard (1936, 1951) for two genera: the recent *Pteroplistes* Brunner de Wattenwyl, with 3 Indo-Malayan species [*Gryllus platyxyphus* Haan, 1842 (Java), *Pteroplistus acinaceus* Saussure, 1877 (Malacca), *P. platycleis* Bolivar, 1900 (India)], and the enigmatic fossil genus *Trichogryllus* Chopard (Eocene Baltic amber), which probably belongs to another subfamily (Gorochov, 1995). The structure of male stridulatory apparatus and male abdominal apex are the fundamental characters for the identification of all the genera and species of Pteroplistinae. Therefore, the generic position of *G. platyxyphus* and *P. platycleis* is uncertain, since their males are unknown. Later, other two species of Pteroplistinae were additionally described by Chopard (1969) from Malacca; they were included in the same genus (*P. perakensis* and *P. similis*), but their male genitalia show that they could belong to some other genera of this subfamily.

In the first phylogenetic scheme of Gryllidae (Gorochov, 1986), the position of Pteroplistinae was still uncertain, but this subfamily was clearly separated from all the other Gryllidae for the characteristic structure of the ovipositor. Later on, Pteroplistinae were mistakenly unified with Landrevinae (Otte, 1988), for an erroneous inclusion of a new Vietnamese species of Landrevinae in the genus *Pteroplistes* (*P. dilinhensis*). This species shows a body shape and spination of hind tibiae similar to those of Pteroplistinae, as they belong to the same group of life forms (Gorochov, 1990, who also

established a new genus for this species of Landrevinae (*Otteana*) and described another genus of Pteroplistinae, with *Tramlapiola sylvestris*, as a new Vietnamese species). The single description of Pteroplistinae published by Otte (1988) corresponds only to Landrevinae, but not to true Pteroplistinae (including the type genus *Pteroplistes*).

The unification of unrelated Landrevinae and Pteroplistinae led Mello (1992) to include the enigmatic Neotropical tribe Odontogryllini in Pteroplistinae sensu Otte. In the catalogus of Grylloidea by Otte (1994) and by Otte et alii (2002) these mistakes were repeated, and two genera of typical Landrevinae (*Otteana* and *Vasilia* Gorochov) were separated from all other genera of this taxon, and put, together with *Pteroplistes*, in the tribe Pteroplistini.

Recently, a third genus of Pteroplistinae with a new species from Borneo (*Crockeriola stolarczyki*) was described (Gorochov & Kostia, 1999), and the position of this subfamily among Gryllidae was shortly revised (Gorochov, 2001): Pteroplistinae were included in the new group of "Phalangopsidae", together with Phalangopsinae, Caecoplistinae, and Phaloriinae (while Oecanthinae were included in the group of "Podoscirtidae"), but Landrevinae remained in the group of "Eneopteridae". The relationship among representatives of "Phalangopsidae" is supported by the characteristic structure of male stridulatory apparatus, especially by the presence of two or more dividing veins in the mirror. Sometimes, the latter character is absent, but the conservation of this primitive peculiarity in majority of "Phalangopsidae" may be considered a sort of synapomorphy for this group.

It is to note that the fossil genus *Eneopterotrypus* Zeuner (Oligocene of Europe), presumably included in Pteroplistinae for a certain similarity in male tegmina (Gorochov, 1995), may also belong to any of the other subfamilies of "Phalangopsidae" or to Gryllomiminae.

#### SYSTEMATIC PART

This paper is based on material from the following institutions: Zoological Institute, RAS, S. Petersburg (ZIAS); Natural History Museum, London (BMNH); Natural History Museum, Vienna (NHMW), Museum and Institute of Zoology, PAS, Warsaw (MIZP), Institute of Systematics and Evolution of Animals, PAS, Krakow (ISEA).

#### Subfamily Pteroplistinae Chopard, 1951

Chopard, 1951 (Pteroplistidae); Chopard, 1968 (Pteroplistinae).

**DIAGNOSIS.** Head and body dorsoventrally depressed. Head almost prognathous, short; eyes large, but not globular; rostrum arched in profile; its width approximately equal to width of scape; genae narrow; mouthparts short (figs 1-3). Pronotum transverse, slightly narrowing in front; its lateral lobes narrow, with distinctly oblique lower edge (figs 1, 3). Legs short and not thin; fore tibiae with 1 or 2 oval tympana; hind tibiae much shorter than hind femora, with numerous denticles and few short subapical spines on upper side; apical spines (spurs) of these tibiae not long (the longest of them shorter than half of hind metatarsus); hind metatarsus with several small denticles on upper side

(figs 1, 5-9). Male tegmina with straight or slightly arched stridulatory vein (not S-shaped as in Landrevinae); mirror large, with 2 dividing veins parallel and situated very close to each other; area between R and M somewhat widened (figs 4, 11, 20, 23, 82-88). Cerci very long (fig. 85). Ovipositor high, laterally compressed, slightly curved upwards, with distal part gradually narrowing and acute apex (figs 13, 18); structure of ovipositor strongly distinguishable from that of all other Grylloidea: left and right valvae immovably connected with each other by special sutures (except in their distal part) (figs 21, 22), inner valvae absent (or very strongly reduced), bases of both upper valvae fused with each other, with second valvifers, and with hind intermediate plate (figs 14, 15); copulatory papilla membranous (fig. 16).

COMPOSITION. Seven genera: *Pteroplistes* Brunner de Wattenwyl, 1873, *Tramlapiola* Gorochoy, 1990, *Crockeriolo* Gorochoy et Kostia, 1999, *Kerinciola* gen. n., *Tembelingiola* gen. n., *Changiola* gen. n., and *Pangrangiola* gen. n.

MODE OF LIFE. The representatives of this subfamily (with known mode of life) live on trunks and branches of living trees in tropical forest. During the day, these insects hide themselves inside the fissures under the dead parts of the bark. At night, they run on the bark, sing usually near the tangle of branches or lianas (sometimes inside the wide fissures under the dead bark or under some other similar refuge on the bark), and lie their eggs into the narrow cracks of the bark. Interestingly, the representatives of *Otteana* from the subfamily Landrevinae have very similar mode of life, but their ovipositor is typical of Gryllidae (Gorochoy, 1996), probably adapted to oviposition into soil.

Genus *Pteroplistes* Brunner de Wattenwyl, 1873  
= *Pteroplistus* Saussure, 1877 (unjustified emendation).

Type species *Pteroplistus acinaceus* Saussure, 1877 (subsequent designation).

DIAGNOSIS. Body large (length of hind femora 13-14 mm). Inner tympanum medium-sized; outer tympanum small (figs 5, 6). Male tegmina with comparatively small mirror and long apical area (length of this area not shorter or slightly shorter than length of mirror) (figs 1, 11, 82-84). Male anal plate with a pair of short hooks (figs 27, 31, 35, 39); distal part of male genital plate wide, truncated, and with hind median denticle (figs 10, 27, 31, 39). Male genitalia with epiphallus H-shaped; guiding rod long, not wide, partly sclerotized, and with upper process bifurcated or unpaired; endoparameres more or less fused with the guiding rod, long, ribbon-like, roundly or angularly curved, without distinct apodemes; mold of spermatophore attachment plate articulated with endoparameres; ectoparameres and additional plate-like sclerites absent (figs 24-26, 28-30, 32-34, 36-38). Ovipositor nearly 13 mm long (fig. 13).

INCLUDED SPECIES: type species, *P. lagrecai* sp. n., *P. borneoensis* sp. n., and *P. sumatranus* sp. n.

***Pteroplistes lagrecai* sp. n. (figs 24-27, 82)**

HOLOTYPE. Male, Borneo, "Nord-Borneo, Waterstradt" (ZIAS).

DESCRIPTION. Male (holotype). Body similar to that of *P. acinaceus* in size, coloration (brown, slightly spotted), and structure, but tegmina with hardly longer mirror and slightly shorter apical area (almost as long as the mirror; in *P. acinaceus*, the mirror is slightly shorter than the apical area; for comparison see figs 11, 82), hooks of anal plate with narrow basal part, concavity between them smaller and with distinct tubercle on fore edge, genital guiding rod with upper process slightly bifurcated and almost not hooked (in *P. acinaceus*, this process strongly bifurcated and with apical hooks), shape of endoparameres and mold of spermatophore attachment plate distinctly different (for comparison see figs 24-27, 32-35).

Female unknown.

Length (mm). Body 16.5; body with wings 22; pronotum 3.4; tegmina 15; hind femora 13; hind tibiae 9.

DERIVATIO NOMINIS. This species is named in memory of the Italian orthopterist Prof. Marcello La Greca.

***Pteroplistes borneoensis* sp. n. (figs 28-31, 83)**

HOLOTYPE. Male, Borneo, "Sarawak. 1909. C.J. Brooks. B.M. 1931-570", "*Pteroplistus acinaceus* Saus. Chopard det." (BMNH).

DESCRIPTION. Male (holotype). Body similar to that of *P. acinaceus* and *P. lagrecai*, but tegmina as in *P. lagrecai* (fig. 83), hind wings shorter (slightly longer than tegmina), anal plate with distinctly shorter hooks (fig. 31), genital guiding rod wider, slightly curved, and with upper process almost not bifurcated, endoparameres and mold of spermatophore attachment plate narrower (figs 28-30).

Female unknown.

Length (mm). Body 17; body with wings 21.5; pronotum 3.3; tegmina 15.5 (hind legs missing).

DERIVATIO NOMINIS. From the type locality.

***Pteroplistes sumatranus* sp. n. (figs 36-39, 84)**

HOLOTYPE. Male, Sumatra, "Sandaran Agong, Korinchi Valley. 2,500 ft. June 1914" (BMNH).

DESCRIPTION. Male (holotype). Body as in the other known congeners, but tegmina as in *P. lagrecai* and *P. borneoensis* (fig. 84), hind wings as in *P. acinaceus* and *P. lagrecai*, anal plate with hooks distinctly smaller and with the area between them narrower than in other congeners (fig. 39), genital guiding rod narrow, strongly curved, and with upper process not bifurcated and almost not hooked, shape of endoparameres and mold of spermatophore attachment plate as in figs 36-38.

Female unknown.

Length (mm). Body 17.5; body with wings 22.5; pronotum 3.5; tegmina 16; hind femora 13; hind tibiae 9.

DERIVATIO NOMINIS. From the type locality.

*Pteroplistes acinaceus* Saussure, 1877 (figs 1-13, 17, 32-35)

LECTOTYPE. Male, "Malacca", "4365", "typus", "*Pteroplistus acinaceus* Sauss." (NHMW).

PARALECTOTYPE. Female, "Malacca", "4362" (NHMW).

NOTE. The original description of *P. acinaceus* (Saussure, 1877) is sufficient, except for what concerns the male genitalia which were drawn for the first time by Gorochov (1990), who also designated the lectotype of this species. The differences of *P. acinaceus* from 3 above-mentioned species are listed in their descriptions.

Genus *Kerinciola* gen. n.

Type species *Kerinciola sonora* sp. n.

DIAGNOSIS. Body smaller than in *Pteroplistes* (length of hind femora 9-12 mm). Tympana similar to those of *Pteroplistes*, but hardly larger. Male tegmina with mirror larger than in *Pteroplistes* and much longer than apical area (fig. 85). Male anal plate simple, without hooks, and with apical part narrower than in *Pteroplistes* (fig. 45); distal part of male genital plate narrow, with hind median denticle (figs 43, 44). Male genitalia similar to those of *Pteroplistes*, but guiding rod without upper process, and endoparameres not connected with mold of spermatophore attachment plate (figs 40-42). Ovipositor probably short (cf. *Kerinciola similis* and fig. 18).

INCLUDED SPECIES: type species and possibly *Pteroplistus similis* Chopard, 1969.

DERIVATIO NOMINIS. From Kerinci Mt (Sumatra).

*Kerinciola sonora* sp. n. (figs 40-45, 85)

HOLOTYPE. Male, Sumatra, prov. Jambi, 35 km N of Sungaipenuh, National park Kerinci-Seblat, Mt Kerinci, 1500-2000 m, primary forest, 18-22.XI.1999, A. Gorochov (ZIAS).

DESCRIPTION. Male (holotype). Coloration light brown with several dark brown spots. Tegmina with mirror slightly transverse (fig. 85); hind wings slightly shorter than tegmina. Anal and genital plates as in figs 43-45. Genitalia with characteristic shape of epiphallid distal part (fig. 40); guiding rod with membranous median part and a pair of narrow lateral sclerites; endoparameres bifurcated (figs 41, 42).

Female unknown.

Length (mm). Body 12; body with wings 14.5; pronotum 2.8; tegmina 10.5; hind femora 9.7; hind tibiae 6.6.

DERIVATIO NOMINIS. From Latin (sonorus), sonorous.

?*Kerinciola similis* (Chopard, 1969) (figs 18, 19)

FEMALE, Malacca, Perak, Sungai Enam, subcamp 850 m, 11-12.IV.1994, I. Sivec (ZIAS).

NOTE. This species was described from Malacca: the holotype (male) from Perak and the paratype (female) from Pahang. The male differs from *K. sonora* in epiphallus for wider distal lobes, for lacking tubercles between them, and for hooked lateral projections of these lobes (Chopard, 1969: fig. 151). The above-mentioned female is very similar to Chopard's description of the paratype including the shape of genital plate, but its ovipositor is somewhat longer: 7.5 mm in the female from Perak (length of its hind femora 10.5 mm), 6.5 mm in the female from Pahang (length of its hind femora 12 mm). It cannot be excluded that the paratype belongs to another species.

Genus *Tramlapiola* Gorochov, 1990

Type species *Tramlapiola sylvestris* Gorochov, 1990.

DIAGNOSIS. Genus similar to *Kerinciola* in its general appearance including structure of male tegmina (figs 20), but apical part of male anal plate much wider (fig. 49), distal part of male genital plate slightly wider (but distinctly narrower than in *Pteroplistes*) and almost without hind median denticle (figs 50, 51), male genitalia with epiphallus divided into left and right sclerites isolated from each other, guiding rod with upper process similar to that of *Pteroplistes*, endoparameres almost not curved, short (but ribbon-like and clearly not connected with mold of spermatophore attachment plate, almost as in *Kerinciola*) (figs 46-48). Ovipositor short, nearly 7 mm long.

INCLUDED SPECIES: type species only.

*Tramlapiola sylvestris* Gorochov, 1990 (figs 20, 46-52)

MALE (Holotype), Vietnam, prov. Gia Lai, 40 km N of Kannack, Tram Lap, 800 m, primary forest, 21.XI-14.XII.1988, A. Gorochov (ZIAS). 4 males and 3 females (paratypes), same data as holotype (imago of 2 males obtained on I.1989) (ZIAS); 1 female, same locality, 21.IV.1995, A. Gorochov (ZIAS); 3 males and 1 female, same province, 20 km N of Kannack, Buon Luoi, 700 m, primary forest, 3-15.XI.1993, A. Gorochov (ZIAS); 10 males and 11 females, same locality, 1.IV-10.V.1995, A. Gorochov (ZIAS); 1 male and 2 females, same province, 50-60 km N of Kannack, Kon Cha Rang, 1000-1200 m, primary forest, 14-20.IV.1995, A. Gorochov (ZIAS).

NOTE. This species distinctly differs from representatives of *Kerinciola* almost only in the male genitalia. Female of *T. sylvestris* is hardly distinguished from that of ?*K. similis* by the genital plate with the apical part slightly narrower (fig. 52).

Genus *Tembelingiola* gen. n.

Type species *Tembelingiola plana* sp. n.

DIAGNOSIS. General appearance similar to those of *Kerinciola* and *Tramlapiola* including structure of male tegmina (fig. 86). Male anal plate similar to that of *Kerinciola*,

except for its apex bringing a pair of lateral denticles (fig. 58). Male genital plate similar to that of *Tramlapiola* (figs 56, 57). Male genitalia well distinguished from those of all known genera: epiphallus divided into left and right sclerites almost isolated from each other; guiding rod short and without upper process; endoparameres straight, moderately long, and clearly not connected with mold of spermatophore attachment plate; ectoparameres and additional plate-like sclerites developed (figs 53-55).

INCLUDED SPECIES: type species only.

DERIVATIO NOMINIS. From Tembeling river (Malacca).

***Tembelingiola plana* sp. n.** (figs 53-58, 86)

HOLOTYPE. Male, Malacca, Pahang, environs of National park Taman Negara, Kuala Tahan near river Tembeling, primary forest, 12-16.VII.1996, A. Gorochoy (ZIAS).

DESCRIPTION. Male (holotype). Coloration light brown with brown and dark brown spots. Tegmina with mirror almost round (fig. 86); length of tegmina similar to that of hind wings. Anal and genital plates as in figs 56-58. Genitalia with left and right halves of epiphallus connected with each other by transverse sclerite situated along hind edge of ventral surface of epiphallic lobe (fig. 53); guiding rod strongly widened at base, with hardly bifurcated apex (fig. 54); ectoparameres moderately long, narrow, but with widened base (figs 54, 55).

Female unknown.

Length (mm). Body 11.5; body with wings 14.5; pronotum 2.4; tegmina 10.2; hind femora 9.8; hind tibiae 6.8.

DERIVATIO NOMINIS. From Latin (*planus*), flat.

Genus ***Changiola*** gen. n.

Type species *Changiola subita* sp. n.

DIAGNOSIS. Size, shape of body, and structure of tegmina similar to those of *Kerinciola*, *Tramlapiola*, and *Tembelingiola*, but coloration less spotted (fig. 87). Tympana hardly smaller than in these genera (almost as in *Pteroplistes*); outer tympanum probably sometimes reduced. Male anal plate intermediate between *Kerinciola* and *Tramlapiola* (fig. 62). Male genital plate similar to that of *Tramlapiola* and *Tembelingiola*, but hind edge with median notch (figs 63, 64). Male genitalia distinctly differs from those of all known genera: epiphallus complete, with H-shaped distal part, but with S-shaped proximal parts (fig. 59); guiding rod moderately long, without upper process; endoparameres also moderately long, curved, not connected with mold of spermatophore attachment plate; ectoparameres and additional plate-like sclerites developed (figs 60, 61). Ovipositor short; its length probably near 5.5 mm.

INCLUDED SPECIES: type species and possibly *Pteroplistus perakensis* Chopard, 1969.

DERIVATIO NOMINIS. From Chang I. (Thailand).



*Changiola subita* sp. n. (figs 59-64, 87)

HOLOTYPE. Male, Thailand, prov. Trat, Chang I. (Siam bay), lower mountains near sea, forest, 5-20.XI.2000, A. Gorochov (ZIAS).

DESCRIPTION. Male (holotype). Head and pronotum uniformly brown; tegmina and legs light brown with brown spots (tegmina spots weakly distinct); palpi, lower part of thorax, and abdomen light brown, almost uniform. Tegmina with mirror hardly transverse (fig. 87); hind wings slightly shorter than tegmina. Anal and genital plate as in figs 62-64. Genitalia with apex of guiding rod narrow and acute; ectoparameres very long, completely narrow; mold of spermatophore attachment plate and additional plate-like sclerites connected with each other (figs 59-61).

Female unknown.

Length (mm). Body 12.5; body with wings 13.5; pronotum 2.7; tegmina 9.5; hind femora 8.5; hind tibiae 5.9.

COMPARISON. This species differs from ?*Ch. perakensis* (Malacca: Perak) in the outer tympanum well developed, the epiphallus with hind processes distinctly shorter, and the ectoparameres with proximal parts much shorter.

DERIVATIO NOMINIS. From Latin (*subitus*), unexpected.

Genus *Crockeriola* Gorochov et Kostia, 1999

Type species *Crockeriola stolarczyki* Gorochov et Kostia, 1999.

DIAGNOSIS. This genus similar to *Kerinciola*, *Tramlapiola*, *Tembelingiola*, and *Changiola* in size, shape, and structure of male tegmina (fig. 23), except for strongly spotted coloration. Inner tympanum as in *Changiola*; outer tympanum reduced. Male anal plate almost as in *Tramlapiola* (fig. 73). Male genital plate wider than in all these genera (slightly narrower than in *Pteroplistes*); its hind edge with angular median notch (fig. 69). Epiphallus with distal lateral processes complicated and proximal parts almost as in *Changiola*; guiding rod short, without upper process; endoparameres similar to those of *Changiola*, but with semimembranous area between them; ectoparameres absent; additional plate-like sclerites large (figs 70-72).

INCLUDED SPECIES: type species only.

*Crockeriola stolarczyki* Gorochov et Kostia, 1999 (figs 23, 69-73)

HOLOTYPE. Male, Borneo, Sabah, Mt Crocker, 500-1000 m, Gunnung Emas, 6-21.V.1995, I. Stolarczyk (ISEA).

NOTE. Only the male (holotype) of this species is known (Gorochov & Kostia, 1999). It is well distinguished from all other known Pteroplistinae by numerous characters listed in the generic description.



Genus *Pangrangiola* gen. n.Type species *Pangrangiola bona* sp. n.

DIAGNOSIS. Body similar to *Kerinciola*, *Tramlapiola*, and *Tembelingiola* in general appearance and also to *Changiola* and *Crockeriola* in structure of male tegmina (fig. 88). Tympana as in *Crockeriola*. Male anal plate almost as in *Tramlapiola* and *Crockeriola*. Male genital plate rather diverse. Male genitalia distinguished from all other known Pteroplistinae by epiphallus short and almost without hind processes, guiding rod short and acute, endoparameres short, slightly curved or almost straight, ectoparameres developed, their bases fused with endoparameres and guiding rod, spermatophore sac distinct, mold of spermatophore attachment plate large, oval, and well movable (figs 74-79). Ovipositor short (fig. 80).

INCLUDED SPECIES: type species and *P. propria* sp. n.

REMARKS. It is possible that *Platyxyphus* Walker, 1869 is a senior synonym of this genus, and *Gryllus platyxyphus* Haan, 1842 from Java (= *Platyxyphus javanus* Walker, 1869; both specific names are based on the same type specimen) is a senior synonym of one of two species included in *Pangrangiola*. However, the descriptions by Haan (1842) and by Walker (1869) don't give any possibility for generic or specific determination, as they are insufficient and based on female [there is the additional female from "Java" (MIZP) very similar to females of *Pangrangiola* (including structure of ovipositor and genital plate), but it may belong to another genus, as its outer tympanum is well developed].

DERIVATIO NOMINIS. From Pangrango Mts (Java).

*Pangrangiola bona* sp. n. (figs 74-76, 88)

HOLOTYPE. Male, Java, 20-25 km SE of Bogor, Mts Pangrango, environs of Cemande, 1000 m, forest, 27.XI-7.XII.1999, A. Gorochoy (ZIAS). Paratypes. 3 males, same data as holotype (ZIAS).

DESCRIPTION. Male (holotype). Head dark brown with distinct whitish spots on lower part; antennae, palpi, tegmina and legs light brown with dark brown spots; pronotum almost uniformly brown; abdomen light brown; cerci darker, brown. Tegmina with mirror slightly transverse (fig. 88); hind wings slightly shorter than tegmina. Genital plate with median lobule at apex (figs 65, 66). Genitalia as in figs 74-76.

Variations. Pronotal disc of paratypes with reddish spots which distinct or almost indistinct.

Female unknown.

Length (mm). Body 11-12; body with wings 13-14; pronotum 2.6-2.8; tegmina 9-10; hind femora 9-9.5; hind tibiae 6-6.5.

DERIVATIO NOMINIS. From Latin (bonus), good.

***Pangrangiola propria* sp. n.** (figs 77-81)

HOLOTYPE. Male, Java, "Java occ. Fr." (MIZP). Paratypes. 2 females, same data as holotype (MIZP, ZIAS).

DESCRIPTION. Male (holotype). It is very similar to *P. bona* with distinct reddish spots on pronotal disc, but genital plate with distinct notch at apex (figs 67, 68), epiphallus with hind lobes wider and notch between them distinctly narrower, base of ectoparameres with lateral projection longer, endoparameres shorter (figs 77-79).

Female. General appearance and ovipositor similar to those of females of all genera of Pteroplistinae above-mentioned, except *Pteroplistes* (fig. 80), but coloration as in male of this species and genital plate with apical notch almost as in *Pteroplistes* (fig. 81).

Length (mm). Body: male 13.5, female 14-15; body with wings: male 14.5, female 14.5-15.5; pronotum: male 2.5, female 2.8-3; tegmina: male 10, female 9-9.5; hind femora: male 9, female 9-9.5; hind tibiae: male 6, female 6.3-6.5; ovipositor 6.5-6.7.

DERIVATIO NOMINIS. From Latin (*proprius*), peculiar.

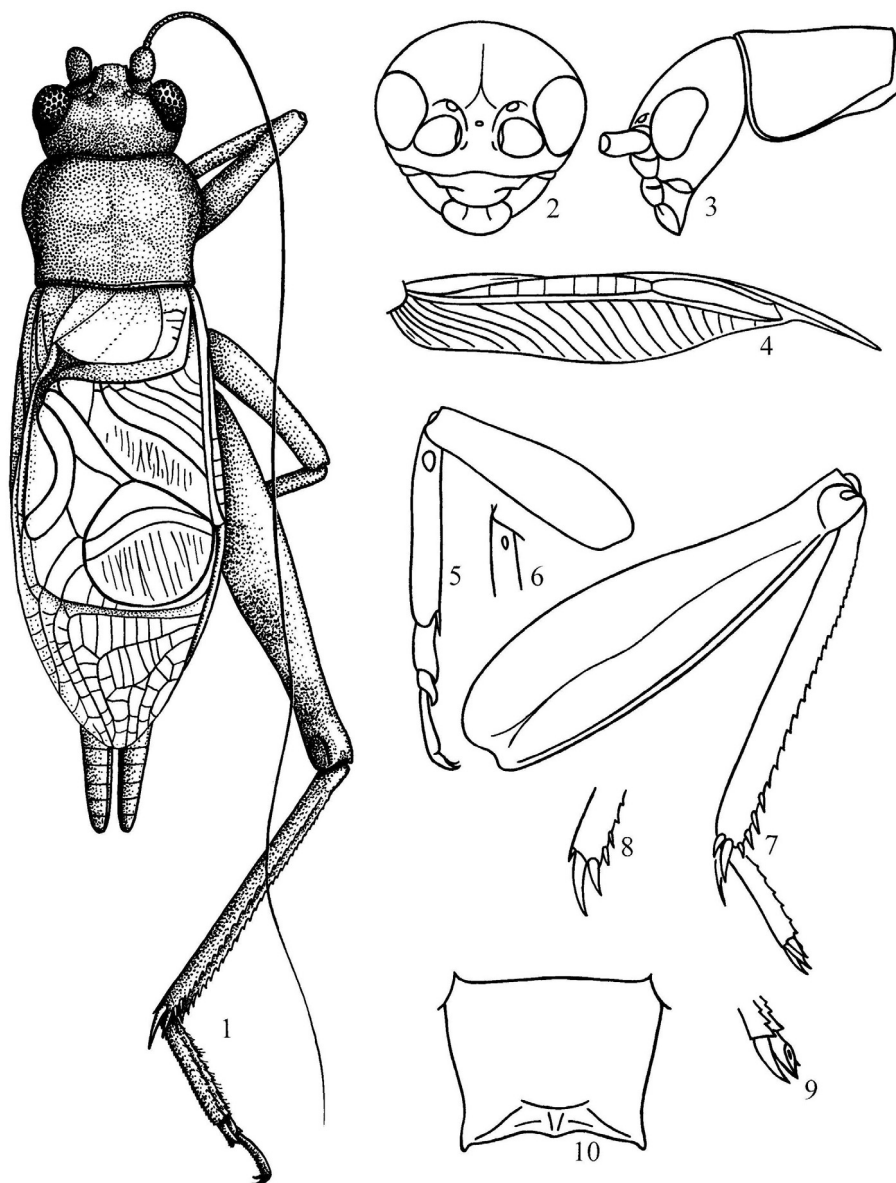
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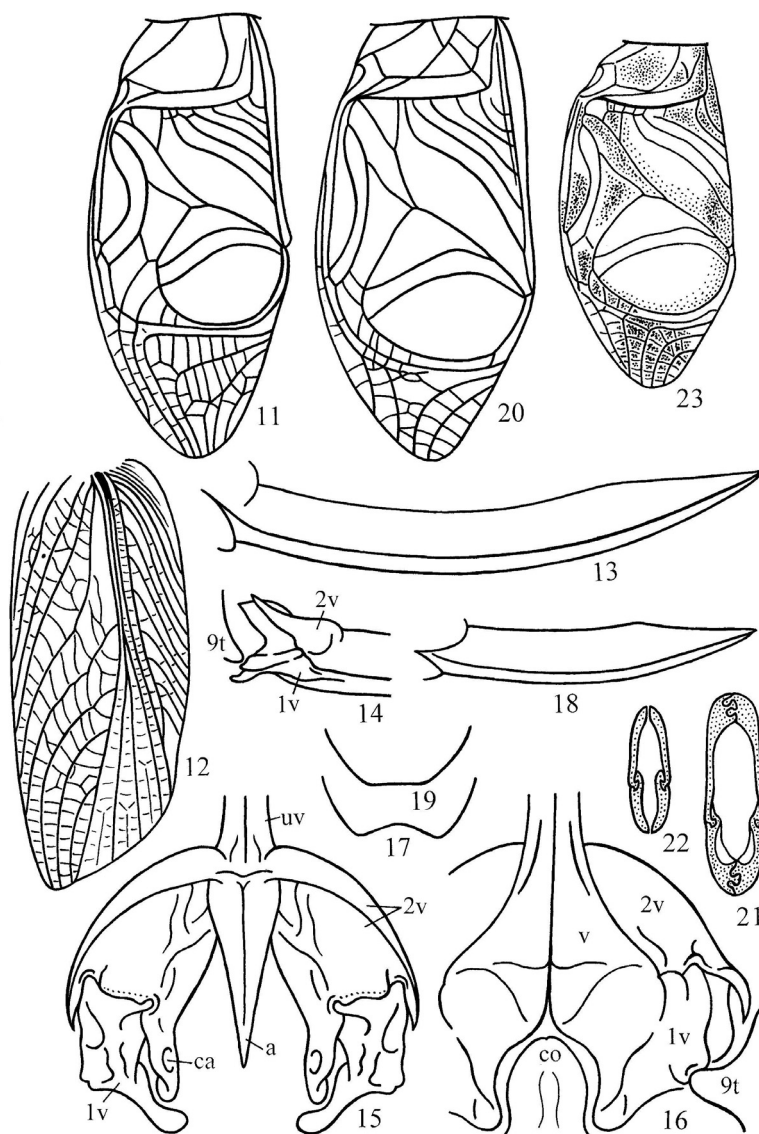
## REFERENCES

- BRUNNER DE WATTENWYL C., 1873. Dispositio generum Gryllodeorum secundum. Mitteilungen der Schweizerischen Entomologischen Gesellschaft, 4 (4): 164-170.
- CHOPARD L., 1936. Orthopteres fossiles et subfossiles de l'Ambre et du Copal. Annales de la Société Entomologique de France, 105 (4): 375-386.
- CHOPARD L., 1951. Ordre des Orthoptères Latreille 1793 - Olivier 1789. Traité de Zoologie. Anatomie, Systematique, Biologie, 9: 617-722. Paris.
- CHOPARD L., 1968. Gryllides. Orthopterorum Catalogus, 12: 213-500. Gravenhage.
- CHOPARD L., 1969. Grylloidea. The fauna of India and adjacent countries. Orthoptera, 2. 421 p. Calcutta.
- MELLO F. DE A.G., 1992. Five new Brazilian crickets and a new tribe for the Neotropical members of the subfamily Pteroplistinae (Orthoptera: Gryllidae: Pteroplistinae: Odontogryllini). Transactions of the American Entomological Society, 118 (1): 147-158.
- GOROCHOV A.V., 1986. System and morphological evolution of crickets from the family Gryllidae (Orthoptera) with description of new taxa. Communications 1, 2. Zoologicheskij Zhurnal, 65 (4, 6): 516-527, 851-858 [In Russian].
- GOROCHOV A.V., 1990. New and insufficiently studied crickets (Orthoptera, Gryllidae) from Vietnam and some other territories. Proceedings of the Zoological Institute, USSR Academy of Sciences, 209: 3-28 [In Russian].
- GOROCHOV A.V., 1995. System and evolution of the suborder Ensifera (Orthoptera). Part 2. Proceedings of the Zoological Institute, Russian Academy of Sciences, 260. 213 p. [In Russian].

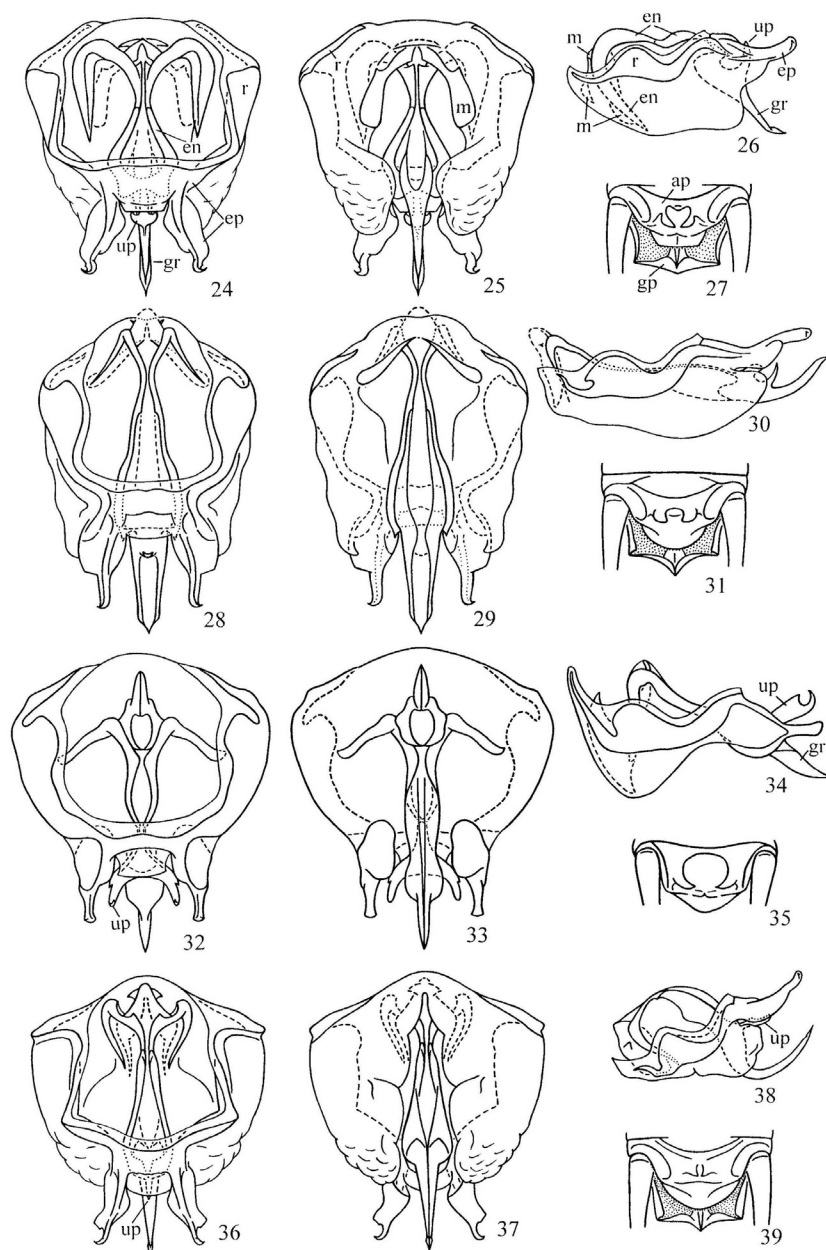
- GOROCHOV A.V., 1996. New and little known crickets from the collection of the Humboldt University and some other collections (Orthoptera: Grylloidea). Part 2. Zoosystematica Rossica, 5 (1): 29-90.
- GOROCHOV A.V., 2001. Preliminary notes on the history of South American Ensifera (Orthoptera). Acta Geologica Leopoldensia, 24 (52/53): 81-86.
- GOROCHOV A.V. & KOSTIA D., 1999. New crickets (Orthoptera: Gryllidae) from Indo-Malayan region. Acta Zoologica Cracoviensia, 42 (2): 271-273.
- HAAN W. de, 1842. Bijdragen tot de Kennis der Orthoptera. Verhandelingen over de Natuurlijke Geschiedenis der Nederlandsche overzeesche bezittingen, door de Leden der Natuurkundige commissie in Indie en andere Schrijvers. Zoologie: 45-248, pls 10-23. Leiden.
- OTTE D., 1988. Bark crickets of the Western Pacific Region (Gryllidae: Pteroplistinae). Proceedings of the Academy of Natural Sciences of Philadelphia, 140 (2): 281-334.
- OTTE D., 1994. Orthoptera species file 1. Crickets (Grylloidea). A systematic catalog. 120 p. The Orthopterists' Society at the Academy of Natural Sciences of Philadelphia.
- OTTE D., EADES D.C. & NASKRECKI P., 2002. Orthoptera Species File Online, Version 2 - web site: <http://osf2.orthoptera.org/basic/HomePage.asp>
- SAUSSURE H., 1877., Gryllides. Mémoires de la Société de Physique et d'Histoire Naturelle de Genève, 25 (1): 1-352, pls 11-15.
- WALKER F., 1869. Catalogue of the specimens of Dermaptera Saltatoria and supplement to the Blattariae in the collection of the British Museum. 224 p. London



Figs 1-10. *Pteroplistes acinaceus* Sauss., male (lectotype). 1 - general view from above; 2 - head (frontal view); 3 - head and pronotum (lateral view); 4 - lateral part of tegmen; 5 - inner side of fore leg; 6 - outer side of proximal part of fore tibia; 7 - outer side of hind leg; 8 - inner side of distal part of hind tibia; 9 - second segment of hind tarsus and distal part of its first segment from side and slightly above; 10 - genital plate from below.

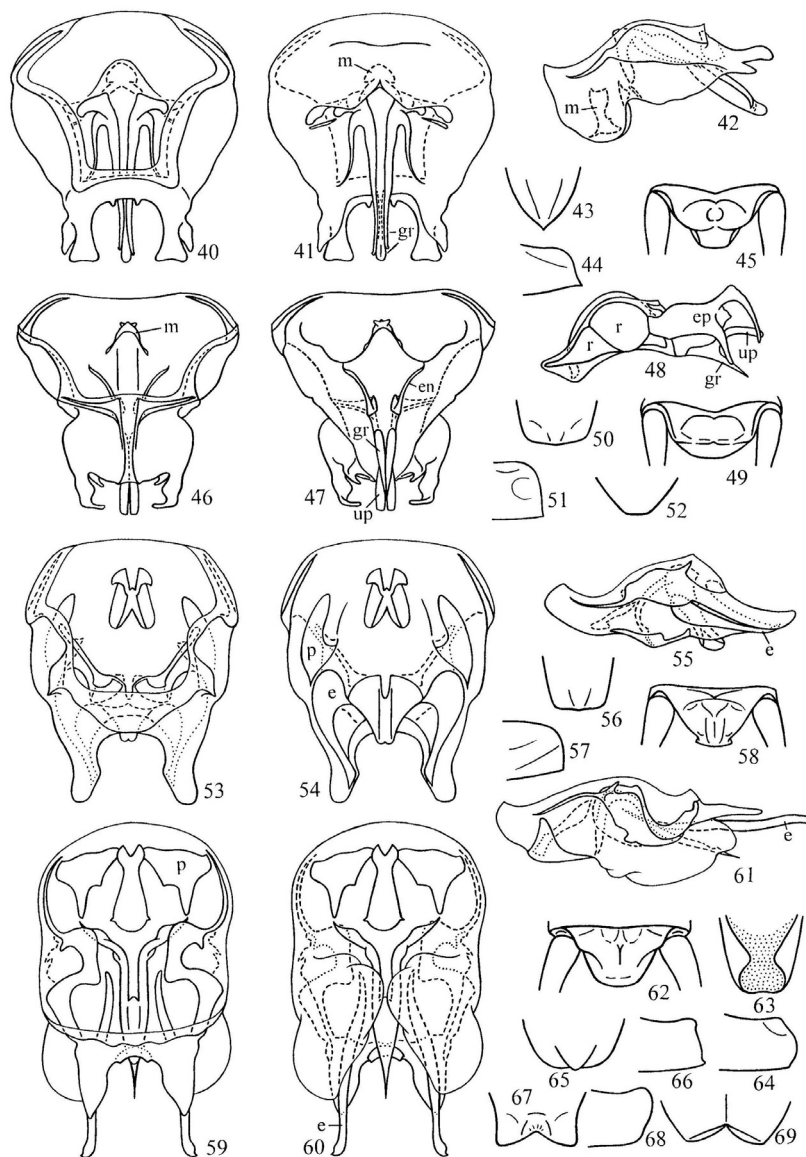


Figs 11-23. Pteroplistinae. 11-17, *Pteroplistes acinaceus* Sauss. (11, lectotype); 18-19 - ?*Kerinciola similis* (Chop.); 20-22 - *Tramlapiola sylvestris* Gor. (20, holotype); 23 - *Crockeriola stolarczyki* Gor. et Kostia (holotype). Dorsal part of male tegmen (11; 20; 23); female tegmen (12); ovipositor from side (13; 18); proximal part of ovipositor from side (sclerites only) (14), from above (sclerites only) (15), and from below (16); hind half of female genital plate from below (17; 19); transverse section of middle (21) and distal (22) parts of ovipositor (scheme). Abbreviations: **a**, apodeme of hind intermediate plate; **ca**, cavity for articulation with fore intermediate plate (this plate not pictured); **co**, copulatory papilla; **9t**, 9th abdominal tergite; **uv**, upper valva; **v**, lower valva; **1v**, **2v**, 1st and 2nd valvifers.



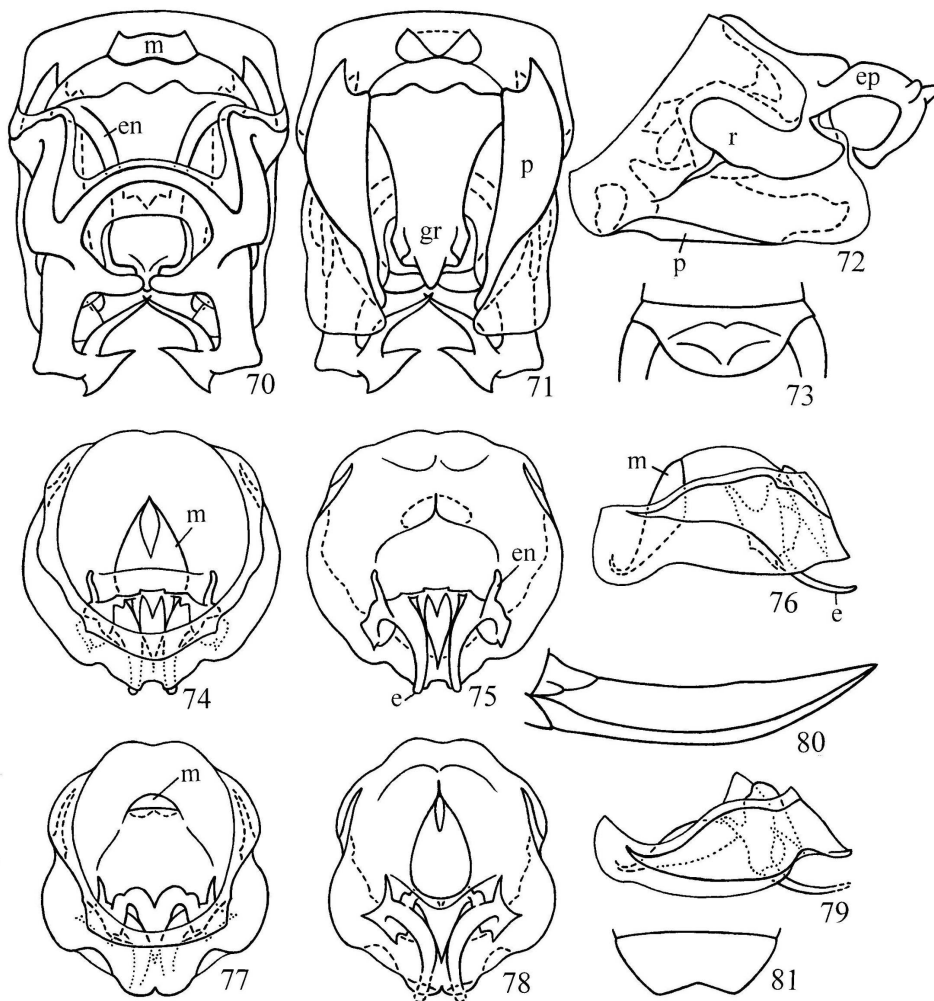
Figs 24-39. *Pteroplites*, male. 24-27 - *P. lagrecai* sp. n.; 28-31 - *P. borneoensis* sp. n.; 32-35 - *P. acinaceus* Sauss. (lectotype); 36-39 - *P. sumatranus* sp. n. Genitalia from above (24; 28; 32; 36), from below (25; 29; 33; 37), and from side (26; 30; 34; 38); abdominal apex from above (27; 31; 35, without genital plate; 39). Abbreviations: **ap**, anal plate; **en**, endoparamere; **ep**, epiphallus; **gr**, guiding rod; **gp**, genital plate; **m**, mold of spermatophore attachment plate; **r**, ramus; **up**, upper process of guiding rod.



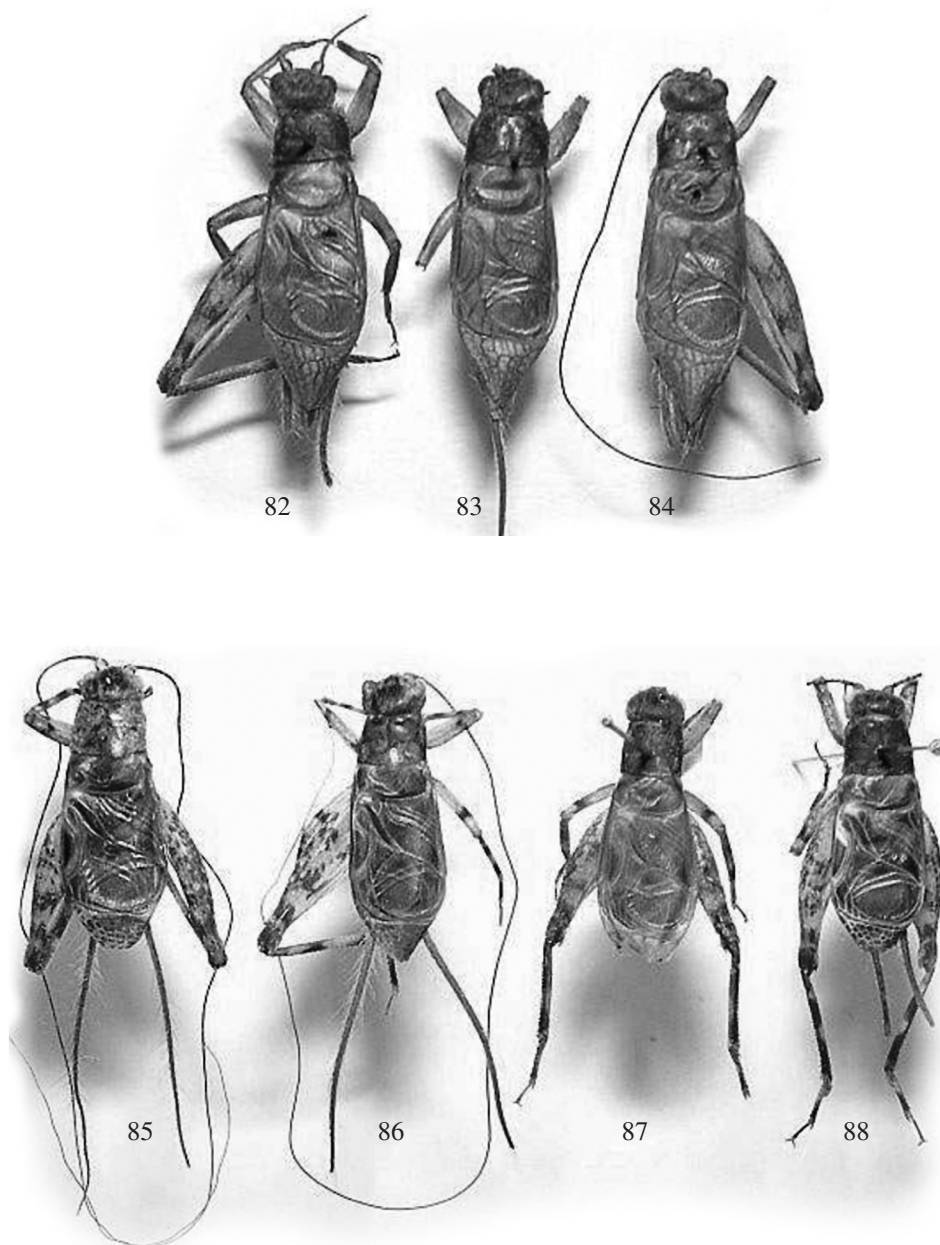


Figs 40-69. Pteroplistinae. 40-45 - *Kerinciola sonora* sp. n.; 46-52 - *Tramlapiola sylvestris* Gor. (46-51, holotype); 53-58 - *Tembelingiola plana* sp. n.; 59-64 - *Changiola subita* sp. n.; 65-66 - *Pangrangiola bona* sp. n. (holotype); 67-68 - *P. propria* sp. n.; 69 - *Crockeriola stolarczyki* Gor. et Kostia (holotype). Male genitalia from above (40; 46; 53; 59), from below (41; 47; 54; 60), and from side (42; 48; 55; 61); male abdominal apex without genital plate from above (45; 49; 58; 62); hind half of female (52) and male (all others) genital plate from below (43; 50; 52; 56; 65; 67; 69), from above (63), and from side (44; 51; 57; 64; 66; 68). Abbreviations: e, ectoparamere; p, additional plate-like sclerite; others as in Figs 24-39.





Figs 70-81. Pteroplistinae. 70-73 - *Crockeriola stolarczyki* Gor. et Kostia (holotype); 74-76 - *Pan-grangiola bona* sp. n. (holotype); 77-81 - *P. propria* sp. n. Male genitalia from above (70; 74; 77), from below (71; 75; 78), and from side (72; 76; 79) [mold of spermatophore attachment plate in hind (74; 78; 79) and in normal (75; 76; 77) positions]; male abdominal apex without genital plate from above (73); ovipositor from side (80); female genital plate from below (81).



Figs 82-88. General view from above, male (holotype). 82 - *Pteroplistes lagrecai* sp. n.; 83 - *P. borneoensis* sp. n.; 84 - *P. sumatranus* sp. n.; 85 - *Kerinciola sonora* sp. n.; 86 - *Tembelingiola plana* sp. n.; 87 - *Changiola subita* sp. n.; 88 - *Pangrangiola bona* sp. n.

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