

A Contribution to the Fauna and Systematics of Stenopelmatoidea (Orthoptera) of Indochina and Some Other Territories: V

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Abstract—A material on *Metriogryllacris* Karny, *Aancistroger* Bey-Bienko, *Melaneremus* Karny, *Prosopogryllacris* Karny, and new genera of the subfamily Gryllacridinae (Stenopelmatidae) from the Indo-Malayan Region is considered. Five new genera, eighteen new species, two new subspecies, and previously unknown sexes for two species are described. Some insufficiently known taxa are redescribed, the systematic positions of several species and subspecies are clarified, and new data on the distribution are reported.

Communications I–III of the present study (Gorochov, 1998, 1999, 2002) mainly dealt with the families Anostostomatidae (= Mimnermidae) and Rhabdophoridae. Communication III also included a description of the genus *Woznessensia* Gor. of the subfamily Gryllacridinae widespread in the tropics (family Stenopelmatidae). In Communication IV (Gorochov, 2003), three genera of Gryllacridinae were considered: *Capnogryllacris* Karny, *Larnaca* Walk, and *Otidogryllacris* Karny. The present communication is also entirely devoted to this subfamily.

The material used in the study is deposited in the Zoological Institute, Russian Academy of Science, St. Petersburg (ZIN); Museum für Naturkunde der Humboldt-Universität, Berlin (MNHU); Museum i Institut Zoologii PAN, Warszawa (MIZP).

FAMILY STENOPELMATIDAE

Subfamily Gryllacridinae

Genus *METRIOGRYLLACRIS* Karny, 1937

Type species *Gryllacris permodesta* Griffini, 1914 (Vietnam).

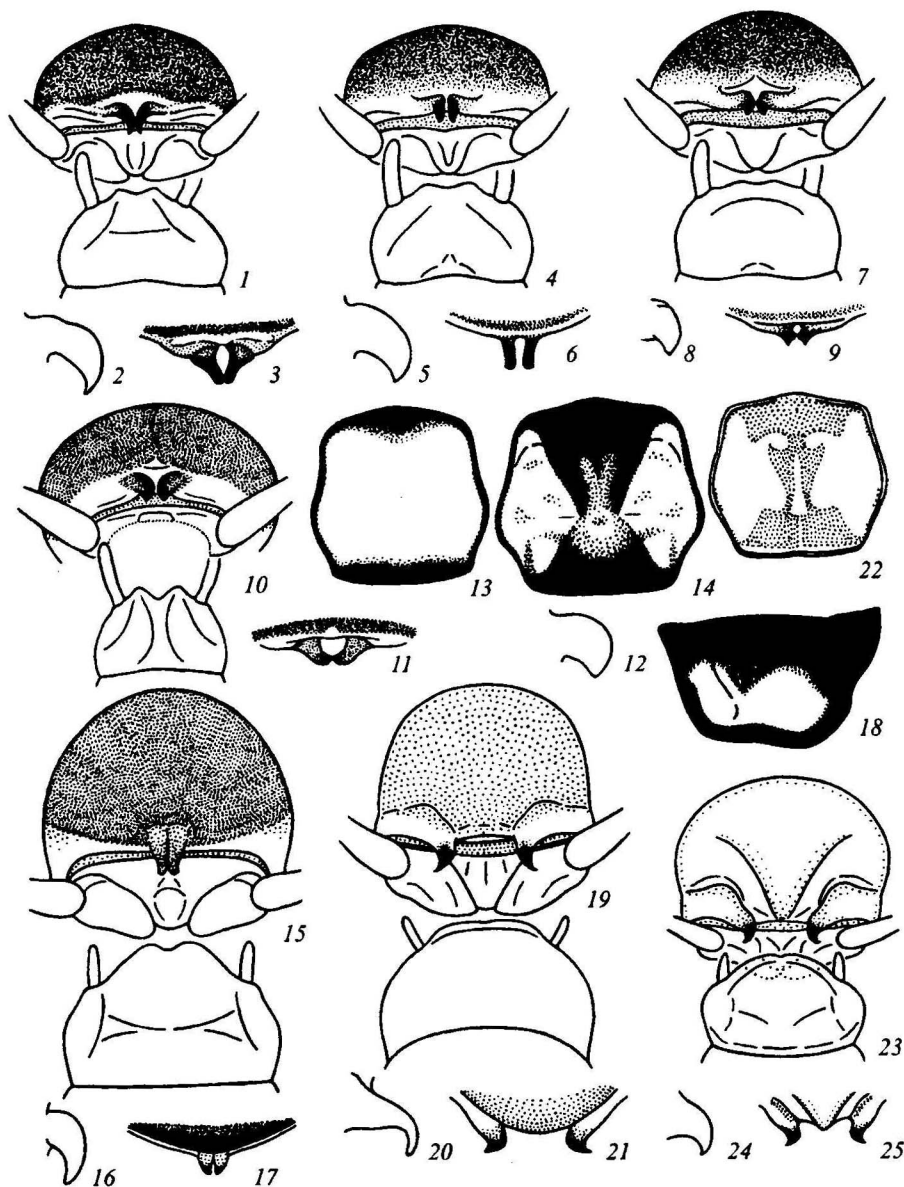
Description. Body small, more or less robust, usually moderately colored; with weakly or strongly shortened wings, 4 pairs of long spines and 1 pair of short spurs on lower side of fore and middle tibiae, 2 rows of small spines on lower side of hind femur and upper side of hind tibia, and also with 4 pairs of short (but distinctly longer than spines) spurs on hind tibia. Main differences from other genera: abdominal tergites II and III with 2 rows of stridulatory teeth on

lateral parts (proximal row on tergite II occasionally reduced); hooks of male abdominal tergite IX small, approximate (occasionally pressed to one another) or narrowly spaced, with apices pointing downwards or also slightly aside; male abdominal tergite X in the form of narrow band; male genital plate with distinct styli (Figs. 1–12, 15–17, 19–21, 23–25); male genitalia entirely membranous; epiproct and paraprocts simple in both sexes; female genital plate short, fused with, or pressed to abdominal sternite VII (i.e., without membranous area between them); this sternite with hook- or fold-shaped lobe (for male hooks) near posterior margin; ovipositor straight, much shorter than hind femur, with more or less obtused apex; each of lower ovipositor sheaths with distinct lateral lobe at base (Figs. 26–42).

Species included. The type species and also *Gryllacris amitarum* Griffini, 1914 (Vietnam), *Neanias fasciatus* Ichikawa, 2001 (Japan), *M. fida* Gorochov, 2002 (Japan), *M. comes* Gorochov, 2002 (Japan), and 8 new species described below (all these species are subdivided here into 4 groups). In addition, *N. magnus* Matsumura et Shiraki, 1908 (Taiwan Island) and *G. pulex* Karny, 1928 (China) may belong to this genus. In Otte's catalogue (2000), the genus *Metriogryllacris* is not mentioned (? omitted).

Metriogryllacris permodesta group

The group comprises 5 species with weakly shortened wings from the northern part of Vietnam and southern China (Karny, 1926: fig. 10): *M. permodesta*, *M. tamdao* sp. n., *M. darevskiyi* sp. n., *M. bavi* sp. n.,



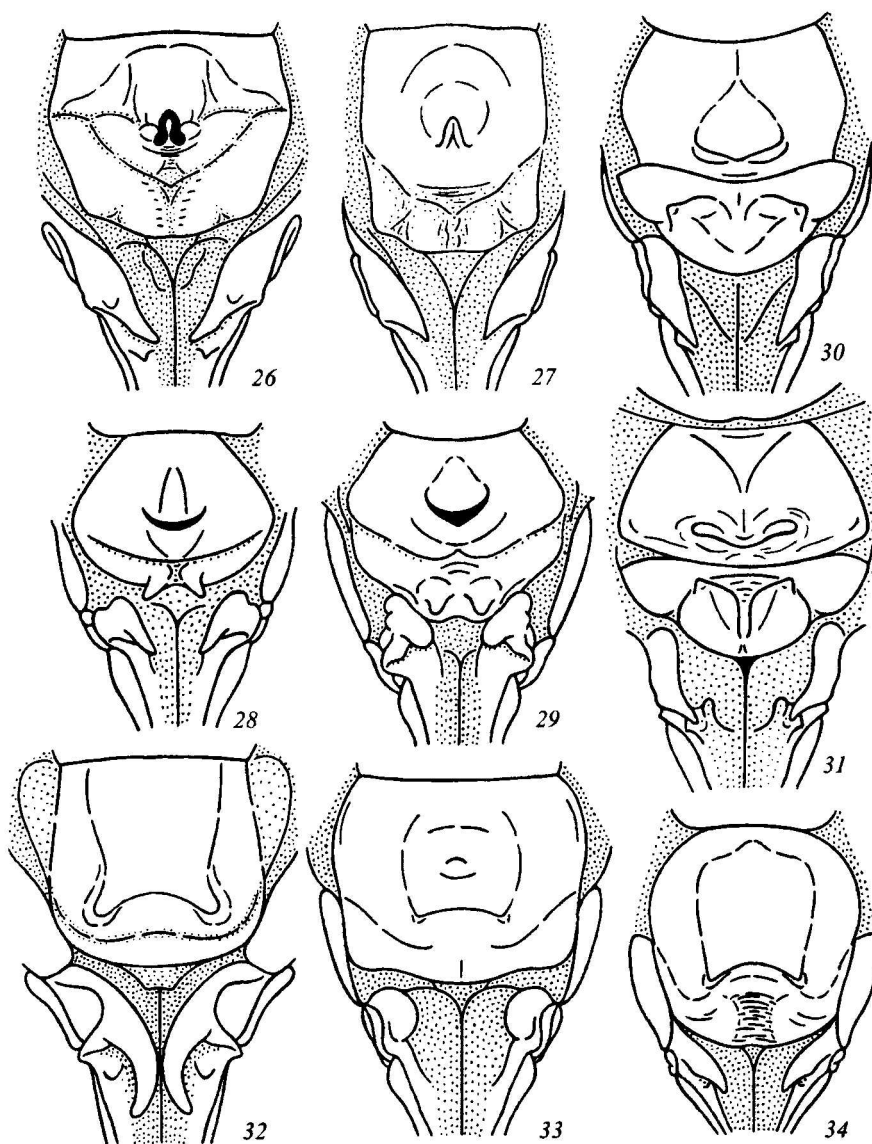
Figs. 1–25. *Metriogryllacris* Karny: (1–3) *M. tamdao* sp. n., (4–6) *M. darevskiyi* sp. n., (7–9) *M. bavi* sp. n. (holotype), (10–13) *M. orlovi* sp. n. (holotype), (14) *M. distincta* sp. n., (15–18) *M. amitarum* (Griff.), (19–22) *M. gialai* sp. n., (23–25) *M. microptila* sp. n. (holotype). Abdominal apex of male (ventral and slightly posterior view) with genital plate (ventral view) (1, 4, 7, 10, 15, 19, 23); left hook of male abdominal tergite IX, lateral view and slightly ventral view (2), lateral view (5, 16, 20, 24), ventral view and slightly lateral view (8, 12); both hooks of this tergite, posterior view and slightly dorsal view (3, 6, 9, 11, 17, 21, 25); pronotum, dorsal (13, 14, 22) and lateral (18) view.

and *M. orlovi* sp. n. This group is characterized by the following features: hooks of male abdominal tergite IX approximate, immobile, with apices pointing downwards (Figs. 1–12); female abdominal sternite VII with unpaired hook-shaped lobe (probably inserted into a slit between male hooks during copulation, and apices of hooks fixed in copulatory depressions at sides of lobe), sternite almost entirely fused with genital plate bearing no distinct tubercles or processes (Figs. 26, 27).

Metriogryllacris tamdao Gorochov, sp. n.
(Figs. 1–3, 26, 35)

Material. Vietnam, Vinh Phu Prov., near Tam Dao Vill., 800–900 m, primary forest, at night, on bush leaves in undergrowth, 17.V–11.VI.1995, 1 ♂ (holotype), 1 ♀ (paratype) (A. Gorochov) (ZIN).

Description. **Male** (holotype). Body pale, uniformly yellowish brown, but with black abdominal tergites VIII and IX (only lateral areas on tergite VIII



Figs. 26–34. *Metriogryllacris* Karny, abdominal apex of female with base of ovipositor, ventral view (membranous parts are punctate): (26) *M. tamdao* sp. n., (27) *M. bavi* sp. n., (28) *M. distincta* sp. n., (29) *M. anitarum* (Griff.), (30) *M. comes* Gor., (31) *M. fida* Gor., (32) *M. alia* sp. n., (33) *M. gialai* sp. n., (34) *M. microptila* sp. n.

and narrow stripe along lower and posterior margins of tergite IX pale, and hooks of tergite IX dark brown) (Figs. 1, 3). Elytra reaching abdominal apex, and apices of hind wings projecting backwards beyond them. Hooks of abdominal tergite IX rather large, with widened and relatively approximate bases and adjoining apices (Figs. 1–3); genital plate with long styli and narrow, shallowly emarginate apex attenuate backwards (Fig. 1).

Female similar to male, but with inconspicuous grayish dark area on upper part of head and rufescent triangles along anterior and posterior margins of pronotal disc; abdomen without dark areas, except for

blackish hook-shaped lobe on abdominal sternite VII. Large shallow depression lying in front of lobe; each side of lobe with small, convex, rounded fold covering ventrally copulatory depression probably holding apex of male hook; abdominal sternite VII and genital plate as in Fig. 26; ovipositor with rather long, angular, downcurved lateral lobe at base of each lower sheath and also with small tubercle at apex of this lobe (Fig. 35).

Length (mm). Body: male 16.5, female 20.0; body, including wings: male 20, female 21; pronotum: male 3.9, female 4.1; elytra: male 13.8, female 14.0; hind femur: male 9.3, female 9.5; ovipositor 6.

Comparative notes. This species is most similar to *M. permodesta* described from the not very distant locality "Tonkin, Montes Mauson" (Griffini, 1914). However, the northern part of Vietnam is inhabited by several similar new species probably having rather narrow distribution ranges. Distinctions between these species and are not quite clear, but the female of *M. permodesta* has the elytra and ovipositor slightly shorter (12.0 and 4.9 mm, respectively) than those in *M. tamdao*; although the pronotum and hind femur in both species are very similar in length. *M. tamdao* differs from the other congeners in the coloration and structure of the abdominal apex (see text above).

Metriogryllacris darevskyi Gorochov, sp. n.
(Figs. 4–6)

Material. Vietnam, Quang Ninh Prov., Dong Khoa Island, forest, 20–22.III.1987, 1 ♂ (holotype) (I. Darevsky) (ZIN).

Description. Male (holotype) very similar to holotype of *M. tamdao*, but differing in the following characters: coloration of pronotum as that in female of *M. tamdao*, wings slightly shorter (hind wings reaching, and elytra nearly reaching abdominal apex), hooks of abdominal tergite IX lamellar (with narrow bases) and situated in parallel to one another (their apices separated) (Figs. 4–6); genital plate with slightly wider apex (Fig. 4).

Female unknown.

Length (mm). Body 17.2, pronotum 3.7; elytra 11.0, hind femur 8.8.

Comparative notes. Differences of this species from *M. permodesta* described from a single female are vague; for differences from *M. tamdao*, see text above. Differences from the other species are the same as those in *M. tamdao*.

Etymology. The species is named for the collector, a well-known herpetologist, I.S. Darevsky.

Metriogryllacris bavi Gorochov, sp. n.
(Figs. 7–9, 27, 36)

Material. Vietnam, Ha Tau Prov., 50 km NW Hanoi, "Ba Vi" Nature Reserve, 400 m, primary forest, at night, undergrowth bushes, 21–24.XI.1990, 6 ♂ (holotype and paratypes), 6 ♀ (paratypes) (A. Gorochov) (ZIN).

Description. Male (holotype) very similar to male of *M. darevskyi*, but differing in the following charac-

ters: dark areas on abdominal tergites VIII and IX smaller [on VIII, in the form of wide median stripe; and on IX, in the form of large spot covering most part of tergite (except for wide stripe along its lower margins and narrow stripe along posterior margin)] and slightly paler (dark brown); hooks of abdominal tergite IX very similar to those in *M. tamdao*, but much shorter (Figs. 7–9); genital plate with very weakly attenuate and slightly narrower apex (width of apex about equal to that in *M. tamdao*) (Fig. 7).

Variations. Rufescent areas on pronotum occasionally invisible, dark areas on abdomen brown or inconspicuous.

Female similar to female of *M. tamdao*, but most of individuals having no dark areas on upper part of head, some individuals having no rufescent areas on pronotum, wings slightly shorter (as those in male), hook-shaped lobe on abdominal sternite VII brownish (occasionally blackish) and without small copulatory depressions at sides (possibly, male holding female during copulation only owing to insertion of this lobe in a slit between male hooks), this sternite slightly longer, genital plate slightly narrower, base of lower ovipositor sheaths with slightly shorter lobes bearing no apical tubercle (Figs. 27, 36).

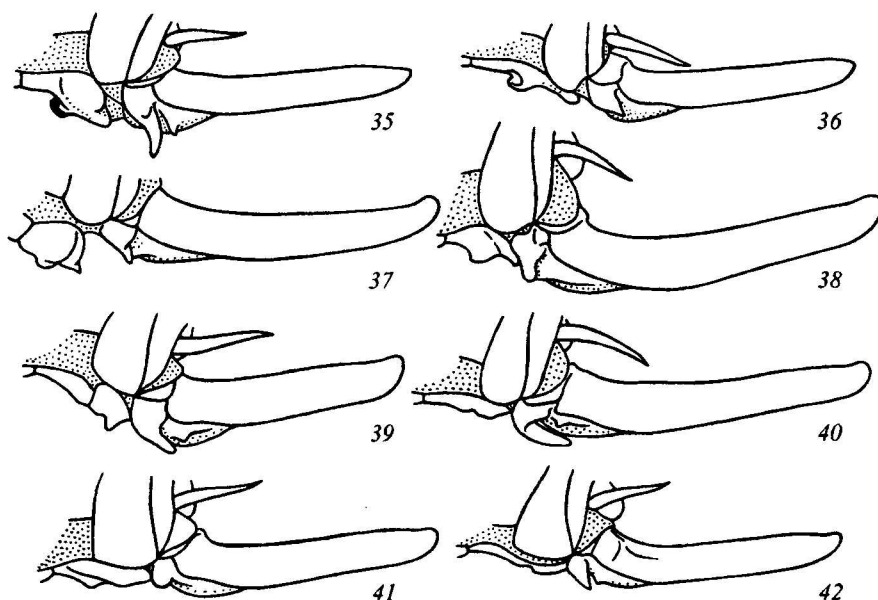
Length (mm). Body: male 15–19, female 16–21; pronotum: male 3.5–3.8, female 3.7–3.9; elytra: male 10.5–12.0, female 11–12; hind femur: male 8.0–8.5, female 8.5–9.0; ovipositor 5.0–5.5.

Comparative notes. The new species differs from *M. permodesta* in the absence of a tubercle at the apex of the lateral lobe at the bases of the lower ovipositor sheaths. For differences between this species, *M. darevskyi*, and *M. tamdao*, see text above. Differences of *M. bavi* from the other congeners are the same as those in the two preceding species.

Metriogryllacris orlovi Gorochov, sp. n. (Figs. 10–13)

Material. Vietnam, Ha Tinh Prov., Huong Son Vill. on Rao An River (18°21'N, 105°13'E), primary forest, IV.2000, 2 ♂ (holotype and paratype) (N. Orlov) (ZIN).

Description. Male (holotype) similar to males of *M. tamdao*, *M. darevskyi*, and *M. bavi*, but differing in the following characters: body slightly larger, without fine dark areas on head and rufescent areas on pronotum; narrow bordering along all margins of pronotum, areas along anterior and posterior margins of pronotal



Figs. 35–42. *Metriogryllacris* Karny, lower part of abdominal apex of female with ovipositor, lateral view (membranous parts are punctate): (35) *M. tamdao* sp. n., (36) *M. bavi* sp. n., (37) *M. distincta* sp. n., (38) *M. amitarum* (Griff.), (39) *M. comes* Gor., (40) *M. gialai* sp. n., (41) *M. alia* sp. n., (42) *M. microptila* sp. n.

disc (Fig. 13), and most of surface of abdominal tergites VIII and IX (similarly to those in *M. tamdao* and *M. darevskyi*) blackish; elytra with weak pinkish tint, extending slightly beyond abdominal apex and almost entirely covering hind wings; hooks of abdominal tergite IX larger than those in *M. bavi*, but smaller than those in *M. tamdao* and *M. darevskyi*; width of their bases and arrangement similar to those in *M. tamdao* and even *M. bavi*, rather than those in *M. darevskyi* (Figs. 10–12); genital plate with distinctly deeper emargination at apex (Fig. 10).

Variations. In paratype, body, except for elytra, with weak greenish tint.

Female unknown.

Length (mm) Body 16.0–17.5; body, including wings 21–22; pronotum 4.3–4.6; elytra 16.0–16.5; hind femur 10.8–11.2.

Comparative notes. The species differs from *M. permodesta* in the larger size and presence of a blackish pattern on the pronotum. For differences between *M. orlovi*, *M. tamdao*, *M. darevskyi*, and *M. bavi*, see text above.

Etymology. The species is named for its collector, the herpetologist N.L. Orlov.

Metriogryllacris amitarum group

The group includes two species with weakly shortened wings from the northern part of Vietnam:

M. amitarum and *M. distincta* sp. n. The group is characterized by the following features: hooks of male abdominal tergite IX pressed to each other and immobile, with apices pointing downwards (Figs. 15–17); female abdominal sternite VII with transverse fold covering unpaired depression (assigned for both male hooks); and genital plate not entirely fused with this sternite, bearing 1 pair of distinct tubercles (Figs. 28, 29).

Metriogryllacris amitarum (Griffini, 1914) (Figs. 15–18, 29, 38)

Material. Vietnam, Vinh Phu Prov., near Tam Dao Vill., 800–900 m, edge of primary forest, at night, bush leaves, 17.V–11.VI.1995, 3 ♂, 3 ♀ (A. Gorochov) (ZIN).

This species is probably more widely distributed in the northern part of Vietnam than all the preceding species. It was described from two specimens collected in different localities: “Than Moi” and “Montes Mauson” (Griffini, 1914). *M. amitarum* is slightly larger than all the preceding species and clearly differs from them in the coloration: head with antennae, legs, most part of thorax and abdomen pale, yellowish; pronotum black, with yellowish longitudinal spot in lower part of lateral lobes (Fig. 18); elytra grayish brown, rather pale, but distinctly darker than other pale parts of body; hind wings hyaline; upper part of abdomen and vertical stripe on its lateral parts dark

brown or blackish; most part of male abdominal tergites VIII and IX black (nearly as that in many species of the *M. permodesa* group); hooks of tergite IX also dark, but with slightly paler bases (Fig. 15, 17). The structure of the copulatory complex and ovipositor is shown in Figs. 15–17, 29, 38.

Metriogryllacris distincta Gorochov, sp. n.
(Figs. 14, 28, 37)

Material. Vietnam, Cao Bang Prov., Nguyen Binh Dist., Co Lea Pass, Thanh Cong Vill., primary forest, at night, 700–800 m, V.2003, 1 ♀ (holotype) (N. Orlov) (ZIN).

Description. Female (holotype). Habitus and coloration similar to those in *M. amitarum*, but size slightly smaller; pronotum with larger yellowish, and smaller darkened areas (with nearly black marginal stripe similar to that in *M. orlovi* and brown spots in central part of disc; Fig. 14); wings slightly longer (distinctly extending beyond abdominal apex and slightly beyond apex of hind femur); elytra rufescent in proximal half and grayish brown in distal half; hind wings slightly projecting from under elytra, with grayish infuscate apical part; abdomen with brown upper part (paler and less strongly striped than that in *M. amitarum*). Genitalia very similar to those in *M. amitarum*, but ovipositor slightly shorter, about half (instead of 0.6 times, as in *M. amitarum*) as long as hind femur; and apices of lateral lobes at bases of its lower sheaths slightly narrower (Figs. 28, 37).

Male unknown.

Length (mm). Body 17.5; body, including wings 21.0; pronotum 4.7; elytra 14.5; hind femur 11.5; ovipositor 6.0.

Comparative notes. For differences between *M. distincta* and *M. amitarum*, see text above. From the other congeners, this species differs in the structure of the female copulatory complex.

Metriogryllacris fida group

The group includes two or three very short-winged species from Japan: *M. fida*, *M. comes*, and, probably, *M. fasciata*. In *M. fida* and *M. comes*, hooks of male abdominal tergite IX are slightly separated, immobile (or nearly so), and their apices point downwards (Gorochov, 2002a: figs. 1, 6); female abdominal sternite VII bears a transverse fold bearing one copulatory depression at each side (for each male hooks); this

sternite is almost not fused with the genital plate bearing one pair of distinct tubercles (Figs. 30, 31) or, probably, elongate processes [apparently, such processes have been designated by the author of *M. fasciata* as “abdominal appendage” (Ichikawa, 2001: fig. 8); and this circumstance allows me to include this insufficiently described species in the *M. fida* group].

Metriogryllacris comes Gorochov, 2002 (Figs. 30, 39)

Material. Japan, Ryukyus Island, Ishigaki Island, forest, 19.X.1999, 1 ♀ (S. Belokobylskij) (ZIN).

Description. Female (nov.). Size and structure of body (including legs and wings) similar to those in male. Coloration also similar to that in male: body pale brown; ocelli small, whitish; middle and distal parts of antennae (bearing numerous narrow paler rings) grayish brown; large spot in upper part of head, 2 short median stripes on pronotum (at anterior and posterior margins of disc), triangular spots in middle of posterior margin of tergites of pterothorax, bands along posterior margins of abdominal tergites I–VIII, and 1 pair of spots on abdominal tergite IX, all dark brown. Copulatory complex and ovipositor distinguished from those in *M. fida* by only slightly narrower abdominal sternite VII, presence of large hemispherical depression before transverse fold (lobe) on this sternite, slightly more widely spaced tubercles of genital plate, slightly shorter ovipositor, and longer distal (projecting backwards) part of lateral lobes at base of its lower sheaths (Figs. 30, 31, 39).

Length (mm). Body 22, pronotum 5, elytra 3, hind femur 12, ovipositor 5.5.

This species was described from a male collected in Iriomote Island situated very closely to the island, in which the female described above was collected.

Metriogryllacris gialai group

The group comprises three species from the central part of Vietnam with the wings varying in length: *M. gialai* sp. n., *M. alia* sp. n., and *M. microptila* sp. n. Hooks of male abdominal tergite IX widely spaced, rather mobile (judging from presence of flexible folds separating bases of these hooks from rest part of tergite), with apices pointing downwards and sideways (Figs. 19–21, 23–25). Female abdominal sternite VII with transverse fold bearing copulatory depression at each side (male hooks inserted into these depressions during copulation and probably moving slightly apart to improve fixation); this sternite almost entirely fused

with genital plate bearing no distinct tubercles or processes (Figs. 32–34).

Metriogryllacris gialai Gorochov, sp. n.
(Figs. 19–22, 33, 40)

Material. Vietnam, Gia Lai Prov., 50–60 km N Kannack Vill., Kon Cha Rang, 1000–1200 m, primary forest, at night, on a tree leaf in undergrowth, 14–20.IV.1995, 1 ♂ (holotype) (A. Gorochov) (ZIN); 20 km N Kannack Vill., Buon Luoi Vill., primary forest, at night, on bush branch in undergrowth, 24–30.IV.1995, 1 ♀ (paratype) (A. Gorochov) (ZIN).

Description. Male (holotype) similar to *M. tamdao*, *M. darevskyi*, and *M. bavi* in size, structure, and coloration of body; but coloration of abdominal apex similar to that in *M. tamdao* and *M. darevskyi*, with only dark areas slightly paler (similar to those in holotype of *M. bavi*); length of wings subequal to that in *M. tamdao*. Abdominal apex as in Figs. 19–21; genital plate with wide truncate apex weakly attenuate backwards and with small styli (distinctly smaller than those in representatives of the *M. permodesta* group and slightly smaller than those in *M. amitarum*) (Fig. 19).

Female similar to male in habitus and coloration. Head with 3 weakly darkened spots: short one between upper parts of antennal sockets, long and transverse one between upper parts of eyes, and medium-sized transverse one on vertex near occiput; pronotum with distinct brown pattern (Fig. 22); abdomen without dark areas; abdominal sternite VII rather wide, with arcuate transverse fold (lobe) (Fig. 33); bases of lower ovipositor sheaths with rounded lateral lobes bearing no apical tubercles (Figs. 33, 40).

Length (mm). Body: male 19.0, female 19.5; body, including wings: male 20.5, female 20.0; pronotum: male 4, female 4; elytra: male 14.5, female 13.0; hind femur: male 8.8, female 9.0; ovipositor 5.8.

Comparative notes. The species clearly differs from other the species described in the structure of the male copulatory complex and shape of the transverse fold of female abdominal sternite VII.

Metriogryllacris alia Gorochov, sp. n. (Figs. 32, 41)

Material. Vietnam, Gia Lai Prov.: Ka Bang Dist., Krong Pa Vill., primary forest, at night, IX.1997, 1 ♀ (holotype) (N. Orlov) (ZIN).

Description. Female (holotype) similar to female of *M. gialai* in habitus and coloration, but body slightly larger, head and pronotum uniformly pale (as those in male of this species), abdominal sternite VII distinctly narrower and with longer transverse fold (lobe) (Fig. 32), base of lower ovipositor sheaths with longer (digitate) lateral lobes bearing small apical tubercle (Figs. 32, 41).

Description. Male unknown.

Length (mm). Body 18; body, including wings 22; pronotum 4.6; elytra 15; hind femur 11.6; ovipositor 7.5.

Comparative notes. For differences between *M. alia* and *M. gialai*, see text above. *M. alia* differs from the other congeners in the uniformly pale body and structure of the female copulatory complex.

Metriogryllacris microptila Gorochov, sp. n.
(Figs. 23–25, 34, 42)

Material. Vietnam, Gia Lai Prov.: Ka Bang Dist., Krong Pa Vill., primary forest, at night, IX.1997, 2 ♂ (holotype and paratype), 2 ♀ (paratypes) (N. Orlov) (ZIN); near Kannack Vill., edge of primary forest, at night, on leaves of bushes, 8–16.XI.1988, 2 ♀ (paratypes) (A. Gorochov) (ZIN); 20 km N Kannack Vill., Buon Luoi Vill., primary forest, at night, on leaves of undergrowth bushes, 17.XI.1993, 2 ♀ (paratypes) (A. Gorochov) (ZIN).

Description. Male (holotype). Body small for the genus, uniformly yellowish (only hooks of abdominal tergite IX darkened). Legs typical of the genus. Wings strongly shortened: elytra extending slightly beyond middle of metanotum, entirely covering hind wings. Abdominal apex as in Figs. 23–25; genital plate similar to that in *M. gialai*, but with slightly more strongly attenuate and rounded apex and smaller styli (Fig. 23).

Variations. In paratype, emargination at apex of genital plate slightly more distinct.

Female similar to male in coloration and habitus. Abdominal sternite VII and genital plate as in Fig. 34; lateral lobes at bases of lower ovipositor sheaths longer than those in *M. gialai*, but shorter than those in *M. alia*, bearing fine apical tubercles (Figs. 34, 42).

Length (mm). Body: male 13.0–13.5, female 16–18; pronotum: male 3.1–3.2, female 3.3–3.7; elytra: male 1.6–1.7, female 1.5–1.8; hind femur: male 7.8–8.0, female 8–9; ovipositor 5.5–6.0.

Comparative notes. *M. microptila* differs from all the congeners in a combination of the uniform pale coloration and strongly shortened wings in both sexes and also in the above-listed characters of the copulatory complex and ovipositor.

Genus *MICROLARNACA* Gorochov, gen. n.

Type species *Microlarnaca fansipan* sp. n.

Diagnosis. Structure of body (including stridulatory teeth of abdomen) and coloration similar to those in most of congeners, but body size similar to that in the smallest species of the genus. Main differences from species of *Metriogryllacris* and other genera of the subfamily: hooks of male abdominal tergite IX rather long, widely spaced, pointing forwards and slightly downwards, with very narrow spiral-curved (or nearly spiral-curved) apices (Figs. 43, 44, 49, 50); male abdominal tergite X in the form of narrow ribbon, but with 1 pair of long processes pointing backwards and hook-curved apically and with unpaired hemispherical basal swelling (Figs. 43, 49); male genital plate and genitalia and also epiproct and paraprocts in both sexes very similar to those in *Metriogryllacris*; female abdominal sternite VII simple; female genital plate distinctly separated from this sternite, short, with folded sclerotized structure on lower side (at which hooks of male tergites IX and X probably clutching during copulation) (Figs. 47); ovipositor arcuately (but not strongly) upcurved, with narrowly rounded apex; bases of its lower sheaths only with very small and rounded lateral lobes (Figs. 47, 48).

Species included. The type species of the genus and *Metriogryllacris* (?) *dicrana* Bey-Bienko, 1962 (China).

Microlarnaca fansipan Gorochov, sp. n. (Figs. 43–48)

Material. Vietnam, Lao Cai Prov., Sa Pa Dist., Fan Si Pan Mt., "22°18'56"N, 103°49'35"E," 1400–1500 m, primary forest, at night, 26.V–6.VI.1999, 2 ♂ (holotype and paratype), 1 ♀ (paratype) (N. Orlov) (ZIN).

Description. Male (holotype). Body uniformly pale, yellowish, only with darkened hind femur–tibia articulation, mandibular apices, maxillae, claws of all tarsi, spines and spurs (except for 1 lower pair) of hind leg, and also hooks of abdominal tergites IX and X. Wings extending slightly beyond abdominal apex; hind wings slightly projecting backwards from under elytra. Hooks of abdominal tergite IX with distinctly

spiral-shaped apices (Figs. 43, 44); processes of abdominal tergite X not very long, strong, with rather large apical hooks (Figs. 43, 45); genital plate as in Fig. 43.

Variations. In paratype, apical hooks of processes of abdominal tergite X slightly differing in shape (Fig. 46).

Female very similar to male in coloration and habitus. Genital plate and ovipositor as in Figs. 47, 48.

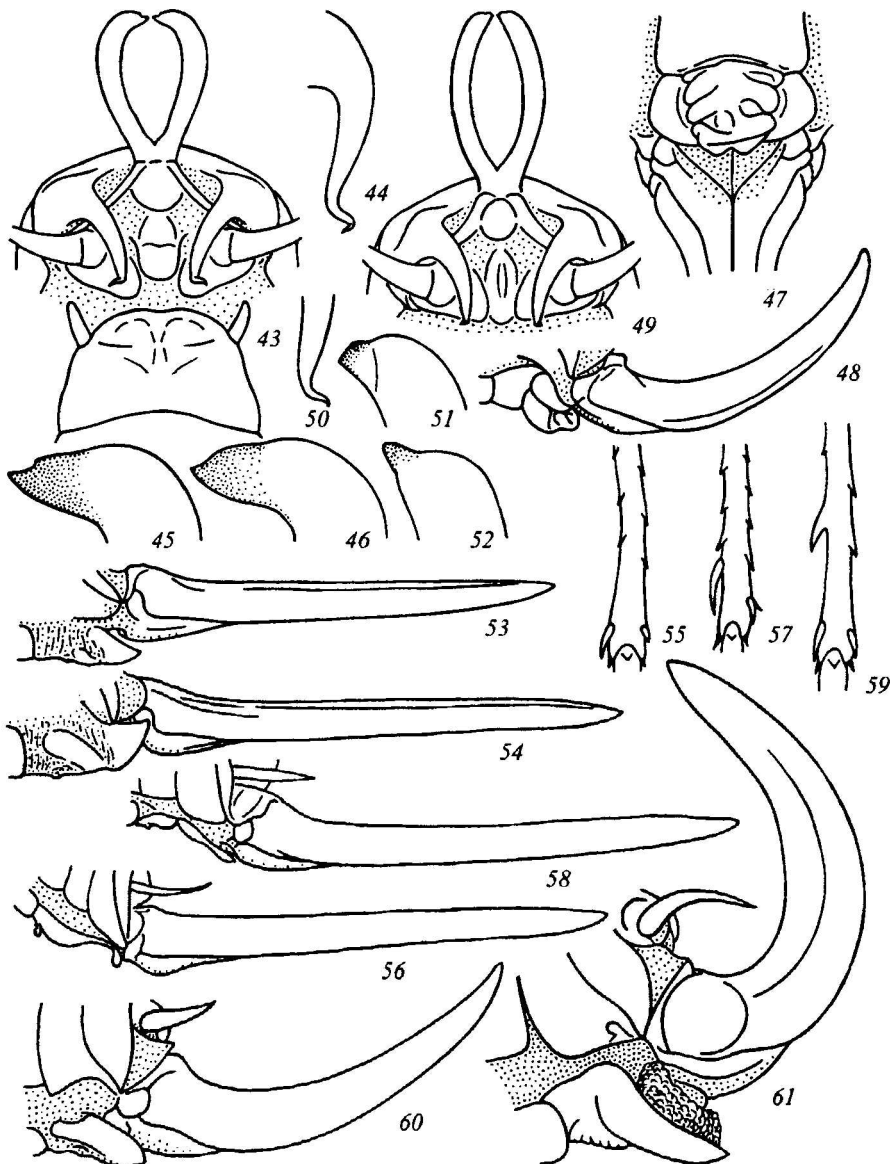
Length (mm). Body: male 14–16, female 16.5; body, including wings: male 17–18, female 17.5; pronotum: male 3.5–3.6, female 3.8; elytra: male 12.5–13.0, female 13; hind femur: male 8.0–8.5, female 8.5; ovipositor 6.7.

Comparative notes. This species is very similar to *M. dicrana* described from Yunnan Prov. of China, but differs from it in the longer and distinctly spiral-shaped apices of hooks of male abdominal tergite IX, shorter and stronger processes of male abdominal tergite X, and distinctly hook-curved apices of these processes (Figs. 43–46, 49–52).

Genus *FURCILARNACA* Gorochov, gen. n.

Type species *Furcilarnaca superfurca* sp. n.

Diagnosis. In structure of body (including stridulatory teeth of abdomen) and coloration, the new genus similar to both preceding genera (*Metriogryllacris* and *Microlarnaca*), but wings usually longer and body size as that in *Microlarnaca*. It differing from these and other genera in the following characters: male abdominal tergite IX strongly projecting backwards in the form of inverted cup-shaped lobe bearing 1 or 2 pairs of small apical processes or hooks; male abdominal tergite X bordering lower margin of this lobe as a narrow ribbon, with 1 pair of small swellings in middle part; each swelling bearing 1 hook usually pointing downwards or forwards, but occasionally backwards; the most characteristic feature of the genus is bifurcate male genital plate with apically tapered lateral lobes; styli of this plate well developed; male epiproct and paraprocts simple, semi-membranous (Figs. 62–75); male genitalia entirely membranous; female abdominal sternite VII semi-membranous, with numerous rugulae and rather soft central tubercle; female genital plate short and bifurcate to varying extent (Figs. 83–90); ovipositor straight, with nearly tapered apex (Figs. 53, 54) (other details of structure of female abdomen similar to those in *Microlarnaca*).



Figs. 43–61. *MicroIarnaca* gen. n., *Furcilarnaca* gen. n., *Aancistroger* B.-Bien., *Melaneremus* Karny, and *Neolarnaca* gen. n.: (43–48) *M. fansipan* sp. n. [(43–45) (holotype)]; (49–52) *M. dicrana* (B.-Bien.) [(49–51) paratype; (52) holotype, after Bey-Bienko (1962: (fig. 3))]; (53) *F. huangi* sp. n.; (54) *F. superfurca* sp. n., (55, 56) *A. elbenioides* (Karny); (57, 58) *A. vietus* sp. n.; (59) *A. sinicus* B.-Bien.; (60) *M. fruhstorferi* (Griff.), (61) *N. vera* sp. n. Abdominal apex of male with genital plate shifted slightly forwards (43) and without it (49), ventral view; hook of male abdominal tergite IX (44) and its distal part (50), lateral view; apex of right process of epiproct of male, ventral view (45, 46, 51, 52); abdominal apex of female, ventral view (47); lower part of abdominal apex of female with ovipositor, lateral view (48, 53, 54, 56, 58, 60, 61); distal part of right hind tibia of female, dorsal view (55, 57, 59). In Figs. 43, 47–49, 53, 54, 56, 58, 60, and 61, membranous parts are punctate.

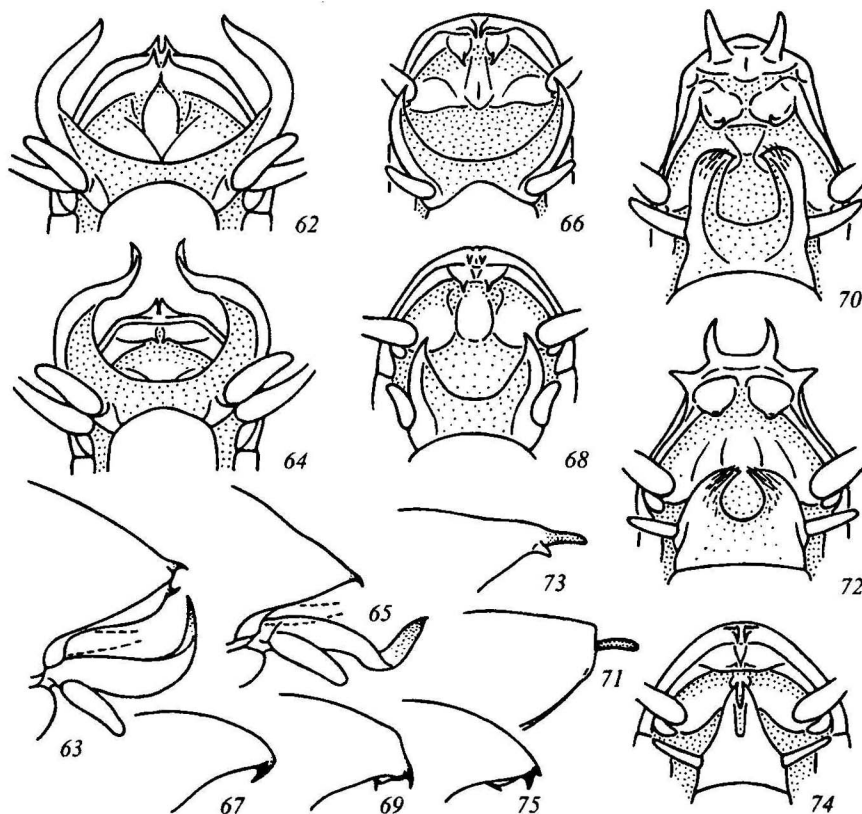
Species included. The type species of the genus, and also *Metriogryllacris armata* Bey-Bienko, 1957 (China), *M. chirurga* Bey-Bienko, 1962 (China), *M. forceps* Bey-Bienko, 1962 (China), *F. belokobyl'skiy* sp. n., *F. huangi* sp. n., and *F. beybienkoi* sp. n.

Furcilarnaca superfurca Gorochov, sp. n.
(Figs. 54, 62, 63, 83, 84)

Material. Vietnam, Son La Prov., near Song Ma Vill., 400–600 m, secondary forest, at night, on leaves

of bushes along roadside, 3–14.V.1986, 2 ♂ (holotype and paratype), 3 ♀ (paratypes) (A. Gorochov) (ZIN).

Description. **Male** (holotype). Coloration as that in *M. fansipan*, only without dark areas near hind femur-tibia articulation. Wings long, extending slightly beyond apices of hind tibiae; hind wings weakly projecting backwards from under elytra. Hooks of abdominal tergites IX and X small, pointing backwards (tergite IX only with 1 pair of hooks); genital plate very



Figs. 62–75. *Furcilarnaca* gen. n., male: (62, 63) *F. superfurca* sp. n. (holotype); (64, 65) *F. belokobylskiyi* sp. n.; (66, 67) *F. chirurga* (B.-Bien.) (paratype); (68, 69) *F. huangi* sp. n.; (70, 71) *F. beybienkoi* sp. n.; (72, 73) *F. armata* (B.-Bien.) (holotype); (74, 75) *F. forceps* (B.-Bien.) (paratype); (62, 64) abdominal apex, ventral view (membranous parts are punctate); (66, 68, 70, 72, 74) abdominal apex, but genital plate is shifted slightly forwards; (63, 65) abdominal apex, lateral view (cerci are indicated by dotted line); (67, 69, 71, 73, 75) posterior lobe of abdominal tergite IX (with hooks of abdominal tergite X, when they are visible), lateral view.

strongly bifurcate, with wide (in lateral view) proximal halves of sclerotized lateral carinae and narrow membranous area between them; membranous area reaching only middle of these carinae; distal halves of lateral lobes of genital plate narrow, entirely sclerotized, pointing upwards; styli rather large (Figs. 62, 63).

Variations. In paratype, lateral lobes of genital plate approximate (probably mobile relative to each other).

Female similar to male in habitus and coloration. Genital plate with wide deep posterior emargination; lateral lobes of genital plate angular apically, with lateral margin distinctly shorter than median margin (Figs. 83, 84); ovipositor as in Fig. 54.

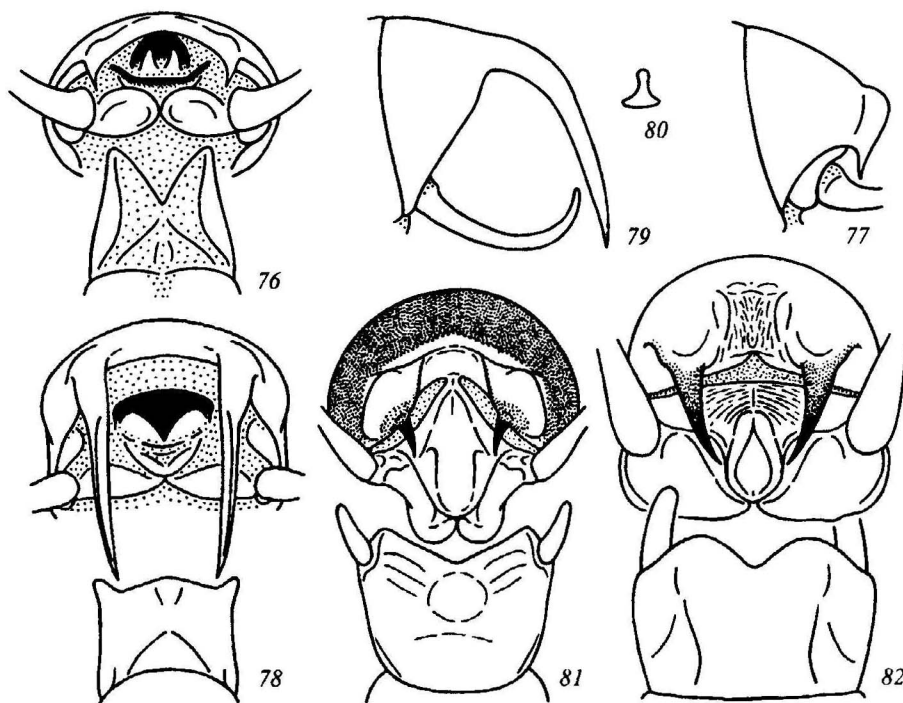
Length (mm). Body: male 14.5–15.5, female 15.5–18.5; body, including wings: male 24–25, female 25.5–28.0; pronotum: male 2.9–3.0, female 3.4–3.6; elytra: male 19.5–20.0, female 20.5–21.5; hind femur: male 8.0–8.5, female 9–10; ovipositor 10–11.

Comparative notes. *F. superfurca* clearly differs from all the congeners in the upcurved distal parts of the lateral lobes of the male genital plate, distinctive shape of the female genital plate, and longer ovipositor.

Furcilarnaca belokobylskiyi Gorochoy, sp. n.
(Figs. 64, 65)

Material. Vietnam, Hoa Binh Prov., Mai Chau Dist., Do Co Vill., "20°45'N, 104°54'E, 1100 m, secondary forest, 27–28.IV.2002, 1 ♂ (holotype) (S. Belokobylskij) (ZIN).

Description. **Male** (holotype) very similar to male of *F. superfurca*, but differing in the following characters: abdominal tergites VIII and IX slightly darkened (brownish) on upper side; hooks of abdominal tergite X slightly smaller, pointing forwards; and in the structure of genital plate: proximal halves of sclerotized lateral carinae slightly narrower in lateral view; membranous part between them slightly wider, reaching distal 1/3 of these carinae; only distal areas of lateral



Figs. 76–82. *Aancistroger* B.-Bien., ?*Melaneremus* Karny, and *Neolarnaca* gen. n., male: (76, 77) *A. sinicus* B.-Bien. (holotype); (78–80) *A. elbenioides* (Karny); (81) *M.? fruhstorferi* (Griff.); (82) *N. vera* sp. n.; (76, 78, 81, 82) abdominal apex (ventral and slightly posterior view) with genital plate (ventral view); (77, 79) abdominal apex, lateral view, but without lower part; (80) scheme of cross-section of middle of hook of abdominal tergite IX. In Figs. 76–79, membranous parts are punctate, and black deep depressions are filled.

lobes of this plate entirely sclerotized, flattened laterally (not narrow in lateral view), and pointing upwards and backwards (Figs. 64, 65).

Female unknown.

Length (mm). Body 15, body, including wings 24.5, pronotum 3, elytra 20, hind femur 8.5.

Comparative notes. For differences between this species and *F. superfurca*, see text above. The male characters distinguishing the new species from the congeners are the same as those in *F. superfurca*.

Etymology. The species is named for its collector, the entomologist S.A. Belokobylskij.

***Furcilarnaca huangi* Gorochov, sp. n.**
(Figs. 53, 68, 69, 85, 86)

Material. China, Prov. Yunnan, environs of Jinpin, 1700 m, 16.V.1956, 1 ♂ (holotype), 1 ♀ (paratype) (Huang Keren etc.) (ZIN). The male was determined by G.Ya. Bey-Bienko as *M. chirurga*.

Description. Male (holotype). Coloration as that in *F. superfurca*. Wings reaching middle of hind tibiae; hind wings slightly projecting backwards from under elytra. Abdominal tergites IX and X as those in

F. superfurca and *F. belokobylskiyi*, but their hooks pointing downwards; genital plate with rather short and weakly curved lateral lobes and with rather small styli (Figs. 68, 69); membranous part nearly reaching apex of these lobes.

Female. Habitus and coloration as those in male. Posterior emargination of genital plate narrower than that in *F. superfurca*; lateral lobes of this plate angular apically and lateral margin distinctly longer than median margin (Figs. 85, 86); ovipositor as in Fig. 53.

Length (mm). Body: male 12.5, female 15; body, including wings: male 18, female 18; pronotum: male 2.8, female 3.1; elytra: male 13, female 13; hind femur: male 7.0, female 7.7; ovipositor 9.

Comparative notes. *F. huangi* is closely related to *F. chirurga* described from the same area, but, probably, at a different altitude [1200 m is indicated on the label of the paratype of *F. chirurga* in ZIN collection, and 1100–1700 m in a description for the whole type series (Bey-Bienko, 1962)]; *F. huangi* differs from *F. chirurga* in the less deeply bifurcate male genital plate bearing a wider (long) membranous part at the base, distinctly shorter and less strongly curved lateral lobes, and slightly smaller styli (Figs. 66, 68). In the

structure of the male genital plate, the new species occupies a more or less intermediate position between *F. chirurga* and *F. forceps*, but the posterior emargination of this plate is shallower and the membranous part is nearly absent (Fig. 74).

Etymology. The species is named for one of its collectors, the Chinese researcher Huang Keren.

Furcilarnaca beybienkoi Gorochov, sp. n.
(Figs. 70, 71)

Material. China, Yunnan Prov., near Symao, 23.V.1957, 1 ♂ (holotype) (A. Monchadskii) (ZIN). This specimen was determined by G.Ya. Bey-Bienko as *M. chirurga*.

Description. Male (holotype). Coloration as that in *F. belokobylskii*. Wings extending slightly beyond apices of hind femora; hind wings nearly not projecting backwards from under elytra. Cup-shaped lobe of abdominal tergite IX distinctly extended backwards, with 1 pair of digitate apical processes; abdominal tergite X with distinctly widened and flattened apical plates bearing tapered hooks curved backwards; lateral lobes of genital plate with rather wide apices curved downwards and covered with dense hairs; styli of genital plate medium-sized (Figs. 70, 71).

Female unknown.

Length (mm). Body 12, body, including wings 14, pronotum 2.4, elytra 10.5, hind femur 6.

Comparative notes. *F. beybienkoi* is most similar to *F. armata* in the structure of male abdominal tergite IX and genital plate, but clearly differs from it in the presence of only one pair of processes at the apex of this tergite, tapered apices of hooks of male abdominal tergite X, and distinctly deeper posterior emargination of the male genital plate (Figs. 70, 72).

Etymology. The species is named for the well-known orthopterologist G.Ya. Bey-Bienko.

Genus *AANCISTROGER* Bey-Bienko, 1957

Type species *Aancistroger sinicus* Bey-Bienko, 1957 (China).

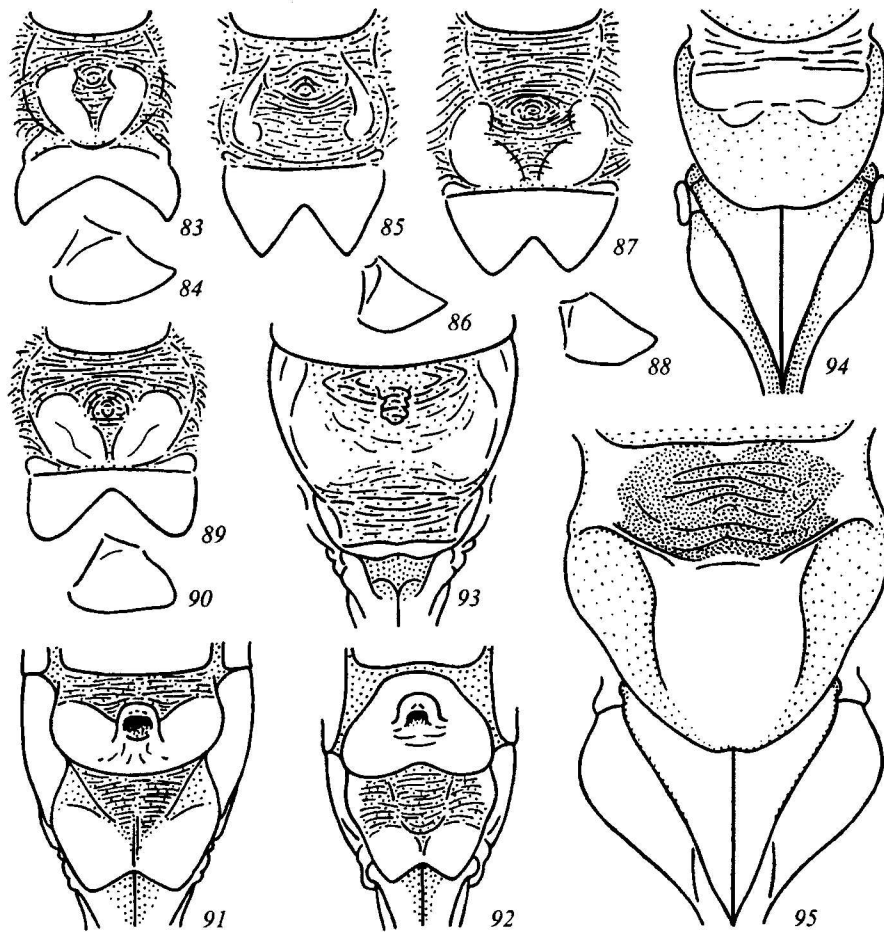
This genus was described from a single species. Inclusion of two more species in the genus [*Gryllacris elbenioides* Karny, 1926 (China) and *A. vietus* sp. n.], which though exhibit an obvious similarity to the type species, but clearly differ from it, makes the diagnosis of *Aancistroger* rather vague. Nevertheless, these spe-

cies are similar in the following characters: abdominal tergites II and III with 2 rows of stridulatory teeth on lateral parts; apex of male abdominal tergite IX truncate and supplied with lateral spines pointing downwards and forwards; in male, deep depression situated above epiproct bearing at posteroventral margin 1 pair of sclerotized prominences (probably, vestiges of abdominal tergite X); male genital plate without styli (Figs. 76–79); epiproct and paraprocts rather simple in both sexes; female genital plate with membranous wrinkled proximal part (Figs. 91–93); ovipositor rather long, more or less straight, with narrowly rounded apex (Figs. 56, 58).

Aancistroger elbenioides (Karny, 1926)
(Figs. 55, 56, 78–80, 93)

Material. Vietnam, Son La Prov., near Song Ma Vill., 400–600 m, secondary forest, at night, on tree leaf in undergrowth, 3–14.V.1986, 1 ♂ (A. Gorochov) (ZIN). China, Yunnan Prov.: Jindun, 1200 m, 15.V.1957, 1 ♂ (A. Monchadskii) (ZIN); Symao-Puven, 950–1200 m, 11.V.1957, 1 ♀ (Hun Guandi) (ZIN). Specimens from Yunnan were determined by G.Ya. Bey-Bienko as *Phryganogryllacris elbenioides*.

This uniformly pale and long-winged species is rather widely distributed in southern China [*A. elbenioides*, described from Guangdong Prov., was probably also indicated for Fujian Prov. as *Phryganogryllacris subrectis* (Mats. et Shir.), since the figures illustrating this species were taken from the original description of *A. elbenioides* (Liu Xianwei, 1999: figs. 9–39)]. At present, it is also known from the northern part of Vietnam. Previously, this species was commonly included in the genus *Phryganogryllacris* Karny (Karny, 1937; Otte, 2000), but it is more similar to *A. sinicus* than to the type species of *Phryganogryllacris*. *A. elbenioides* and *A. sinicus* differ in the following characters: in the former species, both sexes without enlarged spines proximal to spurs (Fig. 55); in the latter species, female with 1 enlarged median spine (Fig. 59), and male with 2 similar spines arranged in row (distal spine situated as that in female). In male of *A. elbenioides*, cerci much shorter (normal); hooks of abdominal tergite IX significantly longer, triangular (instead of round) in cross-section; sclerotized prominences at posteroventral margin of depression above epiproct rounded (instead of teeth-shaped); genital plate with convex (instead of deeply emarginate) middle part of posterior margin (Figs. 76–80); female abdominal sternite VII with folded basal process and indistinctly



Figs. 83–95. *Furcilarnaca* gen. n., *Ancistroger* B.-Bien.? *Melaneremus* Karny and *Neolarnaca* gen. n.; female: (83, 84) *F. superfurca* sp. n.; (85, 86) *F. huangi* sp. n.; (87, 88) *Furcilarnaca* sp. (Yunnan, Nan Shan, near Fohai); (89, 90) *Furcilarnaca* sp. (Yunnan, Lunlin); (91) *A. sinicus* B.-Bien. (paratype), (92) *A. vietus* sp. n.; (93) *A. elbenioides* (Karny); (94) *M.? fruhstorferi* (Griff.); (95) *N. vera* sp. n.; (83, 85, 87, 89) abdominal sternite VII with genital plate, ventral view; (84, 86, 88, 90) genital plate, lateral view; (91–95) abdominal apex with base of ovipositor, ventral view. In Figs. 83–93, membranous parts are punctate and black deep depressions are filled.

separated from genital plate (in *A. sinicus*, this sternite with sclerotized swelling bearing central depression and distinctly separated from genital plate); female genital plate with convex, rounded, strongly down-curved apex (in *A. sinicus*, this apex not down-curved, but emarginate) (Figs. 56, 91, 93).

Ancistroger vietus Gorochov, sp. n. (Figs. 57, 58, 92)

Material. Vietnam, Lam Dong Prov., “Dalat–Lang Bien,” 1500 m, forest, 17.IV.1995, 1 ♀ (holotype) (P. Pakholatko) (ZIN).

Description. Female (holotype) similar to females of *A. sinicus* and *A. elbenioides*. Body uniformly pale, yellowish (only with darkened apices of spines and spurs of hind leg). Elytra at rest nearly reaching apices of straighten hind legs, and hind wings extending slightly beyond them. Fore and middle tibiae with medium-sized lower spines (4 inner and 3 outer spines

on fore tibia, and 4 pairs on middle one); fore tibia also with 1 pair of lower spurs; middle tibia with 1 pair of lower spurs and unpaired upper inner spur; hind leg with 2 rows of fine spines on lower side of femur and upper side of tibia and also with 4 pairs of tibial spurs, among which upper inner one, in contrast to that in *A. sinicus* and *A. elbenioides*, very long and situated much more proximally (Fig. 57). Abdominal sternite VII similar to that in *A. sinicus*, but its anterior part less membranous (sclerotized swelling with central depression everywhere separated from membrane by sclerotized areas; whereas in *A. sinicus*, it hanging above membrane in anterior part) and posterior margin emarginate (not convex); genital plate very similar to that in *A. sinicus*, but slightly narrower in distal half (Figs. 91, 92); ovipositor as straight as that in *A. elbenioides* (Figs. 56, 58) (in *A. sinicus*, it slightly up-curved).

Description. Male unknown.

Length (mm). Body 18.5, body, including wings 30, pronotum 3, elytra 23.5, hind femur 8.5, ovipositor 10.5.

Comparative notes. For differences between *A. vietus* and *A. sinicus*, see text above. *A. vietus* clearly differs from *A. elbenioides* in the shape of spurs on the hind tibia and in the structure of the female copulatory system (Figs. 92, 93).

Genus *MELANEREMUS* Karny, 1937

Type species *Eremus atrotectus* Brunner-Wattenwyl, 1888 (India).

Karny (1937) and Bey-Bienko (1957) included in this genus 16 species from various countries of south-eastern Asia (from India and China to Borneo and Philippines). These species are similar in the following characters: wing absent or strong shortened, body small (about as small as that in the genera considered above), and structure of male copulatory complex, which is probably typical of the subfamily (abdominal tergite IX enlarged and genital plate with styli). Other details of the copulatory complex have been described insufficiently, and the structure of the ovipositor in the species included by these authors in *Melaneremus* is rather various. Therefore, a more precise diagnosis of the genus *Melaneremus* cannot be given at present. In addition, these species may belong to different genera. Otte's catalogue (2000) does not include *Melaneremus*, as also *Larnaca* and *Metriogryllacris*.

Melaneremus? fruhstorferi (Griffini, 1914)
(Figs. 60, 81, 94)

Material. Vietnam, Vinh Phu Prov., near Tam Dao Vill., 800–900 m, edge of primary forest, at night, 17.V–11.VI.1995, 5 ♂, 14 ♀ (A. Gorochov) (ZIN).

Description. Sizes similar to those in representatives of the genus *Aancistroger*. Habitus typical of the subfamily. Body pale, yellowish, but with brownish spots and speckles on head, one pair of long brown stripes extending from anterior margin of pronotum to almost entirely dark brown abdominal tergites VIII and IX in male (Fig. 81) and to abdominal apex in female, dark areas before apices of all femora and at bases of all tibiae, and also dark spines on hind tibiae and small areas at their bases. Wings not developed, only lateral margins of mesonotum with tiny lobe (rudiment of elytra) in anterior part. Armament of legs

similar to that in the genera *Metriogryllacris*, *Microlarnaca*, and *Furcilarnaca*, but only with 2 lower spurs on middle tibia and 3 pairs of spurs on hind tibia. Abdominal stridulatory teeth forming 1 curved row at sides of tergite II and 2 more straight rows at sides of tergite III; male abdominal tergite IX with distinct median emargination in posterior part and 1 pair of semi-separated (mobile) swellings at sides of this emargination, swellings bearing not very long spines pointing forwards; male abdominal tergite X narrow, ribbon, strongly arcuately curved and interrupted in middle; male genital plate with wide, weakly angular posterior emargination bearing small angular lobes at sides; male epiproct rather long, rounded at apex (Fig. 81); male genitalia membranous; paraprocts in both sexes and female epiproct and abdominal sternite VII simple; female genital plate rounded at apex and partly membranous at base [it should be noted that some females possess one pair of fine reddish speckles (haematomae ?) at the base of the genital plate, and dried drops of a substance resembling the dried hemolymph are occasionally present their; it is possible that the apices of sharp hooks of a male set against these places during copulation and traumatize the integument of the genital plate of a female]; ovipositor distinctly shorter than hind femur, gently upcurved, with rather narrow apex; its base with inconspicuous rounded lateral lobes of lower sheaths (Figs. 60, 94).

Length (mm). Body: male 18–21, female 20–23; pronotum: male 4.0–4.5, female 4.1–4.7; hind femur: male 9.8–10.8, female 10–11; ovipositor 7.0–7.5.

Genus *NEOLARNACA* Gorochov, gen. n.

Type species *Neolarnaca vera* sp. n.

Diagnosis. Habitus similar to that in *M. fruhstorferi*, but body slightly larger. Wings short, but not shorter than pronotum. Armament of legs as that in *Metriogryllacris*, *Microlarnaca*, and *Furcilarnaca*; only spines of fore and middle tibiae slightly longer. Abdominal stridulatory teeth forming 1 curved row at sides of tergite II and 2 more straight rows at sides of tergite III; male abdominal tergite IX with 1 pair of long spines pointing downwards and forwards; 1 pair of rounded elevations situated at bases of these spines, and integument of tergite IX slightly membranous between them (probably, these elevations may approach each other); abdominal tergite X in the form of narrow band not interrupted in middle; genital plate with styli (Fig. 82); male genitalia entirely membranous; epiproct and paraprocts in both sexes and also

abdominal sternite VII in female simple; base of female genital plate membranous at sides and slightly more sclerotized at center (central area with 1 pair of shallow copulatory depressions probably fixing apices of hooks of male tergite IX during copulation, that partly resembling copulation of *M. fruhstorferi*), separated from semi-oval distal part by rugula; ovipositor rather short, hook-shaped, without distinct lateral lobes at base of lower sheaths (Figs. 61, 95).

Species included. Only the type species.

Neolarnaca vera Gorochov, sp. n. (Figs. 61, 82, 95)

Material. Vietnam, Vinh Phu Prov., near Tam Dao Vill., 800–900 m, primary forest, at night, on leaves of undergrowth bushes, 17–31.V.1995, 1 ♂ (holotype), 1 ♀ (paratype) (A. Gorochov) (ZIN).

Description. Male (holotype). Ocelli small, inconspicuous (median ocellus nearly invisible). Body pale, yellowish; but pronotum black, with narrow yellowish stripe along anterior margin and small brownish spot in middle of posterior margin; elytra pale brown; spines of hind femur, apices of spines and spurs of hind tibia, and spines of abdominal tergite IX dark brown. Wings reaching apex of abdominal tergite III; hind wing not projecting backwards from under elytra. Structure of abdominal apex in male as in Fig. 82.

Female similar to male in habitus and coloration, but abdominal tergites with weak brownish areas. Genital plate and ovipositor as in Figs. 61, 95.

Length (mm). Body: male 22, female 26; pronotum: male 5.0, female 5.5; elytra: male 9, female 10; hind femur: male 13.5, female 15.0; ovipositor 10.

Genus *APTEROLARNACA* Gorochov, gen. n.

Type species *Apterolarnaca ulla* sp. n.

Diagnosis. Habitus and sizes similar to those in the genus *Melaneremus*. Wings absent. Armament of legs similar to that in *M.? fruhstorferi* or *Neolarnaca*, but hind legs of male specialized, obviously for grasping female during copulation (Fig. 96): femora with numerous strong spines along lower inner margin (distal spines larger than proximal ones) and 1 small lower outer spine at apex of femur; hind tibia distinctly curved, with strongly reduced upper spines, 3 pairs of short spurs, and undulate lower surface (hind legs in female less strongly specialized, Fig. 97). Stridulatory teeth of abdomen situated similarly to those in *Neolarnaca*; male abdominal tergite IX, in contrast to that

in others Gryllacridinae, small, entirely split into 2 lateral lobes each bearing hook at apex; male abdominal tergite X ribbon, interrupted in middle, with distinctly widened median areas; genital plate in the form of semi ring with lateral lobes slightly bifurcate apically and mobile relative to each other, without styli (Figs. 101, 102); male genitalia entirely membranous; epiproct and paraprocts in both sexes, and also sternite VII in female simple; female genital plate (Figs. 104, 108) with posterior margin nearly truncate and base membranous at sides (lateral parts of base can change its shape during copulation, and male hooks probably catching on lateral areas of distal part of female genital plate, Fig. 98); ovipositor short, arcuate, with rounded apex (Figs. 103, 107).

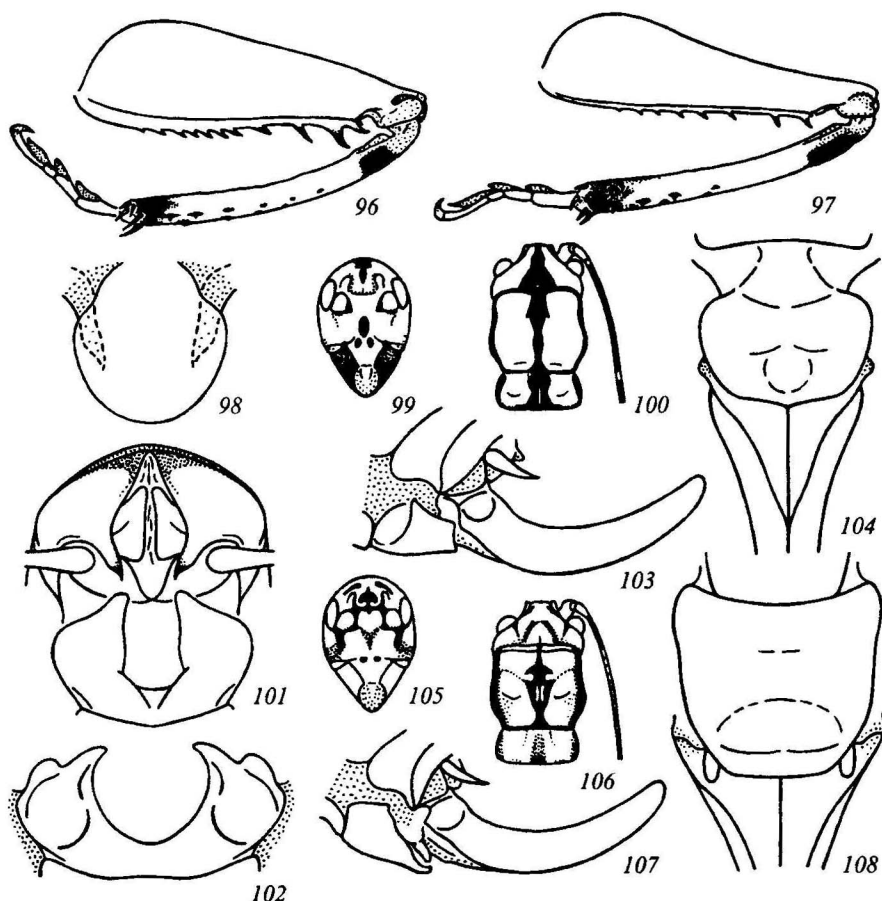
Species included. The type species of the genus and *A. apta* sp. n. *Melaneremus bilobus* Bey-Bienko, 1957 (China), known from a single female, is similar to this genus in the structure of hind tibia, but differs in the scale-shaped elytra, underdeveloped spines of the hind femur in the female, and long and nearly straight ovipositor tapered at the apex. The species may belong to a separate subgenus of the genus *Apterolarnaca*.

Apterolarnaca ulla Gorochov, sp. n.
(Figs. 96, 97, 99–104)

Material. Vietnam, Lao Cai Prov., Sa Pa Dist., Fan Si Pan Mt., 1900–2500 m, primary forest, at night, 20.IV–9.V.1999, 1 ♂ (holotype), 1 ♀ (paratype) (N. Orlov) (ZIN).

Description. Male (holotype). Body yellowish, with blackish pattern on head, proximal part of antennae, pronotum, and mesonotum, Figs. 9, 100; middle and distal parts of antennal flagellum colored similarly to its proximal part; and metanotum, similarly to mesonotum; apices of femora weakly darkened; spots at bases of tibiae, distal parts of tibiae, all spines and spurs (except for bases of spines on hind femur), and also fine spots at bases of spines on hind tibia (Fig. 96), all dark; abdomen with nearly black median stripe and darkened apices of hooks of tergite IX (Fig. 101). Middle tibia without upper spurs; structure of hind leg and apices of abdomen as in Figs. 96, 101, 102.

Female similar to male, but nearly without dark fine spots on clypeus and near it. Hind leg as in Fig. 97. Genital plate with very weak median prominence at apex; ovipositor with poorly developed (not



Figs. 96–108. *Apterolarnaca* gen. n.: (96–104) *A. ulla* sp. n. [(96, 99–102) holotype]; (105–108) *A. apta* sp. n. hind leg of male (96) and female (97), lateral view; (98) proposed scheme of grasp of female genital plate by hooks of male abdominal tergite IX during copulation; (99, 105) head, front view; (100, 106) anterior part of body, dorsal view; (101) abdominal apex of male, ventral and slightly posterior view; (102) straightened male genital plate; (103, 107) female abdominal apex with ovipositor, lateral view; (104, 108) female abdominal apex and base of ovipositor, ventral view. Punctures mark hooks of male in Fig. 98 and membranous parts, in Figs. 102, 103, and 107.

projecting backwards from under genital plate) lateral lobes at base of lower sheaths (Figs. 103, 104).

Length (mm). Body: male 17.5, female 21.0; pronotum: male 4.0, female 4.2; hind femur: male 10.0, female 9.8; ovipositor 5.5.

Apterolarnaca apta Gorochov, sp. n. (Figs. 105–108)

Material. Vietnam, Vinh Phu Prov., near Tam Dao Vill., 800–900 m, primary forest, at night, on a bush leaf in undergrowth, 9–18.XI.1990, 1 ♀ (holotype) (A. Gorochov) (ZIN).

Description. Female (holotype) similar to male of *A. ulla*, but differing in following characters: dark pattern on head more strongly developed on face than on vertex; antennal flagellum paler, grayish; dark median spot on pronotum slightly differing in shape (Figs. 105, 106); dark stripes on other parts of thorax

and on abdomen slightly paler and narrower; middle tibia with well-developed upper inner spur; genital plate with straight posterior margin; ovipositor with well-developed digitate lateral lobes projecting backwards from under genital plate at base of lower sheaths (Figs. 107, 108).

Description. Male unknown.

Length (mm). Body 18, pronotum 3.6, hind femur 9, ovipositor 5.

Comparative notes. For differences between *A. apta* and *A. ulla*, see text above.

Genus **OCELLARNACA** Gorochov, gen. n.

Type species *Ocellarnaca ocellata* sp. n.

Diagnosis. Body medium-sized for the subfamily, pale, yellowish, but with rufescent face (except for

whitish ocelli), blackish mandibles (Fig. 111), and occasionally, stripes on lateral parts of epicranium and on pronotum (Fig. 128), also with slightly infuscate wing membranes or spots on these membranes. Head large, with wide rostrum between antennal sockets, very large median ocellus (larger than, or as large as antennal sockets) and fine lateral ocelli (Fig. 111). Legs rather short, with 4 pairs of long spines and 1 pair of lower spurs on fore and middle tibiae, 1 upper inner spur on middle tibia, 2 rows of spines on lower side of hind femur and upper side of hind tibia, and also 4 pairs of spurs on hind tibia. Wings slightly shortened, reaching or nearly reaching abdominal apex. Abdominal stridulatory teeth sparse, forming 1 row at sides of tergite II and 2 rows at sides of tergite III, reduced to varying extent in female; male abdominal tergite IX with 1 pair of lobiform processes each bearing apical hook or heavily sclerotized tubercle; male abdominal tergite X narrow, ribbon, inconspicuous; male genital plate with well-developed styli (Figs. 109, 110, 115, 116, 118, 119, 121, 122, 124, 125); male genitalia entirely membranous; paraprocts and epiproct in both sexes simple; female abdominal sternite VII with apex weakly or strongly (in the form of digitate prominence) attenuate backwards (frequently with 1 pair of lobes) (Figs. 112, 114, 117, 120, 123, 126, 129, 130); ovipositor moderately or rather strongly upcurved (Figs. 113, 127).

Species included. The type species and also *Gryllacris wolffi* Krausze, 1906 (Vietnam), *G. braueri* Griffini, 1911 (Vietnam), *G. furcifera* Karny, 1926 (China), *G. fuscotessellata* Karny, 1926 (China), and *Eugryllacris fallax* Liu, 1999 (China).

Ocellarnaca ocellata Gorochov, sp. n. (Figs. 109–114)

Material. Vietnam, Gia Lai Prov.: 20 km N Kanchack Vill., Buon Luoi Vill., thin primary forest, in daytime, on leaves of undergrowth bushes, 15–19.XI.1993, 1 ♂ (holotype), 1 ♀ (paratype) (A. Gorochov) (ZIN); Ka Bang Dist., Krong Pa Vill., primary forest, IX.1997, 1 ♂ (paratype), 3 ♀ (paratypes) (N. Orlov) (ZIN).

Description. Male (holotype). Upper half of facial part of epicranium (Fig. 111), labrum, proximal area of antennae, and most part of all tibiae rather intensively rufescent brown; grayish brown speckles on elytra small, occupying only central part of membrane of cells; those on hind wings large, occupying nearly whole membrane of cells, except for pale stripe along

cross-veins; male abdominal tergites VIII and IX with reddish tint. Wings extending slightly beyond abdominal apex; hind wings slightly projecting backwards from under elytra. Processes of abdominal tergite IX widened at apex and only with tiny tubercle slightly more proximal of rounded distal lobe; genital plate with rather long styli and shallow emargination at apex (Figs. 109, 110).

Variations. Distinct rufescent tint occasionally present on distal part of hind femur, and posterior (lower) part of abdominal tergite IX occasionally nearly brown.

Female similar to male in coloration and habitus. Abdominal sternite VII with long and nodulose digitate process bearing 1 pair of lobes widened at apex; genital plate with 1 pair of more or less rounded apical lobes separated by shallow or rather deep emargination (Figs. 112, 114); ovipositor rather short, rather strongly upcurved, characteristically weakly widened at apex (Fig. 113).

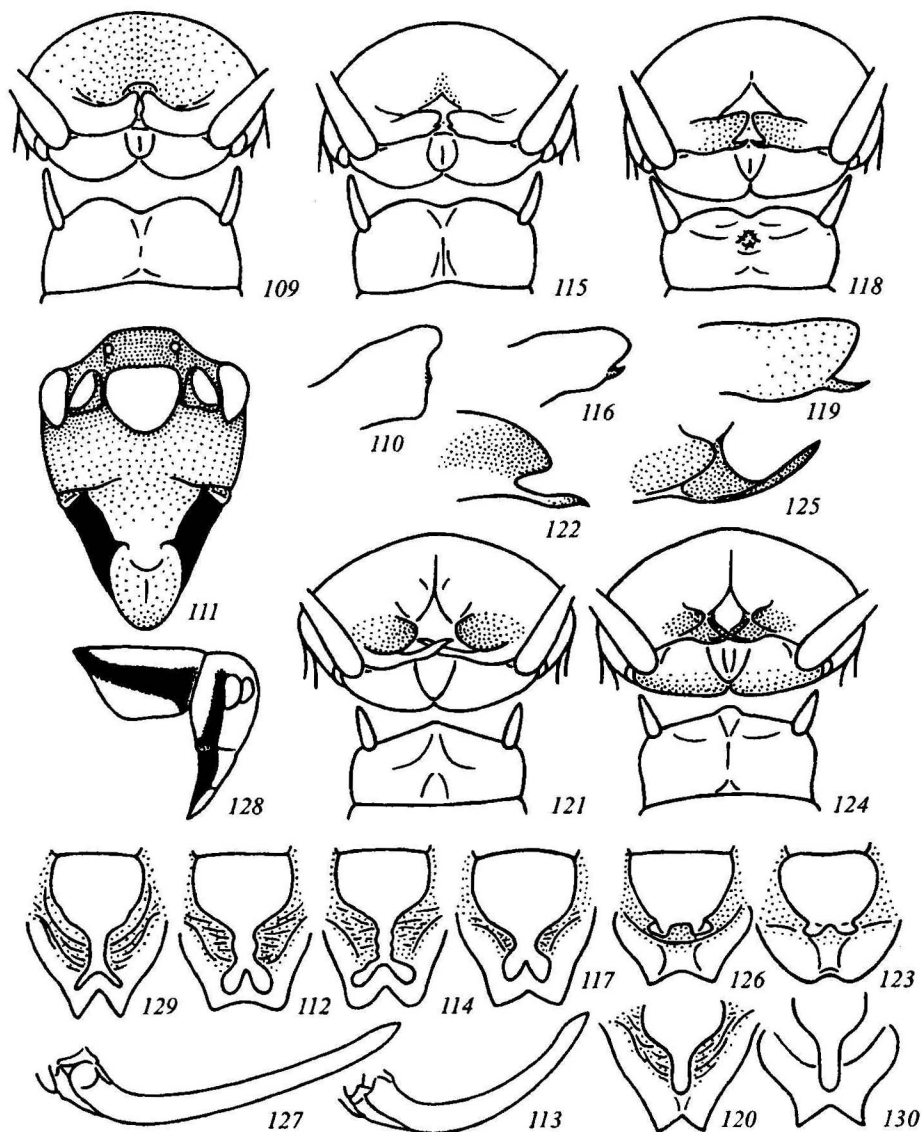
Length (mm). Body: male 22–24, female 21–23; body, including wings: male 25–27, female 24–28; pronotum: male 5.8–6.0, female 5.7–6.5; elytra: male 16–17, female 16.0–17.5; hind femur: male 13–14, female 13.5–14.8; ovipositor 10.0–11.5.

Comparative notes. *O. ocellata* differs from the congeners in the uniform coloration of the pronotum, presence of only a fine tubercle at the apex of the processes of male abdominal tergite IX, and shape of abdominal sternite VII, genital plate, and ovipositor of the female.

Ocellarnaca furcifera (Karny, 1926) (Figs. 115–117)

Material. Vietnam, Ha Bac Prov., Chi Linh Vill., primary forest, at night, X.1997, 1 ♂ (N. Orlov) (ZIN); Hoa Binh Prov., near Mai Chau Vill., 250 m, secondary forest, at night, on a bush leaf in undergrowth, 30.X–4.XI.1990, 1 ♀ (A. Gorochov) (ZIN).

This species was described from southern China. Records of this forest species in different provinces of the northern part of Vietnam assume its rather wide distribution. It is similar to *About ocellata*, but differs in the following characters: rufescent parts of head slightly paler, legs and abdomen uniformly yellowish, darkened areas on wing membranes slightly larger, processes of male abdominal tergite IX with narrower apex and distinct fine hook near it (Figs. 115, 116), female abdominal sternite VII with shorter and not



Figs. 109–130. *Ocellarnaca* gen. n.: (109–114) *O. ocellata* sp. n. [(109–111) holotype; (112, 113) paratype from Buon Luoi]; (114) paratype from Krong Pa]; (115–117) *O. furcifera* (Karny), (118–120) *O. braueri* (Griff.), (121–123) *O. wolffi wolffi* (Krausze); (124–127) *O. wolffi angulata* subsp. n. [(124, 125) holotype], (128, 129) *O. fuscotessellata* (Karny) (holotype); (130) *O. fallax* (Liu) (after Liu, 1999, figs. 9–40 B); (109, 115, 118, 121, 124) abdominal apex of male (ventral and slightly posterior view) with genital plate (ventral view); (110, 116, 119, 122, 125) left process of male abdominal tergite IX, ventral view; (111) head, front view; (112, 114, 117, 120, 123, 126, 129, 130) female abdominal sternite VII with genital plate, ventral view (membranous areas are punctate); (113, 127) ovipositor, lateral view; (128) coloration of head and pronotum, lateral view.

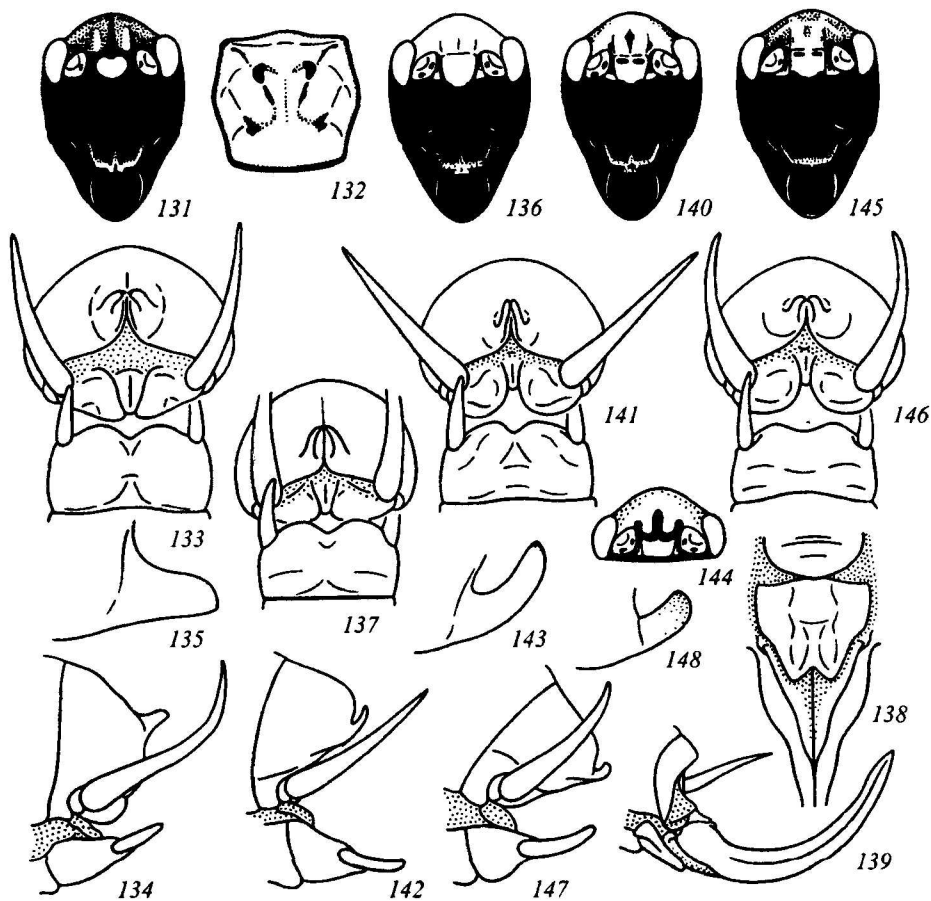
nodulose digitate process (supplied with shorter, rounded paired lobes), female genital plate with angular lobes at apex (Fig. 117).

Ocellarnaca braueri (Griffini, 1911) (Figs. 118–120)

Material. Vietnam, “Tonkin, Than-Moi, Juni-Juli, H. Fruhstorfer”: 2 ♂ (syntypes), 1 ♀ (syntype) (MNHU); 1 ♂ (MIZP).

O. braueri is similar to *O. furcifera* in the coloration, but differs from it in the following characters:

dark areas of wing membranes very small (even smaller than those in *O. ocellata*), wings longer (reaching apices of hind femora), lobiform processes of male abdominal tergite IX larger, hooks of these processes distinctly longer, soft tubercle with hairs present at center of male genital plate (Figs. 118, 119), digitate process of female abdominal sternite VII not bifurcate, and apex of female genital plate slightly narrower (Fig. 120). In the coloration, structure of female abdominal sternite VII, and some other charac-



Figs. 131–148. *Prosopogryllacris* Karny: (131–135), *P. melanophoxa* (Karny), (136–139) *P. personata personata* (A.-Serv.), (140–144) *P. personata moschi* (Griff.), (145–148) *P. personata malacca* subsp. n. (holotype); head (131, 136, 140, 145) and its upper part (144), front view; (132) pronotum, dorsal view; (133, 137, 141, 146) abdominal apex of male (posterior and slightly ventral view) with genital plate (ventral view); (134, 142, 147) abdominal apex of male and (135, 143, 148) only left process of abdominal tergite IX, lateral view; (138) female abdominal apex with base of ovipositor, ventral view; (139) female abdominal apex with ovipositor, lateral view.

ters, *O. braueri* is also similar to *O. fallax* (Fig. 130) described from southern China; differences between these species are unclear yet.

Ocellarnaca wolffi angulata Gorochov, subsp. n.
(Figs. 124–127)

Material. Vietnam, Vinh Phu Prov., near Tam Dao Vill., 900–1000 m, primary forest, at night, on leaves of undergrowth bushes, 9–18.XI.1990, 1 ♂ (holotype), 3 ♀ (paratypes) (A. Gorochov) (ZIN).

Description. **Male** (holotype). Size and habitus typical of *Ocellarnaca*. Body yellowish, with slightly rufescent face, except for yellowish postclypeus, blackish mandibles, whitish ocelli (median ocellus only slightly smaller than that shown in Fig. 111), mostly rufescent abdominal tergites VIII and IX, dark brown stripe along posterior margins of disc and lateral lobes of pronotum, grayish brown fine speckles on

wings (speckles on elytra similar to those in *O. ocellata*, and speckles on hind wings slightly smaller and paler), brownish sparse small spots on femora and tibiae, stripes on outer side of hind femur, and bands and speckles on abdominal tergites and sternites and on paraprocts (Fig. 124). Wings reaching abdominal tergite VI; hind wings slightly projecting backwards from under elytra. The species differing from *O. wolffi wolffi* (data on distribution of this subspecies given below) in slightly more strongly bifurcate processes of abdominal tergite IX with narrower lobes and wider bases of hooks and also in lobiform (instead of angular) apex of genital plate (Figs. 121, 122, 124, 125).

Female similar to male, but dark stripe on pronotum occasionally broken in upper part of lateral lobes, dark stripe and spots on abdomen and legs occasionally more or less strongly pronounced (strongest on hind femur). Genitalia similar to those in the nominotypical

subspecies (ovipositor long, abdominal sternite VII with 1 pair of short lobes at apex, genital plate short), but lobes of abdominal sternite VII more widely spaced, apical lobes of genital plate angular (instead of rounded), and emargination between them larger (Figs. 123, 126, 127).

Length (mm). Body: male 25, female 22–24; pronotum: male 6, female 6.0–6.3; elytra: male 14.5, female 13.0–13.5; hind femur: male 14.0, female 13.5–14.5; ovipositor 14–15.

Ocellarnaca wolffi wolffi Krausze, 1906
(Figs. 121–123)

Material. Vietnam, “Tonkin, Than-Moi,” VI–VII, 1 ♂, 2 ♀ (H. Fruhstorfer) (MIZP); determined as “*Gryllacris wolffi*,” but no ones unknown by whom.

These and the preceding subspecies have been described from the northern part of Vietnam, but *O. w. wolffi* distributed to the north, near the border with China. For differences between *O. w. wolffi* and *O. w. angulata*, see the description of the last subspecies.

Genus *PROSOPOGRYLLACRIS* Karny, 1937

Type species *Gryllacris personata* Audinet-Serville, 1831 (Java).

This genus comprised a lot of species from different areas of the Old World from Seychelles to New Guinea (Karny, 1937; Otte, 2000; Ichikawa, 2001). A part of the species should be most likely excluded from the genus. For example, the Japanese *P. japonica* Matsumura et Shiraki, 1908, *P. simulans* Ichikawa, 2001, *P. okadai* Ichikawa, 2001, *P. rotundimacula* Ichikawa, 2001, and *P. iriomote* Gorochochov, 2002 probably belong to the genus *Eugryllacris* Karny (Gorochochov, 2002b). The Chinese *P. cylindrigera* Karny, 1926 may also belong to *Eugryllacris*. A similarity of these species to representatives of the genera *Ocellarnaca* and *Xanthogryllacris* Karny in the structure of female abdominal sternite VII is probably convergent. Thus, the classification of the genus *Prosopogryllacris* should be considered vague, and the composition of its diagnosis untimely, inasmuch as I can give the general characteristic only for the two very closely related species (including the type one) considered below.

Prosopogryllacris melanophoxa (Karny, 1930)
(Figs. 131–135)

Material. Thailand, Nakhon Ratchasima Prov., near “KhaoYai” National Park, 500–1000 m, primary for-

est, at night, on a bush leaf in undergrowth, 26.X–4.XI.2000, 1 ♂ (A. Gorochochov and L. Anisutkin) (ZIN).

Description. Male (nov). Size medium of the subfamily. Body yellowish pink, with dark pattern: head with black face below upper margin of antennal sockets (except for brownish postclypeus), vertical stripe extending from face between ocelli and 2 proximal antennal segments, and also with brown twice interrupted angular stripe on vertex and speckles between upper margin of antennal sockets and inner margin of eyes (Fig. 131); pronotum with black narrow marginal bordering and brown marks on disc (Fig. 132); legs with blackish all inner and 1 proximal outer spines of fore tibia, brown other spines of fore tibia and all spines of middle tibia, pale brown spurs of all legs (except for 1 darkened pair on lower side of hind tibia), and blackish spines of hind femur and tibia; elytra with pale brown veins (but some cross-veins at base of costal margin darkened); hind wing with rather dark, grayish brown spots along darkened cross-veins (membrane of these wings nearly hyaline); apices of processes of abdominal tergite IX darkened (Fig. 133). Legs and wings rather long; fore and middle tibiae with 4 pairs of long lower spines and 1 pair of lower spurs; middle tibia also with 1 upper inner spur; hind leg with 2 rows of well-developed spines on lower side of femur and upper side of tibia and also with 4 pairs of spurs on tibia; elytra reaching apex of hind femora; hind wings slightly, but distinctly projecting backwards from under elytra. Abdominal stridulatory spines absent; abdominal tergite IX enlarged, with longitudinal median groove and rather strong short and straight (in lateral view) processes curved medially at apices; abdominal tergite X narrow, ribbon, reduced in middle part; genital plate transverse, with well-developed styli and distinct emargination at apex (Figs. 133–135).

Female (holotype) described from Cambodia (Karny, 1930).

Length (mm). Body 26; body, including wings 33; pronotum 6.1; elytra 22; hind femur 17.

The species have been recorded from Thailand for first time.

Prosopogryllacris personata malacca Gorochochov,
subsp. n. (Figs. 145–148)

Material. Malaysia, Malacca Peninsula, “Hulu, Perak; Belum Expedition, B. Camp, 5°30'07"N,

101°26'21"E," 4–14.IV.1994, 2 ♂ (holotype and paratype) (I. Sivec) (ZIN).

Description. Male (holotype) similar to male of *P. melanophoxa*, but body mainly yellowish (only with pinkish tint); head pale above lower margin of antennal sockets, with 1 pair of fine dark spots between upper parts of antennal sockets and with indistinct brownish spots around (Fig. 145); pronotum, all spines, and all spurs and bases of spines of hind leg also pale; elytra and processes of abdominal tergite IX without dark areas; hind wing with distinct paler (grayish) spots. Processes of abdominal tergite IX very similar (Figs. 146–148) to those in *P. melanophoxa* (short, strong, and with medially curved apices), but hook-shaped upcurved.

Variations. Scape in the paratype with distinct brownish speckles.

Female unknown.

Length (mm). Body 20–22; body, including wings 27–29; pronotum 5.5–5.7; elytra 19–20; hind femur 15.5–16.5.

Comparative notes. For differences between this and two others subspecies of the species, see text below.

Prosopogryllacris personata personata (Audinet-Serville, 1831) (Figs. 136–139)

Material. Indonesia, Java: environs of Sukabumi, "Gede-Pangrango" Nature Reserve, Lake Situ Gunung, forest, 11–12.IV.2003, 1 ♂ (M. Berezin) (ZIN); "Soekaboemi" [Sukabumi?], "Rolle 1904," 1 ♀ (ZIN); 20–25 km SE Bogor, Pangrango Mts., near Cemande Vill., 1000 m, 9–14.XI.1999, 2 ♀ (A. Gorochov) (ZIN). The female from "Soekaboemi" was determined by Griffini as *Gryllacris falcata*.

Gryllacris falcata Brunner-Wattenwyl, 1888, described from a series of syntypes collected in China, Java, and Sumatra (obviously different subspecies or even species), were synonymized with the Javanese *P. personata* without designation of lectotype (Karny, 1937); therefore, this synonymy cannot be regarded final, and *G. falcata* should be considered nomen dubium. *P. p. personata* differs from *P. p. malacca* in the absence of dark speckles between the antennal sockets and in slightly longer processes of male abdominal tergite IX (Figs. 136, 137; this tergite and its processes in lateral view are very similar to those in Figs. 142, 143). The female is similar to the male in

the habitus; its copulatory complex and ovipositor are shown in Figs. 138, 139.

Prosopogryllacris personata moschi (Griffini, 1908), subsp. dist. (Figs. 140–144)

Material. Indonesia, "Sumatra," "Type," 1 ♂ (holotype) (MNHU); West Sumatra Prov., 20 km E Sasak, near "Harau Valley" National Park, equator, 600 m, primary forest, at night, on a bush leaf in undergrowth, 24–26.XI.1999, 1 ♂ (A. Gorochov) (ZIN); "Soekaranda," 1 ♂ (MIZP), determined (without indication by whom) as *Gryllacris falcata*.

This form was described as a subspecies of *P. personata* from Sumatra, but then synonymized with this species (Karny, 1937). It differs from *P. p. malacca* and *P. p. personata* in the presence of numerous dark, occasionally merging (Fig. 144) speckles on the rostrum (Fig. 140) and also in the processes of male abdominal tergite IX similar to those in the nominotypical subspecies, but with apices not curved medially (Figs. 141–143).

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