

# New and little known Meconematinae of the tribes Meconematini and Phlugidini (Orthoptera: Tettigoniidae)

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9 new genera, 3 new subgenera, and 32 new species of Meconematini and Phlugidini are described. Redescriptions of several little known species (including 12 species from China described by Bey-Bienko) based on type series and additional material, modern data on composition of discussed genera, and new synonymy (*Lucienola* Gurney, 1975 = *Tenuiphugis* Kevan, 1993, syn. n.) are given.

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This paper is based on material of the subfamily Meconematinae in the collections of the Zoological Institute, Russian Academy of Sciences, St.Petersburg [ZIAS], the Institute of Zoology, Academia Sinica, Beijing [IZAS], Museo Nacional de Ciencias Naturales, Madrid [MNCN], and Muzeum i Instytut Zoologii, Polska Akademia Nauk, Warszawa [MIZP].

Tribe MECONEMATINI Burmeister, 1838

Genus **Xiphidiopsis** Redtenbacher, 1891

This genus is divided into 4 subgenera: *Xiphidiopsis* s. str. [*X. fallax* Redtenbacher, 1891 (type species), *X. bituberculata* Ebner, 1939, *X. irregularis* Bey-Bienko, 1962, *X. beybienkoi* Gorochov, 1993, *X. fischerwaldheimi* Gorochov, 1993, *X. ammicola* sp. n., and possibly *X. bifoliata* Shi & Zheng, 1995], *Euxiphidiopsis* Gorochov, 1993 [*X. platycerca* Bey-Bienko, 1962, *X. motshulskyi* Gorochov, 1993 (type species), and possibly *X. gemmicula* Hebard, 1923, *X. aglata* Hebard, 1923, *X. nigrovittata* Bey-Bienko, 1962, *X. eversmanni* Gorochov, 1993, and *X. haudlata* Gorochov, 1994], *Paraxiphidiopsis* Gorochov, 1993 [*X. zubovskyi* Gorochov, 1993 (type species)], and *Dinoxiphidiopsis* Gorochov, 1993 [*X. jacobsoni* Gorochov, 1993 (type species)]. The former subgenus *Zaxiphidiopsis* Gorochov, 1993 must be considered as a distinct genus (Gorochov, 1995: 168). The generic position of many other

species usually included in *Xiphidiopsis* is unclear.

**Xiphidiopsis (Xiphidiopsis) irregularis** Bey-Bienko, 1962  
(Figs 1-4)

*Holotype*. ♂, China, Yunnan, Xiaguan, 4.V.1955 (V. Popov) [IZAS].

*Description*. Male (holotype). The original description (Bey-Bienko, 1962) contains almost sufficient information and needs only a small addition. Size and shape of body as in *X. fallax* and *X. beybienkoi*, but spines of fore and middle tibiae shorter, last abdominal tergite with characteristic hind fold, asymmetrical hind median process of this tergite very long and without spine, left and right cerci very different (Figs 1-4). Coloration uniformly light yellowish (living specimens possibly greenish), without any darkenings. Male genitalia entirely membranous.

Female unknown.

Length. Body 10 mm; body with wings 25 mm; pronotum 4.1 mm; tegmina 21 mm; hind femora 9.7 mm; longest spine of fore tibiae 0.6 mm.

**Xiphidiopsis (Xiphidiopsis) beybienkoi** Gorochov, 1993  
(Figs 5, 6)

*Holotype*. ♂, Vietnam, prov. Gia Lai, 20 km N of Kannack, Buon Luoi, 700-800 m, primary forest, 15.XII.1988 (A. Gorochov) [ZIAS].

*Additional material.* 1 ♀, same data as holotype, but 3-11.XI.1993 (A. Gorochov) [ZIAS]; 15 ♂, 21 ♀, same data as holotype, but 22.III-10.V.1995 (A. Gorochov) [ZIAS].

*Description.* Male. All males more or less correspond to the original description (Gorochov, 1993). It is necessary to add only the presence of small darkish (sometimes almost indistinct) spots on lateral area of tegmina in all specimens including holotype and absence of a pair of small dark spots on apex of hind femora in some specimens. There is a small variability in the shape of the apex of asymmetrical hind median process of last abdominal tergite and in size.

Female (nov.). As male, but without dark spot on dorsal area of tegmina. Very similar to *X. bituberculata* in the shape of genital plate and last abdominal sternite (Figs 5, 6), but distinguished by coloration: the species from South Vietnam with small darkish spots on lateral area of tegmina, the Chinese one without such spots. Ovipositor long, almost straight, with apex as in *X. fallax* (Gorochov, 1993: Fig. 7).

Length. Body: ♂ 13-16 mm, ♀ 12-15 mm; body with wings: ♂ 24-27 mm, ♀ 25-29 mm; pronotum: ♂ 4-4.5 mm, ♀ 4-4.3 mm; tegmina: ♂ 20-21 mm, ♀ 20-22 mm; hind femora: ♂ 11-12 mm, ♀ 11-12.5 mm; longest spine of fore tibiae: ♂ 0.9-1 mm, ♀ 0.9-1 mm; ovipositor 9.5-11.5 mm.

*Note.* The female collected in 1993 has been mentioned as *X. bituberculata* in a recent publication (Gorochov, 1994).

***Xiphidiopsis (Xiphidiopsis) amnicola* sp. n.**  
(Figs 227-232)

*Holotype.* ♂, Cambodia, prov. Rattanakiri, env. of Banlung, forest near river, 1-2.III.1998 (A. Gorochov) [ZIAS].

*Paratype.* ♀, same data as holotype [ZIAS].

*Description.* Male (holotype). Size and shape of body typical of this subgenus. Yellowish with small brownish spots on antennae, distinct brown spot on hind part of stridulatory area, row of numerous small brownish spots along anal edge of tegmina, dark grey spines of fore and middle tibiae, a pair of small, almost black spots (inner and outer) on apex of hind femora, and rather numerous brown upper spines of hind tibiae. Hind wings long, slightly longer than tegmina. Spines of fore and middle tibiae long. Last abdominal tergite with large hind notch; its median edge with very short, slightly asymmetrical unpaired process; hind lateral edge of this notch with paired lobes.

Epiproct slightly sclerotized, triangular, with wide upper and narrow lower parts. Cerci practically symmetrical, with only proximal large process; apex of cerci widened. Genital plate normal, with rather long styles (Figs 227-229). Genitalia membranous.

Female. Similar to male, but apical part of wings greyish, tegmina without distinct brown spot on basal part, tarsi darker (brownish green). Genital plate short, with widened distal part and acute hind median lobe (Figs 230, 231); apex of ovipositor as in Fig. 232.

Length. Body: ♂ 12 mm, ♀ 11 mm; body with wings: ♂ 21.7 mm; ♀ 23 mm; pronotum: ♂ 3.9 mm, ♀ 3.7 mm; tegmina: ♂ 17.5 mm, ♀ 18.3 mm; hind femora: ♂ 10.7 mm, ♀ 10.9 mm; longest spine of fore tibiae: ♂ 0.9 mm, ♀ 0.9 mm; ovipositor 7.5 mm.

*Comparison.* The new species is similar to *X. fischerwaldheimi* in the symmetrical male cerci, but differs in the shorter median process of the last abdominal tergite of male and different shape of male cerci. It can be distinguished from all other species of this subgenus by the the same characters and the peculiarities of the shape of female genital plate.

***Xiphidiopsis (Euxiphidiopsis) platycerca* Bey-Bienko, 1962**  
(Figs 9-11)

*Holotype.* ♂, China, Yunnan, road from Cheli, 1050 m, 26.IV.1957 (Zang Lin-chao) [IZAS].

*Description.* Male (holotype). Similar to *X. motshulskyi* in shape of body and coloration, but slightly larger, dark rings of antennae sparse, tegmina unicolourous, spines of fore and middle tibiae longer, hind median process of last abdominal tergite without large apical inflation (for comparison see Figs 11, 12), lower distal process of cerci larger and more strongly curved than upper one (Fig. 9), genital plate and nearest sclerites very characteristic (Fig. 10).

Female unknown.

Length. Body 15 mm; body with wings 28 mm; pronotum 4.7 mm; tegmina 22.5 mm; hind femora 12.3 mm; longest spine of fore tibiae 1 mm.

***Xiphidiopsis (Euxiphidiopsis?) nigrovittata* Bey-Bienko, 1962**

*Holotype.* ♀, China, Yunnan, mouth of river Nand-inhe, 80 m, 5.VI.1956 (Huang Ke-ren et al.) [IZAS].

**Description.** Female (holotype). Similar to *X. haudlata* in size, shape of body, and coloration (general coloration yellowish, living specimens possibly greenish), but tegmina entirely unicolourous (in *X. haudlata*, tegmina with small, almost indistinct, darkish spots), spines of tibiae (4 inner and 5 outer) slightly shorter, genital plate distinctly shorter and concave in profile (Gorochov, 1994: Figs 3, 4), ovipositor slightly shorter (its apex as in other species of *Euxiphidiopsis*).

Male unknown.

Length. Body 11 mm; body with wings 21.5 mm; pronotum 3.2 mm; tegmina 17.5 mm; hind femora 9.7 mm; longest spine of fore tibiae 0.7 mm; ovipositor 8.7 mm.

***Xiphidiopsis? phetchaburi* sp. n.**

(Figs 13, 14)

**Holotype.** ♀, **Thailand**, prov. *Phetchaburi* (northern Malacca), 50 km SW of Phetchaburi, environs of Nat. park Kaeng Krachan, 400 m, secondary forest, 30.VII-1.VIII.1996 (A. Gorochov) [ZIAS].

**Description.** Female (holotype). Rather small. Greenish with sparse light brown rings of antennae, brownish narrow stripe along anal edge of proximal half of tegmina, 15-16 small distinct brown spots on lateral area of tegmina, and a pair of small dark brown spots on apex of hind femora (other parts of body unicolourous). Shape and structure of body typical of this genus (head normal, hypognathous; apical segment of maxillary palpi very slightly longer than subapical one, both rather long; pronotum with medium-sized hind lobe; tegmina rather long and narrow, slightly shorter than hind wings; cerci short: their length 0.7 mm). Fore and middle tibiae with 4 inner and 5 outer long spines. Genital plate rather wide and short, narrowing to apex; apical part with a pair of very small round lobes (Figs 13, 14). Ovipositor long, almost straight, with apex similar to that of *X. fallax* (Gorochov, 1993: Fig. 7).

Male unknown.

Length. Body 12 mm; body with wings 23 mm; pronotum 3.3 mm; tegmina 18.5 mm; hind femora 10.5 mm; longest spine of fore tibiae 0.9 mm; ovipositor 8 mm.

**Comparison.** The new species is very similar to *X.? lata* B.-Bien. (differences are considered below together with the redescription of the latter species). It is similar also to representatives of the subgenus *Xiphidiopsis*, but differs from all known females in the characteristic genital plate. There is some

similarity with *X.? adelungi* Gor. in the shape of the genital plate (Figs 7, 8), but the new species is distinguished by the less uniform coloration and distinctly longer ovipositor.

***Xiphidiopsis? lata* Bey-Bienko, 1962**

(Figs 15, 16)

**Holotype.** ♀, **China**, **Yunnan**, 30 km SW of Jinping, 500 m, 2.V.1956 (Huang Ke-ren et al.) [IZAS].

**Description.** Female (holotype). Very similar to *X.? phetchaburi* in size, shape of body, and coloration (general coloration yellowish, living specimens possibly greenish), but antennae without any darkenings, tegmina with only 9-11 small, almost indistinct, brownish spots on lateral area, cerci shorter (their length 0.5 mm), genital plate with almost truncated hind edge (median part of this edge with a pair of short and rather wide round lobes) (Figs 15, 16).

Male unknown.

Length. Body 12.5 mm; body with wings 23.5 mm; pronotum 3.5 mm; tegmina 18.5 mm; hind femora 11 mm; longest spine of fore tibiae 0.8 mm; ovipositor 8.5 mm.

***Xiphidiopsis? impressa* Bey-Bienko, 1962**

(Figs 17, 18)

**Holotype.** ♀, **China**, **Yunnan**, environs of Pingbian, 1500 m, at light, 19.VI.1956 (Huang Ke-ren) [IZAS].

**Description.** Female (holotype). Original description (Bey-Bienko, 1962) almost sufficient. Coloration greenish with only sparse light brown rings of antennae, brownish yellow disc of pronotum and stripe along anal edge of proximal half of tegmina, and a pair of dark brown small spots on apex of hind femora. Spines of fore and middle tibiae (4 inner and 5 outer) long. Tegmina long; lengths of tegmina and hind wings almost equal. 8th abdominal tergite with characteristic stretched and curved lower parts, only contacted with 7th abdominal sternite and genital plate; 7th sternite strongly projected backwards, with a pair of long hind processes; genital plate rather long, with almost angular apical part (Figs 17, 18). Ovipositor not very long, slightly (but distinctly) curved; its apex typical of this genus (see Gorochov, 1993: Fig. 23).

Male unknown.

Length. Body 9 mm; body with wings 23 mm; pronotum 3.5 mm; tegmina 19 mm; hind femora 10.8 mm; longest spine of fore tibiae 0.9 mm; ovipositor 7.3 mm.

**Xiphidiopsis? autumnalis** sp. n.  
(Figs 19, 20)

*Holotype.* ♀, Vietnam, prov. Vinh Phu, Tam Dao, 900 m, 21.VIII.1994 (E. Sugonjaev) [ZIAS].

*Description.* Female (holotype). Size and shape of body similar to those of *X.? impressa*. Coloration greenish with brownish short longitudinal stripe along upper part of rostrum of head, a pair of dark brown longitudinal stripes from eyes to lateral parts of hind edge of pronotal disc, yellowish brown hind part of vertex and pronotal disc, light brown stripe along proximal half of anal edge of tegmina and 14-16 small spots on lateral area of tegmina, a pair of small blackish spots on apex of hind femora, and brownish upper spines of hind tibiae (other parts of body unicolourous). Maxillary palpi destroyed. Spines of fore and middle tibiae (4 inner and 5 outer) long. Tegmina long, rather narrow, slightly shorter than hind wings. 8th abdominal tergite similar to that of *X.? impressa*, but practically fused with 7th abdominal sternite; 7th sternite slightly projected backwards, with a pair of short hind processes; genital plate long, with almost truncated apex (Figs 19, 20). Ovipositor similar to that of *X.? impressa*; but slightly shorter and with characteristic longitudinal inflation of lower valvae near their base (Fig. 20).

Male unknown.

Length. Body 12 mm; body with wings 24.5 mm; pronotum 3.8 mm; tegmina 20 mm; hind femora 11.2 mm; longest spine of fore tibiae 0.9 mm; ovipositor 6.8 mm.

*Comparison.* The new species is similar to *X.? impressa* and especially to *X.? gurneyi* Tinkh., but differs from the first species in the coloration and the shape of the 7th abdominal sternite of female, from the second species in the longer and almost truncate female genital plate (this plate in *X.? gurneyi* is with round apical part) (for comparison see Figs 20, 23).

**Xiphidiopsis? vernalis** sp. n.  
(Figs 21, 22)

*Holotype.* ♀, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 17-31.V.1995 (A. Gorochov) [ZIAS].

*Description.* Female (holotype). Similar to *X.? impressa* and *X.? autumnalis*, but larger and with somewhat longer hind part of pronotum. Coloration light brownish yellow with brownish flagellum of antennae, dark

brown inner surface of scapes, upper edge of antennal cavities, upper half of rostrum of head, brown wide longitudinal band from rostrum to hind edge of vertex, a pair of narrow longitudinal stripes on vertex (near inner edges of eyes), disc of pronotum, not wide band along anal edge of tegmina, and 13 small dark spots on lateral area of tegmina (other parts of body including apex of hind femora unicolourous). Apical and subapical segments of maxillary palpi long, of equal length. Spines of fore and middle tibiae (5 outer and 4 inner) long. Tegmina long, not wide, very slightly shorter than hind wings. 8th abdominal tergite with a pair of lateral lobules, fused with 7th abdominal sternite and genital plate; 7th sternite with a pair of short spine-like processes and a pair of small additional tubercles; genital plate with not wide and almost round apical part (Figs 21, 22). Ovipositor more or less similar to that of *X.? autumnalis*, but shorter and with slightly developed longitudinal inflation of lower valvae.

Male unknown.

Length. Body 14 mm; body with wings 26 mm; pronotum 4.5 mm; tegmina 22 mm; hind femora 12.5 mm; longest spine of fore tibiae 0.9 mm; ovipositor 6 mm.

*Comparison.* The species is related to *X.? impressa*, *X.? gurneyi*, and *X.? autumnalis*, but distinguished by the conspicuous coloration (yellow with brown), fusion of 8th abdominal tergite of female with 7th abdominal sternite and genital plate, characteristic shape of these sternites and genital plate, and shorter ovipositor.

**Xiphidiopsis? dissita** sp. n.  
(Figs 233-235)

*Holotype.* ♀, Cambodia, prov. Campot, env. of Sihanoukville [= Kampong Som], forest near sea, 18.II.1998 (A. Gorochov) [ZIAS].

*Description.* Female (holotype). Similar to representatives of the subgenus *Xiphidiopsis* in size, shape of body, and coloration (hind wings long, distinctly longer than tegmina; spines of fore and middle tibiae rather long; coloration uniformly greenish with only light brownish spots on antennae and a pair of small blackish spots on apex of hind femora), but genital plate rather long, with widened proximal part and distinct median notch of hind edge (Figs 233, 234). Apex of ovipositor as in Fig. 235.

Male unknown.

Length. Body 11.2 mm; body with wings 23 mm; pronotum 3.7 mm; tegmina 17.8 mm; hind femora 10.8 mm; longest spine of fore tibiae 0.8 mm; ovipositor 9 mm.

*Comparison.* The new species is slightly similar to *X. ? parallela* B.-Bien. (Figs 98, 99) and *X. ? hwangi* B.-Bien. (Fig. 101) in the shape of the female genital plate, but differs from the first in the unicolourous pronotum and from the second in the narrower hind notch of the female genital plate.

**Xiphidiopsis? parallela** Bey-Bienko, 1962  
(Figs 98-100)

*Holotype.* ♀, China, Yunnan, Ganlanba, 540 m, 17.IV.1957 (Pu Fu-ji) [IZAS].

*Description.* Female (holotype). Original description (Bey-Bienko, 1962) almost sufficiently informative. Appearance more similar to that of the genus *Chandozhinskia* Gor. than to that of *Xiphidiopsis*: rather small, yellow (living specimens possibly greenish), unicolourous with only a pair of narrow light yellowish longitudinal stripes from eyes to lateral parts of hind edge of disc; apical segment of maxillary palpi slightly shorter than subapical one. Distinguished from both by shorter hind lobe of pronotum, very long hind wings (noticeably longer than tegmina), 3 outer and 2 inner rather long spines on middle tibiae, and truncated genital plate (Figs 98, 99). Genital plate more or less similar to that of *X. ? hwangi*, but differing from it in very slightly concave hind edge (for comparison see Figs 98, 101). Apex of ovipositor as in Fig. 100.

Male unknown.

Length. Body 10.5 mm; body with wings 21 mm; pronotum 3.4 mm; tegmina 15.5 mm; hind femora 10.5 mm (fore legs lost); ovipositor 5.7 mm.

**Amytta? sinica** Bey-Bienko, 1957  
(Figs 95-97)

*Holotype.* ♀, China, Yunnan, Kinku, 930 m, 24.IV.1955 (Zhao I) [IZAS].

*Paratype.* China: ♀, Yunnan, Kunming, 1900 m, 20.III.1955 (V. Popov) [ZIAS].

*Description.* Female (holotype). Original description (Bey-Bienko, 1957) almost sufficient. Coloration and shape of body similar to those of *X. ? parallela*, but size noticeably larger, lengths of apical and subapical segments of maxillary palpi practically equal, spines of fore (5 outer, 4 inner) and middle (5 outer, 4-5 inner) tibiae medium-sized, apex

of genital plate with a pair of very short round lobes (Figs 95, 96), and lower valvae of ovipositor with rather long apical hook (Fig. 97).

Variation. Paratype almost identical to holotype including presence of 4 inner spines at left middle tibia and 5 at right one, but pronotal disc with a pair of small brownish spots on central part.

Male unknown.

Length. Body 11.5-12 mm; body with wings 26-27 mm; pronotum 3.9-4.1 mm; tegmina 18-19 mm; hind femora 10-10.5 mm; longest spine of fore tibiae 0.7-0.8 mm; ovipositor 7-7.5 mm.

*Note.* This species was described by Bey-Bienko as a representative of the African genus *Amytta* Karsch. Beier (1966) mistakenly transferred it to the genus *Alloteratura* Heb. [the principal character of *Alloteratura* is "extremely short, conical last segment of the maxillary palpi" (Hebard, 1923) which is much shorter than their 4th segment]. The generic position of this species is unclear.

Genus **Teratura** Redtenbacher, 1891

The genus consists of 3 subgenera: *Teratura* s. str. [*T. monstrosa* Redtenbacher, 1891 (type species), *Xiphidiopsis cincta* Bey-Bienko, 1962, *T. maculata* Ingrisch, 1990, *T. darevskiyi* Gorochov, 1993, and possibly *T. angusi* sp. n.], *Stenoteratura* Gorochov, 1993 [*X. yunnanea* Bey-Bienko, 1957 (type species), *X. kryzhanovskii* Bey-Bienko, 1957, *X. janetscheki* Bey-Bienko, 1968], and *Macroteratura* Gorochov, 1993 [*X. megafurcula* Tinkham, 1944 (type species)].

**Teratura (Teratura) darevskiyi** Gorochov, 1993  
(Figs 24-30)

*Holotype.* ♀, Vietnam, prov. Son La, environs of Song Ma, 400-500 m, secondary forest, 3-14.V.1986 (A. Gorochov) [ZIAS].

*Additional material.* Vietnam: 1 ♂, prov. Gia Lai, 20 km N of Kannack, Buon Luoi, 700-800 m, secondary forest, 26.III.1995 (A. Gorochov) [ZIAS].

*Description.* Male (nov.). Similar to female, but slightly larger, head with distinct greyish brown band from apex of rostrum to hind edge of vertex, disc with distinct greyish brown stripe along hind edge, lateral parts of pterothorax almost entirely dark, abdomen light with brownish spots on proximal tergites and dark brown 2 distal tergites, except for their lower parts. Epiproct rather

large, with 3 short processes, yellowish with darkish base; cerci distinguished from those of *T. monstrosa* and *T. maculata* by the long apical process and absence of basal tubercle (Figs 25-27); genital sclerite as in Fig. 24.

Female (holotype). Original description (Gorochov, 1993) almost sufficient. It is necessary only to note that both sexes with 5 outer and 4 inner spines of fore and middle tibiae, with distinctly curved upwards and practically round apex of tegmina (Fig. 28). Also more exact drawings of genital plate (Figs 29, 30) are given.

Length. Body: ♂ 14 mm, ♀ 13 mm; body with wings: ♂ 29 mm, ♀ 25 mm; pronotum: ♂ 4.7 mm, ♀ 3.5 mm; tegmina: ♂ 23 mm, ♀ 19 mm; hind femora: ♂ 14 mm, ♀ 12 mm; longest spine of fore tibiae: ♂ 0.8 mm, ♀ 0.6 mm; ovipositor 7.6 mm.

**Teratura (Teratura?) angusi sp. n.**  
(Figs 34-36)

*Holotype*. ♀, Malaysia, "Hulu, Perak, Belum Expedition, B. Camp, 5° 30' 07" N, 101° 26' 21" E, IV-VI.1994, leg. Rothamsted light trap" [ZIAS].

*Description*. Female (holotype). Size and shape of body similar to those of *T. darevskyi* and *T. cincta*, but head with slightly shortened rostrum, legs somewhat longer, fore and middle tibiae with not long spines (5 outer and 4 inner at fore tibiae, 5 outer and 5 inner at middle ones), apex of tegmina almost acute and slightly curved upwards (Fig. 34), 9th abdominal tergite with slightly curved lower parts and without any special lobes, 7th abdominal sternite very short, genital plate not long, its base with small convex median lobe, hind edge of this plate noticeably concave (Figs 35, 36), ovipositor with simple acute apical part (without any traces of small hook at apex of lower valvae). Coloration light yellowish (almost whitish) with characteristic ornament: antennae with large, light brown spots on 2 proximal segments and numerous, dark brown, rather wide rings on other segments; upper part of head with 2 pairs of slightly curved, longitudinal brown stripes fused with each other between medial parts of eyes (near base of rostrum) and with brown stripe along upper surface of rostrum; pronotum with brown disc (this brown area slightly narrowing at middle of pronotum and widening at its hind part); fore femora with rather wide brown band before apex; middle femora with dark apex and narrow darkish band before apex; hind femora with 2 small

dark basal spots and larger brownish spot on upper half of middle part, coloration of apical part of hind femora similar to that of middle femora; fore and middle tibiae with darkish spots at proximal part and near base of spines and spurs (these spines and spurs darkened, from brownish to almost black); hind tibiae with darkish proximal and apical parts, their spines and spurs darkened; tarsi with darker upper parts of 2 last segments; tegmina almost transparent with white venation at lower half of proximal part and 28-30 brown or brownish spots on other parts, abdomen with 2 small darkish spots on lower parts of 9th abdominal tergite.

Male unknown.

Length. Body 10.5 mm; body with wings 26 mm; pronotum 3.9 mm; tegmina 19.5 mm; hind femora 13.5 mm; longest spine of fore tibiae 0.7 mm; ovipositor 8.5 mm.

*Comparison*. This species clearly differs from all other species of the genus in the characteristic tegminal apex (see Figs 28, 31, 34), female genital plate (see Figs 29, 30, 32, 33, 35, 36), and coloration (especially dark disc and light lateral lobes of pronotum).

*Etymology*. The species is named after the well known British entomologist R.B. Angus.

**Teratura (Stenoteratura) kryzhanovskii Bey-Bienko, 1957**  
(Figs 37, 38)

*Holotype*. ♀, China, Yunnan, 30 km N of Kingtun, 1400 m, 25.V.1956 (O. Kryzhanovskij) [ZAS].

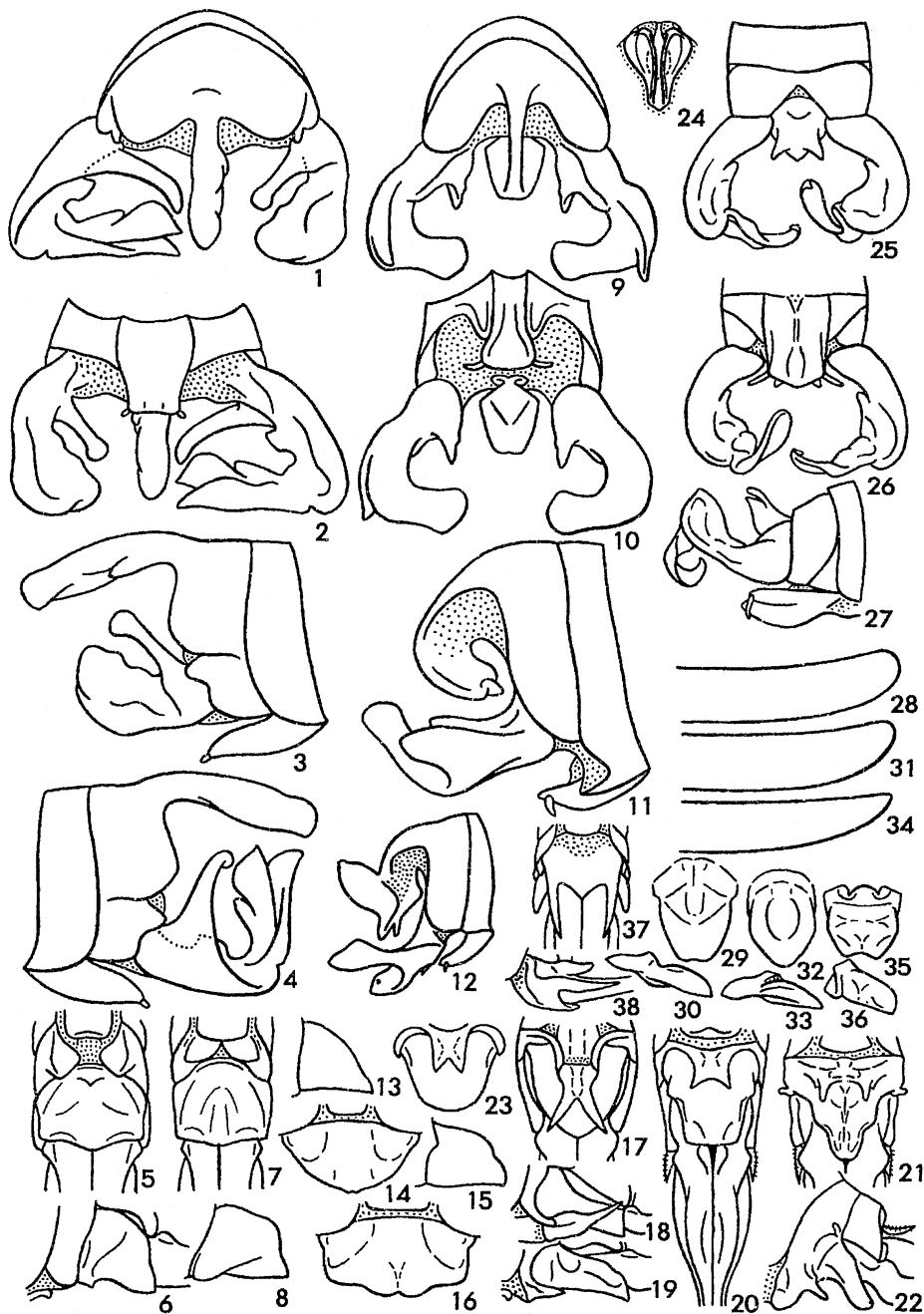
*Description*. Female (holotype). Original description (Bey-Bienko, 1957) almost sufficient. Similar to *T. yunnanea*, but larger, coloration uniformly yellowish (living specimens possibly greenish), spines of fore and middle tibiae (5 outer and 4 inner) rather short, genital plate with very long hind lateral processes (distinctly longer than hind median lobe), ovipositor with rather long lobe at base of lower valvae (Figs 37, 38).

Male unknown.

Length. Body 14.5 mm; body with wings 27 mm; pronotum 4 mm; tegmina 19.5 mm; hind femora 11.7 mm; longest spine of fore tibiae 0.4-0.5 mm; ovipositor 8.3 mm.

**Genus Kuzicus Gorochov, 1993**

Divided into 2 subgenera: *Kuzicus* s. str. [*Teratura suzukii* Matsumura & Shiraki, 1908 (type species), *Xiphidiopsis denticulata* Karny, 1926, *X. cervicercus* Tinkham, 1943, *X. denticuloides* Kevan, 1993, and possibly



**Figs 1-38.** *Xiphidiopsis* and *Teratura*. 1-4, *X. (Xiphidiopsis) irregularis* B.-Bien.; 5, 6, *X. (X.) beybienkoi* Gor.; 7, 8, *X.? adelungi* Gor.; 9-11, *X. (Euxiphidiopsis) platycerca* B.-Bien.; 12, *X. (E.) motshulskyi* Gor.; 13, 14, *X.? phetchaburi* sp. n.; 15, 16, *X.? lata* B.-Bien.; 17, 18, *X.? impressa* B.-Bien.; 19, 20, *X.? autumnalis* sp. n.; 21, 22, *X.? vernalis* sp. n.; 23, *X.? gurneyi* Tinkh.; 24-30, *T. (Teratura) darevskyi* Gor.; 31-33, *T. (T.) cincta* (B.-Bien.); 34-36, *T. (T.) angusi* sp. n.; 37, 38, *T. (Stenoteratura) kryzhanovskii* (B.-Bien.). Abdominal apex of male from above and slightly behind (1, 9, 25), from below (2, 10, 26), and from side (3, 4, 11, 12, 27); abdominal apex (or only genital plate) of female from below (5, 7, 14, 16, 17, 20, 21, 29, 32, 35, 37) and from side (6, 8, 13, 15, 18, 19, 22, 30, 33, 36, 38); male genitalia from above (24); outline of female tegminal apex from side (28, 31, 34).

*X. malabarica* Kevan, 1993] and *Neokuzicus* Gorochov, 1993 [*K. uvarovi* Gorochov, 1993 (type species)]. It is possible that *X. lita* Hebard, 1922 and *X. nepalensis* Kevan, 1993 also belong to this genus as the general shape of their female genital plate is more or less similar to that of all above-mentioned species (Kevan & Jin, 1993a: Figs 3h and 3f; Gorochov, 1993: Figs 59, 72, 80).

#### Genus **Pseudokuzicus** Gorochov, 1993

The genus includes 2 species: *Xiphidiopsis pieli* Tinkham, 1943 and *P. tamdao* sp. n. These species are undoubtedly related, but they are strongly distinguished from each other and possibly belong to different subgenera.

#### **Pseudokuzicus tamdao** sp. n. (Figs 43-46)

*Holotype*. ♂, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 17-31.V.1995 (A. Gorochov) [ZIAS].

*Description*. Male (holotype). Size and shape of body similar to those of *P. pieli*, but rostrum of head with almost indistinct longitudinal median furrow above, pronotum distinctly longer (especially its hind lobe), spines of middle tibiae (3 outer, 2 inner) slightly longer (length of longest spine 0.6 mm, in *P. pieli* 0.5 mm), tegmina with large stridulatory apparatus occupying (including stridulatory areas) almost two-thirds of width of tegmina (in *P. pieli* only slightly wider than half of tegminal width), distal part of tegmina strongly narrowing, tegminal apex distinctly not extending to apex of hind femora, hind wings distinctly not extending to apex of tegmina, last abdominal tergite with almost parallel, long, paired hind processes, cerci with tubercle at middle part, genital plate with narrow distal half and acute apex (Figs 43-45), genitalia with single sclerite bifurcated only at apex (Fig. 46). Coloration light-brown with numerous dark spots; head with almost black large spot in front, blackish labrum and edge of antennal cavities, 4 longitudinal dark brown bands on vertex (rostrum light), slightly darkened palpi, and spotted antennae; pronotum with black longitudinal band on lateral lobes, a pair of small brown lateral spots near fore edge of disc, and almost entirely dark brown hind half of disc; tegmina more or less transparent with numerous brown spots; legs spotted (hind femora with

dark reticular ornament and tibiae with dark distal part); abdomen darkish with light lateral spots, last tergite (except brown hind processes), cerci (except slightly darkened apical parts), and genital plate.

Female unknown.

Length. Body 13.5 mm; body with wings 14.5 mm; pronotum 5.4 mm; tegmina 10 mm; hind femora 10.8 mm (fore legs lost).

*Comparison*. Distinctions from *P. pieli* are given above (for comparison see also Figs 39-46).

#### Genus **Xizicus** Gorochov, 1993

The genus consists of 2 subgenera: *Xizicus* s. str. [*Xiphidiopsis fascipes* Bey-Bienko, 1955 (type species), *Xizicus proximus* sp. n.] and *Eoxizicus* Gorochov, 1993 [*Xiphidiopsis kulingensis* Tinkham, 1943 (type species), *X. kweichowensis* Tinkham, 1944, *X. rehni* Tinkham, 1956, *X. howardi* Tinkham, 1956, *X. biloba* Bey-Bienko, 1962, *X. tinkhami* Bey-Bienko, 1962, *X. coreana* Bey-Bienko, 1971, *X. megalobata* Xia & Liu, 1988, *X. meridiana* Xia & Liu, 1988, *X. juxtafurca* Xia & Liu, 1988, *Xizicus tam* sp. n., *X. dao* sp. n., *X. duplura* sp. n., and possibly *Xiphidiopsis transversa* Tinkham, 1944, *Xizicus ikonnikovi* Gorochov, 1993, *X. khaosoki* sp. n., and *X. danangi* sp. n.].

#### **Xizicus (Xizicus) fascipes** (Bey-Bienko, 1955) (Figs 47-49)

*Holotype*. ♂, China, Sichuan, "Mt. Omei, 11.IX. 1938, C.S. Tsi" [ZAS].

*Paratype*. ♀, same data as holotype, but 21.IX. 1938 [ZIAS].

*Description*. Male (holotype). Original description (Bey-Bienko, 1955) contains almost sufficient information. Spines of fore tibiae (5 outer, 4 inner) long; tegmina very long, very slightly shorter than hind wings. Hind curved processes of last abdominal tergite rather small and closely contacting with each other; cerci short, with rather long lower apical process and round basal medial convexity; genital plate with more or less long styles (Figs 47-49). Genitalia membranous; contrary to previous statement (Gorochov, 1993), with practically non-sclerotized apex. Coloration brown, spotted; head brown with light brown postclypeus and a pair of short longitudinal stripes behind eyes; antennae light brown with dark proximal part; lateral lobes of pronotum very light brown; pronotal disc brown with dark



brown lateral longitudinal bands; tegmina and apex of hind wings brownish with several indistinct darkish and lightish spots on proximal part of tegmina; fore legs dark brown with somewhat lighter middle part of tibiae (middle legs lost); hind femora very light brown with small brown spot at base, large dark brown spot at middle part (not far from base), brownish apical part and lower surface of distal half; hind tibiae and tarsi brown with somewhat lighter proximal half of tibiae (except base); pterothorax and distal abdominal tergites brown; other abdominal tergites, abdominal sternites, cerci and genital plate light brown.

Female. As male, but head with a pair of additional lightish spots between eyes, hind tibiae light brown with darkish base and apical part, distal abdominal tergites only slightly darkened. Spines and coloration of middle legs as those of fore legs, but femora with lightish middle part. Shape of genital plate rather simple; ovipositor almost straight; its apex typical of this genus (Gorochov, 1993: Figs 104-106).

Length. Body: ♂ 10 mm, ♀ 9.5 mm; body with wings: ♂ 20 mm, ♀ 21.5 mm; pronotum: ♂ 3.7 mm, ♀ 3.6 mm; tegmina: ♂ 16 mm, ♀ 17.5 mm; hind femora: ♂ 10.6 mm, ♀ 12 mm; longest spine of fore tibiae: ♂ 0.9 mm, ♀ 0.9 mm; ovipositor 9 mm.

***Xizicus (Xizicus) proximus* sp. n.**  
(Figs 50-52)

*Holotype*. ♂, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 1-11.VI.1995 (imago 28.VI.1995) (A. Gorochov) [ZIAS].

*Paratypes*. 7 nymphs, same data as holotype, but 12.VI.1994 (E. Sugonjaev), 17.V-11.VI.1995 (A. Gorochov), and 15.V-5.VII.1997 (N. Orlov) [ZIAS].

*Description*. Male (holotype). Very similar to *X. fascipes*, but brown parts of head very dark, base of antennae black, palpi rather light, lateral lobes of pronotum with darkish lower border, disc dark brown with brown hind part, lengths of tegmina and hind wings practically equal, distal half of tegmina and apex of hind wings dark grey, proximal half of tegmina with distinct dark spots and whitish grey area, brown parts of legs darker (sometimes almost black), hind curved processes of last abdominal tergite distinctly larger, lower apical process of cerci short and provided with additional small angular lobe at lower surface of its base, upper apical process of cerci darkened, cercal base with acute medial tubercle, styles of genital plate shorter (Figs 50-52).

Female unknown.

Length. Body 10.5 mm; body with wings 21.5 mm; pronotum 3.6 mm; tegmina 18 mm; hind femora 11.2 mm; longest spine of fore tibiae 0.9 mm.

*Comparison*. Distinctions from *X. fascipes* are mentioned above.

***Xizicus (Eoxizicus) biloba* (Bey-Bienko, 1962)**  
(Figs 55-59)

*Holotype*. ♂, China, Yunnan, Xiaomengyang, 1000 m, 6.V.1957 (Wang Shu-yong) [ZIAS].

*Paratypes*. China, Yunnan: 2 ♀, environs of Cheli, 560-650 m, 7-26.IV.1957 (D. Panfilov, Liu Da-hua) [ZIAS, IZAS].

*Description*. Male (holotype). Typical medium-sized *Eoxizicus*, but uniformly yellowish (living specimens possibly greenish), except for a pair of small dark spots on apex of hind femora, almost indistinct, sparse darkish rings of antennal flagellum, and several brownish spots on tegmina. Spines of fore and middle tibiae (5 outer, 4 inner) long; tegmina slightly shorter than hind wings. Last abdominal tergite with medium-sized hind lobes; distance between them small; cerci with 2 rather large apical processes (as in the subgenus *Xizicus*) and large proximal medial lobe (as in all species of the subgenus *Eoxizicus*) with characteristic acute apex (Figs 57-59).

Female. As male, but tegmina with more or less distinct brownish stripe along proximal part of anal edge. Genital plate similar to that of *X. ikonnikovi*, but with distinctly narrowed middle part and more strongly curved upper edge in profile (for comparison see Figs 53-56). Ovipositor as in most species of this subgenus.

Length. Body: ♂ 11.5 mm, ♀ 12-13 mm; body with wings: ♂ 25 mm, ♀ 26-27 mm; pronotum: ♂ 4.2 mm, ♀ 4 mm; tegmina: ♂ 20 mm, ♀ 21-22 mm; hind femora: ♂ 10.8 mm, ♀ 11.2-11.7 mm; longest spine of fore tibiae: ♂ 0.9 mm, ♀ 0.8-0.9 mm; ovipositor 9.5-11 mm.

***Xizicus (Eoxizicus) tam* sp. n.**  
(Figs 64-68)

*Holotype*. ♂, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 17-31.V.1995 (A. Gorochov) [ZIAS].

*Paratypes*. 2 ♂, 6 ♀, same data as holotype [ZIAS].

*Description*. Male (holotype). Typical medium-sized *Eoxizicus*. Coloration light green with sparse brown rings of antennal flagellum, brownish apex of palpi, 2 pairs of short

of brownish (slightly distinct) stripes along lateral edges of disc, brownish spot near distal part of tegminal stridulatory apparatus, numerous almost indistinct small darkish spots on distal half of tegmina, a pair of small dark spots on apex of hind femora, dark spines and apex of hind tibiae, and slightly darkened 3rd segment of tarsi. Spines of fore and middle tibiae as in *X. biloba*. Last abdominal tergite with strongly reduced hind lobes; distance between them very small; cerci long, with sloping proximal medial lobe and small upper medial lobe which maybe corresponds to medial apical cercal process of *X. biloba* (Figs 66-68).

Variation. Pronotum and tegmina of one of paratypes almost unicolourous. Tegmina of another paratype with additional light brownish stripe along anal edge.

Female. As male, but without brownish spot at proximal part of tegmina. Genital plate as in Figs 64, 65, large, more or less flattened. Ovipositor typical of this genus.

Length. Body: ♂ 13-14 mm, ♀ 14-16 mm; body with wings: ♂ 24-26 mm, ♀ 27-30 mm; pronotum: ♂ 4.5-5 mm, ♀ 4.5-5 mm; tegmina: ♂ 19.5-21.5 mm, ♀ 23-24 mm; hind femora: ♂ 11.2-12.5 mm, ♀ 13-14.5 mm; longest spine of fore tibiae: ♂ 1-1.1 mm, ♀ 1.1-1.2 mm; ovipositor 12.5-14 mm.

*Comparison.* Clearly differs from all other species in the strongly reduced hind lobes of the male last abdominal tergite, characteristic shape of male cerci and female genital plate.

***Xizicus (Eoxizicus) dao* sp. n.**  
(Figs 69-74)

*Holotype.* ♀, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 1-11.VI.1995 (A. Gorochov) [ZIAS].

*Paratypes.* 7 ♂, 9 ♀, same data as holotype, but 17.V-11.VI.1995 [ZIAS].

*Description.* Female (holotype). Similar to *X. tam*, but large, head (including antennae and palpi) unicolourous, stripes along lateral edges of pronotal disc blackish, tegmina with narrow dark stripe along anal edge and indistinct, slightly darkish, small spots on distal half, spines of fore and middle legs shorter, tarsi and apex of hind femora almost unicolourous, genital plate with 3 high keels: hind transverse and a pair of lateral longitudinal (Figs 69, 70).

Variation. Pronotum sometimes with almost interrupted (in middle part) blackish stripes and yellow disc between them.

Male. As female, but with transparent stridulatory areas of tegmina. Last abdominal tergite with medium-sized hind lobes; distance between them rather great; cerci rather long, curved upwards (this bend almost angular in profile), with characteristic medial edge (Figs 71-74).

Length. Body: ♂ 16-18 mm, ♀ 16-17 mm; body with wings: ♂ 31-33 mm, ♀ 32-34 mm; pronotum: ♂ 5.2-5.8 mm, ♀ 5.2-5.6 mm; tegmina: ♂ 25-27 mm, ♀ 26-27 mm; hind femora: ♂ 13-14 mm, ♀ 13.5-14.5 mm; longest spine of fore tibiae: ♂ 0.7 mm, ♀ 0.7 mm; ovipositor 14-15 mm.

*Comparison.* The new species differs from all other species of the subgenus in the large size, great distance between hind lobes of the last abdominal tergite of male, characteristic male cerci, and presence of high keels on the female genital plate.

***Xizicus (Eoxizicus) duplum* sp. n.**  
(Figs 75-79)

*Holotype.* ♀, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 17-31.V.1995 (A. Gorochov) [ZIAS].

*Paratypes.* 1 ♂, 3 ♀, same data as holotype, but 20-21.VIII.1994 (collector unknown) [ZIAS].

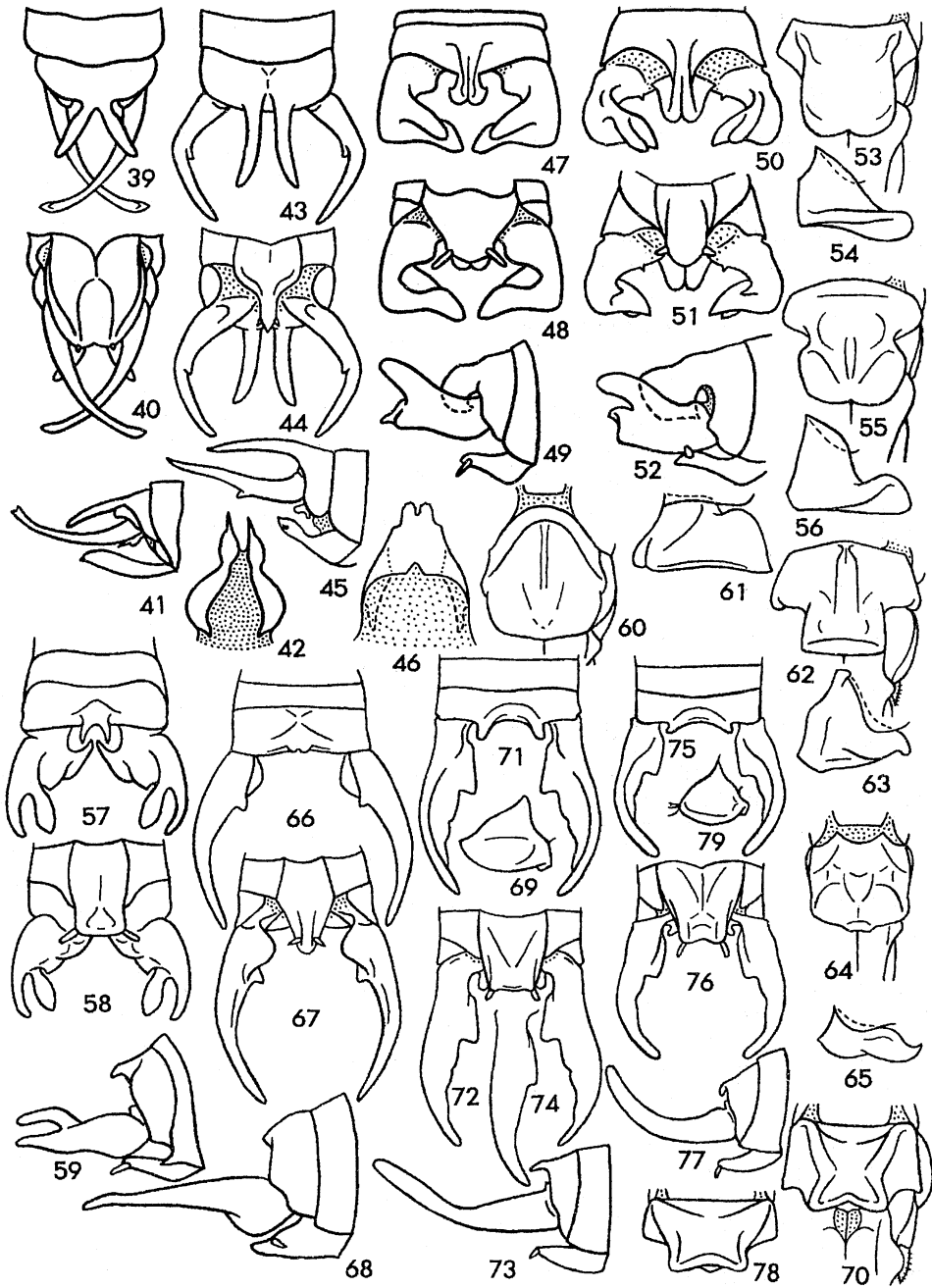
*Description.* Female (holotype). Very similar to *X. dao*, but slightly smaller, stripes along lateral edges of pronotal disc less distinct (brownish) at fore and middle part and clearly distinct (brown) at hind part, pronotum between these stripes yellowish, tegmina practically uniformly greenish, genital plate distinctly shorter (Figs 78, 79).

Variation. Sometimes pronotum with distinct (brownish) stripes only along lateral edges of hind part of disc.

Male. As female, but with almost greenish disc between brownish lateral stripes. Distinguished from *X. dao* only in somewhat smaller hind lobes of last abdominal tergite and slightly smaller cerci arched in profile (Figs 75-77).

Length. Body: ♂ 15 mm, ♀ 14-16 mm; body with wings: ♂ 29 mm, ♀ 29-30 mm; pronotum: ♂ 5.2 mm, ♀ 4.8-4.9 mm; tegmina: ♂ 23 mm, ♀ 23-24 mm; hind femora: ♂ 11.8 mm, ♀ 12-12.5 mm; longest spine of fore tibiae: ♂ 0.6 mm, ♀ 0.7 mm; ovipositor 14.5-15 mm.

*Comparison.* Distinctions from *X. dao* are given above. From all other species of the genus, *X. duplum* differs in the same characters as *X. dao*.



Figs 39-79. *Pseudokuzicus* and *Xizicus*. 39-42, *P. pieli* (Tinkh.); 43-46, *P. tamdao* sp. n.; 47-49, *X. (Xizicus) fascipes* (B.-Bien.); 50-52, *X. (X.) proximus* sp. n.; 53, 54, *X. (Eoxizicus) ikonnikovi* Gor.; 55-59, *X. (E.) biloba* (B.-Bien.); 60, 61, *X. (E.) khaosoki* sp. n.; 62, 63, *X. (E.) danangi* sp. n.; 64-68, *X. (E.) tam* sp. n.; 69-74, *X. (E.) dao* sp. n.; 75-79, *X. (E.) duplum* sp. n. Abdominal apex of male from above (39, 43, 47, 50, 57, 66, 71, 75), from below (40, 44, 48, 51, 58, 67, 72, 76), and from side (41, 45, 49, 52, 59, 68, 73, 77); male genitalia from above (42, 46); abdominal apex (or only genital plate) of female from below (53, 55, 60, 62, 64, 70, 78) and from side (54, 56, 61, 63, 65, 69, 79).

**Xizicus (Eoxizicus) kaosoki** sp. n.

(Figs 60, 61)

*Holotype*. ♀, Thailand, prov. Surat Thani (central Malacca), 40 km WSW of Phanom, environs of Nat. park Khao Sok, primary forest, 20-29.VII.1996 (A. Gorochov) [ZIAS].

*Description*. Female (holotype). Typical medium-sized *Eoxizicus*, but almost uniformly light green (only antennae with sparse slightly darkened rings, tegmina with narrow brownish stripe along anal edge and several slightly darkish dots on distal part, apex of hind femora with a pair of very small blackish spots). Spines of fore (5 outer, 4 inner) and middle (5 outer, 4-5 inner) tibiae rather long. Genital plate almost round, with rather high distal part in profile (Fig. 61) and slightly distinct median keel at proximal half (Fig. 60). Ovipositor typical of this genus.

Male unknown.

Length. Body 15 mm; body with wings 26 mm; pronotum 4 mm; tegmina 21 mm; hind femora 10.7 mm; longest spine of fore tibiae 0.9 mm; ovipositor 9 mm.

*Comparison*. The species is similar to *X. biloba* in the uniformly coloured pronotum, but clearly differs from it and all other species of this genus in the characteristic female genital plate with high distal part in profile (for comparison see Figs 53, 54, 55, 56, 60-65, 69, 70, 78, 79).

**Xizicus (Eoxizicus) danangi** sp. n.

(Figs 62, 63)

*Holotype*. ♀, Vietnam, prov. Quang Nam Da Nang, mountain pass near Danang, 800 m (?), 20.III.1995 (A. Gorochov) [ZIAS].

*Description*. Female (holotype). Similar to *X. duplum*, but stripes along lateral edge of pronotal disc distinct (brown) only near fore or hind pronotal edges and almost indistinct (brownish) at remainder of pronotum, tegmina with brownish narrow stripe along proximal and middle part of anal edge, genital plate with only 2 keels: hind transverse and median longitudinal (distal half of this plate distinctly narrower than proximal one) (Figs 62, 63).

Male unknown.

Length. Body 15 mm; body with wings 32 mm; pronotum 4.7 mm; tegmina 26 mm; hind femora 13.2 mm; longest spine of fore tibiae 0.6 mm; ovipositor 12 mm.

*Comparison*. The new species differs from other species of this genus in the coloration

and shape of female genital plate characterized by the presence of 2 keels and great difference between widths of proximal and distal halves.

**Genus Decma** Gorochov, 1993

The genus contains 2 subgenera: *Decma* s. str. [*Xiphidiopsis inversa* Karny, 1907, *X. bolivari* Karny, 1924, *X. fissa* Xia & Liu, 1992, *D. stshelkanovtzevi* Gorochov, 1993 (type species), *D. miramae* Gorochov, 1993, *D. predtetsshenskyi* Gorochov, 1993, *Al-loteratura mesembrina* Kevan, 1993, *D. thai* sp. n.] and *Idiodesma* Gorochov, 1993 [*Xiphidiopsis birmanica* Bey-Bienko, 1971 (type species) and possibly *D. improvisum* Gorochov & Kostia, 1994].

**Decma (Decma) thai** sp. n.

(Figs 80-83)

*Holotype*. ♂, Thailand, prov. Surat Thani (central Malacca), 40 km WSW of Phanom, environs of Nat. park Khao Sok, primary forest, 20-29.VII.1996 (A. Gorochov) [ZIAS].

*Description*. Male (holotype). Rather small, light greenish with very light yellowish stripes along lateral edges of pronotal disc. Fore and middle tibiae with 5 outer and 4 inner spines (except spurs); tegmina long, but distinctly shorter than hind wings. Last abdominal tergite with a pair of very short hind lobes; these lobes rather widely spaced [structure of this tergite intermediate between that of *D. mesembrinum* (hind lobes large) and other known species of this subgenus (hind lobes practically absent)]; cerci with rather narrow distal part and strongly arched long medial process (Figs 80-82). Genitalia with long sclerite provided with a pair of strongly curved narrow apical processes (Fig. 83).

Female unknown.

Length. Body 10.5 mm; body with wings 19 mm; pronotum 3.2 mm; tegmina 14.5 mm; hind femora 9.6 mm; longest spine of fore tibiae 0.5 mm.

*Comparison*. The species differs from *D. stshelkanovtzevi* and *D. miramae* in the shape of the sclerite of the male genitalia (this sclerite is distinctly longer and with strongly curved apical processes; for comparison see Figs 83-85), from *D. bolivari* in the distinctly longer medial process of male cerci, from *D. inversum* in the narrow distal part of male cerci, from *D. mesembrinum* in the smaller hind lobes of the last male abdominal ter-

gite, from *D. fissum* in the regularly arched medial process of male cerci (without apical hook), and from *D. predtetshenskyi* in the greenish coloration.

#### Genus **Tamdaora** gen. n.

Type species *Tamdaora magnifica* sp. n.

*Description.* Rather large. Head hypognathous, slightly conical; rostrum conical; palpi very long; their apical segment slightly longer than subapical one. Pronotum not very long, with distinct humeral notch between lateral and hind lobes; hind lobe of pronotum short, distinctly shorter than half of pronotal length; lower part of pronotal lateral lobe almost straight. Legs long, with normal spines and spurs of tibiae (femora without them); inner and outer tympana open, medium-sized. Tegmina very long and rather narrow, with normal venation; male stridulatory apparatus developed. Hind wings distinctly longer than tegmina. Last abdominal tergite of male without lobes or processes; male cerci rather simple, with only 2 medial projections; male epiproct very complicated, sclerotized, with a pair of long upper and a pair of very long lower processes (Figs 86-89). Male genital plate normal, with styles; male genitalia entirely membranous.

*Included species:* type species only.

*Comparison.* The new genus is slightly similar to *Teratura* in the complicated male epiproct, but distinguished by the last abdominal tergite of male without deep notch and entirely membranous male genitalia.

#### **Tamdaora magnifica** sp. n. (Figs 86-89)

*Holotype.* ♂, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 1-11.VI.1995 (A. Gorochoy) [ZIAS].

*Description.* Male (holotype). Head (including palpi) yellowish green with light brown, rather narrow triangle between apex of rostrum and hind part of vertex; antennae rather thick, light brown with yellowish external half of scape. Pronotum yellowish green, but with very light stripes along lateral edges of disc and light brown longitudinal band between these stripes. Legs long, uniformly yellowish green; fore tibiae with long spines (5 outer, 4 inner); spines of middle tibiae (5 outer, 5 inner) somewhat shorter. Tegmina greenish with light brownish stripe along anal edge, yellowish veins of proximal half of lateral area, and

numerous brownish spots between veinlets of anal part of distal half. Abdomen light with darkish epiproct and slightly darkened genital plate. Shape of last abdominal tergite, cerci, and epiproct as in Figs 86-89. Genital plate with rather long and thin styles.

Female unknown.

Length. Body 16.5 mm; body with wings 35 mm; pronotum 5 mm; tegmina 28 mm; hind femora 17 mm; longest spine of fore tibiae 1.4 mm.

#### Genus **Axizicus** gen. n.

Type species *Axizicus sergeji* sp. n.

*Description.* Medium-sized. Head hypognathous, slightly conical; rostrum slightly flattened, with slight median furrow above; palpi rather long; lengths of their apical and subapical segments equal. Pronotum not very long, with distinct humeral notch between lateral and hind lobes; hind lobe of pronotum indistinctly shorter than half of pronotal length; lower part of pronotal lateral lobe almost angular. Legs medium-sized, with normal spines and spurs of tibiae (femora without them); inner and outer tympana open, medium-sized. Tegmina long; their shape normal and venation typical of this tribe; male stridulatory apparatus developed. Hind wings distinctly longer than tegmina. Last abdominal tergite of male without lobes or processes, isolated from simple small epiproct (invisible from above) by rather wide transverse membranous area; male cerci simple, only with flattened apical part (Figs 90-92). Genital plate normal, with styles; male genitalia entirely membranous.

*Included species:* type species, *Xiphidiopsis spathulata* Tinkham, 1944 and possibly *X. appendiculata* Tinkham, 1944, *X. incisa* Xia & Liu, 1988, *X. maculata* Xia & Liu, 1992, *Alloteratura andamanensis* Kevan, 1993, and *A. simplicicercis* Kevan, 1993.

*Comparison.* The new genus is similar to *Nipponomeconema* Yamasaki, 1983, but differs from it in the presence of humeral notch of pronotum, long wings (shortened in *Nipponomeconema*), and flattened apical part of male cerci.

#### **Axizicus sergeji** sp. n. (Figs 90-92)

*Holotype.* ♂, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 17-31.V.1995 (A. Gorochoy) [ZIAS].

**Description.** Male (holotype). Greenish with rather indistinctly spotted antennae, yellowish pronotal disc, brownish stripes along its lateral edges (these stripes slight and interrupted, except for very dark and slightly curved hind parts; light part of disc between them distinctly narrowing to hind edge), light brown narrow stripe along anal edge of tegmina (other areas of tegmina unicolourous), and darkish spines of hind tibiae (apex of hind femora practically without darkenings). Fore and middle tibiae with 5 outer and 4 inner spines (except spurs). Cerci rather short, arched from above; genital plate with small styles (Figs 90-92).

Female unknown.

**Length.** Body 13 mm; body with wings 25.5 mm; pronotum 4.4 mm; tegmina 20 mm; hind femora 10.3 mm; longest spine of fore tibiae 0.5 mm.

**Comparison.** The species is similar to *A. spathulatus*, but the head and tegmina more uniformly coloured, male cerci arched, and styles of male genital plate smaller.

**Etymology.** The species is named in honour of the Russian entomologist Sergej A. Belokobylskij.

#### Genus **Indokuzicus** gen. n.

Type species *Xiphidiopsis militaris* Bolivar, 1899.

**Description.** Medium-sized. Head hypognathous, slightly conical; palpi normal (their apical segment not shortened), rather long. Pronotum with more or less long hind lobe. Legs with normal spines and spurs of tibiae (femora without them); inner and outer tympana open. Wings normal, rather long; male stridulatory apparatus developed. Last abdominal tergite of male with wide and not long hind lobe; distal part of this lobe almost truncated; male cerci arched in profile, with thin lateral process at middle part and numerous shorter projections; male genital plate with distinct longitudinal median concavity and strongly curved apex, but without styles; male genitalia with very large sclerite provided with a pair of denticulated areas at upper part and a pair of slightly curved processes at lower part (Figs 93, 94).

**Included species:** type species only.

**Comparison.** The new genus is similar to *Kuzicus* in the general shape of body and presence of a rather complicated sclerite of male genitalia, but differs from it in the not bifurcated, truncated hind lobe of the male last abdominal tergite, very large size, and characteristic shape of male genital sclerite.

#### Genus **Anepitacta** Brunner-Wattenwyl, 1891

This genus is divided into 2 subgenera: *Anepitacta* s. str. [*A. inconspicua* Brunner-Wattenwyl, 1891 (type species), *A. egestosa* Karsch, 1893, *A. bicaudata* Beier, 1965, *A. egestoides* Beier, 1967, *A. gaillardi* Roy, 1967, *A. guentheri* Gorochov, 1994, and possibly *A. guineensis* Beier, 1965] and *Teratacta* Gorochov, 1993 [*A. nigerica* Beier, 1965, *A. katangica* Beier, 1965, *A. olsufievi* Gorochov, 1993 (type species)]. The generic position of *A. scrofina* Beier, 1965 included by Beier (1965, 1966) in this genus is unclear as it is characterized by the male abdominal tergite without paired large hind processes and simple shape of male cerci.

#### Genus **Thaumaspis** Bolivar, 1900

The genus consists of 3 subgenera: *Thaumaspis* s. str. [*Thaumaspis trigonura* Bolivar, 1900 (type species), *Th. montana* Bey-Bienko, 1957, *Th. castetsi* Gorochov, 1993, and possibly *Xiphidiopsis yachowensis* Tinkham, 1944], *Isothaumaspis* Gorochov, 1993 [*Thaumaspis forcipata* Bolivar, 1900 (type species)], *Pseudothaumaspis* subgen. n. [*Th. gialaiensis* sp. n. (type species) and possibly *Th. longipes* Bolivar, 1900].

#### **Thaumaspis (Thaumaspis) montana** Bey-Bienko, 1957

(Figs 102, 103)

**Holotype.** ♀, China, Yunnan, E of Tenchung, Mts. Gaoligunshan, 2300 m, 10.V.1955 (Xue Yui-fyn) [IZAS].

**Description.** Female (holotype). Original description (Bey-Bienko, 1957) almost sufficient. Coloration yellowish (living specimens possibly greenish), entirely uniform. Head slightly opisthognathous; rostrum of head normal, conical; apical segment of maxillary palpi slightly longer than subapical one. Lateral lobes of pronotum rather low, with almost indistinct bend of lower part; tegmina strongly shortened, with apex more obliquely truncated than in all other species of this subgenus (Fig. 103). Fore tibiae with 3 inner and 2 outer spines; middle tibiae with 3 outer and 1 inner spines; all these spines and spurs short. Genital plate rather short; its shape as in Fig. 102. Ovipositor slightly curved upwards; its apex similar to that of *Th. trigonura* (Gorochov, 1993: Fig. 176).

Male unknown.

Length. Body 9.5 mm; pronotum 3.7 mm; tegmina 3.2 mm; hind femora 8.5 mm; longest spine of fore tibiae 0.5 mm; ovipositor 7.5 mm.

Subgenus **Pseudothausaspis** subgen. n.

Type species *Thausaspis gialaiensis* sp. n.

**Description.** Pronotum medium-sized, more or less similar to that of the subgenus *Thausaspis*, distinctly shorter than in *Isothausaspis*. Tegmina with round (non-truncated) apex. Last abdominal tergite of male without any lobes or processes at upper part, but with rather long and narrow, heavily sclerotized arms at lower part; these arms directed towards median line and connected with lateral parts of membranous genitalia; male epiproct rather large and visible from above; male cerci short, with complicated apical part (Figs 105-109).

**Included species:** type species and possibly *Th. longipes* Bolivar, 1900.

**Comparison.** The new subgenus differs from both other subgenera in the shape of tegminal apex, complicated apical part of the male cerci, and presence of characteristic sclerotized arms at lower part of the male last abdominal tergite.

**Thausaspis (Pseudothausaspis) gialaiensis** sp. n.  
(Figs 104-109)

**Holotype.** ♂, Vietnam, prov. Gia Lai, 20 km N of Kannack, Buon Luoi, 700-800 m, primary forest, 27. IV.1995 (A. Gorochov) [ZIAS].

**Paratypes.** 4 ♂, 4 ♀, same data as holotype, but 24.IV-1.V.1995 [ZIAS].

**Description.** Male (holotype). Yellowish green, almost unicolorous, but antennal flagellum with numerous brown rings, third segment of fore tarsi with small brown spots, 3 proximal segments of middle and hind tarsi brownish, spines and apical part of hind tibiae darkened also. Head almost hypognathous, with short conical rostrum provided with upper longitudinal furrow; palpi long; apical segment of maxillary palpi slightly longer than subapical one. Pronotum with distinct bend of lower part of lateral lobes and rather short round (from above) hind lobe. Legs very long; fore tibiae with 4-5 outer and 3 inner short spines; middle tibiae with 3-4 outer and 2-3 inner short spines; apex of hind femora with a pair of small acute projections. Tegmina extending to apex of 4th abdominal tergite, semi-trans-

parent with very light veins at proximal part of lateral area; stridulatory apparatus large; region of stridulatory areas clearly longer than half of tegmina. Last abdominal tergite simple, but slightly inflated; epiproct rather simple also; cerci with 3 apical processes: short hind lateral, rather long upper medial, and medium-sized lower (Figs 106-109). Genital plate rather short and with more or less long styles (Fig. 107); genitalia with very small, slightly sclerotized apical projection (Fig. 105).

**Variation.** Paired small acute apical projections of hind femora from light to dark brown.

**Female.** As male, but tegmina extending only to apex of 2nd abdominal tergite and their venation somewhat simplified. Genital plate as in Fig. 104, with hind edge curved downwards. Ovipositor slightly more arched than in *Th. montana*; its apex similar to that of *Th. montana* and *Th. trigonura*.

**Length.** Body: ♂ 13-14 mm, ♀ 12-13 mm; pronotum: ♂ 4.2-4.5 mm, ♀ 4-4.2 mm; tegmina: ♂ 4-4.5 mm, ♀ 3 mm; hind femora: ♂ 13.5-14 mm, ♀ 14-15 mm; longest spine of fore tibiae: ♂ 0.4 mm, ♀ 0.4 mm; ovipositor 5.8-6 mm.

**Comparison.** The new species differs from *Th. longipes* in the shape of the female genital plate, the hind edge of which is almost angular and curved downwards.

Genus **Nicephora** Bolivar, 1900

The genus contains 3 subgenera: *Nicephora* s. str. [*N. trigonidioides* Bolivar, 1900 (type species), *N. subulata* Bolivar, 1900, *N. mazerani* Bolivar, 1900], *Dianicephora* Gorochov, 1993 [*N. mirabilis* Bolivar, 1900 (type species)], and *Eunicephora* subgen. n. [*N. ulla* sp. n. (type species)].

Subgenus **Eunicephora** subgen. n.

Type species *Nicephora ulla* sp. n.

**Description.** Pronotum long and rather low; its hind lobe very long; humeral notch between this lobe and lateral lobe absent. Wings shortened. Spines of fore and middle tibiae long. Male last abdominal tergite simple, without hind notch or any lobes; male cerci similar to those of the subgenus *Nicephora*, but their upper medial process not bifurcated, lower medial denticulated process short, and long distal part with distinctly curved apex (Figs 110-112). Male

genitalia with 3 sclerites: apical and a pair of lateral (Fig. 113).

*Included species:* type species only.

*Comparison.* This subgenus is similar to *Dianicephora* in the long pronotum, but distinguished by the structure of the male cerci and presence of 3 sclerites in the male genitalia. It differs from *Nicephora* s. str. in the longer pronotum, simple male last abdominal tergite, and number of sclerites in the male genitalia.

***Nicephora (Eunicephora) ulla* sp. n.**

(Figs 110-113)

*Holotype.* ♂, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 1-11.VI.1995 (A. Gorochov) [ZIAS].

*Paratypes.* 3 ♂, same data as holotype [ZIAS].

*Description.* Male (holotype). Light brownish with dark brown upper part of head (except rostrum and longitudinal median line), darkish apical part of palpi, almost indistinct darkish spots on base of antennae and sparse dark rings of antennal flagellum, brown fore half of disc and dark brown hind part of pronotum (there is a light area between these darkenings), darkish spots at base of tibiae, darkened apical part of hind femora and tibiae, dark spines of fore and middle tibiae, darkish 2nd and 3rd segments of fore and middle tarsi, darkish hind tarsi (except last segment), rather numerous brownish spots on antennae, darkish abdominal tergites (last tergite and cerci very dark), greenish abdominal sternites and genital plate. Head slightly conical, with not long rostrum provided with upper longitudinal furrow; palpi long; apical segment of maxillary palpi slightly longer than subapical one. Tegmina extending to base of cerci, strongly narrowing to round apex; stridulatory apparatus entirely covered by hind lobe of pronotum. Fore tibiae with 4 pairs of spines; middle tibiae with 5 outer and 4 inner spines. Abdominal apex as in Figs 110-112; genitalia as in Fig. 113.

*Variation.* Upper proximal part of rostrum of head and medial part of antennal cavities sometimes distinctly dark. Apical part of tegmina sometimes entirely darkened. Cerci sometimes with lightish areas.

Female unknown.

Length. Body 8.5-9.5 mm; body with wings 9-10 mm; pronotum 5.2-5.6 mm; tegmina 5.5-6 mm; hind femora 10.5-11 mm; longest spine of fore tibiae 0.8-0.9 mm.

**Genus *Grigioria* Gorochov, 1993**

The genus includes 5 species: *G. dicata* Gorochov, 1993, *G. beybienkoi* sp. n., *G. alia* sp. n., *G. breviscula* sp. n., *G. spinosa* sp. n., and *G. segregata* sp. n. These species are strongly distinguished from each other. It is possible that they belong to different subgenera.

***Grigioria beybienkoi* sp. n.**

(Figs 121-125)

*Holotype.* ♂, Vietnam, prov. Gia Lai, 20 km N of Kannack, Buon Luoi, 700-800 m, primary forest, 1.V.1995 (A. Gorochov) [ZIAS].

*Paratypes.* 2 ♂, same data as holotype, but 1-10.V.1995 [ZIAS].

*Description.* Male (holotype). Similar to *G. dicata*, but yellowish green and almost unicolourous (antennal flagellum with sparse, very small, darkish spots; upper spines of hind tibiae partly darkened). Rostrum of head rather long. Fore tibiae with 4 pairs of long spines; middle tibiae with 4 outer and 3 inner long spines. Tegmina rather long, slightly longer than hind femora, gradually narrowing to very narrow round apex. Hind wings extending to apex of tegmina. Last abdominal tergite simple, with slightly concave hind edge; epiproct small, invisible from above as covered by last tergite; cerci rather long, almost straight with distinctly curved apex; genital plate with distinct (but shallow) median notch of hind edge and rather long styles (Figs 121-123). Genitalia more or less similar to those of *G. dicata*, but sclerotized denticulated lateral lobes distinctly smaller, lower surface of dorsal lobe with a pair of small denticulated medial convexities [in *G. dicata* these convexities sometimes fused with each other (Figs 117, 118)].

*Variation.* Tarsi sometimes with partly darkened 3rd segment. Tegmina sometimes with light brown stripe along anal edge of tegmina.

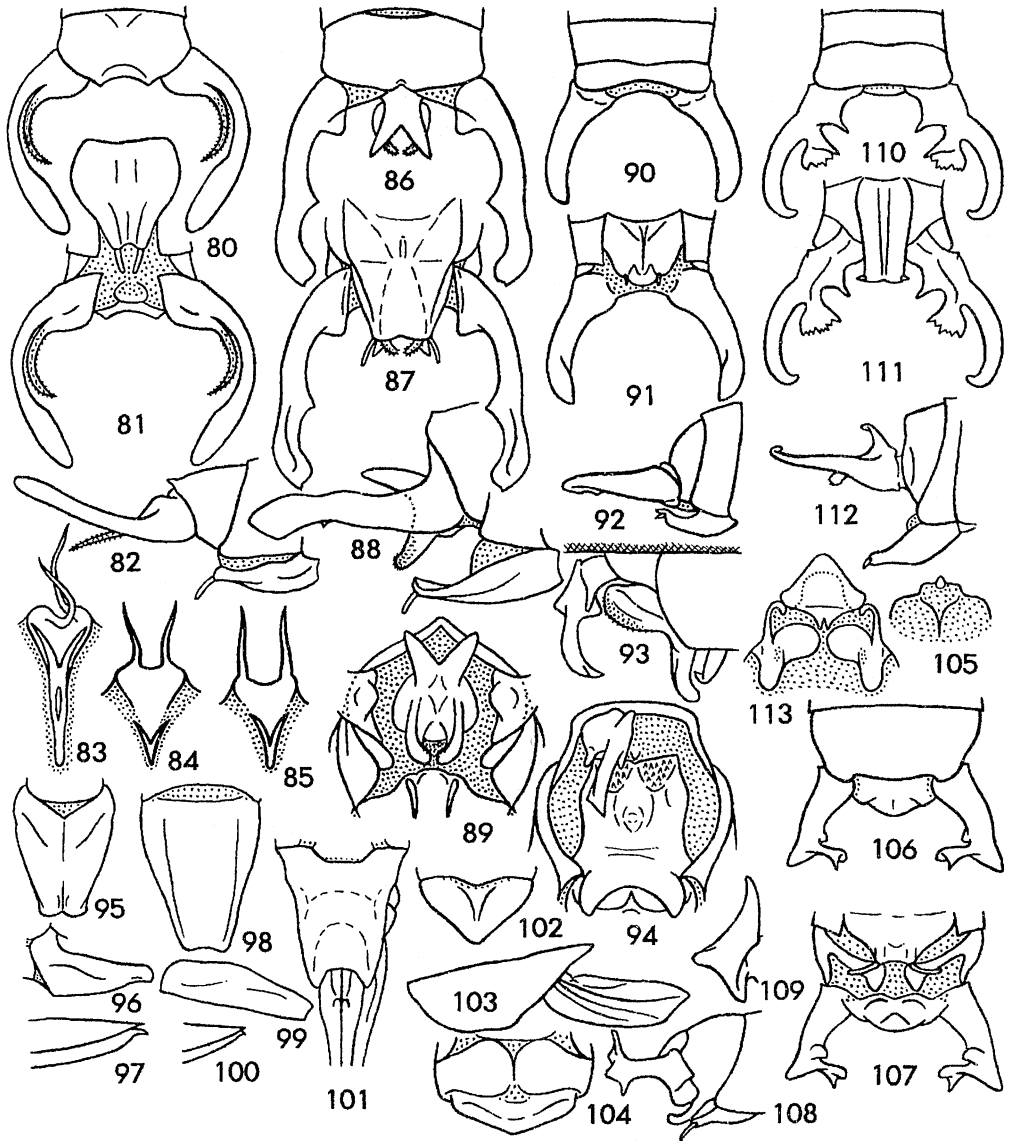
Female unknown.

Length. Body 13-14 mm; body with wings 18-20 mm; pronotum 5.2-5.5 mm; tegmina 14-15 mm; hind femora 13-14 mm; longest spine of fore tibiae 0.9-1 mm.

*Comparison.* Distinctions from *G. dicata* are mentioned above and those from all other species will be given below.

*Etymology.* This species is named in memory of the Russian orthopterist G.Ja. Bey-Bienko.





**Figs 80-113.** 80-83, *Decma* (*Decma*) *thai* sp. n.; 84, *D. (D.) miramae* Gor.; 85, *D. (D.) stshelkanovtzevi* Gor.; 86-89, *Tandaora magnifica* sp. n.; 90-92, *Axizicus sergeji* sp. n.; 93, 94, *Indokuzicus militaris* (Bol.); 95-97, *Amytta?* *sinica* B.-Bien.; 98-100, *Xiphidiopsis?* *parallela* B.-Bien.; 101, *X.?* *hwangi* B.-Bien.; 102, 103, *Thaumaspis* (*Thaumaspis*) *montana* B.-Bien.; 104-109, *Th. (Pseudothaumaspis) gialaiensis* sp. n.; 110-113, *Nicephora* (*Eunicephora*) *ulla* sp. n. Abdominal apex of male from above (80, 86, 90, 106, 110), from below (81, 87, 91, 107, 111), from side (82, 88, 92, 108, 112), from side with upper part hidden by tegmen (93), and from behind without distal part of cerci (89) or right cercus (94); male genitalia from below (83-85, 105, 113); abdominal apex (or only genital plate) of female from below (95, 98, 101, 102, 104) and from side (96, 99); apex of ovipositor from side (97, 100); pronotum and tegmen of female from side (103); distal part of left cercus from behind (109).

**Grigoriora alia** sp. n.

(Figs 128-134)

*Holotype*. ♂, **Thailand**, prov. Krabi (central Malacca), Ao Nang, hill near sea, secondary forest, 17-19.VII.1996 (A. Gorochov) [ZIAS].

*Paratype*. ♀, **Thailand**, prov. Surat Thani (central Malacca), 40 km WSW of Phanom, environs of Nat. Park Khao Sok, primary forest, 20-29.VII.1996 (A. Gorochov) [ZIAS].

*Description*. Male (holotype). Light green, almost unicolourous (antennal flagellum as in *G. beybienkoi*). Rostrum of head short. Fore tibiae with 4 pairs of short spines; middle tibiae with 4 outer and 3 inner short spines. Tegmina as in *G. beybienkoi*, but with distinctly narrowing distal third, narrow round apex, and shorter RS (its length about one third of tegmina; in *G. beybienkoi* about half of them). Hind wings also similar to those of *G. beybienkoi*. Last abdominal tergite simple, with slightly concave hind edge; epiproct rather small, slightly exposed; cerci long, almost straight with slightly curved distal part, with small, elongated, keel-like medial lobe; genital plate with almost truncated apex and without styles (Figs 128-130). Genitalia almost without sclerites, only with small, almost membranous, denticulated lateral lobes near apex (there are small paired denticulated medial convexities between these lobes) (Figs 131, 132).

Female. As male, but distal part of tegmina somewhat longer, pronotum with brownish yellow longitudinal median stripe, and tegmina with yellow stripe along anal edge. Genital plate as in Figs 133, 134. Ovipositor rather long, almost straight, with apex similar to that of *G. dicata* (Gorochov, 1993: Fig. 227).

Length. Body: ♂ 12 mm, ♀ 16 mm; body with wings: ♂ 16 mm, ♀ 21 mm; pronotum: ♂ 4.3 mm, ♀ 4.5 mm; tegmina: ♂ 12 mm, ♀ 16.5 mm; hind femora: ♂ 11.7 mm, ♀ 14 mm; longest spine of fore tibiae: ♂ 0.5 mm, ♀ 0.6 mm; ovipositor 10.5 mm.

*Comparison*. *G. alia* differs from *G. beybienkoi* and *G. dicata* in the smaller rostrum of head, absence of styles of male genital plate, almost entirely membranous male genitalia, and characteristic female genital plate.

**Grigoriora breviscula** sp. n.

(Figs 135-139)

*Holotype*. ♂, **Thailand**, prov. Phetchaburi (northern Malacca), 50 km SW of Phetchaburi, environs of Nat. park Kaeng Krachan, 400 m, secondary forest,

3-5.VIII.1996 (imago 2.IX.1996) (A. Gorochov) [ZIAS].

*Description*. Male (holotype). Very similar to *G. alia*, but head under eyes with darkenings and spines of hind tibiae slightly darker, distal part of tegmina somewhat shorter, their RS indistinct and tegminal apex almost acute, apex of epiproct narrower and very slightly exposed, cerci shorter and with widened proximal half, genital plate with truncated apex and short styles (Figs 135-137), genitalia without denticulated lateral lobes and with 3 slightly sclerotized plates (except small paired medial denticulated convexities): smaller apical and a pair of lateral (Figs 138, 139).

Female unknown.

Length. Body 11 mm; body with wings 14 mm; pronotum 4.3 mm; tegmina 9.7 mm; hind femora 11 mm; longest spine of fore tibiae 0.5 mm.

*Comparison*. Distinctions from the most similar species, *G. alia*, are given above.

**Grigoriora spinosa** sp. n.

(Figs 140, 141)

*Holotype*. ♀, **Vietnam**, prov. Lam Dong, environs of Bao Loc, 200 m, 23.IV.1995 (P. Pacholatko) [ZIAS].

*Description*. Female (holotype). General appearance as in *G. dicata*. Yellowish green, entirely unicolourous. Rostrum of head, spines of fore and middle tibiae, wings almost as in *G. beybienkoi*, but wings distinctly longer than hind femora. 8th abdominal tergite with a pair of oblique elongated convexities; lower (fore) part of these convexities with small spine-like process; genital plate as in Figs 140, 141. Ovipositor very long, very slightly curved upwards (almost straight), with apex similar to that of *G. dicata* (Gorochov, 1993: Fig. 227).

Male unknown.

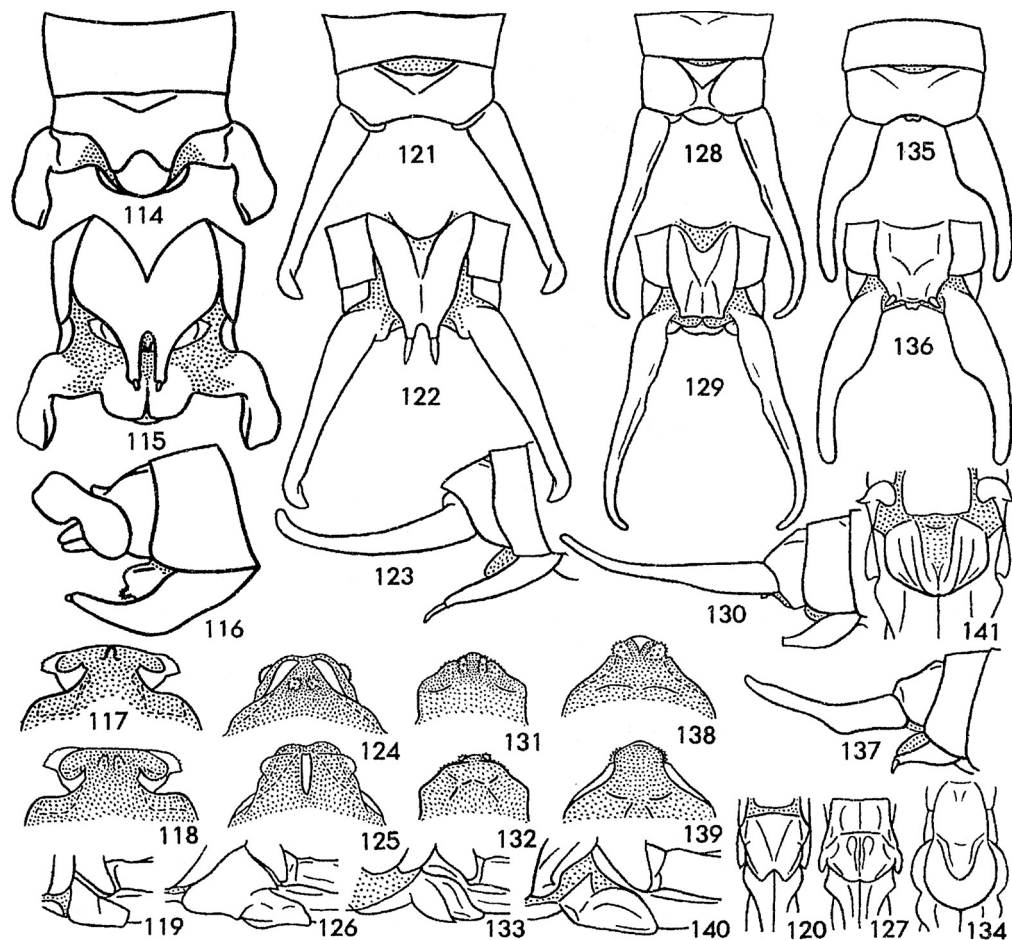
Length. Body 17.5 mm; body with wings 29 mm; pronotum 5 mm; tegmina 22.5 mm; hind femora 13.8 mm; longest spine of fore tibiae 1.2 mm; ovipositor 15.5 mm.

*Comparison*. *G. spinosa* differs from all other species of the genus in the presence of spine-like processes at 8th abdominal tergite of female and characteristic female genital plate.

**Grigoriora segregata** sp. n.

(Figs 126, 127, 142-146)

*Holotype*. ♂, **Vietnam**, prov. Gia Lai, 40 km N of Kannack, Tram Lap, 900 m, primary forest, 11-14.IV.1995 (A. Gorochov) [ZIAS].



**Figs 114-141.** *Grigoriora*. 114-120, *G. dicata* Gor.; 121-125, *G. beybienkoi* sp. n.; 126, 127, *G. segregata* sp. n.; 128-134, *G. alia* sp. n.; 135-139, *G. breviscula* sp. n.; 140, 141, *G. spinosa* sp. n. Abdominal apex of male from above (114, 121, 128, 135), from below (115, 122, 129, 136), and from side (116, 123, 130, 137); male genitalia from below (117, 118, 124, 131, 138) and from above (125, 132, 139); abdominal apex of female without upper part from side (119, 126, 133, 140) and from below (120, 127, 134, 141).

*Paratypes.* 2 ♀, same data as holotype, but 20-24.IV.1995 [ZIAS].

*Description.* Male (holotype). General appearance as in *G. dicata*. Yellowish green with numerous distinct brown rings of antennal flagellum, partly darkish spines of hind tibiae, and darkened distal parts of 3rd tarsal segment. Rostrum of head, spines of fore and middle tibiae, wings as in *G. spinosa*. Last abdominal tergite simple; cerci simple, long, arched; epiproct rather small, with practically round apex, more or less exposed; genital plate with wide distal part (wider than in all other species of *Grigoriora*), with rather long styles (Figs

142-144). Genitalia with a pair of distinct S-shaped sclerites only (Figs 145, 146).

Female. Similar to *G. dicata* and *G. spinosa*, but 8th abdominal tergite normal (without lateral convexities and spine-like processes), genital plate very characteristic (with small lateral projections at middle part) (Figs 126, 127), and length of ovipositor intermediate.

Length. Body: ♂ 13.5 mm, ♀ 15-18 mm; body with wings: ♂ 23 mm, ♀ 25-26 mm; pronotum: ♂ 5.3 mm, ♀ 4.8-5 mm; tegmina: ♂ 18 mm, ♀ 19-20 mm; hind femora: ♂ 14 mm, ♀ 14.4-14.7 mm; longest spine of fore tibiae: ♂ 1.2 mm, ♀ 1.1 mm; ovipositor 14-14.5 mm.

*Comparison.* The new species is distinguished from similar species (*G. dicata*, *G. spinosa*) by the wide truncated apical part of the male genital plate, paired S-shaped sclerites of the male genitalia, and the shape of abdominal apex in female.

### Genus *Cononicephora* Gorochov, 1993

This genus is represented by 2 subgenera: *Cononicephora* s. str. [*C. tarbinskyi* Gorochov, 1993 (type species), *C. berezhkovi* Gorochov, 1993] and *Acononicephora* Gorochov, 1994 [*C. rentzi* Gorochov, 1994 (type species)]. *C. storozhenkoi* Gorochov, 1994 must be transferred to the genus described below.

### Genus *Neocononicephora* gen. n.

Type species *Cononicephora storozhenkoi* Gorochov, 1994.

*Description.* Similar to *Cononicephora*, but smaller. Maxillary palpi long; lengths of their apical and subapical segments practically equal. Pronotum rather short. Spines of fore and middle tibiae very short; apex of hind femora with only round lobules. Wings shortened; tegmina slightly longer than hind wings; male stridulatory apparatus entirely covered by hind lobe of pronotum. Last abdominal tergite of male with round hind lobe (this lobe concave above, cup-like); male cerci with 2 branches: long lateral and shorter medial; male genital plate with acute apex and without styles (Figs 147-149). Male genitalia with several distinct undentate sclerites (Figs 150, 151).

*Included species:* type species only.

*Comparison.* The new genus differs from *Cononicephora* and all similar genera in the characteristic male last abdominal tergite, differing shape of male cerci, and presence of several sclerites of male genitalia (male genitalia of *Cononicephora* with a single sclerite).

***Neocononicephora storozhenkoi*** (Gorochov, 1994)  
(Figs 147-151)

*Holotype.* ♀, Vietnam, prov. Gia Lai, 20 km N of Kannack, Buon Luoi, 800 m, primary forest, 3-11.XI.1993 (A. Gorochov) [ZIAS].

*Additional material.* Vietnam, prov. Gia Lai: 1 ♀, same data as holotype, but 700-800 m, 27.IV.1995 [ZIAS]; 2 ♂, 6 ♀, 1 nymph, 50-60 km N of Kannack, Kon Cha Rang, 1000-1200 m, 14-20.IV.1995 (A. Gorochov) [ZIAS].

*Description.* Male (nov.). Yellowish green, almost unicolourous, but with brownish rings and small spots at antennal flagellum, darkened apex of palpi, middle and apical parts of hind tibiae, and 3rd segment of tarsi. Head slightly conical. Pronotum almost without humeral notches. Tegmina gradually narrowing to narrow and round apex, extending to last abdominal tergites or base of cerci. Fore tibiae with 3 inner and 1 outer spines; middle tibiae with 3 outer and 1 inner spines. Last abdominal tergite, cerci, genital plate, and genitalia as in Figs 147-151.

Female. Similar to male. Original description of holotype sufficient (Gorochov, 1994: Figs 108-111). Additional specimens sometimes with numerous rings and spots on antennae, darkened apical segment of palpi, almost entirely light tarsi and apex of hind femora.

Length. Body: ♂ 6.5-8.5 mm, ♀ 8-9.5 mm; pronotum: ♂ 3.2-3.4 mm, ♀ 2.7-2.9 mm; tegmina: ♂ 4.5-5 mm, ♀ 4.8-5.2 mm; hind femora: ♂ 8.5-9 mm, ♀ 9-10 mm; longest spine of fore tibiae: ♂ 0.2 mm, ♀ 0.2 mm; ovipositor 4.3-4.6 mm.

### Genus *Cyrtopsis* Bey-Bienko, 1962

Bey-Bienko (1962) supposed that this genus is related to the Mediterranean genus *Cyrtaspis* Fisch. and this relationship reflects some ancient connections between Chinese and Mediterranean faunas. But I think that *Cyrtopsis* is possibly more related to other Indo-Malayan genera with paired hind processes of male last abdominal tergite: *Teratura*, *Kuzicus*, *Pseudokuzicus*, *Xizicus*, and especially *Xiphidonema* Ingrisch, 1987 and *Neoxizicus* gen. n. (see below). The recently described *C. variabilis* Xia & Liu, 1992 is possibly a representative of a new genus or subgenus.

***Cyrtopsis scutigera*** Bey-Bienko, 1962  
(Figs 152-157)

*Holotype.* ♂, China, Yunnan, environs of Pingbian, 2000 m, 23.IV.1956 (Huang Ke-ren et al.) [IZAS].

*Description.* Male (holotype). Original description of this species (Bey-Bienko, 1962) almost sufficient, but requiring some additions. Tegmina extending to 5th abdominal tergite (not 3rd). Spines of fore (4 outer, 4 inner) and middle (5 outer, 3 inner) tibiae medium-sized, rather dark; hind tibia with 18 inner and 18 outer darkened spines

above; 3rd segment of tarsi with darkish distal part. Last abdominal tergite, cerci, and genital plate as in Figs 152-155. Genitalia with slightly sclerotized lateral and apical parts of dorsal lobe (Figs 156, 157).

Female unknown.

Length. Body 12.5 mm; pronotum 5.9 mm; tegmina 3 mm; hind femora 12.7 mm; longest spine of fore tibiae 0.7 mm.

### Genus *Neoxizicus* gen. n.

Type species *Neoxizicus crassus* sp. n.

*Description.* Rather large. Head conical, with rather small eyes, laterally depressed rostrum, and long thin palpi (apical segment of maxillary palpi noticeably longer than subapical one). Pronotum rather low and not very long; lower part of its lateral lobes roundly angular; humeral notch absent; hind pronotal lobe with round hind edge, separated from other part of disc by transverse furrow. Wings shortened; male stridulatory apparatus developed, only partly covered by pronotum. Femora without spines and spurs; fore and middle tibiae with medium-sized spines. Last abdominal tergite of male with a pair of long hind processes; male epiproct small, invisible from above; cerci rather simple, curved, narrowing to apex, with flattened middle part (Figs 158-160). Male genitalia with slightly sclerotized apical lobules (Fig. 162). Ovipositor normal; its apex rather narrowly pointed, with small hook-like apical projection of lower valvae.

*Included species:* type species only.

*Comparison.* The new genus is similar to *Xiphidonema* and *Cyrtopsis*, but distinguished from them by the laterally depressed rostrum of head, simple cerci of male, and male genitalia with sclerotized apical lobules. From other genera of this tribe with paired hind processes of the last abdominal tergite of male, *Neoxizicus* differs in the shortened wings and above-mentioned characters of the male abdominal apex.

### *Neoxizicus crassus* sp. n.

(Figs 158-164)

*Holotype.* ♂, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 17-31.V.1995 (A. Gorochoy) [ZIAS].

*Paratypes.* 28 ♂, 20 ♀, same data as holotype, but 17.V-10.VI.1995 [ZIAS].

*Description.* Male (holotype). Yellowish green, almost unicolourous, but with rufous stripe along anal edge of tegmina and dark

brown distal half of spines of hind tibiae. Rostrum of head with round apex in profile. Fore tibiae with 5 outer and 4 inner long spines (except spurs); middle tibiae with 5 outer and 5 inner rather long spines; hind tibiae with 13-14 outer and 14-15 inner spines above; hind femora without acute projections at apex. Tegmina extending to 8th abdominal tergite, with distal part slightly narrowing to round apex. Hind wings very slightly shorter than tegmina. Hind process of last abdominal tergite bifurcated from its base; cerci, genital plate, and male genitalia as in Figs 158-160, 162.

*Variation.* Sometimes tegmina extending to cerci, hind process of last abdominal tergite bifurcated only at distal half (Fig. 161), genital plate with slightly deeper hind notch and almost indistinct styles.

*Female.* As male, but hind lobe of pronotum slightly shorter. Lower parts of 8th abdominal tergite with lobe-like projection; genital plate with small hind notch (Figs 163, 164). Ovipositor with distal part very slightly curved upwards.

Length. Body: ♂ 17-20 mm, ♀ 16-18 mm; pronotum: ♂ 5.8-6.2 mm, ♀ 5.5-6 mm; tegmina: ♂ 11.5-12.5 mm, ♀ 12-13 mm; hind femora: ♂ 12.5-13.5 mm, ♀ 13-14.5 mm; longest spine of fore tibiae: ♂ 1.2-1.3 mm, ♀ 1.1-1.2 mm; ovipositor 11-12 mm.

### Genus *Leptoteratura* Yamasaki, 1982

This genus consists of 2 subgenera: *Leptoteratura* s. str. [*Meconema albicorne* Motschulsky, 1866 (type species), *Xiphidiopsis capreola* Redtenbacher, 1891, *L. martynovi* sp. n., *L. kevani* sp. n., and possibly *L. jona* Yamasaki, 1987, *L. digitata* Yamasaki, 1987, *L. yaeyamana* Yamasaki, 1987, *L. taiwana* Yamasaki, 1987, *L. symmetrica* Yamasaki, 1988, *L. triura* Jin, 1997] and *Rhinoteratura* Gorochoy, 1993 [*L. sharovi* Gorochoy, 1993 (type species), and possibly *L. borneoensis* Jin, 1995]. Two species males of which are unknown, *L. sugonjaevi* Gorochoy, 1994 and *L. koncharangi* sp. n., maybe belong to a third subgenus of this genus.

### *Leptoteratura (Leptoteratura) martynovi* sp. n.

(Figs 165, 166)

*Holotype.* ♀, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 17-31.V.1995 (A. Gorochoy) [ZIAS].

*Paratype.* ♀, same data as holotype [ZIAS].

**Description.** Female (holotype). Typical *Leptoteratura*. Greenish, almost unicolourous with whitish yellow narrow stripes along lateral edges of pronotal disc (continuing forwards to eyes and backwards as short yellowish lines at base of tegmina) and with light brownish stripe along anal edge of tegmina (except their basal and distal parts). Rostrum of head rather long, strongly flattened (without distinct furrow above), with narrowly rounded (almost angular) apex (from above); maxillary palpi with almost equal apical and subapical segments. Pronotum with almost angular (at cross section) boundary between disc and lateral lobe. Fore tibiae with 4 inner and 3 outer short spines; middle tibiae with 4 outer and 3 inner short spines. Tegmina long, with narrowly rounded apex and normal venation. Hind wings noticeably longer than tegmina; their apical part exposed. Genital plate very large, flattened, with very sloping lateral notches and round apex (Fig. 165). Ovipositor almost arched; its apex narrowly rounded.

**Variation.** Genital plate almost without lateral notches.

Male unknown.

**Length.** Body 10.5 mm; body with wings 19 mm; pronotum 3.3 mm; tegmina 15 mm; hind femora 8.2 mm; longest spine of fore tibiae 0.4 mm; ovipositor 5 mm.

**Comparison.** This species is similar to *L. albicornis*, but differs in the female genital plate with narrower distal part and very sloping lateral notches. From other species of this genus it can be distinguished by the peculiarities of the shape of rostrum and female genital plate, length of ovipositor, and absence of small hook-like apical projection of lower valvae of ovipositor.

**Etymology.** This species is named in memory of the famous paleoentomologist A. V. Martynov.

***Leptoteratura (Leptoteratura) kevani* sp. n.**  
(Fig. 167)

**Holotype.** ♀, Vietnam, prov. Gia Lai, 50-60 km N of Kannack, Kon Cha Rang, 1000-1200 m, primary forest, 17.IV.1995 (A. Gorochoy) [ZIAS].

**Description.** Female (holotype). Very similar to *L. martynovi*, but practically without brownish stripe along anal edge of tegmina, with comparatively widely rounded (not angular) apex of rostrum of head and distinctly smaller genital plate with more narrowly rounded apical part (Fig. 167).

Male unknown.

**Length.** Body 8 mm; body with wings 18 mm; pronotum 3.2 mm; tegmina 15 mm; hind femora 7.8 mm; longest spine of fore tibiae 0.3 mm; ovipositor 4.5 mm.

**Comparison.** *L. kevani* differs from the preceding species in the above-mentioned characters and from all other species of this genus in the same characters as *L. martynovi*.

**Etymology.** This species is named in memory of the Canadian orthopterist D. K. McE. Kevan.

***Leptoteratura* (subgenus?) *koncharangi* sp. n.**  
(Figs 170-172)

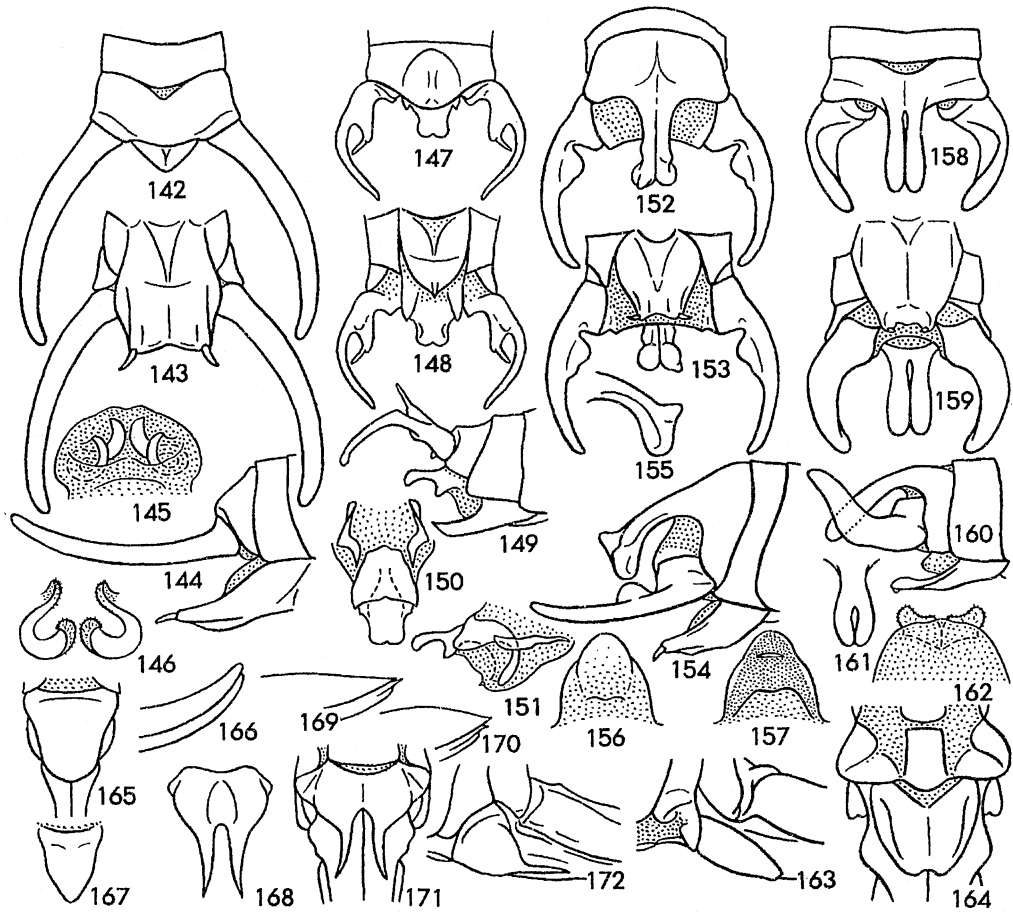
**Holotype.** ♀, Vietnam, prov. Gia Lai, 50-60 km N of Kannack, Kon Cha Rang, 1000-1200 m, primary forest, 17.IV.1995 (A. Gorochoy) [ZIAS].

**Paratype.** ♀, same data as holotype [ZIAS].

**Description.** Female (holotype). Long and thin. Coloration yellowish green with brown spots on inner surface of 2 basal antennal segments, brownish inner parts of antennal cavities, dark brown distal part of head rostrum, brown median stripe and a pair of rufous bands along lateral edges of this stripe on upper part of head and disc of pronotum (this brown stripe with small widening near fore edge of pronotal disc, large widening near hind edge of this disc, and very narrow whitish median longitudinal line), brownish stripe along anal edge of tegmina, several small blackish spots on distal part of tegmina, and yellow spots on lateral sides of thorax, tergites of abdomen, and costal half of tegmina. Rostrum of head very narrowly rounded, practically angular, slightly flattened, with median furrow above; apical segment of maxillary palpi slightly shorter than subapical one. Shape of pronotum similar to that of *L. sugonjaevi*. Legs long and thin; fore tibiae with only 3 inner short spines; middle tibiae with 3 outer and 1 inner short spines; hind tibiae with 24 outer and 26 inner spines (except spurs). Tegmina very long, with normal venation; their distal part gradually narrowing to round apex. Hind wings extending to tegminal apex, entirely covered by tegmina. Genital plate as in Figs 171, 172. Ovipositor not very long, slightly curved upwards in distal half; its apex as in Fig. 170.

**Variation.** Paratype with dark median stripe reduced on vertex and interrupted on middle part of pronotum.

Male unknown.



**Figs 142-172.** 142-146, *Grigoriora segregata* sp. n.; 147-151, *Neocononicephora storozhenkoi* (Gor.); 152-157, *Cyrtopsis scutigera* B.-Bien.; 158-164, *Neoxizicus crassus* sp. n.; 165, 166, *Leptoteratura (Leptoteratura) martynovi* sp. n.; 167, *L. (L.) kevani* sp. n.; 168, 169, *L. (?) sugonjaevi* Gor.; 170-172, *L. (?) koncharangi* sp. n. Abdominal apex of male from above (142, 147, 152, 158), from below (143, 148, 153, 159), and from side (144, 149, 154, 160); male genitalia from below (145, 157, 162), from above (150, 156), from side (151), and their sclerites from behind (146); hind median processes of last abdominal tergite of male from side (155) and from above (161); abdominal apex (or only genital plate) of female from side (163, 172) and from below (164, 165, 167, 168, 171); apex of ovipositor from side (166, 169, 170).

Length. Body 11.5-12.5 mm; body with wings 23-24 mm; pronotum 3.3 mm; tegmina 20-20.5 mm; hind femora 9.5-9.7 mm; longest spine of fore tibiae 0.2-0.3 mm; ovipositor 4.8-4.9 mm.

*Comparison.* The new species is similar to *L. sugonjaevi* (see Figs 168, 171), but larger, wings distinctly longer, and apex of ovipositor less narrowly pointed (see Figs 169, 170).

**Genus *Alloteratura* Hebard, 1923**

This genus is characterized by the very short apical segment of maxillary palpi (He-

bard, 1923; Gorochov, 1993: Figs 268, 269; Jin, 1995: Fig. 9). In addition, males of *Alloteratura* have usually rather simple last abdominal tergite (without large processes or lobes) and large upper genital sclerite (subanal plate) articulated or fused with lower lateral projections of 9th or 10th abdominal tergites. I consider that this genus includes the following species: *Xiphidiopsis longicercata* Bolivar, 1905, *Teratura xiphidiopsis* Karny, 1920, *A. bakeri* Hebard, 1923 (type species), *A. penangica* Hebard, 1923, *A. sandakanae* Hebard, 1923, *Amytta subanalis* Karny, 1926, *A. tahananensis* Karny, 1926, *A. triloba* Karny, 1926, *A. karnyi* Kästner,

1932, *Alloteratura bispina* Gorochov, 1993, *A. stebaevi* Gorochov, 1993, *A. podgornajae* Gorochov, 1993, *A. multispina* Jin, 1995, *A. angulata* Jin, 1995, *A. plauta* Jin, 1995, *A. lamella* Jin, 1995, *A. cylindracea* Jin, 1995, *A. siamensis* Jin, 1995, *A. tibetensis* Jin, 1995, *A. hebardii* sp. n., *A. cervus* sp. n., *A. muntiacus* sp. n., and possibly *T. simplex* Karny, 1920 and *Amytta longicauda* Karny, 1924. All other species included in *Alloteratura* by Beier (1966) and Kevan & Jin (1993) are representatives of different other genera (for example: *Amytta serricauda* Karny maybe of *Xiphidiola* Bol., *Meconema albicorne* Motsch. of *Leptoteratura* Yam., *Alloteratura andamanensis* Kevan and *A. simplicicercis* Kevan of *Axizicus* Gor., *Alloteratura mesembrina* Kevan of *Decma* Gor.) or require additional study.

***Alloteratura hebardii* sp. n.**  
(Figs 173-175)

*Holotype*. ♂, Vietnam, prov. Vinh Phu, Tam Dao, 800-900 m, primary forest, 1-11.VI.1995 (A. Gorochov) [ZIAS].

*Description*. Male (holotype). Rather small. Yellowish with large brown spot on fore (inner) surface of scape, brownish flagellum of antennae (except proximal half of first segment of flagellum), dark brown apex and upper part of rostrum of head, brown triangular spot on vertex fused with dark part of rostrum, brownish apex of apical segment of palpi and rather wide median longitudinal band on fore half of pronotum, light brown band along anal edge of tegmina, darkened 3rd segment of tarsi and distal part of cerci. Pronotum moderately long; its hind lobe narrowly round and only partly covering tegminal stridulatory apparatus; humeral notch between lateral and hind lobes of pronotum sloping. Fore tibiae with 4 inner and 3 outer short spines; middle legs lost; hind tibiae with 30-31 inner and 30-33 outer spines (except spurs). Tegmina slightly shortened, extending to apex of hind femora, slightly narrowing to round apex; base of *RS* in proximal half of tegmina. Hind wings extending to apex of tegmina and entirely covered by them. Last abdominal tergite simple, with rather deep, round median notch of hind edge; epiproct small, simple, partly visible from above; cerci short and high, with concave inner side and 2 apical processes: large upper and small lower; genital plate with very small styles; genitalia with 2 large sclerites: upper sclerite provided with 3 hind lobes and articulated with 10th tergite, lower

one provided with rather long hind process and probably connected with 9th tergite (Figs 173-175).

Female unknown.

Length. Body 10.5 mm; body with wings 13.5 mm; pronotum 3.7 mm; tegmina 9 mm; hind femora 9.5 mm; longest spine of fore tibiae 0.4 mm.

*Comparison*. The new species is similar to *A. bakeri*, but distinguished from it and all other species of this genus by the characteristic coloration, shortened wings, bifurcated male cerci, differing shape of male genital sclerites, and very small styles of the male genital plate.

*Etymology*. The species is named in memory of the American orthopterist M. Hebard.

***Alloteratura cervus* sp. n.**  
(Figs 176-178)

*Holotype*. ♂, Vietnam, prov. Gia Lai, 50-60 km N of Kannack, Kon Cha Rang, 1000-1200 m, primary forest, 17.IV.1995 (A. Gorochov) [ZIAS].

*Paratype*. ♂, same data as holotype, but 14-20.IV.1995 (A. Gorochov) [ZIAS].

*Description*. Male (holotype). Rather small. Green with very slightly darkened flagellum of antennae (except first segment of flagellum) and 3rd segment of tarsi. Pronotum very long; its hind lobe narrowly round and entirely covering tegminal stridulatory apparatus; pronotal humeral notch almost absent. Fore tibiae with 3 outer and 2 inner short spines; middle tibiae with 4 outer and 3 inner short spines; hind tibiae with 26-27 outer and 22-24 inner spines. Tegmina slightly shortened, extending to apex of hind femora, distinctly narrowed to almost acute apex (especially their distal part); base of *RS* in proximal half of tegmina. Hind wings slightly shorter than tegmina. Last abdominal tergite rather long, with shallow round median notch of hind edge; epiproct small, simple, invisible from above; cerci rather long and not high (their inner side not concave), with 3 processes: lobe-like proximal inner, rather long upper apical, and shorter lower apical; genital plate with long styles; genitalia with a pair of long acute sclerites (articulated with 10th tergite) and with membranous elongated lower median lobe connected with 9th tergite and above-mentioned sclerites by large membranous base (Figs 176-178).

*Variation*. Several basal segments of antennae without darkenings. Base of tegminal



RS situated almost in middle part of tegmina. There are 3 inner spines on fore tibiae.

Female unknown.

Length. Body 11-12 mm; body with wings 12.5-13.5 mm; pronotum 5-5.4 mm; tegmina 9.5-10 mm; hind femora 8.6-8.8 mm; longest spine of fore tibiae 0.3-0.4 mm.

*Comparison.* *A. cervus* is similar to the preceding species, but differs from it and other representatives of *Alloteratura* in the green coloration, shape of male tegmina and male cerci, paired long acute sclerites of the male genitalia, and long styles of the male genital plate.

***Alloteratura muntiacus* sp. n.**  
(Figs 179-183)

*Holotype.* ♂, Thailand, prov. Surat Thani, 40 km WSW of Phanom, environs of Nat. Park Khao Sok, primary forest, 20-29.VII.1996 (A. Gorochoy) [ZIAS].

*Description.* Male (holotype). Rather small. Greenish with a pair of yellow stripes along lateral edges of pronotal disc and numerous brownish small spots on distal half of tegmina except area C-RS. Pronotum normal, not long, with deep humeral notch and almost angular lower edge of lateral lobe; pronotal hind lobe round and partly covering tegminal stridulatory apparatus. Fore tibiae with 4 inner and 4 outer short spines; middle tibiae with 5 outer and 4 inner short spines; hind tibiae with 26-27 outer and 22-25 inner spines. Tegmina long, gradually narrowing to narrowly round apex; base of RS in proximal half of tegmina. Hind wings noticeably longer than tegmina; their apex exposed. Last abdominal tergite simple, with small median round notch of hind edge; epiproct small, simple, invisible from above; cerci rather long, thin, arched, with small (but distinct) inner projection near apex and almost concave inner side of their proximal part; genital plate with short styles; genitalia with truncated, large upper sclerite (articulated with 10th tergite) and rather narrow, paired, hook-like, densely denticulated lower sclerite (Figs 179-183).

Female unknown.

Length. Body 11.5 mm; body with wings 20 mm; pronotum 3.8 mm; tegmina 16 mm; hind femora 9.5 mm; longest spine of fore tibiae 0.3 mm.

*Comparison.* The new species is similar to *A. tahanensis*, but differs from it in the male cerci with distinct inner projection near apex

and upper genital sclerite of male with truncated (not round) apex, from *A. stebaevi* in the almost angular (not round) lower edge of lateral lobe of pronotum, from other species of the genus in the coloration, length of wings, shape of pronotum, structure of the male abdominal apex (especially in the characteristically hooked and denticulated paired lower genital sclerite).

***Alloteratura podgornajae* Gorochoy, 1993**  
(Figs 184-188)

*Holotype.* ♀, Indonesia, "Java Or." [ZIAS].

*Additional material.* Indonesia: 1 ♂, "Java. Frusthorfer" [MNCN].

*Description.* Male (nov.). Similar to *A. muntiacus*, but brownish yellow (living specimens possibly also greenish), small brownish spots of tegmina and yellow stripes of pronotum less distinct, fore tibiae with 4 inner and 3 outer very short spines, middle tibiae with 4 outer and 2-3 inner very short spines, hind tibiae with 25-27 inner and 29-30 outer spines, last abdominal tergite with wide concavity at hind edge, epiproct moderately large (visible from above), cerci characteristic (Figs 184-186), genital plate with slightly larger styles, the single genital sclerite curved downwards and fused with 9th tergite (Fig. 186), remainder of genitalia membranous and with a pair of thin acute apical processes (Figs 187, 188).

Female. Similar to male. Original description of holotype (Gorochoy, 1993: Figs 286-288) almost sufficient, but pronotum with a pair of hardly distinct yellow stripes, fore tibiae with only 4 inner and 3 outer spines (except spurs), middle tibiae with 4 outer and 2 inner spines (except spurs).

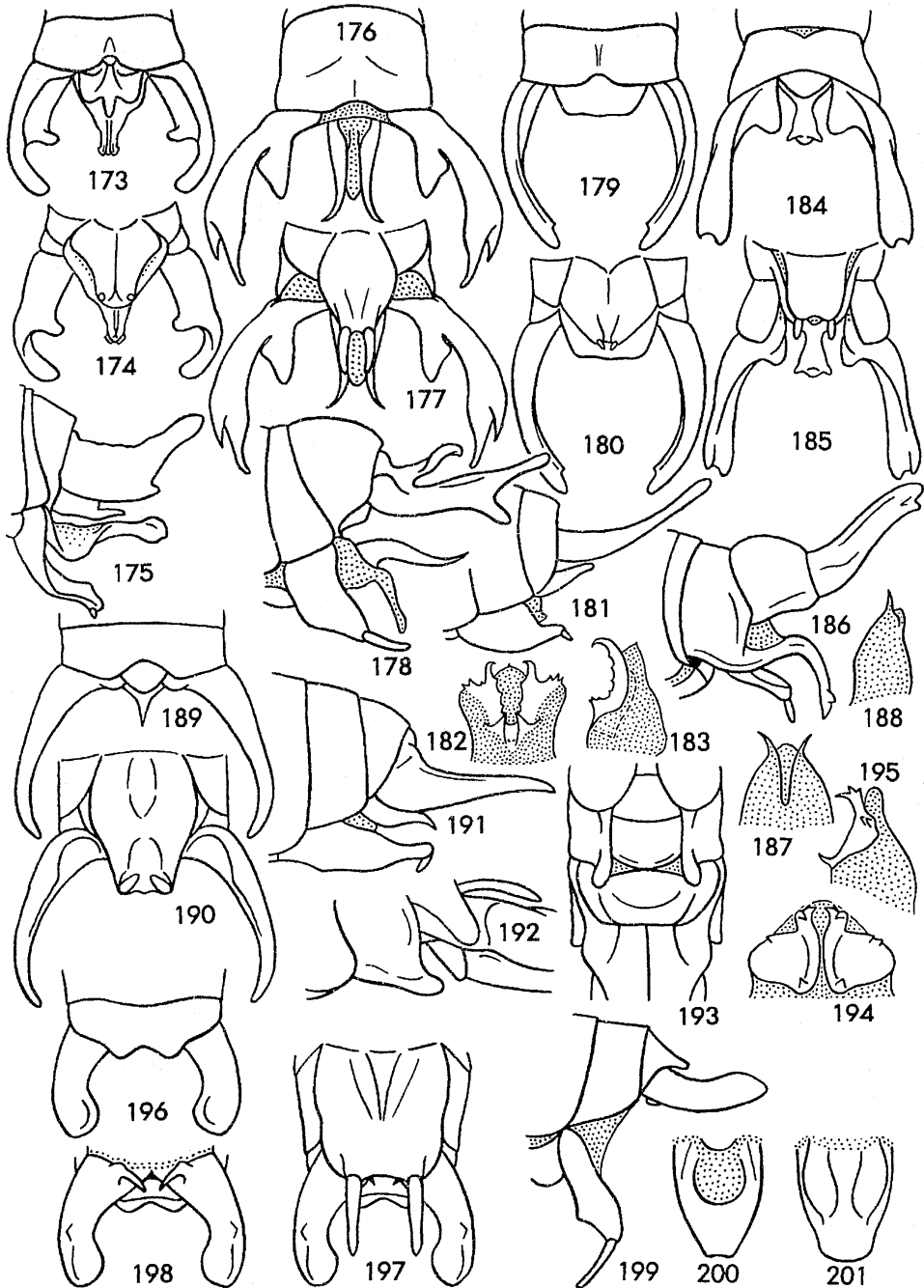
Length. Body: ♂ 11 mm, ♀ 9.5 mm; body with wings: ♂ 22 mm, ♀ 21.5 mm; pronotum: ♂ 3.6 mm, ♀ 3.4 mm; tegmina: ♂ 18 mm, ♀ 18.5 mm; hind femora: ♂ 9.5 mm, ♀ 9.5 mm; longest spine of fore tibiae: ♂ 0.2 mm, ♀ 0.2 mm; ovipositor 6.8 mm.

***Alloteratura longicercata* (Bolivar, 1905)**  
(Figs 189-195)

*Lectotype.* ♀, New Guinea, "N. Guinea. Biro, 1899. Simbang, Huon Golf." [MNCN].

*Paralectotypes.* 1 ♂, 2 ♀, same data as holotype [MNCN, ZIAS].

*Description.* Male. Rather large for this genus. Brownish yellow (living specimens possibly greenish) with a pair of yellow stripes along lateral edges of pronotal disc and numerous whitish yellow transverse veinlets of



**Figs 173-201.** *Alloteratura* (173-195) and *Asiophlugis* (196-201). 173-175, *A. hebardii* sp. n.; 176-178, *A. cervus* sp. n.; 179-183, *A. muntiacus* sp. n.; 184-188, *A. podgornajae* Gor.; 189-195, *A. longicercata* (Bol.); 196-200, *A. rete* sp. n.; 201, *A. malacca* sp. n. Abdominal apex of male from above (173, 176, 179, 184, 189, 196), from below (174, 177, 180, 185, 190, 197), from side (175, 178, 181, 186, 191, 199), and from below without genital plate (198); male genitalia from above (182, 187, 194) and from side (183, 188, 195); abdominal apex of female without upper part (or only its genital plate) from side (192) and from below (193, 200, 201).

tegmina. Pronotum normal, not long, with deep humeral notches and almost angular lower edge of lateral lobe; pronotal hind lobe round and partly covering tegminal stridulatory apparatus. Fore tibiae with 4 inner and 4 outer short spines; middle tibiae with 5 outer and 4 inner short spines; hind tibiae with 32-33 outer and 31-34 inner spines (except spurs). Tegmina long; their distal half gradually narrowing to almost acute apex; base of *RS* in proximal half of tegmina. Hind wings noticeably longer than tegmina; their apex exposed. Last abdominal tergite simple, with medium-sized round median notch of hind edge; epiproct moderately large (visible from above); cerci arched, without any projection or processes, with strong concavity at inner part of base; genital plate with medium-sized styles; genitalia with pointed, not large upper sclerite (articulated with 10th tergite) and wide, paired, hook-like, sparsely denticulated lower sclerite (Figs 189-191, 194, 195).

Female. As male, but coloration of tegminal cross veins sometimes not differing from that of other parts of tegmina. 8th abdominal tergite with characteristic, rather long process of both lower lateral edges; these processes directed downwards and backwards; genital plate rather wide and short, with slightly concave (almost truncated) hind edge (Figs 192, 193); ovipositor rather long, slightly curved upwards, with gradually narrowing (to acute apex) distal part.

Length. Body: ♂ 15 mm, ♀ 12-13 mm; body with wings: ♂ 27 mm, ♀ 26-27 mm; pronotum: ♂ 4.7 mm, ♀ 4.5-4.7 mm; tegmina: ♂ 21 mm, ♀ 21-21.5 mm; hind femora: ♂ 12.7 mm, ♀ 12.2-12.6 mm; longest spine of fore tibiae: ♂ 0.4 mm, ♀ 0.3-0.4 mm; ovipositor 8.3-8.6 mm.

**Alloteratura karnyi** (Kästner, 1932)  
(Figs 202-207)

*Holotype*. ♂, Indonesia, Sumatra, "Dohrn. Sumatra. Liangagas" [MIZP].

*Description*. Male (holotype). Medium-sized; yellowish (living specimens possibly greenish) with light brownish most part of antennal flagellum, somewhat darker outer surface of antennal flagellum, brown apex of rostrum of head and narrow longitudinal median stripe from this apex to region between hind edges of eyes, slightly darkened 2 last segments of tarsi and apical part of cerci, and darkish spines of fore and middle tibiae. Pronotum normal, but with rather long hind lobe covering tegminal stridula-

tory apparatus; humeral notch of lateral lobes more or less deep. Spines of fore and middle tibiae not long; fore tibiae with 3-4 inner and 4 outer lower spines; middle tibiae with 4 inner and 5 outer lower spines; hind tibiae with numerous upper and several lower small spines. Tegmina long (their apical part destroyed). Last abdominal tergite simple, with concave hind edge; epiproct small; cerci short, thick, curved, with deep concavity at upper inner part and with flattened apical part, without any projections or processes; genital plate with medium-sized styles; genitalia with rounded, not large upper sclerite (articulated with 10th tergite) and characteristic, paired, hook-like, rather sparsely denticulated lower sclerite (Figs 202-207)

Female unknown.

Length: see Kästner, 1932: 171.

**Genus Pseudoteratura** gen. n.

Type species *Xiphidiopsis sundaica* Kästner, 1932 (Sumatra).

*Description*. Rather small. Head hypognathous, more or less conical, slightly similar to that of *Leptoteratura*; last segment of maxillary palpi long, slightly longer than subapical one. Pronotum with rather long hind lobe, almost without humeral notches. Fore tibiae with open both (inner and outer) tympana. Wings long; tegmina distinctly shorter than hind wings; tegminal stridulatory apparatus of male developed. Last abdominal tergite of male with large hind median notch; male epiproct large, with a pair of lateral spines at apex; male cerci arched, with slightly widened apex and long upper process almost at middle part of cerci; male genital plate without styles; male genitalia with large upper sclerite (its apex with a pair of spine-like processes) and small lower one (Figs 208-215).

*Included species*: only type species.

*Comparison*. The genus is similar to *Teratura* in the large and denticulated male epiproct, but differs from it and other similar genera in the absence of paired processes of male last abdominal tergite and apical process of male cerci, as well as in the strongly sclerotized male genitalia consisting of 2 unpaired sclerites.

**Genus Dinoteratura** gen. n.

Type species *Xiphidiopsis beieri* Bey-Bienko, 1971 (Sumatra).

**Description.** Rather small. Head hypognathous, almost not conical, rather similar to that of *Xiphidiopsis*; last segment of maxillary palpi only slightly shorter than subapical one. Pronotum similar to that of *Pseudoteratura*, but with somewhat shorter hind lobe. Fore tibiae with open both tympana. Wings long; tegmina distinctly shorter than hind wings; tegminal stridulatory apparatus of male developed. Last abdominal tergite of male with a pair of small angular projections at hind edge and rather small notch between them; male epiproct indistinct; male cerci complicated: with short thick proximal part, thin curved distal part provided with almost disc-like widening at apex, rather large (but not very long) upper (medial) process, and smaller hook-like lower process; male genital plate with distinct styles; male genitalia with exposed long and rather complicated sclerite (Figs 216-218). Genital plate of female rather simple; ovipositor developed, slightly curved upwards, without denticulation and apical hook (its apex acute).

**Included species:** only type species.

**Comparison.** The new genus is slightly similar to *Xizicus*, but strongly differs from it and other genera of Meconematini in the long, complicated male genital sclerite, characteristic shape of the cerci and last abdominal tergite of male, and absence of apical hook of ovipositor.

Tribe PHLUGIDINI Eichler, 1938

#### Genus *Asiophlugis* gen. n.

Type species *Asiophlugis rete* sp. n.

**Description.** Size small. Eyes very large, typical of genera *Phlugis* Stål, *Phlugiola* Karny, *Phlugidia* Kevan, and *Lucienola* Gurney, 1975 [= *Tenuiphlugis* Kevan, 1993, **syn. n.**; the type species of both nominal genera is *Phlugiola gressitti* Chop. (Gurney, 1975; Kevan & Jin, 1993b)]; rostrum of head absent; antennal cavities contacting with each other; apical segment of maxillary palpi longer than subapical one. Pronotum rather long and low, without humeral notches; its hind lobe rather short and with round hind edge. Fore legs with spines along outer and inner lower edge, with both open tympana; middle legs unarmed. Wings slightly or moderately shortened; stridulatory apparatus of male tegmina developed. Last abdominal tergite of male with a pair of small hind lobes; male cerci more or less flattened (except basal part) and with inner hook-like

process at base; male genital plate normal, with not very long styles (Figs 196-199); male genitalia entirely membranous. Female genital plate with round or almost truncated apex (Figs 200, 201); ovipositor similar to that of above-mentioned genera.

**Included species:** type species, *Phlugis sulawesi* Jin, 1993, *A. malacca* sp. n., and possibly some other Asiatic species usually considered as representatives of the American genus *Phlugis*.

**Comparison.** The new genus is distinguished from *Phlugis* by the distinctly shorter male genital plate without apical bifurcation and with styles, from *Phlugiola*, *Phlugidia* and *Lucienola* by the not strongly shortened wings and from all these genera in the characteristic male cerci with inner process at base.

#### *Asiophlugis rete* sp. n.

(Figs 196-200)

**Holotype.** ♂, Malaysia, Pahang, Kuala Tahan near river Tembeling, environs of Nat. Park Taman Negara, primary forest, 12-16.VII.1996 (A. Gorochoy) [ZIAS].

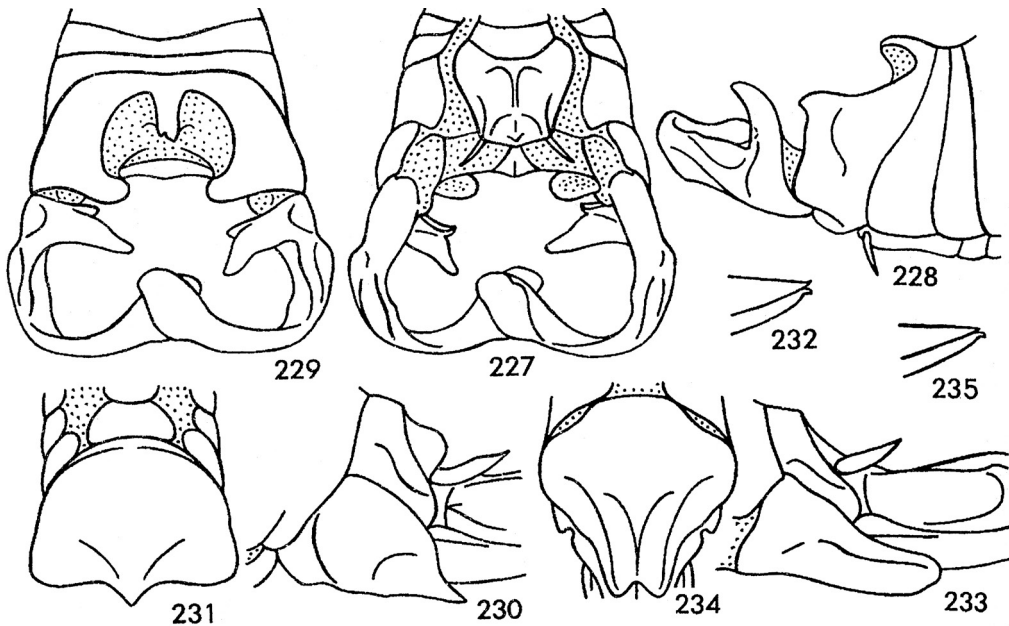
**Paratypes.** 2 ♀, same data as holotype [ZIAS].

**Description.** Male (holotype). Practically uniformly light green (distal parts of hind legs lost). Eyes slightly elongated, almost round; apical segment of maxillary palpi almost twice as long as subapical one. Upper edge of pronotum almost straight (in profile); pronotal hind lobe only partly covering tegminal stridulatory apparatus. Sternites of prothorax and metathorax unarmed; sternite of mesothorax with a pair of short, almost spine-like, pointed projections. Fore coxa with long and thin, slightly curved spine; fore femora with 4 outer and 3-4 inner rather long spines; fore tibiae with 4 long outer and 4 very long inner spines; hind femora unarmed, except for very small lower outer distal denticle; hind tibiae with rather sparse, very small spines on both upper edges. Tegmina extending to apex of 7th abdominal tergite, slightly and gradually narrowing to round apex; hind wings slightly shorter than tegmina, entirely covered by them. Cerci rather short, with slightly widened (almost rounded), flattened distal half and characteristic small inner hook at base; genital plate with practically truncated apex and very long styles (Figs 196-199).

**Female.** Similar to male. Hind tarsi and apex of hind tibiae darkened (brownish). Cerci simple, thin and rather long, slightly



Figs 202-226. Male. 202-207, *Alloteratura karnyi* (Kästn.); 208-215, *Pseudoteratura sundaica* (Kästn.); 216-218, *Dinoteratura beieri* (B.-Bien.) (arrows point to same structures from behind); 219-222, *Phlugis (Odontophlugis) pehlkei* Kästn.; 223-226, *Cephalophlugis cephalotes* (Bol.). Abdominal apex from above and slightly behind (202, 208), from above (203, 209, 216, 220, 224), from below (204, 210, 217, 223), and from side (205, 211, 218, 221, 225); genitalia from side (206, 215), from above (207, 212, 226), from below (213), and from behind (214); genital plate from below (219); epiproct and genitalia from behind (between cerci) (222).



Figs 227-235. 227-232, *Xiphidiopsis (Xiphidiopsis) amnicola* sp. n.; 233-235, *X.?* *dissita* sp. n. Abdominal apex of male from below (227), from side (228), and from above (229); abdominal apex of female from side (230, 233) and from below (231, 234); apex of ovipositor from side (232, 235).

longer than inflated proximal part of ovipositor; genital plate narrowing in distal half, with almost truncated, rather narrow apex (Fig. 200); distal part of ovipositor distinctly longer than inflated proximal one, roundly curved upwards, almost gradually narrowing to acute apex (lower edge of apical part of lower valvae with very small denticles).

Length. Body: ♂ 11.5 mm, ♀ 12-14 mm; pronotum: ♂ 3.4 mm, ♀ 3.4-3.6 mm; tegmina: ♂ 5.2 mm, ♀ 5.2-5.4 mm; hind femora: ♂ 11.6 mm, ♀ 12-12.5 mm; longest spine of fore tibiae: ♂ 1.3 mm, ♀ 1.3-1.4 mm; ovipositor 4.5 mm.

**Comparison.** The species is similar to *A. sulawesi*, but differs in the shorter wings and male cerci, longer styles of the male genital plate, smaller inner hook at base of male cerci covered by genital plate, and absence of orange line on pronotal disc.

**Asiophlugis malacca** sp. n.  
(Fig. 201)

**Holotype.** ♀, Malaysia, Pahang, env. of Jerantut, secondary forest, 11-12.VII.1996 (A. Gorochov) [ZIAS].

**Description.** Female (holotype). Very similar to *A. rete*, but coloration greenish yellow

(living specimens possibly green) with light brownish, distinct stripe along anal edge of tegmina and slightly darkened hind tarsi, sternite of mesothorax with almost round tubercle-like projections, fore femora with 3 outer, rather short and 4 inner, rather long spines, hind femora with a pair of very small lower distal denticles, tegmina extending to last abdominal tergite, hind wings distinctly longer than tegmina (their distal part exposed), genital plate with almost round apex (Fig. 201), ovipositor slightly longer.

Male unknown.

Length. Body 14 mm, body with wings 16.5 mm; pronotum 3.6 mm; tegmina 9.3 mm; hind femora 12 mm; longest spine of fore tibiae 1.4 mm; ovipositor 5 mm.

**Comparison.** The new species differs from *A. sulawesi* in the almost straight upper edge of pronotum (without elevated pronotal hind lobe), practically unicolourous pronotum and brownish stripe along anal edge of tegmina. Distinctions from *A. rete* are given above.

**Genus Cephalophlugis** gen. n.

Type species *Phlugis cephalotes* Bolivar, 1888 (Brazil).

*Description.* Similar to other Phlugidini, but with strongly widened head and pronotum. Legs rather short; fore legs with spines along outer and inner lower edges, with both open tympana; middle legs with tibial spines only. Tegmina slightly shortened, extending to abdominal apex; hind wings distinctly longer. Last abdominal tergite of male with a pair of large hind lobes; male cerci strongly curved, hook-like, without processes; male genital plate with deep median notch of hind edge and very long styles; male genitalia membranous (Figs 223-226).

*Included species:* type species only.

*Comparison.* The new genus differs from *Phlugis* in the distinctly shorter male genital plate with very long styles (for comparison see Figs 219, 223), from *Asiophlugis* in the shape of male cerci, and from other genera of this tribe in the same characters as *Asiophlugis*.

#### Genus *Phlugis* Stål, 1861

This genus consists of only Neotropical species and is divided into 2 subgenera: *Phlugis* with several species similar to *Locusta teres* De Geer, 1773 (type species) and *Odontophlugis* subgen. n.

#### Subgenus *Odontophlugis* subgen. n.

Type species *Phlugis pehlkei* Kästner, 1932 (Columbia).

*Description.* The new subgenus is distinguished from the nominotypical subgenus by the large last abdominal tergite of male, specialized male cerci provided with teeth and hooks (male cerci in the nominotypical subgenus unspecialized, as in female), and distinctly denticulated hind edge of male genitalia (Figs 220-222).

*Included species:* type species and possibly *Ph. crassifemorata* Kästner, 1932.

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