

## Taxonomic studies on the subfamily Landrevinae (Orthoptera: Gryllidae)

## Таксономические исследования по подсемейству Landrevinae (Orthoptera: Gryllidae)

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Some questions of classification of the subfamily Landrevinae Saussure, 1878 are discussed: the tribe Odontogryllini Mello, 1992, **trib. resurr.** is restored from synonymy; the genera *Oreolandreva* Chopard, 1945, *Microlandreva* Chopard, 1958 and *Creolandreva* Hugel, 2009 are included in the tribe Prolandrevini Gorochov, 2005. Some genera of the tribe Landrevini are considered: *Duolandrevus* Kirby, 1906; *Repapa* Otte, 1988; *Endolandrevus* Saussure, 1877; *Endodrelanva* Gorochov, 2000; *Kotama* Otte, 1988; *Odontogrylloides* Chopard, 1969. New taxa (38) from Indonesia, Malaysia, Vietnam, Laos, Philippines, Madagascar and Reunion Island are described: *D. (Duolandrevus) bengkulu sp. nov.*, *D. (D.) curup sp. nov.*, *D. (D.) selatan sp. nov.*, *D. (D.) manna sp. nov.*, *D. (D.) lampung sp. nov.*, *D. (D.) kubah sp. nov.*, *D. (D.) sympatricus sp. nov.*, *D. (D.) kalimantan sp. nov.*, *D. (D.) Balikpapan sp. nov.*, *D. (D.) spinicauda sp. nov.*, *D. (D.) sabah sp. nov.*, *D. (Eulandrevus) tawau sp. nov.*, *D. (E.) borneo sp. nov.*, *D. (E.) microrarus sp. nov.*, *D. (E.) megararus sp. nov.*, *D. (Bejorama) parvulus sp. nov.*, *D. (B.) firmus tioman subsp. nov.*, *D. (B.) balabacus taytay subsp. nov.*, *D. (B.) doloduo sp. nov.*, *D. (B.) obliterated sp. nov.*, *D. (Jorama) curtipennis mindoro subsp. nov.*, *R. trusmadi sp. nov.*, *R. denticulata sp. nov.*, *Sulawemina nitida gen. et sp. nov.*, *Endolandrevus halmahera sp. nov.*, *E. saussurei sp. nov.*, *E. biak sp. nov.*, *Endodrelanva tomentosa juara subsp. nov.*, *E. macrorrachis sp. nov.*, *E. peculiaris sp. nov.*, *E. chopardi sp. nov.*, *K. incisa sp. nov.*, *O. rotundatus sp. nov.*, *O. angulatus sp. nov.* (Landrevini); *Striduleva gen. nov.*, *Astriduleva analamazaotra gen. et sp. nov.* (Prolandrevini). Neotype for *D. (D.) coulouianus* (Saussure, 1877) is designated; *D. (D.) sulawesi* Gorochov, 2000, **comb. nov.** and *D. (E.) paradoxus* Gorochov, 2001, **comb. nov.** are transferred from the genus *Repapa* Otte, 1988 to *Duolandrevus* s. l. (to its subgenera *Duolandrevus* s. str. and *Eulandrevus*, respectively); the former species *R. proxima* Gorochov, 2004 is considered as a subspecies of the latter species, i. e. as *D. (E.) paradoxus proximus stat. nov.*; subgeneric position of some old species of *Duolandrevus* s. l. is established or changed; data on previously unknown females and new localities are also given.

Обсуждены некоторые вопросы классификации подсемейства Landrevinae Saussure, 1878: триба Odontogryllini Mello, 1992, **trib. resurr.** восстановлена из синонимии; роды *Oreolandreva* Chopard, 1945, *Microlandreva* Chopard, 1958 и *Creolandreva* Hugel, 2009 помещены в трибу Prolandrevini Gorochov, 2005. Рассмотрены некоторые роды трибы Landrevini: *Duolandrevus* Kirby, 1906; *Repapa* Otte, 1988; *Endolandrevus* Saussure, 1877; *Endodrelanva* Gorochov, 2000; *Kotama* Otte, 1988; *Odontogrylloides* Chopard, 1969. Из Индонезии, Малайзии, Вьетнама, Лаоса, Филиппин, Мадагаскара и острова Реюньон описаны следующие новые таксоны (38): *D. (Duolandrevus) bengkulu sp. nov.*, *D. (D.) curup sp. nov.*, *D. (D.) selatan sp. nov.*, *D. (D.) manna sp. nov.*, *D. (D.) lampung sp. nov.*, *D. (D.) kubah sp. nov.*, *D. (D.) sympatricus sp. nov.*, *D. (D.) kalimantan sp. nov.*, *D. (D.) Balikpapan sp. nov.*, *D. (D.) spinicauda sp. nov.*, *D. (D.) sabah sp. nov.*, *D. (Eulandrevus) tawau sp. nov.*, *D. (E.) borneo sp. nov.*, *D. (E.) microrarus sp. nov.*, *D. (E.) megararus sp. nov.*, *D. (Bejorama) parvulus sp. nov.*, *D. (B.) firmus tioman subsp. nov.*, *D. (B.) balabacus taytay subsp. nov.*, *D. (B.) doloduo sp. nov.*, *D. (B.) obliterated sp. nov.*, *D. (Jorama) curtipennis mindoro subsp. nov.*,

*R. trusmadi* sp. nov., *R. denticulata* sp. nov., *Sulawemina nitida* gen. et sp. nov., *Endolandrevus halmahera* sp. nov., *E. saussurei* sp. nov., *E. biak* sp. nov., *Endodreelanva tomentosa juara* subsp. nov., *E. macrorachis* sp. nov., *E. peculiaris* sp. nov., *E. chopardi* sp. nov., *K. incisa* sp. nov., *O. rotundatus* sp. nov., *O. angulatus* sp. nov. (Landrevini); *Striduleva* gen. nov., *Astriduleva analamazaotra* gen. et sp. nov. (Prolandrevini). Обозначен неотип для *D. (D.) coulonianus* (Saussure, 1877); *D. (D.) sulawesi* Gorochov, 2000, **comb. nov.** и *D. (E.) paradoxus* Gorochov, 2001, **comb. nov.** перенесены из рода *Repapa* Otte, 1988 в *Duolandrevus* s. l. (в его подроды *Duolandrevus* s. str. и *Eulandrevus* соответственно); бывший вид *R. proxima* Gorochov, 2004 рассматривается как подвид последнего вида, т. е. как *D. (E.) paradoxus proximus* stat. nov.; установлено или изменено подродовое положение некоторых старых видов *Duolandrevus* s. l.; приведены также сведения о ранее неизвестных самках и новых местонахождениях.

**Key words:** crickets, taxonomy, Indo-Malayan and Madagascan Regions, Orthoptera, Gryllidae, Landrevinae, new taxa

**Ключевые слова:** сверчки, таксономия, индо-малайская и мадагаскарская области, Orthoptera, Gryllidae, Landrevinae, new taxa

## INTRODUCTION

This paper is based on a new material on crickets of the subfamily Landrevinae Saussure, 1878 from the Indo-Malayan Region (including the Papuan Subregion) and from the Madagascan Region. At the same time it is a generalization of the data previously published by the author (Gorochov, 1988, 1990, 1996, 2000, 2001, 2003a, b, 2004, 2005, 2010, 2013; Gorochov, Warchalowska-Sliwa, 2004; Ma et al., 2015), with a brief discussion on the tribal division of Landrevinae and diagnostic characters of the three allocated tribes.

All the specimens studied come from the collection of the Zoological Institute, Russian Academy of Sciences, Saint Petersburg; all types of new species and subspecies described here are also deposited in this institution. These specimens are dry and pinned. The photographs of their morphological structures were made by a Leica M216 stereomicroscope.

## TAXONOMIC PART

Subfamily **LANDREVINAE**  
Saussure, 1878

Tribe **LANDREVINI** Saussure, 1878

*Note.* This tribe includes all the Indo-Malayan and Australo-Papuan genera of

this subfamily. It is distinguished from the American tribe Odontogryllini Mello, 1992, **trib. resurr.** [this tribe is synonymized with Landrevini by Campos & Mello (2014), but this action is insufficiently grounded, because some possible diagnostic characters of this tribe proposed by Gorochov (2013) were not discussed] and Afro-Madagascan tribe Prolandrevini Gorochov, 2005 by the following characters.

From Odontogryllini, it differs in a characteristic structure of the male stridulatory vein: in Landrevini with the stridulatory apparatus developed, this vein is S-shaped or almost S-shaped in the lateral part (this part is also without stridulatory teeth); in Odontogryllini with such apparatus, this vein is straight or weakly arcuate, i. e. it is in more primitive condition. The genera without stridulatory apparatus are not distinguished from each other with help of this character; however, it seems to me that the male genitalia in these tribes are also very different, but they are in need of an additional comparison on the base of more representational material (I had possibility to study only one genus of Odontogryllini; it is insufficient for such comparison).

From Prolandrevini, the tribe under question differs in the absence of small denticles between the outer spines of hind tibiae and usually a less long epiphallus in the male genitalia (in Prolandrevini, hind tibiae are

usually with a denticle or very sparse denticles between the outer spines, and epiphallus in the male genitalia is much longer than their rami). Some other possible characters were also indicated for distinction of these tribes: narrow or slightly widened second tarsal segments (Gorochov, 2005). However, the new finds showed that these segments are weakly varied in Landrevini and distinctly varied in Prolandrevini, and cannot be used for their diagnostics.

### Genus *Duolandrevus* Kirby, 1906

*Note.* Recently, a first key to subgenera of this genus was published (Ma et al., 2015); the key was based on a new interpretation of its subgeneric division. In this publication, some of the congeners included in the subgenus *Eulandrevus* Gorochov, 1988 by previous authors (see Eades et al., 2015) were mentioned as species with problematic subgeneric position: *Duolandrevus rufus* Chopard, 1931; *D. thailandicus* (Otte, 1988); *D. enatus* (Gorochov, 1990), *D. rarus* Gorochov, 1996. Their belonging to *Eulandrevus* was not supported by the morphological characters given in this key. Moreover, subgeneric position for *D. luzonensis* Otte, 1988, *D. balabacus* Otte, 1988, *D. gingoogus* Otte, 1988 and *D. palauensis* Otte, 1988 was not established as in this publication as in previous ones. Here, a new attempt of the subgeneric classification of *Duolandrevus* s. l. is made. Main changes apply to the subgenera *Duolandrevus* s. str., *Eulandrevus* and *Bejorama* Otte, 1988. Most of congeners included in these subgenera are characterized by the following features.

*Duolandrevus* s. str. is with the male hind wings distinctly or slightly protruding behind the posterior metanotal edge (Figs 2, 5, 8, 11, 14, 16, 18, 20, 25, 27, 29, 36, 39, 119, 123, 231), with an unspecialized male anal plate (i. e. this plate is with a widely rounded or truncate apex lacking characteristic vertical setae; Figs 44, 50, 56, 62, 68, 73, 78, 82, 90, 95, 111, 117, 160, 161, 167, 168, 173, 232), and with the epiphal-

lus usually having a small dorsal denticle at (or near) the base of its posterolateral lobes but lacking any distinct transverse fold (folds) (Figs 42, 48, 66, 76, 80, 84, 88, 93). Thus, *D. rufus* must be transferred to the subgenus *Duolandrevus* in spite of the fact that one subspecies of this species has the male hind wings shorter, not reaching the posterior metanotal edge (Fig. 23). Some congeners are with strongly reduced dorsal denticles of the posterolateral epiphallic lobes or without them (Figs 54, 60, 71, 109, 115, 158, 165, 171), or with a distinct transverse fold on the epiphallus (Fig. 93), but the other characters allow us to include these species in this subgenus also.

*Eulandrevus* is with the male hind wings extremely short (completely or almost completely covered by the dorsal parts of pleurites) or absent (Figs 32, 34, 125, 128, 131, 134, 139, 144, 149, 154, 228), with an unspecialized male anal plate (as in *Duolandrevus* s. str.) (Figs 101, 106, 136, 141, 146, 151, 196, 202, 208, 213, 230), and with the epiphallus lacking dorsal denticles at (or near) the base of its posterolateral lobes but having a distinct transverse fold or only lateral parts of this fold (Figs 174, 176, 177, 179, 180, 182, 184–186, 188, 190, 191). If one of these characters is absent, such species may be also included in this subgenus (for example, *D. enatus* and *D. rarus* are without distinct transverse epiphallic fold or its lateral parts but may be included in *Eulandrevus*; Figs 192, 194, 209, 211); however, if a species lacks two of these characters, its position is problematic (for example, *D. thailandicus* has the male hind wings as in some representatives of *Duolandrevus* s. str., and its epiphallus lacks transverse fold as well as dorsal denticles at or near the base of posterolateral epiphallic lobes; thus, this species may be tentatively excluded from *Eulandrevus* and included in *Duolandrevus* s. str.; Figs 123, 171).

*Bejorama* has the male hind wings rather diverse in the length (from extremely short to distinctly protruding behind the metanotum but not longer than in *Duolandrevus* s.

str.; Figs 216, 219, 220, 222, 225, 241, 244, 247, 251, 255, 258), male anal plate specialized (usually with a narrowed distal half having a dorsomedian longitudinal concavity and a bundle of strong setae directed upwards at the apex; these setae possibly participate in the fixation of female during copulation; Figs 252–254, 256, 257, 259, 260–266, 273, 274, 275, 276, 278, 279, 280, 281), and male genitalia rather diverse but more or less lacking distinct transverse epiphallic fold as well as dorsal denticles at or near the bases of posterolateral epiphallic lobes (Figs 287, 288, 291, 292, 295, 296, 299). Some congeners have the male anal plate almost as in the previous subgenera (they were included in *Duolandrevus* s. str. or not included in any subgenus), but this study shows that their male anal plate is with a row of short and strong setae situated at the apex or along posteromedian edge of this plate and directed upwards (these setae may be used in copulation, and the congeners with such setae are here included in *Bejorama*; Figs 242, 243, 248–250, 267–272, 283, 284). In one species, this plate is similar in the shape to typical representatives of *Bejorama* but with a distinct tubercle (directed upwards) instead the above-mentioned apical bundle of setae (probably, these setae are strongly reduced; Figs 245, 246).

*New key to Duolandrevus subgenera.* The above-mentioned interpretation of these subgenera allow me to propose a revised subgeneric key for the genus *Duolandrevus*. It is partly coincides with the previous key. Seven species attributed in the Orthoptera Species File (Eades et al., 2016) to *Duolandrevus* s. l. (*D. mjobergi* Chopard, 1930, Borneo; *D. semialatus* Chopard, 1930, Borneo; *D. longipennis* Chopard, 1968, Afganistan; *D. bicolor* Bhowmik, 1981, Solomon Islands; *D. palauensis* Otte, 1988, Caroline Islands; *D. nairi* Vasanth, 1991, India; *D. fruhstorferi* Gorochov, 1996, Lombok I.) are not included in any subgenus here, because they are in need of an additional study; some of them may belong to another genus (for example *D. nairi*) or even to another sub-

family (*D. longipennis* probably belongs to Gryllinae).

1. Male anal plate with widely rounded or widely truncate apex and without strong setae directed upwards at apex or on dorsum along median part of its posterior edge (Figs 230, 232, 234, 235, 236) . . . . . 2
- Male anal plate with narrowed apex having apical bundle of strong setae or apical tubercle directed upwards, or this plate with widely rounded or truncate apex having row of such setae located on dorsum along median part of its posterior edge (Figs 239, 240, 242, 243, 245, 246, 248–250, 252–254, 256, 257, 259, 260, 261–276, 278–281, 283, 284). . . . . 7
2. Head distinctly depressed dorsoventrally, with more or less angular or roundly angular rostrum in profile. Hind tibia with articulated dorsal spines moderately long, and unarticulated dorsal denticles very short . . . . . 3
- Head barely depressed or almost not depressed dorsoventrally, with rounded rostrum in profile. Hind tibia with articulated dorsal spines very long, and unarticulated dorsal denticles long, spine-like. [Sumatra] . . . . . *Spinolandrevus* Gorochov, 1999
3. Male genitalia with posterolateral epiphallic lobes widened (plate-like), or these lobes with numerous small denticles or tubercles . . . . . 4
- Male genitalia with posterolateral epiphallic lobes not widened and lacking numerous small denticles or tubercles . . . . . 5
4. Head strongly depressed dorsoventrally. Male genitalia with posterolateral lobes widened (plate-like) but lacking numerous small denticles or tubercles. [New Guinea and nearest islands (Figs 233, 234)] . . . . . *Platylandrevus* Gorochov, 2005
- Head moderately depressed dorsoventrally. Male genitalia with posterolateral epiphallic lobes not widened and having numerous small denticles or tubercles. [Taiwan, Philippines, New Guinea, Lombok I. (Figs 236, 316–323)] . . . . . *Jorama* Otte, 1988
5. Male tegmen with lateral field much shorter than dorsal field (Fig. 390). [Central Vietnam (Figs 235, 390)] . . . . . *Vietlandrevus* Gorochov, 1996
- Male tegmen with lateral field not shorter or insignificantly shorter than dorsal field . . . . 6
6. Hind wings in male distinctly or slightly protruding behind metanotum, but sometimes they somewhat shorter (slightly not reach-

ing posterior edge of metanotum). Male genitalia with dorsal denticle at or near base of each posterolateral epiphallal lobe (Figs 42, 48, 66, 76, 80, 84, 88, 93), but often this denticle absent (Figs 60, 71, 109, 115, 158, 165, 171) or almost indistinct (Fig. 54); epiphallus usually without distinct transverse fold and without lateral parts of this fold . . . . .

. . . . . **Duolandrevus** s. str. [Included species: *Gryllus brachypterus* Haan, 1844 (type species), Java (Figs 1–3, 40–45); *Landrevus (Landrevus) coulonianus* Saussure, 1877, Java (Figs 10–12, 58–63); *D. rufus* Chopard, 1931, Malacca (Figs 19–25, 79–85); *D. pendleburyi* Otte, 1988, Malacca; *Repapa sulawesi* Gorochov, 2000, Sulawesi (Figs 231, 232); 11 new species described here and probably *Sutepia thailandica* Otte, 1988 from N. Thailand (Figs 122, 123, 169–173)]

- Hind wings in male clearly not reaching posterior edge of metanotum, covered with dorsal parts of pleurites, or absent. Male genitalia without dorsal denticle at or near base of each posterolateral epiphallal lobe (Figs 99, 104, 176, 179, 182, 184–186, 190, 191); epiphallus usually with distinct transverse fold or lateral parts of this fold . . . . .

. . . . . **Eulandrevus** Gorochov, 1988 [Included species: *Eulandrevus sonorus* Gorochov, 1988 (type species), N. Vietnam (Figs 138–142, 177–179); *E. dendrophilus* Gorochov, 1988, N. Vietnam and S. China (Figs 143–147, 188–191); *E. ivani* Gorochov, 1988, Japan (Figs 150–152, 180–182); *E. guntheri* Gorochov, 1988, Taiwan (*D. major* Otte, 1988, *D. ishigaki* Otte, 1988 and *D. yagamensis* Oshiro, 1988 partly synonymized with this species but possibly its subspecies from different Japanese islands; Figs 148, 149, 184–186); *E. enatus* Gorochov, 1990, Central Vietnam (Figs 153–155, 209–214); *D. (E.) rarus* Gorochov, 1996, Central Vietnam and Cambodia (Figs 124–126, 192–197); *Repapa paradoxa* Gorochov, 2001, Central Thailand and Cambodia (Figs 227–230); *D. (E.) yonaguniensis* Ichikawa, 2001, Japan (Fig. 183); *D. (E.) unguiculatus* Ma, Gorochov et Zhang, 2015, S. China and Laos (Figs 133–137, 174–176); *D. (E.) hainanensis* Liu, He et Ma, 2015, S. China; four new species described here and possibly *Paralandrevus coriaceus* Shiraki, 1930 from Taiwan (Fig. 187)]

7. Fore tibiae with outer and inner tympana. Male tegmina with developed stridulatory apparatus . . . . . **Bejorama** Otte, 1988 [Included species: *D. intermedius* Chopard, 1969 (type species), Malacca (Figs 258–260, 292); *D. balabacus* Otte, 1988, Philippines (Figs 283, 284, 304–311); *D. (D.) deliensis* Gorochov, 2000, Sumatra (Figs 251–254); *D. (D.) krabi* Gorochov, 2000, Malacca (Figs 247–250); *D. (D.) mostovskyi* Gorochov, 2000, Malacca (Figs 241–243); *D. (D.) soekarandae* Gorochov, 2000, Sumatra (Figs 244–246); *D. (B.) firmus* Gorochov, 2000, Malacca (Figs 215–217, 255–257, 285–288, 300); *D. equatorialis* Gorochov, 2003, Sumatra (Figs 261–263); *D. praestans* Gorochov, 2003, Sumatra (Figs 264–266); *D. (B.) improvisus* Gorochov et Warchalowska-Sliwa, 2004, Sumatra (Figs 270–272); *D. (B.) modestus* Gorochov et Warchalowska-Sliwa, 2004, Sumatra (Figs 267–269); *D. (B.) bonus* Gorochov, 2005, Sulawesi (Figs 220, 273, 274, 296); three new species described here and possibly two species from Philippines (*D. gingoogus* Otte, 1988 and *D. luzonensis* Otte, 1988) very similar to *D. balabacus* in male genitalia]
  - Fore tibiae without tympana. Male tegmina with only traces of stridulatory apparatus (it almost lost). [Sumatra (Figs 237–240)] . . . . . **Surdolandrevus** Gorochov, 2003

***Duolandrevus (Duolandrevus) bengkulu* sp. nov.**  
(Figs 4–6, 46–51)

*Holotype*. Male, **Indonesia**, Sumatra, Bengkulu Prov., environs of Curup Town (not far from Bengkulu City), 3°28–29'S, 102°31–38'E, 1000–1500 m, secondary forest, on wood at night, 24.IV–2.V.2009, A. Gorochov, M. Berezin, E. Tkatsheva.

*Paratypes*. Two males and female, same data as for holotype.

*Description*. Male (holotype). Colouration and structure of body most similar to those of *D. brachypterus*. Epicranium, upper half of clypeus, and pronotum brown with slightly darker rostral region and area under eyes and antennae as well as light brown anteroventral spot on each pronotal lateral lobe; eyes greyish brown; ocelli and lower half of clypeus yellowish; labrum



**Figs 1–9.** *Duolandrevus* (*Duolandrevus*): 1–3, *D. (D.) brachypterus* (Haan); 4–6, *D. (D.) bengkulu* sp. nov.; 7–9, *D. (D.) curup* sp. nov. Dorsal field of male right tegmen (1, 4, 7); metanotum with hind wings in male from above (2, 5, 8); region of tegmina in female from above (3, 6, 9).

light brown; mandibles almost dark brown; rest mouthparts very light brown to almost whitish; antennae greyish brown with almost light brown scapes; tegmina with lateral field brown but having yellowish (semi-transparent) band along costal edge, with basal and distal areas of dorsal field light brown to brown, and with semitransparent areas between these areas lighter (almost yellowish); legs light brown with distal part

of hind femora slightly darkened; venter of body from light brown to almost brown; rest of body more or less brown but with slightly lighter short proximal part of cerci. Head barely wider than pronotum, moderately flattened, with roundly angular rostrum in profile (distance between antennal cavities approximately equal to width of scape), and without wrinkles on anterior part of epicranium; pronotum distinctly transverse,

with moderately low lateral lobes; tegmina reaching base of seventh abdominal tergite, with dorsal field slightly longer than lateral one, with lateral field having 6–7 longitudinal veins only, with mirror almost completely lost among irregular cross-venation (i. e. with numerous small cells), and with rest of venation of dorsal field as in Fig. 4; metanotal gland and hind wings as in Fig. 5; outer and inner tympana rather large, oval, approximately equal in size; anal plate almost as in *D. brachypterus* but with barely narrower apex (for comparison see Figs 44 and 50); genital plate also similar to that of this species, somewhat longer than anal one and with almost rounded apex; genitalia distinguished from those of *D. brachypterus* only by posterolateral epiphallal lobes somewhat shorter and with slightly narrower space between them, distal part of these lobes clearly wider, unpaired posteromedian lobule of epiphallus hardly shorter, anteromedian lobe of epiphallus not curved upwards, and anterior part of rami distinctly widened (*vs.* this part not widened but more hooked; see Figs 40–43 and 46–49).

Variations. Tegminal mirror sometimes developed but small and with reticular distal half; anal plate sometimes almost truncate posteriorly.

Female. General appearance as in male, but: tegmina uniformly brown and reaching middle part of first abdominal tergite as well as with dorsal field slightly shorter than lateral one and with posteromedial edge almost roundly convex (Fig. 6); lateral tegminal field with five longitudinal veins; dorsal tegminal field with 4–5 such veins; tegminal cross-venation and metanotal gland absent; genital plate similar to that of female of *D. brachypterus*, small (shorter than anal one) and slightly narrowing to apex but with posterior edge truncate and posterolateral corners somewhat rounded (*vs.* with this edge slightly notched and these corners almost angular; Figs 45 and 51); ovipositor clearly shorter than hind femur.

Length in mm. Body: male 14–15, female 14; pronotum: male 2.3–2.5, female 2.6; teg-

mina: male 7.2–7.5, female 2.3; hind femora: male 9–9.7, female 9.8; ovipositor 7.8.

*Comparison.* The new species is most related and similar to *D. brachypterus* but distinguished by a somewhat smaller body size, almost undeveloped mirror in the male tegmina (see Figs 1 and 4), and the above-mentioned characters of the male genitalia.

*Etymology.* This species is named after the Bengkulu Province where it was collected.

### ***Duolandrevus (Duolandrevus)***

#### ***curup* sp. nov.**

(Figs 7–9, 52–57)

*Holotype.* Male, **Indonesia**, Sumatra, Bengkulu Prov., environs of Curup Town (not far from Bengkulu City), 3°28–29'S, 102°31–38'E, 1000–1500 m, secondary forest, on wood at night, 24.IV–2.V.2009, A. Gorochov, M. Berezin, E. Tkatsheva.

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

*Description.* Male (holotype). Colouration and external structure of body very similar to those of *D. brachypterus* and *D. bengkulu*, but: epicranium and pronotum dark brown with only traces of lighter anteroventral spots on pronotal lateral lobes; tegmina also with almost dark brown most part of lateral field as well as basal and distal areas of dorsal field; abdomen dark brown with brown some anterior sternites and almost completely dark cerci; tegmina reaching base of eighth abdominal tergite, with mirror almost as in *D. brachypterus* in size (distinctly larger than in *D. bengkulu*) but having more irregular distal part (Fig. 7); metanotal gland and hind wings as in Fig. 8; anal plate with more or less truncate apex (Fig. 56); genitalia distinguished from those of *D. brachypterus* by width of distal part of posterolateral epiphallal lobes and shape of unpaired posteromedian epiphallal lobule almost as in *D. bengkulu*, and by ectoparameres slightly projecting behind apices of these lobes (*vs.* latter lobes slightly projecting behind ectoparameral apices; see Figs 40–43 and 52–55), from those of *D. bengkulu* by wider space between posterolateral



**Figs 10–18.** *Duolandrevus* (*Duolandrevus*): 10–12, *D. (D.) coulonianus* (Sauss.) (10, neotype; 11, 12, specimens from Sumatra and West Java, respectively); 13, 14, *D. (D.) selatan* **sp. nov.**; 15, 16, *D. (D.) lampung* **sp. nov.**; 17, 18, *D. (D.) manna* **sp. nov.** Male right tegmen (17) and its dorsal field (10, 13, 15); metanotum with hind wings in male from above (11, 14, 16, 18); region of tegmina in female from above (12).

epiphallal lobes and rather thin distal part of rami (see Figs 46–48 and 52–54), and from genitalia of both these species by less developed dorsal denticle at base of each posterolateral epiphallal lobes as well as by presence of characteristic (long and rather thick) seta on medial surface of each ectoparamere and intermediate position of an-

teromedian epiphallal lobe (see Figs 40–42, 46–48 and 52–54).

Female. General appearance as in male, but structure of tegmina and of abdominal apex similar to that of *D. bengkului*; however, tegmina clearly longer (reaching apex of second abdominal tergite; Fig. 9) as well as with 6–7 longitudinal veins in lateral field

and 5–6 such veins in dorsal field, and genital plate with barely notched apex (Fig. 57).

Length in mm. Body: male 15, female 15.5; pronotum: male 2.5, female 2.9; tegmina: male 7.7, female 3.8; hind femora: male 10.5, female 11.7; ovipositor 8.2.

*Comparison.* The new species differs from two most related and similar species in the following features: from *D. brachypterus*, in the above-mentioned characters of the male genitalia; from *D. bengkulu*, in a larger mirror in the male tegmina, longer female tegmina, and the male genital characters listed above.

*Etymology.* This species is named after the Curup Town situated near its type locality.

***Duolandrevus (Duolandrevus) coulonianus*** (Saussure, 1877)  
(Figs 10–12, 58–63)

*Landrevus (Landrevus) coulonianus* Saussure, 1877

*Paralandrevus coulonianus*: Kirby, 1906

*Duolandrevus coulonianus*: Chopard, 1931

*Eulandrevus? coulonianus*: Gorochov, 1988

*Duolandrevus (Duolandrevus) ?coulonianus*: Gorochov & Warchalowska-Sliwa, 2004

*Neotype* (here designated). Male, **Indonesia**, Java, 20–25 km SE of Bogor City, Pangrango Mts, 1000 m, environs of Cemande Vill., secondary forest, on wood at night, 27.XI–7.XII.1999, A. Gorochov.

*New material.* **Indonesia**: 2 males and female, Sumatra, Lampung Prov., Bukit Barisan Selatan National Park, 20–30 km WNW of Kotaagung Town, environs of Sukaraja Vill., 5°30–31'S, 104°25–27'E, ~600 m, primary forest, on wood at night, 14–18.IV.2009, A. Gorochov, M. Berezin, E. Tkatsheva.

*Note.* Judging by the recently published research (Hollier et al., 2013), types of this species are most probably lost (absent in Museum d'histoire naturelle in Neuchatel, where they must be deposited according to Saussure). The original description of this species is insufficient, because it does not contain any information about male genitalia

(Saussure, 1877). It is a reason that this species has been problematical during very long time; for example, Gorochov & Warchalowska-Sliwa (2004) were able to give only its questionable determination for a few specimens from the same locality as in the above-mentioned neotype. Thus, this name is here fixed for the latter species by neotype designation; this neotype is one of the above-mentioned Javanese specimens, fully complies with Saussure's description, and originates from the same type locality (Java). A more complete redescription of this species (including its male genitalia) and necessary illustrations were given in the above-mentioned paper by Gorochov & Warchalowska-Sliwa; here, some illustrations are also given (Figs 10–12, 58–63).

*Remark.* The specimens from the southern part of Sumatra are almost identical to those from West Java (Gorochov & Warchalowska-Sliwa, 2004: figs 1–3, 8–13). This species is here recorded from Sumatra; its female is very similar to that of *D. bengkulu* but with a slightly larger body, insignificantly longer tegmina, and a somewhat longer ovipositor (length: ovipositor 10.8 mm, hind femur 12.5 mm).

***Duolandrevus (Duolandrevus) selatan*** sp. nov.  
(Figs 13, 14, 64–68)

*Holotype.* Male, **Indonesia**, Sumatra, Sumatera Selatan Prov., environs of Banding Agung Vill. on Ranau Danau (= Ranau Lake), 4°48.695'S, 103°55.289'E, 600–700 m, secondary forest, on wood at night, 19–22.IV.2009, A. Gorochov, M. Berezin, E. Tkatsheva.

*Paratypes.* **Indonesia**: male, Sumatra, Bengkulu Prov., 25 km S of Bintuan Town, environs of Tanjung Baru Maje Vill., 4°50.279'S, 103°28.071'E, ~100 m, secondary forest, on wood at night, 2–3.V.2009, A. Gorochov, M. Berezin, E. Tkatsheva; male, same province, environs of Curup Town (not far from Bengkulu City), 3°28–29'S, 102°31–38'E, 1000–1500 m, secondary forest, on wood at night, 24.IV–2.V.2009, A. Gorochov, M. Berezin, E. Tkatsheva.

*Description.* Male (holotype). General appearance as in *D. bengkulu* but with fol-

lowing differences: mandibles slightly lighter (brown); hind tibia with darker (brown) dorsal surface; abdominal dorsum with dark brown median band reaching apex of anal plate; head not wider than pronotum; tegmina reaching middle of sixth abdominal tergite, with 7–8 longitudinal veins in lateral field and poorly distinct but rather numerous cross-veins between them, and with mirror insignificantly different from that of *D. bengkulu* (see Figs 4 and 13); metanotal gland and hind wings as in Fig. 14; and anal plate with barely wider apex (Fig. 68). Genitalia similar to those of *D. brachypterus* and *D. bengkulu* in general shape of epiphallus (including its posteromedial lobules which short and fused with each other) and presence of distinct dorsal denticles at base of epiphallic posterolateral lobes, but shape of these lobes and width of space between them intermediate, dorsal edge of these lobes in profile deeply concave behind dorsal denticles and arcuately convex in distal part (but not almost straight), and anteromedian lobe of epiphallus approximately as in *D. bengkulu* (i. e. not curved upwards; Figs 64–67).

Variations. Tegminal mirror in one male from Bengkulu Province more distinct (almost without cross-venation); colouration of head and pronotum sometimes darker (mainly dark brown); shape of posterolateral epiphallic lobes insignificantly varied.

Female unknown.

Length in mm. Body 16–20; pronotum 2.5–2.8; tegmina 7.5–8.2; hind femora 10–11.

*Comparison.* The new species is most similar to *D. brachypterus*, *D. bengkulu*, *D. curup* and *D. coulouianus*, but it differs from the first two species in the male genital characters named above, in the description; from *D. curup*, in acute dorsal denticles (not obtuse angulate protrusions) on the epiphallic posterolateral lobes, an S-shaped (not straight) dorsal edge of these lobes behind the dorsal denticles, not curved anteromedian epiphallic lobe, and the absence of characteristic medial setae on the

ectoparameres; and from *D. coulouianus*, in a clearly shorter unpaired posteromedian epiphallic lobule and different shape of the dorsal edge of epiphallic posterolateral lobes in the profile.

*Etymology.* This species name is the Indonesian word “selatan” (southern).

### ***Duolandrevus (Duolandrevus)***

#### ***manna* sp. nov.**

(Figs 17, 18, 69–73)

*Holotype.* Male, **Indonesia**, Sumatra, Bengkulu Prov., 30–40 km SE of Manna Town, low mountains near coast of sea, 4°59.974'S, 103°44.994'E, ~50 m, secondary forest, on wood at night, 22–23.IV.2009, A. Gorochov, M. Berezin, E. Tkatsheva.

*Description.* Male (holotype). General appearance almost as in *D. bengkulu* and *D. selatan* but with following differences: mandibles and dorsal surface of hind tibiae mainly brown; abdomen with light brown to brown dorsum having dark brown median stripe and with almost dark brown anal plate, distal half of genital plate, and lower parts of tergites; tegmina reaching apex of sixth abdominal tergite, with lateral field having 7–8 longitudinal veins and lacking distinct cross-veins, and with venation of dorsal field as in Fig. 17; metanotal gland and hind wings as in Fig. 18; anal plate with barely visible low median keel on dorsum of posterior half (Fig. 73). Genitalia most similar to those of *D. selatan* but distinguished by posterolateral epiphallic lobes somewhat S-shaped in dorsal view, posteromedial epiphallic lobules not fused with each other, anteromedian lobe of epiphallus slightly curved upwards, absence of distinct dorsal denticles at base of above-mentioned lobes, and absence of rather deep concavity on their dorsal edge in profile (Figs 69–72).

Female unknown.

Length in mm. Body 19; pronotum 2.8; tegmina 8.2; hind femora 10.

*Comparison.* The new species differs from *D. selatan* in the male genital characters listed above. From the other true species of this subgenus, it is distinguished by the fol-



**Figs 19–30.** *Duolandrevus* (*Duolandrevus*): 19–21, *D. (D.) rufus pahangensis* Gor.; 22, 23, *D. (D.) r. obscurus* Gor.; 24, 25, *D. (D.) r. rufus* Chop.; 26, 27, *D. (D.) kubah* sp. nov.; 28–30, *D. (D.) sympatricus* sp. nov. Male right tegmen (24, 26) and its dorsal field (19, 22, 28); metanotum with hind wings in male from above (20, 23, 25, 27, 29); region of tegmina in female from above (21, 30).

lowing features: from *D. coulonianus*, *D. brachypterus*, *D. bengkulu* and *D. curup*, by the posterolateral epiphallic lobes S-shaped in the dorsal view, posteromedial epiphallic lobules not fused with each other, and absence of distinct dorsal denticles or projections on the posterolateral lobes of epiphallus; and from *D. rufus*, by distinctly smaller body and male tegminal mirror, as well as the absence of dorsal denticles on the posterolateral epiphallic lobes.

*Etymology.* This species is named after the Manna Town located not far from its type locality.

### ***Duolandrevus (Duolandrevus)***

#### ***lampung* sp. nov.**

(Figs 15, 16, 74–78)

*Holotype.* Male, **Indonesia**, Sumatra, Lampung Prov., Bukit Barisan Selatan National Park, 20–30 km WNW of Kotaagung Town, environs of Sukaraja Vill., 5°30–31'S, 104°25–27'E, ~600 m, primary forest, on wood at night, 14–18. IV.2009, A. Gorochov, M. Berezin, E. Tkatsheva.

*Paratypes.* Male, same data as for holotype.

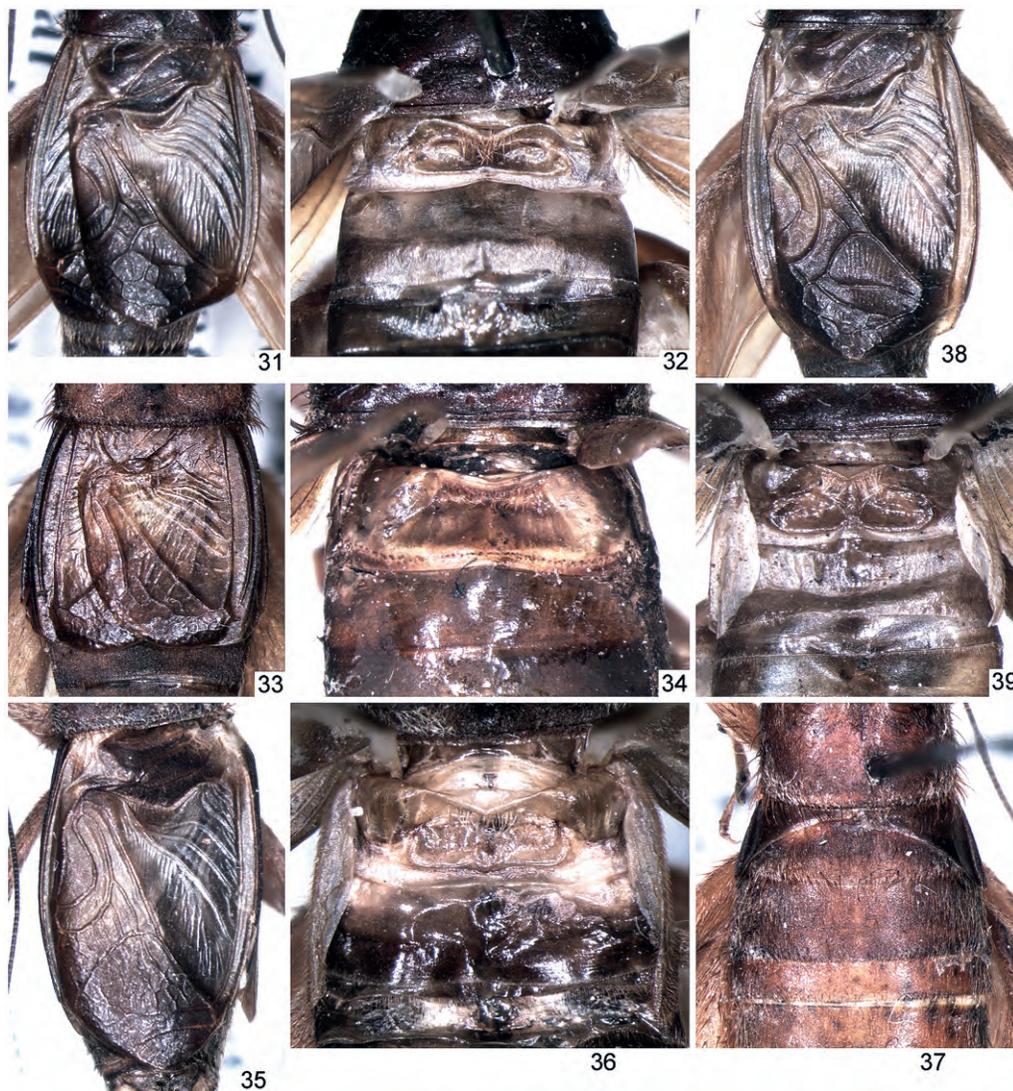
*Description.* Male (holotype). Body size approximately as in all species of this subgenus previously considered here, but colouration lighter: epicranium intensively light brown with brown rostral region, area under it and under antennae and eyes, and a few longitudinal stripes on dorsum (however, eyes and ocelli dark brown and yellowish, respectively); antennae greyish brown with light brown scape; mandibles and upper half of clypeus brown; labrum, maxillae, labium and rest of clypeus light brown but slightly lighter than most part of epicranium and barely lighter than scapes; pronotum also intensively light brown with small and almost yellowish anteroventral spot on each lateral lobe; tegmina with brown lateral field having wide whitish band along costal edge, with light brown basal and distal areas of dorsal field having somewhat darker spots at base of oblique veins and near plectrum, and with very light brown semitransparent areas between above-men-

tioned areas of dorsal field (however, medial half of this semitransparent part barely darker and more or less similar to basal and distal areas of dorsal field in colouration; Fig. 15); legs almost uniformly light brown; abdominal sternites and venter of thorax also light brown; proximal abdominal tergites and more distal part of pterothorax very light brown to yellowish; rest of abdomen intensively light brown with brown distal half of genital plate, transverse stripes along posterior edges of tergites, a few small spots on anal plate, and most part of cerci (however, cercal bases lighter). Structure of body also more or less similar to that of above-mentioned congeners, but: head very weakly flattened; rostrum (in profile) more rounded than angular; tegmina reaching base of eighth abdominal tergite, with only 6–7 longitudinal veins in lateral field, and with distinctly developed and almost rounded mirror in dorsal field (Fig. 15); inner and outer tympana medium-sized and almost equal in size; metanotal gland, hind wings and anal plate as in Figs 16, 78; genitalia distinguished from those of above-mentioned congeners by posteromedial epiphallic lobules very short (clearly shorter than in these species) and not fused with each other, posterolateral epiphallic lobes with distinct dorsal denticle at base and without distinct concavity and arcuate convexity on dorsal edge of these lobes behind dorsal denticle in profile, as well as with anteromedian epiphallic lobe not curved upwards (Figs 74–77).

*Variations.* Other male slightly darker (more similar to males, previously considered here, in colouration), but most part of epicranium and of pronotum reddish brown (without distinct stripes), basal and distal areas of dorsal tegminal field almost brown, areas between them light greyish brown (somewhat darker than in holotype), and abdominal apex almost uniformly brown.

Female unknown.

Length in mm. Body 15–15.5; pronotum 2.6–2.8; tegmina 7.5–8; hind femora 10–11.



**Figs 31–39.** *Duolandrevus*: 31, 32, *D. (Eulandrevus) tawau* sp. nov.; 33, 34, *D. (E.) borneo* sp. nov.; 35–37, *D. (Duolandrevus) kalimantan* sp. nov.; 38, 39, *D. (D.) sabah* sp. nov. Dorsal field of male right tegmen (31, 33, 35, 38); metanotum with hind wings (if they developed) in male from above (32, 34, 36, 39); region of tegmina in female from above (37).

*Comparison.* The new species differs from all the congeners of this subgenus in a distinctly developed and rounded mirror in the male tegmina in combination with the male genital characters listed above.

*Etymology.* This species is named after the Lampung Province where it was collected.

***Duolandrevus (Duolandrevus) rufus rufus*** Chopard, 1931  
(Figs 24, 25, 79–82)

*Duolandrevus rufus* Chopard, 1931  
*Duolandrevus (Eulandrevus) rufus rufus*: Gorochov, 2000

*New material.* **Malaysia:** male, Penang I. between Malacca and Sumatra, Penang Mt,

~800 m, secondary forest, on road at night, 20–24.XI.2014, A. Gorochov, M. Berezin, E. Tkatsheva.

**Remark.** This male is almost identical to holotype of this subspecies studied by me in the Natural History Museum in London (Gorochov, 2000: fig. 28): its genitalia have very similar posteromedial epiphallallic lobules which are hook-like and distinctly visible in the profile (Figs 79–81), but its tegmina are with slightly less transverse and oblique mirror [for comparison see Fig. 24 and the holotype picture in Otte (1988: fig. 20, H)]. It is necessary to note also that in this paper, Otte mentioned “Brussels” as a place of this holotype deposition, and Chopard (1969) wrote that such place is “National Museum of Malaya” in Kuala Lumpur. However, the male from London has a geographic label completely according to Chopard’s original data and Otte’s reference, and it has the additional label “*Duolandrevus rufus* Chop. type”. Thus, the latter male from the Perak State of Malaysia may be a real holotype of this taxon and, together with the above-mentioned male from Penang Island (located not far from Perak), belong to the nominotypical subspecies. The male genitalia pictured by Otte (1988: fig. 8, C) are somewhat different from those of both these specimens and appertain to another specimen; its locality is unknown, and this male probably belongs to the subspecies considered below.

***Duolandrevus (Duolandrevus) rufus pahangensis*** Gorochov, 2000  
(Figs 19–21, 83–85)

*Duolandrevus (Eulandrevus) rufus pahangensis*  
Gorochov, 2000

**New material.** **Malaysia:** 6 males and 3 females, Pahang State (Malacca), Fraser’s Hill near border with Selangor State (17–18 km SW

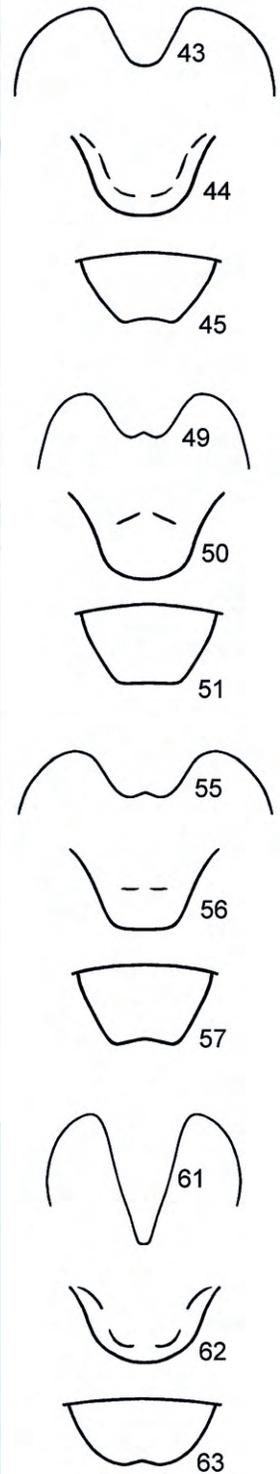
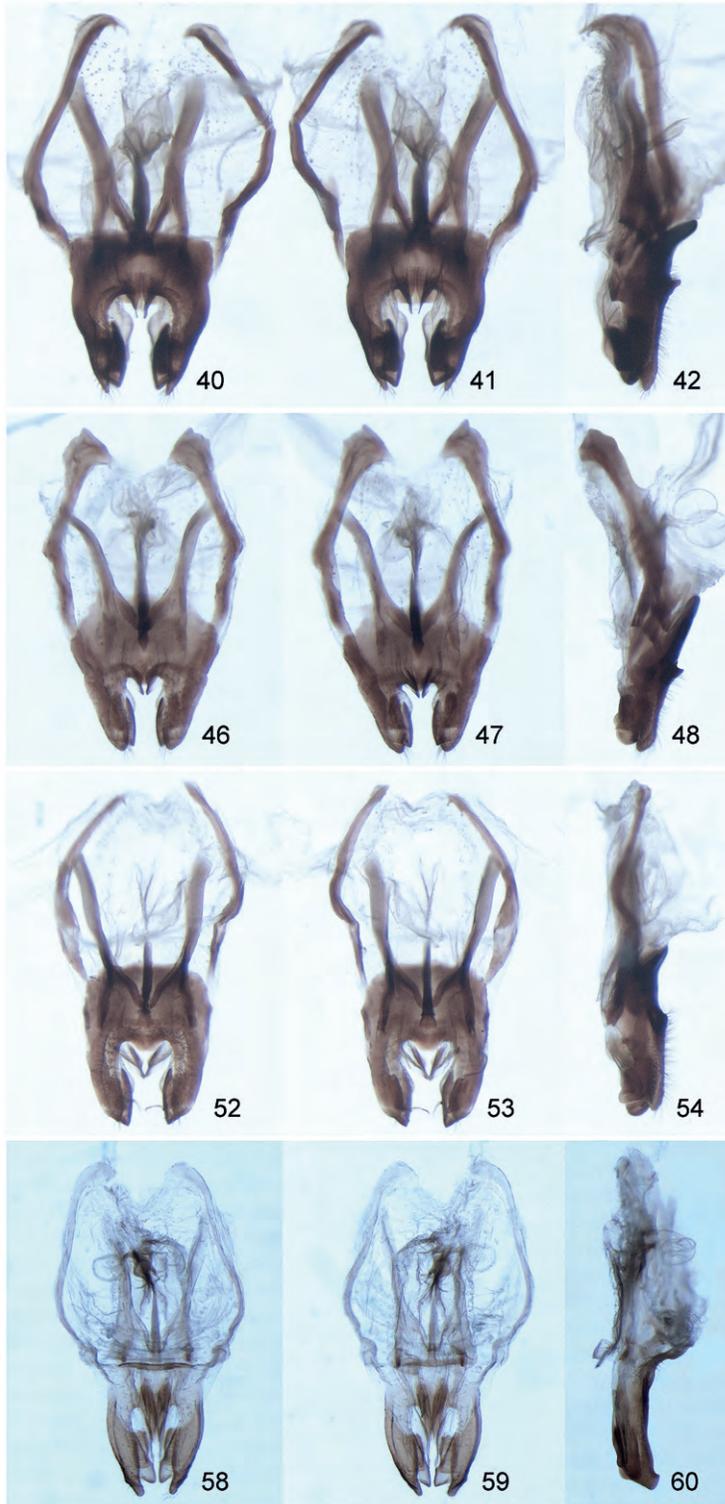
of Raub Town), 1000–1300 m, primary forest, on wood at night, 15–23.IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva; 5 males and 3 females, Pahang State, Tioman I. not far from Mersing City (Malacca: Johor State), environs of Juara Vill., eastern coast, 6–14.IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva.

**Remark.** This large subspecies described from the Taman Negara National Park (Pahang) is widely distributed in this state. It is rather diverse in the colouration (from light reddish brown with almost yellowish most part of tegmina to reddish brown with almost dark brown pronotum, light greyish brown most part of tegmina, and moderately light brown legs) and with distinct variations in the male genitalia, but its tegmina are more or less uniform in the structure: mirror of male is rather large, transversally oblique (Fig. 19); female tegmina reach second-third abdominal tergites, and their dorsal field is almost equal to lateral one in the length and with the posteromedial edge as in Fig. 21. From *D. r. rufus* and *D. r. obscurus* Gorochov, 2000, this subspecies differs in the posteromedial epiphallallic lobules more or less widely rounded (not hook-like) in the profile and weakly projected or almost not projected dorsally (Figs 83, 84), and only from the latter subspecies, in the male tegminal mirror without or almost without cross-venation (in *D. r. obscurus*, this mirror is almost completely occupied by numerous small and irregular cells; see Figs 19 and 22) and in clearly longer hind wings (in *D. r. obscurus*, these wings are not longer than the metanotum; Figs 20 and 23).

***Duolandrevus (Duolandrevus) kubah*** sp. nov.  
(Figs 26, 27, 86–90)

**Holotype.** Male, **Malaysia**, Sarawak State (Borneo), environs of Kuching City, Kubah

**Figs 40–63.** *Duolandrevus (Duolandrevus)*: 40–45, *D. (D.) brachypterus* (Haan); 46–51, *D. (D.) bengkulu* sp. nov.; 52–57, *D. (D.) curup* sp. nov.; 58–63, *D. (D.) coulouianus* (Sauss.) (58–62, neotype; 63, specimen from West Java). Male genitalia from above (40, 46, 52, 58), from below (41, 47, 53, 59) and from side (42, 48, 54, 60); posteromedian unpaired epiphallallic lobule formed by a pair of posteromedial epiphallallic lobules fused with each other, dorsal view (43, 49, 55, 61); distal half of male anal plate from above (44, 50, 56, 62); female genital plate from below (45, 51, 57, 63).



National Park on Matang Mt, 200–500 m, primary forest, on wood at night, 10–17.III.2012, A. Gorochov, M. Berezin, E. Tkatsheva.

**Description.** Male (holotype). Body medium-sized for this genus. Colouration dark brown with following marks: eyes greyish brown; ocelli and lower half of clypeus yellowish; areas of epicranium under eyes and antennae blackish; antennae, mandibles and rest of clypeus brown; labrum, maxillae and labium light brown with very light (almost yellowish) palpi; tegmina with brown to dark brown lateral field having wide whitish band along costal edge, with almost dark brown basal area in dorsal field, with brown distal and medial parts of this field (regions of mirror and chords with areas around them), and with very light (almost transparent) rest part of dorsal field (region of oblique veins and area near diagonal vein; Fig. 26); legs light brown with somewhat darkened areas on distal part of hind femur; thoracic venter also light brown; abdomen brown with light brown anterior half of first abdominal tergite which similar to meso- and metanotum in colouration. Head large, distinctly wider than pronotum, widest in region near subgenae, high (not flattened dorsoventrally), with rostrum rounded in profile and not strongly projected (its width almost equal to width of scape), with epicranium under antennae and eyes having numerous small wrinkles, and with mouthparts not shortened (they more or less shortened in all other species of this subgenus); pronotum clearly transverse, somewhat higher than in above-mentioned congeners, and with almost parallel lateral sides; tegmina reaching seventh abdominal tergite, with seven longitudinal veins in lateral field and a few cross-veins between them, and with mirror developed but almost lost among numerous cells of cross-venation (Fig. 26); inner and outer tympana moderately large, oval, almost equal in size; metanotal gland, hind wings and anal plate as in Figs 27, 90; genital plate only slightly longer than anal one and with narrowly truncate apex; genitalia

most similar to those of *D. rufus* but with clearly shorter thin apical part of posterolateral epiphallal lobes which almost not projected behind apices of ectoparameres, and with somewhat shorter, not hook-like and more narrowly rounded (in profile) posteromedial epiphallal lobules which not projected dorsally (Figs 86–89).

Female unknown.

Length in mm. Body 19; pronotum 2.9; tegmina 8; hind femora 11.7.

**Comparison.** The new species is most related and similar to *D. rufus*, but its head is relatively wider and with wrinkles under the eyes and antennae, its male tegmina are without distinct mirror, and its male genitalia are somewhat different (see the description above). From *D. pendleburyi*, it differs in a shorter epiphallus and the posterolateral epiphallal lobes almost not projected behind the ectoparameres, and from all the other species of this subgenus, in the above-mentioned characters of head and of tegmina in male, the presence of paired and rather narrow posteromedial epiphallal lobules, and preservation of a distinct dorsal denticle at the base of posterolateral epiphallal lobes.

**Etymology.** This species is named after the Kubah National Park (its type locality).

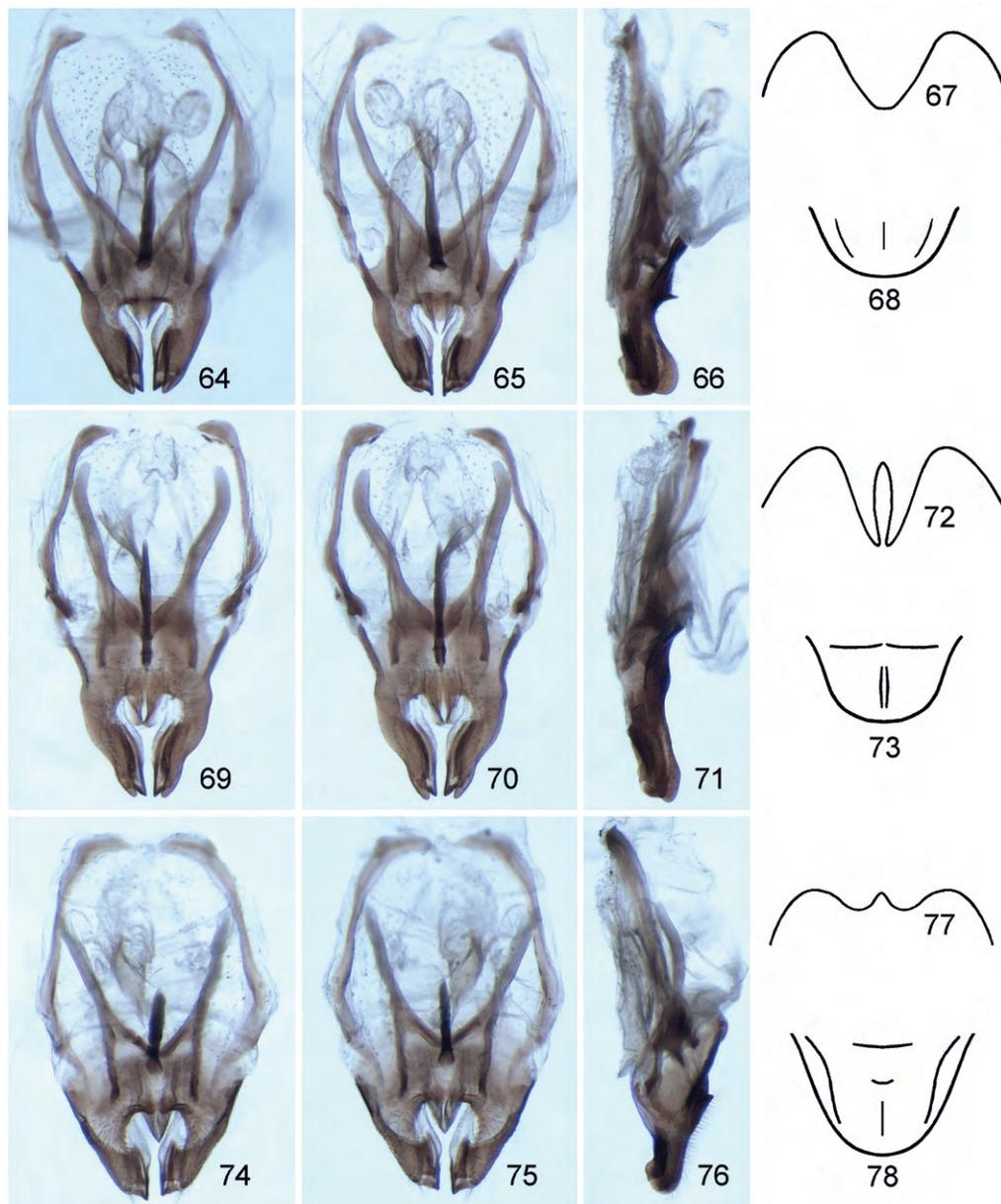
***Duolandrevus (Duolandrevus) sympatricus* sp. nov.**

(Figs 28–30, 91–96)

**Holotype.** Male, **Malaysia**, Pahang State (Malacca), Fraser's Hill near border with Selangor State (17–18 km SW of Raub Town), 1000–1300 m, primary forest, on wood at night, 15–23. IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva.

**Paratypes.** Three males and female, same data as for holotype.

**Description.** Male (holotype). General appearance similar to that of darker males of *D. r. pahangensis* from same locality (see above). However, colouration of body darker: head and pronotum blackish with whitish ocelli, greyish spot on epicranium under each eye, dark brown antennae, yellowish lower half of clypeus, light brown la-



**Figs 64–78.** *Duolandrevus* (*Duolandrevus*): 64–68, *D. (D.) selatan* sp. nov.; 69–73, *D. (D.) manna* sp. nov.; 74–78, *D. (D.) lampung* sp. nov. Male genitalia from above (64, 69, 74), from below (65, 70, 75) and from side (66, 71, 76); posteromedian unpaired epiphallic lobule (67) and a pair of posteromedial epiphallic lobules (72, 77), dorsal view; distal half of male anal plate from above (68, 73, 78).

brum, and light greyish brown maxillae and labium having same areas very light; tegmina with dark brown lateral field having wide whitish stripe along costal edge, with

partly dark brown basal area in dorsal field, with brown area in distal part of mirror and around it, with yellow to light brown stripe along posterior edge of dorsal field, and with

greyish to almost whitish semitransparent areas in rest part of this field (Fig. 28); legs moderately light greyish brown with brown distal areas on hind femur; venter of thorax more or less brown; abdomen dark brown with brown to light brown cerci and a pair of large longitudinal areas on abdominal dorsum. Head almost not wider than transverse pronotum; weakly flattened, with approximately angular (in profile) rostrum almost equal to scape in width, and without wrinkles on anterior part of epicranium; tegmina reaching base of sixth abdominal tergite, with 7–8 longitudinal veins in lateral field (cross-veins practically undeveloped), with mirror somewhat similar to that of *D. r. rufus* and *D. r. pahangensis*, and with other venation as in Fig. 28; both tympana clearly developed and rather large, but outer tympanum slightly narrower than inner one; metanotal gland and hind wings as in Fig. 29; anal plate with slight (short and very low) median keel on distal half, barely distinct transverse keel-like fold in middle part, and truncate apex having rounded posterolateral corners (Fig. 95); genital plate distinctly longer than anal one and with roundly angular apex; genitalia similar to those of *D. rufus*, but epiphallus with more concave middle parts of lateral edges, with more distinct transverse fold located in anterior half of epiphallus, with dorsal denticles on posterolateral lobes larger and situated somewhat more distally, with dorsal edges of these lobes behind dorsal denticles more oblique in profile, and with posteromedial lobules somewhat longer and having rather deep notch between them and hook-like dorsal denticle located at base of each this lobule (but not near or at its apex; Figs 91–94).

Variations. Body insignificantly varied in size; other characters practically indistinguishable from those of holotype.

Female. Size, colouration and structure of body similar to those of male, but: pronotum, general colouration of head and of tegmina dark brown; tegmina reaching middle part of second abdominal tergite, and their structure approximately as in female of *D. rufus* (lateral and dorsal fields with 6–7 longitudinal veins in each, and cross-veins weak and distinct only in dorsal field; Fig. 30); anal plate slightly smaller than in male and with less distinct relief; genital plate as in Fig. 96.

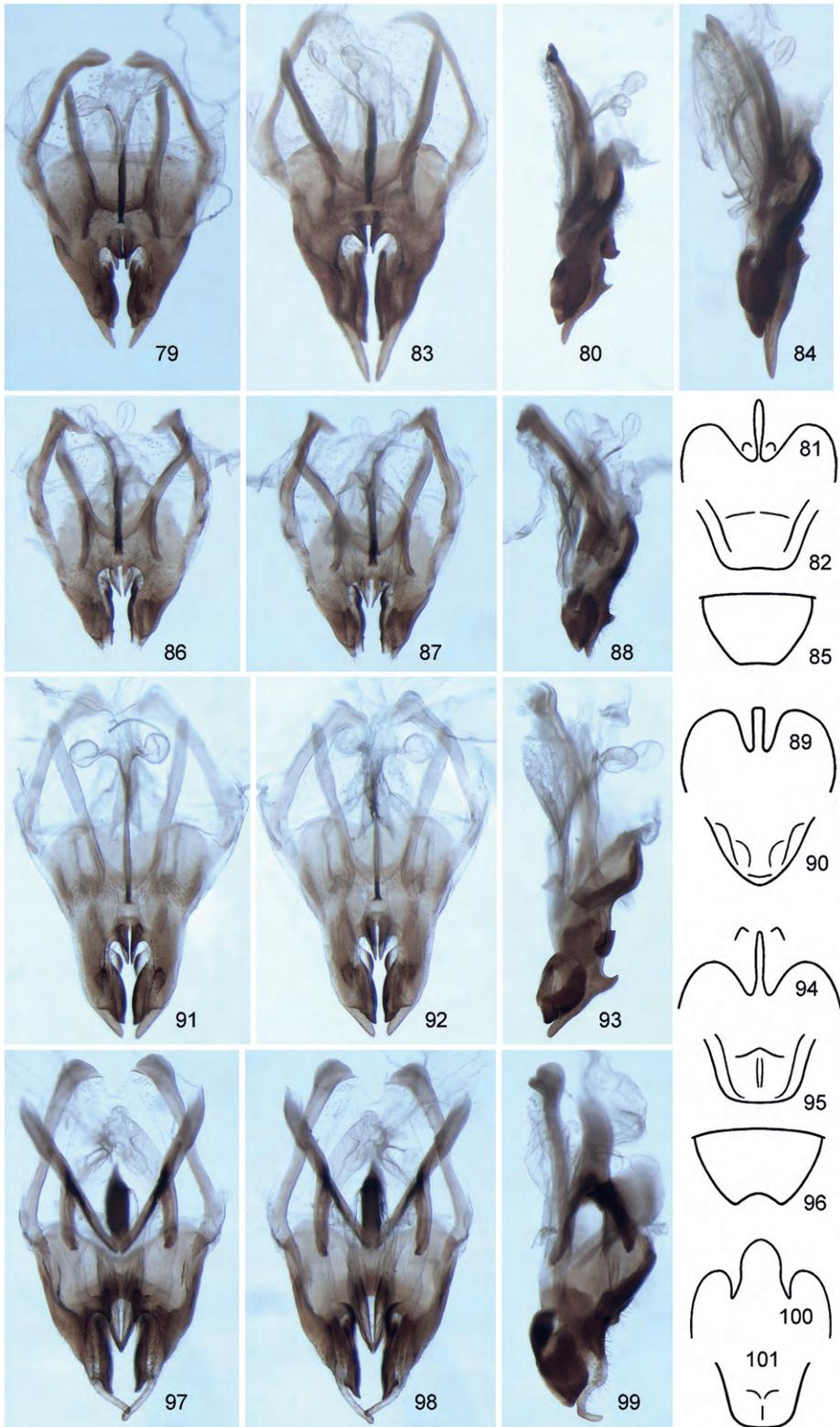
Length in mm. Body: male 26–28, female 24; pronotum: male 4.2–4.5, female 4.1; tegmina: male 11.5–12, female 5.5; hind femora: male 16.5–17.5, female 15.5; ovipositor 14.2.

*Comparison.* The new species is most similar to *D. rufus* but distinguished by the above-mentioned characters of the male genitalia. From *D. pendleburyi* and *D. kubah* also somewhat similar to *D. sympatricus* in the male genitalia, the latter differs in a distinctly larger male tegminal mirror almost lacking cross-venation; from only *D. pendleburyi*, in longer posteromedial epiphallic lobules, a deeper notch between them, and more oblique position of the posterolateral epiphallic lobes behind their dorsal denticles; and from only *D. kubah*, in a distinctly longer epiphallus, the presence of a transverse epiphallic fold, and characteristic shape of the posteromedial epiphallic lobules in the profile.

*Etymology.* This species name is the Latin word “sympatricus” (sympatric) given in connection with the presence of two closely related and very similar species in the same locality.

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**Figs 79–101.** *Duolandrevus*: 79–82, *D. (Duolandrevus) rufus rufus* Chop.; 83–85, *D. (D.) r. pahangensis* Gor.; 86–90, *D. (D.) kubah* sp. nov.; 91–96, *D. (D.) sympatricus* sp. nov.; 97–101, *D. (Eulandrevus) tawau* sp. nov. Male genitalia from above (79, 83, 86, 91, 97), from below (87, 92, 98) and from side (80, 84, 88, 93, 99); a pair of posteromedial epiphallic lobules, dorsal view (81, 89, 94, 100); distal half of male anal plate from above (82, 90, 95, 101); female genital plate from below (85, 96).



***Duolandrevus (Duolandrevus)***  
***kalimantan* sp. nov.**  
 (Figs 35–37, 107–112)

*Holotype*. Male, **Indonesia**, East Kalimantan (eastern part of Borneo), ~20 km N of Balikpapan City, Bukit Bangkirai Park, 1°1'43''S, 116°51'49''E, primary / secondary forest on hills, on wood at night, 4–8.X.2015, A. Gorochov, M. Berezin, I. Kamskov, E. Tkatsheva.

*Additional material*. Male (paratype) and female, same data as for holotype.

*Description*. Male (holotype). General appearance similar to that of all other small species of this subgenus: epicranium and upper half of clypeus dark brown with yellowish ocelli, brown triangular spot between clypeus and rostral apex, and light brown area on lower half of each gena; antennae greyish brown with light brown scape; mandibles brown with dark brown proximal part; rest of mouthparts light brown with almost yellowish lower half of clypeus; pronotum also dark brown but with brown anteroventral area on each lateral lobe; tegmina with brown lateral field having slightly darker area along dorsal edge and yellowish (semitransparent) band along costal edge, with light brown basal and posteromedial parts of dorsal field, and with light (transparent) rest of latter field; legs and thoracic sternites light brown with slightly darkened distal part of hind femur, a pair of yellowish spots near this part, and brown dorsal surface of hind tibia; abdomen greyish brown with slightly lighter sternites and light brown base of first tergite; head barely wider than anterior part of pronotum, slightly flattened, and with rounded (in profile) rostrum (its width almost equal to width of scape); pronotum transverse but slightly narrowing to head; tegmina reaching ninth abdominal tergite, with 7–8 longitudinal veins in lateral field only, and with mirror almost lost in numerous small cells (Fig. 35); outer and inner tympana medium-sized (almost equal to each other in size), oval; metanotal gland, hind wings and anal plate as in Figs 36, 111; genital plate clearly longer than anal

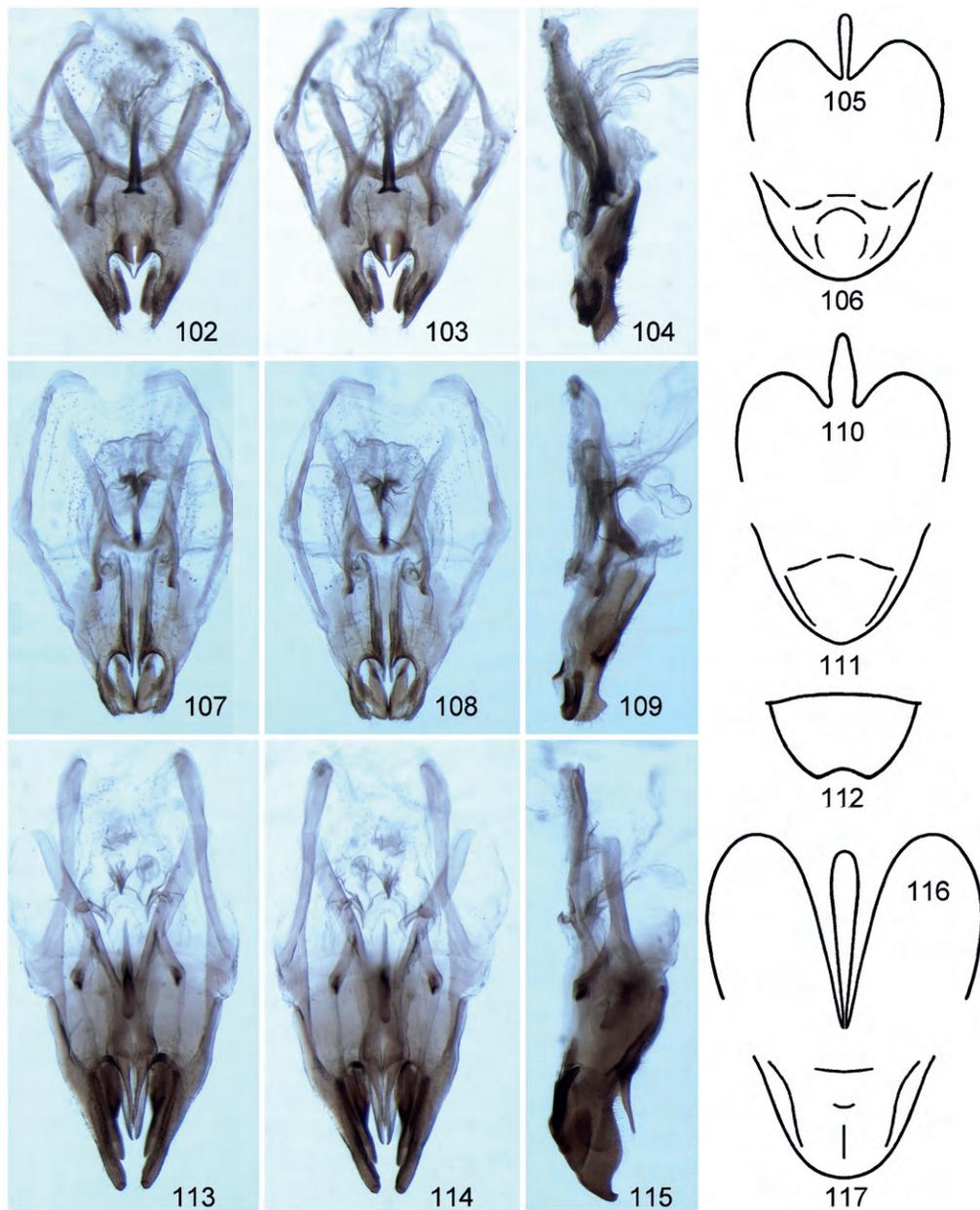
one and with roundly angular apex; genitalia with epiphallus having moderately long and almost angular posteromedial lobules, rather deep but not very wide notch between them (Fig. 110), and angular dorsal projection in distal part of each posterolateral lobe (other genital structures as in Figs 107–109).

*Variations*. Paratype with basal part of tegminal dorsal field darker (brown).

*Female*. One specimen, possibly belonging to this species, somewhat similar to above-mentioned males in shape of body and colouration, but its head distinctly smaller (slightly narrower than pronotum), pronotum clearly less transverse and distinctly narrowing to head, and colouration with uniformly brown pronotum and tegmina as well as without distinct lighter spots on hind femora. Rest characters approximately as in other females of this subgenus, but: tegmina very short, with lateral field having five longitudinal veins only, and with dorsal field clearly transverse (distinctly shorter than lateral one) and almost lacking distinct venation as well as having transversally concave posterior edge (Fig. 37); genital plate as in Fig. 112; ovipositor distinctly shorter than hind femur. Belonging of female considered to this species problematical, therefore this female not included in its type series.

Length in mm. Body: male 14–16, female 13; pronotum: male 2.7–2.8, female 2.7; tegmina: male 8–8.5, female 2; hind femora: male 10, female 8.5; ovipositor 7.

*Comparison*. The new species is more or less similar to *D. coulonianus* and *D. selatan* in the presence of a dorsal projection in the distal part of posterolateral epiphallic lobes, but this projection is larger than in *D. coulonianus* and more angular than in *D. selatan* (in the latter species, this projection is presented by a distinct arcuate convexity), but it differs from them also in the posteromedial epiphallic lobules paired (from *D. coulonianus*), and in the above-mentioned posterolateral lobes lacking characteristic dorsal denticle at the base (from *D. selatan*).



**Figs 102–117.** *Duolandrevus*: 102–106, *D. (Eulandrevus) borneo* sp. nov.; 107–112, *D. (Duolandrevus) kalimantan* sp. nov.; 113–117, *D. (D.) sabah* sp. nov. Male genitalia from above (102, 107, 113), from below (103, 108, 114) and from side (104, 109, 115); a pair of posteromedial epiphallic lobules, dorsal view (105, 110, 116); distal half of male anal plate from above (106, 111, 117); female genital plate from below (112).

*Etymology.* This species name is the Indonesian name of Borneo Island where this species was collected.

***Duolandrevus (Duolandrevus) balikpapan sp. nov.***

(Figs 118–120, 156–162)

*Holotype.* Male, **Indonesia**, East Kalimantan (eastern part of Borneo), ~20 km N of Balikpapan City, Bukit Bangkirai Park, 1°1'43''S, 116°51'49''E, primary / secondary forest on hills, on wood at night, 4–8.X.2015, A. Gorochov, M. Berezin, I. Kamskov, E. Tkatsheva.

*Paratypes.* Male and female, same data as for holotype.

*Description.* Male (holotype). Body medium-sized. Colouration dark brown with following marks: ocelli yellowish; antennae with greyish brown proximal part of flagellum and almost light brown scape; labrum, maxillae, labium and lower half of clypeus light brown with not very distinct brown spots; tegmina with wide whitish grey band on lateral field along costal edge, with greyish brown middle part of dorsal field having lighter (semitransparent) most part of region of oblique veins and lateral area in region of chords; legs light brown with brown distal part of hind femur and yellowish spot near this part; sternites from light brown to brown; cercal base slightly lightish (greyish brown). Head barely wider than pronotum, distinctly flattened, with roundly angular rostrum in profile, and with scape insignificantly wider than area between antennal cavities; pronotum clearly transverse and with almost parallel lateral sides; tegmina reaching eighth abdominal tergite, with 7–8 longitudinal veins in lateral field and almost without cross-veins between them, and with mirror triangular and divided into numerous

small cells (Fig. 118); outer and inner tympana rather large, oval; metanotum and hind wings as in Fig. 119; anal plate with roundly truncate apex and distinct relief on dorsum (this relief consisting of median keel, located in distal half of this plate and having angular projection in profile, as well as of small and shallow convexities and concavities around this keel; Figs 160, 161); genital plate somewhat longer than anal one and with roundly angular apex; genitalia with characteristic epiphallus having long and partly semimembranous posterolateral lobes, with each distal part of these lobes hooked and having two thick apical setae, with a pair of moderately short and rounded posteromedial epiphallic lobules having narrow and deep notch between them, with short and almost V-shaped ectoparameres located near base of above-mentioned lobes, and with rachis (= guiding rod) having thickened middle (subapical) part (Figs 156–159).

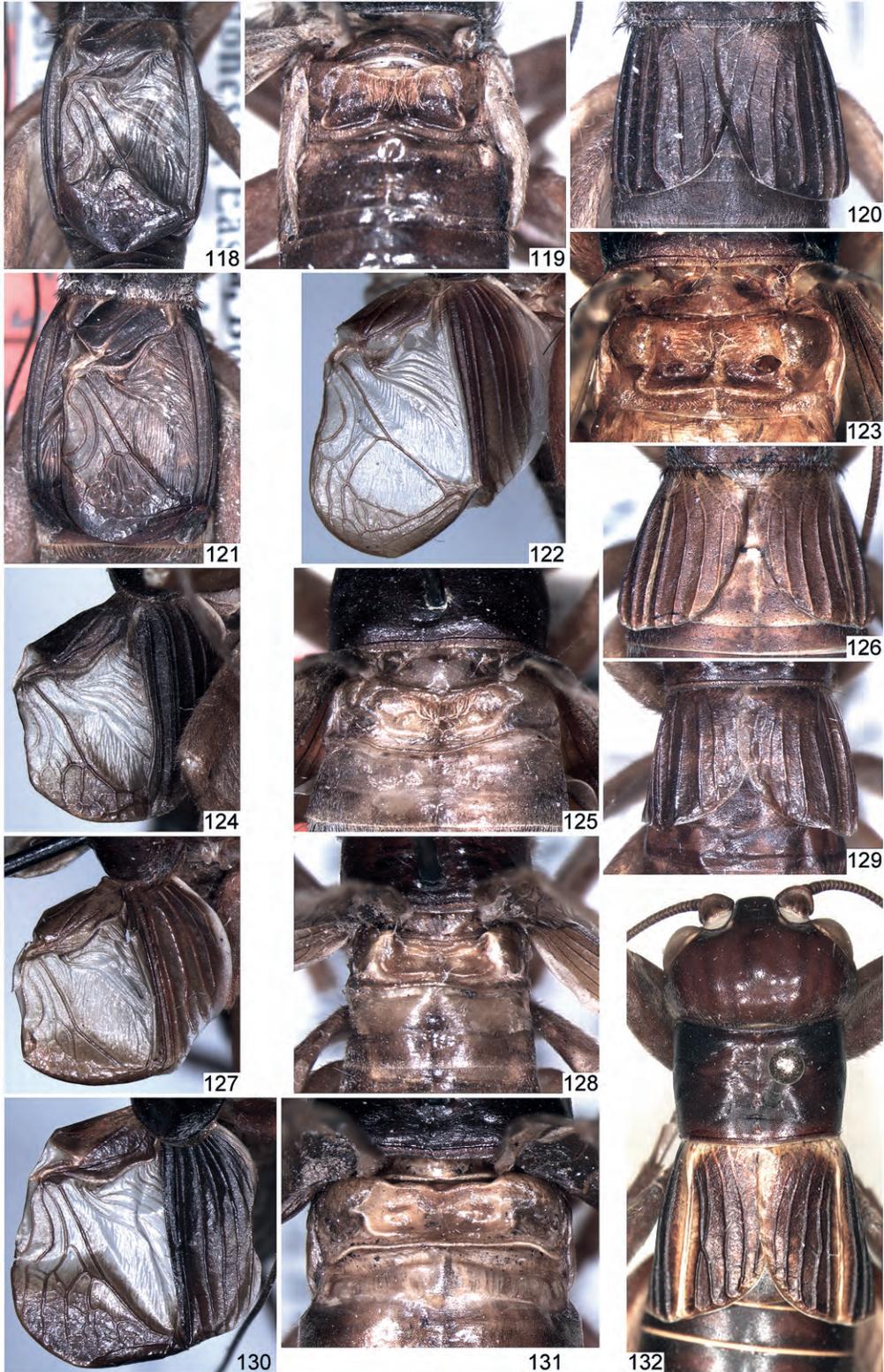
*Variations.* Paratype with tegmina having region of oblique veins and region of chords completely light, semitransparent.

*Female.* General appearance as in male, but tegmina completely dark brown and reaching middle of third abdominal tergite, their lateral and dorsal fields with six longitudinal veins and sparse cross-veins in each of them (shape of tegmina as in Fig. 120), and anal plate slightly shorter and with roundly truncate apex (relief on dorsum of this plate practically undeveloped). Genital plate as in Fig. 162.

Length in mm. Body: male 17–18, female 17.5; pronotum: male 2.9–3.1, female 3.3; tegmina: male 8.5–8.7, female 4.8; hind femora: male 12–12.5, female 13; ovipositor 15.5.

*Comparison.* The new species is distinguished from all the other congeners

**Figs 118–132.** *Duolandrevus*: 118–120, *D. (Duolandrevus) balikpapan sp. nov.*; 121, *D. (D.) spinicauda sp. nov.*; 122, 123, *D. (D.) thailandicus* (Otte); 124–126, *D. (Eulandrevus) rarus* Gor.; 127–129, *D. (E.) microrarus sp. nov.*; 130, 131, *D. (E.) megararus sp. nov.*; 132, *D. gigans sp. nov.* Male right tegmen (122, 124, 127, 130) and its dorsal field (118, 121); metanotum with hind wings (if they developed) in male from above (119, 123, 125, 128, 131); region of tegmina in female from above (120, 126, 129); female body without abdominal apex from above (132).



by characteristic male genitalia with long posterolateral epiphallic lobes having two thickened setae at the apex and lacking distinct dorsal denticles or projections, and with short ectoparameres located near the proximal part of these lobes.

*Etymology.* This species is named after the Balikpapan City situated not far from its type locality.

***Duolandrevus (Duolandrevus)***

***spinicauda* sp. nov.**

(Figs 121, 163–168)

*Holotype.* Male, **Malaysia**, Sarawak State (Borneo), environs of Kuching City, Kubah National Park on Matang Mt, 200–500 m, primary forest, on wood at night, 10–17.III.2012, A. Gorochov, M. Berezin, E. Tkatsheva.

*Description.* Male (holotype). Colouration and structure of body very similar to those of *D. balikpapan*, but: size somewhat larger; labrum and lower half of clypeus uniformly light brown; colouration of tegmina as in male paratype of this species; legs somewhat darker, almost uniformly brown but with light brown spot near distal part of hind femur; abdominal tergites and cerci brown but slightly darker than legs; tegmina shorter (reaching apex of fourth abdominal tergite) and with space between stridulatory vein and mirror slightly shorter than more distal part of dorsal field (in *D. balikpapan*, this space slightly longer than latter part; see Figs 118 and 121); anal plate with median keel in distal half shorter but having rather long spine directed backwards and slightly upwards (Figs 167, 168); and genitalia almost indistinguishable from those of *D. balikpapan* (however, posterolateral epiphallic lobes in profile almost not S-shaped in new species and clearly S-shaped in *D. balikpapan*; see Figs 156–159 and 163–166).

Female unknown.

Length in mm. Body 24; pronotum 3.2; tegmina 9; hind femora 13.5.

*Comparison.* Differences of this species from *D. balikpapan* (most related and similar species) are given above. From all the

other congeners, the new species differs in the same characters as the latter species and in the presence of a rather long spine on the male anal plate (this character is unique at least for *Duolandrevus* s. str.).

*Etymology.* This species name consists of the Latin words “spina” (spine) and “cauda” (tail); it is given in connection with the presence of a distinct spine on the male anal plate.

***Duolandrevus (Duolandrevus)***

***sabah* sp. nov.**

(Figs 38, 39, 113–117)

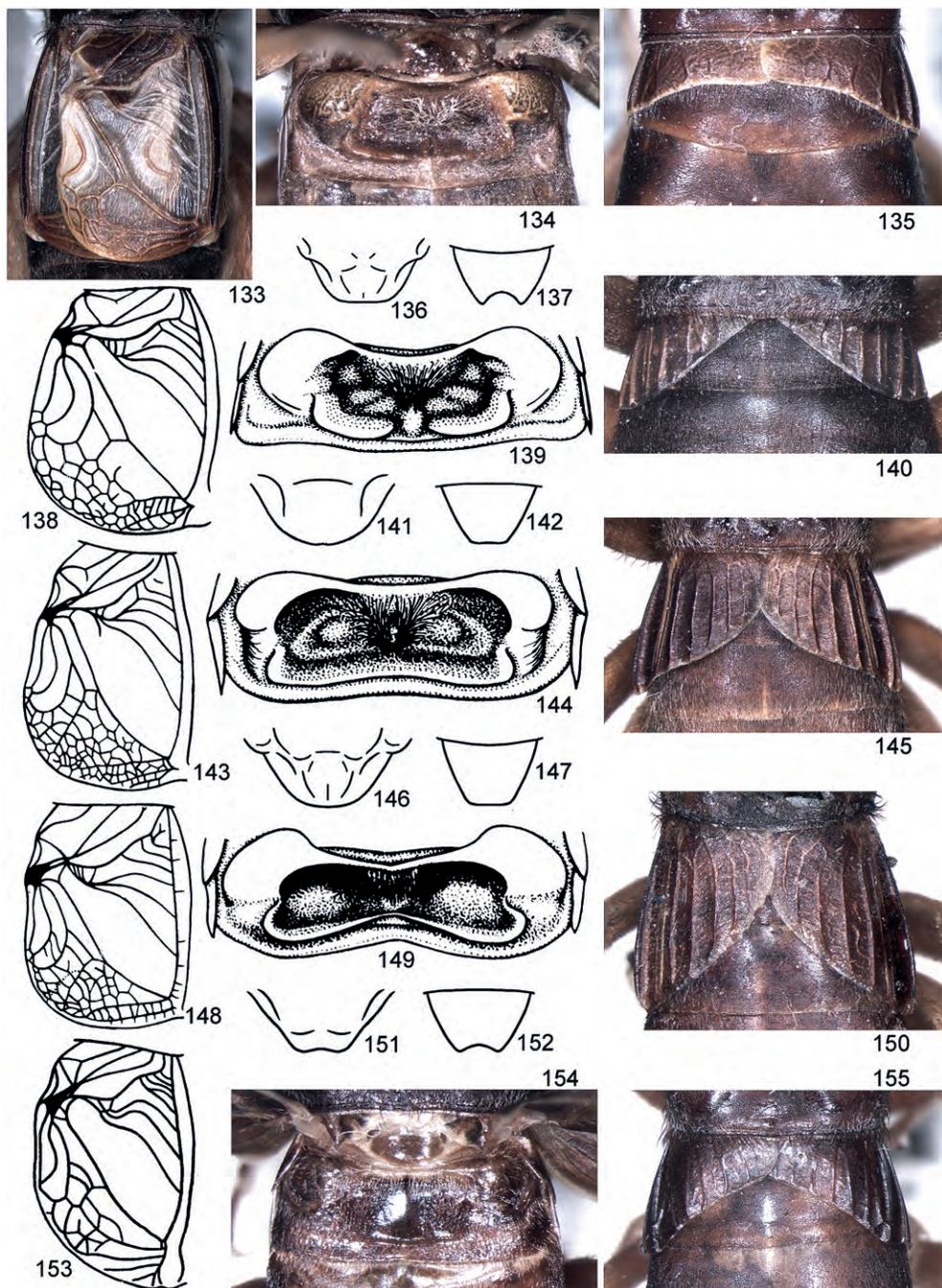
*Holotype.* Male, **Malaysia**, Sabah State (Borneo), Tawau Hills National Park near Tawau City, 200–400 m, primary / secondary forest, on wood at night, 14–20.V.2013, A. Gorochov, M. Berezin, E. Tkatsheva.

*Description.* Male (holotype). Colouration and external structure of body very similar to those of *D. kalimantan*, but size somewhat smaller, labrum slightly darker (almost brown), tegmina without darkened area in lateral field and with almost yellowish region of chords in dorsal field, all abdominal sternites brown, distal part of abdomen (including genital plate and most part of cerci) dark brown with light brown cercal base, mirror in tegmina developed (barely transverse) and with only one transverse dividing vein (Fig. 38), metanotal gland and hind wings as in Fig. 39, anal and genital plates distinguished by barely more rounded apex of first plate (see Figs 111 and 117) and slightly narrower distal part of latter plate only. Genitalia with very long and thin posteromedial epiphallic lobules, with rather widely rounded (in profile) dorsal projection of posterolateral epiphallic lobes (this projection located near middle of latter lobes), and with apical part of these lobes clearly curved upwards (Figs 113–116).

Female unknown.

Length in mm. Body 12.5; pronotum 2.6; tegmina 6.8; hind femora 8.

*Comparison.* This species differs from all the other species of this subgenus in clearly longer posteromedial epiphallic lobules as



**Figs 133–155.** *Duolandrevus* (*Eulandrevus*): 133–137, *D. (E.) unguiculatus* Ma et al.; 138–142, *D. (E.) sonorus* (Gor.); 143–147, *D. (E.) dendrophilus* (Gor.); 148, 149, *D. (E.) guntheri* (Gor.); 150–152, *D. (E.) ivani* (Gor.); 153–155, *D. (E.) enatus* (Gor.). Dorsal field of male right tegmen (133, 138, 143, 148, 153); male metanotum from above (134, 139, 144, 149, 154); region of tegmina in female from above (135, 140, 145, 150, 155); distal half of male anal plate from above (136, 141, 146, 151); female genital plate from below (137, 142, 147, 152) [138, 139, 143, 144, 148, 149, after Gorochov (1988); 153, after Gorochov (1990)].

well as in the presence of a rounded dorsal projection near the middle of each posterolateral epiphallic lobe (this projection is most distinctly visible in the profile).

*Etymology.* This species is named after the Sabah State where it was collected.

***Duolandrevus (Duolandrevus) sulawesi*** (Gorochov, 2000), **comb. nov.**  
(Figs 231, 232)

*Repapa sulawesi* Gorochov, 2000

*Note.* This Sulawesi species was originally included in the genus *Repapa* Otte, 1988 (Gorochov, 2000), because its epiphallus has a long and undivided posteromedian lobule somewhat similar to that of *Repapa*. Later, the male genitalia of *D. coulonianus* were described (Gorochov & Warchalowska-Sliwa, 2004); the latter species clearly belongs to *Duolandrevus* s. str., but its genitalia are also with a long and undivided posteromedian epiphallic lobule. All the other morphological structures of *D. sulawesi* (including the length of hind wings and shape of anal plate in male; Figs 231, 232) are in accordance to *Duolandrevus* s. str.; its posterolateral epiphallic lobes are without dorsoproximal denticles, but their disappearance is usual for this subgenus. Thus, this species is here transferred from *Repapa* to *Duolandrevus (Duolandrevus)*.

***Duolandrevus (?Duolandrevus) thailandicus*** (Otte, 1988)  
(Figs 122, 123, 169–173)

*Sutepia thailandica* Otte, 1988

*Duolandrevus (Eulandrevus) thailandicus*: Gorochov, 2000

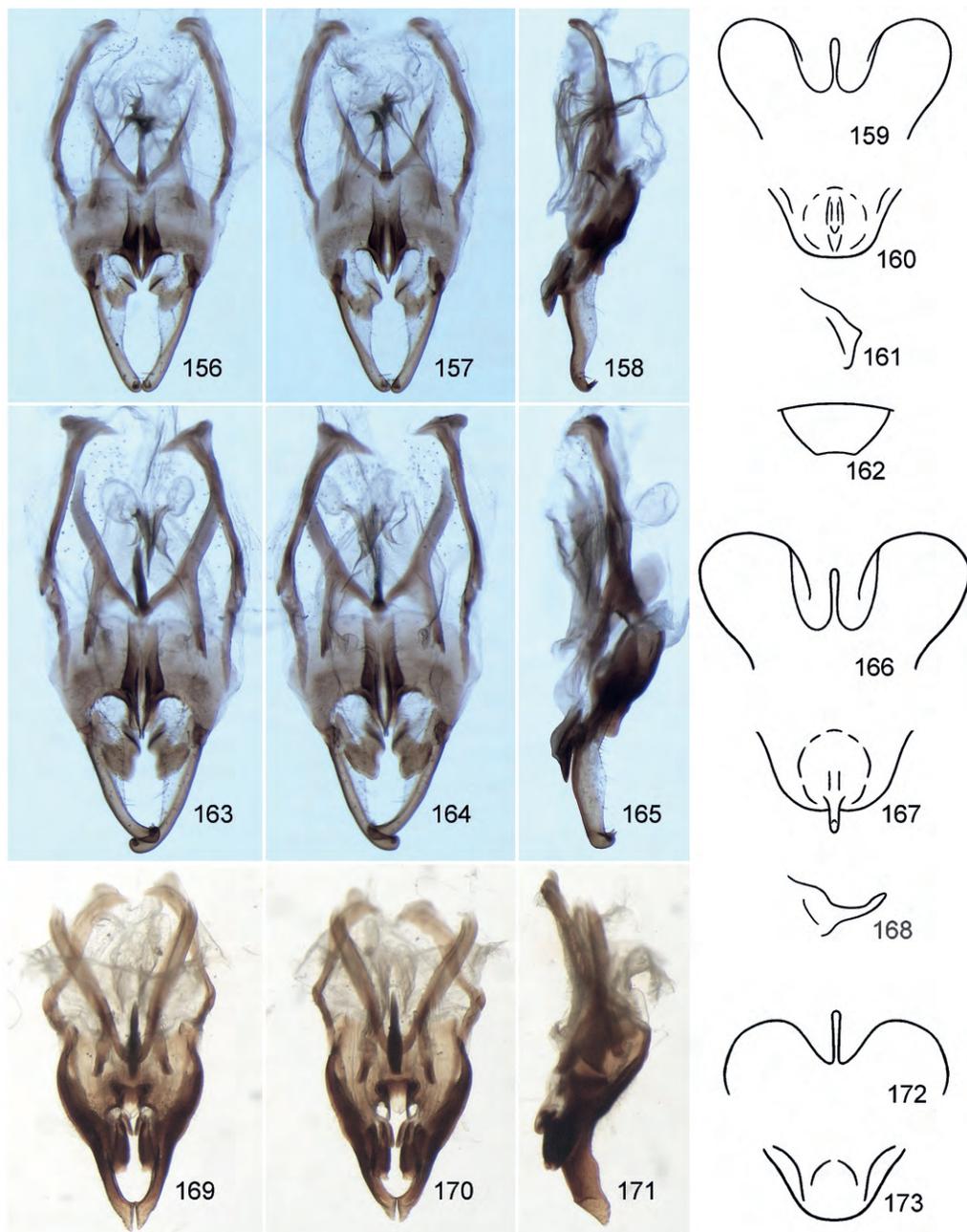
*Note.* This species was originally described in the monotypical genus *Sutepia* Otte, 1988 which was synonymized with the subgenus *Eulandrevus* (Gorochov, 2000). But at present, it seems more correct to consider that it is a synonym of *Duolandrevus* s. str. (see the note about *Duolandrevus* s. l. in the beginning of this paper). However, it is necessary to add that male

tegmen of *D. thailandicus* is intermediate between that of *Vietlandrevus* and that of all the other subgenera of this genus in the ratio of the lengths of lateral and dorsal fields of male tegmen (Fig. 122).

***Duolandrevus (Eulandrevus) tawau*** sp. nov.  
(Figs 31, 32, 97–101)

*Holotype.* Male, **Malaysia**, Sabah State (Borneo), Tawau Hills National Park near Tawau City, 200–400 m, primary / secondary forest, on wood at night, 14–20.V.2013, A. Gorochov, M. Berezin, E. Tkatsheva.

*Description.* Male (holotype). Body size small for this genus. Colouration following: head and pronotum dark brown with yellowish ocelli and lower half of clypeus, light brown labrum and scapes, greyish brown rest of antennae, and light greyish brown maxillae and labrum; pronotum and lateral tegminal field also dark brown but with rather wide whitish stripe on latter field along costal edge; dorsal tegminal part with brown proximal and distal areas and with large semitransparent (from yellowish to light brown) areas between them (Fig. 31); legs moderately light brown with slightly darkened area on distal part of hind femur and most part of dorsal surface of hind tibia; thoracic venter light brown to brown; abdomen brown with somewhat darker genital plate, dark brown anal plate, and light brown base of cerci. Head barely narrower than pronotum, slightly flattened dorsoventrally and with rostrum somewhat projecting but almost rounded in profile (rostrum between antennal cavities slightly wider than scape); pronotum weakly transverse, slightly narrowing to head; tegmina reaching middle of seventh abdominal tergite, with 7–8 longitudinal veins in lateral field and with only a few cross-veins between some of them, with angulate mirror consisting of several small and irregular cells, and with rest of venation of dorsal field as in Fig. 31; metanotum with hind wings clearly not reaching its posterior edge and with gland as in Fig. 32; inner and outer tympana developed,



**Figs 156–173.** *Duolandrevus* (*Duolandrevus*): 156–162, *D. (D.) balikpapan* sp. nov.; 163–168, *D. (D.) spinicauda* sp. nov.; 169–173, *D. (D.) thailandicus* (Otte). Male genitalia from above (156, 163, 169), from below (157, 164, 170), and from side (158, 165, 171); a pair of posteromedial epiphallal lobules, dorsal view (159, 166, 172); distal half of male anal plate from above (160, 167, 173); distal part of this plate from side (161, 168); female genital plate from below (162).

oval, moderately large, and almost equal in size; anal plate more or less similar to that of *D. sympatricus* but without distinct relief on dorsum (Fig. 101); genital plate also as in this species; genitalia distinguished from those of all congeners previously considered here by distinctly wider space between posteromedial epiphallal lobules, longer thin apical part of posterolateral epiphallal lobes (also this part strongly curved upwards, but in other congeners considered above, it straight or weakly curved in profile), obtuse dorsal projections of these lobes located almost as dorsal denticles in *D. sympatricus*, and much longer rachis and formula (= mold of spermatophore attachment plate), as well as from genitalia of only latter species by general shape of epiphallus more similar to that of other congeners considered above (Figs 97–100).

Female unknown.

Length in mm. Body 12; pronotum 2.6; tegmina 6.2; hind femora 8.3.

**Comparison.** The new species differs from all the congeners in the following combination of characters: male tegmina are weakly shortened and with the mirror divided into a few rather large cells; male metanotal gland is distinctly developed; posteromedial epiphallal lobules are paired, almost spine-like (but not very long), and having a rather wide space between them; posterolateral epiphallal lobes are with their apical part thin and strongly curved; distal half of these lobes (near their middle) is with an obtuse dorsal projection; rachis is rather long and distinctly protruding behind the above-mentioned posteromedial lobules.

**Etymology.** This species is named after its type locality (Tawau Hills National Park).

### *Duolandrevus (Eulandrevus)*

#### *borneo* sp. nov.

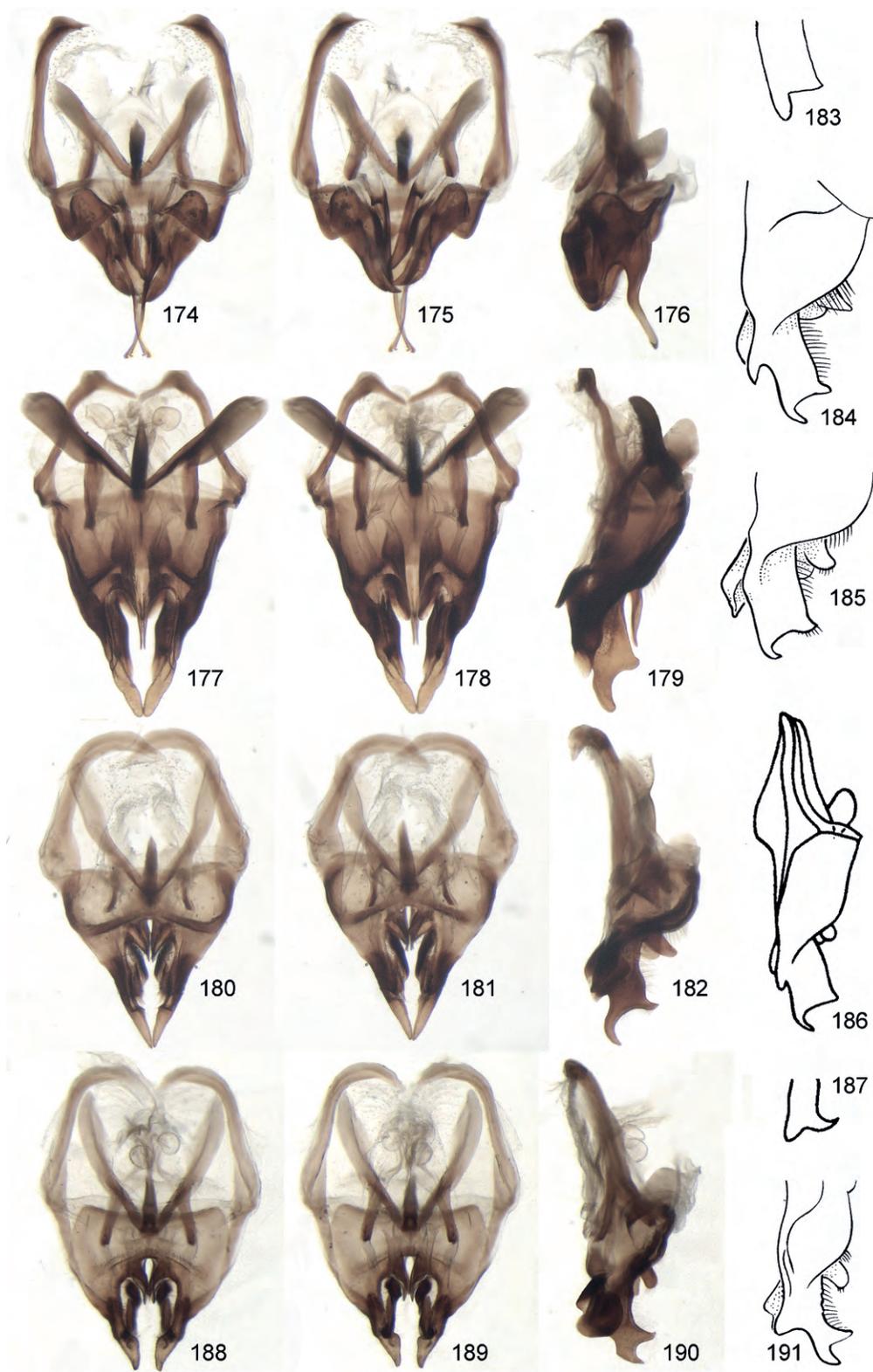
(Figs 33, 34, 102–106)

**Holotype.** Male, **Malaysia**, Sabah State (Borneo), Tawau Hills National Park near Tawau City, 200–400 m, primary / secondary forest, on wood at night, 14–20.V.2013, A. Gorochov, M. Berezin, E. Tkatsheva.

**Paratypes.** Male, same data as for holotype; male, same state, Coco Range, environs of Gunung Arab National Park, ~1500 m, primary forest, on wood at night, 26–27.V.2007, A. Gorochov (collected as nymph of middle age, imago VII.2007).

**Description.** Male (holotype). General appearance similar to that of *D. lampung* with some small differences: epicranium, antennae and pronotum brown with black eyes, dark brown area under rostral apex as well as under antennae and eyes, yellowish ocelli, and light brown scapes and mouthparts (but mandibles and upper half of clypeus brown); tegmina with brown lateral field having yellowish band along costal edge, with light brown dorsal field having brown basal and distal areas as well as semitransparent rest part of this field (Fig. 33); legs light brown with brown distal part of hind femur; venter of body also light brown; abdominal tergites, anal plate and cerci darker (mainly greyish brown) but with more darkened distal part of latter plate and light brown cercal base; head not wider than pronotum, distinctly but not strongly flattened, and without wrinkles; tegmina reaching middle part of fourth abdominal tergite, with only 6–7 longitudinal veins in lateral field, and with strongly reduced (almost absent) mirror in dorsal field (Fig. 33); metanotal gland also somewhat reduced (only its traces visible);

**Figs 174–191.** *Duolandrevus (Eulandrevus)*: 174–176, *D. (E.) unguiculatus* Ma et al.; 177–179, *D. (E.) sonorous* (Gor.); 180–182, *D. (E.) ivani* (Gor.); 183, *D. (E.) yonaguniensis* Ichikawa; 184–186, three possible subspecies of *D. (E.) guntheri* (Gor.) [184, *D. major* Otte; 185, *D. ishigaki* Otte; 186, *D. guntheri*]; 187, *D. (E.?) coriaceus* (Shir.); 188–191, *D. (E.) dendrophilus* (Gor.) [188–190, specimen from Vietnam; 191, specimen from China (= *D. hongkongae* Otte)]. Male genitalia from above (174, 177, 180, 188), from below (175, 178, 181, 189), and from side (176, 179, 182, 186, 190); distal part (183, 187) and distal half (184, 185, 191) of male genitalia from side [183, after Ichikawa (2001); 184, 185, 191, after Otte (1988); 186, after Gorochov (1988); 187, after Shiraki (1930)].



hind wings invisible under pleural edges (Fig. 34); anal plate as in Fig. 106; genital plate similar to that of *D. taxau* but with more rounded apex; genitalia distinguished from those of all other congeners previously considered here by posterolateral epiphallal lobes with roundly angular dorsal projection located somewhat behind their middle, and by posteromedial epiphallal lobules similar to those of *D. rufus* (but in profile, these lobules not hook-like, not rather widely rounded, and almost not projected dorsally; Figs 102–105).

**Variations.** Male from Coco Range somewhat smaller, clearly lighter (mainly light brown) and with very small differences in male genitalia: dorsal projection of posterolateral epiphallal lobes more rounded, and posteromedial epiphallal lobules somewhat shorter.

Female unknown.

**Comparison.** The new species differs from all the other congeners in the following combination of features: posterolateral epiphallal lobes have a more obtuse (not denticle-like and not angular) dorsal projection located somewhat behind the middle of these lobes; male metanotal gland is partly reduced; and posteromedial epiphallal lobules are not fused with each other, not very short, not hooked, not more or less widely rounded in the profile, and with a narrow space between these lobules.

**Etymology.** This species name is the Malay name of Borneo Island where this species was collected.

### *Duolandrevus (Eulandrevus)*

*unguiculatus* Ma, Gorochov et Zhang, 2015 (Figs 133–137, 174–176)

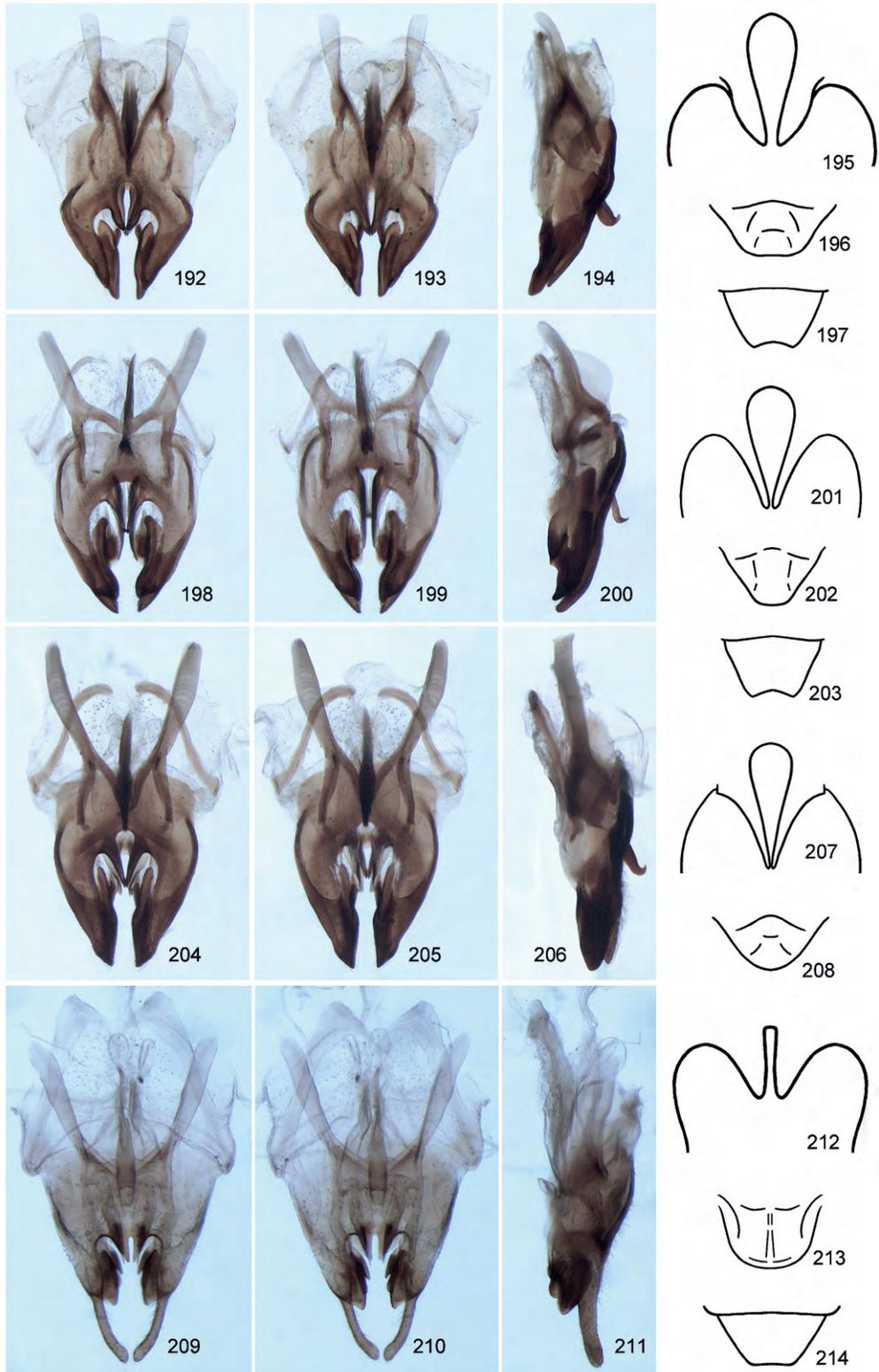
**New material.** Laos: 6 males and 18 females, Vientiane Prov., Phu Khao Khouay National

Park, Ban Vangheua, 18°20.102'N, 102°48.983'E, 800 m, mixed bamboo forest, pitfall traps, 9.IV–25.V.2008, S. Tarasov.

**Description.** Female (nov.). Size, colouration and structure of body similar to those of male holotype (Ma et al., 2015) but with following differences: head slightly smaller (barely wider than pronotum), with vertical keel along anterior edge of proximal half of each mandible somewhat lower, with epicranium and upper part of clypeus dark brown and having greyish brown triangular spot under rostral apex as well as yellowish ocelli and brown eyes (sometimes each gena with brown spot behind each eye), with mandibles brown to reddish brown, with labrum light brown to reddish, and with rest part of clypeus light brown to brown; pronotum and other tergites almost completely dark brown; metanotal gland absent; tegmina with very short dorsal field and slightly longer lateral field having 5–6 longitudinal veins only (tegmina reaching posterior edge of metanotum laterally; Fig. 135); tegminal colouration uniformly brown; legs light brown to reddish brown, uniformly coloured but having darker (brown) distal part of each hind femur; anal plate unspecialized, with roundly truncate apex; genital plate short, narrowing to widely and rather deeply notched apex having distinctly angular posterolateral corners (Fig. 137); ovipositor approximately equal to hind femur in length.

**Male.** Specimens studied very similar to holotype of this species, but their colouration varied approximately as in females (also, they sometimes with almost blackish areas on rostral part and always with distinct whitish stripe on lateral tegminal field along costal edge, distinctly lighter semi-membranous areas in middle part of dorsal tegminal field, and dark brown to blackish rest part of above-mentioned lateral field).

**Figs 192–214.** *Duolandrevus (Eulandrevus)*: 192–197, *D. (E.) rarus* Gor.; 198–203, *D. (E.) microrarus* sp. nov.; 204–208, *D. (E.) megararus* sp. nov.; 209–214, *D. (E.) enatus* (Gor.). Male genitalia from above (192, 198, 204, 209), from below (193, 199, 205, 210), and from side (194, 200, 206, 211); a pair of posteromedial epiphallal lobules from above (195, 201, 207, 212); distal half of male anal plate from above (196, 202, 208, 213); female genital plate from below (197, 203, 214).



Metanotal gland and anal plate as in Figs 134, 136; genital plate clearly longer than anal one and with roundly angular apex; genitalia as in Figs 174–176.

Length in mm. Body: male 17–20.5, female 14–18; pronotum: male 2.5–3, females 2.5–3; tegmina: male 6–6.5, female 1.4–2.1; hind femora: male 10–12, female 10.5–12.5; ovipositor 10.5–12.5.

*Remark.* This species was recently described from China (Yunnan). Here it is recorded from Laos for the first time.

***Duolandrevus (Eulandrevus) dendrophilus*** (Gorochov, 1988)  
(Figs 143–147, 188–191)

*Eulandrevus dendrophilus* Gorochov, 1988

*Duolandrevus hongkongae* Otte, 1988; synonymized by Gorochov, 1990

*Duolandrevus (Eulandrevus) dendrophilus*: Gorochov, 2000

*New material. Vietnam:* male, Lao Cai Prov., Fan Si Pan Mt, environs of Sa Pa, 1400 m, V.2003, N. Orlov, S. Ryabov.

*Remark.* This species was described from Thai Nguyen Province (southern part of former Bac Thai Prov.) of Vietnam (Gorochov, 1988). The specimens from Lao Cai Province is almost identical to types of this species but collected more near Vietnamese-Chinese border. Thus, this find is an additional evidence that *D. hongkongae* Otte, 1988 widely distributed in South China (Otte, 1988; Ma et al., 2015) is a junior synonym of *D. dendrophilus* (Gorochov, 1990).

***Duolandrevus (Eulandrevus) enatus*** (Gorochov, 1990)  
(Figs 153–155, 209–214)

*Eulandrevus enatus* Gorochov, 1990

*Duolandrevus (Eulandrevus) enatus*: Gorochov, 2000

*New material. Vietnam:* 3 males and 3 females, Gia Lai Prov., 20 km N of Kannack Town, environs of Buon Luoi Vill., primary forest, on wood at night, 3–19.XI.1993, A. Gorochov; 10 males and 4 females, same data but 24.III–10.V.1995, A. Gorochov; 3 males and female, same province, 50–60 km N of Kannack Town, Kon Cha

Rang Area, 1000–1200 m, primary forest, 14–20.IV.1995, A. Gorochov; male and female, same data but 10.I.1988; male, same province, Ka Bang Distr., Krong Pa Vill., IX.1997, N. Orlov; male, Quong Tri Prov., Huong Hoa, Huong Lap, Ban Kup, 400 m, V.2005, N. Orlov; male, Binh Phuoc Prov., 13 km NE of Bu Gia Map Vill., Bu Gia Map National Park, 12°11'37"N, 107°12'21"E, 540 m, 18–31.V.2011, L. Anisyutkin, A. Anichkin; female, Dak Lak (= Dac Lac or Dar Lac) Prov., Chu Yang Sin National Park, 12°23'48"N, 108°20'59"E, upper flow of Krong Kmar River, 1000 m, 30.III–14.IV.2012, D. Fedorenko; male, Lam Dong Prov., Loc Bao Distr., 35 km NW of Bao Loc Town, 11°50'12"N, 107°38'25"E, 650 m, IV–V.2012, A. Abramov.

*Description.* Female (nov.). Size, colouration and structure of body similar to those of male holotype (Gorochov, 1990), but tegmina (Fig. 155), metanotum and abdominal apex approximately as in female of *D. unguiculatus* (female of species studied distinguished from latter female by vertical keel on each mandible somewhat less distinct, colouration of legs slightly darker, and genital plate with almost truncate apex and less angular posterolateral corners; Fig. 214).

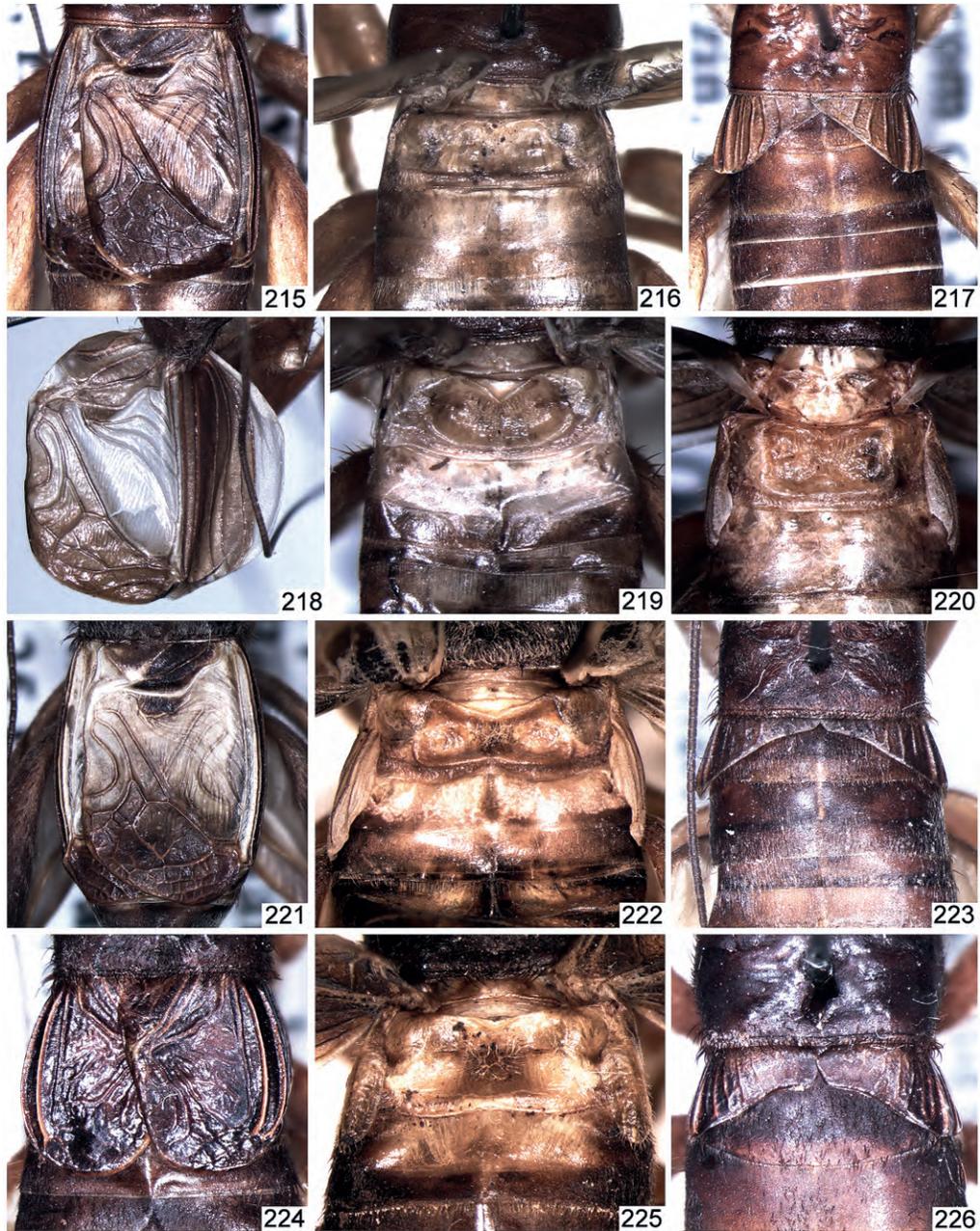
Male. Specimens studied very similar to holotype of this species, but their colouration varied from dark brown with brown legs to almost completely brown with light brown labrum. Abdominal apex similar to that of *D. unguiculatus*, but anal plate with slightly more rounded apex (Fig. 213), and genitalia as in Figs 209–212.

Length in mm. Body: male 16–20, female 15.5–19; pronotum: male 2.8–3.1, female 2.9–3.1; tegmina: male 5.5–6.5, female 1.9–2.2; hind femora: male 11–14, female 11.5–13; ovipositor 11.5–12.5.

*Remark.* This species, described from another locality in Gia Lai Province, is here recorded from some other provinces of Vietnam.

***Duolandrevus (Eulandrevus) rarus***  
Gorochov, 1996  
(Figs 124–126, 192–197)

*New material. Vietnam:* male, Dak Lak (= Dac Lac or Dar Lac) Prov., Chu Yang Sin



**Figs 215–226.** *Duolandrevus* (*Bejorama*): 215–217, *D. (B.) firmus tioman* subsp. nov.; 218, 219, *D. (B.) parvulus* sp. nov.; 220, *D. (B.) bonus* Gor.; 221–223, *D. (B.) doloduo* sp. nov.; 224–226, *D. (B.) obliteratus* sp. nov. Right male tegmen (218) and its dorsal field (215, 221); metanotum with hind wings (if they developed) in male from above (216, 219, 220, 222, 225); region of tegmina in female (217, 223, 226) and in male (224) from above.

National Park, upper flow of Krong Kmar River, 12°23'48"N, 108°20'59"E, 1000 m, 30.III–14.IV.2012, D. Fedorenko; male, Binh Phuoc Prov., 13 km NE of Bu Gia Map Vill., Bu Gia Map National Park, 12°11'37"N, 107°12'21"E, 540 m, 18–31.V.2011, L. Anisyutkin, A. Anichkin.

*Note.* This species was described from a single male collected in the Gia Lai Province of Vietnam (Gorochov, 1996). Later it was recorded from Cambodia with a brief description of its female (Gorochov, 2004). Here, this species is indicated for some other Vietnamese provinces. All its males (from Vietnam and from Cambodia) are similar in the general appearance and very similar in the structure of male genitalia. However, there are also some differences: epicranium colouration in the specimens from Cambodia and Vietnam is reddish brown with some darker areas on the face as well as with a few barely darker longitudinal stripes on the dorsum, but in one male from Binh Phuoc Province, epicranium is almost dark brown; head in the latter male and males from Cambodia is not wider or barely wider than their pronotum, but in the other specimens (including holotype), it is clearly wider than pronotum; moreover, tegmina in all these males are slightly varied in the colouration. Thus, I cannot exclude that these specimens may belong to two or three subspecies of *D. rarus*.

*Remark.* Subgeneric position of this species has recently been doubted (Ma et al., 2015), because this species has only inner tympanum, and its epiphallus is without distinct transverse fold or a pair of lateral folds in the middle part of dorsal surface. However, two new species described below are closely related to *D. rarus* but having both (inner and outer) tympana developed; thus, after correction of the *Eulandrevus* diagnosis given in a subgeneric key for the genus *Duolandrevus* (see above), this species may be returned to this subgenus.

### ***Duolandrevus (Eulandrevus)***

#### ***microrarus* sp. nov.**

(Figs 127–129, 198–203)

*Holotype.* Male, Vietnam, Lam Dong Prov., environs of Long Lanh, Bi Doup – Nui Ba Na-

ture Reserve, 12°10'N, 108°40'E, 1400–1900 m, 1–22.IV.2008, D. Fedorenko.

*Paratypes.* Three females, same data as for holotype.

*Description.* Male (holotype). General appearance similar to holotype of *D. rarus* but with some peculiarities: size of body somewhat smaller; colouration brown with dark brown areas on epicranium under eyes and antennal cavities, greyish brown triangle between rostral apex and clypeus, yellowish lower half of clypeus and upper part of labrum, light brown antennae and palpi, light greyish brown semitransparent areas of tegminal dorsal field, whitish stripe along costal edge of lateral tegminal field, light brown legs having distal part of each hind femur brown and most part of hind tibiae also somewhat darkened, light brown thoracic sternites and six anterior abdominal sternites, and almost yellowish cerci; head large, clearly wider than pronotum (almost as in holotype of *D. rarus*); pronotum distinctly transverse; tegmina reaching middle part of fourth abdominal tergite, with truncate posterior edge (practically without apical area), with not widened and not narrowed distal part of dorsal field, with stridulatory apparatus in dorsal field typical of this genus but having narrow triangular mirror and irregular cross-venation in distal part of this mirror, and with lateral field having 6–7 longitudinal veins only (Fig. 127); outer and inner tympana developed, oval and longitudinal (but outer tympanum almost twice smaller than inner one); metanotal gland as in Fig. 128; anal plate as in *D. rarus* but with less distinct relief on dorsal surface and with slightly longer and more narrowly truncate distal part (Fig. 202); genital plate as in *D. unguiculatus* and *D. enatus*; genitalia similar to those of *D. rarus* but with epiphallus very gradually widening in middle part (in *D. rarus*, epiphallus more sharply widening in middle part and with somewhat concave lateral edges between middle and proximal parts; see Figs 192 and 198), with postero-medial epiphallic lobules longer and thin-

ner, with distal part of epiphallal postero-lateral lobe having dorsal lobule longer than ventral one (in *D. rarus*, dorsal lobule of this lobe shorter than ventral one), with ectoparameres somewhat larger, with endoparameres having medial arms shorter and more transverse, and with rachis having distinctly longer lateral sclerotized plates (see Figs 192–195 and 198–201).

Female. Colouration and structure of body very similar to those of male, but body size varied, clypeus and labrum completely brown or with light brown areas, head rostrum sometimes dark brown, epicranium sometimes almost completely brown, tegmina reaching middle of second abdominal tergite and with 6–7 longitudinal veins as in dorsal field as in lateral field (shape of this dorsal field as in Fig. 129), abdominal apex similar to that of above-mentioned congeners but with anal plate almost truncate at apex and with genital plate as in Fig. 203.

Length in mm. Body: male 16.5, female 12.5–15.5; pronotum: male 2.9, female 2.4–2.7; tegmina: male 5.7, female 3.2–4; hind femora: male 10.5, female 9–11.5; ovipositor 9–12.5.

*Comparison.* The new species is closely related and most similar to *D. rarus*, but it differs from the latter in the presence of outer tympana in the fore tibiae, a narrower mirror in the male tegmina, and the above-mentioned characters of the male genitalia (see description above).

*Etymology.* This species name consists of the Greek prefix “micro-” (small) and name of another species (*rarus*).

### ***Duolandrevus (Eulandrevus) megararus* sp. nov.**

(Figs 130, 131, 204–208)

*Holotype.* Male, Vietnam, Lam Dong Prov., environs of Long Lanh, Bi Doup – Nui Ba Nature Reserve, 12°109'N, 108°40'E, 1400–1900 m, 1–22.IV.2008, D. Fedorenko.

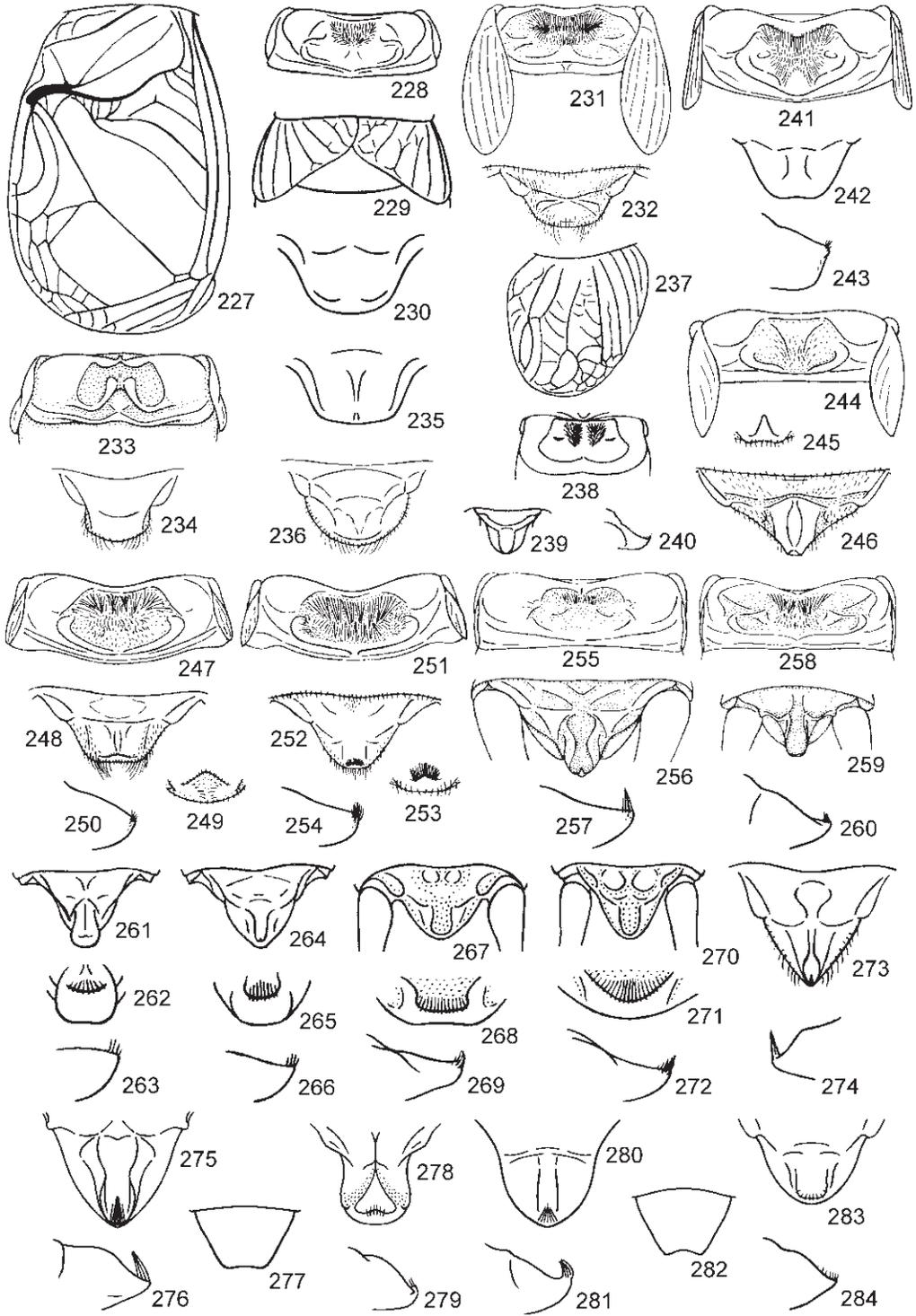
*Description.* Male (holotype). General appearance more or less similar to above-mentioned male of *D. rarus* from Binh

Phuoc Province of Vietnam, but body size larger, outer and inner tympana developed (similar to those of *D. microrarus*), tegmina reaching base of sixth abdominal tergite and with 7–8 longitudinal veins in lateral field (*vs.* reaching base of fourth abdominal tergite and with 5–6 veins in lateral field) as well as with somewhat wider distal part of dorsal field (Fig. 130), and colouration with following features: epicranium dark brown (almost black) with yellowish ocelli and greyish brown triangle under rostral apex; mandibles and clypeus from dark brown to blackish; labrum reddish brown; palpi light greyish brown; rest of mouthparts more or less brown; antennae dark brown with brown areas on scape and pedicel; pronotum dark brown (almost blackish); tegmina with almost blackish lateral field having whitish stripe along costal edge, with blackish areas at base of dorsal field and in region of mirror, and with light greyish brown semitransparent middle areas of this field; legs and thoracic sternites uniformly reddish brown; abdomen greyish brown to dark brown (including sternites and all structures of abdominal apex). Metanotal gland as in Fig. 131; anal and genital plates similar to those of *D. rarus* and *D. microrarus*, but apex of anal plate narrower than in *D. rarus* and rounded, and transverse keel on this plate more distinct than in *D. microrarus* (more or less as in *D. rarus*; Fig. 208); genitalia with epiphallus similar to that of *D. microrarus* in shape (including its posteromedial epiphallal lobules; for comparison see Figs 195, 201, 207), but its posterolateral lobes having dorsoapical lobules shorter than ventroapical ones (i. e. these lobes more similar to those of *D. rarus*; Figs 204–206); ectoparameres and endoparameres as well as lateral sclerotized plates of rachis also more similar to those of *D. rarus* (see Figs 193 and 205).

Female unknown.

Length in mm. Body 22; pronotum 4; tegmina 9.5; hind femora 14.5.

*Comparison.* The new species is closely related and most similar to *D. rarus* and



*D. microrarus* but distinguished from them by larger male tegmina and the above-mentioned characters of the male genitalia; additionally, it differs from *D. rarus* in the presence of outer tympana, and from *D. microrarus* in a distinctly larger body and relatively smaller head.

**Etymology.** This species name consists of the Greek prefix “mega-” (large) and name of another species (*rarus*).

***Duolandrevus (Eulandrevus) paradoxus***  
(Gorochov, 2001), **comb. nov.**  
(Figs 227–230)

*Repapa? paradoxa* Gorochov, 2001

**Note.** This species was described from the eastern part of Thailand (Nakhon Ratchasima Prov.); it was originally included in the genus *Repapa* (Gorochov, 2001), because its epiphallus has a long and undivided posteromedian lobule (see the note for *D. sulawesi*). Later, one similar “species” (*R.? proxima* Gorochov, 2004) was described from Cambodia (Gorochov, 2004). At present, it seems to me that the latter “species” is probably only a subspecies of *D. paradoxus* having small differences in the shape of epiphallus: in *D. p. proximus* **stat. nov.**, the distal part of epiphallus is slightly wider, apical epiphallic spines are more curved medially, subapi-

cal epiphallic lobes are somewhat narrower, and posteromedian epiphallic lobule is with a bifurcate apex (but its left and right halves closely pressed to each other). Also, epiphallus in the both subspecies is with distinct lateral parts of the transverse fold, their male hind wings are distinctly not reaching the posterior edge of metanotum, and their male anal plate is simple (Figs 228, 230); thus, *D. paradoxus* is here placed in the subgenus *Eulandrevus*.

***Duolandrevus (Bejorama) intermedius***  
Chopard, 1969  
(Figs 258–260, 292, 312)

*Duolandrevus intermedius* Chopard, 1969

*Bejorama intermedia*: Otte, 1988

*Duolandrevus (Bejorama) intermedius*: Gorochov, 2000

**New material. Malaysia:** 2 males, Pahang State (Malacca), environs of Kuala Tahan Vill. on Tembeling River (near Taman Negara National Park), primary forest, on wood at night, 12–16.VII.1996, A. Gorochov; 5 males and 5 females, same state, Fraser’s Hill near border with Selangor State (17–18 km SW of Raub Town), 1000–1300 m, primary forest, on wood at night, 15–23.IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva.

**Description.** Female (nov.). General appearance more or less similar to that of male

**Figs 227–284.** *Duolandrevus*: 227, *D. (Eulandrevus) paradoxus paradoxus* (Gor.); 228–230, *D. (E.) p. proximus* (Gor.); 231, 232, *D. (Duolandrevus) sulawesi* (Gor.); 233, 234, *D. (Platylandrevus) depressus* Gor.; 235, *D. (Vietlandrevus) minimus* Gor.; 236, *D. (Jorama) amplus* Gor.; 237–240, *D. (Surdolandrevus) surdus* Gor.; 241–243, *D. (Bejorama) mostovskyi* Gor.; 244–246, *D. (B.) soekarandae* Gor.; 247–250, *D. (D.) krabi* Gor.; 251–254, *D. (D.) deliensis* Gor.; 255, 256, *D. (B.) firmus firmus* Gor.; 257, *D. (B.) f. tioman* **subsp. nov.**; 258–260, *D. (B.) intermedius* Chop.; 261–263, *D. (B.) equatorialis* Gor.; 264–266, *D. (B.) praestans* Gor.; 267–269, *D. (B.) modestus* Gor. et al.; 270–272, *D. (B.) improvisus* Gor. et al.; 273, 274, *D. (B.) bonus* Gor.; 275–277, *D. (B.) doloduo* **sp. nov.**; 278, 279, *D. (B.) parvulus* **sp. nov.**; 280–282, *D. (B.) obliteratus* **sp. nov.**; 283, 284, *D. (B.) balabacus taytay* **subsp. nov.** Right male tegmen (237) and its dorsal field (227); metanotum with hind wings (if they developed) in male from above (228, 231, 233, 238, 241, 244, 247, 251, 255, 258); region of tegmina in female (229); male anal plate (232, 234, 236, 239, 246, 248, 252, 256, 259, 261, 264, 267, 270, 273) and its distal half (230, 235, 242, 275, 278, 280, 283) from above; distal part of this plate from side (240, 243, 250, 254, 257, 260, 263, 266, 269, 272, 274, 276, 279, 281, 284) and from behind (245, 249, 253, 262, 265, 268, 271); female genital plate from below (277, 282) [227, after Gorochov (2001); 228, 229, after Gorochov (2004); 231, 232, 244–249, 251–253, 255, 256, 258, 259, after Gorochov (2000); 233, 234, 236, 273, 274, after Gorochov (2005); 237–240, after Gorochov (2003a); 261–266, after Gorochov (2003b); 267–272, after Gorochov & Warchalowska-Sliwa (2004)].

from original description (Chopard, 1969). Colouration more or less uniformly brown with whitish ocelli, yellowish labrum, very light maxillae and labium, almost light brown large area on head dorsum and pronotal disc, and light brown tegmina and legs (but lateral tegminal field with lighter area near costal edge, and dorsal surface of hind tibia with brown area) as well as venter of body and base of cerci. Outer and inner tympana developed, oval, medium-sized; tegmina reaching base of first abdominal tergite, with short lateral field having five longitudinal veins and with very short dorsal field having seven longitudinal veins (weak but dense cross-venation developed also; Fig. 312); abdominal apex almost as in *D. enatus*, but ovipositor clearly shorter than hind femur.

Male. See its description in Chopard (1969) and illustrations here (Figs 258–260, 292).

Length in mm. Body: male 13–16, female 13–15; pronotum: male 2–2.4, female 2.5–2.7; tegmina: male 5–5.3, female 2.1–2.3; hind femora: male 8.5–9.5, female 9.8–11; ovipositor 7.5–9.

*Remark.* This species was described from Perak State and recorded from Selangor State in Malaysia (Malacca) by Chopard (1969), transferred in a new “genus” (*Bejorama*) by Otte (1988), and included in *Duolandrevus* (*Bejorama*) by Gorochov (2000). Here, it is indicated for some other localities of Malacca.

***Duolandrevus* (*Bejorama*) *parvulus* sp. nov.**

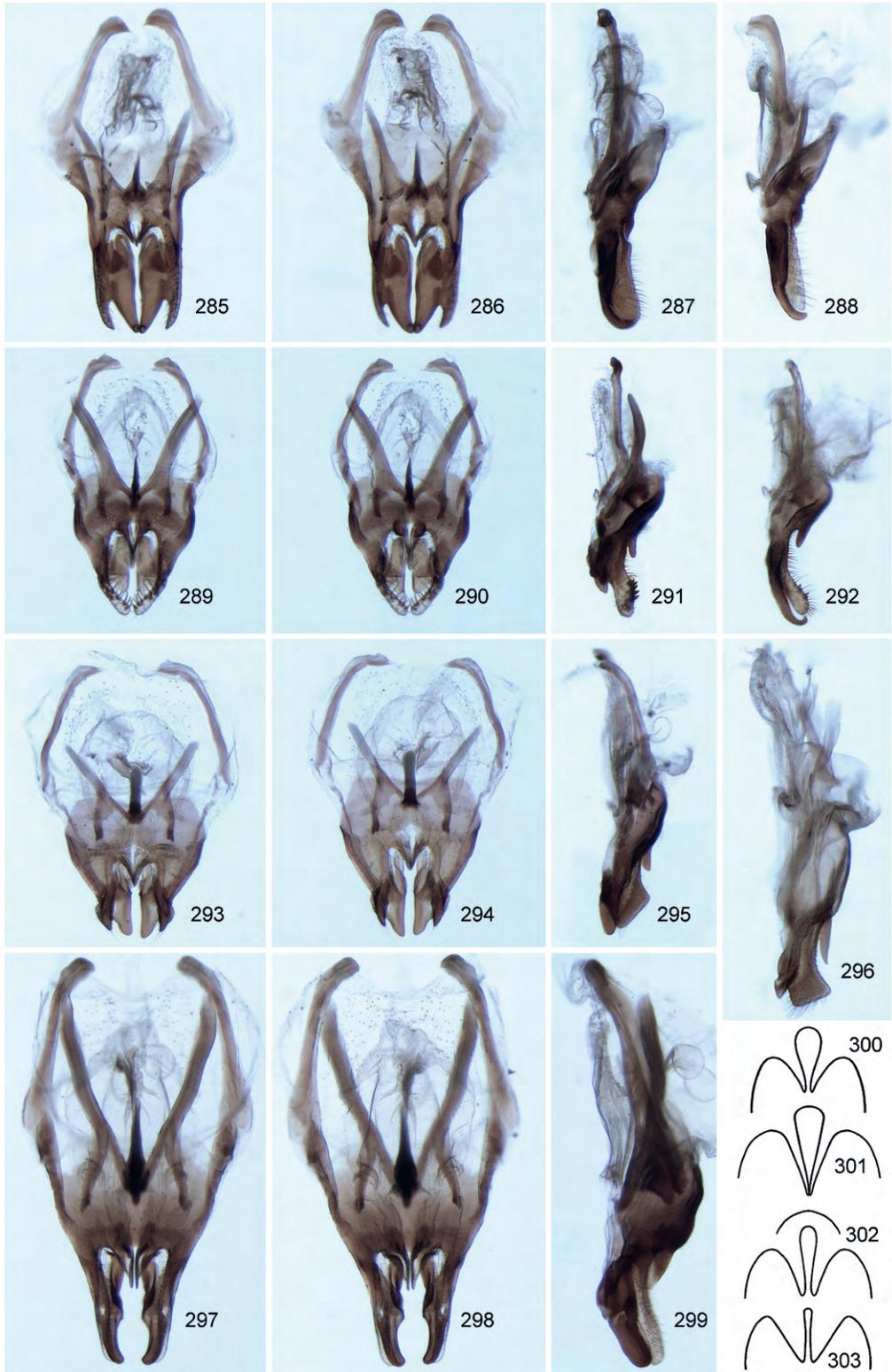
(Figs 218, 219, 278, 279, 289–291, 301)

*Holotype.* Male, **Malaysia**, Pahang State, Tioman I. not far from Mersing City (Malacca: Johor State), environs of Juara Vill. (eastern coast), pri-

mary / secondary forest, on wood at night, 6–14. IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva.

*Description.* Male (holotype). General appearance very similar to that of *D. intermedius*, but body slightly smaller. Colouration brown with almost dark brown rostral region on head, whitish ocelli and rather wide stripe on lateral tegminal field along costal edge, yellowish labrum, light brown to almost whitish maxillae and labium as well as lower half of clypeus, brown (but barely lighter than dorsum of head) pronotal disc and spot in each anteroventral corner of pronotal lateral lobes, dark brown stripe on lateral tegminal field along its dorsal edge, light brown to greyish semi-transparent areas in middle part of dorsal tegminal field (between brown basal area and region of mirror), light brown thoracic sternites and legs having somewhat darker (brown) distal part of hind femur, and brown to light brown abdomen (including cerci having also small yellowish basal area). Head not wider than pronotum, somewhat flattened dorsoventrally; fore tibiae with rather large and oval tympana on both sides; tegmina reaching base of sixth abdominal tergite, with 5–6 longitudinal veins in lateral field, with roundly truncate distal part of dorsal field, with not large and transversally triangular mirror having two cells in distomedial part (Fig. 218); hind wings rudimentary and almost completely covered with pleurites; metanotal gland as in Fig. 219; anal plate somewhat similar to that of *D. intermedius* (narrowed in distal part and with group of short setae, directed upwards, at roundly truncate apex) but having median concavity deeper and partly covered by two pairs of dorsal folds located along lateral edges of this concavity (in *D. intermedius*, these folds less developed, i. e. keel-like and not

**Figs 285–303.** *Duolandrevus* (*Bejorama*): 285–287, 300, *D. (B.) firmus tioman* **subsp. nov.**; 288, *D. (B.) f. firmus* Gor.; 289–291, 301, *D. (B.) parvulus* **sp. nov.**; 292, *D. (B.) intermedius* Chop.; 293–295, 302, *D. (B.) doloduo* **sp. nov.**; 296, *D. (B.) bonus* Gor.; 297–299, 303, *D. (B.) obliteratus* **sp. nov.** Male genitalia from above (285, 289, 293, 297), from below (286, 290, 294, 298), and from side (287, 288, 291, 292, 295, 296, 299); a pair of posteromedial epiphallallic lobules from above (300–303).



covering median convexity; see Figs 259, 260 and 278, 279); genital plate longer than anal plate and with narrowly rounded but slightly notched apex; genitalia also most similar to those of *D. intermedius*, but posterolateral epiphallic lobes clearly shorter and with denser and thicker dorsolateral setae, posteromedial epiphallic lobules and rachis somewhat longer, and ectoparameres much shorter and with apical part not hooked in profile (Figs 289–291, 301).

Female unknown.

Length in mm. Body 12; pronotum 2.1; tegmina 5.2; hind femora 8.2.

*Comparison.* The new species differs from the most related *D. intermedius* in the male genital characters listed above (for comparison see also Figs 291 and 292). From *D. firmus* (another closely related species), it is distinguished by much shorter ectoparameres and a different structure of the posterolateral epiphallic lobes (see Figs 285–288 and 289–291).

*Etymology.* This species name is the Latin word “parvulus” (very small).

***Duolandrevus (Bejorama) firmus firmus***

Gorochov, 2000

(Figs 255, 256, 288)

*Duolandrevus (Bejorama) firmus* Gorochov, 2000

*New material.* **Malaysia:** 4 males, Pahang State (Malacca), Fraser’s Hill near border with Selangor State (17–18 km SW of Raub Town), 1000–1300 m, primary forest, on wood at night, 15–23.IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva;

*Remark.* This species was described from Taman Negara National Park in the same state of Malaysia (Gorochov, 2000). Here, nominotypical subspecies of *D. firmus* is recorded from another locality of this state.

***Duolandrevus (Bejorama) firmus tioman***  
**subsp. nov.**

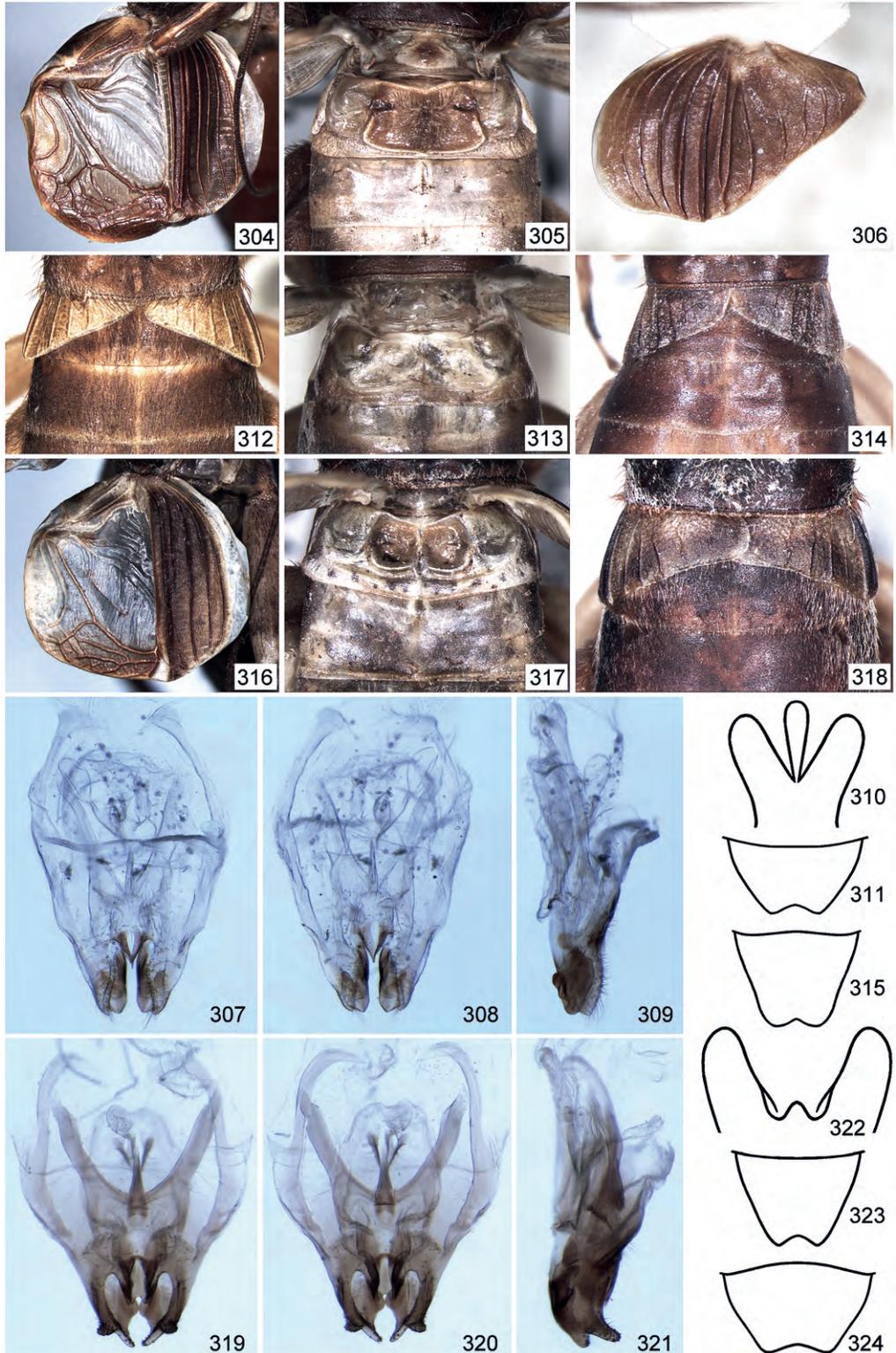
(Figs 215–217, 257, 285–287, 300)

*Holotype.* Male, **Malaysia**, Pahang State, Tioman I. not far from Mersing City (Malacca: Johor State), environs of Juara Vill. (eastern coast), primary / secondary forest, on wood at night, 6–14. IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva.

*Paratypes.* Two females, same data as for holotype.

*Description.* Male (holotype). Body very similar to that of nominotypical subspecies. Colouration brown with whitish ocelli and lower half of clypeus as well as stripe on lateral tegminal field along costal edge, with yellowish labrum and lower part of genae, with light brown to whitish maxillae and labrum, with very light brown most part of scape and thoracic sternites as well as semi-transparent areas on dorsal tegminal field (between brown basal area and region of mirror), with also light brown but slightly darker legs (distal area on hind femur and dorsal surface of hind tibia brown), and rather light first–seventh abdominal sternites and proximal part of cerci. Structure of body similar to that of *D. parvulus*, but all tympana (outer and inner) relatively smaller, tegmina reaching base of fifth abdominal tergite as well as with 6–7 longitudinal veins in lateral tegminal field and with mirror in dorsal field as in Fig. 215, hind wings and metanotum similar to those of nominotypical subspecies, but metanotal gland with barely shallower median concavity having slightly shorter and less noticeable hairs (Fig. 216); anal plate with group of apical setae clearly longer than in *D. intermedius* and *D. parvulus* (Fig. 257), i. e. this plate as in *D. f. firmus* but with not narrowed middle part of median concavity (in nominotypical subspecies, this concavity

**Figs 304–324.** *Duolandrevus*: 304–311, *D. (Bejorama) balabacus taytay* subsp. nov.; 312, *D. (B.) intermedius* Chop.; 313–315, *D. (Vietlandrevus) minimus* Gor.; 316–323, *D. (Jorama) curtipennis mindoro* subsp. nov.; 324, *D. gigans* sp. nov. Right tegmen of male (304, 316); male metanotum from above (305, 313, 317); left tegmen of female (306); male genitalia from above (307, 319), from below (308, 320), and from side (309, 321); a pair of posteromedial epiphallic lobules from above (310, 322); female genital plate from below (311, 315, 323, 324); region of tegmina in female from above (312, 314, 318).



strongly narrowed in middle part; see Fig. 256); genitalia with posterolateral epiphallic lobes somewhat wider in profile and with small angular dorsal projection at base (in *D. f. firmus*, this projection indistinct), with more hooked distal part of ectoparameres which almost not protruding behind above-mentioned lobes (in *D. f. firmus*, ectoparameres clearly protruding behind these lobes), and with formula having slightly longer (than in nominotypical subspecies) apodeme (Figs 285–287, 300).

Female. Size, colouration and structure of body practically indistinguishable from those of *D. f. firmus*: tegmina with short lateral field having 5–6 longitudinal veins and with very short dorsal field having 7–8 such veins, reaching middle part of first abdominal tergite (Fig. 217); genital plate short, narrowing to widely and shallowly notched apex having posterolateral corners rounded.

Length in mm. Body: male 17.3, female 15–17; pronotum: male 2.3, female 2.8–3.1; tegmina: male 6.3, female 2.1–2.5; hind femora: male 11, female 11.5–12.7; ovipositor 11.5–13.

*Comparison.* Differences of the new subspecies from nominotypical one are named above, in the description.

*Etymology.* This new subspecies is named after the Tioman Island (its type locality).

***Duolandrevus (Bejorama) balabacus taytay* subsp. nov.**

(Figs 283, 284, 304–311)

*Holotype.* Male, **Philippines**, Palawan I., northern part, environs of Taytay Town (eastern coast), secondary forest, on wood at night, 25–26.II.2004, A. Gorochov.

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

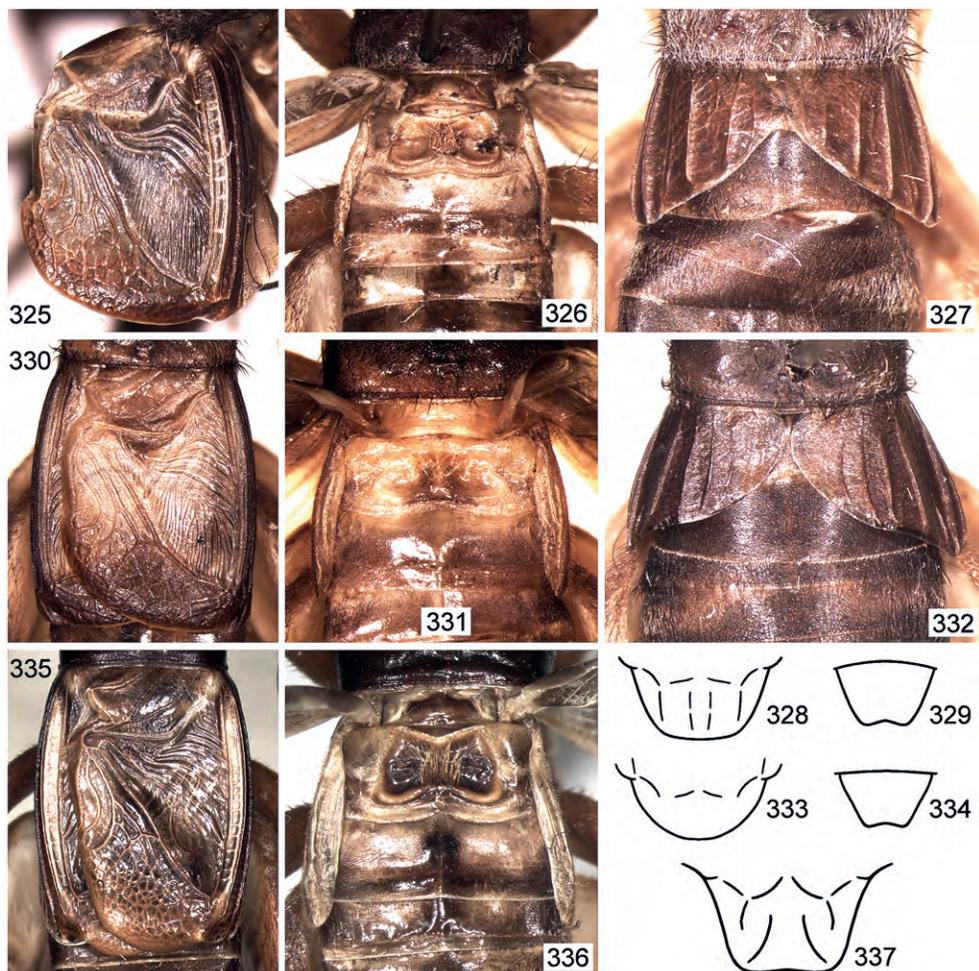
*Description.* Male (holotype). Body large for this subgenus. Head and pronotum reddish brown with slightly darker rostral part and area under rostrum and under antennae (including subgenae and upper half of clypeus), dark brown mandibles, whitish ocelli and lower half of clypeus, reddish yellow labrum, light brown proximal part of antennae and rest of mouthparts, and greyish

eyes; tegmina with brown lateral field having wide whitish band along costal edge, with very light (almost completely transparent) membranes between oblique veins and between them and diagonal vein, with light brown to brown basal area of dorsal field and distal part of this field, and with yellowish region of chords (Fig. 304); legs light reddish brown with indistinct darkening in distal part of hind femur and dark brown dorsal surface of hind tibia (between spines); venter of body (including genital plate) almost light brown; abdominal tergites, anal plate and cerci brown with yellowish narrow stripes on tergites along their posterior edge and with almost yellowish cercal base. Structure of body similar to that of other congeners, but tegmina reaching base of third abdominal tergite (their lateral field with eight longitudinal veins and numerous distinct cross-veins, their dorsal field with stridulatory apparatus as in Fig. 304), hind wings noticeable but somewhat not reaching posterior edge of metanotum, metanotal gland as in Fig. 305, anal plate as in Figs 283 and 284, and genitalia very similar to those of *D. b. balabacus* but distinguished by somewhat wider and shorter distal part of posterolateral epiphallic lobes, slightly longer posteromedial epiphallic lobules, shorter rachis, and wider apical part of ectoparameres in profile (Figs 307–310).

Female. General appearance as in male, but tegmina much smaller and uniformly brown (their structure as in Fig. 306), anal plate simple (with rather narrowly truncate distal part), and genital plate as in Fig. 311.

Length in mm. Body: male 22, female 20; pronotum: male 3.2, female 3.5; tegmina: male 7.4, female 3.8; hind femora: male 12.5, female 13; ovipositor 14.

*Comparison.* The new subspecies differs from nominotypical one (Balabac I.) in the above-mentioned small genital characters. It is possibly that *D. gingoogus* (Mindanao I.), very similar to *D. balabacus*, is a third subspecies of this species distinguished from *D. b. taytay* by a deeper notch between the posteromedial epiphallic lobules which is



**Figs 325–337.** *Repapa* and *Sulawemina*: 325–329, *R. trusmadi* sp. nov.; 330–334, *R. denticulata* sp. nov.; 335–337, *S. nitida* sp. nov. Dorsal field of right tegmen of male (325, 330, 335); metanotum with hind wings in male from above (326, 331, 336); region of tegmina in female from above (327, 332); distal half of male anal plate from above (328, 333, 337); female genital plate from below (329, 334).

significantly deeper than the nearest (more lateral) notches of epiphallus (Otte, 1988: fig. 9, B).

**Etymology.** The new subspecies is named after the Taytay Town situated very near its type locality.

***Duolandrevus (Bejorama) doloduo* sp. nov.**  
(Figs 221–223, 275–277, 293–295, 302)

**Holotype.** Male, **Indonesia**, Sulawesi Utara Prov., Minahassa Peninsula (Sulawesi), Bogani

Nani Wartabone National Park not far from Doloduo Town, environs of Wallace Base Camp near Toraut Vill., primary / secondary forest, on wood at night, 17–25.I.2011, A. Gorochov.

**Paratypes.** Male and female, same data as for holotype.

**Description.** Male (holotype). General appearance typical of this subgenus. Colouration dark brown with following marks: epicranium and pronotum almost blackish with whitish ocelli and yellowish area on each gena near ventral part of eye; antennae greyish brown with light brown areas

on dorsal and ventral surfaces of each scape; clypeus with almost blackish upper half and yellowish lower one (latter half with a pair of brown marks); mandibles brown with dark brown proximal area; other mouth-parts light brown with most part of palpi yellowish; tegmina with wide whitish band along costal edge, with dark brown most part of basal area in dorsal field, with brown distal part of this field, and with whitish (almost transparent) rest part of this field having light brown veins (Fig. 221); legs brown with almost dark brown distal part of hind femur and with yellowish proximal half of inner surface of this femur and small inner spot in distal half of this surface; body venter brown with dark brown posterior half of abdominal venter; rest of abdomen mainly dark brown with blackish longitudinal keels on anal plate and light greyish brown base of each cercus. Head not wider than pronotum, insignificantly flattened but with roundly angular (in profile) rostrum; distance between antennal cavities barely greater than width of scape; pronotum distinctly transverse, barely narrowing to head; tegmina reaching base of seventh abdominal tergite, with lateral field having 7–8 longitudinal veins and lacking cross-veins, and with medium-sized and oblique mirror having a few incomplete dividing veins (Fig. 221); hind wings distinctly protruding behind metanotum; metanotal gland as in Fig. 222; inner and outer tympana rather large, oval and almost equal in size; anal plate with narrowly rounded distal part, a pair of rather high and sinuate longitudinal keels on dorsum, and dense bundle of long setae at apex (these setae directed upwards and slightly forwards; Figs 275, 276); genital plate somewhat longer than anal one and with narrowly rounded apex; genitalia more or less similar to those of *D. bonus*, but epiphallus distinctly shorter, its posteromedial lobules also clearly shorter, dorsal angular projection of posterolateral epiphallic lobes located almost in middle of these lobes (but in their distal part in *D. bonus*), ectoparameres slightly protruding behind apices of these

lobes (*vs.* they not reaching these apices; for comparison see Figs 295 and 296) and other in shape (rachis and formula also different; Figs 293–295, 302).

Variations. Male paratype with inner tympana slightly smaller than outer ones.

Female. General appearance as in male, but tegmina and abdomen brown with yellowish stripe along costal tegminal edge and slightly darker transverse stripes along posterior edge of majority of tergites, tympana as in male paratype, tegmina reaching proximal third of first abdominal tergite and with dorsal field very short (transverse) and having slightly concave posterior edge (Fig. 223), lateral tegminal field with 6–7 longitudinal veins only, dorsal one with five such veins and traces of sparse cross-veins, anal plate without apical bundle of setae (however, its structure, including longitudinal keels on dorsum, rather similar to that of males), and genital plate as in Fig. 277.

Length in mm. Body: male 13.5–14, female 14; pronotum: male 2.6–2.8, female 2.7; tegmina: male 6.5–6.8, female 2.3; hind femur: male 9.5–10, female 10.2; ovipositor 10.3.

*Comparison.* Differences of the new species from most similar one (*D. bonus* from the southern part of Sulawesi) are given above. From all the other congeners, it differs in the following combination of characters: male tegmina are with a developed and oblique mirror almost lacking dividing veins; male anal plate is with an almost triangular distal part having a pair of rather high and sinuate longitudinal keels, and with a dense bundle of long (high) apical setae.

*Etymology.* This new species is named after the Doloduo Town situated not far from its type locality.

***Duolandrevus (Bejorama) obliteratedus***  
**sp. nov.**

(Figs 224–226, 280–282, 297–299, 303)

*Holotype.* Male, **Indonesia**, Bengkulu Prov. (Sumatra), environs of Curup Town not far from

Bengkulu City, 3°28–29'S, 102°31–38'E, 1000–1500 m, primary / secondary forest, on wood at night, 24.IV–2.V.2009, A. Gorochov, M. Berezin, E. Tkatsheva.

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

*Description.* Male (holotype). Shape of body similar to that of *D. doloduo*, but colouration with some differences: scape and proximal part of rest of antennae almost light brown; labrum reddish brown; upper half of clypeus brown (lighter than most part of epicranium); genae almost without lighter spots; anteroventral part of lateral pronotal lobes lighter (brown); legs light reddish brown with slightly darker distal part of hind femur and with yellowish marks as in above-mentioned species; tegmina almost completely dark brown but with two longitudinal veins in humeral part and some veins in basal area of dorsal field light brown (Fig. 224); abdominal tergites uniformly dark brown; anal plate also dark brown but with lighter lateral areas. Head with slightly more rounded rostrum in profile; outer tympana absent; inner tympana small and almost round; tegmina reaching middle part of second abdominal tergite, with short lateral field having 6 longitudinal veins only, and with clearly longer dorsal field having stridulatory apparatus somewhat reduced (i. e. with oblique veins, diagonal vein, chords and venation of distal part partly obliterated; Fig. 224); hind wings clearly protruding behind metanotum; metanotal gland as in Fig. 225; anal plate with slightly narrowed distal half, narrowly rounded distal part having dense bundle of short and curved setae at apex (these setae directed upwards / forwards), and low median longitudinal convexity on dorsum (paired longitudinal keels on this dorsum undeveloped; Figs 280, 281); genitalia more or less similar to those of *D. intermedius* and *D. firmus* but with posterolateral epiphallic lobes less lamellar than in *D. firmus* and lacking characteristic (for *D. intermedius*) setae, as well as with ectoparameres more or less separated from ventral parts of these lobes (*vs.* ectoparameres

fused with these parts) and not curved in profile (Figs 297–299, 303).

Female. General appearance as in male, but tegmina dark brown with a few veins brown to almost light brown, tegminal apices reaching posterior edge of metanotum, lateral tegminal field with five longitudinal veins only, dorsal tegminal field significantly shorter than lateral one and with a few irregular veins only (its shape approximately as in female of *D. doloduo*; Fig. 226), one of inner tympana obliterated, anal plate somewhat shorter and more simple in shape (widely rounded in distal part and without bundle of apical setae), and genital plate as in Fig. 282.

Length in mm. Body: male 18, female 19; pronotum: male 2.7, female 2.9; tegmina: male 4.2, female 2; hind femora: male 12, female 13.3; ovipositor 15.5.

*Comparison.* The new species is most similar and possibly related to *D. intermedius*, *D. firmus* and *D. parvulus* but distinguished from them by clearly smaller male tegmina with a partly obliterated stridulatory apparatus, the absence of outer tympana, absence of paired longitudinal keels on the dorsum of male anal plate, and some characters of male genitalia. From all the other congeners, *D. obliterated* differs in the above-mentioned characters of tympana and male tegmina, as well as in a characteristic structure of male epiproct and male genitalia.

*Etymology.* This species name is the Latin word “obliterated” (obliterated) given in connection with condition of its stridulatory apparatus.

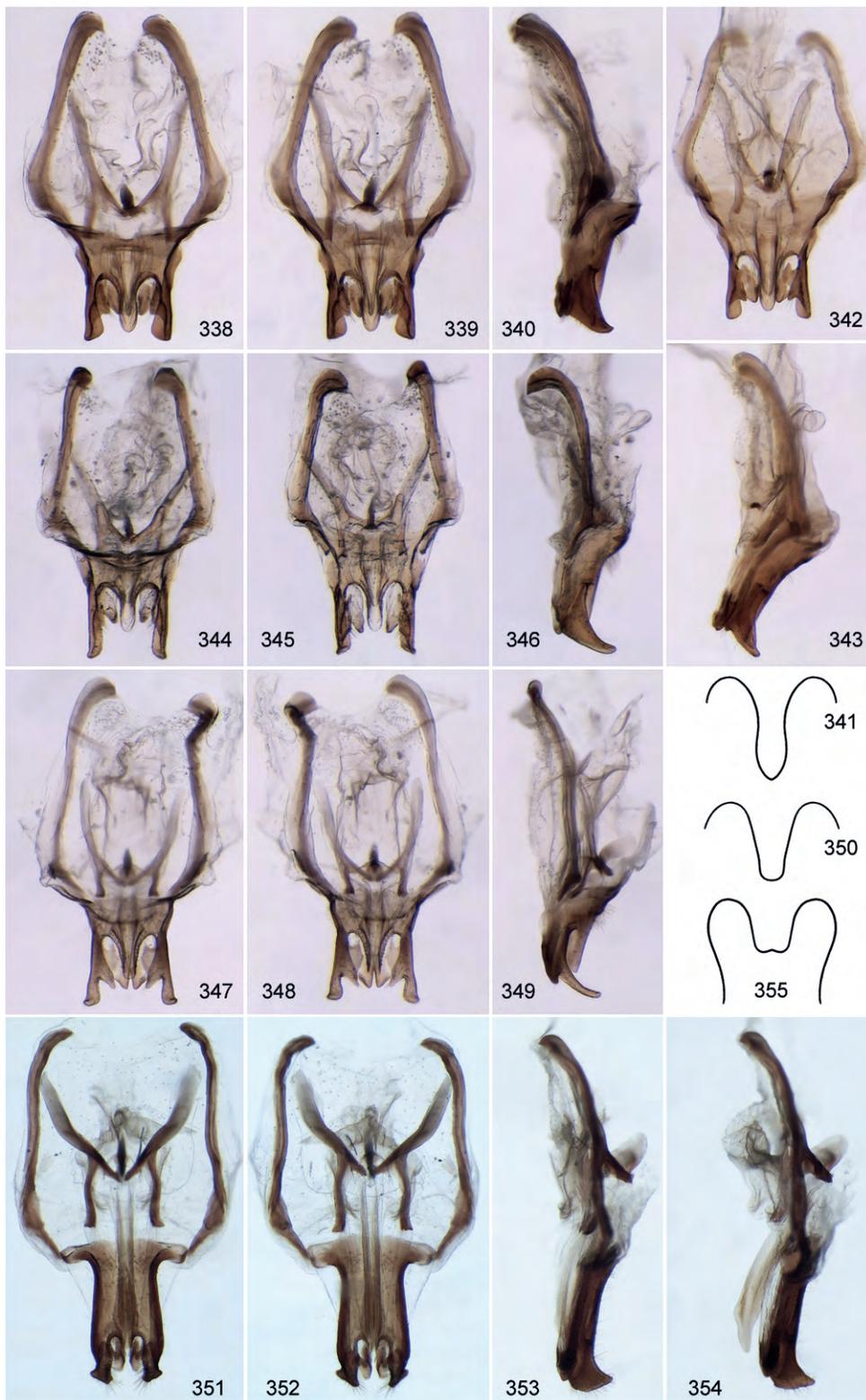
### ***Duolandrevus (Bejorama) mostovskyi***

Gorochov, 2000

(Figs 241–243)

*Duolandrevus (Duolandrevus) mostovskyi* Gorochov, 2000

*Note.* This species described from Thailand (Malacca) was originally included in the subgenus *Duolandrevus*, because it has a widely truncate apex of the male anal plate (Fig. 242). However, restudy of its type ma-



terial shows that this plate is with a low median convexity on its dorsum, and the posterior edge of this plate is barely projected upwards in the median part and having a row of short setae directed upwards (Fig. 243). Thus, this species must be transferred to the subgenus *Bejorama*.

***Duolandrevus (Vietlandrevus) sapidus***  
(Gorochov, 1990)

*Eulandrevus sapidus* Gorochov, 1990

*Duolandrevus (Vietlandrevus) sapidus*: Gorochov, 1996

*New material. Vietnam*: female, Gia Lai Prov., 50–60 km N of Kannack Town, Kon Cha Rang Area, 1000–1200 m, primary forest, on wood at night, 14–20.IV.1995, A. Gorochov; female, same locality but 10.I.1998.

*Note*. This species was described from the environs of Buon Luoi Village in the same province (Gorochov, 1990: figs 3, 9–11). Here, it is indicated for another locality situated not far from its type locality.

***Duolandrevus (Vietlandrevus) minimus***  
Gorochov, 1996  
(Figs 235, 313–315, 390)

*New material. Vietnam*: male, Quang Binh Prov., 35 km NW of Dong Hoi, Phong Nha – Ke Bang National Park, 600 m, IX–X.2003, N. Orlov; male, Thua Thien – Hue Prov., Bach Ma National Park not far from Hue City, 22–23.XI.2008, V. Bezborodov; female, Kon Tum Prov., Kon Plong, Mang Canh, 1200 m, III–IV.2005, N. Orlov, S. Ryabov.

*Description*. Female (nov.). Body rather small. Colouration brown with reddish brown head dorsum, yellowish ocelli and lower half of clypeus, light brown antennae and lower part of genae as well as rest of mouthparts (excepting brown mandibles),

very light brown (almost yellowish) spot on anteroventral part of each pronotal lateral lobe and spot at base of lateral tegminal field as well as venter of thorax and most part of legs (but with slightly darker hind tibia, hind tarsus and distal part of hind femur), light brown to brown venter of abdomen, and light yellowish grey cerci having very light small basal part. Head almost not flattened, with rather long mouthparts, and with rostrum rounded in profile (its width almost equal to width of scape); pronotum slightly transverse and with rather high lateral lobes; tegmina reaching base of first abdominal tergite, with 9–10 longitudinal veins, without cross-veins, and with lateral and dorsal fields indistinctly separated from each other (Fig. 314); inner tympanum oval and not very small; outer tympanum undeveloped; anal plate simple, with rounded apex; genital plate as in Fig. 315.

*Male*. Size, colouration and structure of body almost identical to holotype of this species from “Phuc-Son” in central part of Vietnam (Figs 235, 313, 390; see also Gorochov, 1996: figs 39, 48, 78–80), but outer tympanum absent or developed [in latter case, it very small (much smaller than inner tympanum) as in other representatives of *Vietlandrevus*].

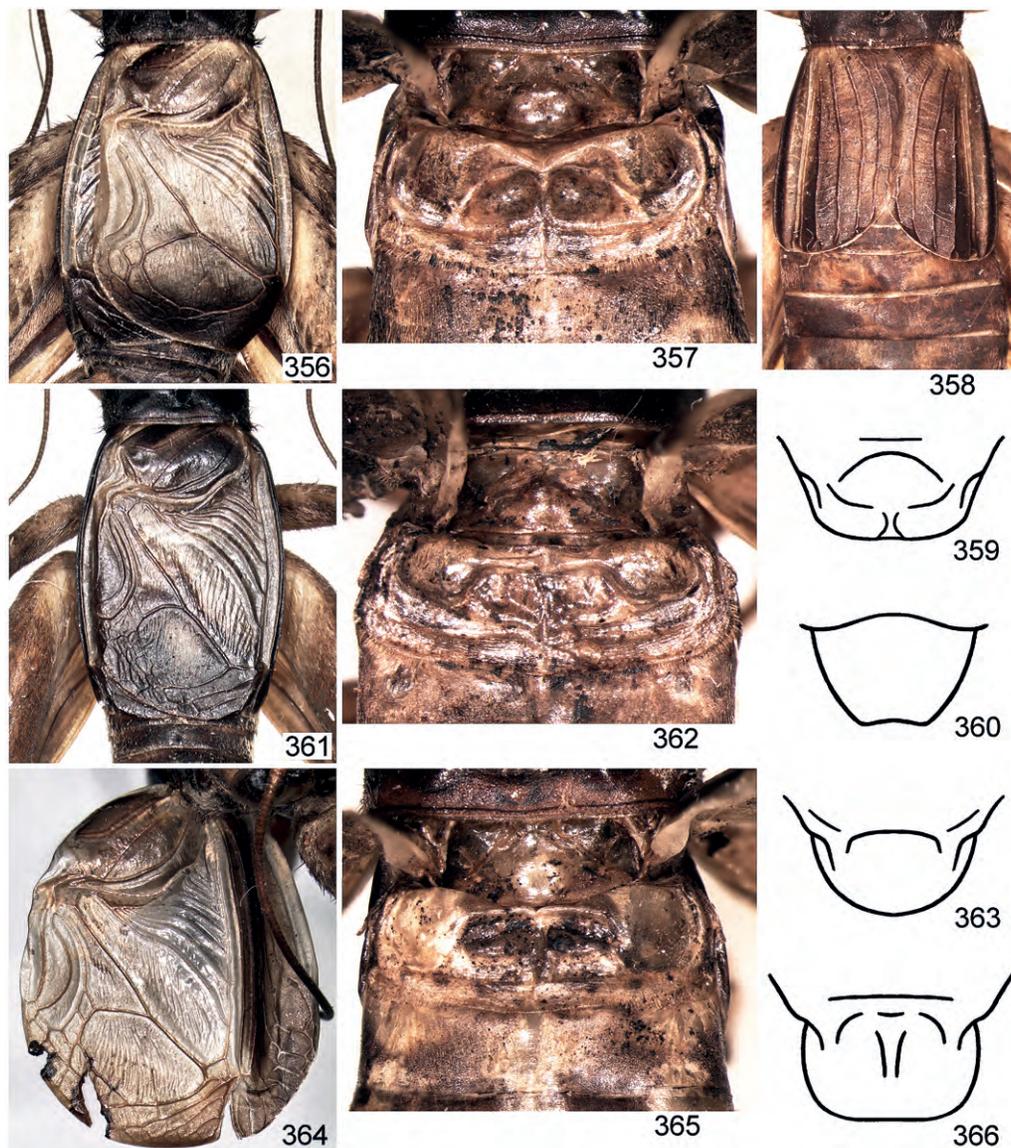
Length in mm. Body: male 17–19, female 15.5; pronotum: male 2.8–3, female 2.9; tegmina: male 5–5.5, female 2; hind femora: male 10–11, female 11; ovipositor 14.

*Remark*. This species is here recorded from some other localities of Vietnam.

***Duolandrevus (Jorama)***  
***curtipennis mindoro* subsp. nov.**  
(Figs 316–323)

*Holotype*. Male, **Philippines**, Mindoro I., environs of Puerto Galera Town (northern coast),

**Figs 338–355**. *Repapa* and *Sulawemina*, male: 338–343, *R. trusmadi* sp. nov.; 344–346, *R. brevipes* (Chop.); 347–350, *R. denticulata* sp. nov.; 351–355, *S. nitida* sp. nov. Genitalia from above (338, 344, 347, 351), from below (339, 342, 345, 348, 352) and from side (340, 343, 346, 349, 353); unpaired posteromedian lobule of epiphallus from above (341, 350, 355); genitalia with rachis slightly deflected downwards, lateral view (354).



**Figs 356–366.** *Endolandrevus*: 356–360, *E. halmahera* sp. nov.; 361–363, *E. saussurei* sp. nov.; 364–366, *E. biak* sp. nov. Dorsal field of right tegmen of male (356, 361); male metanotum from above (357, 362, 365); region of tegmina in female from above (358); distal half of male anal plate from above (359, 363, 366); female genital plate from below (360); right tegmen of male (364).

primary / secondary forest, on wood at night, 11–13.III.2004, A. Gorochov.

*Paratypes.* Male and 2 females, same data as for holotype.

*Description.* Male (holotype). Body moderately large for this genus. Head brown with four narrow light brown longitudinal

stripes on dorsum behind lateral ocelli and behind eyes, with small spot of same colour between each lateral ocellus and eye, with yellowish area in lower half of genae and triangular spot under rostral apex (this spot with short light vertical line running almost to median ocellus), with a pair of lightish

short stripes on rostral dorsum around median ocellus, with yellowish to whitish ocelli as well as lower half of clypeus and proximal part of labrum, with yellow rest of labrum, and with light brown proximal part of antennae (their more distal part somewhat darker, almost brown) as well as maxillae and labium (including palpi); pronotum brown with barely darker lateral lobes having light brown spot in each anteroventral corner; tegmina with lateral field brown but having wide yellowish band along costal edge, with most part of dorsal field yellowish and having semitransparent and almost transparent main membranes, and with light brown distal part of latter field (Fig. 316); legs almost yellowish with small and sparse darkish marks on fore and middle femora and tibiae, with light brown outer surface of hind femur and several brown spots on its dorsal surface and in its distal part, and with brown most part of hind tibiae (including majority of its spines and denticles); rest of body light brown with brown genital plate, pleural membranes of abdomen, and diverse spots on abdominal tergites and anal plate. Head rather strongly flattened but with not very shortened mouthparts; rostrum angular in profile; space between antennal cavities slightly narrower than scape; pronotum transverse, low, with weakly concave and almost straight anterior and posterior edges, respectively; tegmina reaching base of fourth abdominal tergite, with 5–6 longitudinal veins and slight traces of cross-veins in lateral field, and with dorsal field as in Fig. 316; hind wings absent or completely covered by metathoracic pleurites; metanotal gland as in Fig. 317; inner tympanum rather large and oval, but outer tympanum distinguished from it by much smaller size (inner tympanum almost four times as long as outer one); anal plate simple, with widely rounded apical part similar to that from Fig. 236; genital plate somewhat longer than anal one and with narrowly rounded apex; genitalia similar to those of nominotypical subspecies but with ventromedial lobule of each posterolateral epiphallic lobe shorter

and directed more medially (Figs 319–322) (in *D. c. curtipennis* Chopard, 1937, this lobule longer and directed almost backwards; see Gorochov, 1996: figs 63–65).

Variations. Pronotum of second male with additional light brown spot on each posterolateral part of disc; size of outer tympanum somewhat varied (in one leg of this paratype, outer tympanum almost as in holotype, but in other leg, inner tympanum almost thrice as long as outer one).

Female. General appearance as in male, but tegmina reaching apex of metanotum, lateral tegminal field brown with greyish basal area and costal stripe as well as with four longitudinal veins, dorsal tegminal field very short and with greyish brown wide band along oblique distal edge and whitish grey rest part (Fig. 318), and genital plate as in Fig. 323.

Length in mm. Body: male 18–22, female 20–21; pronotum: male 3–3.7, female 3.3–3.5; tegmina: male 6–7.2, female 2.2–2.4; hind femora: male 12.5–15.5, female 13–13.3; ovipositor 14–14.5.

*Comparison.* The new subspecies differs from *D. c. curtipennis* (Palawan I.) in the genital characters listed above, and from *D. isarogensis* Otte, 1988 (Luzon I.), which may be a third subspecies of this species, in a less oblique distal edge of the male tegminal dorsal field and less dorsal position of the posteromedial epiphallic lobules in the profile (see illustrations in: Otte, 1988; Gorochov, 1996).

***Duolandrevus (Platylandrevus) depressus*** Gorochov, 2005  
(Figs 233, 234)

*New material. Indonesia:* 2 males, Papua Prov. (New Guinea), environs of Nabire Town, secondary forest on hills, on wood at night, 28.II–2.III.2012, A. Gorochov.

*Note.* These specimens are very similar to type ones from the environs of Manokwari Town (type locality) and from Supiori Island (Gorochov, 2005). Here this species is recorded from a new locality.

***Duolandrevus gigans* sp. nov.**

(Figs 132, 324)

*Holotype.* Female, Laos, Vientiane Prov., Phu Khao Khouay National Park, Ban Vang-heua, 18°20.102'N, 102°48.983'E, 800 m, mixed bamboo forest, pitfall traps, 9.IV–25.V.2008, S. Tarasov.

*Description.* Female (holotype). Body very large for this tribe, with shining integument. Colouration dark with following pattern: head brown with almost reddish brown dorsum, dark brown dorsal part of rostrum and rostral apex as well as area on upper half of each gena behind eye, yellowish ocelli and most part of lower half of clypeus, reddish yellow labrum, light brown maxillae and labium but with small whitish membranous area at apex of palpi; pronotum dark brown (almost blackish) with brown most part of disc (but its anterolateral parts also dark brown); tegmina with dark brown lateral field having rather wide whitish stripe along costal edge, with brown most part of dorsal field and with wide yellow band along lateral edge of this field [basal part of this field also with yellowish to light brown narrow (short) transverse area; Fig. 132]; legs uniformly brown but with almost dark brown area on distal part of hind femur; thoracic sternites also brown; abdomen dark brown, but its tergites with very distinct narrow yellow stripe along posterior edges, anal and genital plates as well as cerci and short posterior part of last sternite light brown, pleural membrane yellowish, and ovipositor reddish brown. Head very large, clearly wider than pronotum, somewhat flattened dorsoventrally but with not very shortened mouthparts; rostrum almost angular in profile (space between antennal cavities approximately as wide as scape); epicranium with small wrinkles on genae near subgenae and under antennal cavities; pronotum clearly transverse, slightly narrowing to mesonotum, with moderately concave anterior edge of disc, with barely convex posterior one, and with moderately low lateral lobes; tegmina reaching middle part of third abdominal tergite, with 7–8 longitudinal

veins and very weak but rather numerous cross-veins in lateral field, and with similar venation in dorsal field (Fig. 132); inner and outer tympana developed, weakly oval (inner tympanum medium-sized, outer one somewhat smaller); anal plate with widely truncate apical part having very shallow (barely noticeable) posteromedian notch and rounded posterolateral corners; last sternite with distinct transverse (short) concavity along posterior edge; genital plate as in Fig. 324; ovipositor very long (it about 1.3 times as long as hind femur).

Male unknown.

Length in mm. Body 30; pronotum 4.7; tegmina 7.8; hind femora 17.5; ovipositor 22.

*Comparison.* The new species is distinguished from all the other congeners by a larger body size in combination with a shining integument, large head with wrinkles, relatively long female tegmina with a contrast colouration of the dorsal field (brown with yellow band), the abdominal dorsum transversally striped, last sternite of female with a distinct transverse concavity along its posterior edge, and a very long ovipositor.

*Etymology.* This species name is the Latin word “gigans” (giant), because this species is very large.

*Remark.* This species is described from a single female, and its subgeneric position cannot be determined without study of male characters.

**Genus *Repapa* Otte, 1988**

*Note.* This genus includes a few rather small and closely related crickets similar to the genus *Duolandrevus* in the general appearance and in the presence of outer and inner tympana on the fore tibiae. *Repapa* differs from the latter genus in characteristic male genitalia having a long and rather narrow unpaired posteromedian epiphallic lobule, long posterolateral epiphallic lobes with the distal parts curved upwards and with a rather long and semitubular rachis (Figs 338–350). Male anal plate of *Repapa* is simple in the shape, with widely rounded or roundly truncate apex lacking strong se-

tae directed upwards (Figs 328, 333). However, this genus is related to *Duolandrevus* s. l. and may be considered as one of its subgenera (Gorochov, 2000). In this paper, I wrote that *Repapa* is mainly characterized by a single character: the presence of large unpaired posteromedian lobule in the epiphallus. At present, it is clear that this character is presented also in some species of *Duolandrevus* s. str., and two species previously included in *Repapa* must be transferred to the genus *Duolandrevus* (see the notes about *D. sulawesi* and *D. paradoxus*).

**Included species.** *D. brevipes* Chopard, 1937, Philippines (Figs 344–346); *R. sapagaya* Otte, 1988 (type species), Borneo; *R. tenompokae* Otte, 1988, Borneo; two new species described below.

***Repapa trusmadi* sp. nov.**  
(Figs 325–329, 338–343)

**Holotype.** Male, **Malaysia**, Sabah State (Borneo), Trus Madi Mt, ~1000 m, primary / secondary forest, on wood at night, 13–25.V.2007, A. Gorochov.

**Paratypes.** Four males and 2 females, same data as for holotype; male and female, same state, Coco Range, environs of Gunung Arab National Park, ~1500 m, primary forest, on forest floor at night, 13–25.V.2007, A. Gorochov.

**Description.** Male (holotype). General appearance typical for this genus. Body colouration following: head and pronotum dark brown with brownish grey eyes and proximal part of antennae, whitish ocelli and most part of lower clypeal half, brown to reddish labrum, and light brown labium and maxillae having greyish brown most part of maxillary palpi; tegmina with brown lateral field having yellowish stripe along costal edge, with transparent most part of dorsal field, with light brown area in basal part of latter field, with large brown area consisting of region of mirror and region of distal parts of chords, and with yellowish (semitransparent) membranes between other parts of chords (Fig. 325); legs brown (almost light brown) with yellowish most part of inner surface of hind femur, with al-

most dark brown dorsal half of distal third of this femur, with yellowish additional spot on this darkened part almost dividing this part into two dark bands, and with dark brown dorsal half of hind tibia having yellowish dorsal subbasal spot and mainly light brown articulated spines; meso- and metanotum as well as anterior half of abdominal dorsum light brown to yellowish; venter of body and rest of abdomen brown to dark brown but with greyish brown cerci having small light basal ring. Head not wider than pronotum, clearly dorsoventrally flattened, with roundly angular rostrum in profile (this rostrum between antennal cavities slightly wider than scape); pronotum clearly transverse, with rather low lateral lobes; tegmina reaching apex of sixth abdominal tergite, with 6–7 longitudinal veins and a few cross-veins in lateral field, with mirror transverse and irregular (divided into numerous cells and almost lost among cellular cross-venation of distal part of dorsal field), and with three oblique veins branching from one base (Fig. 325); hind wings and metanotal gland as in Fig. 326; inner and outer tympana rather large, oval; anal plate truncate in distal part and without short vertical setae or bundle of setae at apex (Fig. 328); genital plate somewhat longer than anal one, with narrowly rounded (almost angular) apex; genitalia with posterolateral epiphallic lobes long and triangularly widened in profile (curved distal parts of these lobes rather high), with posteromedian (unpaired) epiphallic lobule almost equal to previous lobes in length, and with barely widened (longitudinally oval) subapical part (Figs 338–341).

**Variations.** Male from Coco Range with posterolateral epiphallic lobes slightly less high and with posteromedian epiphallic lobule almost not widened in subapical part (Figs 342, 343).

**Female.** Colouration and structure of body as in male, but: tegmina reaching second abdominal tergite, with 5–6 longitudinal veins in lateral field, and with 4–5 such veins and weakly visible cross-veins

in dorsal field (Fig. 327); proximal part of abdominal dorsum dark brown; anal plate with widely rounded apex; and genital plate as in Fig. 329.

Length in mm. Body: male 14–16, female 12.5–13.5; pronotum: male 2–2.4, female 2.3–2.6; tegmina: male 5.8–6.2, female 2.8–3; hind femora: male 8.5–9.5, female 9.5–10; ovipositor 8–8.3.

*Comparison.* From *R. sapagaya*, the new species is distinguished by more distinct traces of the male tegminal mirror and by longer posterior projections of the epiphallus (including a pair of posterolateral lobes somewhat wider in the profile, and unpaired posteromedian lobule barely widened in the subapical part); from *R. tenompokae*, by the posterolateral epiphallic lobes distinctly wider in the profile; and from *R. brevipes*, by a slightly oblique distal edge of the male tegminal dorsal field and by clearly wider posterolateral epiphallic lobes in the profile.

*Etymology.* This species is named after the Trus Madi Mount, its type locality.

***Repapa brevipes*** (Chopard, 1937)  
(Figs 344–346)

*Duolandrevus brevipes* Chopard, 1937  
*Repapa brevipes*: Otte, 1988

*New material.* **Philippines:** male, Palawan I., northern part, environs of Port Barton (western coast), secondary forest, on branch of tree at night, 27–29.II.2004, A. Gorochov.

*Note.* This male is very similar to holotype of this species from another locality of the northern part of Palawan Island (see Gorochov, 2000: figs 59–61), but its tegmina have slightly less curved chords and only three oblique veins branching from the same base (holotype is with four such veins), and its epiphallus has insignificantly longer posterolateral lobes which are somewhat longer than a distance from the base of these lobes to the anterior epiphallic edge (Figs 344–346) (in holotype, this distance is approximately equal to length of these lobes).

***Repapa denticulata* sp. nov.**  
(Figs 330–334, 347–350)

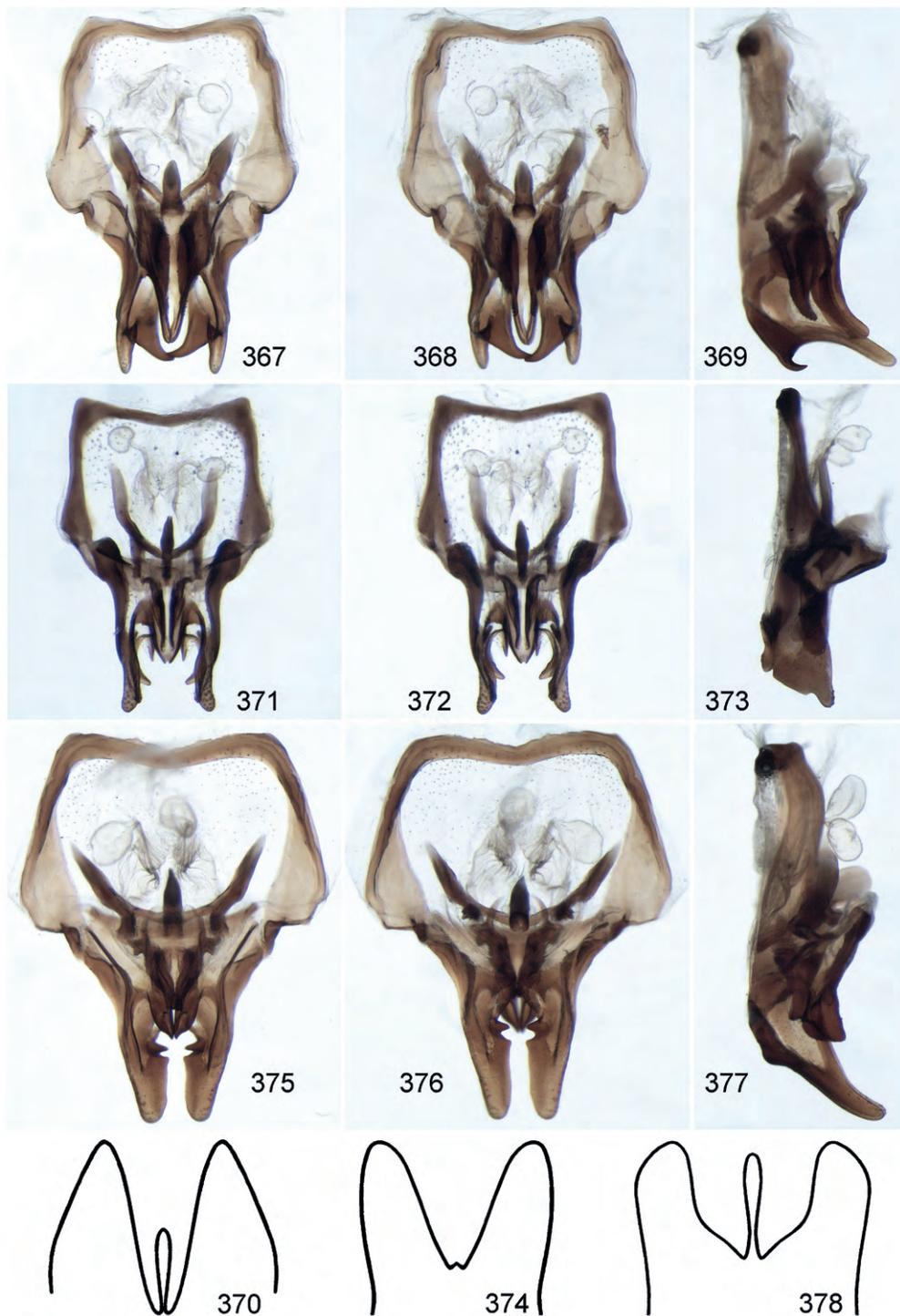
*Holotype.* Male, **Malaysia**, Sabah State (Borneo), Tawau Hills National Park near Tawau City, 200–400 m, primary / secondary forest, on wood at night, 14–20.V.2013, A. Gorochov, M. Berezin, E. Tkatsheva.

*Paratypes.* Two females, same data as for holotype.

*Description.* Male (holotype). Size, colouration and structure of body similar to those of *R. trusmadi* but with following differences: epicranium and pronotum brown with almost light brown dorsum of head (behind rostrum) and disc of pronotum, with light brown scape and lower half of genae, with mainly reddish mandibles, with completely whitish lower half of clypeus, and with yellowish spot in anteroventral corner of each pronotal lateral lobe; tegmina also lighter (with yellowish basal area and light brown distal part of dorsal field; Fig. 330); darkened parts of abdomen brown with almost light brown sternites and genital plate; tegmina with lateral field having 7–8 longitudinal veins and rather numerous but poorly distinct cross-veins, and with dorsal field slightly narrower (Fig. 330); metanotal gland and hind wings as in Fig. 331; anal plate with widely rounded apex (Fig. 333); genitalia with posterolateral epiphallic lobes longer and thinner than in all other congeners but having more distinct short ventromedial projection on each of these lobes, with posteromedian epiphallic lobule distinctly shorter than in *R. trusmadi* and gradually narrowing to rounded apex, and with lateral plates of rachis having rather numerous and very small denticles (Figs 347–350).

Female. General appearance as in female of *R. trusmadi*, but genae and pronotal lateral lobes with slight lightish spots (almost as in holotype of *R. denticulata*), and dorsal tegminal field with 5–6 longitudinal veins and traces of cross-veins between them (Fig. 332); genital plate as in Fig. 334.

Length in mm. Body: male 14.7, female 11.5–12; pronotum: male 2, female 2–2.2;



**Figs 367–378.** *Endolandrevus*, male: 367–370, *E. halmahera* sp. nov.; 371–374, *E. saussurei* sp. nov.; 375–378, *E. biak* sp. nov. Genitalia from above (367, 371, 375), from below (368, 372, 376) and from side (369, 373, 377); a pair of posteromedial epiphallic lobules (370, 378) and unpaired posteromedian lobule (374) from above.

tegmina: male 5.5, female 2.7–3; hind femora: male 8, female 8.5–9; ovipositor 7–7.2.

*Comparison.* The new species differs from the other species of *Repapa* in the posterolateral epiphallic lobes clearly longer and with thinner distal parts, and in the presence of small numerous denticles on the rachis (these denticles are absent in all the other known congeners).

### Genus *Sulawemina* gen. nov.

Type species *Sulawemina nitida* sp. nov.

*Diagnosis.* Body similar to that of *Repapa* and *Duolandrevus* s. l. (including presence of outer and inner tympana on fore tibia), more or less as in large representatives of latter genus in size but distinctly larger than in *Repapa*. Head weakly flattened dorsoventrally, with almost not shortened mouthparts and roundly angular rostrum in profile (space between antennal cavities approximately as wide as scape); pronotum transverse, with anterior edge of disc barely concave, with posterior one almost straight, and with moderately low lateral lobes; male tegmina reaching middle part of abdomen, with parallel longitudinal veins in lateral field and developed stridulatory apparatus in dorsal field (this field barely narrowing to distal part; Fig. 335); male metanotum with developed gland; hind wings distinctly protruding behind metanotum (Fig. 336); structure of hind legs and male genital plate also as in *Repapa* and *Duolandrevus* s. l.; male anal plate simple, without distinct relief on dorsum and specialized (directed upwards) setae in apical part (Fig. 337). However, male genitalia different (Figs 351–355): epiphallus rather long (but shorter than rami) and narrow, with short anterior part widened, with posterolateral lobes rather short and curved upwards, with posteromedian lobule smaller than these lobes and undivided into a pair of posteromedial lobules; ectoparameres very small and indistinctly separated from epiphallus; rachis very long (semitubular), running almost from formula to apex of latter lobule (this character

most important for separation of this genus; Fig. 354); endoparameres with rather long and narrow posterior arms; formula small and with rather short (but longer than main part of formula) apodeme.

*Included species.* Type species only.

*Comparison.* The new genus is somewhat similar to *Mjobergella* Chopard, 1925, *Copholandrevus* Chopard, 1925, *Kotama* Otte, 1988 and *Papava* Otte, 1988 in the shape of epiphallus. It is distinguished from them by the presence of outer and inner tympana as well as a characteristic (very long and semitubular) rachis in the male genitalia; the latter character distinguishes this genus from all the other genera of Landrevini. From *Mjobergella*, *Sulawemina* additionally differs in a shorter epiphallus lacking distinct transverse fold; from all the other above-mentioned genera, in a distinctly developed stridulatory apparatus in male; from *Copholandrevus* and *Kotama*, in an undivided posteromedian epiphallic lobule; and from *Copholandrevus* and *Papava*, in the absence of short denticle-like setae on the epiphallic lateral parts and of distinct transverse fold on the epiphallus.

*Etymology.* This generic name originates from parts of the geographic names: {Sulawe}si Island and {Mina}hassa Peninsula.

### *Sulawemina nitida* sp. nov.

(Figs 335–337, 351–355)

*Holotype.* Male, **Indonesia**, Sulawesi Utara Prov. (Minahassa Peninsula of Sulawesi), Bogani Nani Wartabone National Park, environs of Wallace Base Camp near Toraut Vill. (not far from Doloduo Town), primary forest, on wood at night, 17–25.I.2011, A. Gorochov.

*Paratypes.* Two males, same data as for holotype.

*Description.* Male (holotype). Body with shining integument having following colouration: head and pronotum dark brown with barely lighter lower half of genae and small spot in anteroventral corner of pronotal lateral lobes, greyish eyes, whitish ocelli, yellowish lower half of clypeus, reddish yellow labrum, brown antennae, and light brown

maxillae and labium having palpi barely darker but with whitish small membranous area at apex; tegmina with brown lateral field having wide whitish band along costal edge, and with light brown venation and slightly darker (brownish) but semitransparent membranes in dorsal field (Fig. 335); legs light reddish brown with slightly darkened areas on distal part of hind femur and at base of hind tibia; thoracic venter light brown; abdomen brown with light greyish brown anal plate and cerci. Head not very large (but slightly wider than pronotum) and without wrinkles on anterior part of epicranium; pronotum barely narrowing to mesonotum; inner and outer tympana moderately large (almost equal to each other in size) and oval; tegmina reaching fifth abdominal tergite, with 7–8 longitudinal veins in lateral field and rather numerous cross-veins between their distal parts, with rather large and angulate mirror almost indistinct among numerous irregular cells from cross-venation of distal part of dorsal field (Fig. 335); metanotal gland, hind wings and anal plate as in Figs 336, 337; genitalia (Figs 351–355) with angular dorsodistal projection of posterolateral epiphallic lobes in profile.

Variations. One male with reddish brown area on pronotal disc and barely lighter (than in holotype) abdominal dorsum.

Female unknown.

Length in mm. Body 25–28; pronotum 3.3–3.6; tegmina 9.3–10; hind femora 15.5–16.5.

*Comparison.* Differences of this species from all the other representatives of *Landrevini* are given after the generic description.

*Etymology.* This species name is the Latin word “nitida” (shinning).

Genus *Endolandrevus* Saussure, 1877

*Note.* This genus includes a few closely related species similar to *Duolandrevus* s. l. and *Sulawemina* in the general appearance and tegminal structure. However, *Endolandrevus* has only inner tympana in the fore

tibiae (*Duolandrevus* and *Sulawemina* have inner and outer tympana, but *Duolandrevus* sometimes lacks outer or all tympana), and the rami of its male genitalia are fused with each other anteriorly (Figs 367, 368, 371, 372, 375, 376); the latter character is absent in majority of the other genera of this tribe but present also in *Fijina* Otte, 1988 having a very different structure of the epiphallus (Otte, 1988: figs 15, B, C). All the new congeners described below are in accordance to this diagnosis; and their male genitalia are rather diverse in the epiphallic shape (Figs 367–378).

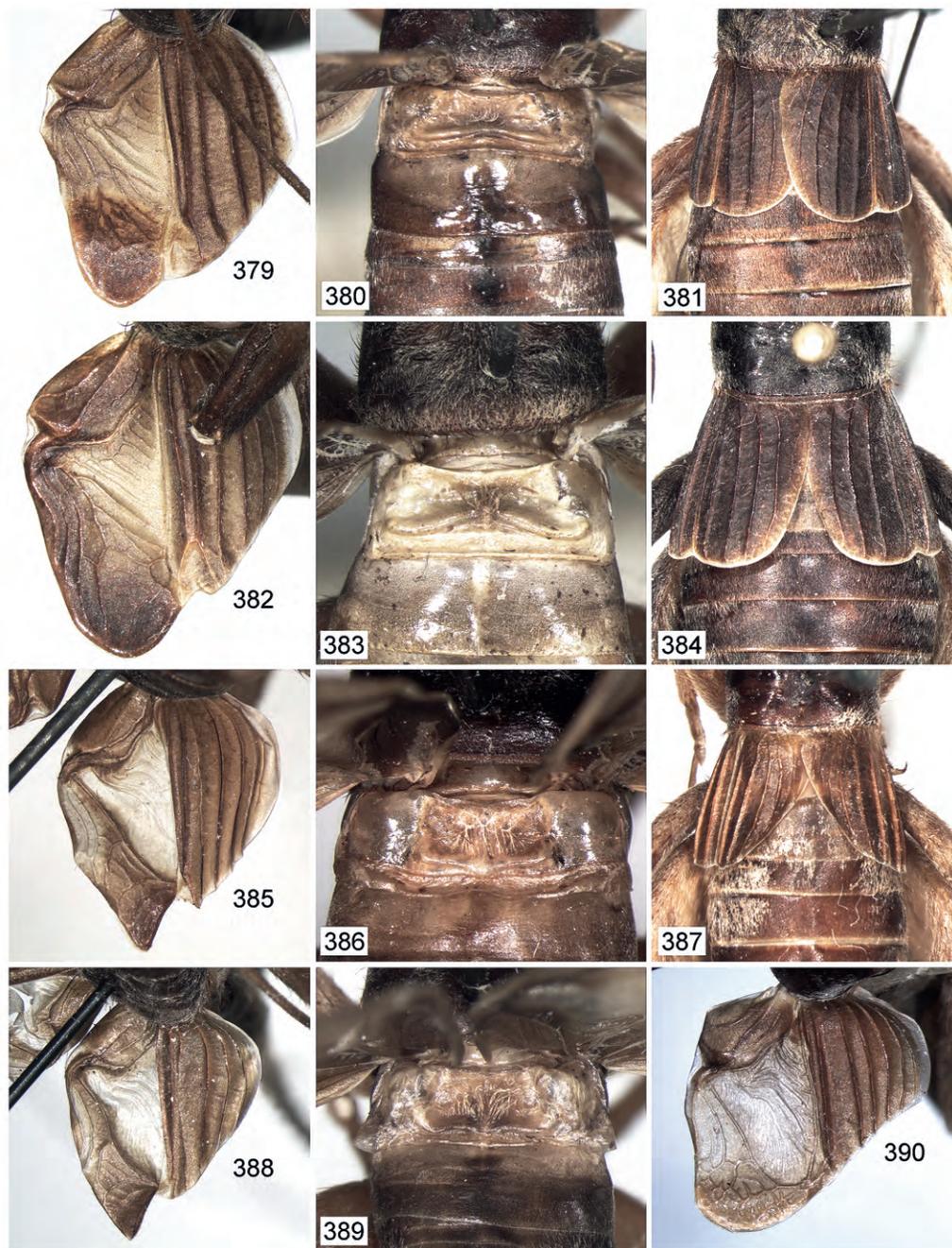
*Included species.* *Landrevus* (*Endolandrevus*) *rostratus* Saussure, 1877 (Ambon I., lectotype of this species was designated by Otte in 1988; see Gorochov, 1990), type species; *Endolandrevus bomberi* Otte, 1988 (New Guinea); *E. manokwari* Otte, 1988 (New Guinea); and three new species described here. Generic position is unclear for the three other species included in this genus by some previous authors (Eades et al., 2016): *L. (E.) ritsemae* Saussure, 1877 (Java); *E. pubescens* Chopard, 1930 (Borneo); *E. brevipes* Otte, 1988 (Solomon Islands). The latter taxa are described from a single female (*L. ritsemae*) or without any description of their male genitalia (*E. pubescens* and *E. brevipes*); it is very possible that they do not belong to *Endolandrevus*.

*Endolandrevus halmahera* sp. nov.  
(Figs 356–360, 367–370)

*Holotype.* Male, **Indonesia**, Maluku Utara Prov., Halmahera I., environs of Subaim Vill. near coast of Wasile Bay not far from Lolobata Vill. (to S from it), primary / secondary forest, 27.I–1.II.2011, A. Gorochov.

*Paratypes.* Four males and 2 females, same data as for holotype.

*Description.* Male (holotype). Body medium-sized for this genus. Colouration following: head greyish brown (rather dark) with six light brown narrow longitudinal stripes on dorsum behind eyes and ocelli, with X-shaped light greyish brown spot on epicranium under rostral apex, with two



**Figs 379–390.** *Endodrelnva* and *Duolandrevus*: 379–381, *E. tomentosa juara* subsp. nov.; 382–384, *E. macrorachis* sp. nov.; 385–387, *E. peculiaris* sp. nov.; 388, 389, *E. chopardi* sp. nov.; 390, *D. (Vietlandrevus) minimus* Gor. Right tegmen of male (379, 382, 385, 388, 390); male metanotum from above (380, 383, 386, 389); region of tegmina in female from above (381, 384, 387).

almost yellowish spots on each gena under eye, with very light most part of lower half of clypeus, with light greyish brown to almost yellowish (weakly spotted) labrum, maxillae and labium, and with greyish brown to light greyish brown antennae having almost yellowish areas on scape; pronotum with greyish brown disc, almost dark brown most part of lateral lobes, and yellowish area in each anteroventral corner of these lobes; tegmina with greyish brown lateral field having wide whitish stripe along costal edge, with light greyish brown to greyish brown basal part of dorsal field, with greyish brown distal part of this field, and with much lighter (whitish grey and semitransparent) middle part of this field (Fig. 356); legs light greyish brown with distinctly darker most part of outer surface of fore femur and tibia, with a few smaller darkenings on middle femur and tibia, with more numerous such darkenings on hind femur (distal part of this femur also rather dark, greyish brown), and with dark brown dorsal part of hind tibia; thoracic venter rather light; abdomen with tergites, anterior half of anal plate, and genital plate greyish brown (rather dark), but with sternites and cerci somewhat lighter (almost light greyish brown). Head not wider than pronotum, strongly flattened dorsoventrally, with short mouthparts, and with roundly angular rostrum in profile (scape almost 1.5 times as wide as rostrum between antennal cavities); pronotum clearly transverse, with almost parallel lateral sides and low lateral lobes; tegmina reaching apex of eighth abdominal tergite, with 7–8 longitudinal veins and without cross-veins in lateral field, with rather large and transversally oval mirror in dorsal field, with very short apical area, and with other venation of this field as in Fig. 356; hind wings very strongly reduced, almost completely covered with pleurites; metanotal gland in Fig. 357; fore tibia with moderately large and oval inner tympanum only; anal plate simple, almost triangular but with widely truncate distal part having posterolateral corners rounded

(Fig. 359); genital plate almost twice longer than anal one, with narrowly rounded apex having a pair of short rounded projections curved upwards and medially; genitalia with posteromedial epiphallic lobules longer than in all other true congeners having known males, with posterolateral epiphallic lobes having two large distal projections (dorsal projection almost spine-like, but ventral one hook-like), with rather long rachis having lateral plates narrow in posterior half and clearly widened in anterior half, and with apodemes of endoparameres and of formula not very long (Figs 367–370).

Variations. Sometimes dorsum of head behind eyes almost completely light brown (without distinct longitudinal stripes), darkened parts of dorsal tegminal field larger, and outer surface of fore femur with several darkened spots not fused with each other.

Female. General appearance as in holotype, but tegmina reaching middle part of third abdominal tergite (Fig. 358), lateral tegminal field with six longitudinal veins only, dorsal one with 7–8 such veins and sparse weak cross-veins between them, colouration of this dorsal field greyish brown with light grey band along its lateral edge (Fig. 358), anal plate with widely rounded apex, and genital plate as in Fig. 360.

Length in mm. Body: male 17–20, female 19–22; pronotum: male 3.3–3.6, female 3.4–3.7; tegmina: male 9.5–10.5, female 6.2–6.8; hind femora: male 12.5–14, female 13.5–15; ovipositor 17.5–19.

*Comparison.* The new species is clearly distinguished from all the other congeners with the male genitalia studied by the posteromedial epiphallic lobules distinctly longer, and posterolateral epiphallic lobes with two large distal projections. From *E.?* *brevipes*, it differs in a clearly more transverse mirror of the male tegmina; from *E.?* *pubescens*, in the male tegmina with a large mirror and not angular distal part of their dorsal field; and from *E.?* *ritsemae*, in the body larger and darker, as well as in the ovipositor longer.

*Etymology.* This species is named after the Halmahera Island where it was collected.

***Endolandrevus saussurei* sp. nov.**

(Figs 361–363, 371–374)

*Holotype.* Male, **Indonesia**, Maluku Utara Prov., Halmahera I., environs of Subaim Vill. near coast of Wasile Bay not far from Lolobata Vill. (to S from it), primary / secondary forest, 27.I–1.II.2011, A. Gorochov.

*Paratypes.* Four males, same data as for holotype.

*Description.* Male (holotype). Structure of body more or less similar to that of *E. halmahera*, but body slightly smaller and more uniform in colouration. Head dark brown with yellowish ocelli, with light greyish brown small area around each lateral ocellus and narrow stripe along dorsal edge of each eye (these area and stripe fused with each other near antennal cavity), with light brown marks on subgenae and on lower half of clypeus, with greyish brown antennae and rest of mouthparts (however, mandibles dark brown, and palpi with yellowish membranous parts on apical segments); pronotum uniformly dark brown; tegmina with dark brown lateral field having yellowish band along costal edge, with greyish brown large area on basal part of dorsal field, and with almost light greyish brown rest of this field (but small distal part of this field slightly darkened, and other areas almost semitransparent); legs brown with slightly darker distal part of hind femur and distal half of dorsal surface of hind tibia; venter of body from greyish brown on thorax to brown on abdomen; dorsal and lateral parts of abdomen as well as cerci almost dark brown but with barely lighter cercal base. Shape of head and of pronotum similar to that of *E. halmahera*, but rostrum more rounded in profile and slightly wider (space between antennal cavities almost as wide as scape); tegmina reaching middle of seventh abdominal tergite, with 7–8 longitudinal veins and almost without cross-veins in lateral field, with mirror also similar to

that of this species but clearly less wide (almost not transverse) and distinctly angular in lateral part (Fig. 361); hind wings as in *E. halmahera*; metanotal gland as in Fig. 362; fore tibiae with inner tympana slightly smaller (narrower) than in *E. halmahera*; anal and genital plates also almost as in this species but with distal part of anal plate widely rounded (Fig. 363); genitalia with posteromedian epiphallic lobule undivided into two posteromedial lobules but having very small apical notch, with posterolateral epiphallic lobes almost undivided into dorsal and ventral projections, with ectoparameres clearly separated from epiphallus and larger (their shape characteristic: anterior part of arcuate posterolateral sclerite fused with middle part of narrow longitudinal anteromedial plate), with rachis having a pair of elongate plates less widened in anterior half, and with rather long endoparameral apodemes (Figs 371–374).

Variations. Sometimes head with two very light short longitudinal stripes behind each eye, tegmina with slightly lighter or slightly darker dorsal field, and hind femur with light spot near its distal part.

Female unknown.

Length in mm. Body 16–18.5; pronotum 2.7–2.9; tegmina 8–9.3; hind femora 11.5–12.7.

*Comparison.* The new species is distinguished from *E. halmahera* by the posterolateral epiphallic lobes not divided into two (dorsal and ventral) projections; from *E. manokwari*, *E. rostratus* and *E. bomberi* by these lobes clearly higher in the distal half and by the presence of distinct ectoparameres; from *E. brevipes* by a more angular lateral part of the male tegminal mirror and more numerous oblique veins in the male tegmina; from *E. pubescens* by a distinctly developed mirror in these tegmina as well as not angularly projected apical area of their dorsal field; and from *E. ritsemae* by a darker and somewhat more uniform colouration.

*Etymology.* The species is named in memory of the famous entomologist H. de Sau-

ssure who established this subfamily (as the legion "Landrevites") and described this genus.

***Endolandrevus biak* sp. nov.**

(Figs 364–366, 375–378)

*Holotype*. Male, **Indonesia**, Biak I. near northern part of New Guinea, environs of Biak Town, primary / secondary forest on low hills near airport, on wood at night, 17–20.I.2012, A. Gorochov.

*Description*. Male (holotype). General appearance very similar to that of *E. halmahera* but with following differences: body larger; head with large yellowish area on each gena under eye (instead two smaller yellowish spots), yellowish labrum, and barely lighter antennae (but with very light areas on scape); pronotum with lateral lobes almost as disc in colouration (greyish brown) and having larger yellowish area in each anteroventral corner of lateral lobes; tegmina with somewhat lighter most part of dorsal field (this part situated between darker and smaller basal and distal parts); legs also slightly lighter but with darkenings as in holotype of above-mentioned congener; rest of body with more or less spotted (i. e. having yellowish and brown spots) abdominal tergites and anal plate, light brown to reddish brown sternites, brown genital plate, and light brown cerci; structure of head, pronotum and legs distinguished from those of *E. halmahera* by wider rostrum (space between antennal cavities almost 1.5 times as wide as scape) only; tegmina reaching apex of seventh abdominal tergite, with 7 longitudinal veins and sparse cross-veins in lateral field, and with dorsal field having transversally oval but oblique mirror (Fig. 364); hind wings practically absent (their rudiments microscopic and almost invisible); metanotal gland as in Fig. 365; anal plate with slightly notched lateral edges (Fig. 366). Genitalia also similar to those of this species, but posteromedial epiphallic lobules shorter and different in shape, posterolateral epiphallic lobes almost undivided into two projections, dorsal part of these lobes almost

spine-like (this part as in *E. halmahera* but clearly longer than in *E. saussurei*), their ventral part with two small medial denticles, and rachis with clearly shorter lateral plates (Figs 375–378).

Female unknown.

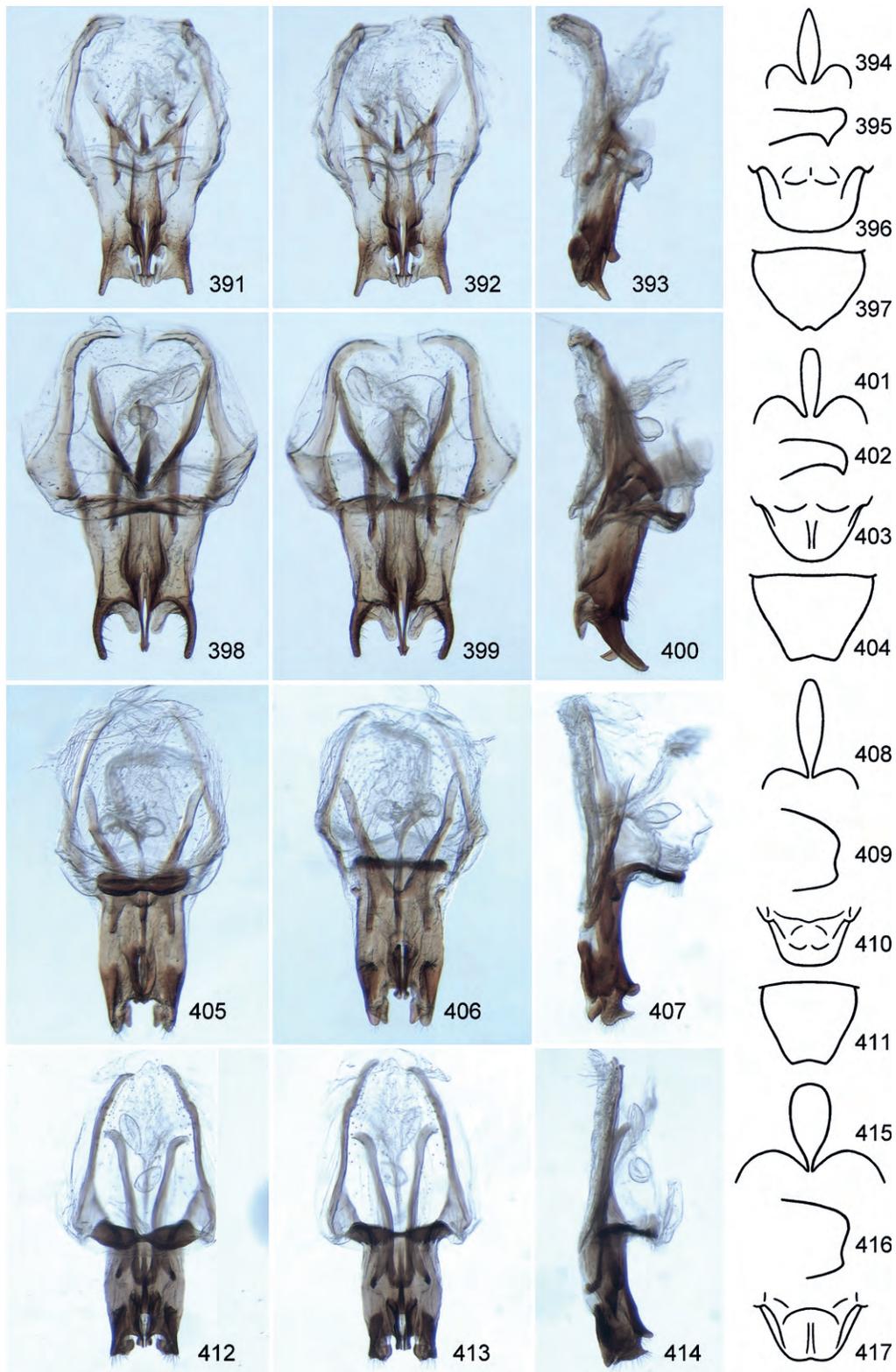
Length in mm. Body 24; pronotum 4; tegmina 10.8; hind femora 16.

*Comparison*. This species differs from the most similar *E. halmahera* in the characters listed above; from *E. saussurei*, in clearly shorter posteromedial epiphallic lobules and a distinctly longer dorsal part of the posterolateral epiphallic lobes; from *E. manokwari*, *E. rostratus* and *E. bomberi*, in the ventral part of these lobes with two small but distinct medial denticles; and from the other possible congeners, in the same characters as *E. halmahera* (excepting length of unknown ovipositor).

*Etymology*. This new species is named after the Biak Island where it was collected.

Genus ***Endodreelanva*** Gorochov, 2000

*Note*. This genus is similar to *Duolandrevus* (*Vietlandrevus*) and *Dreelanvus* Chopard, 1930 in the shape of male tegmina which are clearly shortened (but with a developed or slightly reduced stridulatory apparatus) and with the dorsal field distinctly longer than lateral one (its apical area is from roundly angular to almost acute angular; see Figs 379, 382, 385, 388 and 390); also these taxa are similar in the absence or partial reduction of outer tympana (in *Endodreelanva* and *Dreelanvus*, these tympana are completely lost). However, *Endodreelanva* differs from *Vietlandrevus* in the male genitalia with a characteristic anterior epiphallic part (it is strongly curved upwards and situated in the almost vertical position; Figs 393, 400, 407, 414) and with the rachis distinctly protruding behind the apices of posteromedial epiphallic lobules (Figs 391, 392, 398, 399, 405, 406, 412, 413); in all the *Duolandrevus* subgenera, this epiphallic part is not curved or rather weakly curved [but often there is



a transverse fold in (or near) the middle part of epiphallus (this fold is absent in *Endodrelnava*), and rachis is not protruding or weakly protruding behind the above-mentioned apices. From the latter genus, *Endodrelnava* also differs in a laterally compressed distal part of the ovipositor. Differences of *Drelnavus* from *Endodrelnava* are less understandable, because its male genitalia are not studied; but tegmina in *Drelnavus* have a rather long apical area in the dorsal field (this area is with rather long and more or less longitudinal branches of  $MP+CuA1$ ); whereas in *Endolandreva*, this apical area is distinctly shorter and with oblique branches of  $MP+CuA1$ .

*Included species.* *Endolandrevus tomentosus* Chopard, 1931 (Malacca), type species; three new species described here and possibly *E. pubescens* Chopard, 1930 (Borneo).

***Endodrelnava tomentosa*  
*juara* subsp. nov.**  
(Figs 379–381, 391–397)

*Holotype.* Male, **Malaysia**, Pahang State, Tioman I. not far from Mersing City (Malacca: Johor State), environs of Juara Vill. (eastern coast), primary / secondary forest, on trunk of living tree at night, 6–14.IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva.

*Paratypes.* Male and female, same data as for holotype.

*Description.* Male (holotype). Body medium-sized for this genus. Colouration brown with yellowish to whitish ocelli, palpi, areas on lower half of clypeus and rather narrow stripe on tegmina along their costal edge, with light brown proximal part of antennae (but ventral and inner parts of scape slightly darker, almost brown), most part of labrum (but with darkish spot near apex), rest parts of maxillae and of labium, middle

area in dorsal tegminal field, all sternites and most part of legs (however, coxae as well as pleurites almost yellowish, fore and middle legs with almost brown distal part of femora and dorsal half of tibiae, and hind leg with almost dark brown apical part of femur and most part of tibia as well as yellowish subapical spot on femur and dark dorsal mark near it), and with greyish brown cerci having short proximal part lightish. Head not wider than pronotum, almost not flattened but with more or less angular rostrum in profile; this rostrum with a pair of small but distinct concavities under apex; space between antennal cavities barely narrower than scape; pronotum somewhat transverse, with almost parallel lateral sides, with slightly concave anterior and slightly convex posterior edges of disc, and moderately high lateral lobes; tegmina reaching middle part of fourth abdominal tergite, with six longitudinal veins and numerous weak cross-veins in lateral field, with normal stridulatory vein in dorsal field, with strongly reduced mirror and area between oblique veins and diagonal vein (this area with additional veinlets), with almost straight and longitudinal chords, and with rather short and narrowly rounded apical area having short branches of  $MP+CuA1$  (Fig. 379); hind wings invisible (absent?); metanotal gland as in Fig. 380; fore tibia with only inner tympanum which not very small and almost round in shape; anal plate simple, with widely truncate apex (Fig. 396); genital plate distinctly longer than anal one, with very small apical notch; genitalia as in Figs 391–395.

*Variations.* Second male with anal plate slightly less truncate (with barely rounded apical part), and with genital plate roundly truncate at apex (i. e. without apical notch).

**Figs 391–417.** *Endodrelnava*: 391–397, *E. tomentosa juara* subsp. nov.; 398–404, *E. macrorachis* sp. nov.; 405–411, *E. peculiaris* sp. nov.; 412–417, *E. chopardi* sp. nov. Male genitalia from above (391, 398, 405, 412), from below (392, 399, 406, 413) and from side (393, 400, 407, 414); a pair of postero-medial lobules from above (394, 401, 408, 415); distal part of rachis from side (395, 402, 409, 416); male anal plate from above (396, 403, 410, 417); female genital plate from below (397, 404, 411).

Female. General appearance as in male, but lower half of clypeus somewhat lighter (almost completely whitish), lateral pronotal lobes darker (almost dark brown), tegmina reaching middle part of second abdominal tergite and with less angularly projected apical area (this area with round distal edge; Fig. 381), dorsal tegminal field greyish brown and with 5–6 longitudinal veins (cross-veins poorly visible), lateral tegminal field with five longitudinal veins and cross-veins as in male, anal plate almost intermediate between those of above-mentioned males of this subspecies, genital plate with small notch at apex (Fig. 397), and ovipositor typical of this genus (i. e. with distal part laterally compressed).

Length in mm. Body: male 14.5–15.5, female 22; pronotum: male 3, female 4; tegmina: male 5–5.3, female 5.7; hind femora: male 9.5–10.5, female 13.5; ovipositor 14.5.

*Comparison.* The new subspecies differs from *E. t. tomentosa* (Kuala Lumpur) in the male genitalia with a somewhat angular epiphallallic transverse fold separating the anterior (curved upwards) epiphallallic part from the rest of epiphallus (this fold is straight in the nominotypical subspecies), narrower bases of the posteromedial epiphallallic lobules, and somewhat larger endoparameres. From Bornean *E. pubescens*, *E. t. juara* differs in the same characters as *E. t. tomentosa*: area between the oblique and diagonal veins of male tegmina is strongly reduced, narrow and with additional veinlets (in *E. pubescens*, this area is normal, i. e. rather wide and without veinlets; Chopard, 1930: fig. 8).

*Etymology.* This subspecies is named after the Juara Village situated very near its type locality.

***Endodreelanva macrorachis* sp. nov.**

(Figs 382–384, 398–404)

*Holotype.* Male, **Malaysia**, Sabah State (Borneo), Trus Madi Mt, ~1000 m, primary / secondary forest, on wood at night, 13–25.V.2007, A. Gorochov.

*Paratypes.* Male and 2 females, same data as for holotype.

*Description.* Male (holotype). General appearance more or less as in *E. t. juara* but with following differences: body somewhat larger; epicranium and pronotum mainly dark brown with light brown area on lower half of each gena and narrow stripe along dorsal edge of each eye; fore and middle femora and tibiae brown; hind femur also brown but with light proximal part of inner surface, dark brown apical part, and light greyish brown subapical spot on dorsal half; hind tibia almost blackish but with dark brown spines; abdominal tergites and cerci greyish brown (slightly lighter than most part of legs and without lightish area at cercal base); anal and genital plate dark brown to brown; tegmina reaching distal part of fourth abdominal tergite, with less distinct cross-veins in lateral field, and with slightly longer apical area (Fig. 382); metanotal gland with somewhat more angular posterior fold (Fig. 383); anal plate with almost round distal part (Fig. 403); genital plate with roundly angular apex. Genitalia distinguished from those of *E. tomentosa* by clearly longer rachis having hook-like apical part and lacking rounded lobe at apex (for comparison see Figs 395 and 402), longer and almost hooked posterolateral epiphallallic lobes, and different shape of ventromedial projections of these lobes (Figs 398–402).

*Variations.* Second male practically indistinguishable from holotype.

Female. Colouration and structure of body similar to those of male, but epicranium and pronotum sometimes mainly blackish, tegmina reaching middle or distal parts of third abdominal tergite and similar to those of *E. t. juara* in structure and colouration (however, with six longitudinal veins in dorsal field and six ones in lateral field; Fig. 384), genital plate with almost widely truncate (barely notched) apex (Fig. 404), and ovipositor with distal part as in *E. t. juara*.

Length in mm. Body: male 18–19.5, female 18–23; pronotum: male 3.4–3.6, female 4.2–4.5; tegmina: male 7.2–7.5, female

6–6.5; hind femora: male 12–12.5, female 14–16; ovipositor 19–22.

**Comparison.** The new species differs from *E. tomentosa* in the genital characters of male listed above. From *E. pubescens*, it is distinguished by the same features of tegminal venation as *E. tomentosa*.

**Etymology.** Name of this species consists of the Greek prefix “macro-” (long) and morphological term “rachis”; such name is given in connection with unusual length of this genital structure.

### ***Endodreelanva peculiaris* sp. nov.**

(Figs 385–387, 405–411)

**Holotype.** Male, **Malaysia**, Sabah State (Borneo), Trus Madi Mt, ~1000 m, primary / secondary forest, on wood at night, 13–25.V.2007, A. Gorochov.

**Paratypes.** Two males and female, same data as for holotype.

**Description.** Male (holotype). Body medium-sized for this genus. Head and pronotum dark brown with light brown lower part of each gena, lower half of clypeus, proximal part of antennae and small anteroventral spot on each pronotal lateral lobe, with almost yellowish labrum, maxillae, labium and their palpi; tegmina brown with whitish (almost transparent) region of oblique veins as well as membrane between these veins and diagonal vein, and light grey to yellowish region of chords and stripe along costal edge (Fig. 385); legs light brown with slightly darker distal part of hind femur and dorsal surface of hind tibia (between spines); eight posterior abdominal tergites and anal plate brown; cerci, abdominal sternites and genital plate greyish brown but with light cercal base; rest of body light brown. Structure of body similar to that of *E. tomentosa* and *E. macrorachis*, but: tegmina reaching apex of fifth abdominal tergite and with narrower and angular (but not long) apical area having arcuate and rather short branches of *MP+CuA1*; lateral tegminal field with seven longitudinal veins and almost indistinct cross-veins between them; dorsal tegminal field with rather wide area between oblique

veins and diagonal vein (this area without additional veinlets; Fig. 385); metanotal gland shorter (less transverse) and with almost straight posterior fold (Fig. 386); anal plate with wide and roundly truncate apex (Fig. 410); genital plate with almost angular apex; genitalia (Figs 405–409) with posteromedial epiphallic lobules and posterolateral epiphallic lobes clearly shorter than in above-mentioned congeners, with almost spine-like dorsal projection on distal part of each of these lobes, and with rachis much higher and shorter (its apical part not hook-like and without ventral denticle developed in *E. tomentosa* and *E. macrorachis*; Fig. 409).

**Variations.** Sometimes epicranium with distinct triangular greyish brown spot under rostral apex, and hind femur with light dorsal spot near its darkened part.

**Female.** General appearance as in male, but tegmina almost completely brown, reaching middle of second abdominal tergite, with dorsal field similar to that of *E. tomentosa* and of *E. macrorachis* but somewhat narrower in distal half and having 6–7 longitudinal veins (Fig. 387), with lateral field having 6–7 longitudinal veins, and without distinct cross-veins. Genital plate somewhat similar to that of *E. macrorachis* but slightly narrower in proximal part (Fig. 411); ovipositor with distal part almost as in *E. tomentosa* and *E. macrorachis*.

Length in mm. Body: male 16–17.5, female 18.5; pronotum: male 2.9–3.2, female 3.3; tegmina: male 6–6.5, female 4.2; hind femora: male 11–11.5, female 12; ovipositor 15.5.

**Comparison.** The new species distinctly differs from *E. tomentosa* and *E. macrorachis* in the male tegmina with a developed membranous area between the oblique and diagonal veins, a more angular apical area of these tegmina, and the above-mentioned genital characters of male. From *E. pubescens*, it is distinguished by a clearly more angular shape of the apical area of male tegmina.

**Etymology.** This species name is the Latin word “peculiaris” (peculiar).

***Endodreelanva chopardi* sp. nov.**

(Figs 388, 389, 412–417)

*Holotype*. Male, **Malaysia**, Sabah State (Borneo), Crocker Range National Park (not far from Keningau Town, 1000–1300 m, primary / secondary forest, on branches of bush at night, 2–6.V.2013, A. Gorochov, M. Berezin, V. Gorochova, E. Tkatsheva.

*Description*. Male (holotype). General appearance almost as in *E. peculiaris* but with following differences: body somewhat smaller; ocelli light brown; lower half of clypeus whitish; pronotal lateral lobes completely dark brown; abdominal sternites and genital plate brown; tegmina reaching base of sixth abdominal tergite, with 6–7 longitudinal veins and without cross-veins in lateral field, and with somewhat more strongly curved lateral part of stridulatory vein in dorsal field (Fig. 388); metanotal gland insignificantly larger (Fig. 389); anal plate with widely rounded apex having very small (shallow) posteromedian notch (Fig. 417). Genitalia also similar to those of *E. peculiaris*, but: epiphallus with notch between posteromedial lobules wider and less deep, with these lobules longer and narrower, with posterolateral lobes having ventroapical corner almost narrowly angular in profile (in *E. peculiaris*, this corner more widely rounded), and with anterior (curved upwards) part clearly wider; place of fusion of left and right endoparameres with each other located near their posterolateral parts (not in distinctly more anterior position); endoparameral apodemes much longer (Figs 412–416).

Female unknown.

Length in mm. Body 13.8; pronotum 2.7; tegmina 5.6; hind femora 9.5.

*Comparison*. The new species is most similar and related to *E. peculiaris* but differs from the latter in the above-mentioned genital characters; from *E. tomentosa*, *E. pubescens* and *E. macrorachis*, it is distinguished by the same tegminal characters as *E. peculiaris*.

*Etymology*. The new species is named in memory of L. Chopard, a famous orthop-

terist who described many taxa of this subfamily.

Genus ***Kotama*** Otte, 1988

*Note*. *Kotama* is more or less similar to *Endodreelanva* in the shape of male genitalia but distinguished from the latter genus by a narrower rostrum between antennal cavities, the dorsal field of male tegmina slightly (not strongly) longer than their lateral field, a strongly reduced stridulatory apparatus in these tegmina, the absence of tympana, and a rather deeply incised female genital plate. There are also some other genera which are very similar to this genus in majority of these characters and in the structure of male genitalia: *Papava* Otte, 1988 (New Guinea); *Copholandrevus* Chopard, 1925 (Australia). These genera differ from *Kotama* mainly in more shortened tegmina lacking stridulatory apparatus and its traces in male; thus, all these genera may be only three subgenera of the same genus. Until now, *Kotama* included a single species from Borneo (*K. maai* Otte, 1988); here, a new species of this genus (or of this subgenus) is described.

***Kotama incisa* sp. nov.**

(Figs 418–421, 430–435)

*Holotype*. Male, **Indonesia**, Maluku Utara Prov., Halmahera I.; environs of Subaim Vill. near coast of Wasile Bay not far from Lolobata Vill. (to S from it), primary / secondary forest, 27.I–1.II.2011, A. Gorochov.

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

*Description*. Male (holotype). Body medium-sized for this tribe. Colouration following (Figs 418–420): head brown with yellowish lateral ocelli and labrum, yellowish to whitish maxillae and labium, whitish lower half of clypeus, yellowish grey lower halves of genae, and light brown proximal third of antennae; pronotum and tegmina greyish brown (somewhat darker than most part of head, but dorsal tegminal field with narrow light brown stripe along distal edge and along distal half of medial edge); legs light brown but with almost brown femora



**Figs 418–429.** *Kotama* and *Odontogryllodes*: 418–421, *K. incisa* **sp. nov.**; 422–425, *O. rotundatus* **sp. nov.**; 426–429, *O. angulatus* **sp. nov.** Anterior half of body in male (dorsal view) (418, 422, 426) and in female (lateral view) (425, 429); right tegmen of male (419); region of tegmina in female, dorsal view (421); male metanotum from above (420, 423, 427); distal part of ovipositor from above (424, 428).

(hind femur additionally with yellowish proximal part of inner surface and dark brown distal part) and ventral half of hind tibia, dark brown (almost blackish) dorsal half of this tibia, partly yellowish fore and middle basitarsi, and greyish brown hind basitarsus; venter of body and pterothoracic tergites more or less light brown; thoracic

pleurites almost yellowish; abdominal tergites brown with partly light brown first one; anal and genital plates brown to dark brown; cerci greyish brown with lighter bases. Head weakly flattened, with almost angular rostrum in profile; scape approximately 1.5 times as wide as rostrum between antennal cavities; median ocellus indistinct;

epicranium without wrinkles under eyes and under antennae. Pronotum with almost square disc having anterior edge concave, and with not very low lateral lobes. Tegmina reaching third abdominal tergite, distinctly pubescent, with five longitudinal veins in lateral field, without cross-veins in this field, with numerous traces of venation (including those of stridulatory vein) in dorsal field (distal part of this field widely rounded, shortly projected backwards in rest position) (Figs 418, 419); hind wings absent; metanotal gland as in Fig. 420. Anal plate simple, with widely rounded apex (Fig. 434); genital plate somewhat longer and with roundly truncate apex. Genitalia similar to those of *K. maai* in presence of rather high angular dorsal projection on distal part of each posterolateral epiphallic lobe, and to *Copholandrevus australicus* Chopard, 1925 in deep notch between posteromedial epiphallic lobules which is deeper than nearest notches of epiphallic posterior part; but they distinguished from *K. maai* by above-mentioned angular projection narrower (shorter) and partly denticulate as well as by distinctly deeper notch between posteromedial epiphallic lobules, and from *C. australicus*, by posterolateral epiphallic lobes lacking apical projections (in *C. australicus*, these additional projections directed backwards) and by distinctly shorter posteromedial epiphallic lobules (Figs 430–433).

Female. General appearance as in male. However, mandibles partly dark brown, lateral lobes of pronotum with lightish spot at each anteroventral corner, tegmina reaching middle part of first abdominal tergite and without light stripes, lateral tegminal field with four longitudinal veins only, and dorsal tegminal field rather narrow and with roundly oblique distal and medial edges (this field almost equal to lateral one in length and with 6–7 weak and almost irregular longitudinal veins only; Fig. 421). Genital plate with rather deep and narrow posteromedian notch (Fig. 435); ovipositor very long and with distal part more or less similar to that of *Endodreelanva*.

Length in mm. Body: male 22, female 21; pronotum: male 3.7, female 3.9; tegmina: male 5, female 3.6; hind femora: male 15, female 14.3; ovipositor 16.5 presence.

*Comparison.* The new species differs from *K. maai* and *C. australicus* in the above-mentioned characters of male genitalia. From the latter species, *K. incisa* is also distinguished by longer tegmina having weak traces of the stridulatory apparatus in male; from *Papava aiyurae* Otte, 1988, it differs in the same tegminal characters as well as in the presence of distinct notch between the posteromedial epiphallic lobules and in a different shape of posterolateral epiphallic lobes.

*Etymology.* Name of this new species is the Latin word “incisa” (incised), because this species has a rather deep and narrow posteromedian notch of the female genital plate.

#### Genus *Odontogrylodes* Chopard, 1969

*Note.* This genus is characterized by a rather small and more or less cylindrical (almost not flattened) body (including head), short or very short tegmina completely lacking stridulatory apparatus in male (Figs 422, 425, 426, 429, 451), the presence of male metanotal gland (Figs 423, 427), absence of all tympana, a simple shape of the male anal plate (Figs 440, 447), characteristic male genitalia with rather large and vertically lamellar plates of the rachis having microscopic ridges on their lateral sides (Figs 436, 443, 450), and a rather short ovipositor having denticulate lateral edges of the distal part of upper valves (Figs 424, 428). *Odontogrylodes* includes the following species: *O. brevicauda* Chopard, 1969 (Sumatra); *O. latus* Chopard, 1969 (Singapore); *O. stenus* Gorochov, 2000 (Java); and two new species described below.

#### *Odontogrylodes rotundatus* sp. nov. (Figs 422–425, 437–443)

*Holotype.* Male, **Indonesia**, Sumatra, Bengkulu Prov., environs of Curup Town (not far

from Bengkulu City), 3°28–29'S, 102°31–38'E, 1000–1500 m, primary / secondary forest, on small branch of bush at night, 24.IV–2.V.2009, A. Gorochov, M. Berezin, E. Tkatsheva.

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

*Description.* Male (holotype). Body typical of this genus in general appearance. Colouration greyish brown with following marks: lower part of epicranium, most part of antennae, and upper half of clypeus light brown; scape and rest of mouthparts yellowish; pronotal lateral lobe with light brown spot in anteroventral corner; tegmina and legs light brown with yellowish coxae, slightly darkened marks on apical part of hind femur, almost whitish band on subapical part of this femur, and large brown area on most part of dorsal surface of hind tibia (between spines); thoracic pleurites and pterothoracic tergites yellowish; sternites light brown to light greyish brown; abdominal tergites with light stripe along anterior edge of first tergite and with almost dark brown lateral parts; cerci light brown with almost yellowish bases. Head not flattened dorsoventrally, with ocelli undeveloped, and with mouthparts directed downwards (not somewhat forwards) and not shortened; rostrum roundly angular in profile (its width between antennal cavities almost equal to width of scape). Pronotum with almost square disc (its anterior and posterior edges more or less straight, and its lateral edges approximately parallel; Fig. 422); lateral lobes moderately high. Tegmina reaching distal third of first abdominal tergite (their medial edges only in contact with each other), lacking cross-venation, with lateral field having 4–6 longitudinal veins, and with dorsal field slightly longer than lateral one and having 4–5 longitudinal veins (distal part of this field widely rounded; Fig. 422); hind wings absent; metanotal gland as in Fig. 423. Hind femur almost twice as long as hind tibia; all articulated spines of latter tibia (four pairs) not long and not inflated. Anal plate almost as long as wide and with widely rounded apex (Fig. 440); genital plate somewhat longer

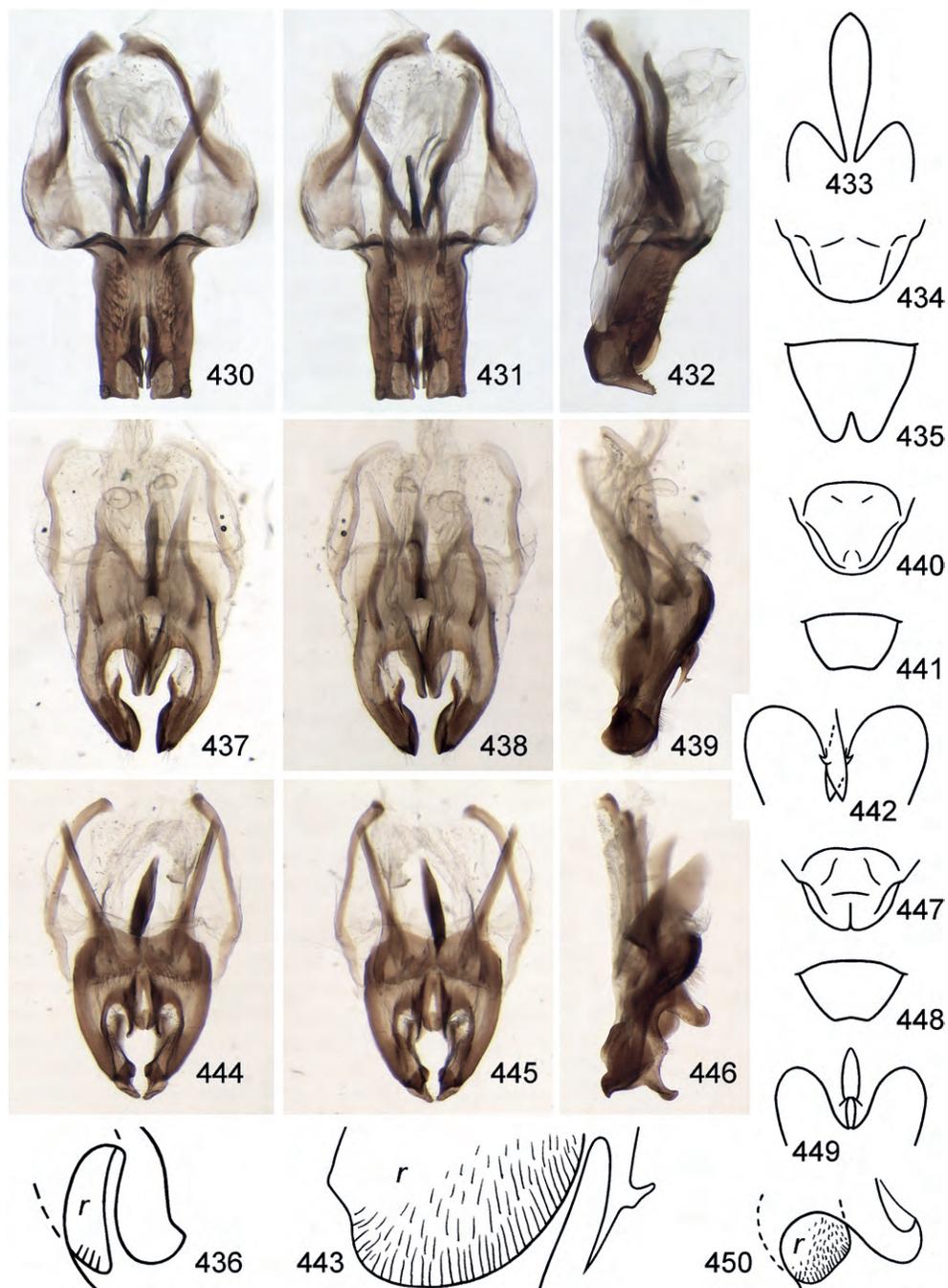
than anal one and with roundly truncate (almost notched) apex. Genitalia (Figs 437–439) more or less similar to those of *O. brevicauda* and *O. stenus* but distinguished from them by long and thin posteromedial epiphallallic lobules having rather deep and very narrow notch between them as well as presence of small dorsal hook-like process on their middle part (Figs 439, 442, 443); rachis not long but very high and with widely rounded (not almost angular) apex (its lateral surfaces with numerous very thin ridges; Fig. 443).

Female. Colouration and external structure of body as in male, but tegmina reaching middle part of metanotum and having lateral position (i. e. widely separated from each other), dorsal tegminal field much smaller than lateral one and almost not separated from it (these fields together with 5–6 not very regular longitudinal veins; Fig. 425), metanotal gland absent, pterothoracic and abdominal tergites almost uniformly greyish brown. Genital plate yellowish and clearly wider than long (its shape as in Fig. 441); ovipositor with distal part usual for this genus, i.e. having acute apex and denticulate lateral edge of subapical part of each upper valve (Fig. 424).

Length in mm. Body: male 14, female 14.5; pronotum: male 2.9, female 3; tegmina: male 2.5, female 1.2; hind femora: male 8.8, female 8.6; ovipositor 4.5.

*Comparison.* The new species differs from *O. brevicauda* and *O. stenus* in the articulated spines of hind tibia not inflated in male as well as in the posteromedial epiphallallic lobules distinctly separated from each other (there is a deep notch between them) and having small dorsal hooks. From *O. latus*, the new species differs in shorter hind tibiae (hind femur of *O. latus* is 1.6 times as long as hind tibia, but such ratio is 1.9 in *O. rotundatus*).

*Etymology.* Name of the new species is the Latin word “rotundatus” (rounded), because its male tegmina are rounded in the shape.



**Figs 430–450.** *Kotama* and *Odontogrylodes*: 430–435, *K. incisa* sp. nov.; 436, *O. stenus* Gor.; 437–443, *O. rotundatus* sp. nov.; 444–450, *O. angulatus* sp. nov. Male genitalia from above (430, 437, 444), from below (431, 438, 445) and from side (432, 439, 446); a pair of posteromedial epiphallal lobules (433, 442) and unpaired posteromedian epiphallal lobule (449) from above; distal half of male anal plate from above (434, 440, 447); female genital plate from below (435, 441, 448); distal part of rachis (*r*) with posteromedian epiphallal lobule (436, 450) or with left posteromedial one (443) from side [436, after Gorochov (2000)].

***Odontogrylloides angulatus* sp. nov.**

(Figs 426–429, 444–450)

*Holotype*. Male, **Malaysia**, Pahang State, Tioman I. not far from Mersing City (Malacca: Johor State), environs of Juara Vill. (eastern coast), primary / secondary forest, on thin branch of tree at night, 6–14.IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva.

*Paratypes*. **Malaysia**: female, Pahang State (Malacca), Fraser's Hill near border with Selangor State (17–18 km SW of Raub Town), 1000–1300 m, primary forest, on branch of bush at night, 15–23.IV.2010, A. Gorochov, M. Berezin, E. Tkatsheva; female, same state (Malacca), Cameron Highlands near Tanah Rata Town, 1300–1500 m, secondary forest, on liana at night, 25–27.XI.2014, A. Gorochov, M. Berezin, E. Tkatsheva.

*Description*. Male (holotype). General appearance similar to that of *O. rotundatus* but with following differences: colouration distinguished from that of holotype of this species by clearly brown apical part of hind femur and light brown genital plate; head with very small lateral ocelli and indistinct median ocellus; pronotum slightly wider than long and barely narrowing to head; tegmina reaching base of second abdominal tergite, with dorsal field clearly longer than lateral field and having angular distal part, with 5–6 not very regular longitudinal veins in this field (Fig. 426), and with 6 more regular longitudinal veins in lateral field; metanotal gland less developed (with less deep concavities and practically without distinct hairs and posterior transverse fold on metanotum; Fig. 427); inner articulated spines of hind tibia distinctly inflated (especially three proximal ones); anal plate slightly shorter and with median groove on distal half of dorsum (deformation?) (Fig. 447). Genitalia with rather large unpaired posteromedian epiphallic lobule having median membranous area from apex of this lobule to its base (this lobule directed more or less upwards; Figs 444, 446, 449, 450), with almost hooked dorsoapical process on each posterolateral epiphallic lobe (Fig. 446), and with moderately large rachis containing a pair of rather high plates having

widely and obliquely truncate apex as well as numerous very small ridges on their lateral sides (Figs 445, 446, 450).

Female. General colouration slightly lighter than in male: almost completely light brown with brown apical part of hind femur and area on most part of dorsal surface of hind tibia. Structure of body similar to that of male, but tegmina and ovipositor almost as in female of *O. rotundatus* (Figs 428, 429), hind tibia with all articulated spines not inflated, and genital plate with slightly narrower apical part (Fig. 448).

Length in mm. Body: male 13.2, female 13.5–14.5; pronotum: male 2.8, female 2.9–3; tegmina: male 3.3, female 1–1.1; hind femora: male 8.7, female 8.8–9; ovipositor 4.2–4.3.

*Comparison*. The new species is similar to *O. brevicauda* and *O. stenus* in the inner articulated spines of hind tibia inflated; however, it is distinguished from the latter congeners by the unpaired posteromedian epiphallic lobule directed more or less upwards (not only backwards), and each posterolateral epiphallic lobe with a hooked dorsoapical process. From *O. stenus* and *O. rotundatus*, the new species differs in an angular (not rounded or truncate) distal part of the tegminal dorsal field in male, and truncate (not angular or not rounded) distal part of the rachis; from *O. rotundatus* only, in a different shape of the epiphallic lobes and lobules (for comparison see Figs 439, 442, 443, and 446, 449, 450); and from *O. latus*, in the same character as *O. rotundatus*.

*Etymology*. Name of the new species is the Latin word “angulatus” (angulate) given in connection with its male tegmen having an angular distal projection.

***Odontogrylloides stenus* Gorochov, 2000**  
(Figs 436, 451, 452)

*New material*. **Indonesia**: male, Java, 20–25 km SE of Bogor City, environs of Cemande Vill. in Pangrango Mountains, 1000 m, secondary forest, at night, 27.XI–7.XII.1999, A. Gorochov.

*Description*. Female (nov.). General appearance very similar to that of female

of both previous congeners: *O. rotundatus* and *O. angulatus*. However: body dark brown (even darker than in *O. rotundatus*) but with brown tegmina and lower half of epicranium, light brown clypeus and antennae as well as legs and venter of body (hind femur and hind tibia with darkened areas as in *O. angulatus*), and yellowish rest of mouthparts (excepting almost brown mandibles); head with lateral ocelli intermediate between those of these species; tegmina almost indistinguishable from those of *O. rotundatus* and *O. angulatus* in shape and venation but slightly larger, reaching posterior edge of metanotum (Fig. 451); hind tibia with inner articulated spines barely inflated at base; genital plate (Fig. 452) and ovipositor as in *O. rotundatus* but with somewhat deeper apical notch of this plate (abdominal apex including ovipositor partly damaged).

Male. Its characters with pictures of tegmina, metanotal gland and genitalia (Fig. 436) given in original description of this species (Gorochov, 2000: figs 51–53, 72–76).

Length in mm. Body: male 13.5, female 14; pronotum: male 3, female 3; tegmina: male (exposed part in rest position) 1.1, female 1.4; hind femora: male 8.7, female 9; ovipositor 4.4.

### Tribe **PROLANDREVINI**

Gorochov, 2005

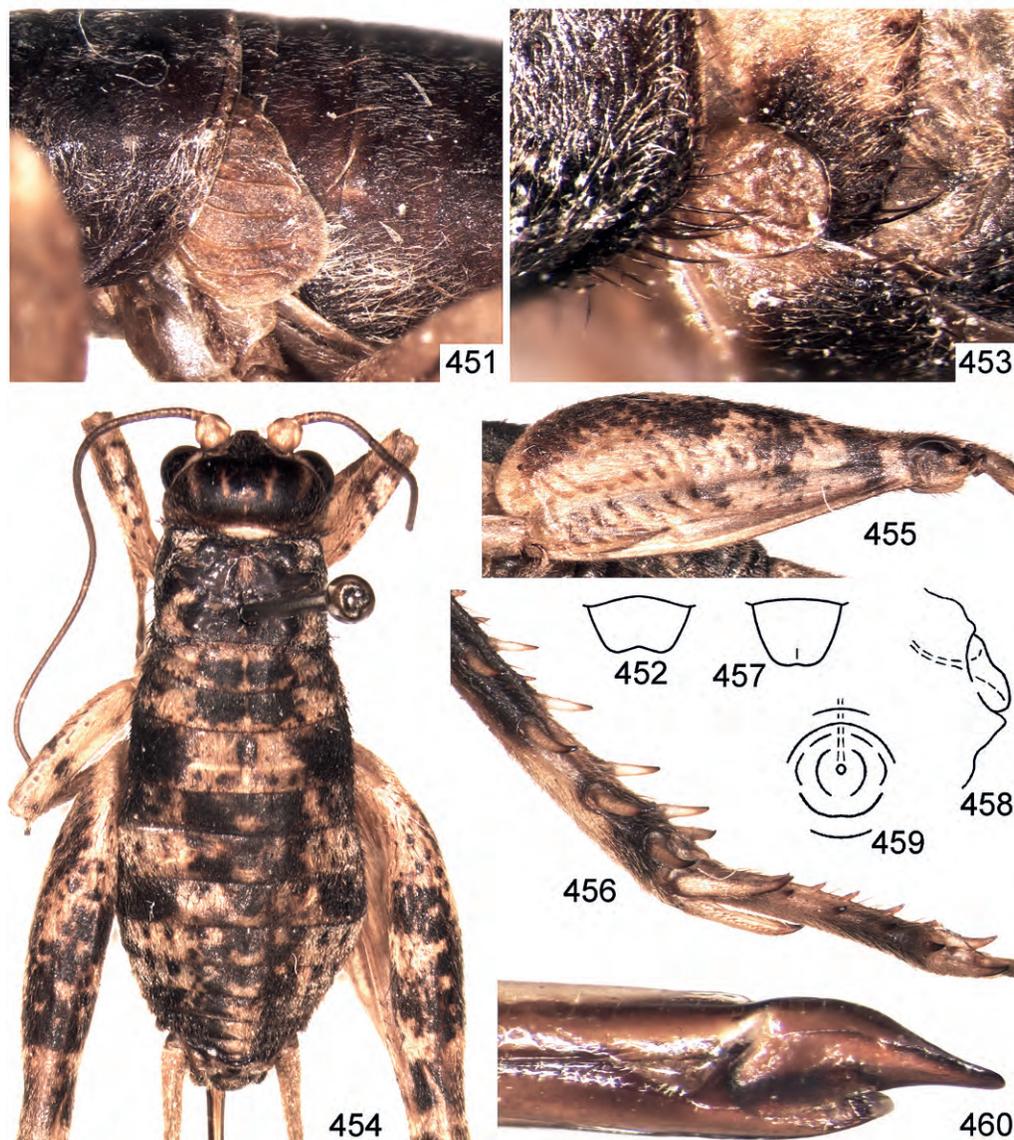
*Note.* This tribe was originally established for a single genus from South Africa: *Prolandrevia* Gorochov, 2005 (Gorochov, 2005). Later this genus was discovered in Swaziland (Gorochov, 2010), and a review of some other landrevines from Africa and Indian Ocean Islands was published (Hugel, 2009). The latter paper showed that *Oreolandrevia* Chopard, 1945 (Cameroon), *Microlandrevia* Chopard, 1958 (Comoros) and *Creolandrevia* Hugel, 2009 (Mascarene Islands) are related genera belonging to the same tribe having a rather similar structure of the male genitalia, and *Microlandrevia*

and *Creolandrevia* also have the hind tibia with one small denticle located between two proximal outer dorsal articulated spines. The latter character and similarity in the male genitalia suggest belonging of these genera as well as of two new ones, described below, to Prolandrevini. One of the latter genera is with a developed stridulatory apparatus in the male tegmina; this apparatus has the lateral part of stridulatory vein not S-shaped and additionally allows us to separate this tribe from Landrevini. But from Odontogryllini, this tribe differs mainly in the structure of hind tibia: this tibia is with an additional denticle (or a few denticles) between articulated spines in Prolandrevini, or without such denticle (denticles) in Odontogryllini. However, this diagnosis may be complicated by the absence of such denticles in some specimens of Prolandrevini.

### Genus *Striduleva* gen. nov.

Type species *Creolandrevia crepitans* Hugel, 2009 (Mauritius I.)

*Diagnosis* (see Hugel, 2009: figs 38–43, 56–58). Body small for this tribe. Head not strongly flattened; rostrum between antennal cavities somewhat wider than scape; mouthparts not shortened and not long, directed downwards (not more or less forwards). Pronotum transverse, with moderately low lateral lobes having anteroventral and posteroventral corners almost angular. Tegmina not shortened (reaching abdominal apex), with developed stridulatory apparatus in male; stridulatory vein with roundly curved (not S-shaped) lateral part, short diagonal vein and elongate mirror; hind wings long, distinctly protruding behind tegminal apices; metanotal gland undeveloped. Fore tibia with inner and outer tympana; hind femur 1.6–1.7 times as long as hind tibia; this tibia with three pairs of apical spurs, three pairs of dorsal (articulated) spines, numerous denticles before them, and one denticle between two proximal outer spines. Male genitalia similar to



**Figs 451–460.** *Odontogrylloides* and *Astriduleva*, female: 451, 452, *O. stenus* Gor.; 453–460, *A. anal-amazaotra* sp. nov. Region of left tegmen from side (451), and from side and slightly above (453); female genital plate from below (452, 457); body without most part of hind legs, ovipositor and cerci from above (454); hind femur from side (455); distal part of hind tibia with basitarsus from side and slightly above (456); copulatory papilla from side (458) and from below (459); distal part of ovipositor from side (460).

those of *Microlandrevea* and *Creolandrevea* in elongate epiphallus having distinct anterolateral projections and a pair of small dorsal subapical hooks, and in each ramus consisting of two sclerites (upper narrow and low-

er widened ones); but distal epiphallic part not articulated with rest of epiphallus and with a pair of very long and partly membranous lobes which distinctly protruding behind apices of ectoparameres. Copulatory

papilla of female distinctly developed, elongate and semisclerotized. Ovipositor with distal part almost not compressed dorsally and laterally, and without small ventral subapical notch on each lower valve.

*Included species.* Type species only.

*Comparison.* The new genus differs from all the other genera of Prolandrevini in the following combination of characters: tegmina are not shortened and having a developed stridulatory apparatus in male, hind wings are long and distinctly protruding behind the tegminal apices, and fore tibia has inner and outer tympana. From *Creolandreva* most similar to *Striduleva* in the male genitalia, the latter genus is also distinguished by much longer and partly membranous distal epiphallic lobes distinctly protruding behind the ectoparameres (in *Creolandreva*, these lobes mostly sclerotized and barely protruding or not protruding behind the ectoparameres). From *Microlandreva* and *Oreolandreva*, the new genus additionally differs in the absence of metanotal gland in male, and in the distal epiphallic part not partly separated from the rest of epiphallus; from only *Microlandreva*, in longer hind tibiae and in the ovipositor lacking subapical ventral notches; and from only *Oreolandreva*, in the presence of three (not two) inner apical spurs on the hind tibia, absence of small apical hook-like spinules on the epiphallus, and the ramus divided into two sclerites. From *Prolandreva*, the new genus additionally differs in a smaller body size, less flattened head, the distal epiphallic part with much longer and partly membranous lobes, and the ramus divided into two sclerites.

*Etymology.* Name of this genus consists of parts of the Latin word "stridulus" (stridulous) and generic name *Landreva*, because it is a single genus of Prolandrevini with stridulatory apparatus.

#### Genus *Astriduleva* gen. nov.

Type species *Astriduleva analamazaotra* sp. nov.

*Diagnosis.* Body medium-sized for this tribe. Head strongly flattened; rostrum between antennal cavities distinctly narrower than scape; mouthparts slightly shortened, directed downwards. Pronotum clearly transverse (Fig. 454), with lateral lobe almost as in *Striduleva* but having posteroventral corner clearly more rounded. Tegmina in female very small, i. e. lateral, lobule-like and not reaching posterior edge of metanotum (Fig. 453); hind wings absent. Legs without tympana and with narrow second tarsal segments; hind femur approximately 1.3 times as long as hind tibia; this tibia with three pairs of dorsal (articulated) spines, numerous denticles before them, and usually with one denticle between proximal outer spines (Fig. 456) (sometimes this tibia without such denticle or with two ones). Female abdomen with anal and genital plates simple, typical of most representatives of Landrevinae in shape (Figs 454, 457); copulatory papilla of female poorly developed, semimembranous, consisting of short and almost round convexity having median concavity with opening of spermathecal duct (Figs 458, 459); distal part of ovipositor laterally compressed, without small ventral subapical notch on lower valve, with apical part of upper valve partly separated from rest part of this valve by oblique and narrow semimembranous area, and with spine-like projection at apex of upper valve clearly protruding behind apex of lower valve (Fig. 460) (this ovipositor very similar to specialized ovipositor of Eneopterinae: *Nisitrus* Saussure, 1878; *Paranisitra* Chopard, 1925).

*Included species.* Type species only.

*Comparison.* The new genus differs from all the other genera of Polandrevini in a narrower rostrum (in these genera, rostrum between antennal cavities not narrower than scape), and the apical part of upper valves of ovipositor partly separated from their rest part and having a spine-like projection clearly protruding behind the apex of lower valves. Additionally, it is distinguished from

*Prolandreva* by a distinctly smaller body, all the second tarsal segments narrow, and ovipositor with a laterally (not dorsoventrally) compressed distal part lacking denticles on the lateral edges of upper valves; from *Striduleva*, by the absence of tympana and of stridulatory apparatus in the male tegmina (male of *Astriduleva* is unknown, but the absence of tympana in female is an indirect but important evidence of the absence of stridulatory ability in male); from *Striduleva* and *Creolandreva*, by a poorly developed (very short) copulatory papilla in female; from *Microlandreva*, by longer hind tibiae and the absence of ventral subapical notches on the lower valves of ovipositor; and from *Oreolandreva*, by the presence of three (not two) inner dorsal articulated spines on the hind tibia.

*Etymology.* This generic name consists of the Latin prefix “a-” (not, without) and generic name *Striduleva*, as the new genus differs from *Striduleva* in the absence of stridulatory ability.

***Astriduleva analamazaotra* sp. nov.**  
(Figs 453–460)

*Holotype.* Female, **Madagascar**, Toamasina Prov., Moramanga Distr., Analamazaotra Forest Station near Andasibe Vill., ~900 m, secondary forest, on bark of tree at night, 8–20.III.2013, A. Gorochov.

*Paratypes.* Three females, same data as for holotype, but 11.II–7.III.2013, A. Gorochov, L. Anisyutkin; 2 females, same province and district, ~10 km NW of Andasibe Vill., Torotorofotsy Reserve, ~1000 m, primary / secondary forest, on forest floor at night, 22.II–11.III.2013, A. Gorochov.

*Description.* Female (holotype). Colouration of body distinctly spotted: head with dark brown dorsum having five short light brown longitudinal stripes in posterior half, with greyish brown genae and subgenae as well as antennal flagellum and visible part of mandibles, with brown both band on epicranium along clypeal suture and most part of clypeus, and with light brown rostral region and areas near lateral

ocelli as well as proximal part of antennae and rest of mouthparts (however, labrum darker, intermediate between brown and light brown); pronotum very dark brown (almost blackish) but with light brown areas on disc (Fig. 454) and small anteroventral spot on each lateral lobe; other tergites also contrastingly spotted (light brown with dark brown marks; Fig. 454); tegmina, legs, and thoracic sternites and pleurites light brown with small and sparse brown spots on fore and middle femora and tibiae, and with somewhat more numerous and darker spots on hind leg (Figs 455, 456); abdominal sternites dark brown; anal plate and cerci light greyish brown; genital plate and paraprocts brown; ovipositor reddish brown. Head not wider than pronotum, with developed but not very distinct ocelli, and with scape approximately 1.3 times as wide as rostrum between antennal cavities; pronotal disc and other tergites as in Fig. 454; hind tibia with articulated spines not long and not inflated but located in its distal third, with 4–5 outer and 3–4 inner denticles before these spines as well as one denticle between two proximal outer spines (Fig. 456); anal plate with widely rounded apex; genital plate with almost truncate apex having very small (almost indistinct) posteromedian notch (Fig. 457); copulatory papilla and distal part of ovipositor as in Figs 458–460.

*Variations.* Body colouration slightly varied; sometimes hind tibia without denticles between dorsal spines or with two denticles located between three proximal outer dorsal spines.

Male unknown.

Length in mm. Body 11–14; pronotum 2.1–2.3; tegmina 0.4–0.6; hind femora 9–9.7; ovipositor 9.8–11.5.

*Comparison.* Differences of this species from all the other representatives of *Prolandrevini* are given after the generic diagnosis.

*Etymology.* This new species is named after the Analamazaotra Forest Station, its type locality.

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