

## Taxonomy of Podoscirtinae (Orthoptera: Gryllidae). Part 11: the tribe Hapithini and other American taxa

### Таксономия подсемейства Podoscirtinae (Orthoptera: Gryllidae). Часть 11: триба Hapithini и другие американские таксоны

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The endemic American tribe Hapithini Gorochov, 1986 is divided into three subtribes: Hapithina **stat. nov.**, Cearacesaina **stat. nov.** (= Cearacesaini Koçak et Kemal, 2010) and Aphonomorphina Desutter, 1988 (the latter subtribe is transferred from Podoscirtini). The following former genera of Hapithina are included in the genus *Hapithus* Uhler as its subgenera or as their synonyms: *Hapithus* s. str. (= *Alexandrina* Otte et Perez-Gelabert, **syn. nov.**; = ? *Siphon* Otte et Perez-Gelabert), *Mashiyana* Otte et Perez-Gelabert, **stat. nov.** (= ? *Margarettia* Otte et Perez-Gelabert and *Knyella* Otte et Perez-Gelabert), *Orocharis* Uhler, **stat. nov.** (= ? *Walkerana* Otte et Perez-Gelabert and *Carylla* Otte et Perez-Gelabert), *Laurepa* Walker, **stat. nov.**, *Antillicharis* Otte et Perez-Gelabert, **stat. nov.**, as well as *Sabelo* Otte et Perez-Gelabert and *Laurellia* Otte et Perez-Gelabert with unclear position inside *Hapithus* s. l. The following new taxa (49) are described from Neotropical region: *Curiocharis* **subgen. nov.** (in *Hapithus* s. l.), *Hapithus* (*Hapithus*) *klugei* **sp. nov.**, *H. (H.) palenque* **sp. nov.**, *H. (Antillicharis) vulgaris* **sp. nov.**, *H. (A.) v. chiapas* **subsp. nov.**, *H. (A.) lacandona* **sp. nov.**, *H. (A.) honduras* **sp. nov.**, *H. (A.) fascifer* **sp. nov.**, *H. (A.) selva* **sp. nov.**, *H. (A.) haiti* **sp. nov.**, *H. (A.) proxima* **sp. nov.**, *H. (A.) celerans occidentalis* **subsp. nov.**, *H. (Laurepa) jalisco* **sp. nov.**, *Somnambula specularis* **gen. et sp. nov.**, *S. ucali* **sp. nov.**, *Gryllophyllus magnispeculum* **gen. et sp. nov.**, *Phyllogryllus robustus* **sp. nov.** [Hapithina]; *Cearacesa morona* **sp. nov.**, *C. satipo* **sp. nov.**, *Barota bolivia* **gen. et sp. nov.**, *Taroba peru* **sp. nov.**, *T. dea* **sp. nov.**, *T. d. ecuador* **sp. nov.**, *T. amboro* **sp. nov.**, *T.? elchaco* **sp. nov.**, *T.? rotundata* **sp. nov.**, *T.? variegata* **sp. nov.**, *T.? v. abbreviata* **subsp. nov.** [Cearacesaina]; *Aphonomorphus* (*Aphonomorphus*) *pileatus* **sp. nov.**, *A. (A.) segregus* **sp. nov.**, *A. (A.) montanus zamora* **subsp. nov.**, *A. (Euaphonus) cusco* **sp. nov.**, *A. (Lobaphonus) distinctus calabaza* **subsp. nov.**, *Spiraphonus asymmetricus napo* **subsp. nov.** [Aphonomorphina]; *Angustitrella mataraku* **sp. nov.**, *Paroecanthus tamaulipus* **sp. nov.** [Paroecanthini: Paroecanthina]; *Tafalisca? huanchaca* **sp. nov.**, *Cylindrogryllus (Apterotrypa) noeli* **subgen. et sp. nov.**, *C. (Neometrypus* **stat. nov.)** *aculeatus argentinus* **subsp. nov.**, *C. aguarico* **sp. nov.**, *C. sympatricus* **sp. nov.**, *C. signatus* **sp. nov.** [Paroecanthini: Tafaliscina]; *Diatrypa* (*Diatrypa*) *glandulifera* **sp. nov.** [Aphonoidini: Diatrypina]; and *Dicerorostum dicerus* **gen. et sp. nov.** [Podoscirtinae incertae sedis]. Keys for subgenera of the genera *Hapithus* and *Cylindrogryllus* Sauss. are given; the former genus *Neometrypus* Desutter is included in the latter genus as its subgenus; *H. apharetos* Otte et Perez-Gelabert, **syn. nov.** is synonymized to *H. kerzhneri* Gor.; a new female of the latter species is described; the former species *Aphonomorphus desutterae* Cadena-Castañeda et Noriega and subspecies *Paroecanthus aztecus verapas* Gor. are considered as a subspecies (*A. solitarius desutterae* **stat. nov.**) and a species (*P. verapas* **stat. nov.**), respectively; systematic position and distribution of some other taxa are clarified.

Эндемичная американская триба Hapithini Gorochov, 1986 подразделена на три подтрибы: Hapithina **stat. nov.**, Cearacesaina **stat. nov.** (= Cearacesaini Koçak et Kemal, 2010) и Aphonomorphina Desutter, 1988 (последняя подтриба перенесена из Podoscirtini). Следующие бывшие роды Hapithina включены в род *Hapithus* Uhler как его подроды или как их синонимы: *Hapithus* s. str. (= *Alexandrina* Otte et Perez-Gelabert, **syn. nov.**; = ?

*Sipho* Otte et Perez-Gelabert), *Mashiyana* Otte et Perez-Gelabert, **stat. nov.** (= ? *Margarettia* Otte et Perez-Gelabert and *Knyella* Otte et Perez-Gelabert), *Orocharis* Uhler, **stat. nov.** (= ? *Walkerana* Otte et Perez-Gelabert and *Carylla* Otte et Perez-Gelabert), *Laurepa* Walker, **stat. nov.**, *Antillicharis* Otte et Perez-Gelabert, **stat. nov.**, а также *Sabelo* Otte et Perez-Gelabert и *Laurellia* Otte et Perez-Gelabert с неясным положением в составе *Hapithus* s. l. Из неотропической области описаны следующие таксоны (49): *Curiocharis* **subgen. n.** (в составе *Hapithus* s. l.), *Hapithus* (*Hapithus*) *klugei* **sp. nov.**, *H. (H.) palenque* **sp. nov.**, *H. (Antillicharis) vulgaris* **sp. nov.**, *H. (A.) v. chiapas* **subsp. nov.**, *H. (A.) lacandona* **sp. nov.**, *H. (A.) honduras* **sp. nov.**, *H. (A.) fascifer* **sp. nov.**, *H. (A.) selva* **sp. nov.**, *H. (A.) haiti* **sp. nov.**, *H. (A.) proxima* **sp. nov.**, *H. (A.) celerans occidentalis* **subsp. nov.**, *H. (Laurepa) jalisco* **sp. nov.**, *Somnambula specularis* **gen. et sp. nov.**, *S. ucayali* **sp. nov.**, *Gryllophyllus magnispeculum* **gen. et sp. nov.**, *Phyllogryllus robustus* **sp. nov.** [Hapithina]; *Cearacesa morona* **sp. nov.**, *C. satipo* **sp. nov.**, *Barota bolivia* **gen. et sp. nov.**, *Taroba peru* **sp. nov.**, *T. dea* **sp. nov.**, *T. d. ecuador* **sp. nov.**, *T. amboro* **sp. nov.**, *T.? elchaco* **sp. nov.**, *T.? rotundata* **sp. nov.**, *T.? variegata* **sp. nov.**, *T.? v. abbreviata* **subsp. nov.** [Cearacesaina]; *Aphonomorphus* (*Aphonomorphus*) *pileatus* **sp. nov.**, *A. (A.) segregus* **sp. nov.**, *A. (A.) montanus zamora* **subsp. nov.**, *A. (Euaphonus) cusco* **sp. nov.**, *A. (Lobaphonus) distinctus calabaza* **subsp. nov.**, *Spiraphonus asymmetricus napo* **subsp. nov.** [Aphonomorphina]; *Angustitrella mataraku* **sp. nov.**, *Paroecanthus tamaulipas* **sp. nov.** [Paroecanthini: Paroecanthina]; *Tafalisca? huanchaca* **sp. nov.**, *Cylindrogryllus (Apterotrypa) noeli* **subgen. et sp. nov.**, *C. (Neometrypus stat. nov.) aculeatus argentinus* **subsp. nov.**, *C. aguarico* **sp. nov.**, *C. sympatricus* **sp. nov.**, *C. signatus* **sp. nov.** [Paroecanthini: Tafaliscina]; *Diatrypa (Diatrypa) glandulifera* **sp. nov.** [Aphonoidini: Diatrypina]; и *Dicerorosttrum dicerus* **gen. et sp. nov.** [Podoscirtinae incertae sedis]. Даны подроковые ключи для родов *Hapithus* и *Cylindrogryllus* Sauss.; бывший род *Neometrypus* Desutter включен в последний род как его подрод; *H. aphaeretos* Otte et Perez-Gelabert, **syn. nov.** синонимизирован с *H. kerzhneri* Gor.; описана ранее неизвестная самка этого вида; бывшие вид *Aphonomorphus desutterae* Cadena-Castañeda и Noriega и подвид *Paroecanthus aztecus verapas* Gor. рассматриваются как подвид *A. solitarius desutterae* **stat. nov.** и вид *P. verapas* **stat. nov.** соответственно; уточняется систематическое положение и распространение некоторых других таксонов.

**Key words:** crickets, taxonomy, America, Orthoptera, Gryllidae, Podoscirtinae, Hapithini, Paroecanthini, Aphonoidini, new taxa

**Ключевые слова:** сверчки, таксономия, Америка, Orthoptera, Gryllidae, Podoscirtinae, Hapithini, Paroecanthini, Aphonoidini, новые таксоны

## INTRODUCTION

This paper is the eleventh communication in the series of publications on taxonomy of the cricket subfamily Podoscirtinae. In the first seven communications (Gorochov, 2002, 2003, 2004, 2005, 2006, 2007, 2008), the tribes Podoscirtini and Aphonoidini from the Old World were discussed. The three later communications have dealt with the following American taxa: subtribe Aphonomorphina provisionally included in Podoscirtini (Gorochov, 2010), tribe Paroecanthini (Gorochov, 2011), and subtribe Diatrypina belonging to Aphonoidini (Gorochov, 2013). In

addition to this series, three recent papers on the Asiatic genera of Podoscirtini were also published (Gorochov & Tan, 2014; Ma & Gorochov, 2015; He & Gorochov, 2015). In the above-mentioned series of publications, numerous taxa were redescribed and described as new to science, and several preliminary hypotheses about the geographic history of some higher taxa of Podoscirtinae were proposed.

The Podoscirtinae includes numerous tropical and subtropical species living mainly on the leaves of forest trees and shrubs; these crickets usually have oviposition in plant tissue and are distributed in all continents having a warm climate but with



rather narrow generic, subgeneric, species and subspecies areas. For the taxonomy of this subfamily, the male genitalia are especially important because they are very diverse and quite complex in structure, and its external morphology is subject to rapid convergent changes. It is the reason that the taxonomical system of Podoscirtinae, elaborated by the previous authors without or almost without study of male genitalia, was in need of a serious revision. Now, such revision is partly fulfilled for almost all tribes; however, the tribe Hapithini is still unrevised, in spite of the fact that many new genera and species have recently been established, and their male genitalia were photographed (but not described; Otte & Perez-Gelabert, 2009).

Most part of the material used in this paper is deposited at the Zoological Institute, Russian Academy of Sciences, St. Petersburg (ZIN). But one specimen is from Museum für Naturkunde der Humboldt-Universität, Berlin (MNH). All the specimens are dry and pinned; photographs of their morphological structures were made with a Leica M216 stereomicroscope. The internet-catalogue Orthoptera Species File (Cigliano et al., 2017) is cited here as OSF.

## TAXONOMIC PART

### Tribe **HAPITHINI** Gorochov, 1986

*Note.* This tribe was established by Gorochov (1986) for a few American taxa of Podoscirtinae (*Hapithus* Uhler, 1864; *Orocharis* Uhler, 1864; *Laurepa* Walker, 1869) which have the stridulatory apparatus of male tegmina with a more or less sinuate lateral part of the stridulatory vein and with strongly angularly curved oblique veins having medial parts united into one rather short vein (Figs I: 1, 3–5, 7, 8, 10, 14; II: 6; IX: 1–8; XII: 4, 15). These taxa are also characterized by a rather large sacculus (= spermatophore sac) in the male genitalia (Figs II: 1–5; III: IV: 9; V: 2; X: 1–4, 9–14, 17–19; XI: 1–15) and by an almost oblong-conical (gradually narrowing to the acute apex) apical part of

the ovipositor provided with drilling teeth mainly on its ventral surface (Figs VI: 2, 3, 11; VIII: 11, 12, 15; XII: 6, 7). Now it is clear that the above-mentioned type of male genitalia is presented only in two groups of this tribe, and some genera of Hapithini which have lost stridulatory apparatus in the male tegmina may be separated from all the other tribes mainly by the above-listed characters of ovipositor [for comparison see ovipositor distal part in Hapithini (Figs VI: 2, 3, 11; VIII: 11, 12, 15; XII: 6, 7, 12, 13; XIII: 9, 10; XVII: 3, 4, 7, 8; XX: 17; XXII: 2, 4, 6–9), in Paroecanthini (Figs XXVI: 8, 9; XXX: 3–5; XXXI: 3–5, 14–16) and in Aphonoidini (Figs XXXII: 10, 11)].

Desutter (1987, 1988) interpreted this tribe as a subfamily in the “family Podoscirtidae” and supplemented it by the following taxa: the “tribe Neomorphini” Desutter, 1988 with the genus *Neomorpha* Desutter, 1988 (homonymous name); the genus *Podoscirtodes* Chopard, 1956; and probably the genus *Phyllogrillus* Saussure, 1878. Gorochov (1995) slightly reduced the ranks of her higher taxa and included “Neomorphini” in the tribe Hapithini. Later, numerous additional taxa of Hapithini were established or included in this tribe by different authors (Desutter-Grandcolas & Bland, 2003; Otte, 2006; Otte & Perez-Gelabert, 2009; Gorochov, 2010; Dias & Mello, 2010). However, one part of these taxa was put in Podoscirtinae out of any tribe (Otte, 2006). Another part of these taxa was correctly included in Hapithini, but this tribe was transferred in Eneopterinae without any explanation (Otte & Perez-Gelabert, 2009).

The above-mentioned interpretations of systematic position for the Hapithini taxa are very not identical and lead to a great confusion in OSF: in this catalogue, some genera are included in Hapithini and Podoscirtinae in accordance to Gorochov's views, but other genera (closely related to previous ones) are placed in Podoscirtini or even in Eneopterinae (probably after Otte & Perez-Gelabert). The latter mistake was corrected by some recent authors (Cadena-

Castañeda et al., 2016: 215), but this paper is also problematic, because its authors consider the Hapithini as a subfamily and add to it one representative of Aphonoidini; see notes about Aphonoidini below). Moreover, some changes in compositions of the Hapithini and its taxa are made in the present paper (for example, the subtribe Aphonomorphina Desutter, 1988 are tentatively transferred from Podoscirtini to Hapithini; see the chapter about this subtribe). At present, the Hapithini is divided into three subtribes; all these subtribes and their compositions are considered below.

#### Subtribe **HAPITHINA** Gorochov, 1986

*Note.* At present, this subtribe includes numerous species from America and nearest islands. These species usually have a stridulatory apparatus in the male tegmina which is characterized by the same characters (Figs I: 1, 3–5, 7, 8, 10, 14; II: 6; IX: 1–8; XII: 4, 15; XIII: 2, 5; XVI: 1, 6, 8) as in the original diagnosis of Hapithini (see above). However, there is an indication (Saussure, 1897: tab. 13, fig. 29) that one species has the oblique veins typical of Hapithini, but its stridulatory vein is simple (not sinuate in the lateral part, i. e. more primitive than in other known taxa of Hapithini; Fig. XVI: 7). The latter species is insufficiently studied (its male genitalia are unknown) and may belong to one of the other subtribes which include several genera lacking tegminal stridulatory apparatus (their tegmina are almost identical in the both sexes). The male genitalia of Hapithina are rather diverse but always with the anterior parts of rami distinctly separated from each other, i.e. not fused with each other (Figs II: 1, 2, 4; III: 1, 2, 4, 5, 7, 8, 10, 11; V: 2; X: 1, 2, 9, 10, 12, 13, 17, 18; XI: 1, 2, 4, 5, 7, 8, 10, 11, 13, 14; XIV: 1, 3; XV: 1, 2, 4, 5). All the genitalia studied are divided into three groups on the base of their structure. These groups treated here as genera: *Hapithus* with numerous subgenera, *Somnambula* **gen. nov.** and *Gryllophyllus* **gen. nov.** Additionally,

this subtribe probably includes the genera *Phyllogryllus* and *Stenogryllus* Saussure, 1878, because they have the stridulatory apparatus similar to that of Hapithina, but their male genitalia are unstudied (*Phyllogryllus*) or insufficiently studied (*Stenogryllus*); in *Stenogryllus*, the male genitalia are more or less similar to those of *Hapithus*, but the hind legs are with a very different armament (Otte & Perez-Gelabert, 2009). One apterous species, “*Jabulania*” *clancularia* described in the latter publication also may be included in this subtribe on the base of some similarity of its male genitalia to those of *Hapithus*; however, these genitalia are in need of restudy, and the generic name *Jabulania* Otte & Perez-Gelabert, 2009 is unavailable (no description or diagnosis, no reference to one of them, and no concrete indication about any united description of genus and species). Finally, it is necessary to note that this subtribe may be paraphyletic, because the male genitalia of *Somnambula* **gen. nov.** have a certain similarity in the structure of epiphallus, formula and endoparameral apodemes to Aphonomorphina (see the note for this subtribe below).

#### Genus *Hapithus* Uhler, 1864

Type species *Hapithus agitator* Uhler, 1864 (USA).

*Note.* This genus is characterized by the following features of male genitalia (Figs II: 1–5; III; IV: 1–6, 9–11, 15, 16, 18, 20, 22, 23, 26, 28; V: 2–5, 14, 16): epiphallus is moderately short, and its distal part consists of three large and partly membranous lobes (a pair of lateral ones is more or less curved upwards); ectoparameres are reduced, and their sclerites are fused with the epiphallallic and endoparameral sclerites; rachis is long or moderately elongate, with a pair of narrow sclerotized or semisclerotized ribbons having anterior parts fused or partly fused with the anterior parts of endoparameral sclerites (these ribbons and sclerites form a pair of sclerotized loops); formula rather short, not contacting with rachis and en-

doparameres. The genus *Hapithus* includes numerous species which were attributed to several “genera” by the previous authors. Some of these “genera” are more or less distinctly distinguished from each other by small differences in the male genitalia, but usually do not have clear differences in the external morphology. This situation is partly similar to that in *Dolichogryllus* generic group from Africa (Gorochov, 2005): genera of this group are closely related and similar to each other in the structure of male genitalia; i.e. these genera may be considered as subgenera of the same genus, but their external morphology is very diverse and clearly characteristic of these taxa; this is the reason that these taxa are treated as genera but not as subgenera. For *Hapithus*, small differences between the male genitalia of different subgenera are insufficiently supported by the external morphology; moreover, the male genitalia in the majority of genera proposed by Otte & Perez-Gelabert (2009) are almost or practically undescribed but comparatively diverse inside of the same “genus” (judging by some photographs of these authors), and such “descriptions” do not allow us to understand the differences between these “genera”; thus, it is reasonable to treat these “genera” as subgenera of *Hapithus* or as their synonyms. Some differences between *Hapithus* subgenera are given in the following key.

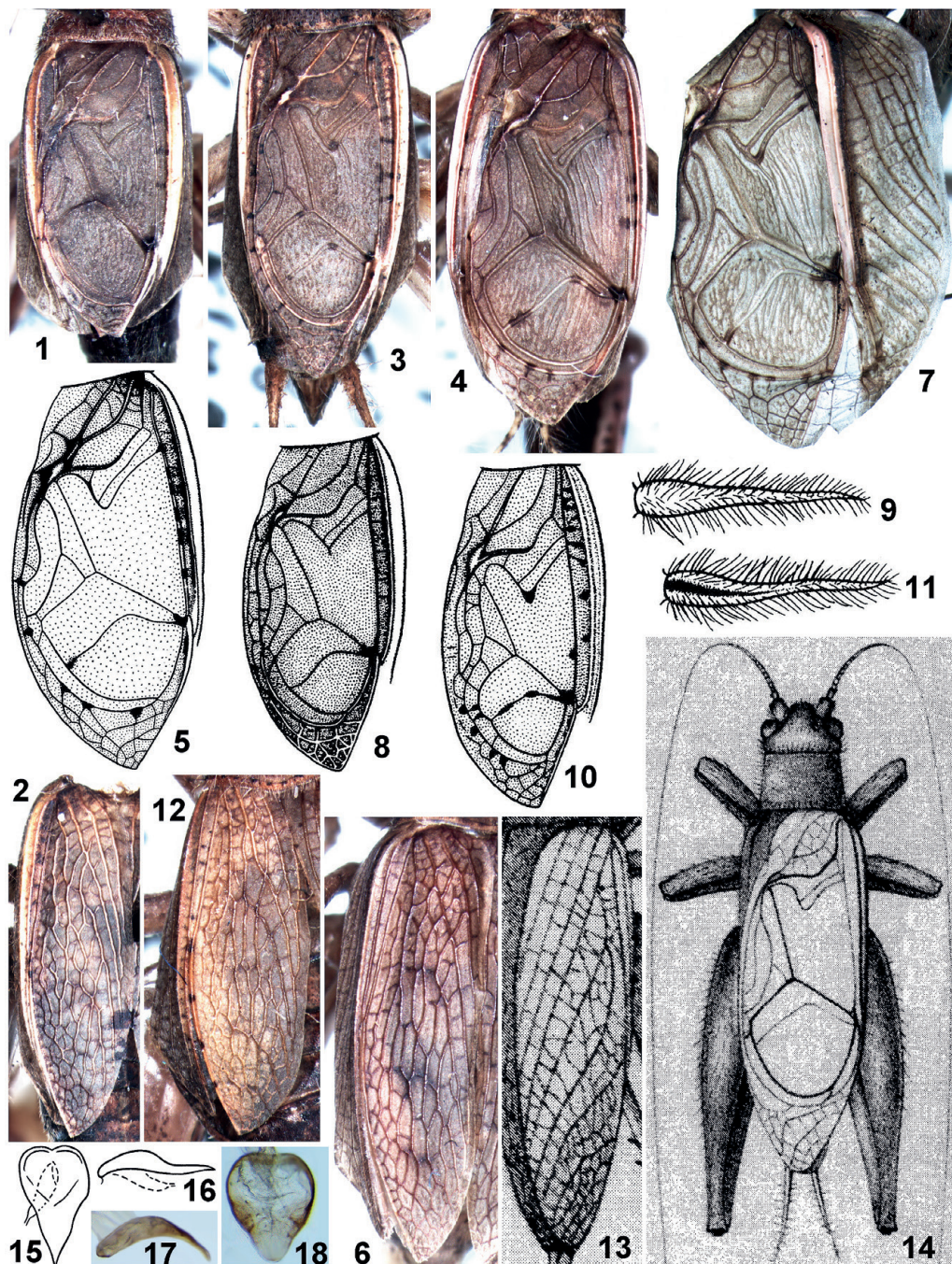
1. Fore tibia with inner tympanum only or without tympana. Epiphallallic sclerite divided into a pair of lateral sclerites isolated from each other; anterior parts of rachial and endoparameral sclerites long and almost ribbon-like, forming rather large loops before base of epiphallus; apodemes of endoparameres from short to almost undeveloped (Figs II: 1–5; III: IV: 1–6, 9; V: 2) ..... 2
- Fore tibia with both inner and outer tympana, but sometimes with inner tympanum only. Epiphallallic sclerite usually undivided into a pair of lateral sclerites, because it often with more or

less developed median sclerotized area fused with its lateral sclerotized areas; anterior parts of rachial and endoparameral sclerites comparatively short (not ribbon-like), forming small loops near base of epiphallus; apodemes of endoparameres clearly developed, from short to rather long and thin (Figs IV: 11, 15, 16, 18, 20, 22, 23, 26, 28; V: 5, 14, 16; X: 1–4, 9–14, 17–19; XI) ..... 3

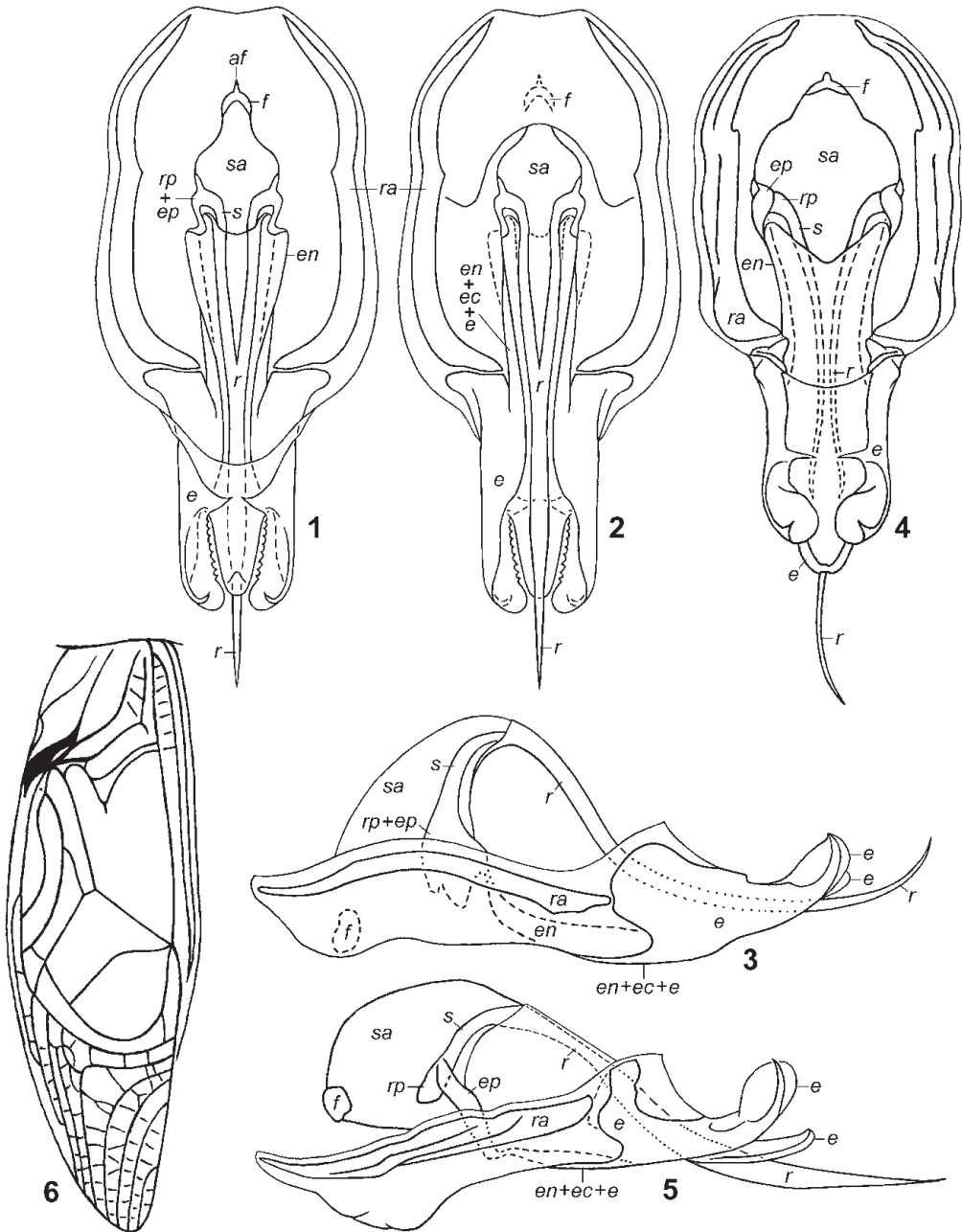
2. Male tegmina with well developed (not strongly reduced) stridulatory apparatus (Figs I: 1, 3–5, 7, 8, 10, 14; II: 6). Fore tibia usually with oval inner tympanum but sometimes without or almost without tympana (Figs VI: 1, 4–7) ..... subgenus *Hapithus* s. str. [*Lebussa* Walker, 1869, questionally synonymized by Saussure (1874); *Apithis* Saussure, 1874 and *Apithes* Saussure, 1878 (unjustified emendations); *Alexandrina* Otte et Perez-Gelabert, 2009, **syn. nov.**; *Sipho* Otte et Perez-Gelabert, 2009, also possibly synonym of this subgenus. **Included species** (in original binomen): type species of genus; *Acheta crucis* Fabricius, 1787 (Saint Croix I.); *Lebussa tenuicornis* Walker, 1869 (Hispaniola I.); *Apithis annulicornis* Saussure, 1874 (Surinam); *A. aztecus* Saussure, 1874 (Mexico); *A. rolphi* Saussure, 1878 (Brazil); *Apithes costalis* Saussure, 1878 (Leeward Islands); *A. montanus* Saussure, 1897 (Panama); *A. nablista* Saussure, 1897 (Colombia); *A. brevipennis* Saussure, 1897 (USA); *H. vagus* Morse, 1916 (USA, possibly introduced from Jamaica); *H. nodulosus* Strohecker, 1953 (Bahama Islands); *H. melodius* Walker, 1977 (USA); *H. emeljanovi* Gorochov, 1993 (Cuba); *H. kershneri* Gorochov, 1993 (Cuba); 25 species described by Otte et Perez-Gelabert (2009) in genus *Hapithus* (19 species) and in “genus” *Alexandrina* (9 species) from Caribbean Islands, Guatemala and Mexico; 4 new species described below; possibly *Orocharis fusiformis* Walker, 1869 (Honduras), *Apithes irroratus* Bolivar, 1888 (Cuba), 4 species described by Otte (2006) in genus *Hapithus* from Costa Rica, and *Sipho atabey* Otte et Perez-Gelabert, 2009 (Hispaniola I.). **Remark:** male genitalia for only species of “*Sipho*” as well as for many other species of *Hapithus* s. str. are poorly studied or unstudied; but *H. crucensis* Desutter-Grandcolas, 2003, synonymized

- with *Acheta crucis* Fabricius, 1787 (this synonymy is not mentioned in OSF) and included in *Alexandrina* by Otte & Perez-Gelabert (2009: "*Alexandrina crucis*"), is with male genitalia well studied (Desutter-Grandcolas & Bland, 2003) and clearly belonging to *Hapithus* s. str. type of structure (Figs II: 4, 5).]
- Male tegmina with strongly reduced stridulatory apparatus or without it. Fore tibia without tympana ..... subgenus ***Mashiyana* stat. nov.** [*Mashiyana* Otte et Perez-Gelabert, 2009, described as genus; *Margaretia* and *Knyella* described by same authors in same publication, possibly synonyms of *Mashiyana* (they were separated from each other only by preservation of traces of tegminal stridulatory apparatus in *Mashiyana* and by presence of median protuberance in male metanotal gland of *Margaretia*). **Included species:** eight species described by Otte & Perez-Gelabert (2009) in these "genera".]
  - 3. Median part of epiphallallic sclerite distinctly V-shaped and with posteromedian part located on dorsal surface of posteromedian epiphallallic lobe (Figs V: 5–12; X: 1, 2, 9, 10, 12, 13, 17, 18; XI: 1, 2, 4, 5, 7, 8) ..... 4
  - Median part of epiphallus from more or less sclerotized to almost semimembranous, or with median membranous stripe; shape of this sclerotized or semi-sclerotized part more variable but not distinctly V-shaped (Figs V: 14–17; XI: 10, 11, 13, 14) ..... 5
  - 4. Male tegmina with strongly developed stridulatory apparatus (Figs IX: 1–8) ..... subgenus ***Antillicharis* stat. nov.** [*Antillicharis* Otte et Perez-Gelabert, 2009, originally described as genus. **Included species:** 71 species from Caribbean Islands and Central America attributed to "genus" *Antillicharis* by Otte & Perez-Gelabert (2009) (inclusion of some of them in this subgenus is problematic, because male genitalia of all species are undescribed but presented by photographs which sometimes are unclear in relation to some main morphological structures); seven new species described below. **Remark:** two species were included in *Antillicharis* additionally: *Orocharis saussurei* Desutter-Grandcolas, 2003 from Martinique I. (Otte & Perez-Gelabert, 2009: fig. 303), but male genitalia of this species are better studied, with median V-shaped sclerotized area divided by narrow median membrane as well as with rachial-endoparameral loops larger than in true representatives of *Antillicharis* (here and in OSF, this species is excluded from *Antillicharis*; see this key below); *Antillicharis kwaiker* Cadena-Castañeda, Gutierrez et Bacca, 2016 from Colombia probably belongs to subtribe Diatrypina (Apnonoidini).]
  - Male tegmina without stridulatory apparatus, similar to female tegmina in structure [after Otte (2006)] ..... subgenus ***Curiocharis* subgen. nov.** [**Included species** (in original binomen): *Orocharis curiosus* Otte, 2006 (Costa Rica; type species of *Curiocharis*); *O. taciturnus* Otte, 2006 (Costa Rica). **Etymology:** from parts of Latin word *curiosus* (curious) and of generic name *Orocharis*.]
  - 5. Body strongly pubescent. Head distinctly conical in profile, i.e. almost opistognathous and with rather long rostrum strongly angular in profile (Fig. XII: 2). Pronotum with slightly concave dorsal edge in profile and with low (sometimes almost indistinct) longitudinal carinae between disc and lateral lobes (Fig. XII: 2, 3). Male tegmina (if they developed) usually with strongly longitudinal mirror which significantly longer than apical area of these tegmina (Fig. XII: 4) ..... subgenus ***Laurepa* stat. nov.** [*Laurepa* Walker, 1869, originally described as genus; *Orochirus* Bolivar, 1888, synonymized by Otte et Perez-Gelabert (2009). **Included species:** 37 species included in genus *Laurepa* in OSF, excepting *O. corrugatus* Saussure, 1897 from Mexico (position of some other of these species are problematic); one new species described below. **Remark:** *O. corrugatus*, placed in *Laurepa* in OSF, has stridulatory vein in male tegmina not characteristic for all representatives of Hapithini (Fig. XVI: 7), and this species is here excluded from these subgenus and genus (its systematic position is very unclear).]
  - Body weakly pubescent. Head barely or slightly conical in profile, i.e. almost not opistognathous and with rather short rostrum moderately or roundly angu-





**Figs I (1–18).** *Hapithus* (*Hapithus*). 1, 2, *H. agitator* Uhler; 3, *H. klugei* sp. nov.; 4–6, *H. palenque* sp. nov.; 7, *H. cantrix* Otte et Perez-Gelabert; 8, 9, *H. emeljanovi* Gor.; 10–12, *H. kerzhneri* Gor.; 13, *H. montanus* (Sauss.); 14, *H. aztecus* (Sauss.); 15, 16, *H. xadani* sp. nov.; 17, 18, *H. atroapex* sp. nov. Dorsal field of male right tegmen (1, 3–5, 8, 10), of female left tegmen (2, 6, 12), and of female right tegmen (13); complete male right tegmen (7); cercus from side (9, 11); general view of male from above (14); female copulatory papilla from below (15, 18) and from side (16, 17). [5, 8–11, after Gorochov (1992); 13, 14, after Saussure (1897)].



**Figs II (1–6).** *Hapithus* (*Hapithus*). 1–3, *H. cantrix* Otte et Perez-Gelabert; 4, 5, *H. crucis* (F.); 6, *H. costalis* (Sauss.). Male genitalia from above (1, 4), from below (2), and from side (3, 5); dorsal field of male tegmen (6). Abbreviations: *af*, apodeme of formula; *e*, epiphallus; *ec*, ectoparamere; *en*, endoparamere; *ep*, endoparameral plate; *f*, formula; *r*, rachis or rachial sclerite; *ra*, ramus; *rp*, rachial plate; *s*, anterior part of rachial sclerite connecting main part of this sclerite with rachial plate; *sa*, sacculus. [4, 5, partly after Desutter-Grandcolas & Bland (2003: *H. crucensis* Des.-Grand.) and partly after Otte & Perez-Gelabert (2009)].



lar in profile. Pronotum with practically straight dorsal edge in profile and without traces of longitudinal carinae between disc and lateral lobes. Male tegmina with less longitudinal or not longitudinal mirror which not longer or insignificantly longer than apical area of these tegmina (Fig. XII: 15).....

..... subgenus **Orocharis** stat. nov.

[*Orocharis* Uhler, 1864, originally described as genus; *Walkerana* Otte et Perez-Gelabert, 2009 (replacement name for homonymic name *Walkerella* Otte et Perez-Gelabert, 2009) and *Carylla* Otte et Perez-Gelabert, 2009 are unavailable names and possibly also synonyms of this subgenus (names of two latter "genera" were published without description, diagnosis, reference to one of them, or concrete indication about any united description of genus and species, but these names had references to photographs of genitalia with unclear outlines of important sclerites only). **Included species** (in original binomen): *Orocharis saltator* Uhler, 1864 (USA; type species of *Orocharis*); 37 species from Florida and Caribbean Islands included in "genera" *Orocharis* (18 species), *Walkerella* (10 species) and *Carylla* (nine species) by Otte & Perez-Gelabert (2009); possibly also some of other species included in "genus" *Orocharis* in OSF. **Remark:** it is necessary to note that at least eight species from *Orocharis* list in OSF belong to other subgenera or genera: *O. taciturnus* and *O. curiosus* are here placed in subgenus *Curiocharis*; *O. maxillaris* Saussure, 1897 (Panama), *O. amusus* Saussure, 1897 (Brazil) and *O. livida* Chopard, 1912 (French Guiana), in genus *Somnambul* **gen. nov.**; *O. aeschyntelos* Otte, 2006 and *O. habros* Otte, 2006 belong to tribe Paroecanthini (Gorochov, 2011).]

There are also two "genera" which may be additional subgenera of *Hapithus* s. l. or synonyms of *Hapithus* s. str.: *Sabelo* Otte et Perez-Gelabert, 2009 very similar to *Hapithus* s. str. in the external morphology but with a somewhat different shape of the male genitalia (these genitalia are poorly studied); *Laurellia* Otte et Perez-Gelabert, 2009 similar to *Hapithus* s. str. in the shape of rachial-endoparameral loops but with the distal part of rachis somewhat wider (its

male genitalia are also insufficiently studied) and with two tympana on each fore tibia.

### ***Hapithus (Hapithus) agitator***

Uhler, 1864

(Figs I: 1, 2; III: 1–3; IV: 1; VI: 4)

*Hapithus agitator* Uhler, 1864 (USA).

*Hapithus quadratus* Scudder, 1869 (USA: Texas); synonymized by Walker (1977).

*Apithis agitatrix* Saussure, 1874; unjustified emendation.

*Orocharis uhleri* McNeill, 1891 (USA: Illinois); synonymized by Blatchley (1920).

*Hapithus agitator quadratus*: Hebard (1915); but see Walker (1977).

**New material. USA:** male and female, Appalachian Mountains, 23.IX.1998, B. Korotyaev (ZIN).

**Note.** These specimens are in accordance to the descriptions by Uhler (1864), Scudder (1869), Saussure (1874) and McNeill (1891). Tegminal apices of the specimens reach the distal edge of sixth abdominal tergite in male and the base of ninth abdominal tergite in female; male tegmina have the mirror not large and slightly longitudinal, and the apical area rather short (much shorter than this mirror; Fig. I: 1); female tegmina have a rather dense and irregular (longitudinally cellular) venation in the most part of dorsal field (Fig. I: 2); fore tibia has a rather small inner tympanum only (Fig. VI: 4); cerci in the both sexes are uniformly light brown; male genitalia have a rather short notch between the anterior part of each lateral epiphallal sclerite and each ectoparameral-endoparameral sclerite (Fig. IV: 1, *n*), and short lateral sclerites connecting the main part of rachis with the endoparameral sclerites (Fig. IV: 1, *s*); these sclerites has vertically lamellar plates (rachial and endoparameral) partly fused with each other and partly pressed to one another (Fig. IV: 1, *rp*, *ep*); ovipositor is rather long (hind femur is approximately 1.1 times as long as ovipositor). Saussure (1897) recorded this species also from Mexico and some nearest but more southern countries.

However, the indications of *H. agitator* at least for Southern Mexico and Cuba probably refer to a few very similar species considered below.

***Hapithus (Hapithus) emeljanovi***

Gorochov, 1992

(Figs I: 8, 9; IV: 3, 4)

*Hapithus emeljanovi* Gorochov, 1992 (Cuba: Varadero).

*Hapithus irroratus*: Otte & Perez-Gelabert (2009).

*Note.* It is most probable that this species is erroneously recorded by Otte & Perez-Gelabert (2009) from Havana as *H. irroratus*. Their male from Havana and *H. emeljanovi* types are similar to each other in the colouration of male tegmina, a more or less round (not transverse) mirror in these tegmina and the absence of tympana, and all these specimens are also similar in the size of male body parts: tegminal length is 6–6.5 mm, length of hind femur is 8.5–8.6 mm. But in *H. irroratus*, the above-mentioned lengths are different (10 mm and 9.5 mm, respectively), and the male tegminal mirror is transverse (Bolivar, 1888).

***Hapithus (Hapithus) kerzhneri***

Gorochov, 1992

(Figs I: 10–12; VI: 1–3)

*Hapithus kerzhneri* Gorochov, 1992 (Cuba: Varadero).

*Hapithus aphaeretos* Otte et Perez-Gelabert, 2009, **syn. nov.**

*New material.* **Cuba:** female, Varadero, 15.XI.1986, A. Emeljanov, I. Kerzhner (ZIN).

*Description.* Female (nov.). General appearance similar to that of female of *H. agitator*, but body less uniformly coloured: head generally light brown with yellowish mouthparts and large area on epicranium under rostral apex and eyes, but these yellowish parts with several brown dots above clypeus, a pair of dark brown oblique and interrupted stripes above subgenae, a few small darkened marks on clypeus and upper parts of mandibles as well as on max-

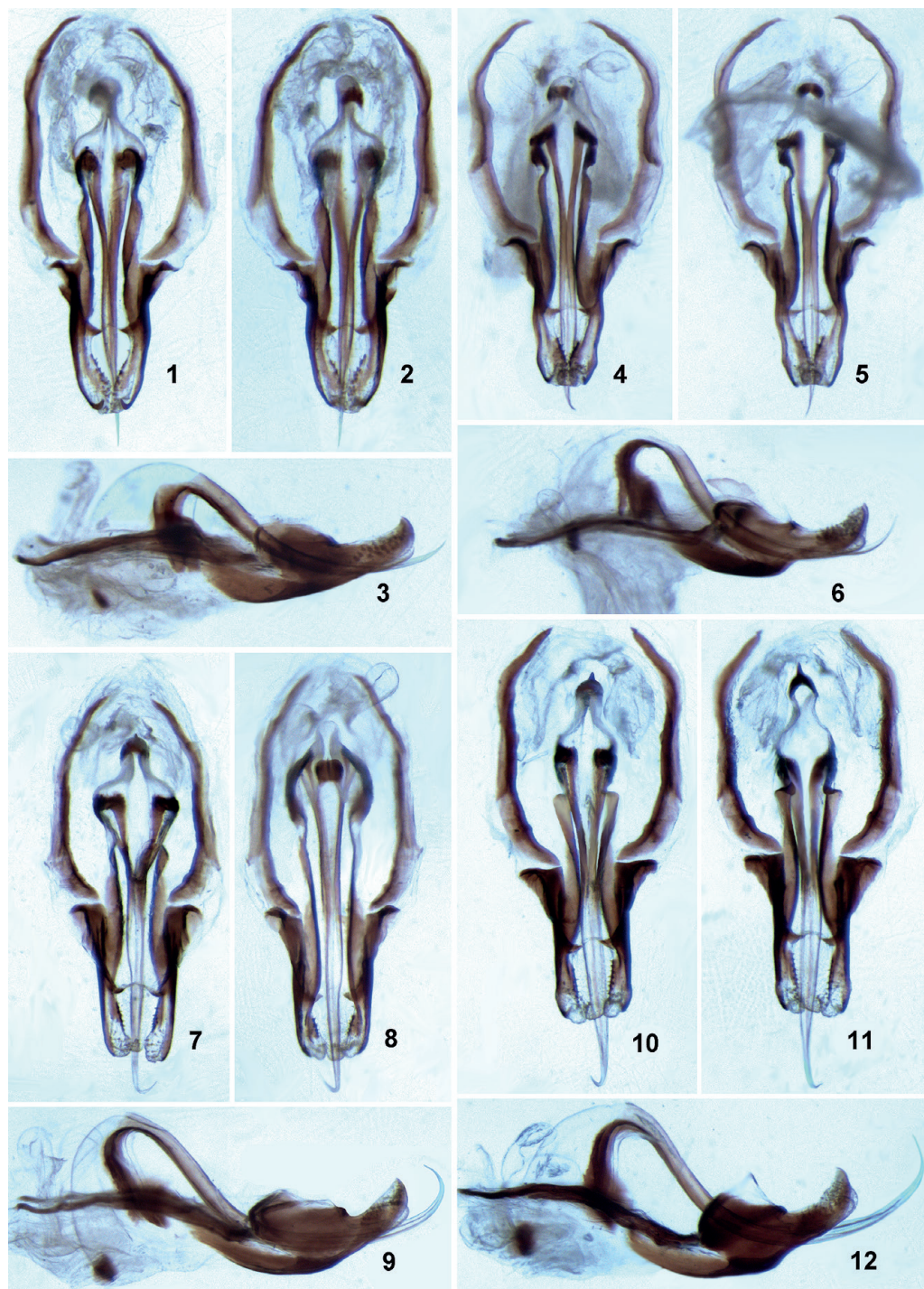
illary palpi; rest of body light brown with not numerous and very small brown dots on pronotum and fore and middle legs, with a few small brown spots along lateral edge of distal half of tegminal dorsal field, with yellowish (but having greyish tinge) membranes of tegminal lateral field, with rather dark (brown) distal part of hind femur and ventral surfaces of hind tibia and basitarsus, and with darkened longitudinal stripes on outer surfaces of hind femur and cercus. Pronotum slightly narrowing to head which almost equal to its anterior part in width; tegmina reaching apex of sixth abdominal tergite and with venation of dorsal field approximately as in *H. agitator* (Fig. I: 12); fore legs with very small and rounded inner tympanum on one tibia (Fig. VI: 1) but without distinct tympana on opposite tibia; anal plate almost triangular, with rounded apex and distinct longitudinal concavity on dorsal surface; genital plate approximately equal to anal plate in length, almost square but with distinct widely rounded postero-medial notch and rounded posterolateral corners; ovipositor with apical part as in Figs VI: 2, 3.

*Male.* For its main characters see Gorochov (1992).

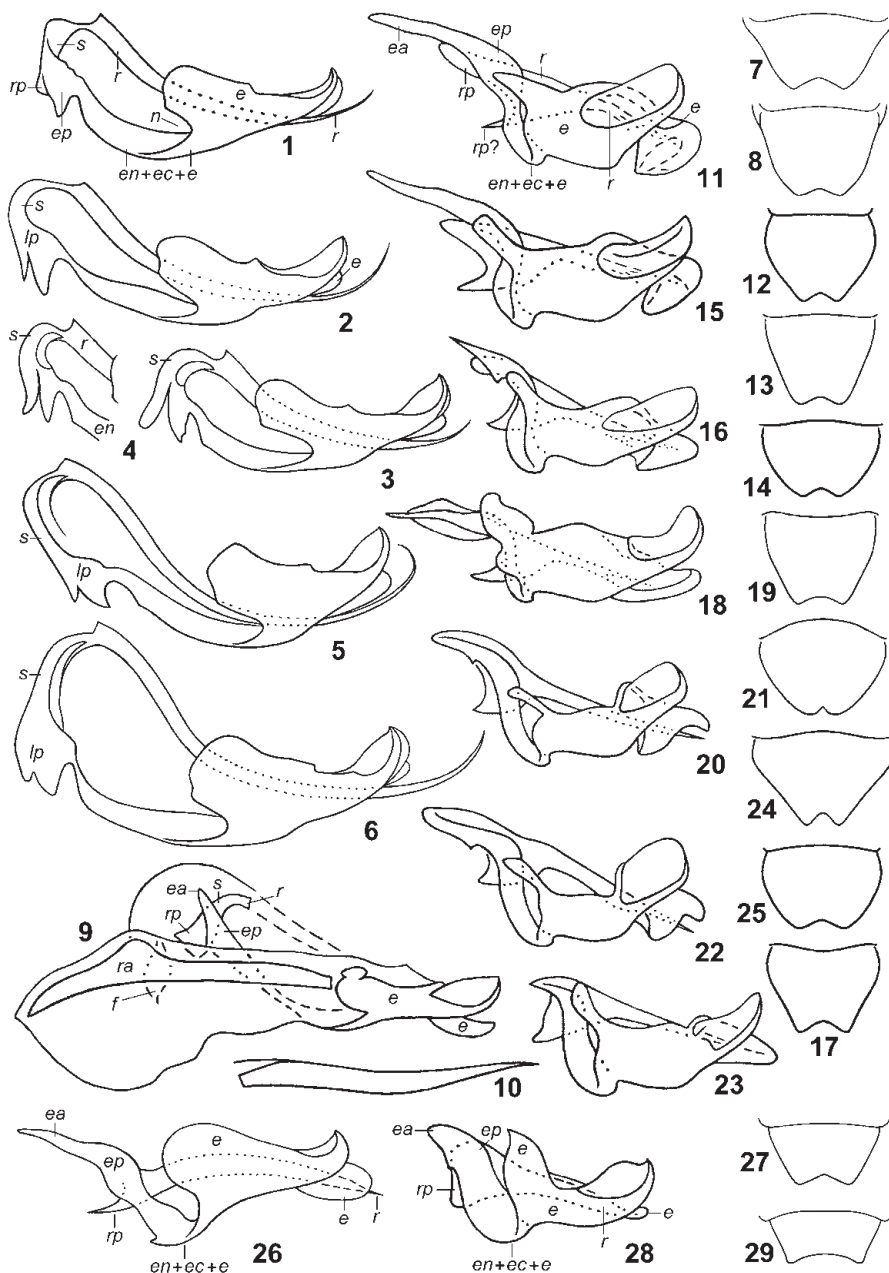
Length in mm. Body: male 9.5–10, female 13; pronotum: male 1.6, female 1.9; tegmina: male 5.5–6, female 7; hind femora: male 8–8.5, female 9.5; ovipositor 7.

*Remark.* Female of this species (as well as its male) differs from all the similar species by the presence of a dark longitudinal stripe on the outer cercal surface. Male (holotype) of this species lacks tympana and is in accordance to the brief description and illustrations of *H. aphaeretos* from Havana (Otte et Perez-Gelabert, 2009) including number of stridulatory teeth (36–38 in holotype of *H. kerzhneri*, 33 in holotype of *H. aphaeretos*). From *H. emeljanovi*, it is additionally distinguished by less numerous stridulatory teeth (45–50 in *H. emeljanovi*), and from *H. irroratus*, by the same characters as *H. emeljanovi* (see the note for *H. emeljanovi*).





**Figs III (1–12).** *Hapithus* (*Hapithus*). 1–3, *H. agitator* Uhler; 4–6, *H. klugei* sp. nov.; 7–9, *H. palenque* sp. nov.; 10–12, *H. cantrix* Otte et Perez-Gelabert. Male genitalia from above (1, 4, 7, 10), from below (2, 5, 8, 11), and from side (3, 6, 9, 12).



**Figs IV (1–29).** *Hapithini*, schematically. 1, *H. (Hapithus) agitator* Uhler; 2, *H. (H.) klugei* sp. nov.; 3, 4, *H. (H.) emeljanovi* Gor.; 5, *H. (H.) palenque* sp. nov.; 6, *H. (H.) cantrix* Otte et Perez-Gelabert; 7, *H. (H.) xadani* sp. nov.; 8, *H. (H.) atroapex* sp. nov.; 9, 10, *H. (H.) costalis* (Sauss.); 11–13, *H. (Antillicharis) vulgaris* sp. nov.; 14, *H. (A.) v. chiapas* subsp. nov.; 15, *H. (A.) honduras* sp. nov.; 16, 17, *H. (A.) fascifer* sp. nov.; 18, 19, *H. (A.) selva* sp. nov.; 20, 21, *H. (A.) haiti* sp. nov.; 22, *H. (A.) proximus* sp. nov.; 23, *H. (A.) celerans occidentalis* subsp. nov.; 24, *H. (A.) lacandona* sp. nov.; 25, *H. (A.) ?latifrons* (Rehn); 26, 27, *H. (Laurepa) jalisco* sp. nov.; 28, *H. (Orocharis) saltator* (Uhler); 29, *Cearacesa satipo* sp. nov. Epiphallus, ectoparamere, endoparamere and rachis, lateral view (1–3, 5, 6, 11, 15, 16, 18, 20, 22, 23, 26, 28); male genitalia without most part of rachis (9) and this part of rachis (10), lateral view; female genital plate from below (7, 8, 12–14, 17, 19, 21, 24, 25, 27, 29). Abbreviations: *ea*, endoparameral apodeme; others, as in Figs II (1–5).

***Hapithus (Hapithus) klugei* sp. nov.**

(Figs I: 3; III: 4–6; IV: 2; V: 1; VI: 5)

*Holotype*. Male, **Cuba**, Pinar del Rio Province, Soroa, 30.IV.1989, N. Kluge (ZIN).

*Paratype*. Male, same data as for holotype (ZIN).

*Description*. Male (holotype). General appearance similar to that of *H. agitator*, *H. emeljanovi* and *H. kerzhneri* but with following characteristic features: colouration of head brown, but eyes, ocelli, antennae and lower half of head (under eyes, antennal cavities and rostral apex) light brown with sparse darkish dots on antennal flagellum as well as with brown spots on genae and brown dots and lines between genae; pronotum almost completely brown with very numerous and small dark brown dots; tegmina greyish brown with yellowish humeral stripe between M and stock of Sc, two yellowish veins along edge of distal half of mirror, and several dark brown dots on dorsal field (Fig. I: 3); legs light brown with several brown dots on fore and middle femora, more numerous brown dots and somewhat larger dark brown spots on fore and middle tibiae, brown to dark brown outer surface of hind femur having yellowish stripe along ventral edge, yellowish proximal thirds of ventral and inner surfaces of this femur, brown most part of hind tibia (line along dorsomedial edge as well as spines and spurs of this tibia more or less light), and a few dark spots on all tarsi; rest of body brown to light brown, but genital plate and upper half of abdomen slightly darker than sternites, pterothoracic tergites and cerci; head almost angular in profile and with rostrum between antennal cavities almost as wide as scape; pronotum rather high, moderately transverse and clearly narrowing to head (anterior pronotal part almost as wide as head); metanotal gland as in Fig. V: 1; tegmina reaching base of anal plate, with 9–10 oblique branches of Sc in lateral field (five proximal branches situated more longitudinally; other ones situated less longitudinally and starting from stock of Sc), with almost regular but not very numer-

ous crossveins between these branches, and with dorsal field as in Fig. I: 3; legs with inner tympanum on fore tibia distinctly developed, moderately large and oval (Fig. VI: 5); anal plate with rather narrow (but clearly rounded) posterior half, roundly concave lateral edges and distinct median concavity occupying most part of dorsal surface; genital plate almost twice as long as anal plate and gradually narrowing to almost angular apex. Genitalia (Figs III: 4–6) with rather long notch between anterior part of lateral epiphallic sclerite and each ectoparamere (Fig. IV: 2, *n*), and with rather short (but slightly longer than in *H. agitator*) lateral sclerite connecting main part of rachis with each endoparameral sclerite (Fig. IV: 2, *s*); rachial and endoparameral lamellar plates fused with each other and forming only one vertically lamellar plate having two ventral angular projections (Fig. IV: 2, *lp*).

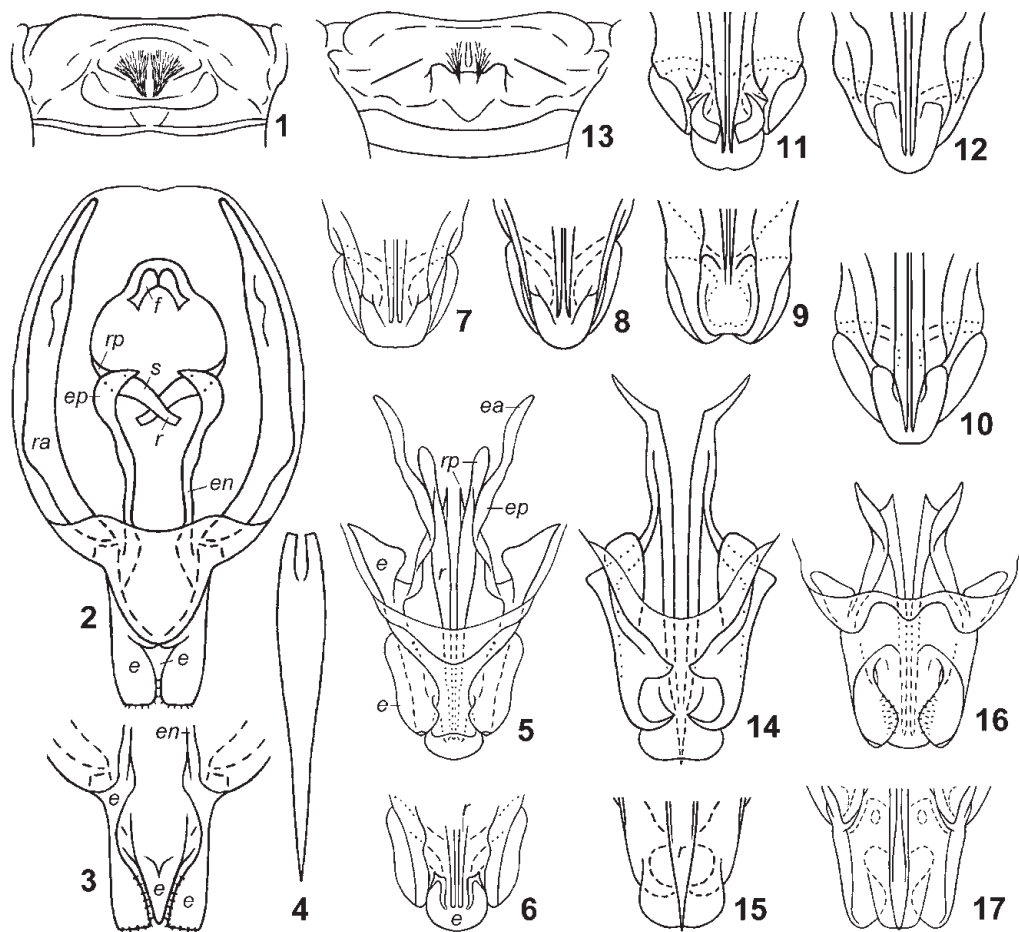
*Variations*. Inner surface of distal third of hind femur almost dark brown; light area on hind tibia less narrow; genital plate almost light brown but with a pair of very dark longitudinal stripes located near each other on ventral surface; tegmina reaching apex of anal plate.

Female unknown.

Length in mm. Body 10.5–11; pronotum 1.7–1.8; tegmina 6.3–6.7; hind femora 8.8–9.4.

*Comparison*. The new species is distinguished from *H. emeljanovi* and *H. kerzhneri* (also from Cuba) by the presence of distinctly developed (moderately large) inner tympanum (in the above-mentioned congeners, this tympanum is very small or practically absent; for comparison see Figs VI: 1 and 5), and from *H. kerzhneri* only, by the absence of any dark stripe on the cercus. From *H. agitator*, the new species differs in a larger tympanum (see Figs VI: 4 and 5) as well as the endoparameral and rachial sclerites completely fused with each other and forming one vertically lamellar plate in each place of their fusion (in *H. agitator*, these sclerites have two vertically lamellar plates in each place of their fusion: en-





**Figs V (1–17).** *Hapithus*, schematically. 1, *H. (Hapithus) klugei* sp. nov.; 2–4, *H. (H.) costalis* (Sauss.); 5, 6, *H. (Antillicharis) vulgaris* sp. nov.; 7, *H. (A.) honduras* sp. nov.; 8, *H. (A.) fascifer* sp. nov.; 9, *H. (A.) selva* sp. nov.; 10, *H. (A.) haiti* sp. nov.; 11, *H. (A.) proximus* sp. nov.; 12, *H. (A.) celerans occidentalis* subsp. nov.; 13–15, *H. (Laurepa) jalisco* sp. nov.; 16, 17, *H. (Orocharis) saltator* (Uhler). Male metanotal gland from above (1, 13); male genitalia without most part of rachis from above (2), their posterior half without rachis from below (3), and rachis without basal part from above (4); epiphallus, ectoparameres, endoparameres and rachis, dorsal view (5, 14, 16); posterior part of male genitalia, ventral view (6–12, 15, 17). Abbreviations: as in Figs II and IV.

doparameral plate and rachial plate which are partly fused with each other and partly pressed to one another; Figs IV: 1 and 2). From *H. irroratus* described also from Cuba, *H. klugei* differs in much shorter male tegmina (lengths of tegmen and hind femur are 6.3–6.7 mm and 8.8–9.4 mm in *H. klugei* but 10 mm and 9.5 mm in *H. irroratus*, respectively) with their mirror not transverse. From *H. melodius* and *H. brevipennis*, the new species is distinguished by much longer

tegmina (ratios of tegminal length to pronotal length in male are 3.7–3.8 for *H. klugei*, 2.3–3.1 for *H. melodius*, and 1.8–2.5 for *H. brevipennis*; Walker, 1977) as well as by a smaller body (from *H. melodius*, because its pronotal length is 2.7 mm) or much larger mirror in the male tegmina (from *H. brevipennis* having this mirror strongly reduced); and from all the other congeners belonging or possibly belonging to this subgenus, by a small body in combination with the di-



viding vein of tegminal mirror located not along proximal edge of this mirror (for comparison see Figs I: 3 and 14) and with some other features: characteristic size and shape of this mirror; length of the tegminal apical area in male, and shape of some structures in the male genitalia.

**Etymology.** This species is named after its collector, Russian entomologist N.Ju. Kluge.

***Hapithus (Hapithus) palenque* sp. nov.**  
(Figs I: 4–6; III: 7–9; IV: 5; VI: 6)

*Hapithus agitator*. Gorochov (1992).

**Holotype.** Male, **Mexico**, Chiapas State, environs of Palenque Town near Maya archaeological centre, ~200 m, primary forest, on leaf of bush at night, 18–20.XI.2006, A. Gorochov, A. Ovtshinnikov (ZIN).

**Paratypes.** **Mexico**: 4 males and 4 females, same data as for holotype (ZIN); male and female, Tabasco State, Teapa, “Feb. H. H. S.”, “*Api-thes agitator*”, “*Hapithus quadratus* Scudder det. B.C. Townsend, 1982” (ZIN) [latter specimens were considered by Gorochov in 1992 as *H. agitator*].

**Description.** Male (holotype). Colouration and external structure of body similar to those of *H. klugei*, but with following differences: head and pronotum light greyish brown with barely lighter antennae and lower half of head as well as with less distinct darkened spots and dots on genae, between antennal cavities and clypeus, and on upper part of clypeus; tegmina with barely less light humeral stripe and almost without darkish marks on M-CuA area (Fig. I: 4); legs with less distinct and clearly narrower light stripe on outer surface of hind femur along its ventral edge; abdominal tergites and genital plate almost uniformly light brown; cerci yellowish with rather numerous small darkish marks; tegmina reaching abdominal apex, with somewhat larger and wider mirror as well as with slightly shorter apical area (Fig. I: 4); hind wings somewhat not reaching tegminal apices; fore tibia with inner tympanum clearly larger (Fig. VI: 6). Genitalia (Figs

III: 7–9) also similar to those of *H. klugei*, but anterolateral parts of epiphallic sclerites slightly wider (higher), rachis clearly longer, and sclerites connecting rachis with endoparameral sclerites distinctly longer (Fig. IV: 5, s).

**Variations.** Some males with colouration of M-CuA area in tegmina more similar to that of *H. klugei* (Fig. I: 5); however, tegminal humeral stripe always less light than in this species (from yellowish with greyish tinge to very light brown). Genitalia in all males almost identical (including more or less parallel positions of proximal part of rachis and most part of sclerite connecting rachis with endoparameral sclerite; as in Figs III: 9; IV: 5, s), but shape of lamellar plate (*lp*) in place of fusion of each rachial and endoparameral sclerites slightly varied.

**Female.** General appearance as in male, but tegmina and abdominal apex similar to those of females of *A. agitator* and *A. kerzhneri*; however, tegminal apices reaching anal plate or abdominal apex, dorsal tegminal field with a few more or less distinct oblique darkish stripes (Fig. I: 6), genital plate more similar to that of female of *A. agitator* (without distinct posteromedian notch), and ovipositor almost as in *A. kerzhneri* (i.e. shorter than in *A. agitator*; hind femur in these species 1.3–1.4 and 1.1 times as long as ovipositor).

**Length in mm.** Body: male 10–11, female 10.5–12; pronotum: male 1.7–1.8, female 1.9–2.1; tegmina: male 7.6–7.8, female 8.2–8.5; hind femora: male 8–8.5, female 8.5–9.5; ovipositor 6.5–7.

**Comparison.** The new species is most similar to *H. cantrix* Otte et Perez-Gelabert, 2009 from Guatemala but distinguished from it by a barely less transverse mirror in the male tegmina, somewhat narrower (lower) anterodorsal part of the lateral epiphallic sclerite, deeper notch (*n*) between this part and anteroventral epiphallic part (fused with ectoparamere and endoparameral sclerite), distinctly smaller lamellar plate in the place of fusion of rachial and endoparameral sclerites, and

somewhat different position of the sclerite (s) connecting this plate with rachis (for comparison see Figs III: 9, 12; IV: 5, 6). From *H. agitator* and *H. klugei*, *H. palenque* differs in a larger inner tympanum of the fore tibia and longer rachis of the male genitalia, as well as in the presence of a single lamellar plate in the place of fusion of endoparameral and rachial sclerites (from only *H. agitator*) or a somewhat different shape of this plate (from *H. klugei*); from *H. emelanovi* and *H. kerzhneri*, in a well-developed or much larger inner tympanum; from *H. aigenetes* Otte et Perez-Gelabert, 2009 very briefly described from Mexico, in a distinctly narrower and longer epiphallus as well as much longer rachial-endoparameral loops in the male genitalia; and from the other similar species including *H. aztecus* (also from Mexico; Fig. I: 14), in the same characters as *H. klugei* (see above) as well as irregular longitudinal veins in the dorsal field of female tegmina (see Figs I: 6 and 13).

**Etymology.** The new species is named after the Palenque Town.

### ***Hapithus (Hapithus) cantrix***

Otte et Perez-Gelabert, 2009

(Figs I: 7; II: 1–3; III: 10–12; IV: 6; VI: 7)

**New material.** **Mexico:** male, Chiapas State, Ocosingo Distr. near Guatemala, Selva Lacandona (between Montes Azules Biosphere Reserve and Bonampak Natural Monument), environs of Lacanja-Chansayab Vill., primary forest, on bush at night, 20–27.V.2007, M. Berezin, E. Tkatsheva (ZIN).

**Note.** This male is in accordance to the measurements and photographs by Otte & Perez-Gelabert (2009) for *H. cantrix* from El Peten, Guatemala (type locality of this species). Thus, *H. cantrix* is recorded from Mexico for the first time. This species is very similar to *H. palenque* described from the localities situated somewhat farther from the type locality of *H. cantrix*, but these species are distinguished from one another by the small characters listed above, in the comparison for *H. palenque*. I cannot

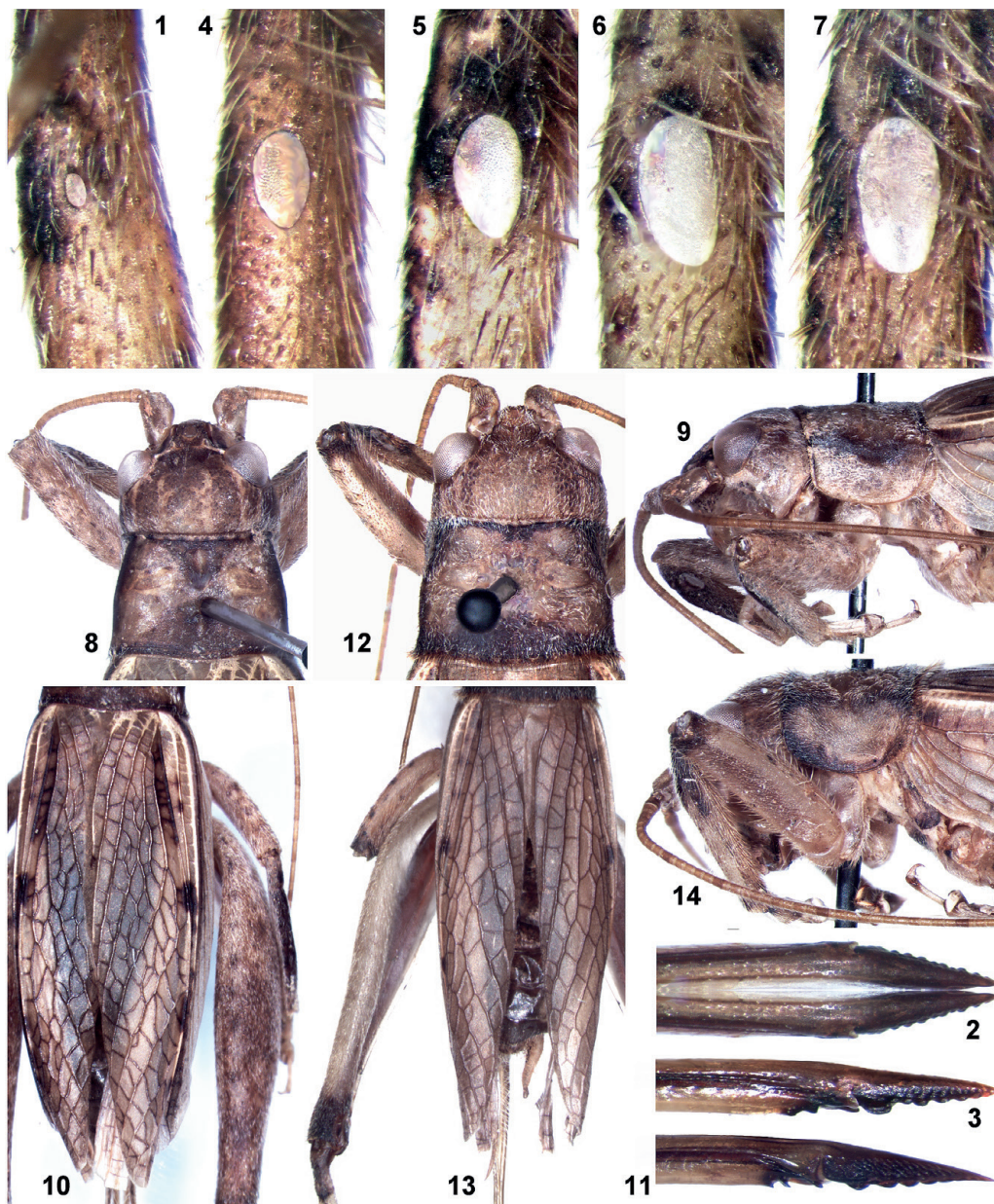
exclude that they are two subspecies of the same species only.

### ***Hapithus (Hapithus) xadani* sp. nov.**

(Figs I: 15, 16; IV: 7; VI: 8–11)

**Holotype.** Female, **Mexico**, Oaxaca State, ~35 km NNE of Santa Cruz Huatulco Town (~10 km N of Xadani Vill.), 900–1000 m, secondary forest, on leaf of bush at night, 7–11.V.2006, A. Gorochov, M. Berezin (ZIN).

**Description.** Female (holotype). Body somewhat larger than in *H. klugei* and *H. palenque*. Colouration light greyish brown with following pattern: ocelli, short transverse stripe between lateral ocellus and eye, two longitudinal lines behind each eye, lower part of epicranium under rostral apex and under anterior parts of eyes, subgenae, mouthparts and antennae yellowish; upper part of genae behind eyes and under yellowish longitudinal lines somewhat darker, almost greyish brown; pronotum yellowish with greyish brown narrow stripes along anterior and posterior edges, with brown longitudinal band on lateral lobe along its dorsal edge (Fig. VI: 8, 9), and with two darkish median triangles on dorsum (anterior triangle smaller, posterior one larger; Fig. VI: 8); tegmina yellowish with greyish tinge, lighter humeral stripe including very light R, light brownish grey venation of dorsal field and proximal half of Sc stock, and four brown marks (small spot at base of radial area, longitudinal stripe near proximal part of humeral stripe in dorsal field, short spot in middle of humeral stripe, and long stripe along distal part of dorsal edge of lateral field; Fig. VI: 10); rest of body also yellowish but with brown dorsal surfaces of fore and middle tibiae, light brown to brown distal half of dorsal surface of hind tibia, small brownish grey spots on inner and outer surfaces of hind tibiae near bases of spines, and small dark marks at base and on apical part of ovipositor. Head with rostrum almost rectangular in profile, with ocelli rather small but clearly visible, with rostrum between antennal cavities slightly narrower than scape; pronotum moderately



**Figs VI (1–14).** *Hapithus* (*Hapithus*). 1–3, *H. kerzhneri* Gor.; 4, *H. agitator* Uhler; 5, *H. klugei* sp. nov.; 6, *H. palenque* sp. nov.; 7, *H. cantrix* Otte et Perez-Gelabert; 8–11, *H. xadani* sp. nov.; 12–14, *H. atropex* sp. nov. Part of fore tibia with inner tympanum (1, 4–7); head, pronotum and fore leg from above (8, 12) and from side (9, 14); tegmina and parts of middle and hind legs from above (10, 13); distal part of ovipositor from above (2) and from side (3, 11).

low, barely narrowing to head (head almost equal to anterior pronotal part in width), with almost straight anterior and posterior edges of disc (Fig. VI: 8); tegmina slightly

protruding behind anal plate, with almost regular longitudinal veins in dorsal field and partly irregular crossveins between these veins (Fig. VI: 10), with rather narrow Sc-R



area in lateral field, and with 11–12 more or less oblique branches of Sc; hind wings reaching apices of tegmina; fore tibia with oval inner tympanum almost equal to that of *H. palenque* (Fig. VI: 6) in size (outer tympanum absent, but shallow longitudinal concavity in its place present); anal plate triangular with rounded apex and small (shallow) median concavity on posterior half of dorsal surface; genital plate almost equal to anal plate in length (its shape as in Fig. IV: 7); copulatory papilla elongate and more or less triangular in dorsal (or ventral) view but almost lamellar in profile (Figs I: 15, 16); ovipositor with apical part as in Fig. VI: 11.

Male unknown.

Length in mm. Body 15; body with wings 16.5; pronotum 2; tegmina 12; hind femora 11; ovipositor 12.5.

**Comparison.** The new species is similar to *H. aztecus* (also from Mexico), *H. montanus* (from Panama) and some other species with more or less regular longitudinal veins in the dorsal field of female (Figs I: 13; VI: 10), but it differs from them in the following features: from *H. aztecus*, in a smaller size (pronotal length in female of *H. aztecus* is 3.2 mm) and light abdomen; from *H. montanus*, in the hind femur typical of this subgenus in shape (in *H. montanus*, this femur is more slender than in the other congeners) and with a more uniform colouration; and from the others, in somewhat shortened wings in combination with the above-mentioned characters of body colouration. From *H. agitator*, *H. klugei*, *H. palenque* and the congeners closely related to them, *H. xadani* differs in a rather regular longitudinal venation in the dorsal field of female tegmina.

**Etymology.** The new species is named after the Xadani Village.

***Hapithus (Hapithus) atroapex* sp. nov.**  
(Figs I: 17, 18; IV: 8; VI: 12–14)

**Holotype.** Female, **Mexico**, Chiapas State, Ocosingo Distr., environs of Ocosingo Town, ~1200 m, primary forest, at night, 17.V.2007, M. Berezin, E. Tkatsheva (ZIN).

**Description.** Female (holotype). Colouration and structure of body similar to those of *H. xadani* but with following differences: body slightly smaller; head more uniformly light brown but with lower half barely lighter, with small and slightly darkened spot on epicranium under each eye, with sparse small darkish spots on antennal flagellum, with ocelli very small (hardly distinct), and with scape approximately 1.4 times as wide as rostrum between antennal cavities; pronotum very light brown (almost yellowish) with brown stripes along anterior and posterior edges as well as along ventral edges of lateral lobes (anterior stripe with small median widening, posterior one somewhat more widened; Figs VI: 12, 14); darkened band on pronotal lateral lobe along its dorsal edge less distinct than in *H. xadani* and interrupted in middle part (Fig. VI: 14); tegmina almost uniformly yellowish but with greyish tinge, with lighter humeral stripe almost as in *H. xadani* but distinctly shorter and narrower, with a few small brown spots along lateral edge of dorsal field, and with light greyish brown venation in dorsal field (Fig. VI: 13); legs with darkened apical parts of all femora (Fig. VI: 13, 14), with sparse and small darkish spots on middle femur, with narrow dark longitudinal stripe along median line of outer surface of hind femur, with brown proximal part of fore tibia, with several darkened marks on dorsal surfaces of middle and hind tibiae, and with darkenings on ventral surface of apical part of hind tibia as well as on venter of hind basitarsus; pterothoracic and abdominal sternites greyish brown; genital plate somewhat longer than in *H. xadani* (Figs IV: 8); copulatory papilla clearly wider than in this species and more curved in profile (Figs I: 17, 18).

Male unknown.

Length in mm. Body 12.5; body with wings 14.5; pronotum 1.9; tegmina 10.5; hind femora 9.5; ovipositor 9.5.

**Comparison.** The new species is similar to *H. xadani*, but it differs from the latter in a narrower rostrum between the anten-



nal cavities, clearly smaller and less distinct ocelli, and the above-listed characters of body colouration. From *H. aztecus* and other similar congeners, *H. atropex* differs in the same features as *H. xadani*.

**Etymology.** Name of the new species consists of the Latin words “ater” (dark) and “apex” (apex, top), because its femora have darkened apical parts.

### ***Hapithus (Hapithus) costalis***

(Saussure, 1878)

(Figs II: 6; IV: 9, 10; V: 2–4)

*Apithes costalis* Saussure, 1878 (Leeward Islands).

**Lectotype** (here designated). Male, **United States Virgin Islands**, Saint John I., “St. Jean. Moritz.”, “952”, “*Apithes* Uhler”, “*Apithes costalis* Sss.”, “♂ Co-Typus”, “*Apithes costalis* Sauss.\* ♂”, “DORSA BG00012S01” (MNH).

**Paralectotype.** Male, same island, “St. Jean. Moritz.”, “Cat. № 952”, “♂ Co-Typus”, “*Apithes costalis* Sauss.” (MNH).

**Redescription.** Male (lectotype). Body large for this subgenus. Colouration light greyish brown with following pattern: head with slightly darker (almost greyish brown) dorsum and scapes and with yellowish ocelli; pronotum with disc coloured as head dorsum but having barely visible lightish marks; tegmina also rather light (yellowish brown) but with distinct narrow longitudinal whitish stripe between dorsal and lateral fields; legs uniformly light brown but with slightly darkened apical parts of femora and tibiae; venter of body darkish; cerci light brown. Head typical of *Hapithus* s. str. in shape but with median ocellus slightly smaller than lateral ocelli and with rostrum between antennal cavities almost equal to scape in width; pronotum not high, slightly narrowing to head (anterior part of pronotum almost equal to head in width); head dorsum and pronotum distinctly pubescent. Tegmina clearly protruding behind abdominal apex, with long apical area, and with somewhat longitudinal mirror having dividing vein in its middle part (Fig. II: 6); hind wings distinctly protruding behind tegminal apices; legs with inner tympanum

only (this tympanum oval and more or less similar to that of *H. cantrix* in size). Anal and genital plates rather simple in shape, similar to those of previous congeners (see above); epiphallus with anterior half lower than in above-mentioned congeners and slightly different in shape and with posterolateral epiphallic lobes shorter and less curved upwards than in these congeners (Figs IV: 9; V: 2, 3); rachis somewhat wider and higher than in them (Figs IV: 10; V: 4); anterior rachial sclerite rather short and having large rachial plate partly fused (or articulated?) with endoparameral plate (this plate having short apodeme which more developed than in previous congeners; for comparison see Figs IV: 1–6 and 9).

Length in mm. Body 20; body with wings 27.5; pronotum 3.2; tegmina 18.7; hind femora 14.2.

**Variations.** Second male with somewhat lighter area on hind part of dorsum near pronotum.

Female unknown.

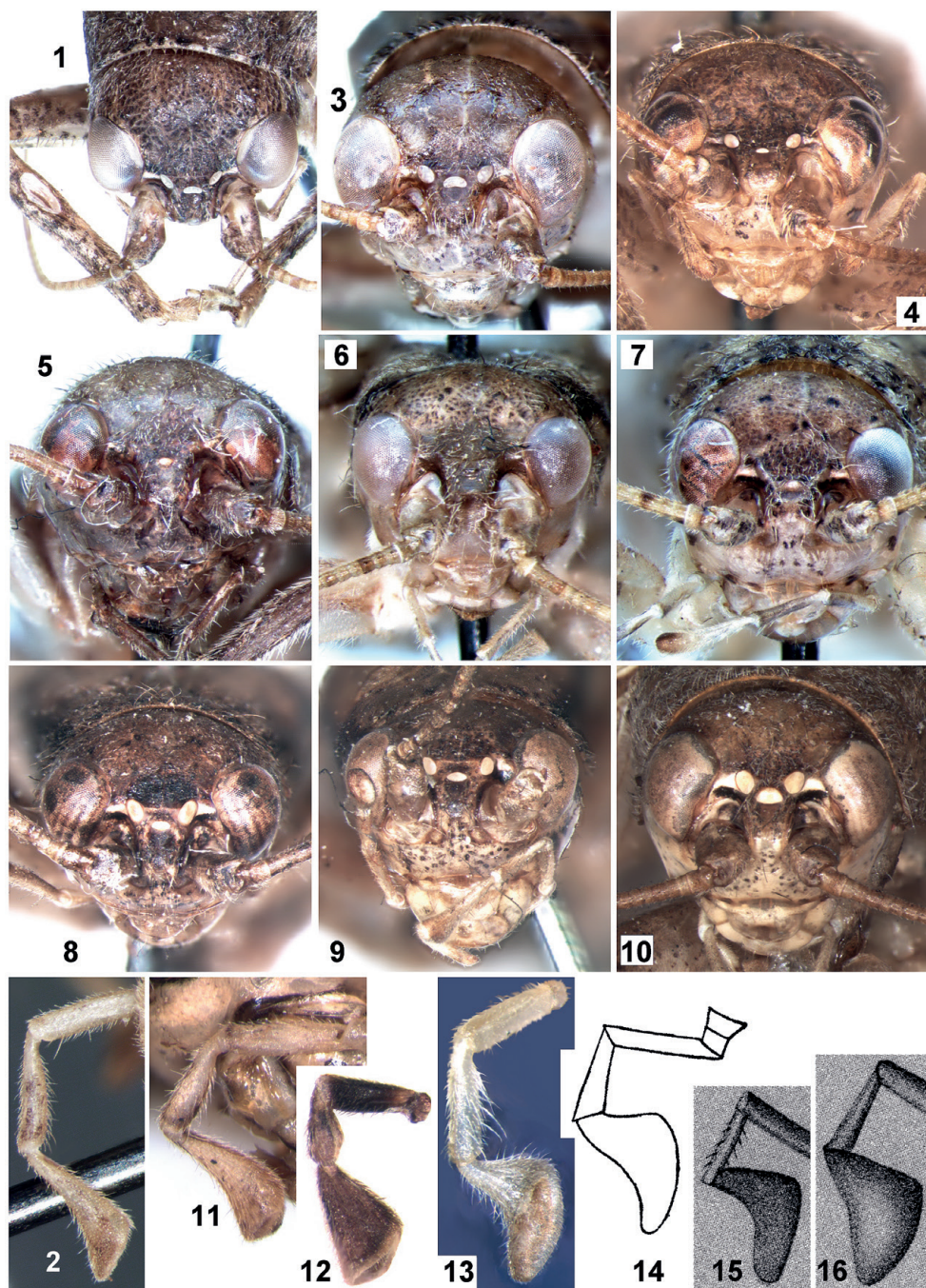
**Remark.** This species is characteristic in the length of wings which are significantly longer than in the typical representatives of *Hapithus* s. str. From some other species having long wings (these species were included by Otte et Perez-Gelabert in their “genus” *Alexandrina*), it is distinguished by the above-listed peculiarities of male genitalia.

### ***Hapithus (Antillicharis) vulgaris* sp. nov.**

(Figs IV: 11–13; V: 5, 6; VII: 1, 2; VIII: 9–12; IX: 1; X: 1–6; XII: 14)

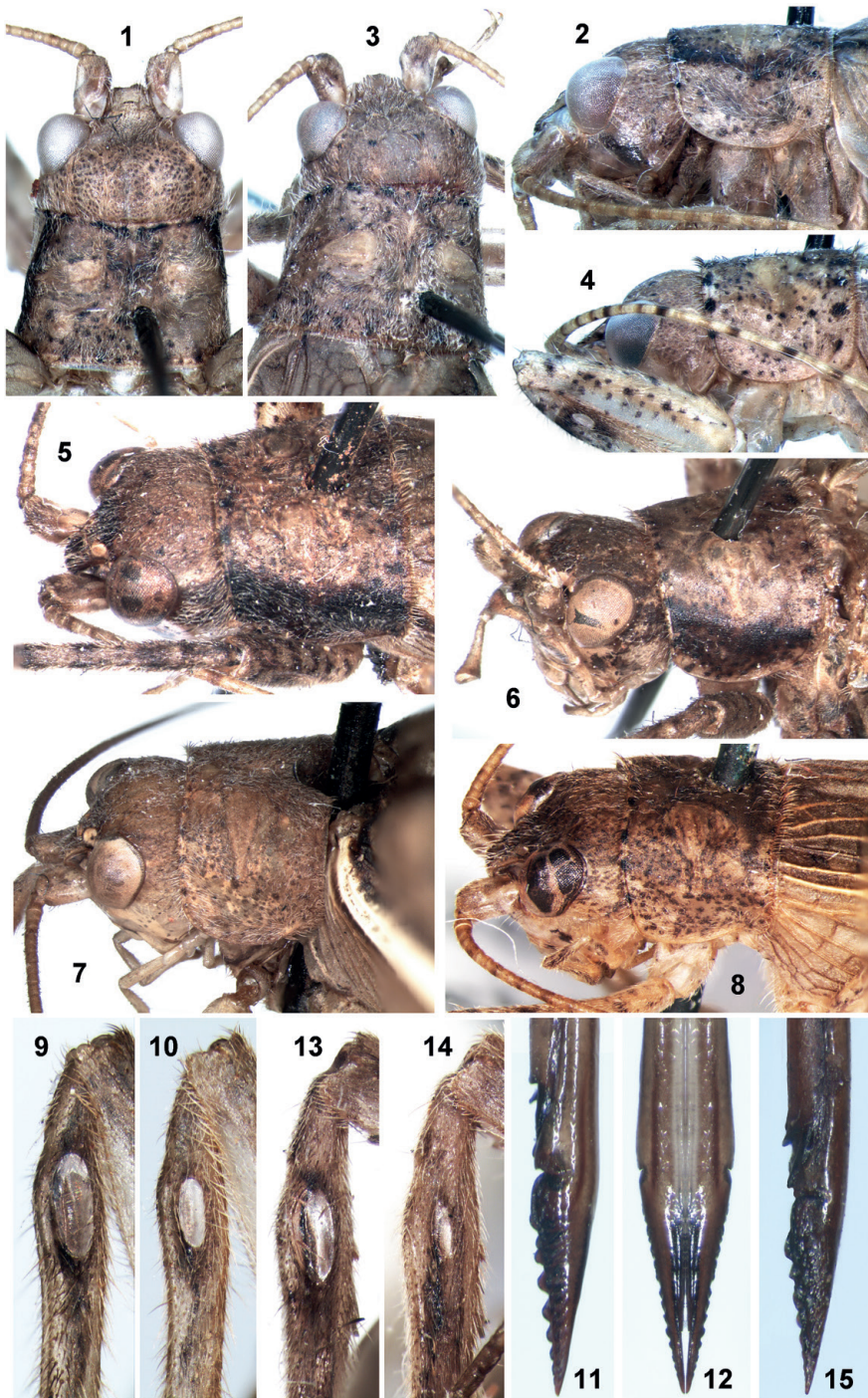
**Holotype.** Male, **Mexico**, Veracruz State, 15–20 km NE of Catemaco Town, Los Tuxtlas (biostation of Mexico University), ~2 km from Mexican Gulf, primary forest on hills, at light, 6–17.XI.2006, A. Gorochoy, A. Ovtshinnikov (ZIN).

**Paratypes.** **Mexico:** 10 males and 2 females, same data as for holotype (ZIN); male, Oaxaca State, ~35 km NNE of Santa Cruz Huatulco Town (~10 km N of Xadani Vill.), 900–1000 m, secondary forest, on leaf of tree at night, 7–11.V.2006, A. Gorochoy, M. Berezin (ZIN);



**Figs VII (1–16).** *Hapithini*. 1, 2, *Hapithus* (*Antillicharis*) *vulgaris* sp. nov.; 3, *H.* (A.) ?*latifrons* (Rehn); 4, *H.* (A.) *lacandona* sp. nov.; 5, *H.* (A.) *honduras* sp. nov.; 6, *H.* (A.) *fascifer* sp. nov.; 7, *H.* (A.) *selva* sp. nov.; 8, *H.* (A.) *haiti* sp. nov.; 9, *H.* (A.) *proximus* sp. nov.; 10, *H.* (A.) *celerans occidentalis* subsp. nov.; 11, *H.* (*Laurepa*) *jalisco* sp. nov.; 12, *Cearacesa* *satipo* sp. nov.; 13, *Somnambula* *specularis* sp. nov.; 14, *S. livida* (Chop.); 15, *S.*? *maxillaris* (Sauss.); 16, *S.*? *amusa* (Sauss.). Head (and inner tympanum) from above and slightly in front (1); distal half of maxillary palpus from side (2, 11, 12–16); head in front (3–10). [14, after Chopard (1912); 15, 16, after Saussure (1897)].





**Figs VIII (1–15).** *Hapithus* (*Antillicharis*). 1, 2, *H. fascifer* sp. nov.; 3, 4, *H. selva* sp. nov.; 5, *H. haiti* sp. nov.; 6, *H. proximus* sp. nov.; 7, *H. celerans occidentalis* subsp. nov.; 8, *H. lacandona* sp. nov.; 9–12, *H. vulgaris* sp. nov.; 13, 14, *H. honduras* sp. nov.; 15, *H. haiti* sp. nov. Head with pronotum from above (1, 3), from side (2, 4), and from side and partly above (5–8); region of fore tibia with inner (9, 13) and outer (10, 14) tympana; distal part of ovipositor from side (11, 15) and from above (12).



2 males, Tamaulipas State, Gomez Farias, Alta Cima (~100 km S of Cd Victoria), 900 m, 4–12.VIII.2000 and 21–28.X.2000, D. Kasparyan (ZIN).

*Description.* Male (holotype). Colouration of body yellowish grey with following marks: upper half of head (above rostral apex and antennae) brownish grey but with yellowish ocelli and short transverse stripe between each lateral ocellus and each eye, clearly darkened area around these light stripes and ocelli, and yellowish longitudinal line behind each eye (almost on upper part of genae; Fig. VII: 1); rest of head yellowish with epicranium having a few darkish dots under rostral apex and one small greyish brown spot under each eye, and with maxillary palpus having barely darkened small apical part; pronotum with slightly darkened disc and numerous darkish dots (dots along anterior and posterior edges somewhat larger and darker); tegmina with light greyish brown dorsal field having narrow yellowish humeral stripe in region of M and several small dark brown marks along this stripe (Fig. IX: 1); hind wings with light greyish brown distal parts; all femora and tibiae with numerous darkish dots; all coxae and sternites as well as genital plate and cerci yellowish; majority of abdominal tergites light greyish brown. Head with distinctly rectangular rostrum in profile; scape almost 1.3 times as wide as space between antennal cavities; ocelli rather large, oval (median ocellus transverse, but lateral ocellus obliquely longitudinal; space between these ocelli narrower than median ocellus and shorter than lateral ocellus) and forming low trapezoidal keel at base of rostrum (Fig. VII: 1); dorsal surface of rostrum before median ocellus with very shallow concavity; apical segment of maxillary palpus rather long and narrow (Fig. VII: 2). Pronotum somewhat narrowing to head, with lateral lobes moderately low; metanotal gland undeveloped; tegmina strongly protruding behind abdominal apex, with moderately longitudinal mirror, rather long apical area (Fig. IX: 1), very narrow area between Sc

and R, slightly wider R-M area, and 17–19 oblique and partly S-shaped branches of Sc; hind wings distinctly protruding behind tegminal apices; legs with slightly widened tympanal region of fore tibia having large oval inner tympanum and distinctly smaller outer tympanum (Fig. VII: 1; VIII: 9, 10). Abdomen with anal plate almost triangular but having apical part rounded, lateral edges with middle concavities, and dorsal surface somewhat concave; genital plate almost twice as long as anal plate, distinctly and gradually narrowing to narrowly truncate apex; V-shaped epiphallallic sclerite of genitalia with oblique lateral parts having bases of these parts located not very far from proximal edge of epiphallus (Figs V: 5; X: 1); epiphallallic posterolateral lobes with rather long membranous part and thick sac-like distal half (Figs IV: 11; V: 5, X: 1, 3); ventral convexities of middle part of epiphallus almost angular and rather strongly projecting; posteromedian epiphallallic lobe with apical part rounded in profile (Figs IV: 11; X: 3) and partly sclerotized, i.e. with a pair of small V-shaped sclerites having rather wide and sharply truncate proximal part (ventral view; Figs V: 6; X: 2).

*Variations.* Head, pronotum and tegmina sometimes almost completely yellowish with darkish dots on head and pronotum and with small brown spots on tegminal dorsal field. Genitalia in some males with slightly narrower (thinner) posterolateral epiphallallic lobes (Fig. X: 4).

*Female.* General appearance as in males, but tegmina more uniformly yellowish with very small brownish spots along lateral edge of dorsal field and sometimes with greyish venation in this field, longitudinal veins of tegminal dorsal field rather numerous (11–12), crossveins between them moderately dense and rather regular (Fig. XII: 14), and tegminal Sc with 15–16 more or less oblique branches in lateral field; genital plate slightly varied in shape (Fig. IV: 12, 13); copulatory papilla almost oval-rhombic but very low (narrow) in profile (Figs X: 5, 6); ovipositor approximately 1.1 times

as long as hind femur and with distal part as in Fig. VIII: 11, 12.

Length in mm. Body: male 10.5–16, female 12.5–17; body with wings: male 20–24, female 21–25; pronotum: male 2.1–2.6, female 2.5–2.6; tegmina: male 16–17.5, female 16.5–17.5; hind femur: male 9–11.5, female 11–11.5; ovipositor 12–13.

**Comparison.** The new species is more or less similar to *H. gaumeri* (Saussure, 1897) and *H. maya* (Saussure, 1897) from Mexico (Yucatan), *H. ocellaris* (Saussure, 1897) from Guatemala, *H. mexicanus* (Saussure, 1897) from Mexico and Guatemala, *H. rodriguezi* (Saussure, 1874) from an unknown region of Central America and *H. latifrons* (Rehn, 1909) from Honduras (all they were included by the previous authors in the “genus” *Orocharis*, and their subgeneric position is unclear), but it is distinguished from them by a shorter pronotum (from *H. gaumeri* with length of male pronotum 3.2 mm and length of male tegmen 17 mm; Fig. XVI: 8), longer tegmina (from *H. maya*, *H. ocellaris*, *H. mexicanus* and *H. rodriguezi* having tegminal lengths 12 mm, 10.8 mm, 13 mm and 11.4 mm, respectively). Differences of *H. vulgaris* from *H. tibialis* (Saussure, 1897) described from Mexico and Panama and placed in the same “genus” are unclear, because the syntypes of *H. tibialis* evidently belong to two different species having their ovipositor longer or shorter than the hind femur (Saussure, 1897). From the representatives of *Antillicharis* from Caribbean Islands, the new one differs in the postero-median epiphallallic lobe with clearly more rounded apical and ventroapical edges in the profile and from above (or from below).

**Etymology.** Name of the new species is the Latin word “vulgaris” (usual) due to its rather wide distribution.

***Hapithus (Antillicharis) vulgaris chiapas* subsp. nov.**

(Figs IV: 14; X: 7, 8)

**Holotype.** Female, **Mexico**, Chiapas State, environs of Tuxtla Gutierrez City near El Oco

Reserve, Laguna Belgica Educational Centre, 600–1000 m, primary forest, at light, 19–24.V.2006, A. Gorochov, M. Berezin (ZIN).

**Paratypes.** **Mexico:** female, same data as for holotype (ZIN); female, Chiapas State, Ocosingo Distr. near Guatemala, Selva Lacandona (between Montes Azules Biosphere Reserve and Bonampak Natural Monument), environs of Lacanja-Chansayab Vill., primary forest, at light, 20–27.V.2007, M. Berezin, E. Tkatsheva (ZIN).

**Description.** Female (holotype). Colouration and structure of body very similar to those of female of nominotypical subspecies, but tegminal dorsal field with a few small dark brown spots along middle part of lateral edge and brown stripe along distal part of this edge, genital plate somewhat shorter (Fig. IV: 14), copulatory papilla narrower and insignificantly higher (Figs X: 7, 8), and ovipositor somewhat longer (about 1.2 times as long as hind femur).

**Variations.** In one paratype, tegminal dorsal field with spots along middle part of lateral edge very small and brown, and with stripe along distal part of this edge light brown; in other paratype, latter stripe almost undeveloped.

Male unknown.

Length in mm. Body 13–15.5; body with wings 26–28; pronotum 2.7–2.9; tegmina 18–19.8; hind femur 12.3–13; ovipositor 14.5–15.5.

**Comparison.** The new subspecies differs from *H. v. vulgaris* in the copulatory papilla narrower and higher as well as in a somewhat longer ovipositor (in *H. v. vulgaris*, it is almost 1.1 times as long as hind femur, but in *H. v. chiapas*, this ratio is 1.2).

**Etymology.** The new subspecies is named after the Chiapas State.

***Hapithus (Antillicharis) ?latifrons***

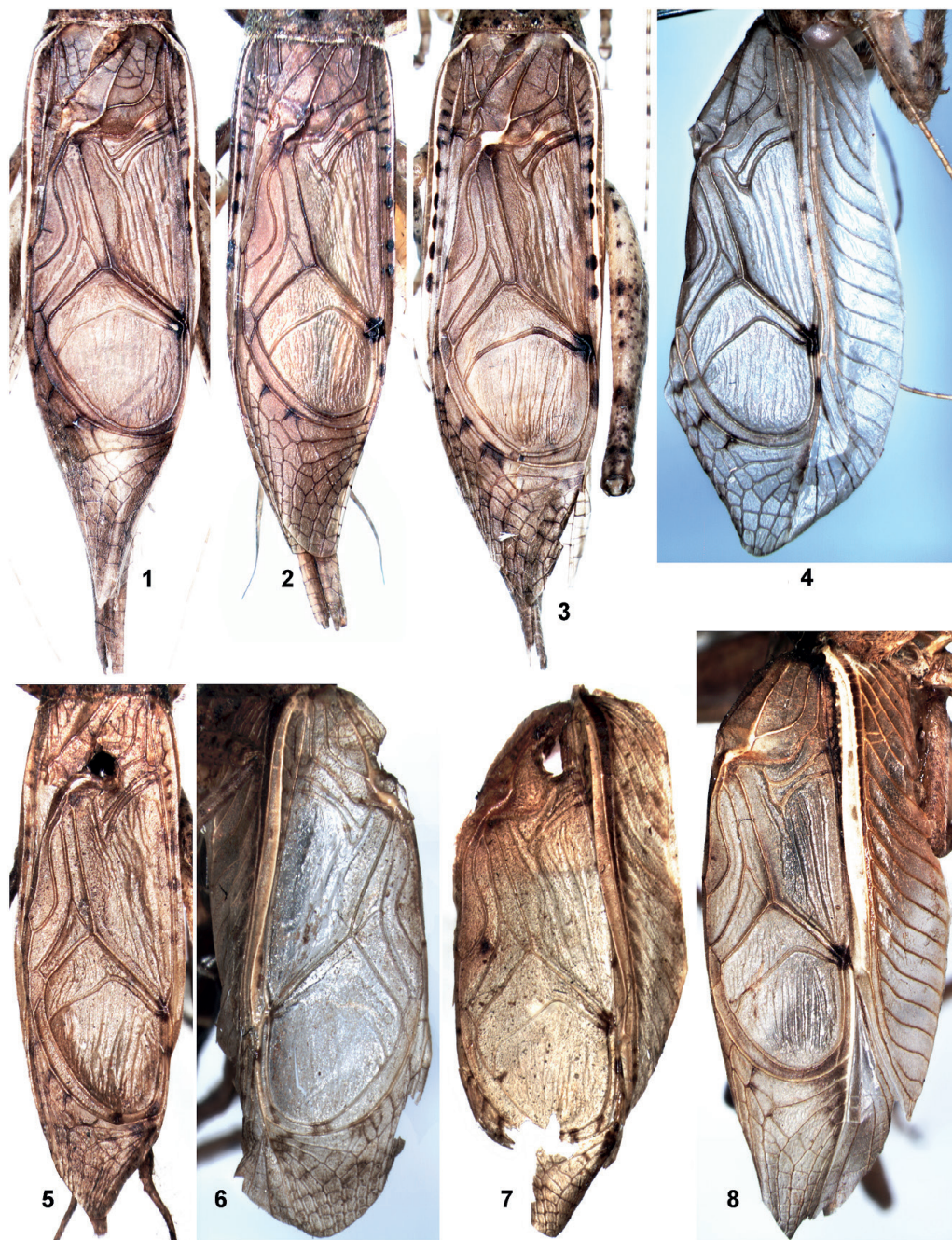
(Rehn, 1909)

(Figs IV: 25; VII: 3; X: 22, 23)

*Orocharis latifrons* Rehn, 1909 (Honduras).

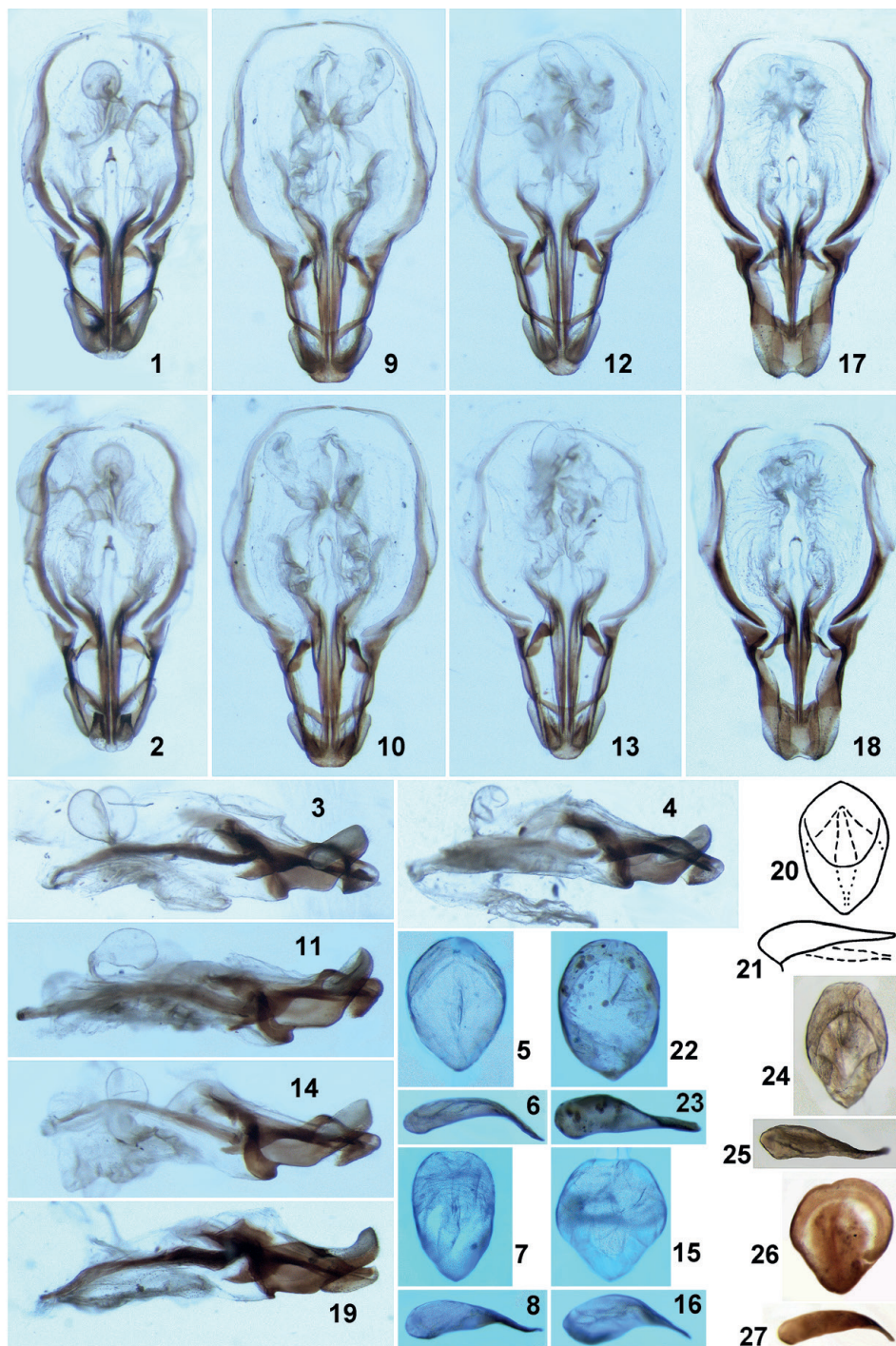
**New material.** **Honduras:** female, Atlántida, Pico Bonito National Park, 15°42′07″N, 86°50′49″W, 210 m, at light, 15–21.VII.2013, A. Pushenkov (ZIN).





**Figs IX (1–8).** *Hapithus* (*Antillicharis*). 1, *H. vulgaris* sp. nov.; 2, *H. honduras* sp. nov.; 3, *H. selva* sp. nov.; 4, *H. fascifer* sp. nov.; 5, *H. haiti* sp. nov.; 6, 7, *H. proximus* sp. nov.; 8, *H. celerans occidentalis* subsp. nov. Male right tegmen (4, 7, 8) and its dorsal field (1–3, 5); male left tegmen from above and partly from side (6).





**Figs X (1–27).** *Hapithus* (*Antillicharis*). 1–6, *H. vulgaris* sp. nov. (1–3, holotype); 7, 8, *H. v. chiapas* subsp. nov.; 9–11, *H. honduras* sp. nov.; 12–16, *H. fascifer* sp. nov.; 17–21, *H. selva* sp. nov.; 22, 23, *H. ?latifrons* (Rehn); 24, 25, *H. lacandona* sp. nov.; 26, 27, *H. haiti* sp. nov. Male genitalia from above (1, 9, 12, 17), from below (2, 10, 13, 18) and from side (3, 4, 11, 14, 19); female copulatory papilla from below (5, 7, 15, 20, 22, 24, 26) and from side (6, 8, 16, 21, 23, 25, 27).

*Note.* This specimen is in accordance to the original description of *H. latifrons* (Rehn, 1909) and similar to *H. vulgaris* in the colouration and structure of body, but its scape is about 1.1 times as wide as rostrum between the antennal cavities (Fig. VII: 3). This female differs from *H. vulgaris* in a slightly wider rostrum (in *H. vulgaris*, scape is about 1.3 times as wide as rostrum between the antennal cavities), the colouration of head uniformly yellowish (without distinct darkish dots) but with a rose tinge, tegminal dorsal field with numerous small dark brown spots along all the parts of lateral edge (darkened stripe along distal part of this edge almost undeveloped) and with light greyish brown venation, genital plate similar to that of *H. v. chiapas* but with slightly more rounded posterior projections (Fig. IV: 25), copulatory papilla almost intermediate between those of *H. v. vulgaris* and *H. v. chiapas* in dorsal or ventral views but somewhat higher than in the first subspecies (Figs X: 22, 23), and ovipositor even longer than in *H. v. chiapas* (approximately 1.3 times as long as the hind femur). From all the other congeners, this female is distinguished by the same characters as *H. vulgaris*.

Length in mm. Body 19; body with wings 29; pronotum 2.9; tegmina 19.5; hind femora 13.5; ovipositor 17.5.

***Hapithus (Antillicharis) honduras* sp. nov.** (Figs IV: 15; V: 7; VII: 5; VIII: 13, 14; IX: 2; X: 9–11)

*Holotype.* Male, **Honduras**, Comayagua, Cerro Azul Meambar National Park, 14°52'18"N, 87°54'18"W, 785 m, 7–14.VII.2013, A. Pushenkov (ZIN).

*Description.* Male (holotype). General appearance more or less similar to that of *H. vulgaris* and of *H. ?latifrons*. Colouration light greyish brown with following marks: head and pronotum uniformly coloured but with somewhat lighter ocelli (Fig. VII: 5) and a few small darkish spots along anterior edge of pronotum; tegmina with slightly lighter membranes in lateral field,

darker (greyish brown) some veins of dorsal field, and a few small dark brown spots along proximal and middle parts of lateral edge of dorsal field (Fig. IX: 2); legs with sparse and partly indistinct darkened dots on all femora, with greyish brown basitarsus and almost dark brown second segment of fore and middle tarsi, and with brown second segment of hind tarsus; all sternites and genital plate yellowish with greyish tinge. Head and pronotum approximately as in *H. vulgaris* in structure, but ocelli distinctly smaller (distance between median ocellus and each of lateral ocelli greater than dimensions of each ocellus; Fig. VII: 5); scape about 1.2 times as wide as rostrum between antennal cavities; tegmina clearly protruding behind abdominal apex but slightly shorter than in *H. vulgaris*, with lateral field having 15 branches of Sc, with narrow longitudinal areas between Sc and M, and with dorsal field having somewhat smaller mirror and less proximal position of its dividing vein (Fig. IX: 2); legs with slightly smaller inner tympanum and clearly narrower outer tympanum (for comparison see Figs VIII: 9, 10 and 13, 14). Abdomen also similar to that of *H. vulgaris*, but genitalia with latero-proximal epiphallic parts before V-shaped median sclerite (or before membranous areas of posterolateral epiphallic lobes) distinctly longer (for comparison see Figs IV: 11, 15; X: 1, 3, 4, 9, 11), and with distal part of epiphallic posteromedian lobe having almost truncate apex (see from above or from below) and only a pair of ventral oblique folds (i.e. without a pair of small V-shaped sclerites characteristic of *H. vulgaris*; see Figs V: 6, 7; X: 2, 10).

Female unknown.

Length in mm. Body 15.5; body with wings 21; pronotum 2.6; tegmina 14; hind femora 11.5.

*Comparison.* Differences between *H. honduras* and *H. vulgaris* are given in the description above. From *H. latifrons* also described from Honduras, the new species differs in a clearly smaller body and much smaller ocelli, and from the other similar

congeners, in the same characters as *H. vulgaris*.

**Etymology.** The new species is named after the Honduras Country.

***Hapithus (Antillicharis) fascifer* sp. nov.**  
(Figs IV: 16, 17; V: 8; VII: 6; VIII: 1, 2; IX: 4; X: 12–16)

**Holotype.** Male, **Mexico**, Chiapas State, 130 km NW of Tapachula Town, Ejido Las Golondrinas near El Triunfo Reserve, 800–1000 m, secondary forest, on leaf of bush at night, 13–17.V.2006, A. Gorochov, M. Berezin (ZIN).

**Paratype.** Female, same data as for holotype (ZIN).

**Description.** Male (holotype). Colouration and external structure of body similar to those of *H. honduras* but with following differences: head lighter (yellowish with barely darker rostral part); pronotum yellowish with greyish median part of disc (this part somewhat widened near posterior edge), with greyish brown small spots along anterior pronotal edge (spots on disc partly fused with each other) and longitudinal band on each lateral lobe along its dorsal edge, and with rather numerous darkish dots on rest part of this lobe (Fig. VII: 6; VIII: 1, 2); tegmina slightly lighter than in *H. honduras*, with 14–15 branches of Sc and structure of mirror almost intermediate between those of *H. vulgaris* and *H. honduras* (Fig. IX: 4); legs yellowish but with hind femur having more numerous and more distinct darkish dots on outer surface, with hind tibia having small darkish spot at base of each spine, and with all tarsi light brown; pterothoracic tergites and cerci yellowish. Genitalia also similar to those of *H. honduras*, but ventral rounded projections in middle part of epiphallic sclerite (see in profile) distinctly less convex and somewhat shifted to base of this sclerite (Fig. IV: 16; X: 14), and distal part of median epiphallic lobe slightly narrower and rounded at apex (see from above or from below; Fig. V: 8; X: 12, 13).

Female. General appearance (including pronotal colouration) as in male, but teg-

mental dorsal field light brown with slightly darker venation and several small dark brown spots along lateral edge (from base to apex of tegmen) as well as with venation similar to that of *H. vulgaris* and of *H. ?latifrons*, and lateral field of tegmina with 11–12 oblique branches of Sc; abdomen distinguished from that of these species by slightly more notched apex of genital plate (Fig. IV: 17), copulatory papilla wider than even in *H. v. vulgaris* and higher than even in *H. ?latifrons* (Figs X: 15, 16), and much longer ovipositor which almost 1.7 times as long as hind femur.

Length in mm. Body: male 12.5, female 13; body with wings: male 19, female 20; pronotum: male 2.3, female 2.5; tegmina: male 13.5, female 14.5; hind femur: male 10, female 11; ovipositor 18.5.

**Comparison.** The new species is most similar to *H. honduras* in the size of ocelli and in the structure of male genitalia, but it is distinguished from the latter by the presence of a greyish brown band on each lateral pronotal lobe as well as by the above-mentioned characters of male genitalia. From *H. vulgaris* and *H. latifrons*, it differs in the same features of pronotal colouration and clearly smaller ocelli, and from the other similar congeners, in the same characters as *H. vulgaris*.

**Etymology.** Name of the new species originates from the Latin words *fascia* (band) and *fero* (carry), because this species has a pair of darkened bands on the pronotum.

***Hapithus (Antillicharis) selva* sp. nov.**  
(Figs IV: 18, 19; V: 9; VII: 7; VIII: 3, 4; IX: 3; X: 17–21)

**Holotype.** Male, **Mexico**, Chiapas State, Ocosingo Distr. near Guatemala, Selva Lacandona (between Montes Azules Biosphere Reserve and Bonampak Natural Monument), environs of Lacanja-Chansayab Vill., primary forest, at light, 20–27.V.2007, M. Berezin, E. Tkatsheva (ZIN).

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

**Description.** Male (holotype). General appearance similar to that of *H. honduras*



and of *H. fascifer*. Colouration light greyish brown with following marks: head with a pair of brown dots on dorsum between hind parts of eyes, a pair of small brown spots on lower parts of genae, almost yellowish antennae and mouthparts (but antennal flagellum with numerous small darkish spots); pronotum with a pair of rather large yellowish spots on disc, numerous small darkish dots on disc and on lateral lobes, and several small dark spots along pronotal anterior and posterior edges (Figs VII: 7; VIII: 3, 4); dorsal tegminal field with several distinct and rather small dark brown spots along lateral edge, a few darkish dots along distomedial edge of mirror, and some veins darkish (Fig. IX: 3); tegminal M yellowish; membranes of lateral tegminal field very light yellowish grey; legs yellowish with a few small darkish spots on dorsal surface of hind femur (Fig. IX: 3), sparse and rather small greyish brown marks on all tibiae, and partly darkened second segment of all tarsi; thoracic sternites and genital plate yellowish; abdominal sternites with brown stripe along each posterior edge. Structure of body very similar to that of *H. honduras* and *H. fascifer*, but tegmina with mirror almost as in *H. vulgaris* (Fig. IX: 3) and with lateral field having 18–19 branches of Sc; epiphallus dorsally with concave V-shaped median sclerite having widened lateral parts; ventral projections of middle part of epiphallus rather shallow in profile (Figs IV: 18; V: 9; X: 17–19); epiphallic posterolateral lobes clearly arched, i.e. their distal parts curved upwards (Figs IV: 18; X: 19); posteromedian epiphallic lobe more or less flattened in profile, with truncate (slightly notched) apex and without distinct sclerotized structures in ventroapical part (Figs IV: 18; V: 9; X: 18, 19).

Variations. Second male slightly more spotted: with numerous rather dark dots on all femora and with distinct yellowish mark at base of tegminal M.

Female. General appearance as in holotype, but tegmina with 11–12 rather regular and slightly oblique longitudinal veins in dorsal field, with more or less regular crossveins between these veins, with 9–10

obliquely longitudinal branches of Sc in tegminal lateral field, and with light greyish brown colouration having barely darker venation in dorsal field and several small brown spot on this part along its lateral edge; genital plate, copulatory papilla and ovipositor typical of *Antillicharis*, but with some characteristic peculiarities in shape of above-mentioned plate and papilla (Figs IV: 19; X: 20, 21).

Length in mm. Body: male 16.5–17; female 14; body with wings: male 27–28.5, female 22; pronotum: male 2.5–2.7, female 2.7; tegmina: male 16.5–17.5, female 15; hind femora: male 11.2–11.7, female 11.5; ovipositor 13.5.

*Comparison.* The new species is most similar to *H. honduras* and *H. fascifer* in the general appearance, but it is distinguished from them by the shape of posterolateral epiphallic lobes (with a distal part curved upwards) and of distal part of posteromedian epiphallic lobe (this part is more or less flattened and with a slightly notched apex) as well as by some other features of the male genitalia listed above, and from the other similar congeners, by smaller ocelli and the same characters as *H. vulgaris*.

*Etymology.* The new species is named after its type locality (Selva Lacandona).

***Hapithus (Antillicharis) lacandona*  
sp. nov.**

(Figs IV: 24; VII: 4; VIII: 8; X: 24, 25)

*Holotype.* Female, **Mexico**, Chiapas State, Ocosingo Distr. near Guatemala, Selva Lacandona (between Montes Azules Biosphere Reserve and Bonampak Natural Monument), environs of Lacanja-Chansayab Vill., primary forest, at light, 20–27.V.2007, M. Berezin, E. Tkatsheva (ZIN).

*Description.* Female (holotype). Body somewhat smaller than in *H. vulgaris* and *H. ?latifrons*, and with slightly shorter wings. Colouration light greyish brown with yellowish lower half of head, lateral lobes of pronotum, lateral fields of tegmina, legs, sternites, genital plate and cerci; however, yellowish areas on pronotum, tegmina and legs with greyish tinge and with small

darkish spot on each gena under eye as well as with numerous darkish dots on lateral pronotal lobes and on legs; other bodyparts with barely spotted antennal flagellum (having numerous small barely lighter and barely darker spots), with a few dark brown dots on pronotal disc along its anterior edge, with light yellowish tegminal R and M as well as proximal parts of some longitudinal veins in lateral part of dorsal tegminal field, with brownish grey other longitudinal venation in this field, and with brown to dark brown small spots along lateral edge of this tegminal field. Head slightly (dorsoventrally) flattened, with moderately angular rostrum in profile, with scape approximately equal to rostrum between antennal cavities in width, with lateral ocelli as in *H. vulgaris* in size but somewhat smaller than in *H. ?latifrons* and more or less larger than in *H. honduras*, *H. fascifer* and *H. selva*, and with median ocellus very small (smaller than in two first species and almost as in three latter ones; Fig. VII: 4); pronotum similar to that of all these congeners but less distinctly narrowing to head (Fig. VIII: 8); tegmina clearly protruding behind abdominal apex but less long than in these species, with 11 longitudinal (but somewhat oblique) veins in dorsal field, with 12 branches of Sc, with narrow Sc-R area, with very narrow R-M area, and with rather numerous and moderately regular crossveins in both fields; hind wings somewhat protruding behind tegminal apices; legs with tympana more or less similar to those of *H. honduras*; genital plate rather short, strongly narrowing to apex and with rather narrow apical notch (Fig. IV: 24); ovipositor almost equal to hind femur in length, with distal part typical of this subgenus; copulatory papilla as in Figs X: 24, 25.

Male unknown.

Length in mm. Body 11.5; body with wings 18; pronotum 2.1; tegmina 13; hind femora 9.4; ovipositor 9.5.

**Comparison.** The new species differs from all the species of *Antillicharis*, previously considered here, in a smaller body

as well as shorter tegmina and ovipositor. It is distinguished from the other similar congeners, distributed in Central America, by a smaller body and the absence of dark stripes on the pronotum (from *H. gaumeri*), by smaller ocelli (from *H. ocellaris*), by distinctly shorter tegmina (from *H. tibialis*), by a smaller median ocellus which is smaller than lateral ones (from *H. maya* having this ocellus larger than lateral ones), and by the lateral ocelli larger (from *H. mexicanus*).

**Etymology.** The new species is named after its type locality (Selva Lacandona).

***Hapithus (Antillicharis) haiti* sp. nov.**

(Figs IV: 20, 21; V: 10; VII: 8; VIII: 5; IX: 5; X: 26, 27; XI: 1–3)

**Holotype.** Male, **Republic of Haiti** (Hispaniola I.), “Haiti” (ZIN).

**Paratype.** Female, same data as for holotype (ZIN).

**Description.** Male (holotype). Body rather small for this subgenus. Colouration light greyish brown with following marks: epicranium with almost yellowish lower half having a pair of dark brown spots under eyes and several dark dots around these spots and between them, with yellowish ocelli and short and narrow transverse stripe between lateral ocellus and eye, and with two greyish brown areas near ocelli (one before median ocellus and one behind lateral ocelli, but latter area not reaching posterior edges of eyes; Fig. VII: 8); antennal flagellum with numerous (but barely distinct) small darkish spots; mouthparts yellowish; pronotum with greyish brown lateral lobes and several small spots on disc along its anterior and posterior edges (Fig. VIII: 5); tegmina almost uniformly coloured, but with several darkish dots around (near) distal half of mirror (Fig. IX: 5) and with barely lighter membranes between Sc branches; legs with rather numerous dark and darkish dots and small spots on femora, tibiae and middle basitarsus, and with sparse similar spots on coxae; all sternites, genital and anal plates, and last abdominal tergite greyish brown;

cerci barely lighter than these structures. Structure of body more or less similar to that of all *Antillicharis* species previously considered here, however: scape approximately 1.2 times as wide as rostrum between antennal cavities; lateral ocelli large (almost as in *H. ?latifrons*); median ocellus distinctly smaller than lateral ones but larger than that in *H. honduras*, *H. fascifer*, *H. selva* and *H. lacandona* (Fig. VII: 8); general appearance of pronotum and tegmina typical of this subgenus (Figs VIII: 5; IX: 5), but tegmina reaching abdominal apex and with Sc having 17–18 branches; hind wings insignificantly protruding behind tegminal apices; outer tympanum much smaller than inner one (more or less as in *H. honduras* in size); genitalia with posteromedian epiphallallic lobe mostly semimembranous as well as having moderately narrow (low) apical part and a pair of rather high ventral lobules situated in subapical position and directed downwards and slightly forwards, and with middle part of rachis having parallel lateral edges (Figs IV: 20; V: 10; XI: 1–3).

Female. General appearance as in male, but colouration slightly less contrast and with following peculiarities: each lateral pronotal lobe light greyish brown with darker (greyish brown) band along dorsal edge and rather large dots on rest parts; tegmina also light greyish brown with somewhat lighter R, with barely darker (than most part of tegmina) some veins in dorsal field and crossveins in lateral field, with clearly darker (greyish brown) spot on proximal part of Sc-R area and a few small marks on M and nearest longitudinal vein of dorsal field; hind femur with rather dark (brown) longitudinal band on outer surface; genital plate greyish brown. Pronotum with almost parallel lateral sides; dorsal tegminal field with 11–12 longitudinal (but partly oblique) veins; lateral tegminal field with 12–13 branches of Sc; tegminal crossveins rather numerous and moderately regular; genital plate rather short and with rounded posterior part having small (narrow) apical notch (Fig. IV: 21); ovipositor typical

of this subgenus (Fig. VIII: 15); copulatory papilla as in Figs X: 26, 27.

Length in mm. Body: male 14.5, female 14; body with wings: male 15.5, female 15.5; pronotum: male 2.1, female 2.3; tegmina: male 12, female 11.5; hind femur: male 8.6, female 8.8; ovipositor 8.

*Comparison.* The new species is most similar to *H. (A.) abejas* (Otte et Perez-Gelabert, 2009) from another part of Hispaniola I. (Dominican Republic), but it differs from the latter species in clearly narrower (less high) posterolateral epiphallallic lobes in the profile, more angular ventral projections of the middle part of epiphallus (in lateral view), and a somewhat narrower apical part of the posteromedian epiphallallic lobe (in dorsal or ventral views). From the other similar congeners, *H. haiti* differs in a characteristic shape of the distal part of posteromedian epiphallallic lobe as well as in some peculiarities of the pronotal, tegminal, femoral and abdominal colouration.

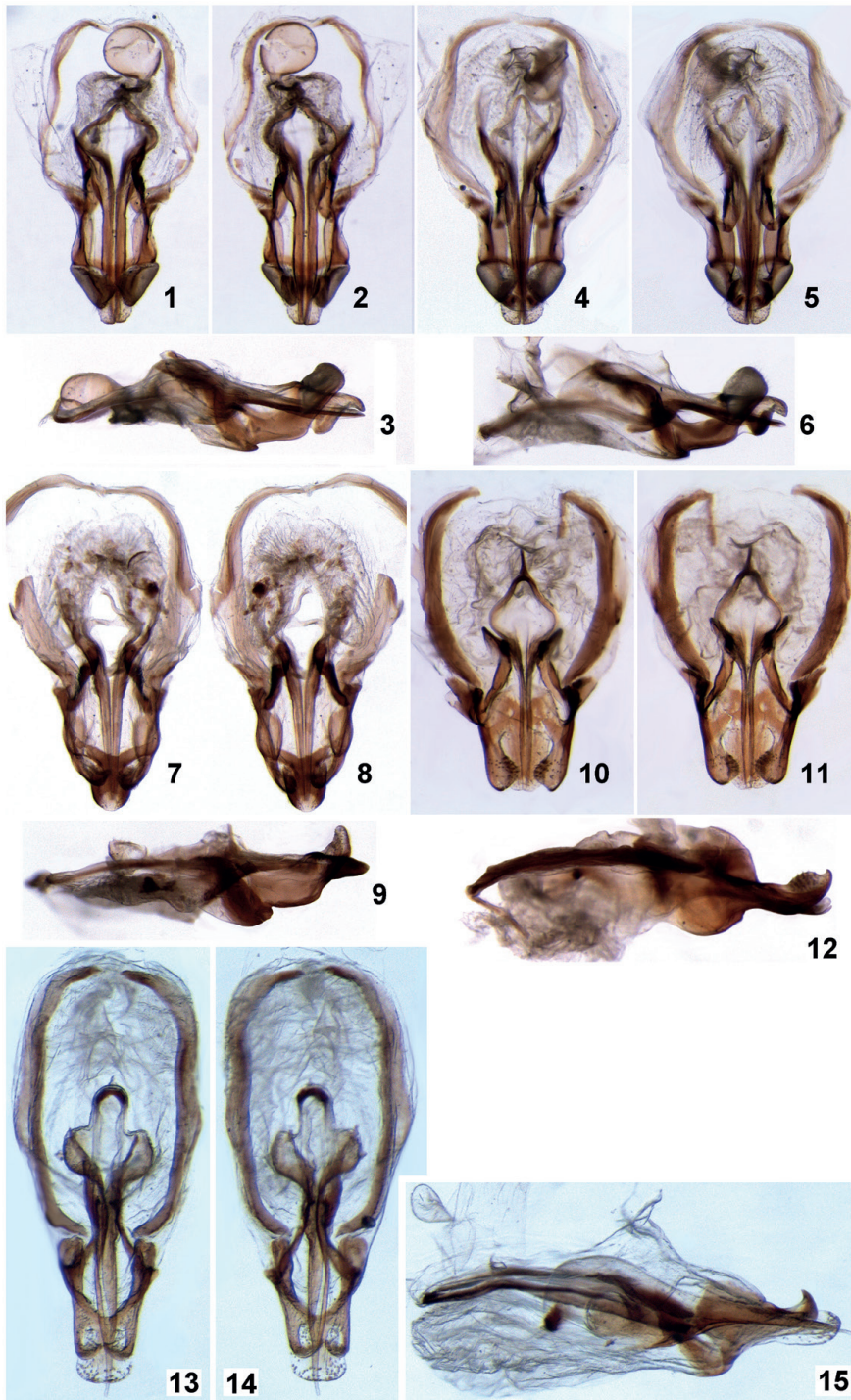
*Etymology.* The new species is named after the Republic of Haiti where it was collected.

***Hapithus (Antillicharis) proximus* sp. nov.** (Figs IV: 22; V: 11; VII: 9; VIII: 6; IX: 6, 7; XI: 4–6)

*Holotype.* Male, **Republic of Haiti** (Hispaniola I.), “Haiti”, “44” (ZIN).

*Description.* Male (holotype). Colouration and external structure of body similar to those of *H. haiti*, but following differences revealed: greyish brown areas on epicranium occupied all parts of dorsal surface; each gena with dark (barely darker than previous areas) wide longitudinal band behind eye; area of epicranium under these bands and under eyes with a few of moderately small dark brown spots; lateral lobe of pronotum with narrow yellowish stripe along ventral edge interrupted by a few large dark dots (Figs VII: 9; VIII: 6); tegmina with R-M area yellowish (in shape of long humeral stripe), with Sc-R area greyish brown in proximal half, and with slightly darkened membranes between proximal parts of Sc





**Figs XI (1–15).** *Hapithus*. 1–3, *H. (Antillicharis) haiti* sp. nov.; 4–6, *H. (A.) proximus* sp. nov.; 7–9, *H. (A.) celerans occidentalis* subsp. nov.; 10–12, *H. (Orocharis) saltator* (Uhler); 13–15, *H. (Laurepa) jalisco* sp. nov. Male genitalia from above (1, 4, 7, 10, 13), from below (2, 5, 8, 11, 14) and from side (3, 6, 9, 12, 15).

branches (Fig. IX: 7); pterothoracic and abdominal tergites as well as anal plate from greyish brown in anterior half of body to dark brown in posterior one; sternites and genital plate more or less dark brown; cerci light brown; scape almost 1.3 times as wide as rostrum between antennal cavities; metanotum with a pair of short tubercles (traces of gland) but without hairs; tegmina with Sc having 18–19 branches and with rest venation as in Fig. IX: 6, 7). Genitalia also similar to those of *H. haiti*, but ventral subapical lobules of posteromedian epiphallallic lobe directed downwards (not slightly forwards) and partly sclerotized, and middle part of rachis gradually narrowing to its distal part (Figs IV: 22; V: 11; XI: 4–6).

Female unknown.

Length in mm. Body 16; body with wings 17; pronotum 2.4; tegmina 13; hind femora 9.

**Comparison.** The new species is most similar to *H. (A.) demissus* (Otte et Perez-Helabert, 2009) and *H. (A.) pelluciens* (Otte et Perez-Helabert, 2009) from Dominican Republic in the shape of distal part of posteromedian epiphallallic lobe, but it is distinguished from them by longer posterolateral lobes of the epiphallus, a lower apical part of the posteromedian epiphallallic lobe, and shorter (less longitudinal) ventral subapical lobules of the latter lobe. From all the other similar congeners, *H. proximus* differs in the structure of posterior epiphallallic lobes (especially in the presence of sclerotized parts in the ventral subapical lobules of posteromedian epiphallallic lobe) as well as in some peculiarities of the body colouration and tegminal venation.

**Etymology.** Name of the new species is the Latin word “proximus” (nearest) given in connection with its similarity to *H. haiti* in the morphology and distribution.

***Hapithus (Antillicharis) celerans occidentalis* subsp. nov.**

(Figs IV: 23; V: 12; VII: 10; VIII: 7; IX: 8; XI: 7–9)

**Holotype.** Male, **Republic of Haiti** (Hispaniola I.), “Haiti”, “5” (ZIN).

**Description.** Male (holotype). General appearance very similar to that of nominotypical subspecies. Head and pronotum light brown with yellowish ocelli and lower half of head, with dark brown short stripe under each lateral ocellus, with barely darkened small areas around ocelli, with small dark dots under rostral apex and under antennal cavities, and with darkish dots on lateral lobes of pronotum and on pronotal disc along anterior edge (Figs VII: 10; VIII: 7); tegmina very light brown with barely darker venation, yellowish R-M area, brown proximal part of Sc-R area and small spot near lateral edge of mirror, and slight darkenings in apical area and near chords (Fig. IX: 8); other body parts also very light brown with thin darkish median line along dorsal surface of hind tibia, darkish (but poorly visible) spots near base of each spine of this tibia, and almost greyish brown abdominal tergites. Head somewhat less flattened than in two latter species described here, with ocelli slightly larger than in all congeners previously considered here, and with scape almost 1.5 times as wide as rostrum between antennal cavities (Fig. VII: 10); pronotum also similar to that of *H. haiti* and *H. proxima* but slightly higher (Fig. VIII: 7); tegmina protruding behind abdominal apex, with Sc having 17 branches (Fig. IX: 8); hind wings distinctly protruding behind tegminal apices; metanotum without tubercles; inner tympanum rather large, slightly smaller than outer tympanum; abdominal apex normal for *Antillicharis*, with genitalia distinguished from those of *H. haiti* and *H. proxima* by absence of distinct ventral subapical lobules on median epiphallallic lobe (distal part of this lobe semisclerotized, rather long, and gradually narrowing to narrowly rounded apex) (Figs IV: 23; V: 12; XI: 7–9).

Female unknown.

Length in mm. Body 16; body with wings 23; pronotum 2.5; tegmina 16; hind femora 12.8.

**Comparison.** From *H. (A.) c. celerans* (Otte et Perez-Gelabert, 2009) distributed

in Dominican Republic, the new subspecies is distinguished by narrower (in profile) posterolateral epiphallal lobes and a longer semisclerotized ventrodiscal part of the posteromedian epiphallal lobe. From *H. (A.) adaptos* (Otte et Perez-Gelabert, 2009), *H. (A.) tychaeos* (Otte et Perez-Gelabert, 2009) and *H. (A.) energos* (Otte et Perez-Gelabert, 2009) most relative to *H. celerans*, *H. c. occidentalis* differs in the same characters of epiphallal lobes as well as in the following features: the absence of darkish median line on the outer surface of hind femur, and more curved medial edges of the middle epiphallal part in ventral view (from *H. adaptos*); the absence of lighter longitudinal stripes on the head (behind eyes) and of small darkish spots on the hind femur (from *H. tychaeos*); a light (not dark) hind half of the male metanotum, and wider (longer) anterolateral parts of the V-shaped median epiphallal sclerite (from *H. energos*).

**Etymology.** Name of the new subspecies is the Latin word “occidental” (western) given in connection with its distribution (to the west from the Dominican Republic, type locality of the nominotypical subspecies).

***Hapithus (Laurepa) jalisco sp. nov.***

(Figs IV: 26, 27; V: 13–15; VII: 11; XI: 13–15; XII: 1–7)

**Holotype.** Male, **Mexico**, Jalisco State, environs of Chamela Vill., biostation of Mexico University in 3–4 km from Pacific Ocean, 19°33'N, 105°5'W, dry forest on hills, on leaf of bush at night, 23–28.XI.2006, A. Gorochov, A. Ovtshinnikov (ZIN).

**Paratypes.** 14 males and 6 females, same data as for holotype (ZIN).

**Description.** Male (holotype). General appearance somewhat similar to that of many other congeners, but with some characteristic peculiarities. Body more strongly pubescent than in all congeners previously considered here. Colouration almost whitish with numerous darker marks: epicranium with greyish dorsal surface of rostrum, rather numerous and barely visible darkish dots on rest part of epicranial dorsum, a few small

brown spots along posterior edge of this dorsum, a pair of dark marks between and under antennal cavities, and narrow greyish brown stripe along clypeal suture (Figs XII: 1–3); antennae with greyish, brown and light brown marks (not numerous on scape, numerous on flagellum); mouthparts with light brown to yellowish labrum and somewhat darkened distal parts of mandibles and of maxillae; pronotum with numerous small greyish brown dots and a few small brown spots on disc along its anterior edge (Figs XII: 2, 3); tegmina greyish but with some membranes more or less transparent, with rather numerous greyish brown and whitish marks in dorsal field (Fig. XII: 4), and with lateral field having whitish venation and upper parts of proximal membranes as well as dark brown spots along dorsal edge of this field and greyish (semitransparent) rest of this field; fore and middle legs distinctly spotted (with whitish, greyish, light brown, and dark brown areas); hind legs somewhat less spotted (without dark areas), but hind femur almost bicolorous, i.e. with whitish-yellowish proximal part and light brown to greyish brown rest parts; pterothoracic and abdominal tergites as well as anal plate light greyish brown with darker (brown) median stripe on most part of abdomen (but last tergite and anal plate without this stripe); genital plate yellowish; cerci more or less greyish. Head somewhat dorsoventrally flattened, with rostrum strongly angular in profile, with median ocellus moderately small and almost round, with lateral ocelli obliterated, with small transverse keel between eye and traces of lateral ocellus, with shallow median concavity behind these keels having small and very low median tubercle, and with scape approximately 1.6 times as wide as rostrum between antennal cavities (Figs XII: 1–3). Pronotum transverse, clearly narrowing to head (but its anterior part not narrower than head), with rather low lateral lobes and very low keel between each lateral lobe and anterior two thirds of disc (Figs XII: 2, 3). Metanotal gland developed, with a pair



of distinct tubercles and small bunches of hairs near them (Fig. V: 13). Tegmina somewhat protruding behind abdominal apex, with large longitudinal mirror and rather short apical area; lateral tegminal field with narrow area between R and M, with very narrow area between Sc and R, and with 14 oblique branches of Sc (rather short proximal area of this field with several crossveins between Sc branches); dorsal tegminal field with venation as in Fig. XII: 4. Hind wings slightly projected behind tegminal apices. Legs very characteristic: all femora vertically flattened and with more or less developed dorsal keel; fore tibia with distinct inner dorsal keel and less distinct keels along outer dorsal and both ventral edges, as well as with inner tympanum typical of this genus (rather large and oval) and with small (for this genus) oval inner tympanum; middle tibia similar to fore tibia in structure, but its keels less developed (femur and tibia of middle legs clearly shorter than those of fore legs); hind legs very long and with rather narrow femora. Abdomen with anal and genital plates usual for *Hapithus* s. l.; genitalia similar to those of *Hapithus* s. str. and *Mashiyana* in presence of narrow median stripe between middle medial projections of lateral epiphallallic sclerites, and to those of other subgenera, in small rachial-endoparameral loops, but these genitalia distinguished from those of all other congeners by large and lobe-like anterodorsal part of epiphallallic sclerites (Figs IV: 26; V: 14, 15; XI: 13–15).

Variations. Colouration of body varied: some males slightly lighter or darker, with more numerous or less numerous spots, and sometimes with very dark spot on middle part of outer surface of hind femur.

Female. Colouration and structure of body similar to those of males, but head and tegmina as well as fore legs usually less spotted, pronotum with somewhat more parallel lateral sides, tegmina with regular obliquely longitudinal veins in dorsal field (crossveins in this field rather numerous but less regular) and distinctly shorter Sc

having 8–10 oblique branches with moderately numerous crossveins between them (colouration of tegmina whitish or light greyish with rather numerous small dark marks; Fig. XII: 5), genital plate short and with widely angular but not deep postero-median notch (Fig. IV: 27), and ovipositor typical of this genus (Figs XII: 6, 7).

Length in mm. Body: male 14.5–18, female 12.5–19; body with wings: male 17–20, female 19–21; pronotum: male 2.2–2.5, female 2.2–2.7; tegmina: male 13–14.5, female 14–15; hind femora: male 12–13.5, female 12.5–13.5; ovipositor 13–14.5.

*Comparison.* The new species is similar to *H. paraxynticos*, *H. turbulenta* and *H. noctimonos* described by Otte & Perez-Gelabert (2009) from Caribbean Islands and originally included in the “genus” *Laurepa*, because these species have the posteromedian epiphallallic lobe distinctly protruding beyond the apices of posterolateral epiphallallic lobes; but *H. jalisco* is distinguished from these congeners by the lighter body colouration with the completely transparent membranes of tegminal mirror in male. In the coloration, the new species is also similar to *H. epakros* described from a single female in the same publication (and in the same “genus”) but differs from it in the female dorsal tegminal field having the regular longitudinal veins (*vs.* these veins are irregular, forming more or less cellular venation).

*Etymology.* The new species is named after the Jalisco State of Mexico where this species has been collected.

### ***Hapithus (Orocharis) saltator***

Uhler, 1864

(Figs IV: 28; V: 16, 17; XI: 10–12; XII: 15, 16)

*Orocharis saltator* Uhler, 1864 (USA: Maryland).  
*Orocharis saltatrix* Saussure, 1874; unjustified emendation.

*Apithes mcneilli* Blatchley, 1892 (USA: Indiana); synonymized by Chopard (1968).

*New material.* USA: male and female, environs of Washington City, 2.X.1938, Zhenzhurist

[pseudonym?] (ZIN); male and female, Maryland State, western shore of Chesapeake Bay, 12.IX.1999, M. Volkovitsh, M. Dolgovskaya (ZIN).

*Note.* These specimens are in accordance to the descriptions of this species which is a most northern representative of this subgenus (Uhler, 1864; Saussure, 1874; Walker, 1969). They are distinctly different from all the species belonging to the other subgenera of this genus (see the subgeneric key for *Hapithus* s. l. above), but morphological differences of *H. saltator* from some other representatives of *Orocharis* distributed to the south of these localities are unclear.

### Genus *Somnambula* gen. nov.

Type species *Somnambula specularis* **sp. nov.**

*Diagnosis.* Body rather large, light and somewhat dorsoventrally flattened. Head barely wider than anterior part of pronotum, with rostrum between antennal cavities more or less as wide as scape (this rostrum weakly angular and moderately projecting forwards; Figs XIII: 1, 2, 5, 6, 7), and with apical segment of maxillary palpus strongly widened and more or less arcuate in profile (Figs VII: 13–16). Pronotum slightly transverse, distinctly narrowing to head, with anterior edge almost straight, with posterior edge of disc weakly arcuate in male and roundly obtuse-angled in female, with lateral lobes gradually (roundly, not keel-like) turning into disc (Figs XIII: 2, 5, 7). Tegmina large (long and rather wide), distinctly protruding behind abdominal apex and apices of hind femora, with long apical area and well developed stridulatory apparatus in male (this apparatus with large mirror and almost not S-shaped but clearly oblique lateral part of stridulatory vein), and with rather regular venation of dorsal field in female (this venation with longitudinal veins rather numerous and oblique, and with crossveins rather dense); hind wings distinctly protruding behind tegminal apices (Figs XIII:

2, 5, 8). Legs moderately slender, with large and elongately oval tympana on inner and outer sides of fore tibia (Figs XIII: 2–4). Male genital plate almost triangular, slightly longer than wide, gradually narrowing to more or less narrowly rounded apex; male genitalia with long (longer than rami) and partly membranous epiphallus undivided into three posterior lobes and having distinct fold in anterior part (this fold separating transverse stripe of epiphallus which curved partly backwards, widened in its lateral parts articulated with rami, and almost interrupted in its median part), with rachis moderately short but divided into two elongate sclerites having deep posteromedian notch between them, with small ectoparameres having narrow sclerotized parts more or less articulated with epiphallus and bases of rachial sclerites, with endoparameres fused only with latter sclerites (but not with epiphallus and ectoparameral sclerites) and having very long apodemes, and with low but rather long sacculus having elongate V-shaped formula (with large apodeme) in its anterior part (this formula similar to that of subtribe Aphonomorphina; for comparison see Figs XIV: 1, 2; XV: 1–3; XXIV; XXV). Female genital plate short and roundly truncate at apex (Fig. XIII: 11); ovipositor long, with distal part normal for subtribes Hapithina and Aphonomorphina (Figs XIII: 9, 10).

*Included species.* Type species; *Orocharis livida* Chopard, 1912 from French Guiana (Figs VII: 14; XIII: 5); *S. ucayali* **sp. nov.**; possibly *O. maxillaris* Saussure, 1897 (Panama) and *O. amusus* Saussure, 1897 (Brazil).

*Comparison.* This genus is distinguished from *Hapithus* s. l. by a more primitive structure of the male genitalia having the ectoparameres and endoparameres not fused with each other and with the epiphallus, lacking characteristic rachial-endoparameral loops, and with the epiphallus lacking posterior part not trilobate. From *Phyllogryllus* with unstudied male genitalia, the new genus differs in the following features: body is distinctly smaller and

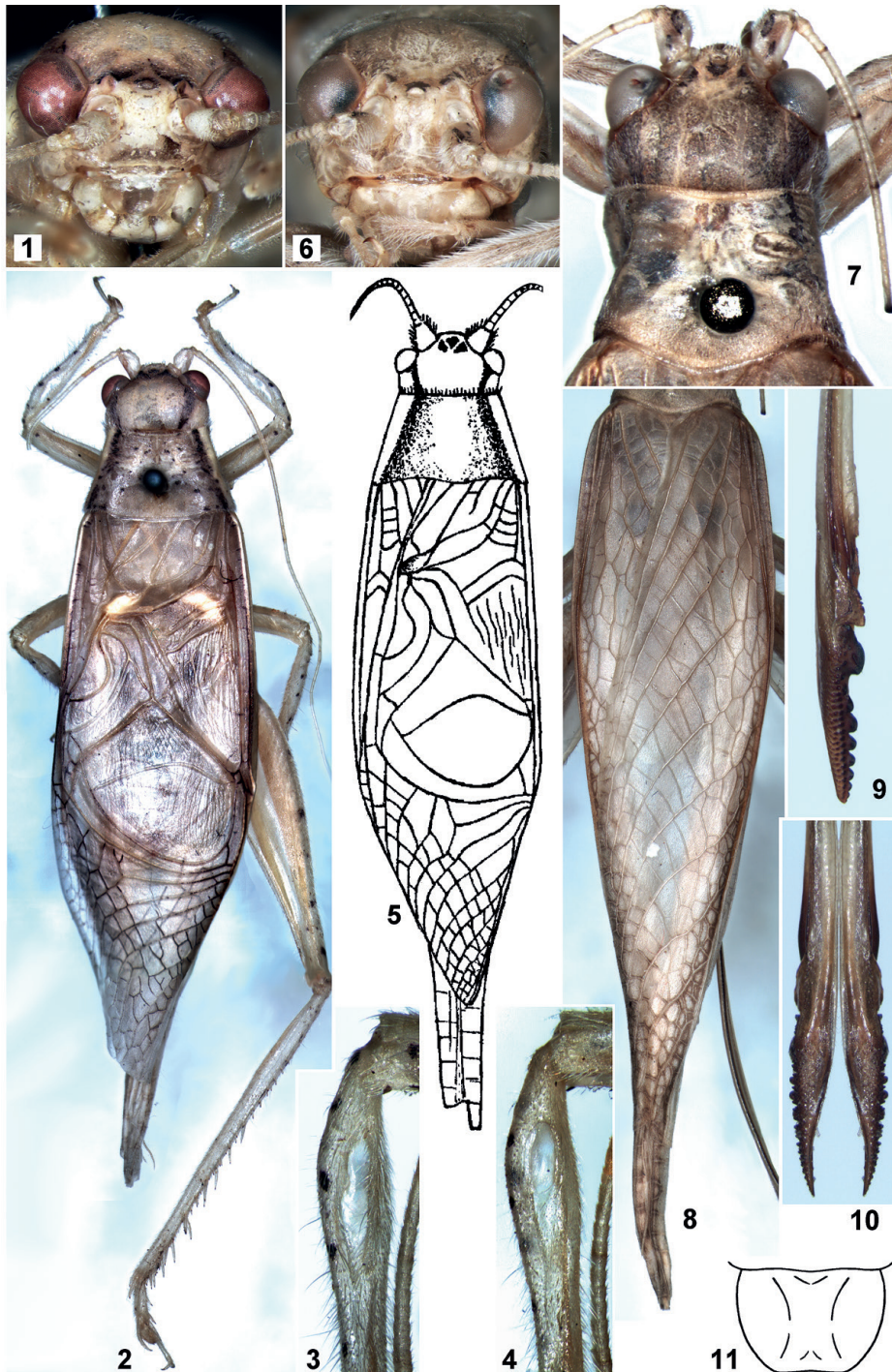


**Figs XII (1–16).** *Hapithini*. 1–7, *Hapithus (Laurepa) jalisco* sp. nov.; 8–13, *Cearacesa satipo* sp. nov.; 14, *H. (Antillicharis) vulgaris* sp. nov.; 15, 16, *H. (Orocharis) saltator* (Uhler). Head in front (1, 8); head with pronotum from side and partly above (2, 9), and from above (3, 10); male tegmen (4) and its dorsal field (15); female tegmina from above (5, 11, 14, 16); distal part of ovipositor from above (6, 13) and from side (7, 12).

dorsoventrally flattened; rostrum between the antennal cavities is clearly narrower (in *Phyllogryllus*, it is 1.3–1.4 times as wide as scape); lateral pronotal lobes are longer than high (in *Phyllogryllus*, these lobes are

shorter than high); dorsal tegminal field of female is with a rather regular crossvenation (in *Phyllogryllus*, this crossvenation densely cellular); lateral tegminal field is distinctly narrower (less high), with a more





**Figs XIII (1–11).** *Somnambula*. 1–4, *S. specularis* sp. nov.; 5, *S. livida* (Chop.); 6–11, *S. ucayali* sp. nov. Head in front (1, 6); body with legs (2) and without legs (5) from above; part of fore tibia with inner (3) and outer (4) tympana; head with pronotum from above (7); female tegmina with hind wings from above (8); distal part of ovipositor from side (9) and from above (10); female genital plate from below (11).

or less narrow Sc-R area, with rather sparse and straight (regular) crossveins in this area, and with a less cellular crossvenation between the Sc branches (in *Phyllogryllus*, tegmina at least in female are with the Sc-R area widened and having a dense cellular crossvenation, and crossvenation between the Sc branches is also mainly cellular) (for *Phyllogryllus* characters see Figs XV: 10, 11; XVI: 4, 5). From the other genera of Hapithina (their male genitalia are insufficiently studied), *Somnambula* is distinguished by the epiphallus not trilobate posteriorly and probably by some other characters of the male genitalia.

**Etymology.** This generic name is the Latin word “somnambula” (sleepwalker) originated from the Latin words “somnus” (sleep) and “ambulo” (move); such name is connected with night activity of these crickets.

***Somnambula specularis* sp. nov.**

(Figs VII: 13; XIII: 1–4; XIV: 1, 2; XV: 1–3)

**Holotype.** Male, **French Guiana**, “le sinnamary Fl.: rive gauche eu face Crique Plombo”, 5°01' N, 53°02' W, 10 m, at light, 20.VII.1995, V. Gusarov (ZIN).

**Description.** Male (holotype). Body rather large for this subtribe. Colouration yellowish white (probably light greenish in living condition) with following marks: eyes rose; base of rostrum with three small brownish grey marks near ocelli (one of them located behind median ocellus, others located behind lateral ocelli and with oblique stripe directed to median line behind median mark; Fig. XIII: 1); dorsum of head with greyish longitudinal stripe behind each eye; pronotum with a pair of interrupted brownish grey stripes on disc along its lateral edges, with several darkish dots between these stripes (Fig. XIII: 2), and with a few rather dark dots on lower half of posterior two thirds of lateral lobe; tegmina with very light (almost white) sclerotized thickening near strudulatory vein and humeral band occupying most part

of areas between Sc and M, and with darkish line on dorsal field along M and some veins of apical area (Fig. XIII: 2); legs with sparse dark dots on fore and middle tibiae and on distal parts of fore and middle femora, with more numerous small brownish spots on outer and distal surfaces of hind femur and on proximal part of hind tibia. Head almost globular, with rather short and roundly angular rostrum in profile; this rostrum between antennal cavities almost 1.1 times as wide as scape; ocelli located almost on straight line; lateral ocelli moderately large, rounded; median ocellus almost twice smaller, transversally oval (distance between median ocellus and lateral ocellus almost equal to width of median ocellus; Fig. XIII: 1); pronotum distinctly narrowing to head; tegminal mirror large, slightly transverse and somewhat oblique (Fig. XIII: 2); tegminal lateral field with 20–21 somewhat S-shaped branches of Sc, with almost transparent membranes between these branches (these membranes without crossveins), with very narrow Sc-R area (these veins almost contacting with each other in most part of their length), and with slightly widened R-M area having sparse and regular (straight) crossveins; legs with large tympana, but inner tympanum distinctly larger than outer one (Figs XIII: 3, 4); genitalia as in Figs XIV: 1, 2; XV: 1–3.

Female unknown.

Length in mm: Body 18; body with wings 30; pronotum 3; tegmina 20; hind femur 12.

**Comparison.** The new species is most similar to *S. livida* described also from French Guiana, but it clearly differs from the latter in a larger (wider) and more oblique mirror in the male tegmina (for comparison see Figs XIII: 2 and 5). From the two other possible congeners, *S. specularis* is distinguished by unicolorous (not distinctly spotted) antennae and a normal (not reduced) outer tympanum (from *S. ? maxillaris*), or by the apical segment of maxillary palpus more strongly arcuated (see Figs VII: 13 and 16), and tegmina without distinct dark marks (from *S. ? amusa*).

**Etymology.** Name of the new species is the Latin word “specularis” (with mirror shine, mirror-like) given in connection with its large mirror.

***Somnambula ucayali* sp. nov.**

(Figs XIII: 6–11)

**Holotype.** Female, **Peru**, Ucayali Department, Atalaya Prov., Atalaya Town on Ucayali River, ~200 m, on branch of bush near river at night, when preparing for oviposition, 25–26.X.2008, A. Gorochov (ZIN).

**Description.** Female (holotype). General appearance very similar to that of male of *S. specularis*, but with following differences: eyes yellowish; base of rostrum with distinctly smaller darkish marks behind ocelli (marks behind lateral ocelli especially small and without oblique stripes); antennae with very small and sparse darkish spots (in *S. specularis*, antennae unicolorous); rest of head and pronotum without darkened stripes and dots; tegmina uniformly yellowish white (possibly light greenish in living condition) but with brownish stripe along middle and distal parts of lateral edge of dorsal field; legs with a few barely visible darkish dots on hind femora only; ocelli located in corners of very transverse triangle (Figs XIII: 6, 7); pronotal disc less strongly narrowing to head, with roundly obtuse-angled posterior edge (Figs XIII: 7); tegmina with 11–12 longitudinal and slightly oblique veins in dorsal field, with rather regular and almost straight crossveins between these veins (Fig. XIII: 8), with moderately narrow Sc-R area having several regular but almost indistinct crossveins, and with 17–19 oblique branches of Sc and partly regular but not dense crossvenation between them. Genital plate somewhat transverse, with rounded lateral sides and almost truncated posterior part (Fig. XIII: 11); ovipositor very long, approximately 1.8 times as long as hind femur, and with distal part as in Figs XIII: 9, 10.

Male unknown.

Length in mm. Body 17.5; body with wings 37; pronotum 3.4; tegmina 24.5; hind femur 14.5; ovipositor 26.

**Comparison.** The new species differs from *S. specularis* in the characters listed above; from *S. livida*, in the more unicolorous colouration of head and pronotum; from *S.? maxillaris*, in the less dark spots on the antennae; and from *S.? amusa*, in the more arcuate apical segment of maxillary palpus and in the much longer ovipositor.

**Etymology.** The new species is named after the Ucayali River (its type locality).

**Genus *Gryllophyllus* gen. nov.**

Type species *Gryllophyllus magnispeculum* sp. nov.

**Diagnosis.** General appearance somewhat similar to that of *Somnambula*, but with following differences: pronotum with ventral edge of lateral lobes distinctly sinuate (not more or less straight; Fig. XV: 8); tegmina in male with Sc branches strongly S-shaped (in *Somnambula*, these branches moderately S-shaped), with crossveins of apical area less regular (almost cellular in distal half of this area; Fig. XVI: 1), and with lateral field having crossveins between proximal branches of Sc (Fig. XV: 8); tegmina in female with venation of dorsal field irregular (cellular; Fig. XVI: 2); in both sexes, tegmina with many crossveins between proximal branches of Sc strongly arcuate (these crossveins absent in male of *Somnambula* and almost straight in female of this genus) and with remarkably spotted (not almost unicolorous) colouration (Figs XVI: 1, 2). Male genitalia also more or less similar to those of *Somnambula* but with some important differences: epiphallus, sacculus, endoparameres, formula, and apodemes of endoparameres and of formula much shorter; ectoparameres with less narrow sclerites; rachis shorter, with distal part undivided into a pair of lobules, and with apex located near anterior parts of ectoparameres (i.e. not protruding behind ectoparameres); ventral surface of epiphallic fold behind rachial apex with oval semisclerotized plate looking as distal part of rachis in ventral view but lacking any connection with true rachis; endoparameres fused with



rachis and probably articulated with ectoparameres, but latter articulation not evident because apices of "ectoparameral" arms of endoparameres separated from ectoparameres by rather large membranous areas (in *Somnambula*, these arms practically absent; for comparison see Figs XIV: 1, 2 and 3, 4). Body of new genus also slightly similar to that of *Phyllogryllus* but distinguished from it by same characters as *Somnambula* and by some additional features: lateral pronotal lobes with sinuate (not almost arcuate) ventral edge; dorsal tegminal field of female with cellular venation only (in *Phyllogryllus*, this field with regular obliquely longitudinal veins and dense cellular crossvenation between them) (for comparison see Figs XV: 7, 8, 10, 11; XVI: 2, 3, 4, 5).

*Included species.* Type species; *Phyllogryllus axios* Otte et Perez-Gelabert, 2009 (Martinique I.); *Ph. phlebodes* Otte et Perez-Gelabert, 2009 (Saint Lucia I.); possibly *Ph. hirsutus* Hebard, 1928 from Panama, and *Ph. dasos* Otte, 2003 and *Ph. eusemos* Otte, 2003 from Costa Rica.

*Comparison.* Differences of the new genus from the most similar genera *Somnambula* and *Phyllogryllus* are given above, in the diagnosis of *Gryllophyllus*. From all the other genera of the subtribe Hapithina, the new genus distinctly differs in a more primitive structure of the male genitalia: epiphallus is not trilobate posteriorly; endoparameres are not fused with epiphallus and ectoparameres, and not forming a pair of characteristic rachial-endoparameral loops.

*Etymology.* Name of the new genus consists of the generic name *Gryllus* and the Latinized Greek word "phyllus" (leaf).

### ***Gryllophyllus magnispeculum* sp. nov.**

(Figs XIV: 3–5; XV: 4–9; XVI: 1–3; XVII: 1–4)

*Holotype.* Male, **Ecuador**, middle part of Shripuno River, ~80 km from Coca Town, forest, X–XI.2008, D. Smolnikov (ZIN).

*Paratype.* Female, **Ecuador**, Morona Santiago Prov., bank of Morona River near border with Peru, environs of Puerto Morona Vill., ~300 m,

primary forest, at light, 5–15.I.2010, A. Gorochov (ZIN).

*Description.* Male (holotype). Colouration of body almost whitish (possibly light greenish in living condition) but with greyish tinge and following marks: upper halves of head and pronotal disc light greyish with weak marble pattern, a few brown dots on epicranium behind eyes and on pronotal disc, brownish stripe on each lateral pronotal lobe along its dorsal edge; lower halves of head and pronotum slightly lighter than upper ones, with several small grey marks on lower part of epicranium and on maxillary palpi, and with rather numerous dark grey dots on pronotal lateral lobes (including their upper parts); antennae with small and rather numerous light brown and dark brown spots on flagellum as well as with a few small grey marks on scape (Figs XV: 7, 8; XVI: 1); tegmina with small and very numerous brownish grey, light brown and dark brown marks on dorsal field, with larger brown oblique stripe along distal edge of mirror (Fig. XVI: 1), with brown crossveins between proximal branches of Sc (Fig. XV: 8) and dots and short lines in upper (medial) part of lateral field; legs with rather numerous small grey marks on femora, tibiae and tarsi, and with a few darker (greyish brown) small spots on hind tibia (Figs XV: 8; XVI: 1). Head with rostrum between antennal cavities almost equal to scape in width; lateral ocelli moderately large, rounded; median ocellus very small (much smaller than lateral ocelli), almost indistinct (Fig. XV: 7); pronotum transverse, clearly narrowing to head and with concave lateral lobes having distinctly sinuate (almost S-shaped) ventral edges (Fig. XV: 8); tegmina far protruding behind abdominal apex, with very large and obliquely transverse mirror; hind wings clearly protruding behind tegminal apices (Fig. XVI: 1); legs moderately slender, with outer tympanum moderately large and oval (Fig. XVII: 1), and with inner tympanum indistinct (obliterated); distal part of anal plate moderately narrow and rounded (almost round in dorsal view), separated from rest part of anal plate by a

pair of distinct lateral concavities (almost notches) and by low transverse keel interrupted in middle, and with shallow concavity at base of dorsal surface of this part; genital plate moderately short (almost transverse) but slightly longer than anal plate and with distal half gradually narrowing to rather widely rounded apex having small and narrow posteromedian notch; genitalia as in Figs XIV: 3, 4; XV: 4–6.

Female. General appearance as in male, but colouration slightly more yellowish, with less spotted lower part of epicranium and less distinct brownish stripe on upper part of pronotal lateral lobe, with two brownish grey oblique bands on proximal half of dorsal tegminal field (one of these bands in contact with distal part of second band almost at a right angle), with rather small brown and light brown marks on rest of this field (Fig. XVI: 2), with brownish grey crossveins in lateral field, and with brownish most part of R (Fig. XVI: 3). Head slightly larger than in male, with barely smaller lateral ocelli and indistinct median ocellus; pronotum insignificantly narrower but less narrowing to head, with roundly obtuse-angled posterior edge of disc (Fig. XVI: 2), and with somewhat less sinuate ventral edges of lateral lobes; venation of dorsal tegminal field irregular, more or less longitudinally cellular (Fig. XVI: 2); lateral tegminal field with narrow Sc-R area, with 12–13 oblique (but not S-shaped) branches of Sc, and with strongly arcuate crossveins between majority of these branches (Fig. XVI: 3); inner tympanum indistinct in one fore leg but with its distinct traces in opposite fore leg (Fig. XVII: 2); genital plate strongly transverse, with wide but not very deep posteromedian notch (Fig. XIV: 5); ovipositor rather short (hind femur approximately 1.5 times as long as ovipositor) and with distal part as in Figs XVII: 3, 4.

Length in mm. Body: male 15, female 16; body with wings: male 26, female 26; pronotum: male 3, female 3.2; tegmina: male 20, female 19.5; hind femur: male 11.3, female 11.5; ovipositor 7.5.

**Comparison.** The new species is distinguished from *G. axios* and *G. phleboides* by a clearly larger mirror in the male tegmina (apical area of the male tegmen in *G. magnispeculum* is almost 1.6 times as long as the width of mirror; in the latter congeners, this ratio is 1.9 and 2, respectively). From *G. hirsutus*, the new species differs in a longer ovipositor (in *G. hirsutus*, hind femur almost twice as long as ovipositor); from *G. dasos*, in the reduction of inner tympana and a lighter colouration of the epicranium, pronotum and dorsal tegminal field; and from *G. eusemos*, in the same peculiarity of tympana as well as less distinct oblique darkish stripes on the distal half of dorsal tegminal field in female.

**Etymology.** Name of the new species consists of the Latin prefix “magni-” (large) and the Latin word “speculum” (mirror).

#### Genus *Phyllogryllus* Saussure, 1878

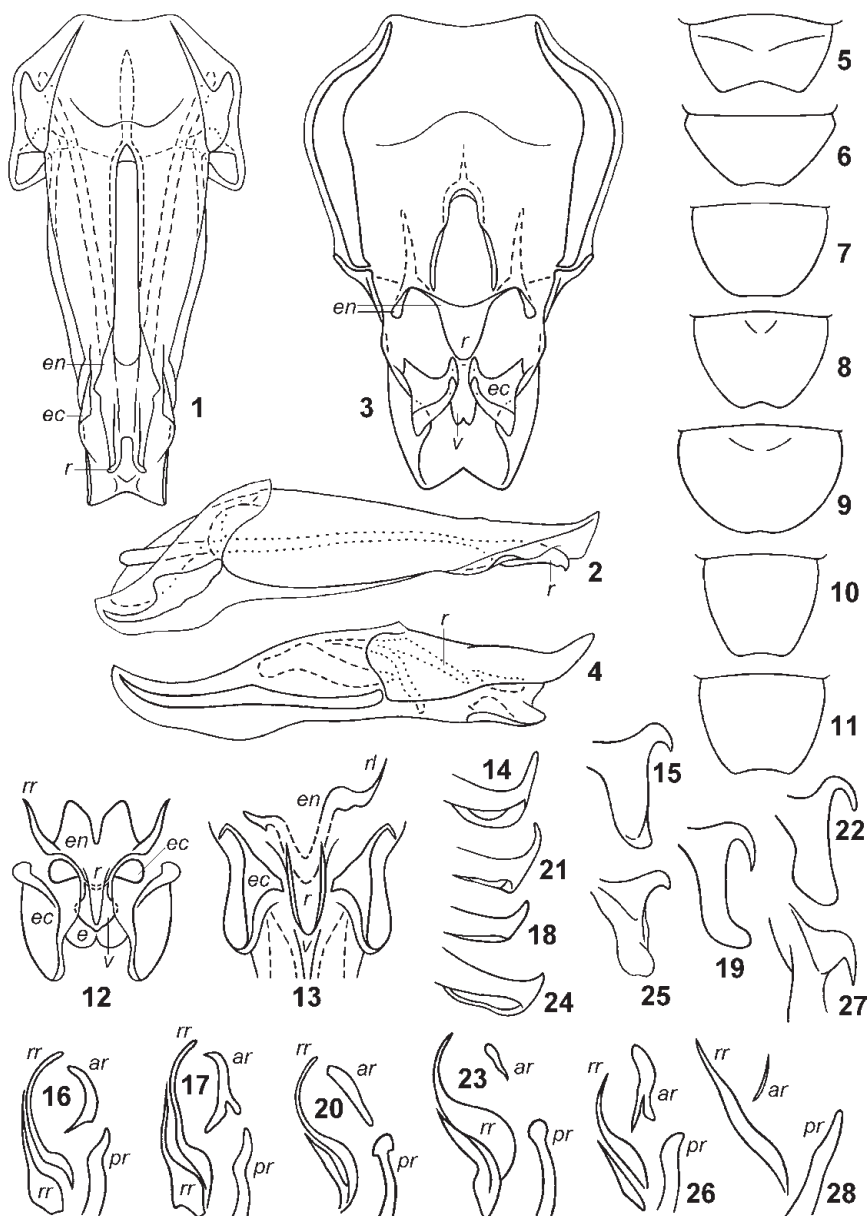
Type species *Phyllogryllus mortuifolia* Saussure, 1878 (French Guiana); synonymized with *Platydictylus velutinus* Walker, 1869 (Brazil) by Kirby (1906).

**Note.** This genus is probably most related to *Gryllophyllus*, but such systematic position may be clarified only after study of its male genitalia. *Phyllogryllus* clearly differs from all the other genera of Hapithina in a distinctly larger, more robust and higher body. Some other differences of this genus from the most similar genera *Gryllophyllus* and *Somnambula* are given above, in their diagnoses and comparisons (Figs XV: 10–12; XVI: 4, 5; XVII: 5–8). *Phyllogryllus* includes 3 species only: type species [*Ph. velutinus* (Walker, 1869)]; *Ph. pipilans* Saussure, 1897 (French Guiana; Fig. XVI: 6); *Ph. robustus* sp. nov.

#### *Phyllogryllus robustus* sp. nov.

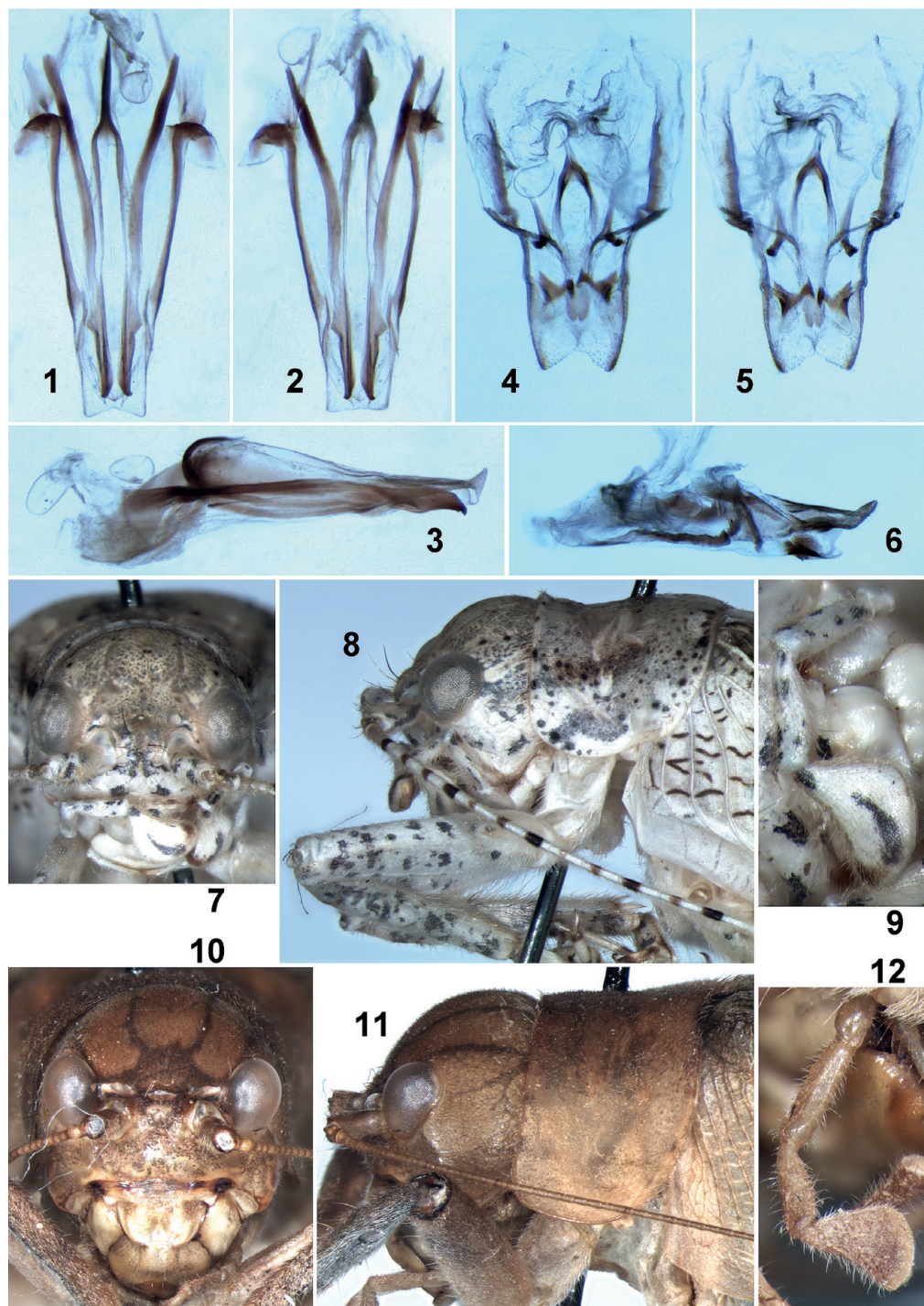
(Figs XIV: 6; XV: 10–12; XVI: 4, 5; XVII: 5–8)

**Holotype.** Female, Ecuador, ~70 km SE of Lago Agrio Town, environs of S. Pablo de Kante-



**Figs XIV (1–28).** Hapithini, schematically. 1, 2, *Somnambula specularis* sp. nov.; 3–5, *Gryllophyllus magnispeculum* sp. nov.; 6, *Phyllogryllus robustus* sp. nov.; 7, *Taroba peru* sp. nov.; 8, *T.? elchaco* sp. nov.; 9, *T.? rotundata* sp. nov.; 10, *T.? variegata* sp. nov.; 11, *T.? v. abbreviata* subsp. nov.; 12, *Cearacesa morona* sp. nov.; 13, *Barota bolivia* sp. nov.; 14–17, *T. peru* (14–16, holotype); 18–20, *T. dea* sp. nov.; 21–23, *T. d. ecuador* subsp. nov.; 24–26, *T. amboro* sp. nov.; 27, 28, *T. elephantina* de Mello et Dias. Male genitalia from below (1, 3) and from side (2, 4); female genital plate from below (5–11); region of male genitalia around rachis, ventral view (12, 13); anterior half of epiphallus from side (14, 18, 21, 24); most part of right ectoparamere from below (15, 19, 22, 25, 27); endoparameral ribbons from below (16, 17, 20, 23, 26, 28). Abbreviations: *ar*, anterior part of left endoparameral ribbon (?); *e*, membranous and bilobate posteromedian lobe of epiphallus; *ec*, ectoparameral sclerites; *en*, endoparamere; *pr*, posterior part of left endoparameral ribbon; *r/l*, left endoparameral ribbon; *rr*, right endoparameral ribbon; *v*, ventromedian sclerotization of epiphallal fold.





**Figs XV (1–12).** Hapithina. 1–3, *Somnambula specularis* sp. nov.; 4–9, *Gryllophyllus magnispeculum* sp. nov.; 10–12, *Phyllogryllus robustus* sp. nov. Male genitalia from above (1, 4), from below (2, 5) and from side (3, 6); head in front (7, 10); head with pronotum from side (8, 11); distal half of maxillary palpus from side (9, 12).

siya Vill. on Aguarico River, lowlying secondary forest, on branch of tree at night, 10–17.XI.2005, A. Gorochov, A. Ovtshinnikov (ZIN).

**Description.** Female (holotype). Body very robust and not dorsally flattened (rather high). Colouration light brown with following pattern: lower half of head, lateral fields of tegmina, sternites, genital plate, cerci and most part of legs and tergites almost yellowish; area near ocelli, four longitudinal lines on head dorsum behind this area, and pronotal disc almost brown (but this disc gradually turning into light brown lateral lobes and with dark brown line along posterior edge); dorsal tegminal field with yellowish venation and some membranes of cells darkish (these membranes forming three short oblique bands in middle part of this field) (Figs XV: 10, 11; XVI: 4); lateral tegminal field with brownish line along dorsal edge (Fig. XVI: 5); legs with small brown ring in apical part of fore and middle femora, with dark brown area in distal part of hind femur, with blackish longitudinal stripe on ventral surface of this femur, with greyish brown base and outer surface of fore tibia, with small darkish marks on proximal part of middle tibia, and with brownish grey most part of hind tibia and of hind basitarsus (dorsal part of this basitarsus and three spots on dorsal surface of this tibia light brown). Head slightly higher than wide, with rostrum between antennal cavities approximately 1.4 times as wide as scape (Fig. XV: 10); pronotum transverse, with lateral lobes and disc as in Figs XV: 11; XVI: 4. Tegmina distinctly protruding behind abdominal apex, wide in middle part, with 6–7 distinct longitudinal but strongly oblique veins in dorsal field, and with dense cellular crossvenation between these veins (Fig. XVI: 4); hind wings distinctly protruding behind tegminal apices. Legs rather robust, with outer tympanum oval but somewhat smaller than in *G. magnispeculum*, and with inner tympanum less distinct (hidden by hairs and probably smaller than outer tympanum; Figs XVII: 5, 6). Genital plate strongly transverse, clearly narrow-

ing to moderately narrow and shallow posteromedian notch (Fig. XIV: 6); ovipositor almost equal to hind femur in length, with distal part as in Figs XVII: 7, 8.

Male unknown.

Length in mm. Body 21.5; body with wings 34; pronotum 4; tegmina 23; hind femur 13; ovipositor 13.5.

**Comparison.** The new species is similar to *Ph. velutinus* but distinguished by the ovipositor clearly shorter (in *Ph. velutinus*, ovipositor is almost 1.2 times as long as hind femur). From *Ph. pipilans*, the new species differs in the absence of whitish spot on the vertex between eyes.

**Etymology.** Name of the new species is the Latin word “robustus” (robust, stout).

Subtribe **CEARACESAINA** Koçak et Kemal, 2010, **stat. nov.**

Neomorphini Desutter, 1988; name based on homonymous generic name.

Cearacesaini Koçak et Kemal, 2010; replacement name.

**Note.** This subtribe is distinguished from Hapithina and Aphonomorphina by some characteristic features of the male genitalia: epiphallus, ectoparameres, endoparameres are rather primitive, i.e. not fused with each other and not forming sclerotized loops near the anterior epiphallic part or behind it; ectoparameres are partly membranous; rachis is moderately short and not narrow; sacculus is more or less developed but not very large and without distinct formula; endoparameres are fused with each other in shape of arcuate sclerite and having a pair of rather long and narrow anterior ribbons usually running from their lateroventral parts; rami are fused with each other anteriorly (Figs XVII: 9–14; XX: 1–16). There are also some additional characters (male tegmina lack stridulatory apparatus; outer tympanum is undeveloped), but they may belong to a few closely related genera only; it is impossible to exclude that in future, new representatives with the tegminal stridulatory apparatus and outer tympanum will be

found. This subtribe contains three genera: *Cearacesa* Koçak et Kemal, 2010; *Taroba* de Mello et Dias, 2010; *Barota* **gen. nov.**

Genus ***Cearacesa*** Koçak et Kemal, 2010

*Neomorpha* Desutter, 1988; not *Neomorpha* Gould, 1837 (Aves).

*Dongwana* Otte et Perez-Gelabert, 2009; unavailable name (no any generic description, diagnosis, reference to one of them, or concrete indication about united description of genus and species).

*Cearacesa* Koçak et Kemal, 2010; replacement name for *Neomorpha*.

Type species *Aphonomorphus cearensis* Rehn, 1917 (Brazil).

**Note.** This genus is somewhat similar to the subgenus *Laurepa* from the genus *Hapithus* in the general appearance. However, there are the following morphological peculiarities: head distinctly less angular in profile, with less projected rostrum; male tegmina lack any stridulatory apparatus (these tegmina are practically identical to those of female) and have the dorsal field with almost irregular and partly S-shaped longitudinal veins (some parts of these veins are obliquely transverse) as well as with rather dense irregular (cellular) crossvenation between them (Fig. XVIII: 5); all wings are long; fore tibiae have inner tympana only; male genitalia are more or less symmetrical, with a pair of rather long posterolateral epiphallic lobes and one short but rather wide (and mainly membranous) posteromedian epiphallic lobe between them (Figs XIV: 12; XVII: 9–11), as well as with a completely membranous rachis (Fig. XIV: 12). *Cearacesa* contains four species: type species; “*Dongwana*” *taciturna* Otte et Perez-Gelabert, 2009 (Trinidad I.); two new species described below. Also, it is useful to note that *Aphonomorphus novus* Rehn, 1917 (Brazil), included in *Cearacesa* in OSF, probably belongs to an unknown genus, because its maxillary palpi are with the apical segment distinctly more widened, its tegmina have the venation of dorsal field more regular (i.e. with the main veins

straight and parallel to the longitudinal axis of the tegmen, and with the crossvenation not cellular), and its male genitalia are unstudied.

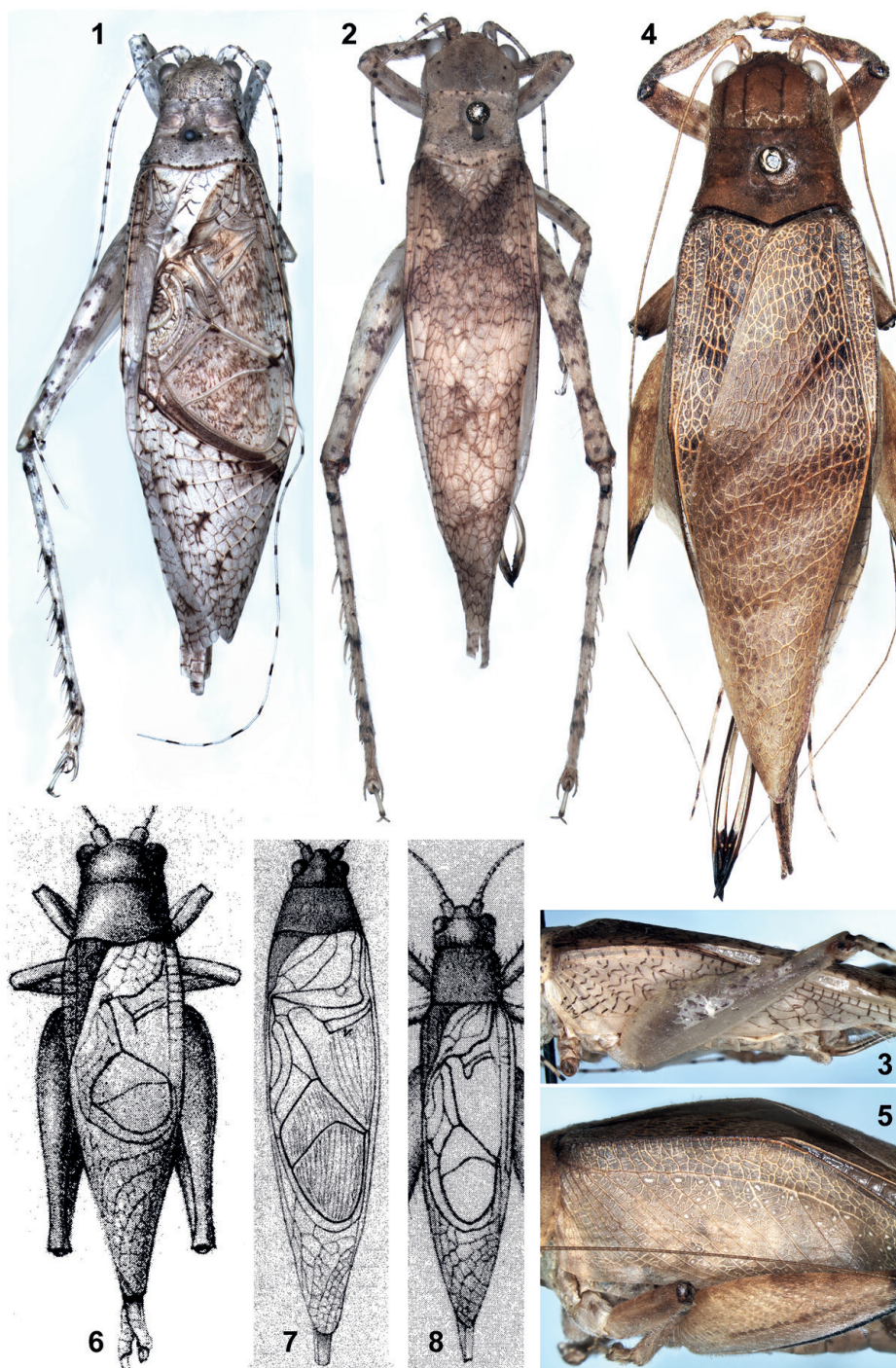
***Cearacesa morona* sp. nov.**

(Figs XIV: 12; XVII: 9–11; XVIII: 1–5)

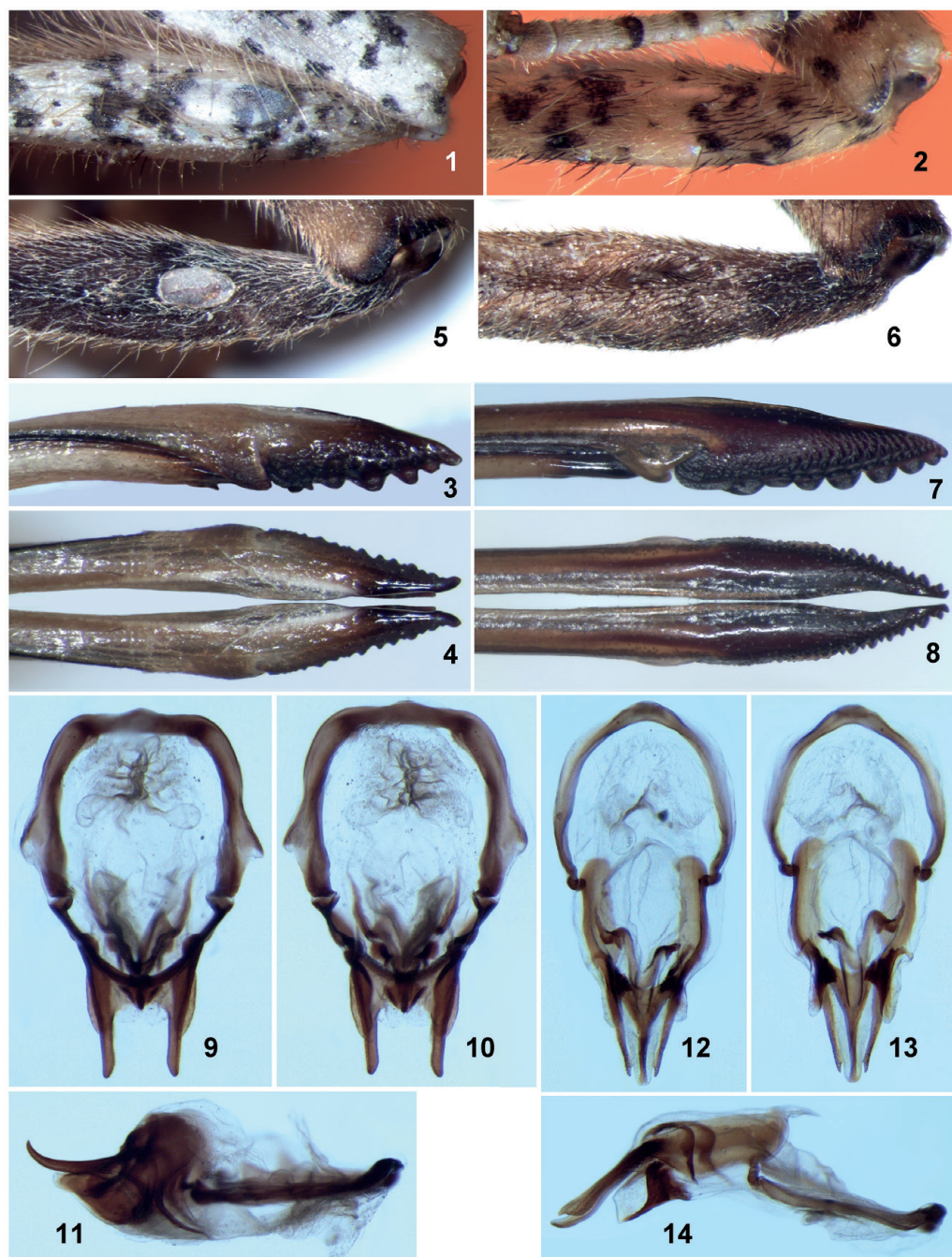
**Holotype.** Male, **Ecuador**, Morona Santiago Prov., bank of Morona River near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, at light, 5–15.I.2010, A. Gorochov (ZIN).

**Description.** Male (holotype). Body medium-sized for this subtribe, slightly dorsoventrally flattened, and with distinctly pubescent scapes, legs, lateral and posterior parts of pronotum (pubescence on other parts of head and of pronotum as well as on abdomen less distinct). Colouration brownish grey with following pattern: lower half of head dark brown (almost blackish) with greyish brown clypeus and most part of other mouthparts (but mandibles completely dark); dorsum of head with three small dark spots behind ocelli and six light longitudinal lines on posterior part of vertex; antennae light greyish brown with sparse and small brown spots on flagellum; pronotum with light greyish brown large rhombic area on disc and barely lightish lower halves of lateral lobes; tegmina with slightly lighter membranes of cells in dorsal field (some of these membranes with darker small marks), with light brown band in lateral field along its dorsal edge, and with light greyish brown rest of this field (but proximal areas between majority of Sc branches with brown to dark brown marks); legs with almost light greyish brown coxae and bases of femora, with greyish brown tibiae and tarsi of fore and middle legs as well as areas near femur-tibia articulation in hind leg, and with intermediate colouration of rest parts of legs; tergites of pterothorax with light greyish brown areas; cerci yellowish. Head rather large, barely wider than high; ocelli rather large, oval, located in corners of transverse triangle; median ocellus transverse, distinctly smaller than





**Figs XVI (1–8).** Hapithini. 1–3, *Gryllophyllus magnispeculum* sp. nov.; 4, 5, *Phyllogryllus robustus* sp. nov.; 6, *Ph. pipilans* Sauss.; 7, “*Orochirus*” *corrugatus* Sauss.; 8, *Hapithus* (*Antillicharis*?) *gaumeri* Sauss. Body of male (1, 6–8) and of female (2, 4) from above (4, without hind legs; 7, 8, without all legs); lateral field of left female tegmen in resting position, lateral view (3, 5). [6, 7, 8, after Saussure (1897), modified].



**Figs XVII (1–14).** Hapithini. 1–4, *Gryllophyllus magnispeculum* sp. nov.; 5–8, *Phyllogryllus robustus* sp. nov.; 9–11, *Cearacesa morona* sp. nov.; 12–14, *Barota bolivia* sp. nov. Region of fore tibia with outer (1, 5) and inner (2, 6) tympana; distal part of ovipositor from side (3, 7) and from above (4, 8); male genitalia from above (9, 12), from below (10, 13) and from side (11, 14).



lateral ocellus but almost as wide as space between it and lateral ocellus; rostrum moderately projecting forwards, roundly angular in profile; space between antennal cavities almost equal to scape in width (Figs XVIII: 1–3); maxillary palpi with apical segment approximately as in *H. jalisco* (Fig. VII: 11) in shape but slightly less arcuate. Pronotum clearly transverse, almost as head in width, with parallel lateral sides, with almost straight anterior edge and short obtuse-angled posteromedian projection of disc, with low lateral lobes directed downwards and slightly medially and separated from disc by a pair of distinct longitudinal convexities (Figs XVIII: 2, 3); male metanotal gland well developed (Fig. XVIII: 4). Wings completely developed; male tegmina with venation of dorsal field irregular (cellular), with proximal halves of Sc-R and R-M areas narrow and having numerous more or less regular crossveins, with branches of Sc regular but obliquely sloping, and with crossvenation between these branches irregular (partly cellular) (Fig. XVIII: 5). Fore and middle legs moderately short and stout; tympanum rather large, somewhat immersed (partly slit-like) and with tympanal membrane hidden by hairs; fore tibia with rather wide and flat dorsal surface outlined by two dorsal (outer and inner) keel-like longitudinal convexities, and with moderately large and partly immersed inner tympanum almost hidden under hairs (outer tympanum absent); middle tibia somewhat laterally flattened and with dorsal keel-like longitudinal convexity; hind leg much longer, with rather slender femur, and with hind tibia having five pairs of dorsal articulated spines and rather short apical spurs (two inner spurs as these spines in length, but inner ventral spur clearly shorter, and three outer spurs very short). Male anal plate almost flat and triangular but with narrowly rounded apex; male genital plate almost 1.5 times as long as previous plate, gradually narrowing to rather widely rounded apex; genitalia very similar to those of *C. taciturna* **comb.**

**nov.**, but with more straight posterolateral epiphallal lobes (in dorsal view) having a narrower notch between them (Figs XIV: 12; XVII: 9–11).

Female unknown.

Length in mm. Body 17; body with wings 28; pronotum 2.7; tegmina 18.5; hind femora 12.

**Comparison.** The new species is most related to *C. taciturna* (may be a subspecies of this species) but distinguished from it by the absence of very light spots on the head and tegmina as well as by the above-mentioned characters of male genitalia. From *C. cearensis*, the new species differs in distinctly longer posterolateral epiphallal lobes, in a bilobate posteromedian epiphallal lobe (this lobe also has a rather wide sclerotized plate on its ventral surface), and in much wider rami.

**Etymology.** This species is named after the Morona River, its type locality.

***Cearacesa satipo* sp. nov.**

(Figs IV: 29; VII: 12; XII: 8–13)

**Holotype.** Female, **Peru**, Junin Department, Satipo Prov., ~25 km SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, partly primary / partly secondary forest, at light, 20–23.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

**Description.** Female (holotype). Body medium-sized for this genus, pubescent (especially legs). Colouration spotted, rather contrast: upper half of head (including all rostral parts between antennal cavities and genae behind eyes) brownish grey with a few light grey stripes and lines on posterior part (i.e. between posterior parts of eyes and behind eyes), with slightly darker marks on this part, and with light greyish rose ocelli; lower half of head (including lower part of epicranium) dark brown with light brown area on clypeus, with greyish brown two distal segments of maxillary palpi, and with brown labrum and areas on some other mouthparts; eyes and antennae light greyish brown but with partly greyish brown scape and numerous small



brown, light brown and yellowish spots on flagellum; pronotum with greyish brown disc having sparse barely lighter or barely darker marks, and with dark greyish brown lateral lobes (Figs XII: 8–10); tegmina with light greyish (almost whitish) dorsal field having greyish brown venation and several grey and greyish brown spots (some of these spots rather large and obliquely longitudinal; Fig. XII: 11), and with light grey lateral field having greyish brown veins and numerous small spots; legs brownish grey but with slightly lighter proximal parts, with clearly lighter most part of inner surface of hind femur, and with rather numerous darker marks on other parts; all sternites and genital plate light greyish brown; cerci almost yellowish; rest part of abdominal apex with dark brown areas. Shape of head characteristic: rostrum short and almost not angular in profile; space between antennal cavities almost equal to scape in width; ocelli rather large (their length and width greater than distance between lateral and median ocelli), with median ocelli strongly transverse and almost arcuate in shape, with lateral ocelli slightly larger, rounded and situated in vertical plane; basal part of rostrum with distinct oblique keel along dorsal edge of each lateral ocellus between median ocellus and eye; anterodorsal surface of epicranium between eyes and lateral ocelli shallowly concave but with a pair of very low tubercles near eyes (Figs XII: 8–10); apical segment of maxillary palpus distinctly widened, practically triangular (Fig. VII: 12). Pronotum clearly transverse, with straight anterior edge and roundly angular posteromedian projection of disc, with a pair of shallow concavities on disc, with almost keel-like lateral edges of disc, and with rather low lateral lobe having two shallow vertical folds (in anterior and posterior parts of this lobe) (Figs XII: 9, 10). Tegmina protruding distinctly behind abdominal apex, with slightly crumpled surface of dorsal field, with rather dense but irregular (cellular) venation of this field (Fig. XII: 11), with 11–13 branches of Sc

and dense and partly regular crossveins in lateral field, and with Sc-R area moderately widened; hind wings distinctly protruding behind tegminal apices. Fore and middle legs rather short and robust, with moderately long bunches of hairs on femora and tibiae, with dorsal surface of tibiae flattened (even barely concave) and outlined by two low keel-like convexities along inner and outer edges, with inner tympanum approximately as in *C. morona*, with outer tympanum obliterated (presented by only small concavity without tympanal membrane), and with hind leg rather long and slender, having moderately thin femur (Fig. XII: 11). Abdomen with ovipositor slightly shorter than hind femur and having denticles (drilling teeth) of distal part directed more aside than downwards (Figs XII: 12, 13), and with genital plate as in Fig. IV: 29.

Male unknown.

Length in mm. Body 13; body with wings 24; pronotum 2.3; tegmina 16.5; hind femora 10; ovipositor 9.5.

*Comparison.* The new species is distinguished from *C. taciturna* and *C. morona* by the more pubescent body, higher keels along the dorsal edges of lateral ocelli, larger concavity between eyes and these keels, more distinct dorsal tubercles on the epicranium near the middle parts of eyes, distinctly wider apical segment of the maxillary palpi, narrower pronotum (it is slightly narrower than the head; *vs.* it is not narrower or barely wider than the head), clearly less flat pronotal lateral lobes, somewhat wider tegminal Sc-R area, more contrast colouration of the dorsal tegminal field, darker venation of the lateral tegminal field, and more spotted tibia and tarsi of the hind leg. From *C. taciturna*, *C. satipo* differs in some additional features (the absence of distinct whitish areas under the rostral apex and on the tegminal lateral field), and from *C. cearensis*, in the distinctly less widened proximal half of apical segment of maxillary palpi and in the longitudinal veins of dorsal tegminal field almost indistinct (*vs.* these veins are more distinct in the proximal and middle parts of this field).

**Etymology.** The new species is named after the Satipo Province of Peru where it has been collected.

Genus ***Barota* gen. nov.**

Type species *Barota bolivia* sp. nov.

**Diagnosis.** Body more or less similar to *Cearacesa* in general appearance: male tegmina without stridulatory apparatus and practically identical to those of female; wings long; fore tibia with inner tympanum only. However, following characteristic features present: dorsal tegminal field with distinct and almost straight (slightly oblique) longitudinal veins, and with more regular (not cellular) crossvenation (Fig. XVIII: 10); legs with fore and middle tibiae almost oval in transverse section; tympanum moderately small, oval and not immersed; male genitalia with endoparameres somewhat more asymmetrical than in *Cearacesa* but less asymmetrical than in *Taroba* (endoparameral ribbons rather simple, with right ribbon almost undeveloped; but in *Taroba*, these ribbons complicated: left ribbon possibly divided into two isolated sclerites), with posteromedian epiphallic lobe longer than posterolateral epiphallic lobes, and with rachis having a pair of narrow lateral sclerotized ribbons (Figs XIV: 13; XVII: 12–14).

Included species. Type species only.

**Comparison.** Differences of the new genus from *Cearacesa* is named in the above-mentioned diagnosis. From *Taroba*, the new genus differs in the presence of inner tympana, in the epiphallic posterolateral lobes rather widely separated from each other by a posteromedian lobe (in *Taroba*, these posterolateral lobes are practically in contact with each other, and no any distinct lobe between them), and in a less complicated structure of the endoparameral ribbons (for comparison see Figs XIV: 13, 16, 17, 20, 23, 26, 28; XVII: 12–14; XX: 1–16).

**Etymology.** This generic name is an anagram of the generic name *Taroba*; its gender is feminine.

***Barota bolivia* sp. nov.**

(Figs XIV: 13; XVII: 12–14; XVIII: 6–10)

**Holotype.** Male, **Bolivia**, southern part of Santa Cruz Prov. (near Brazil), environs of Puerto Suarez Town on Paraguay River (Parana Basin), ~200 m, secondary forest, on leaf of tree at night, 4–5.II.2014, A. Gorochov (ZIN).

**Paratypes.** Male, same data as for holotype (ZIN); male, same part of same province, Kaa-Iya (Gran Chaco) National Park near San Jose Town, Tucavaca Camp, ~400 m, dry primary forest, on leaf of bush at night, 5–7.II.2014, A. Gorochov (ZIN).

**Description.** Male (holotype). Body clearly smaller than in *C. morona* and with somewhat shorter wings. Colouration light brown with following pattern: upper half of head (above rostral apex, antennae and eyes) with a few barely darker short longitudinal stripes between posterior halves of eyes, yellowish white ocelli and small spots between them as well as between each lateral ocellus and eye (these light marks forming distinct sinuate stripe between eyes; Fig. XVIII: 6), and short yellowish longitudinal stripe behind each eye (Fig. XVIII: 7); antennae and lower half of head yellowish with light brown palpi, areas under latter stripes, some small areas on mouthparts, and almost indistinct marks under antennal cavities and oblique line on each gena (under eye); pronotum with light brown disc, barely darker lateral lobes and interrupted yellowish stripe along dorsal edge of each lateral lobe (Fig. XVIII: 7); tegmina yellowish with greyish tinge, light brown most part of venation, whitish humeral stripe in proximal half of R-M area, and dark brown stripe in proximal two thirds of Sc-R area (including R) as well as narrower stripe along distal half of M and small spot at base of dorsal field (Fig. XVIII: 10); legs with yellowish coxae, proximal parts of all femora, and lower part of proximal two thirds of hind femur (outer surface of this femur with brown longitudinal line between yellowish and light brown areas as well as with almost greyish brown areas in lower part of distal third); pterothoracic tergites and

sternites brown to light brown; abdominal tergites and sternites dark brown with yellowish spots on lateral parts of three posterior tergites and of two posterior sternites; anal and genital plates also dark brown with yellowish lateral bands on latter plate; cerci and rest of abdominal apex yellowish (Fig. XVIII: 9). Head practically not flattened; rostrum somewhat less angular than in *C. morona* in profile; scape barely wider than space between antennal cavities; ocelli large (median ocellus transversally oval, but lateral ones rounded); each area between median and lateral ocelli much narrower (shorter) than each of these ocelli (Fig. XVIII: 6); maxillary palpi with apical segment intermediate between those of *H. vulgaris* and *C. satipo* (Figs VII: 2, 12). Pronotum clearly transverse, with almost straight anterior edge, obtuse-angled posterior edge of disc, and moderately high lateral lobes (Fig. XVIII: 7); metanotal gland as in Fig. XVIII: 8. Tegmina reaching bases of hind tibiae and clearly protruding behind abdominal apex; dorsal field with 8–9 distinct longitudinal (but slightly oblique) veins as well as with almost regular but not numerous crossveins; lateral field with 6–7 obliquely longitudinal branches of Sc and 2–3 branches on R (latter branches similar to previous branches and possibly originating from Sc branches); areas between Sc and M moderately narrow; crossveins of lateral field more or less similar to those of dorsal field (Fig. XVIII: 10); hind wings distinctly protruding behind tegminal apices. Legs similar to those of *C. morona* but less specialized: fore and middle tibiae almost oval in transverse section; tympanum somewhat smaller, oval and not immersed; hind femur more thickened. Anal and genital plates also similar to those of latter species, but anal plate less triangular (Fig. XVIII: 9), and genital one with somewhat narrower apical part; genitalia as in Figs XIV: 13; XVII: 12–14.

Variations. Sometimes legs barely darker and with small lightish marks, light stripe crossing ocelli less remarkable, and light

lateral spots on abdominal sternites more numerous.

Female unknown.

Length in mm. Body 12–13; body with wings 18–19.5; pronotum 1.8–2; tegmina 12–12.7; hind femora 10–10.5.

*Etymology.* The new species is named after the Bolivia Country.

#### Genus *Taroba* de Mello et Dias, 2010

Type species *Taroba elephantina* de Mello et Dias, 2010 (Brazil).

*Note.* This genus was described from a single species having shortened wings without stridulatory apparatus, characteristic colouration of the body and shape of the epiphallallic posterior processes (see Figs XX: 4–6; XXI: 13, 14), but lacking tympana on the fore tibiae. However, the first representative of this genus was probably described by Chopard (1956) as *Paraphonus vicinus* (Fig. XX: 16). It was included by him in the genus with *P. cophus* Hebard, 1928 as its type species (Hebard, 1928). Desutter (1988) published a few good pictures of the male genitalia attributed by her to this species; these genitalia look very similar to those of the genus *Eneopteroides* Chopard, 1956. If she was correct, *Paraphonus* Hebard, 1928 must be placed in the subtribe Aphonomorphina (Gorochov, 2011), and Chopard's species must be transferred to the genus *Taroba* belonging to another subtribe of Hapithini. Inclusion of *P. vicinus* in this genus restricts the diagnosis of *Taroba* by the following characters: body is somewhat dorsoventrally flattened; pronotum is approximately as in *Cearacesa*, but with more vertical lateral lobes; male metanotal gland is distinctly developed; wings are rather diverse in the length; male tegmina lack stridulatory apparatus, similar to those of female; legs are moderately short, without tympana and with more or less thickened hind femora; male anal plate is more or less transverse and with widely truncate or rounded apex, male genital plate are almost as in *Cearacesa*; male genitalia have the en-



doparameres strongly asymmetrical (right endoparameral sclerotized ribbon is completely or partly separated from the right endoparamere, long, very narrow in the anterior half and widened in the posterior half; left one is fused with the left endoparamere, not very narrow but almost not widened in the posterior half, and probably having the small anterior part which is clearly separated from its more posterior part by a distinct membranous area; Figs XIV: 16, 17, 20, 23, 26, 28); their posterior epiphallal lobes are angular or almost spine-like and in contact with each other, but any posteromedian epiphallal lobe between them is absent (Figs XIV: 14, 18, 21, 24; XX: 1–16). *Taroba* includes the following species: type species; *P. vicinus* Chopard, 1956 (Peru); *T. peru* **sp. nov.**; *T. dea* **sp. nov.**; *T. amoro* **sp. nov.**; possibly *T. elchaco* **sp. nov.**, *T. rotundata* **sp. nov.** and *T. variegata* **sp. nov.**

***Taroba peru* sp. nov.**

(Figs XIV: 7, 14–17; XIX: 1–5; XX: 1–3, 17)

**Holotype.** Male, **Peru**, Junin Department, Satipo Prov., ~25 km SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, primary / secondary forest, at light, 20–23.X.2008, A. Gorochov, M. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

**Paratypes.** Male and 3 females, same data as for holotype (ZIN); male and female, same province, forest-like garden in environs of Satipo Town, ~600 m, light trap, 15.X–6.XI.2008, A. Gorochov, M. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN); 2 males and 3 females, same province, ~35 km NE of Satipo Town, environs of Mariposa Vill., ~1200 m, primary / secondary forest, at light, 17–18.X.2008, A. Gorochov, M. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN); male and female, same country, Ucayali Department, Atalaya Prov., ~35 km NWW of Atalaya Town on Ucayali River, environs of Sapani Vill., ~300 m, primary / secondary forest, at light, 26–31.X.2008, A. Gorochov, M. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

**Description.** Male (holotype). General appearance more or less similar to that of *C. morona*, but colouration more similar to that of *B. bolivia*: head light brown with

slightly darker (almost brownish grey) dorsum and rostral apex, clearly darker (dark brown) longitudinal band on upper part of gena behind eye, two lightish longitudinal lines above this band, light brown eyes and ocelli as well as small spots between ocelli and between each lateral ocellus and eye, sparse and barely distinct darkish spots on antennal flagellum, and somewhat darkened distal part of apical segment of maxillary palpi; pronotum also light brown but with dark brown upper half of lateral lobes (Figs XIX: 1–3); tegmina yellowish with greyish tinge, barely darker venation, brownish grey short longitudinal stripe in proximal part of Sc-R area, and brown to dark brown small spots on dorsal field (several such spots located along its lateral edge, and one such spot, near base of medial edge of this field; Fig. XIX: 5); legs light brown with small sparse darkish marks; pterothoracic and abdominal tergites brownish grey with dark brown transverse spot before metanotal gland; sternites and genital plate light brown; anal plate intermediate between abdominal tergites and sternites in colour; cerci and paraprocts yellowish. Shape of head and size of lateral ocelli as in *B. bolivia*, but median ocellus clearly smaller (almost as wide as space between it and lateral ocellus; Figs XIX: 1–3); pronotum also similar to that of latter species but with posterior edge of disc more rounded (Fig. XIX: 2, 3); metanotal gland as in Fig. XIX: 4. Tegmina and hind wings intermediate between those of *C. morona* and *B. bolivia* in length; venation of tegmina more similar to that of *B. bolivia* (Fig. XIX: 5); legs also similar to those of latter species in structure. Anal plate transverse and almost rectangular (with truncate apex and rounded posterolateral corners); genital plate similar to that of *C. morona* in shape but with roundly truncate apex; genitalia as in Figs XIV: 14–16; XX: 1–3.

**Variations.** Colouration sometimes slightly lighter (with weak lightish longitudinal lines on posterior half of head dorsum) or with darkish marks on pronotal disc. In

male from Ucayali Department, posterior epiphallallic processes slightly shorter than in other males, two semisclerotized stripes of right endoparameral ribbon almost not isolated from each other, posterior part of left endoparameral ribbon rather thin, and anterior (isolated) part of latter ribbon with distinct lateral branchlet (in other males, two stripes of right ribbon clearly isolated from each other, and left ribbon thicker and with anterior part having short angular lateral projection only; for comparison see Figs XIV: 16 and 17).

Female. Size, colouration and structure of body as in males, but marks on legs sometimes more distinct (slightly darker), metanotal gland absent, and anal plate rounded at apex; genital plate with barely convex, slightly concave or truncate apex (Fig. XIV: 7); ovipositor not long (hind femur approximately 1.2 times as long as ovipositor) and with distal part typical of this tribe (Fig. XX: 17).

Length in mm. Body: male 13–15, female 13.5–14.5; body with wings: male 20–22, female 19–22; pronotum: male 2.3–2.6, female 2.4–2.8; tegmina: male 13.5–15, female 13.5–14.5; hind femora: male 10–11, female 10–11; ovipositor 8.3–9.

*Comparison.* The new species differs from *T. elephantina* in a less contrast colouration, not shortened wings and distinctly shorter epiphallallic posterior processes (for comparison see Figs XX: 1–3 and 4–6). From *T. vicina*, the new species is distinguished by almost not spotted antennae, the maxillary palpi with uniformly light third and fourth segments and a darkened apex of the last segment, more numerous branches of Sc (8–9 but not 3), and the male genitalia with the clearly wider rami and space between them as well as somewhat different shape of these rami and distinctly narrower spine-like projections of the anterior epiphallallic edge which are located clearly more far from each other (see Figs XX: 1 and 16).

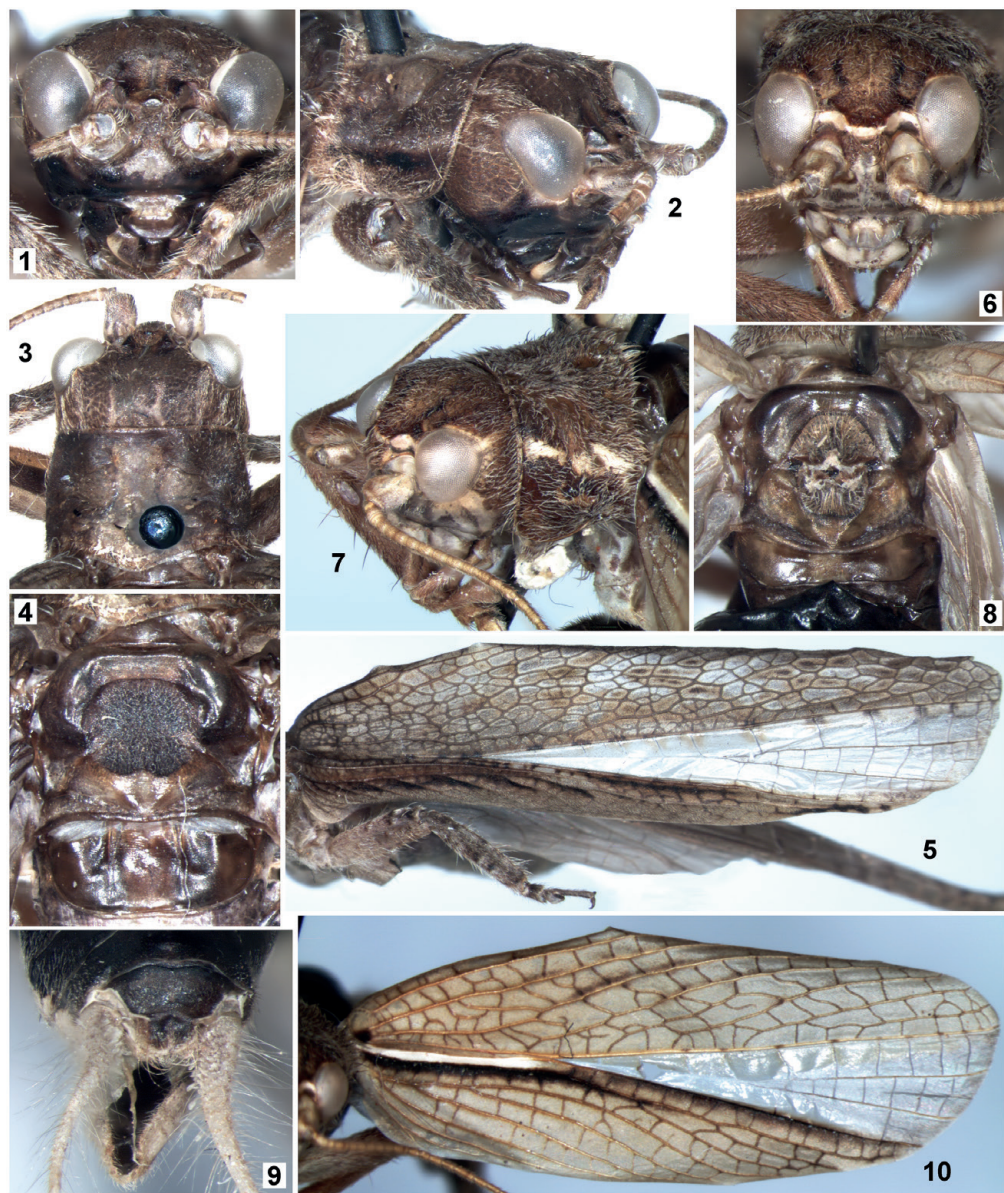
*Etymology.* The new species is named after the Peru Country.

### *Taroba dea* sp. nov.

(Figs XIV: 18–20; XIX: 6; XX: 7–9)

*Holotype.* Male, **Peru**, Ucayali Department, Atalaya Prov., ~35 km NWW of Atalaya Town on Ucayali River, environs of Sapani Vill., ~300 m, primary / secondary forest, at light, 26–31.X.2008, A. Gorochov, M. Anisutkin, E. Tkatsheva, V. Izersky (ZIN).

*Description.* Male (holotype). General appearance almost as in holotype of *T. peru* but with small differences: lower parts of head yellowish, but scapes, rostral apex and area on epicranium under this apex intermediate between these yellowish parts and almost greyish brown dorsal surface of head in colour, and maxillary palpi with darkened (approximately as in *T. peru*) distal part of apical segment; pronotal disc with darkish longitudinal median band in anterior half; proximal brownish grey stripe in tegminal Sc-R area somewhat longer; pterothoracic tergites with dark brown and light brown areas; legs with small spots more distinct (brown); anal plate light brown; all abdominal tergites with light brown lateral parts; sternites and genital plate yellowish; cerci with rather numerous and very small brownish stripes; median ocellus insignificantly smaller than lateral ocelli, i.e. larger than in *T. peru* (this ocellus clearly wider than space between it and lateral ocellus); metanotal gland with slightly longer (wider) transverse keel in its middle part (for comparison see Figs XIX: 4 and 6); tegmina with 9 longitudinal veins in dorsal field and 8 branches of Sc; anal plate with widely rounded posterior part. Genitalia distinguished from those of *T. peru* by following characters: epiphallus with posterior processes distinctly shorter, and with median keel-like sclerotized loop on ventral surface of posterior half almost invisible in profile (this loop very low and almost completely covered with lateral epiphallallic parts in profile, but in *T. peru*, it distinctly higher and well visible in profile) (see Figs XIV: 14 and 18; XX: 3, 9); ectoparameres thinner, with semisclerotized apical part clearly curved medially, and with distinctly longer hook-like sclerotization in



**Figs XVIII (1–10).** Cearacesaina. 1–5, *Cearacesa morona* sp. nov.; 6–10, *Barota bolivia* sp. nov. Head in front (1, 6); head with pronotum from side and slightly above (2, 7), and from above (3); male metanotal gland from above (4, 8); male tegmen (5, 10); male abdominal apex from above (9).

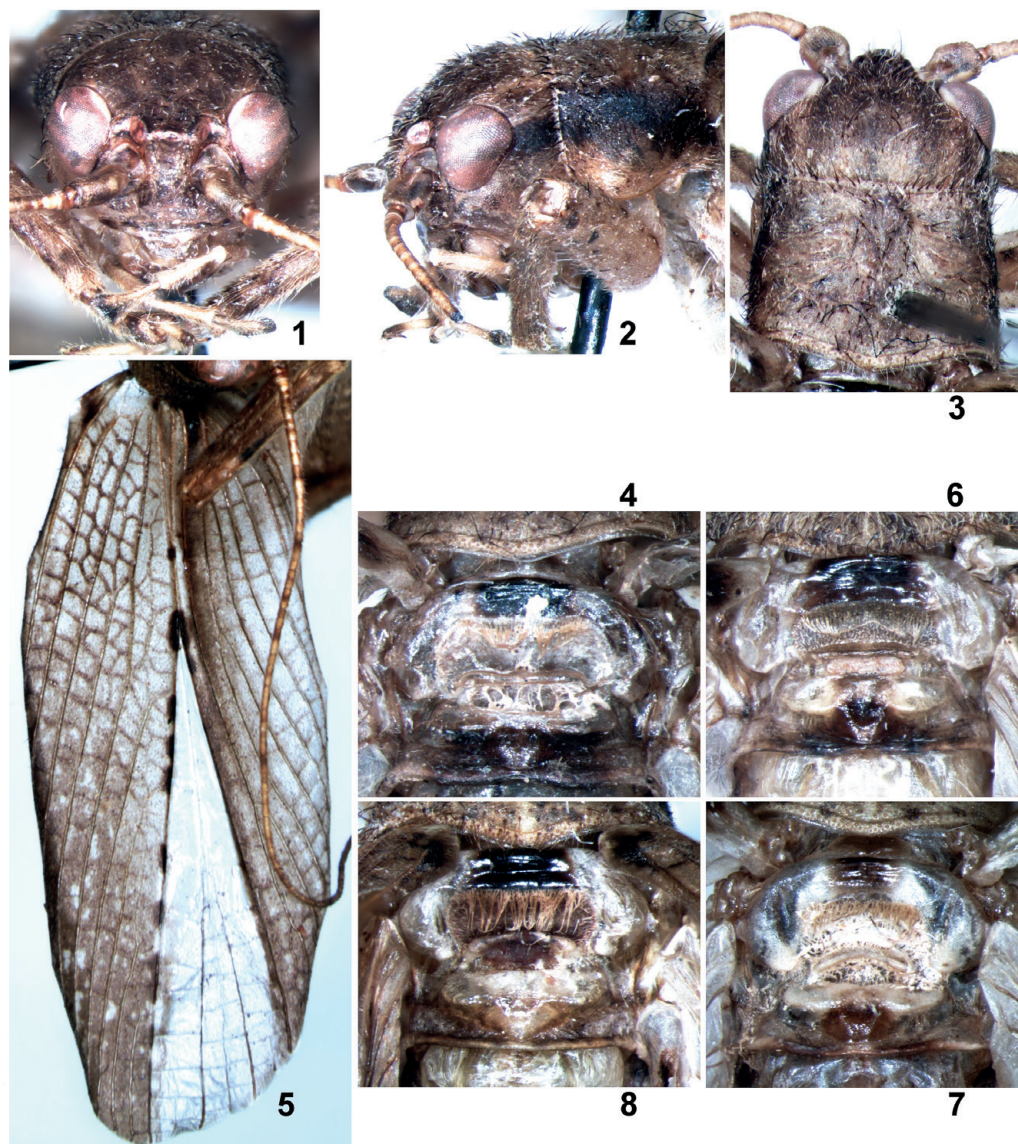
anteromedial part (see Figs XIV: 15 and 19; XX: 1, 2, 7, 8); two semisclerotized stripes of right endoparameral ribbon fused with each other in posterior part (lateral of them not widened and rather short); left endoparameral ribbon with posterior part having distinct widening at apex and with anterior

part almost stick-like, i.e. lacking lateral projection or branchlet (see Figs XIV: 16, 17, 20; XX: 2, 8).

Female unknown.

Length in mm. Body 13.5; body with wings 21; pronotum 2.4; tegmina 14.5; hind femora 10.7.





**Figs XIX (1–8).** *Taroba*. 1–5, *T. peru* sp. nov.; 6, *T. dea* sp. nov.; 7, *T. d. ecuador* subsp. nov.; 8, *T. amoro* sp. nov. Head in front (1); head with pronotum from side (2) and from above (3); male metanotal gland from above (4, 6–8); male right tegmen (5).

**Comparison.** The new species differs from *T. peru* in the genital characters listed above. From *T. elephantina* and *T. vicina*, *T. dea* is distinguished by the same features as *T. peru*.

**Etymology.** Name of the new species is the Latin word “*dea*” (goddess).

***Taroba dea ecuador* subsp. nov.**  
(Figs XIV: 21–23; XIX: 7; XX: 10–12)

**Holotype.** Male, **Ecuador**, 80–85 km E of Lago Agrio Town, environs of Lago Grande (lake) on Cuabeno River, very lowlying primary forest, on leaf of bush at night, 2–9.XI.2005, A. Gorochov, A. Ovtshinnikov (ZIN).

*Paratypes.* Male and 5 females, same data as for holotype (ZIN); male and female, same country, ~70 km SE of Lago Agrio Town, environs of S. Pablo de Kantesiya Vill. on Aguarico River, lowlying primary / secondary forest, on leaf of tree at night, 10–17.XI.2005, A. Gorochov, A. Ovtshinnikov (ZIN); female, same country, ~95 km E of Quito City, environs of San Rafael Waterfall on Coca River, primary forest, on leaf of small tree at night, ~1300 m, 23–26.XI.2005, A. Gorochov, A. Ovtshinnikov (ZIN); 2 females, same country, Morona Santiago Prov., bank of Morona River near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, at light, 5–15.I.2010, A. Gorochov (ZIN).

*Description.* Male (holotype). General appearance as in nominotypical subspecies, but slightly lighter: dorsal surface of head yellowish with rather small transverse light brown area behind ocelli; dark bands on epicranium behind eyes clearly narrower; scapes and palpi completely yellowish; pronotum also yellowish with brown stripe on each lateral lobe along dorsal edge; tegmina almost without distinct darkening in Sc-R area; pterothoracic tergites yellowish with small brown spot before metanotal gland and a few light brown marks; abdominal tergites brown to light brown but with yellowish lateral parts; anal plate and cerci uniformly yellowish. Metanotal gland with transverse keel somewhat arcuate in dorsal view (straight in *T. d. dea* and *T. peru*; for comparison see Figs XIX: 7); anal plate almost as in *T. peru*; genitalia with posterior epiphallic lobes similar to those of *T. peru* in length but slightly arcuate in profile (Figs XIV: 21; XX: 12), with ectoparameres approximately as in *T. d. dea* but less curved and wider in distal part (Fig. XIV: 22), with ventral surface of posterior epiphallic half lacking complete sclerotized median loop but having distinct ventroapical tubercle separated from very thin posterior part of sclerotized ventral ribbon of this loop by membranous area (Fig. XIV: 21; XX: 12), with right endoparameral ribbon similar to that of *T. d. dea* but having strongly widened posterior half, and with left endoparameral ribbon distinguished from that of *T. d. dea* by distinctly smaller anterior part

of this ribbon only (see Figs XIV: 20, 23; XX: 7, 8, 10, 11).

*Variations.* Body colouration sometimes intermediate between those in holotypes of this subspecies and of *T. d. dea*.

*Female.* Colouration and structure of body as in males, but tegmina sometimes with almost completely brownish grey Sc-R area and distal part of R-M area as well as with somewhat darker (almost brownish grey) crossveins; genital plate very similar to that of female of *T. peru* but with truncate or barely concave apex only; ovipositor almost as in latter species in structure but clearly shorter (hind femur almost 1.45 times as long as ovipositor).

Length in mm. Body: male 13–14.5, female 13–15; body with wings: male 20.5–21.5, female 21–23; pronotum: male 2.2–2.4, female 2.3–2.6; tegmina: male 14.5–15.5, female 14–15; hind femora: male 10–10.7, female 10.5–11.5; ovipositor 7.2–8.

*Comparison.* The new subspecies is distinguished from *T. d. dea* by the characters listed above; from the other congeners, by the same characters as this nominotypical subspecies; and additionally from *T. peru*, by a shorter ovipositor.

*Etymology.* The new subspecies is named after the Ecuador Country.

### *Taroba amboro* sp. nov.

(Figs XIV: 24–26; XIX: 8; XX: 13–15)

*Holotype.* Male, **Bolivia**, Santa Cruz Prov., ~70 km NWW of Santa Cruz City, Amboro National park, Mataraku Camp, ~800 m, primary forest, on leaf of bush at night, 8–13.II.2014, A. Gorochov (ZIN).

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

*Description.* Male (holotype). General appearance most similar to that of *T. d. dea*, but light lower area of pronotal lateral lobe somewhat wider (approximately as in *T. d. ecuador*), pronotal disc and cerci more or less uniformly light, metanotal gland almost as in *T. d. ecuador* (Fig. XIX: 8), and anal plate almost intermediate between those of *T. d. dea* and *T. d. ecuador* in shape.

Genitalia with posterior epiphallallic processes shorter than in *T. peru* and *T. dea* (Figs XIV: 24; XX: 15), with distinct sclerotized median loop on ventral surface of posterior epiphallallic half (this loop similar to that of *T. peru* but clearly lower and having thinner ventral sclerotized ribbon; Figs XIV: 24; XX: 15), with ectoparamere having hook-like anteromedial sclerotization rather small (almost as in *T. peru*; Fig. XIV: 25), with right endoparameral ribbon almost as in *T. d. dea* but having semisclerotized strips isolated from each other, and with left endoparameral ribbon having simple (arcuate but not S-shaped and not widened) apex of posterior part and rather deeply bifurcated anterior part (Figs XIV: 26; XX: 13, 14).

Variations. Second male with more distinct light longitudinal stripes on posterior half of vertex and darkish area on lateral surface of scape.

Female. Colouration and structure of body as in males, but head dorsum slightly lighter (almost uniformly light brown), lateral darkenings on head behind eyes and on pronotum somewhat narrower (lower), and metanotal gland absent; genital plate as in females of *T. peru* and *T. dea* with truncate apex of this plate; ovipositor almost indistinguishable from that of *T. d. ecuador*.

Length in mm. Body: male 12.5–13, female 13; body with wings: male 20–22, female 21.5; pronotum: male 2.1–2.3, female 2.4; tegmina: male 13–14.5, female 14.2; hind femora: male 10–11, female 11; ovipositor 7.5.

*Comparison.* The new species differs from *T. dea* in shorter posterior epiphallallic processes, a more developed and well visible sclerotized median loop on the ventral surface of posterior epiphallallic half, smaller hook-like anteromedial sclerotizations of the ectoparameres, not widened apex of the posterior part of left endoparameral ribbon, deeply bifurcated anterior part of this ribbon, and the semisclerotized stripes of right endoparameral ribbon not fused with each other (see Figs XIV: 18–23 and 24–26); from *T. peru*, in the same feature of posterior

epiphallallic processes, a lower sclerotized loop on the ventral surface of epiphallus having a thinner ventral sclerotized ribbon, not S-shaped apical portion of the posterior part of left endoparameral ribbon, more deeply bifurcated anterior part of this ribbon, and less widened semisclerotized posterior part of the right endoparameral ribbon (see Figs XIV: 14, 16, 17 and 24, 26); from *T. vicina*, in a uniformly light colouration of the antennae and maxillary palpi as well as wider rami and space between the spine-like projections of anterior epiphallallic edge (see Figs XX: 13 and 16); and from *T. elephantina*, in a less contrast colouration, not shortened wings and very different epiphallallic posterior processes (see Figs XX: 4–6 and 13–15).

*Etymology.* The new species is named after the Amboro National Park.

***Taroba elephantina*** de Mello et Dias, 2010 (Figs XIV: 27, 28; XX: 4–6; XXI: 13, 14)

*New material.* **Brazil** or **Argentina**: male and 2 females, Iguazu Waterfalls (ZIN).

*Note.* These specimens are in accordance to the description and illustrations by its authors (Dias & de Mello, 2010) and were collected near its type locality. General view of *T. elephantina* is rather different from that of the previous congeners (Figs XXI: 13, 14), but its male genitalia have all the peculiarities characteristic of these species (Figs XIV: 27, 28; XX: 4–6).

***Taroba? elchaco* sp. nov.**

(Figs XIV: 8; XXI: 1–4; XXII: 1, 2)

*Holotype.* Female, **Ecuador**, ~75 km SEE of Quito City, environs of El Chaco Vill. on Quijos River, ~1500 m, secondary forest with distinct anthropogenic impact, on leaf of bush at night, 18–22.XI.2005, A. Gorochov, A.Ovtshinnikov (ZIN).

*Paratype.* Female, same data as for holotype (ZIN).

*Description.* Female (holotype). Body slightly larger than in previous representatives of *Taroba*. General colouration greyish brown, but following marks developed: head



with slightly lighter (uniformly light greyish brown) lower half and antennal flagellum (this flagellum having rather numerous small darkish spots); pronotum almost uniformly greyish brown but with lower parts of lateral lobes barely lighter; tegmina yellowish with greyish tinge, slightly darker (light brown) venation, very light vein along distal third of lateral edge of dorsal field, several small brownish spots along middle and distal thirds of this edge (a few spots located on above-mentioned very light vein), and dark greyish brown stripe on lateral field along proximal half of its dorsal edge (including part of R vein); legs mainly uniformly greyish brown, but their proximal parts barely lighter, and distal part of hind femur as well as outer, inner and ventral surfaces of hind tibia slightly darker (Figs XXI: 1–3; XXII: 1); abdomen also greyish brown but with slightly lighter venter, yellowish pleural membranes and cerci (cerci with rather numerous darkish dots), and dark marks on basal and apical parts of ovipositor. Body barely flattened, but height of head slightly greater than its width; scape approximately 1.3 times as wide as space between antennal cavities; rostrum weakly projecting forwards and more rounded than angular in profile; lateral ocelli rounded, moderately large but not very distinct; median ocellus round, small (its width almost equal to distance between this ocellus and lateral one; Fig. XXI: 1); maxillary palpi with apical segment obliquely widened in distal half and somewhat arcuate (Fig. XXI: 4). Pronotum with almost square disc having anterior edge straight, posterior edge roundly angular and lateral sides almost parallel, and with lateral lobes not high and gradually (roundly) turning into disc (Figs XXI: 2; XXII: 1). Tegmina somewhat protruding behind apices of hind femora and distinctly protruding behind abdominal apex; dorsal field with rather dense and irregular (cellular) venation; lateral field with 10–11 obliquely longitudinal branches of Sc, with rather narrow Sc-R area, and with partly regular cross-veins (Figs XXI: 3; XXII: 1); hind wings

barely protruding behind tegminal apices. Legs moderately robust but not short, with hind femora moderately thickened; tympana absent. Genital plate moderately transverse and with rather narrow apex having distinct posteromedian notch (Fig. XIV: 8); ovipositor almost equal to hind femur in length and with distal part as in Fig. XXII: 2.

Variations. Paratype slightly smaller and with rather dark dots on outer surfaces of fore and middle femora.

Male unknown.

Length in mm. Body 13.5–16.5; body with wings 20–22; pronotum 3–3.4; tegmina 13.5–15; hind femora 10–10.5; ovipositor 10.3–10.8.

*Comparison.* The new species distinctly differs from all the other species of this genus in the uniformly darkened pronotum and not shortened wings. From *Paraphonus cophus* (Aphonomorphina) similar to *Taroba* in the complete absence of tympana and (probably) tegminal stridulatory apparatus, the new species is distinguished by a smaller body, darker colouration and indistinct longitudinal veins in the tegminal dorsal field.

*Etymology.* The new species is named after the El Chaco Village (its type locality).

***Taroba? rotundata* sp. nov.**

(Figs XIV: 9; XXI: 5–8; XXII: 3, 4)

*Holotype.* Female, **Ecuador**, ~75 km SEE of Quito City, environs of El Chaco Vill. on Quijos River, ~1500 m, secondary forest with distinct anthropogenic impact, on leaf of bush at night, 18–22.XI.2005, A. Gorochov, A. Ovtshinnikov (ZIN).

*Paratype.* Female, same data as for holotype (ZIN).

*Description.* Female (holotype). General appearance most similar to that of *T.? elchaco* but with following differences (Figs XXI: 5–7; XXII: 3): head greyish brown with yellowish ocelli and small areas between them and between lateral ocelli and eyes (in shape of light transverse stripe crossing ocelli), with light brown area on epicranium under median ocellus and antennal cavities (this area with rather numerous greyish brown

marks), with labrum and most part of clypeus almost yellowish, with other mouthparts light brown but having slightly darker most part of maxillary palpi and greyish tinge on mandibles, with light brown to brown scape, and with spotted antennal flagellum (larger spots almost greyish brown; smaller spots yellowish and light brown); pronotum with greyish brown disc having a few lightish spots and with almost dark brown lateral lobes; tegmina light greyish brown but with barely darker longitudinal veins and darker (greyish brown to dark brown) crossveins, with yellowish most part of one longitudinal vein located near and along lateral edge of dorsal field but having several almost blackish spots, with proximal third of Sc-R area completely darkened (greyish brown); legs light brown with almost yellowish coxae, a few small brown marks on femora (including somewhat larger apical area), rather numerous brown marks on tibiae (including large distal area), and brown most part of fore basitarsi and second segment of all tarsi as well as lower half of middle and hind basitarsi (upper half of latter basitarsi light brown; apical segment of all tarsi spotted); venter of body light brown with yellowish membranous parts, slightly darker pterothoracic sternites, darkened areas on abdominal sternites (last sternite and genital plate completely darkened), and dark marks on base of ovipositor; abdominal tergites, epiproct and paraprocts also light brown with a few barely darker areas; cerci yellowish with several small (short) darkish stripes; scape approximately 1.2 times as wide as rostrum between antennal cavities; lateral ocelli distinct; maxillary palpi with apical segment barely thinner than in *T. ? elchaco* and obliquely truncated in distal part (see Figs XXI: 4 and 8); tegmina with dorsal field having cellular venation and more distinct traces of S-shaped longitudinal veins (Fig. XXI: 7), and with lateral field having 13–14 branches of Sc (venation of this field slightly less regular than in *T. ? elchaco*; see Figs XXII: 1 and 3). Genital plate wider than in *T. ? elchaco* and with widely rounded

posterior part having small and very shallow apical concavity (Fig. XIV: 9); ovipositor approximately equal to hind femur in length and with distal part as in Fig. XXII: 4.

Variations. Paratype with mandibles barely darker and with dorsal tegminal field (except for vein along lateral edge of this field) almost uniformly light greyish brown.

Male unknown.

Length in mm. Body 18–19; body with wings 23–24; pronotum 3.2–3.4; tegmina 16–16.5; hind femora 11.5–12, ovipositor 11–11.5.

*Comparison.* The new species differs from *T. ? elchaco* in the more contrast colouration of head, the presence of traces of longitudinal veins in the dorsal tegminal field, and more rounded shape of the female genital plate. From the other true and possible congeners as well as similar species, *T. ? rotundata* is distinguished by uniformly dark lateral lobes of the pronotum, not shortened tegmina with the dorsal field having a cellular venation and less distinct longitudinal veins, and widely rounded posterior part of the female genital plate.

*Etymology.* Name of the new species is the Latin word “rotundata” (rounded) given in connection with a characteristic shape of the female genital plate.

### *Taroba? variegata* sp. nov.

(Figs XIV: 10; XXI: 9–11; XXII: 5–7)

*Holotype.* Female, **Ecuador**, ~8 km SW of Zamora City, Podocarpus National Park on Bambuscaro River, ~800 m, primary forest, XII.2005, A. Ovtshinnikov, D. Smolnikov (ZIN).

*Description.* Female (holotype). Body rather slender for this genus, more dorso-ventrally flattened than in *T. ? elchaco* and *T. ? rotundata*. Colouration variegated: upper half of head dark brown with yellowish ocelli and short line along dorsolateral edge of rostrum near lateral ocellus, lightish dot between this ocellus and eye, six longitudinal light brown stripes on posterior half of vertex, and brown eye having two longitudinal (transverse) light reddish brown stripes; lower half of head yellowish, but

rostrum and area between antennal cavities from dark brown to brown, maxillary palpi with dark apical segment and small darkish marks on two subapical segments, scape and pedicel brown, and antennal flagellum light brown with very short brown proximal part (Figs XXI: 9, 10); pronotum with light reddish brown disc and blackish lateral lobes (but each of these lobes with yellowish stripe along ventral edge; Fig. XXI: 10; XXII: 5); tegminal dorsal field also light reddish brown, but most part of its venation barely darker, two veins along lateral edge of this field spotted as one of such veins in *T.?* *rotundata*, and medial edge of this field somewhat darkened (Fig. XXI: 11); tegminal lateral field greyish brown (almost dark brown) with yellowish band along proximal half of costal edge; area between R and M, situated in dorsal field in proximal half of tegmen and in lateral field in distal half of tegmen, with more or less spotted proximal half and slightly darkened distal half (Fig. XXII: 5); legs yellowish with a few small brown spots on fore and middle femora as well as on proximal two thirds of hind femur and of fore and middle tibiae, with darkened distal part of hind femur and of fore and middle tibiae, with dark brown apical part of hind tibia and most part of hind basitarsus as well as second segment of all tarsi, with more or less brown fore and middle basitarsi as well as dots near distal spines of hind tibia, and with darkish distal parts of all apical tarsal segments (Figs XXI: 11; XXII: 5); venter of thorax yellowish with greyish brown median area on last thoracic sternite; abdomen with almost dark brown sternites and with yellowish genital plate and other structures of abdominal apex (but cerci with darkened distal two thirds, and base of ovipositor with a few small dark marks). Head not higher than wide, with scape approximately two times as wide as rostrum between antennal cavities; lateral ocelli slightly smaller than in *T.?* *elchaco* and *T.?* *rotundata* but insignificantly larger than median ocellus (this ocellus slightly wider than in these species, but its width almost equal to distance be-

tween it and lateral ocellus); rostrum somewhat more angular in profile than in these above-mentioned species, with dorsum having small and shallow concavity before median ocellus (Fig. XXI: 9, 10; XXII: 5); maxillary palpi practically as in Fig. XXI: 12. Pronotum slightly transverse, insignificantly narrowing to head, with barely concave anterior edge, with almost obtuse-angled projection of posterior part of disc, and with rather low lateral lobe (no any keel or carine between this lobe and pronotal disc; Fig. XXI: 10; XXII: 5). Tegmina as in *T.?* *elchaco* and *T.?* *rotundata* in length; dorsal field with distinct and more or less regular longitudinal venation (this venation with 10–11 veins almost parallel to longitudinal axis of tegmen) and with rather regular and not very dense crossvenation (Fig. XXI: 11); lateral field with 7–8 branches of Sc located obliquely but almost longitudinally, with not widened (but not narrow) proximal half of Sc-R area, with somewhat widened distal half of this area (this half of this area with two additional branches on R), and with rather regular crossvenation (Fig. XXII: 5); hind wings strongly protruding behind tegminal apices and behind apices of hind femora (exposed parts of these wings darkened). Legs slightly more slender than in *T.?* *elchaco* and *T.?* *rotundata*, but not longer; genital plate clearly narrower than in these species and with almost truncate (barely concave) apical part (XIV: 10); ovipositor almost 1.1 times as long as hind femur, with distal part typical of Hapithini (Figs XXII: 6, 7).

Male unknown.

Length in mm. Body 12; body with wings 21; pronotum 2.4; tegmina 13.5; hind femora 10.5; ovipositor 11.7.

*Comparison.* The new species is clearly distinguished from all the other true and possible species of *Taroba* as well as from the other similar species by the characteristic variegated colouration as well as an almost angular head rostrum (in the profile), low lateral lobes of the pronotum, very long hind wings and ovipositor, and probably narrower female genital plate.



**Etymology.** Name of the new species is the Latin word “variegata” (variegated, motley) given in connection with a motley colouration of its body.

***Taroba? variegata abbreviata* sp. nov.**  
(Figs XIV: 11; XXI: 12)

**Holotype.** Female, **Ecuador**, Morona Santiago Prov., bank of Morona River near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, at light, 5–15.I.2010, A. Gorochov (ZIN).

**Description.** Female (holotype). Size, colouration and structure of body very similar to those of *T. v. variegata*, but some differences present: head dorsum behind lateral ocelli slightly lighter, almost light greyish brown (but with 6 barely lighter longitudinal stripes); ocelli and eyes uniformly greyish; lightish marks before lateral ocellus and between it and eye almost indistinct; tegmina with darker (brown) most part of venation of dorsal field and almost completely greyish brown area between R and M; legs with less numerous and partly less distinct brown marks on proximal two thirds of middle and hind femora (fore legs missing); abdominal sternites slightly lighter (greyish brown); tegmina insignificantly shorter (approximately reaching apices of hind femora), with nine longitudinal veins in dorsal field, and with somewhat less widened distal half of R-M area having one additional branch on R; genital plate slightly wider and with barely wider apical part (Fig. XIV: 11); ovipositor distinctly shorter (hind femur approximately 1.4 times as long as ovipositor).

Male unknown.

Length in mm. Body 11.7; body with wings 18.5; pronotum 2.2; tegmina 11.8; hind femora 9.5; ovipositor 6.8.

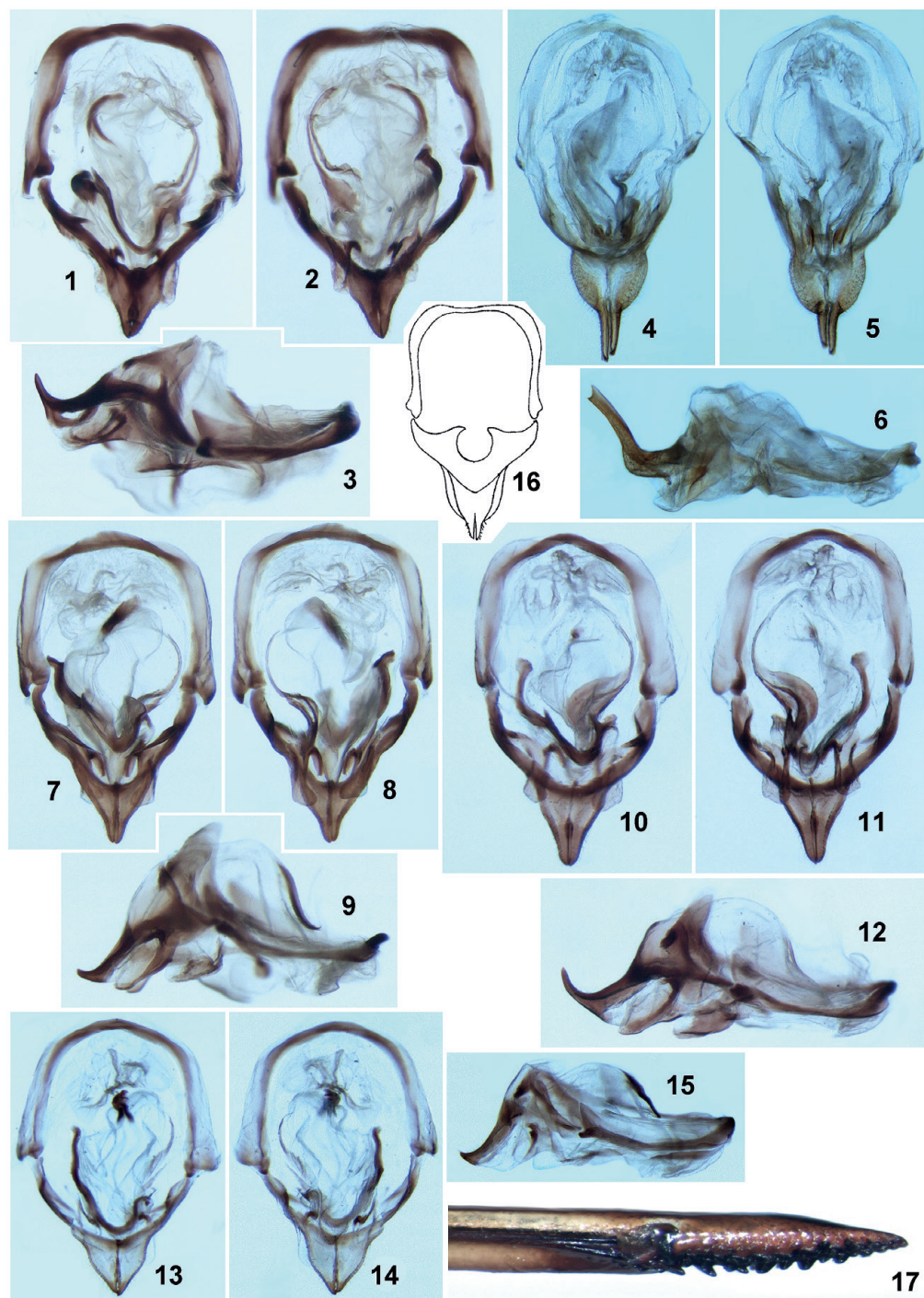
**Comparison.** The new subspecies differs from *T. v. variegata* mainly in a distinctly shorter ovipositor. From all the other related and similar species, it is distinguished by the same characters as the above-mentioned subspecies (except for the length of ovipositor).

**Etymology.** Name of this subspecies is the Latin word “abbreviata” (abbreviate, shortened) given in connection with its short ovipositor.

Subtribe **APHONOMORPHINA**  
Desutter, 1988

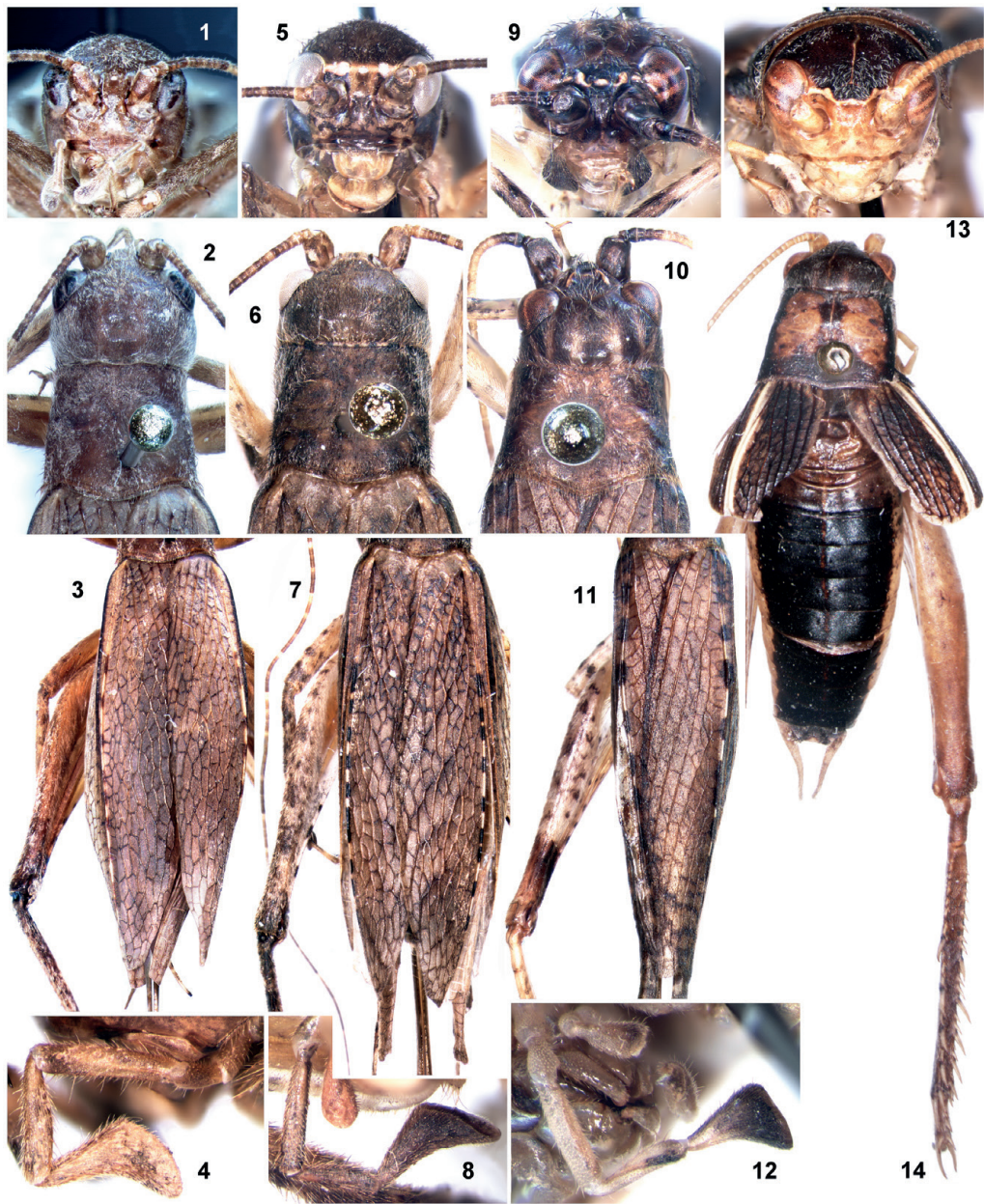
**Note.** This subtribe was recently included in the Old World tribe Podoscirtini Saussure, 1878 on the basis of its similarity to the Indo-Malayan genus *Idiotrella* Gorochov, 2002 in some details of the tegminal venation and male genitalia (Gorochov, 2010). At present, the study of male genitalia in the American genus *Somnambula* (described here) allow us to think that this similarity may be of convergent origin or reflect a more distant relationship, and the structure of ovipositor shows that it is most similar in Aphonomorphina and Hapithina: its distal part is elongately conical, with an acute apex, and with drilling teeth on the ventral and partly lateral surfaces only (see Figs VI: 2, 3, 11; VIII: 11, 12, 15; XII: 6, 7, 12, 13; XIII: 9, 10; XVII: 3, 4, 7, 8; XX: 17; XXII: 2, 4, 6–9). It is a reason that Aphonomorphina is here included in the tribe Hapithini.

The Aphonomorphina differs from Hapithina in the absence of stridulatory apparatus in the male tegmina, absence of outer tympanum or of both tympana on the fore tibia, and some features of the male genitalia: formula is usually located in the anterior part of genitalia and with very long (stripe-like) lateral parts; endoparameral apodemes are also almost always very long and rather narrow. From Cearacesaina, similar to Aphonomorphina in the tegminal and tibial characters, the latter subtribe is distinguished by the presence of rather low but long sacculus and of distinct formula in the male genitalia, as well as by the rami (in these genitalia) not fused with each other. However, some representatives of Hapithina may have the same structure of fore tibia as in Aphonomorphina, and the genus *Somnambula* (having a very similar structure of the formula and endoparameral



**Figs XX (1–17).** *Taroba*. 1–3, *T. peru* sp. nov.; 4–6, *T. elephantina* de Mello et Dias; 7–9, *T. dea* sp. nov.; 10–12, *T. d. ecuador* subsp. nov.; 13–15, *T. amboro* sp. nov.; 16, *T. vicina* (Chop.); 17, *T. peru*. Male genitalia from above (1, 4, 7, 10, 13), from below (2, 5, 8, 11, 14) and from side (3, 6, 9, 12, 15); epiphallus and rami from above (16); distal part of ovipositor from side (17). [16, after Chopard (1956)].





**Figs XXI (1–14).** *Taroba*. 1–4, *Taroba? elchaco* sp. nov.; 5–8, *T.? rotundata* sp. nov.; 9–11, *T.? variegata* sp. nov.; 12, *T.? v. abbreviata* subsp. nov.; 13, 14, *T. elephantina* de Mello et Dias. Head in front (1, 5, 9, 13); head with pronotum from above (2, 6, 10); tegmina with middle and hind left femora from above (3, 7, 11); body with tegmina and right hind leg from above (14); maxillary palpus from side (4, 8, 12).



apodemes in the male genitalia) may be more related to Aphonomorphina than to the other genera of Hapithina. Moreover, the enigmatic genus *Aenigmaphonus* Gorochov, 2010, very similar to Aphonomorphina in all the features of general morphology, has the male genitalia strongly modified and lacking the above-listed diagnostic characters of this subtribe (subtribal position of this genus is unclear, but its genitalia could have come from the genitalia typical of Aphonomorphina). These considerations force us to doubt the reasonability of isolating this subtribe from Hapithina.

The Aphonomorphina probably includes five genera: *Aphonomorphus* Rehn, 1903 with several subgenera, *Paraphonus* Hebard, 1928 and *Eneopteroides* Chopard, 1956 (these genera have a pair of second ectoparameres probably originated from the articulated lateral parts of rachis; the latter two genera are very similar to each other in the male genitalia and possibly are two subgenera of the same genus); *Spiraphonus* Gorochov, 2010 and possibly *Aenigmaphonus* (these genera have the rachis undivided into a pair of articulated ectoparameres).

***Aphonomorphus* (*Aphonomorphus*)  
*pileatus* sp. nov.**

(Figs XXII: 8, 9; XXIII: 1–7; XXIV: 1–3)

*Holotype*. Male, **Bolivia**, northern part of Santa Cruz Prov. near Brazil, Noel Kempff Mercado National Park, Los Fierros Camp, ~300 m, primary forest, on leaf of tree at night, 23–28.I.2014, A. Gorochov (ZIN).

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

*Description*. Male (holotype). General appearance typical of *Aphonomorphus* s. str. Colouration light greyish brown with following marks: head with large dark brown area between eyes and behind yellowish ocelli, with almost yellowish very small spot between each lateral ocellus and eye, with yellowish lower half of head (under rostrum, antennae and eyes) having slightly darkened apical part of last segment of each

maxillary palpus, and with barely spotted antennal flagellum (i.e. having numerous darkish and lightish spots); tegmina with barely lighter longitudinal veins in dorsal field (but vein along lateral edge of this field almost yellowish with rather numerous small dark brown spots), with greyish brown some crossveins in dorsal field, and with semitransparent membranes in cells between Sc branches; exposed parts of hind wings slightly darkened; legs almost without marks, but hind legs with several small darkish marks on distal part of outer ventral keel of femur and on tibia near bases of its spines; pterothoracic and abdominal sternites greyish brown to dark brown; abdominal tergites greyish brown to light brown; epiproct, paraprocts and genital plate greyish brown with light brown lateral parts of latter plate; cerci yellowish with numerous small (short) darkened stripes. Head with rostrum almost rounded and not strongly projected forwards in profile; ocelli distinct, moderately large but with median ocellus clearly smaller than lateral ocelli (distance between nearest ocelli slightly shorter than width of median ocellus); scape approximately equal to space between antennal cavities in width; pronotum transverse, with barely concave anterior edge and almost obtuse-angled posterior edge; metanotal gland with large central area almost flat (barely concave) and covered by hairs (Fig. XXIII: 1); tegmina much protruding behind abdominal apex and behind apices of hind femora, with longitudinal veins of dorsal field distinctly visible in middle part of this field and clearly S-shaped, with cellular (irregular) crossvenation of this field, with 12 branches of Sc, and with moderately regular crossveins in lateral field; hind wings much protruding behind tegminal apices; fore tibia with rather large oval inner tympanum only (Fig. XXIII: 2); genital plate elongate, slightly narrowed near (before) apex, with narrow and moderately deep posteromedian notch, and with rather large concavity on ventral surface near this notch (Fig. XXIII: 4). Male genitalia (Figs XXIV: 1–3) most

similar to those of *A. (A.) morona* Gorochov, 2010 from Ecuador, but some differences present: epiphallus with a pair of dorsoapical spines (*da*) shorter and more strongly curved forwards, with notch between these spines slightly wider, and with a pair of additional sclerotized processes of epiphallallic apical part (*ad*) longer and almost straight in dorsal view; first ectoparameres (*ec*) with distal spine having acute (not almost hook-like) apex and directed mainly upwards (not mainly backwards); second ectoparameres (probably articulated parts of rachis) clearly shorter, with right ectoparamere having distinctly larger lateral spinule in middle part as well as less high apical part bearing less strongly curved dorsal hook, and with left ectoparamere also having less high apical part but without dorsal hook and almost without dorsal projection (this projection rather high in *A. morona*) (for comparison see Figs XXIII: 5–7 and 8–10).

Variations. Paratype with lateral tegminal field slightly lighter than general colouration of dorsal tegminal field, and with femora having several distinct darkish dots.

Female. Colouration and general structure very similar to those of males; genital plate short and roundly narrowing to narrowly and barely notched apex (Fig. XXIII: 3); ovipositor almost equal to hind femur in length, with distal part as in Fig. XXII: 8, 9.

Length in mm. Body: male 18.5–20, female 17–19; body with wings: male 27–28, female 28–29; pronotum: male 2.8–3, female 2.9–3.2; tegmina: male 18.5–19, female 19–20; hind femora: male 12–13, female 12.5–13.5; ovipositor 12.8–13.5.

*Comparison.* The new species differs from *A. morona* (most related congener) in the above-mentioned characters of male genitalia. From the other related congeners, *A. pileatus* is distinguished by higher dorsoapical epiphallallic spines and longer additional processes of the epiphallallic apical part [from *A. (A.) schunkei* Chopard, 1956 (Peru)], by lower epiphallallic dorsoapical spines and less arcuate (in the profile) additional processes of the epiphallallic apical

part [from *A. (A.) adjunctus* Chopard, 1956 (Peru)], and by straight (not curved) apical parts of the distal spines of first ectoparameres [from the both latter congeners].

*Etymology.* Name of this species is the Latin word “pileatus” (capped, having a cap on the head), because its head dorsum has a distinctly darker area looking almost like a dark beret.

### ***Aphonomorphus (Aphonomorphus) segregus* sp. nov.**

(Figs XXIII: 11–13; XXIV: 4–6)

*Holotype.* Male, **Peru**, Ucayali Department, Atalaya Prov., ~35 km NWW of Atalaya Town on Ucayali River, environs of Sapani Vill., ~300 m, primary / secondary forest, at light, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

*Description.* Male (holotype). General appearance more or less similar to that of holotype of *A. pileatus*, but body colouration with following differences: upper half of head light brown with greyish tinge, with darkened area behind ocelli distinctly smaller (reaching middle part of eyes), with ocelli light brown, with small areas between median ocellus and lateral ocellus as well as between lateral ocellus and eye yellowish, with lower half of head light brown but slightly lighter than dorsal one; pronotum light brown with greyish tinge on disc and several brown dots on lateral lobes; tegmina uniformly light greyish brown, but with a few oblique darkish stripes along middle parts of longitudinal veins in dorsal field and with rather numerous small dark spots on vein located along lateral edge of this field; legs as in male paratype of *A. pileatus* in colouration, but with a few distinct darkish dots on fore and middle tibiae; all other tergites and anal plate greyish brown (but moderately light); all sternites, genital plate, abdominal membranes, paraprocts and cerci more or less yellowish, but with small darkish marks on cerci. Scape insignificantly wider than rostrum between antennal cavities; ocelli distinctly larger than in *A. pileatus*, with median ocellus transverse and smaller than lateral ocelli

as well as almost twice as wide as distance between it and lateral ocellus; metanotal gland almost as in *A. pileatus* (Fig. XXIII: 11); inner tympanum somewhat immersed and slightly narrower than in this congener; genital plate also similar to that of this species but with almost straight lateral sides (in ventral view), with apical lobules somewhat curved upwards and with small (narrow) median concavity on ventral surface near posteromedian notch (Fig. XXIII: 12). Genitalia similar to those of *A. (A.) ecuador* Gorochov, 2010 (Ecuador) and *A. (A.) ucayali* Gorochov, 2010 (Peru) in development of long dorsoapical epiphallic spines (*da*) and of long and thin (spine-like) additional processes of epiphallic apical part (*ad*) with bases not covered laterally by widened first ectoparameres, but they distinguished from genitalia of two latter species by distinctly higher epiphallus with additional angular projections near bases of latter processes, rather large and triangularly lobe-like first ectoparamere having hook-like spine in anteroventral part (not near apex of this ectoparamere), much smaller (than in *A. ecuador* and *A. ucayali*) elongately triangular second ectoparameres with distinct lateral spinule in middle part of right ectoparamere (Fig. XXIII: 13), and formula located almost in middle part of genitalia and having moderately long (but not very long) lateral sclerotized stripes (Figs XXIV: 4–6).

Female unknown.

Length in mm. Body 18; body with wings 31; pronotum 3; tegmina 21.5; hind femora 13.8.

**Comparison.** The new species differs from most related *A. ecuador* and *A. ucayali* in the characters listed above. From the other species of this subgenus, *A. segregus* is distinguished by clearly longer dorsoapical epiphallic spines in combination with distinctly narrower or longer additional processes of the epiphallic apical part having their bases not covered by the widened parts of first ectoparameres.

**Etymology.** Name of the new species is the Latin word “segregus” (isolated, sepa-

rated), because this species is distinctly different from all the other congeners in the structure of its first ectoparameres.

***Aphonomorphus (Aphonomorphus) montanus zamora* subsp. nov.**

(Figs XXIII: 14–18; XXIV: 7–10)

**Holotype.** Male, **Ecuador**, ~8 km SW of Zamora Town, Podocarpus National Park on Bambuscaro River, ~800 m, primary forest, XII.2005, A. Ovtshinnikov, D. Smolnikov (ZIN).

**Description.** Male (holotype). Colouration and external structure of body very similar to those of nominotypical subspecies from another locality in Ecuador: head brown with light brown dorsum having small darkish area behind ocelli and a pair of short longitudinal lines running backwards from middle parts of medial edges of eyes, yellowish ocelli and narrow transverse stripe crossing these ocelli and located between eyes, and almost uniformly light brown antennal flagellum; pronotum and tegmina also light brown but with semitransparent membranes in cells between all tegminal veins and veinlets and with yellowish vein along lateral edge of dorsal tegminal field having rather numerous small dark spots; fore and middle legs almost completely dark brown (slightly darker than in *A. m. montana* Gorochov, 2010); hind leg light brown with barely darker tibia and second tarsal segment as well as with small greyish brown marks on distal halves of both ventral keels of femur; pterothoracic tergites light brown to brown; abdominal tergites, epiproct and paraprocts almost dark brown; sternites of pterothorax light brown with greyish tinge; abdominal sternites from light brown with greyish brown band along posterior edge in anterior part of abdomen to completely dark brown near genital plate; latter plate brown, slightly lighter than last sternite; cerci yellowish with numerous darkish marks; structure of head, thorax and legs similar to that of *A. segregus* (including size of ocelli) but with less dense hairs in anterior part of metanotal gland (Fig. XXIII: 14) and slightly more immersed inner tympanum; wings also



similar to those of both congeners previously described here, but dorsal tegminal field with somewhat more regular and almost not S-shaped longitudinal veins (crossvenation of this field densely cellular, irregular), and lateral tegminal field with 12–13 oblique branches of Sc and partly regular crossveins; genital plate (Fig. XXIII: 15) approximately as in *A. pileatus*, but its ventral concavity more pronounced (longer). Genitalia (Figs XXIV: 7–10) distinguished from those of *A. m. montanus* by somewhat longer additional sclerotized processes on epiphallallic apical part (*ad*) and slightly narrower notch between them (see Figs XXIII: 16 and 19), longer and apically truncated (not rounded) hook-like distal part of right second (rachial) ectoparamere, more basal position of dorsolateral spinule of left second ectoparamere (this spinule located on widened basal part of this ectoparamere in new subspecies and somewhat behind this widened part in nominotypical subspecies; see Figs XXIII: 17, 18 and 20, 21), and presence of very small analogous tubercle on basal part of right second ectoparamere (first ectoparameres slightly asymmetrical possibly due to individual variability; Figs XXIV: 9, 10).

Female unknown.

Length in mm. Body 20.5; body with wings 32; pronotum 3.4; tegmina 23; hind femora 13.

**Comparison.** Differences between the new subspecies and nominotypical one are listed above.

**Etymology.** This subspecies is named after the Zamora Town situated near its type locality.

***Aphonomorphus (Aphonomorphus) solitarius desutterae*** Cadena-Castañeda et Noriega, 2015, **comb. nov.**

*Aphonomorphus (Aphonomorphus) desutterae* Cadena-Castañeda et Noriega, 2015.

**Note.** This subspecies was originally described as a species from Colombia (Cadena-Castañeda & Noriega, 2015) without any comparison with *A. solitarius* Gorochov,

2010 described from Ecuador. Their male genitalia are very similar and most probably belong to one species. However, it seems to me that there are small differences in the position of sclerotized stripes of formula in the male genitalia of these taxa: in *A. s. solitarius*, posterior parts of these stripes are significantly protruding behind the bases of second ectoparameres; but in *A. s. desutterae*, the above-mentioned parts of formula are insignificantly protruding behind the latter bases. It is a reason that these taxa are here treated as two subspecies of the same species.

***Aphonomorphus (Euaphonus) cusco***  
**sp. nov.**

(Figs XXIII: 24; XXV: 1–4; XXXIII: 1, 2)

**Holotype.** Male, **Peru**, Cusco Department, 10 km N of Marcapata, 13°25'S, 70°54.3'W, 1265 m, at light, 7–8.XII.2010, V. Sinyaev, S. Sinyaeva, Ju. Bezverkhov (ZIN).

**Description.** Male (holotype). General appearance typical of this subgenus. Head with moderately light greyish brown dorsum behind ocelli and above middles of eyes, with almost dark brown rest of epicranium (but ocelli yellowish white, and eyes light brown with a few weak darkish oblique stripes), and with brown mouthparts and antennae having slightly lighter labrum as well as poorly visible, sparse, small, barely lighter and barely darker spots on flagellum; pronotum with almost light greyish brown disc and darker (greyish brown) lateral lobes; tegmina with dorsal field yellowish but having greyish tinge and light brown venation as well as a few barely darker oblique stripes, with slightly lighter (yellowish) humeral stripe along proximal third of lateral edge of this field (including proximal third of R), with 12–14 brown dots (very small spots) on distal two thirds of lateral longitudinal vein of dorsal field, with light brown most part of lateral field, and with slightly darker (almost brown) stripe between Sc and yellowish part of R; legs with almost dark brown coxae, with reddish brown femora having distal parts in fore and

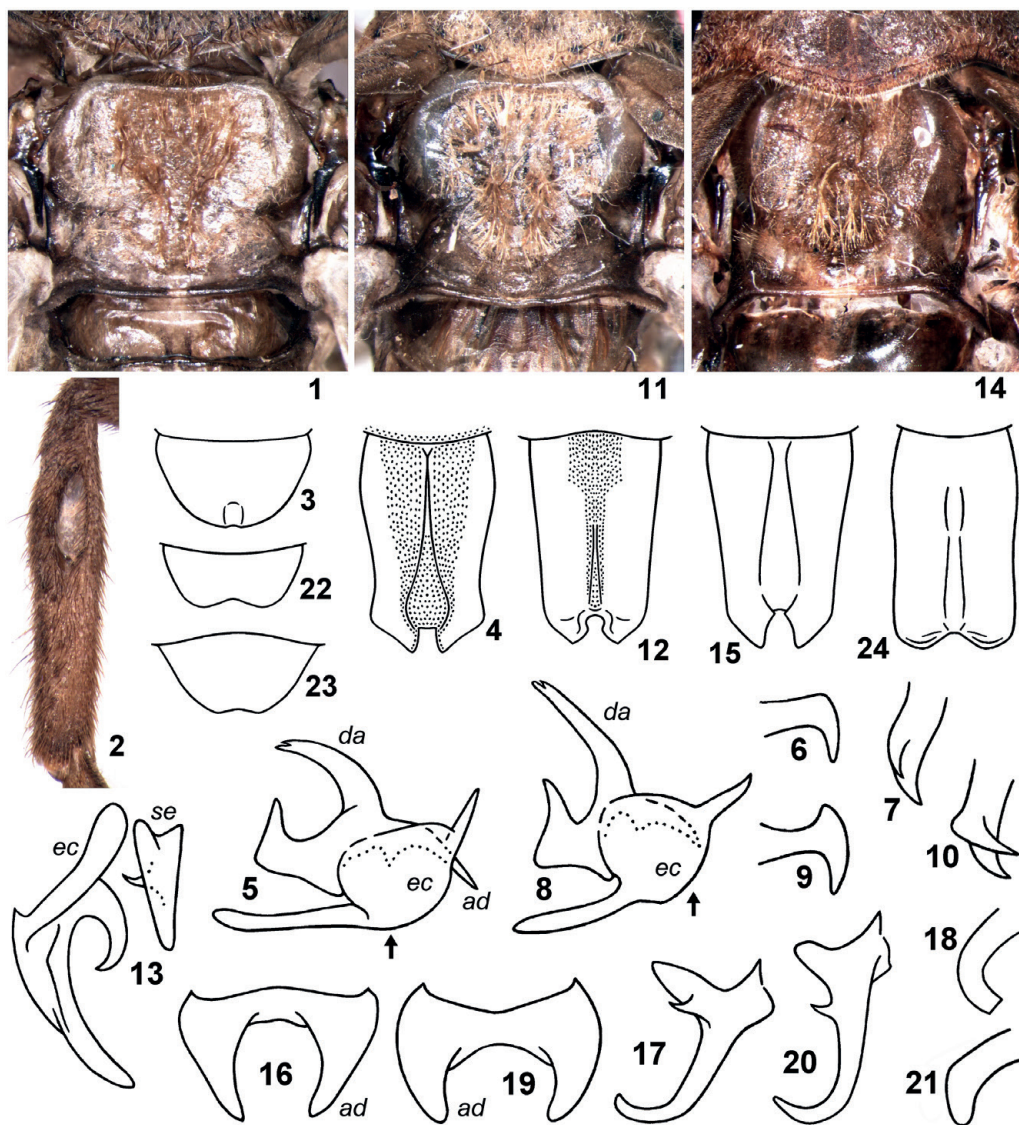


**Figs XXII (1–9).** *Taroba* and *Aphonomorphus*. 1, 2, *T.? elchaco* sp. nov.; 3, 4, *T.? rotundata* sp. nov.; 5–7, *T.? variegata* sp. nov.; 8, 9, *A. pileatus* sp. nov. Body of female (1, 5) and its anterior half (3) from side; distal part of ovipositor from side (2, 4, 6, 8) and from above (7, 9).

middle legs as well as distal half in hind leg almost dark brown, with brown (but having yellowish to greyish tinge) tibiae and tarsi (ventral part of hind tibia slightly darker but not dark brown); pterothorax brown with almost dark brown sternites; abdomen dark brown with greyish brown genital plate and cerci. Head not flattened

dorsoventrally, with roundly angular (in profile) rostrum; rostrum between antennal cavities slightly narrower than scape; ocelli very large (lateral ocelli round, but median ocellus transversally oval and slightly smaller, and distance between median and each lateral ocelli much smaller than length or height of these ocelli; Fig. XXXIII: 1);





**Figs XXIII** (1–24). Hapithini and Paroecanthini. 1–7, *Aphonomorphus pileatus* sp. nov.; 8–10, *A. morona* Gor.; 11–13, *A. segregus* sp. nov.; 14–18, *A. montanus zamora* subsp. nov.; 19–21, *A. m. montanus* Gor.; 22, *Angustitrella mataraku* sp. nov.; 23, *Paroecanthus tamaulipas* sp. nov.; 24, *Aphonomorphus cusco* sp. nov. Male metanotal gland from above (1, 11, 14); inner side of fore tibia (2); female (3, 22, 23) and male (4, 12, 15, 24) genital plates from below; schematic picture of epiphallus with first ectoparamere from side (5, 8), of distal part of left (6, 9) and right (7, 10, 18, 21) second ectoparameres approximately from side (6, 9, 18, 21) and from above (7, 10), of right first and second ectoparameres from below (13), of strongly sclerotized apical epiphallic part (including its additional processes) from below (16, 19), and of left second ectoparamere from above (17, 20). Position of apex of second ectoparamere in relation to first ectoparamere shown by arrow (5, 8). Abbreviations: *ad*, additional epiphallic process; *da*, dorsoapical epiphallic spine; *ec*, first ectoparamere; *se*, second ectoparamere.



maxillary palpus with apical segment large, almost triangular, more or less similar to that of *Taroba? variegata* (Fig. XXI: 12). Pronotum clearly transverse, narrowing to head, with slightly concave anterior and obtuse-angled posterior edges; metanotal gland as in Fig. XXXIII: 2. Tegmina much protruding behind abdominal apex and apices of hind femora, with a few sinuate and poorly visible longitudinal oblique veins in proximal half of dorsal field and irregular (densely cellular) venation in other parts of this field and between above-mentioned veins, and with narrow R-M area, moderately narrow Sc-R area (having dense and almost regular crossveins), and 12–13 oblique branches of Sc (crossveins between these branches somewhat irregular); hind wings distinctly protruding behind tegminal apices. Legs with fore tibiae slightly inflated not far from its base and with distinctly slit-like and rather long inner tympanum. Anal plate with widely rounded (almost roundly truncated) apex; genital plate similar to that of *A. segregus* but with slightly wider distal half, wider and rounded posteromedian notch, and more widely rounded posterolateral lobes around this notch (Fig. XXIII: 24); genitalia as in Figs XXV: 1–4 (their differences from all other species of this subgenus given below).

Female unknown.

Length in mm. Body 19; body with wings 31; pronotum 3; tegmina 22; hind femora 10.7.

**Comparison.** The new species differs from *A. (E.) peruvianus* (Saussure, 1874), *A. (E.) dilutus* Gorochov, 2011, *A. (E.) fuscus* Gorochov, 2011 and *A. (E.) andreae* Cadena-Castañeda et Noriega, 2015 in the left first ectoparamere having a long spine-like hook directed upwards (in the above-listed congeners, such hook is absent or directed backwards), and in the right second ectoparamere with a large lamellar and almost spine-like process located in the distal part of this ectoparamere and directed laterally (in the above-mentioned congeners, this process is absent, or this ectoparamere has two long processes: lateral and medial ones).

***Aphonomorphus (Lobaphonus) distinctus calabaza* subsp. nov.**  
(Figs XXV: 5–7; XXXII: 1)

**Holotype.** Male, **Peru**, Junin Department, environs of Calabaza Vill., 11°26.7'S, 74°46.4'W, 1492 m, 22.XII.2010, V. Sinyaev, S. Sinyaeva, V. Izersky (ZIN).

**Description.** Male (holotype). General appearance very similar to that of nominotypical subspecies (see Gorochov, 2010), but metanotal gland slightly narrower (for comparison see Figs XXXII: 1, 2), dorsal surface of abdominal tergites brown with a pair of distinct and rather large whitish spots on sixth tergite as well as with median whitish spot on ninth tergite, and genital plate with three darkish lines: median line and a pair of lateral ones (*vs.* all abdominal tergites almost uniformly brown, and genital plate uniformly light brown). Genitalia distinguished from those of nominotypical subspecies by following characters: postero-medial lobe of epiphallus somewhat longer and more widely rounded at apex; first ectoparameres barely wider, slightly higher and with clearly shorter apical hook; second (rachial) ectoparameres with very narrow (in profile) apical part; endoparameres without distinct angular projection at base; formula with posterolateral semisclerotized stripes (ribbons) distinctly shorter, and with apodeme reaching apices of endoparameral apodemes (*vs.* clearly protruding before these apices) (Figs XXV: 5–7).

Female unknown.

Length in mm. Body 22; body with wings 33; pronotum 3.6; tegmina 22; hind femora 15.

**Comparison.** Differences of the new subspecies from *A. d. distinctus* Gorochov, 2010, distributed in Ecuador, are given above.

***Aphonomorphus (Furcaphonus) gorochovi* Cadena-Castañeda et Noriega, 2015**

*Aphonomorphus (Euapnonus) gorochovi* Cadena-Castañeda et Noriega, 2015.

**Note.** This species from Colombia was originally included in the subgenus

*Euaphonus* Hebard, 1928, but the photographs of “its” male genitalia (Cadena-Castañeda & Noriega, 2015: figs 10–13) clearly show that they belong to the subgenus *Furcaphonus* Gorochov, 2010. Moreover, these photographs, cited by the authors as those of holotype (!), belong to two different species of this subgenus: probably to *A. fasciatus* Gorochov, 2010 (fig. 10 in these authors), and possibly to true *A. gorochovi* (figs 11–13 in these authors). The latter species is most related to the following representatives of *Furcaphonus*: *A. elongatus* Gorochov, 2010, *A. woronovi* Gorochov, 2010 and *A. fasciatus*.

***Spiraphonus asymmetricus napo*  
subsp. nov.**  
(Figs XXV: 8–12)

*Holotype*. Male, **Ecuador**, Napo Prov., Cordillera Guacamayos, 0°35′15″S, 77°49′28″W, 2181 m, 11.XI.2011, V. Sinyaev, O. Romanov (ZIN).

*Description*. Male (holotype). General appearance very similar to that of nominotypical subspecies (see Gorochov, 2010), but median ocellus more transverse (this ocellus almost four times as wide as space between it and lateral ocellus; *vs.* median ocellus approximately twice as wide as this space), tegmina with distinctly darkened (dark brown) proximal half of Sc-R area in lateral field (*vs.* this area light brown, i.e. its colouration as in other areas of this field), and genital plate with wider distal part having somewhat larger apical notch [shape of this plate more or less similar to that of *Aphonomorphus cusco* (Fig. XXIII: 24) but with narrower ventromedian groove]. Genitalia (Figs XXV: 8–12) distinguished from those of nominotypical subspecies by shorter ectoparameres: left ectoparamere slightly not reaching apex of rachis, but right one almost reaching this apex; *vs.* left ectoparamere almost reaching rachial apex, but right one distinctly protruding behind this apex).

Female unknown.

Length in mm. Body 20.5; body with wings 31; pronotum 3.4; tegmina 22.5; hind femora 12.7.

*Comparison*. Differences of the new subspecies from *S. a. asymmetricus* Gorochov, 2010, collected in another province of Ecuador (Morona Santiago Prov.), are given above.

*Etymology*. The new subspecies is named after the Napo Province.

Tribe **PAROECANTHINI** Gorochov, 1986

*Note*. This tribe includes very morphologically diverse representatives having a unique structure of the ovipositor: distal part of this ovipositor is more or less horizontally widened and strongly (dorsoventrally) flattened; upper and lower halves of this ovipositor part are almost lamellar and in dry specimens usually curved in the opposite directions (upwards and downwards; Figs XXVI: 8, 9; XXX: 3–5; XXXI: 3–5, 14–16); drilling teeth are located only on the lateral edges of this ovipositor part (its dorsal and ventral surfaces are almost smooth or with very low tubercles and ridges; Figs XXVI: 8; XXX: 3, 4; XXXI: 3, 4, 14, 15). In males with the developed stridulatory apparatus (Figs XXVI: 6; XXIX: 6), stridulatory vein is always with a distinctly S-shaped lateral part, and oblique veins straight, weakly and roundly curved or sinuate (but not strongly angularly curved, i.e. not as in Hapithini). These characters allow us to easily distinguish most part of Paroecanthini from the other American tribes of Podoscirtinae. The Paroecanthini is divided into two subtribes: Paroecanthina and Tafaliscina Desutter, 1988 which are briefly considered below.

Subtribe **PAROECANTHINA** Gorochov, 1986

*Note*. The Paroecanthina is distinguished from Tafaliscina by some probable synapomorphies in the structure of male genitalia: endoparameres and formula are absent or strongly reduced; ectoparameres are not articulated or not separated from the epiphallus, sometimes practically absent (Figs XXVII: 1–4; XXVIII: 1–4). General appearance of Paroecanthina is

not very diverse: tegmina in all the known males of this subtribe have a stridulatory apparatus; widened and flattened distal part of the ovipositor is more or less elongately triangular in the ventral (or dorsal) view, i.e. this part is gradually narrowing to the acute or almost acute apex (Figs XXVI: 8). This subtribe includes the following genera (Gorochov, 2011): *Paroecanthus* Saussure, 1859; *Siccotrella* Gorochov, 2011; *Angustitrella* Gorochov, 2011; probably *Ectotrypa* Saussure, 1874 and *Selvagryllus* Otte, 2006.

***Angustitrella mataraku* sp. nov.**

(Figs XXIII: 22; XXVI: 1–10; XXVII: 1–4; XXVIII: 1, 2)

*Holotype*. Male, **Bolivia**, Santa Cruz Prov., ~70 km NWW of Santa Cruz City, Amboro National park, Mataraku Camp, ~800 m, primary forest, at light, 8–13.II.2014, A. Gorochov (ZIN).

*Paratypes*. Three males and 7 females, same data as for holotype (ZIN).

*Description*. Male (holotype). Body moderately slender. Head brown with large dark brown lateral area behind each eye, with yellowish lateral ocelli, with light brown labrum, scape, pedicel, short basal and long distal parts of antennal flagellum, and with greyish brown rest of this flagellum having very small and sparse lightish spots; pronotum dark brown with three large reddish brown areas on disc (antero-median area and a pair of posterolateral ones) (Figs XXVI: 1, 2); tegmina very light greyish brown with majority of membranes semitransparent, with Sc-M area and majority of veins darker (from greyish brown to light greyish brown), with membranes in basal area of dorsal field and along medial edge of this field (excepting apical area) slightly darkened, and with more strongly darkened small basal part of tegmen (Fig. XXVI: 6); legs with yellowish coxae and trochanters, with light brown femora (but proximal part of middle and hind femora almost yellowish), with reddish brown tibiae, tarsi and distal part of hind femur (but latter

part and middle tibia lighter, almost light reddish brown); rest of body from yellowish in anterior half to light brown in posterior half, but abdominal tergites with more or less darkened stripe along each posterior edge, anal plate with brown apical part and a pair of dark brown marks along lateral edges, genital plate with brown distal part, paraprocts almost completely brown, and cerci yellowish. Head typical of this genus, i.e. low, elongate, with roundly angular rostrum in profile, and with very narrow space between antennal cavities (scape almost 2.3 times as wide as this space); lateral ocelli clearly distinct (not very small) and round, but median ocellus indistinct (absent); apical segment of maxillary palpus short (slightly shorter than subapical one) and distinctly widened (almost triangular; Fig. XXVI: 10). Pronotum slightly wider than long, strongly narrowing to head, with slightly concave lateral sides, distinctly concave anterior edge of disc, barely convex posterior edge of disc, and with rather low (long) lateral lobes having their ventral edges almost parallel to dorsal ones (Figs XXVI: 1, 2); metanotal gland as in Fig. XXVI: 3. Tegmina long (distinctly protruding behind abdominal apex and apices of hind femora), with strongly S-shaped stridulatory vein, large and elongate mirror, moderately short apical area, 17–19 more or less S-shaped branches of Sc, very narrow Sc-R area, moderately narrow (not very widened) R-M area having rather numerous regular and oblique crossveins, and without crossveins between Sc branches and in most part of Sc-R area (Fig. XXVI: 6); hind wings distinctly protruding behind tegminal apices. Legs with open and almost round outer tympanum as well as with longer and slit-like inner one (Figs XXVI: 4, 5). Anal plate rather short, almost triangular but with roundly truncated apex; genital plate not long (but somewhat longer than anal plate), with narrowly truncated apex and not deep transverse fold between distal part of this plate and its rest part (this distal part also with a pair of smoothed carinae in



places of folding this part into conical semi-tube); paraprocts rounded, unspecialized. Genitalia with epiphallus distinctly but not strongly curved downwards in relation to rami (Figs XXVII: 1–4), with anterior part of epiphallus widened but lacking median notch, with posterior part of epiphallus having very short membranous apical part and two pairs of very small membranous lobules, with ectoparameral sclerotizations rather wide and short as well as not fused with epiphallus, and with ventral sclerite of epiphallic (dorsal) fold distinctly bifurcated in posterior part (Figs XXVIII: 1, 2).

Variations. Some males with almost dark brown maxillary palpus, brown hind tibia and tarsus as well as apical part of hind femur, or somewhat more uniform colouration of tegmina.

Female. Colouration and structure of body similar to those of males, but with following differences: head with less distinct dark lateral areas or without them; pronotum with reddish brown disc and sometimes upper half of each lateral lobe; tegmina with less semitransparent membranes, with brown crossveins in dorsal field, and without other darkened areas; legs often almost without reddish tinge and with lighter tibiae and tarsi; pronotum with almost parallel lateral sides, approximately as long as wide; tegmina narrower, with 10–11 longitudinal (slightly oblique) veins in dorsal field, with rather numerous and regular crossveins between them (Fig. XXVI: 7), with 15–17 oblique branches of Sc and not numerous but almost regular crossveins between them, and with not very narrow Sc-R area. Genital plate and ovipositor as in Figs XXIII: 22; XXVI: 8, 9.

Length in mm. Body: male 13–14, female 13.5–15; body with wings: male 19–21, female 20–22; pronotum: male 2.7–3, female 2.7–3.1; tegmina: male 14–15, female 13.5–14.5; hind femora: male 8.2–8.8, female 8.5–9.5; ovipositor 5.2–5.5.

Comparison. The new species is most similar to *A. maculata* Gorochov, 2011 (Ecuador) in the structure of male genitalia,

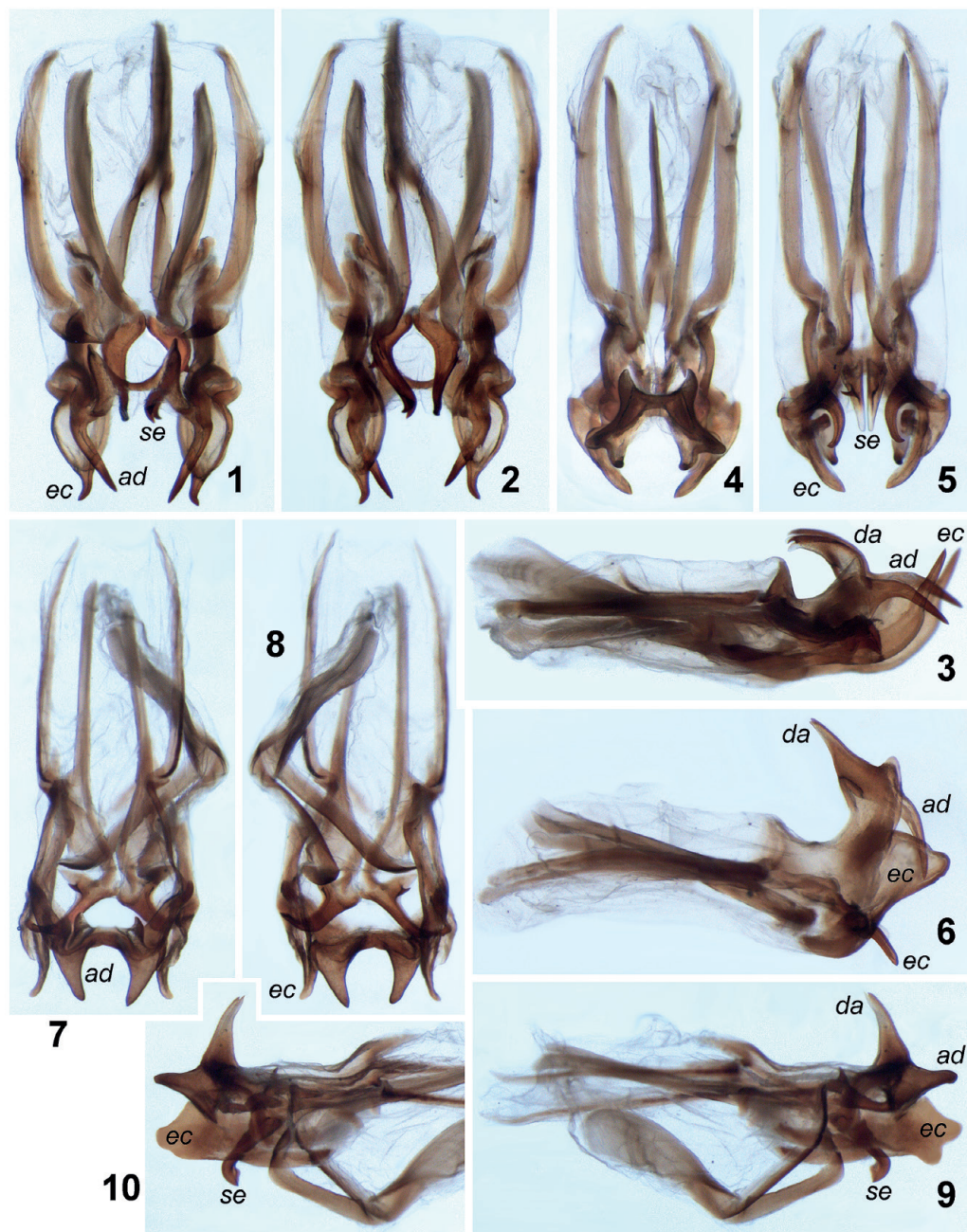
but it is distinguished from the latter species by a less spotted colouration, the absence of anteromedian epiphallic notch, shorter ectoparameral sclerotizations, and the ventral sclerite of epiphallic fold with a distinctly bifurcated apical part. From *A. trivialis* Gorochov, 2011 (Peru) and *A. columbia* Gorochov, 2011 (Colombia), the new species differs in the ectoparameral sclerotizations not fused with epiphallus; from *A. borealis* Gorochov, 2011 (Mexico), in the epiphallus directed partly downwards, wider ectoparameral sclerotizations, and a smaller rachis; from *A. podagrosa* (Saussure, 1897) (Central America), *A. roosevelti* (Rehn, 1917) (Guyana), *A. vicina* (Chopard, 1912) (Guyana) and *A. mirifica* (Otte et Perez-Gelabet, 2009) (Trinidad) in distinctly less inflated fore tibiae; from *A. hesperus* (Hebard, 1924) (Ecuador) and *A. andensis* Gorochov, 2011 (Ecuador), in the hind femur not contrastingly bicolorous; from *A. versutus* (Otte, 2006) (Costa Rica) and *A. rufa* (Otte et Perez-Gelabet, 2009) (Trinidad), in a clearly longer pronotum; and from *A. picipes* (Bruner, 1916) (Bolivia), in the most part of hind femur clearly lighter than head and pronotum (not of the same colour), in the absence of median ocellus and of its traces, and probably in the head rostrum narrower [Bruner (1916) wrote that his species has the rostrum “a little narrower than the broad basal antennal segment”; but *A. mataraku* has the scape almost 2.3 times as wide as the rostrum between antennal cavities].

**Etymology.** The species is named after its type locality (Mataracu Camp in the Amboro National Park).

***Paroecanthus aztecus* ?*aztecus*** Saussure, 1874  
(Figs XXVIII: 3, 4; XXIX: 4–6)

**New material.** **Honduras:** male, Comayagua, Cerro Azul Meambar National Park, 14°52'18"N, 87°54'18"W, 785 m, at light, 7–14. VII.2013, A. Pushenkov (ZIN).

**Note.** This specimen is almost in accordance to Saussure's descriptions of *P. aztec-*

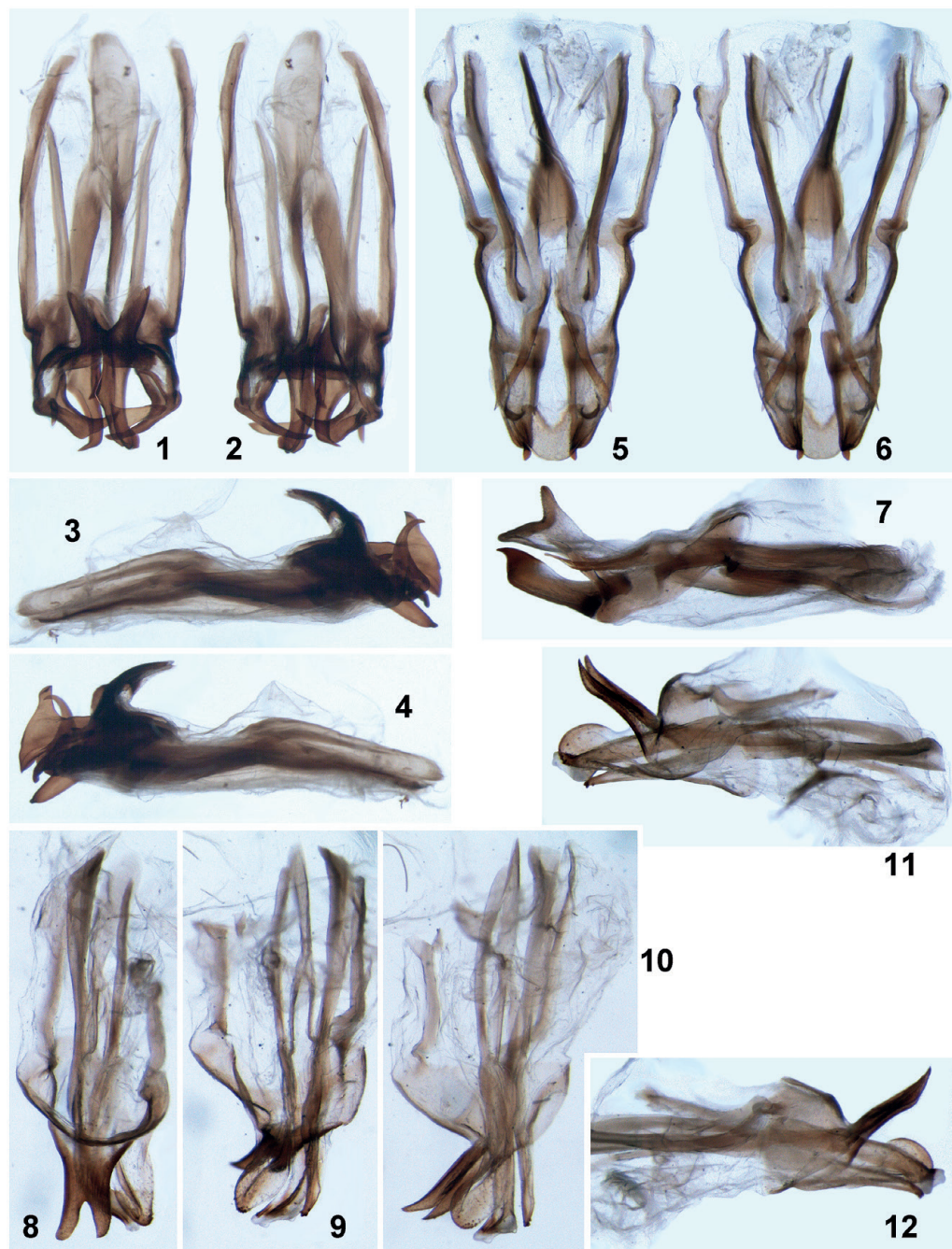


**Figs XXIV (1–10).** *Aphonomorphus*. 1–3, *A. pileatus* sp. nov.; 4–6, *A. segregus* sp. nov.; 7–10, *A. montanus zamora* subsp. nov. Male genitalia from above (1, 4, 7), from below (2, 5, 8), from one side (3, 6, 9), and their posterior two thirds from opposite side (10). Abbreviations: as in Figs XXIII (1–24).

*us* (Saussure, 1874, 1897) and to the male from Veracruz State of Mexico studied by me (Gorochov, 2011). However, the male from Honduras has very small differences

from my Mexican male: its fore and middle tarsi are darker (brown but not light brown), and its male genitalia have the membranous lateral epiphallic lobules wider in the proxi-





**Figs XXV (1–12).** *Aphonomorphus* and *Spiraphonus*. 1–4, *A. cusco* **sp. nov.**; 5–7, *A. distinctus calabaza* **subsp. nov.**; 8–12, *S. asymmetricus napo* **subsp. nov.** Male genitalia from above (1, 5, 8), from below (2, 6), from below and slightly from side (9), from side and slightly from below (10), from side (3, 4, 7, 11), and from side but without anterior part (12).



mal part, i.e. these lobules and tarsi are more similar to those of *P. a. tuxtla* Gorochov, 2011 and *P. a. ocosingo* Gorochov, 2011 (both from Chiapas State of Mexico). But the latter congeners differ from *P. a. aztecus* in the somewhat shorter male tegminal mirror and the slightly shorter or distinctly longer sclerotized anterolateral epiphallallic parts (located before the above-mentioned membranous lobules), and may belong to another but very closely related species of *Paroecanthus*. Differences of *P. a. aztecus* from the former subspecies *P. a. verapas* Gorochov, 2011 are more significant: in *P. a. aztecus*, head is more or less uniformly light, pronotum is also light but having dark borders along all the pronotal edges, and hind tibiae have distinct dark spots around or very near their spines and almost lack grey dots or very small stripes on the dorsal surface; in the second taxon, head and pronotum have distinct dark marks but lack dark borders along all the pronotal edges, and hind tibiae lack dark spots around or very near their spines but have rather numerous grey dots or small stripes on the dorsal surface without any connection with these spines. Thus, *P. verapas* **stat. nov.** from Guatemala is probably a separated species; but it is also possible that this taxon is only a subspecies of one of the other congeners with more or less similar colouration of head and pronotum (*P. varius* Gorochov, 2011; *P. simplex* Gorochov, 2011; *P. oaxaca* Gorochov, 2011).

***Paroecanthus tamaulipas* sp. nov.**  
(Figs XXIII: 23; XXIX: 1–3)

*Holotype.* Female, **Mexico**, Tamaulipas State, Gomez Farias, 600–700 m, 16.X.1998, D. Kasparyan (ZIN).

*Description.* Female (holotype). Body rather similar to that of *P. simplex*, *P. oaxaca*, *P. varius* and *P. verapas* in colouration of head and pronotum (Figs XXIX: 1–3) but somewhat smaller. Head yellowish with a few light brown longitudinal bands on dorsum (yellowish stripes between them narrow, distinctly narrower than these bands),

with rather small dark greyish brown area between ocelli fused with dark median line on rostrum between middle parts of antennal cavities (this line bifurcated between lower parts of antennal cavities; Fig. XXIX: 2), with a pair of small vertical dark stripes under eyes and a few darkish dots on epicranium between these stripes, and with blackish most part of proximal third of antennal flagellum (short basal part of this flagellum yellowish); pronotum also yellowish but with blackish to dark brown pattern consisting of stripe along anterior edge of disc, large median area (this area barely lighter than other elements of this dark pattern) near posterior edge of disc, a pair of interrupted longitudinal medial stripes, a pair of arcuate stripes along lateral edges of disc, a pair of distinct dots on middle part of disc, and a few dots and small stripes on each lateral lobe (Figs XXIX: 1, 3); tegmina yellowish with a few brown spots on dorsal field along its lateral edge, with light brown many crossveins of this field (Fig. XXIX: 3), and with semitransparent membranes of lateral field; legs and rest of body also yellowish with dark brown subbasal spot on dorsal surface of fore tibia, with traces of brownish subapical spot on this surface, with partly dark brown apical part of hind femur, with sparse darkish dots on dorsal and inner surfaces of this femur as well as with median line consisting of darkish dots on outer surface of this femur, with small brown dorsal spots on hind tibia near its base and at base of each spine and spur, and with brown ovipositor. Structure of body typical of *Paroecanthus*; scape almost 1.5 times as wide as rostrum between antennal cavities; lateral ocelli moderately large, round; median ocellus also round but much smaller than lateral ones (ocelli located in corners of weakly transverse triangle; Fig. XXIX: 1, 2); pronotum slightly transverse and clearly narrowing to head; tegmina distinctly protruding behind abdominal apex and insignificantly protruding behind apices of hind femora, with 9–10 longitudinal and somewhat oblique veins in dorsal field,

with 13–14 longitudinally oblique branches of Sc, and with not very numerous cross-veins in dorsal field and in Sc-M areas; hind wings clearly protruding behind tegminal apices (Fig. XXIX: 3); fore tibiae with immersed and distinctly slit-like inner tympanum and slightly shorter and widely oval (opened) outer tympanum; genital plate as in Fig. XXIII: 23.

Male unknown.

Length in mm. Body 12.5; body with wings 19.5; pronotum 3.3; hind femora 9.5; ovipositor 5.4.

**Comparison.** The new species differs from *P. simplex*, *P. oaxaca*, *P. varius* and *P. verapas* in the body smaller as well as in the apical part of female genital plate narrower and slightly notched (in these previously described species, this plate is widely truncated). From the other congeners, *P. tamaulipas* differs in the light general colouration of body in combination with the head, pronotum and hind tibiae spotted but lacking darkened borders along most pronotal edges.

**Etymology.** This species is named after the Tamaulipas State where it has been collected.

Subtribe **TAFALISCINA** Desutter, 1988

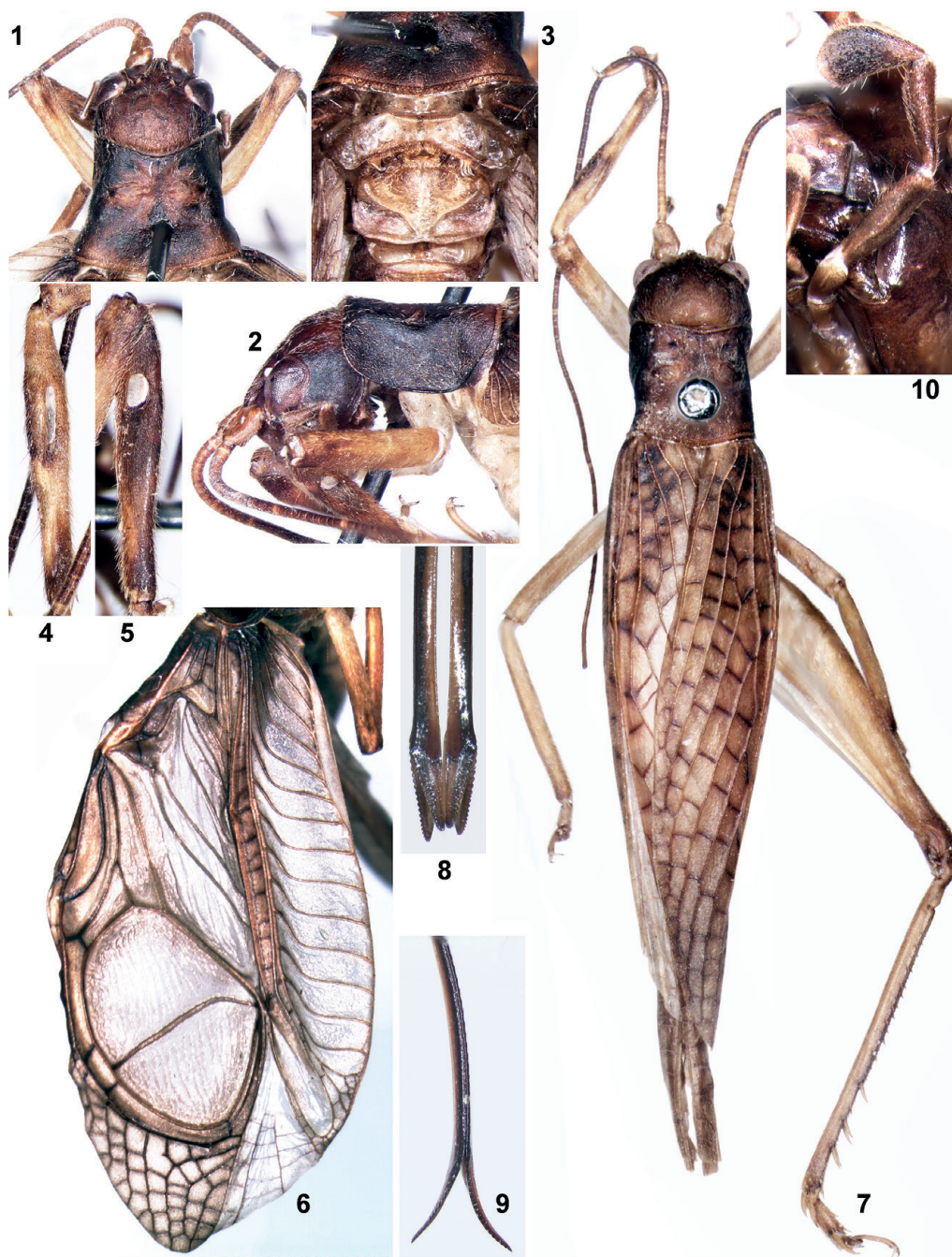
**Note.** The Tafaliscina representatives differ from those of Paroecanthina in some symplesiomorphic characters of the male genitalia only: endoparameres, formula and ectoparameres are normally developed; endoparameres have rather long and more or less thin apodemes (such apodemes are usual for Podoscirtinae and for many other taxa of Gryllidae) (Figs XXVII: 5–10; XXVIII: 6, 15). General appearance of Tafaliscina is very diverse: body may be from small and slender to large and rather robust; tegmina may have a stridulatory apparatus in male or may be without such apparatus in both sexes; legs may be with a normal armament or with very long spines and denticles on the hind tibia; widened and flattened distal part of the ovipositor may be from

similar to that of Paroecanthina to almost elongately rectangular in the ventral (or dorsal) view (including diverse and more or less intermediate variants of its shape; Figs XXX: 3–5; XXXI: 3–5, 14–16). As a result of the male genitalia study, one apterous genus possibly belonging to Tafaliscina (*Neometrypus* Desutter, 1988) was singled out as the “tribe Neometrypini” Desutter, 1988 in Desutter’s subfamily “Tafaliscinae” (Desutter, 1988). However, her description does not allow me to find any suitable diagnostic characters for this supergeneric taxon (except for the absence of wings). Thus, I provisionally put this genus in Tafaliscina but not synonymize Tafaliscina with “Neometrypini”, because the male genitalia in Tafaliscina are also rather diverse, and this subtribe may be divided into additional subtribes in future. At present, Tafaliscina includes the following genera: *Tafalisca* Walker, 1869; *Cylindrogryllus* Saussure, 1878; *Amblyrhethus* Kirby, 1906; *Pseudogryllus* Chopard, 1912; *Prodiatrypa* Desutter, 1988 (Gorochov, 2013; in OSF, this genus erroneously continues to be listed in Diatrypina); *Perutrella* Gorochov, 2011; *Mexitrypa* Gorochov, 2011; *Brazitrypa* Gorochov, 2011; possibly *Stenaphonus* Saussure, 1878, *Heterecous* Saussure, 1897 and *Stenoecanthus* Chopard, 1912.

Genus ***Tafalisca*** Walker, 1869

Type species *Tafalisca lurida* Walker, 1869 (Hispaniola I.).

**Note.** This genus is characterized by the robust appearance, the strong reduction or complete disappearance of stridulatory apparatus in the male tegmina, the absence of tympana, and the male genitalia having a pair of strongly inflated (almost sac-like) and partly membranous posterior epiphallal lobes. These characters allow us to include eight species in this genus: type species; *T. periplanes*, *T. rico*, *T. eleuthera* and *T. gnophos* described by Otte & Perez-Gelabert (2009) from Caribbean Islands; *T. ecuador* Gorochov, 2011 (Ecuador); *T. mexico* and



**Figs XXVI (1–10).** *Angustitrella mataraku* sp. nov. 1, 2, head, pronotum and fore legs of male from above (1) and from side (2); 3, male metanotal gland from above; 4, 5, inner (4) and outer (5) surfaces of fore tibia with tympana; 6, male tegmen; 7, female body with legs from above; 8, 9, distal part of ovipositor from above (8) and from side (9); maxillary palpus from side (10).



*T. proxima* described by Gorochov (2011) from Mexico. Some other species, included by Otte (2006) and Otte & Perez-Gelabert (2009) in this genus, possibly belong to the genera *Brazitrypa* Gorochov, 2011 (*T. fufurosa* Otte, 2006 from Costa Rica) and *Pseudogryllus* Chopard, 1912 (*T. lineatipes* Brunner, 1916 from Jamaica, *T. evimon* Otte et Perez-Gelabert, 2009 from Trinidad) or are with unclear generic position (*Metrypus claudicans* Brunner-Wattenwyl, 1893 and *M. heros* Brunner-Wattenwyl, 1893 from Grenadines, *T. bahama* Otte et Perez-Gelabert, 2009 from Bagamas; their males are unknown).

*Metrypus bahiensis* Saussure, 1878 (Brazil), *M. bogotensis* Saussure, 1878 (Colombia), *M. brasiliensis* Saussure, 1878 (Brazil), *M. crypsiphonus* Saussure, 1878 (Antilles or Colombia), *M. mutus* Saussure, 1878 (South America), *M. virescens* Saussure, 1878 (Java), *Oecanthus pallidocinctus* 1890 (Brazil), *T. maroniensis* Chopard, 1930 and *T. porteri* Chopard, 1930 from French Guiana, additionally attributed to *Tafalisca* in OSF, are also with unclear generic position (their male genitalia are unstudied), but Indo-Malayan *M. virescens* most probably does not belong to *Tafalisca*, *Tafaliscina* and *Paroecanthini*. Finally, it is necessary to note that females of *Tafalisca* may be distinguished from the related genera *Pseudogryllus* and *Mexitrypa* Gorochov, 2011 by the less dense and more regular (not cellular) crossvenation between the main veins of dorsal tegminal field, but their differences from *Brazitrypa* Gorochov, 2011 (with the male genitalia very different) are unclear; it is a reason that generic position of the female described below from Bolivia is problematic.

***Tafalisca? huanchaca* sp. nov.**  
(Figs XXX: 1–7)

**Holotype.** Female, **Bolivia**, northern part of Santa Cruz Prov. near Brazil, Noel Kempff Mercado National Park, Los Fierros Camp, ~300 m, primary forest, on branch of bush at night, 23–28.I.2014, A. Gorochov (ZIN).

**Description.** Female (holotype). Body very robust. Head reddish brown with a few light brown areas on epicranium (in lower parts of genae and under antennal cavities), almost light brown mouthparts and antennae (flagellum with very sparse and small darkish marks), and with yellowish lateral ocelli; pronotum uniformly reddish brown but with whitish pubescence; tegmina yellowish with dark brown venation; legs reddish brown with almost dark brown areas in distal part of hind femur and most part of dorsal surface of hind tibia (but spines and spurs of this tibia reddish brown, and hind tarsi light brown with darker middle area); rest of body also reddish brown but with greyish brown cerci, paraprocts and apical part of anal plate, with darkened last abdominal tergites, and with ovipositor yellowish and having brown lateral and distal parts (Figs XXX: 1–6). Head slightly (dorsoventrally) flattened, with rostrum roundly angular in profile, with scape barely narrower than rostrum between antennal cavities, with lateral ocelli moderately large and round, with median ocellus somewhat smaller but also round (and reddish brown), and with maxillary palpus having rather narrow and almost oval apical segment (Fig. XXX: 6); pronotum weakly transverse, barely narrowing to head, with slightly concave anterior and slightly convex posterior edges, and with lateral lobes moderately low; tegmina clearly protruding behind abdominal apex and somewhat protruding behind apices of hind femora, with rather numerous distinct and regular oblique longitudinal veins in distal field, with numerous (but not dense) and more or less regular crossveins between these veins, with narrow proximal half of R-M area, very narrow rest of this area, with moderately narrow Sc-R area, with 9–10 longitudinal branches of Sc (these branches almost parallel to R), and with rather numerous distinct and almost regular crossveins (Figs XXX: 1, 2); hind wings slightly protruding behind tegminal apices; hind leg with strongly widened femur, moderately long spines of hind tibia (5

outer and 4 inner ones), numerous and not very long denticles between these spines, two similar outer denticles of basitarsus, a pair of longer subapical denticles on this segment, and a pair of longest apical spurs of this segment reaching near middle of apical tarsal segment (Fig. XXX: 2); anal plate with moderately narrow distal part roundly truncated at apex; genital plate and ovipositor as in Figs XXX: 3–5, 7.

Male unknown.

Length in mm. Body 16.5; body with wings 20.5; pronotum 3.7; tegmina 15.5; hind femora 12.2; ovipositor 8.5.

**Comparison.** The new species differs from *Brazitrypa? haani* (Saussure, 1874), *B. paulista* (Rehn, 1918) and *B. paranaensis* (Dias et de Mello, 2010) (all three in Brazil), as well as from *Tafalisca bahama*, *T. ecuador*, *T. mexico* and *T. proxima* in the wings protruding behind the abdominal apex (in these species, their wings are not reaching the abdominal apex); from *B. longiapex* Gorochov, 2011 (Brazil), in the ovipositor with the less acute (but somewhat obliquely cutted) apical parts of the dorsal and ventral valves; and from the other true and possible species of *Tafalisca*, in the darker or more contrast colouration of tegmina, and/or the shorter hind tibial denticles.

**Etymology.** The new species is named after the old name of the national park where this species has been collected (Huanchaca National Park).

Genus ***Cylindrogryllus*** Saussure, 1878

Type species *Cylindrogryllus brevipennis* Saussure, 1878 (Brazil).

**Note.** Previously, this genus included only a type species (Saussure, 1878; OSF). However, there are several species having the rather small and slender body, head without ocelli, maxillary palpus with the apical segment rather narrow, elongate and low pronotum, strongly shortened or undeveloped wings (if wings are developed, they lack any tegminal stridulatory apparatus in the both sexes), as well as lacking

tympana on the fore tibia (Figs XXXI: 1, 2, 6–13). Some of these species also have the male genitalia similar in the structure (i.e. their endoparameres are normal and with long apodemes, their ectoparameres are distinct and articulated with the epiphallus or partly fused with the endoparameral bases, and their formula is well developed; Figs XXVII: 5–10; XXVIII: 6, 15), and the ovipositor with its distal part approximately as in *Paroecanthina* (Figs XXXI: 3–5, 14–16).

All these species may be grouped into three subgenera which are briefly characterized below, in a key for subgenera of the genus *Cylindrogryllus*.

1. Tegmina approximately equal to pronotum in length or insignificantly longer. Male genitalia with posterior epiphallic lobes completely sclerotized in dorsal and lateral parts, and with well developed sclerotized ectoparameres located near apical parts of epiphallus . . . . . subgenus ***Cylindrogryllus*** s. str. [*Picinguaba* de Mello, 1990, possible synonym. **Included species** (in original binomen): type species of genus; *P. pitanga* de Mello, 1990 (Brazil), type species of *Picinguaba* but possibly also synonym to *C. brevipennis*.]
- Tegmina approximately equal to half of pronotum in length, shorter or completely absent. Male genitalia with posterior epiphallic lobes as above, but with sclerotized ectoparameres poorly developed and located near base of epiphallus (Figs XXVII: 8, 9; XXVIII: 6); or posterior epiphallic lobes sclerotized in lateral part only, and sclerotized ectoparameres well developed and located in distal half of epiphallus (Figs XXVII: 5, 6; XXVIII: 15) . . . . . 2
2. Body completely apterous. Male genitalia with posterior epiphallic lobes completely sclerotized in dorsal and lateral parts, and with poorly developed sclerotized ectoparameres located near base of epiphallus (Figs XXVII: 8, 9; XXVIII: 6) . . . . subgenus ***Apterotrypa*** subgen. nov. [**Included species:** *C. (A.) noeli* sp. nov., type

species of *Apterotrypa*; possibly *C. aguarico* **sp. nov.**, *C. sympatricus* **sp. nov.** and *C. signatus* **sp. nov.** **Etmology:** subgeneric name originates from Latin word “apterus” (apterous, lacking wings) and former generic name *Metrypa*.]

- Body with very short tegmina or apterous. Male genitalia with posterior lobes sclerotized in lateral part only, and with well developed ectoparameres located in posterior half of epiphallus (Figs XXVII: 5, 6; XXVIII: 15) ..... subgenus *Neometrypus* **stat. nov.** [*Neometrypus* Desutter, 1988, originally described as genus. **Included species** (in original binomen): *N. amazonus* Desutter, 1988 (Colombia), type species of *Neometrypus*; *N. badius* Mesa et Garcia-Novo, 2001 (Brazil); *Parametrypus aculeatus* Saussure, 1878 (Brazil). **Remark:** latter species was erroneously included by its author in genus *Parametrypa* Brunner-Wattenwyl, 1873 originally proposed for African species only.]

***Cylindrogryllus (Apterotrypa) noeli*  
**sp. nov.****

(Figs XXVII: 8–10; XXVIII: 5–7; XXXI: 1–5)

**Holotype.** Male, **Bolivia**, northern part of Santa Cruz Prov. near Brazil, Noel Kempff Mercado National Park, Los Fierros Camp, ~300 m, primary forest, on leaf of tree at night, 23–28.I.2014, A. Gorochov (ZIN).

**Paratypes.** Male, female and nymph of female, same data as for holotype (ZIN).

**Description.** Male (holotype). Body small for this genus and completely apterous. Colouration light brown with mouthparts (including palpi), all coxae and sternites yellowish, with rest of legs intermediate between yellowish and light brown (but distal part of hind femur and proximal part of hind tibia slightly darker, almost light brown), with sparse darkish (greyish brown) spots on antennal flagellum, and with whitish pubescence (Fig. XXXI: 1). Head somewhat dorsoventrally flattened, with roundly angular rostrum in profile, with scape almost 1.2 times as wide as rostrum between antennal cavities, and with apical segment of maxillary palpus weakly widened dis-

tally and having rounded apical part (Fig. XXXI: 2); pronotum longitudinal, approximately 1.1 times as long as wide, semitubular, with almost straight anterior and slightly convex posterior edges, with rather low lateral lobes having slightly convex and barely oblique ventral edges (Figs XXXI: 1, 2); legs slender, without tympana but with hind femora clearly widened for jumps, with four inner and five outer dorsal articulated spines on hind tibia (but most distal fifth outer spine distinctly shorter than all other articulated spines), with one inner and three outer apical spurs of this tibia almost as shortest spine in length, with dorsal and middle inner apical spurs slightly longer than all spines and reaching almost middle of hind basitarsus, and with two outer denticles and a pair of slightly longer subapical denticles as well as a pair of apical spurs on this basitarsus (latter spurs much longer than all these denticles and reaching middle part of apical segment of hind tarsi). Anal plate elongately triangular, with narrowly rounded apex and transverse suture near base (this suture looking as border between epiproct and tenth abdominal tergite; Fig. XXVIII: 5); genital plate elongate, approximately 1.5 times as long as anal plate, and narrowing to narrowly rounded (almost acute) apex; genitalia with anterior part of epiphallus having transverse fold (i.e. this part in shape of sclerotized transverse ribbon sharply curved upwards), with a pair of posterior epiphallic lobes having medial sclerotized projections directed to rachis, with sclerotized parts of ectoparameres rather small and partly fused with bases of endoparameres, with rachis wide and short (triangular in ventral view) as well as mostly sclerotized and laterally (partly) fused with a pair of elongate sclerotized plates slightly protruding behind apex of rachis, and with formula looking as V-shaped sclerite almost reaching base of rachis (Figs. XXVII: 8–10; XXVIII: 6).

**Variations.** Second male with light yellowish basitarsus which somewhat lighter than distal part of hind tibia.



Female. General appearance as in males, but abdomen with weak traces of transversally striped coloration on tergites (in nymph, these stripes more distinct), and transverse suture on anal plate indistinct; genital plate and ovipositor as in Figs XXVIII: 7; XXXI: 3–5.

Length in mm. Body: male 8–9, female 9.5; pronotum: male 2.4–2.5, female 2.3; hind femora: male 6.5–7, female 7.7; ovipositor 8.

**Comparison.** Differences of this species from the new congeners with unclear subgeneric position (because they may belong to this subgenus) are given after their descriptions. From the other congeners, *C. noeli* is distinguished by the characters given in the subgeneric key of *Cylindrogryllus* s. l.

**Etymology.** The new species is named after Noel Kempff Mercado, a Bolivian biologist who gave his name to the national park where this species has been collected.

***Cylindrogryllus (Neometrypus) aculeatus argentinus* subsp. nov.**

(Figs XXVII: 5–7; XXVIII: 14–17; XXXI: 12–16)

**Holotype.** Male, **Argentina**, Buenos Aires, “Insel Macil (Roca del Riachuelo)”, C. Berg (ZIN).

**Paratypes.** Two females, same data as for holotype (ZIN).

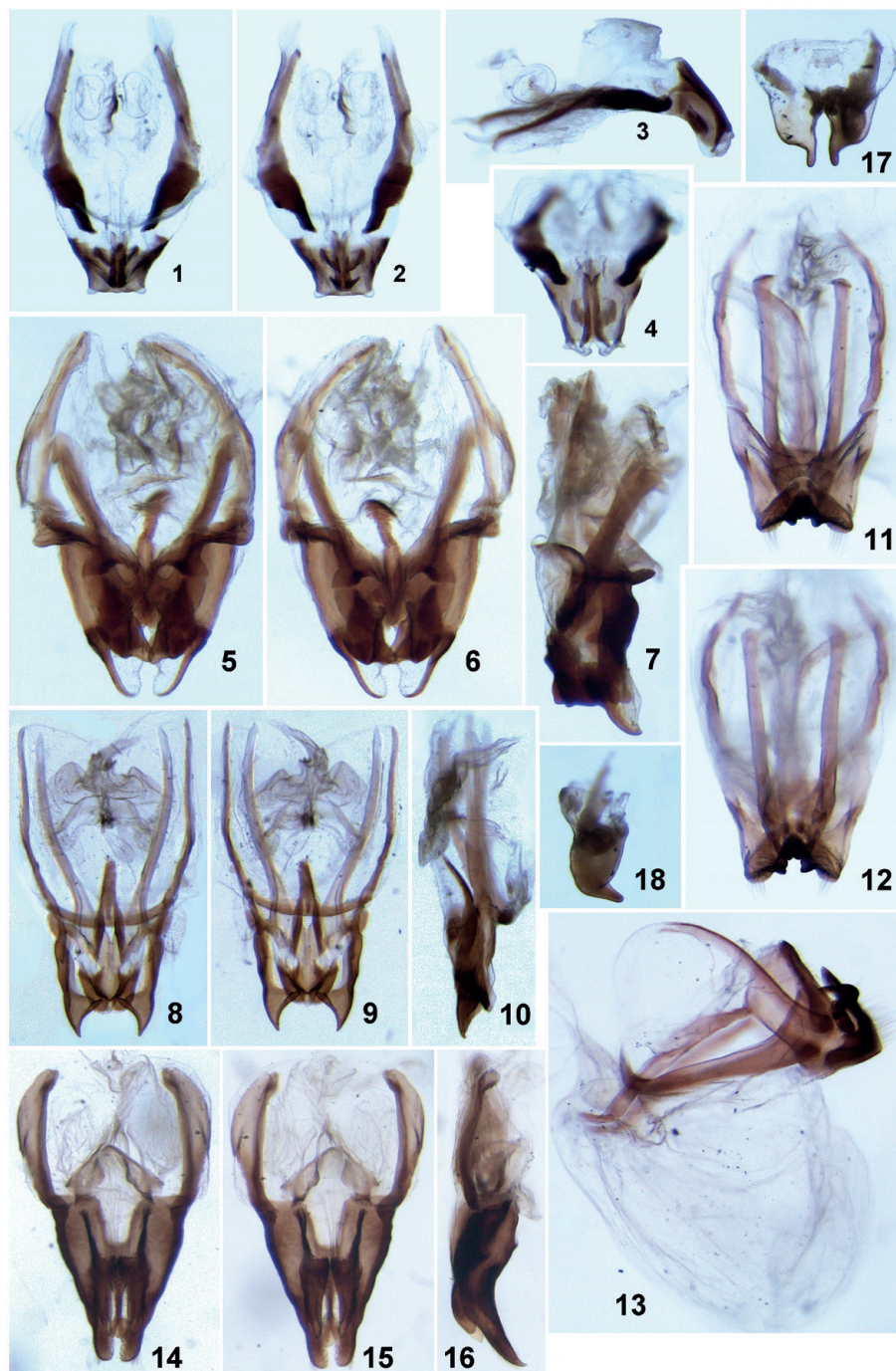
**Description.** Male (holotype). Body slightly longer than in *C. noeli*. Colouration light brown with reddish tinge, brown eyes, yellowish tegmina, dark brown first abdominal tergite and genital plate, blackish ninth abdominal tergite and anal plate as well as median stripe running from second abdominal tergite to eighth abdominal tergite, and six darkish spots on dorsal part of hind tibia. Scape almost 1.15 times as wide as rostrum between antennal cavities; pronotum approximately 1.1 times as long as wide, with almost straight anterior and posterior edges as well as rather low lateral lobes having more or less straight ventral edges parallel to dorsal edges of these lobes; tegmina strongly shortened, contacting with each

other, with widely rounded distal parts reaching anterior part of first abdominal tergite, and with 7–8 somewhat irregular longitudinal veins (crossveins absent); hind wings invisible (Fig. XXXI: 12); legs similar to those of *C. noeli* (tympana absent); anal plate transversally triangular, with dorsal median keel and angular apical notch (Fig. XXVIII: 14); genital plate much longer than anal plate but not very long and with rounded apical part. Genitalia with anterolateral corners of epiphallus partly curved upwards, with a pair of posterior epiphallic lobes lacking medial sclerotized projections, with sclerotized ectoparameres large and rather complicated in shape as well as clearly articulated with bases of endoparameres, with rachis moderately narrow (but not very long) and mostly membranous, and with formula in shape of semisclerotized median stripe reaching base of rachis and having a pair of narrow ribbons along ventral surface of rachis (Figs XXVII: 5–7; XXVIII: 15).

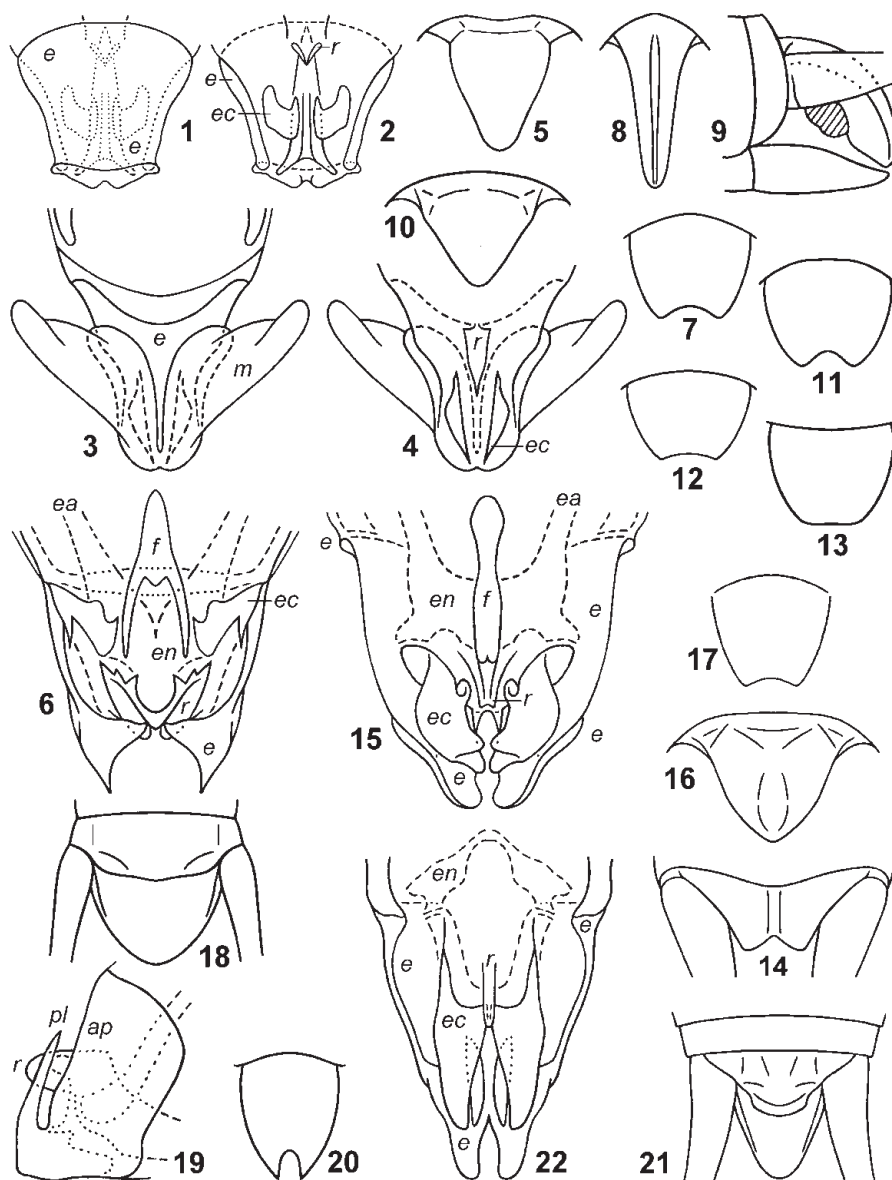
Female. General appearance as in male, but cerci yellowish, tegmina with traces of four irregular longitudinal veins only (Fig. XXXI: 13), and anal plate without median keel and apical notch (Fig. XXVIII: 16); genital plate with rather wide and roundly concave apical part (Fig. XXVIII: 17); ovipositor as in Figs XXXI: 14–16.

Length in mm. Body: male 13, female 12.5–13; pronotum: male 2.4, female 2.6–2.8; visible part of tegmina: male 1.3, female 1.2–1.5; hind femora: male 7.1, female 7.2–8; ovipositor 7.5–7.8.

**Comparison.** The new subspecies differs from the nominotypical subspecies of *C. aculeatus* **comb. nov.** (Santa Catarina State in South Brazil) in the dorsal area of first abdominal tergite darkened (as its lateral parts), and in the lateral parts of majority of other tergites not darker than most part of their dorsal areas. From *C. amazonus* **comb. nov.**, *C. a. argentinus* is distinguished by the same characters as *C. a. aculeatus*, i.e. by the presence of tegmina, narrower sclerotized parts of the posterior epiphallic



**Figs XXVII (1–18).** Paroecanthini, Aphonoidini and Podoscirtinae incertae sedis. 1–4, *Angustitrella mataraku* sp. nov.; 5–7, *Cyllindrogryllus* (*Neometrypus*) *aculeatus argentinus* subsp. nov.; 8–10, *C. (Apterotrypa) noeli* sp. nov.; 11–13, *Diatrypa* (*Diatrypa*) *glandulifera* sp. nov.; 14–16, *Dicero-rostrum diceros* sp. nov.; 17, 18, *C. aguarico* sp. nov. Male genitalia, dorsal (1, 5, 8, 11, 14), ventral (2, 6, 9, 12, 15), lateral (3, 7, 10, 13, 16) and anteroventral (4) views; genitalia of subadult nymph of male, dorsal (17) and lateral (18) views.



**Figs XXVIII (1–22).** Paroecanthini, Aphonoidini and Podoscirtinae incertae sedis, schematically. 1, 2, *Angustitrella mataraku* **sp. nov.**; 3, 4, *Paroecanthus aztecus* ?*aztecus* Sauss. from Honduras; 5–7, *Cylindrogryllus noeli* **sp. nov.**; 8–11, *C. aguarico* **sp. nov.**; 12, *C. sympatricus* **sp. nov.**; 13, *C. signatus* **sp. nov.**; 14–17, *C. aculeatus argentinus* **subsp. nov.**; 18–20, *Diatrypa glandulifera* **sp. nov.**; 21, 22, *Dicerorostrum diceros* **sp. nov.** Epiphallus with ectoparameres and rachis, posterodorsal (1) and anteroventral (2) views as well as dorsal (3) and ventral (4) views; posterodorsal view of anal plate in male (5), in subadult nymph of male (8) and in female (10, 16); epiphallus with ectoparameres and rachis as well as with formula and endoparameres, ventral view (but without most part of endoparameral apodemes, if they developed) (6, 15, 22) and lateral view (but without these apodemes and formula) (19); female genital plate from below (7, 11–13, 17, 20); male anal plate from above (14); abdominal apex in male from above (18, 21) and in subadult nymph of male from side (9). Abbreviations: *ap*, anterior epiphallic part; *pl*, posterodorsal epiphallic lobe; *m*, membranous lateral lobe of epiphallic fold; others, as in Figs II and IV.



lobes, and wider anterior part of the formula in the male genitalia; and from *C. badius* **comb. nov.**, by the smaller body, presence of a distinct dark median stripe along the dorsal surface of pterothorax and of abdomen, slightly longer tegmina, and not apical position of the ectoparameres in the male genitalia.

***Cylindrogryllus aguarico* sp. nov.**

(Figs XXVII: 17, 18; XXVIII: 8–11; XXXI: 6, 7)

**Holotype.** Female, **Ecuador**, ~70 km SE of Lago Agrio Town, environs of S. Pablo de Kantesiya Vill. on Aguarico River, lowlying secondary forest, on branch of tree at night, 10–17.XI.2005, A. Gorochov, A. Ovtshinnikov (ZIN).

**Paratypes.** Female and nymph of male, same data as for holotype (ZIN).

**Description.** Female (holotype). General appearance similar to that of *C. noeli* (body also completely apterous) but with following differences: whitish pubescence less distinct; scape almost 1.35 times as wide as rostrum between antennal cavities; antennal flagellum with more numerous darkish spots; pronotum longer (approximately 1.3 times as long as wide), with darker (almost brownish grey) lateral lobes and less oblique ventral edges of these lobes (Figs XXXI: 6, 7); legs with five darkish areas on hind leg (near apex of femur, near base of tibia, in middle and apical parts of this tibia, and in middle of tarsus); abdomen with transversally striped colouration of tergites (almost as in nymph of female of *C. noeli*), with somewhat shorter anal plate (Fig. XXVIII: 10), and with genital plate as in Figs XXVIII: 11.

**Variations.** Second female with slightly darker head (almost reddish brown) and pronotum (almost greyish brown), with additional darkish spot on dorsal surface of hind femur, without distinct darkening in middle part of hind tibia, and with darkish areas on abdominal apex (last tergite, base and apex of anal plate, parts of paraprocts, and base of ovipositor).

Male unknown, but subadult nymph of male distinguished from females by clearly

smaller body, yellowish stripe along posterior edge of pronotal disc, very long and narrow posterior part of anal plate which curved downwards and having distinct median keel on dorsal and posterior surfaces (Figs XXVIII: 8, 9); its genital plate somewhat similar to that of male of *C. noeli*, and its nymphal genitalia as in Figs XXVII: 17, 18.

Length in mm, female. Body 10.5–11; pronotum 2.9–3; hind femora 8.3–8.5; ovipositor 8.3–8.7.

**Comparison.** The new species differs from *C. noeli* in the pronotum longer and less uniformly coloured, hind legs spotted, female anal plate shorter, and male anal plate evidently much longer. From the apterous *C. amazonus*, *C. aguarico* is distinguished by the uniform coloration of epicranium and slightly longer pronotum having the anteroventral corners rounded and practically invisible from above (for comparison see Desutter, 1988: 368, 369).

**Etymology.** This species is named after the Aquarico River located very near its type locality.

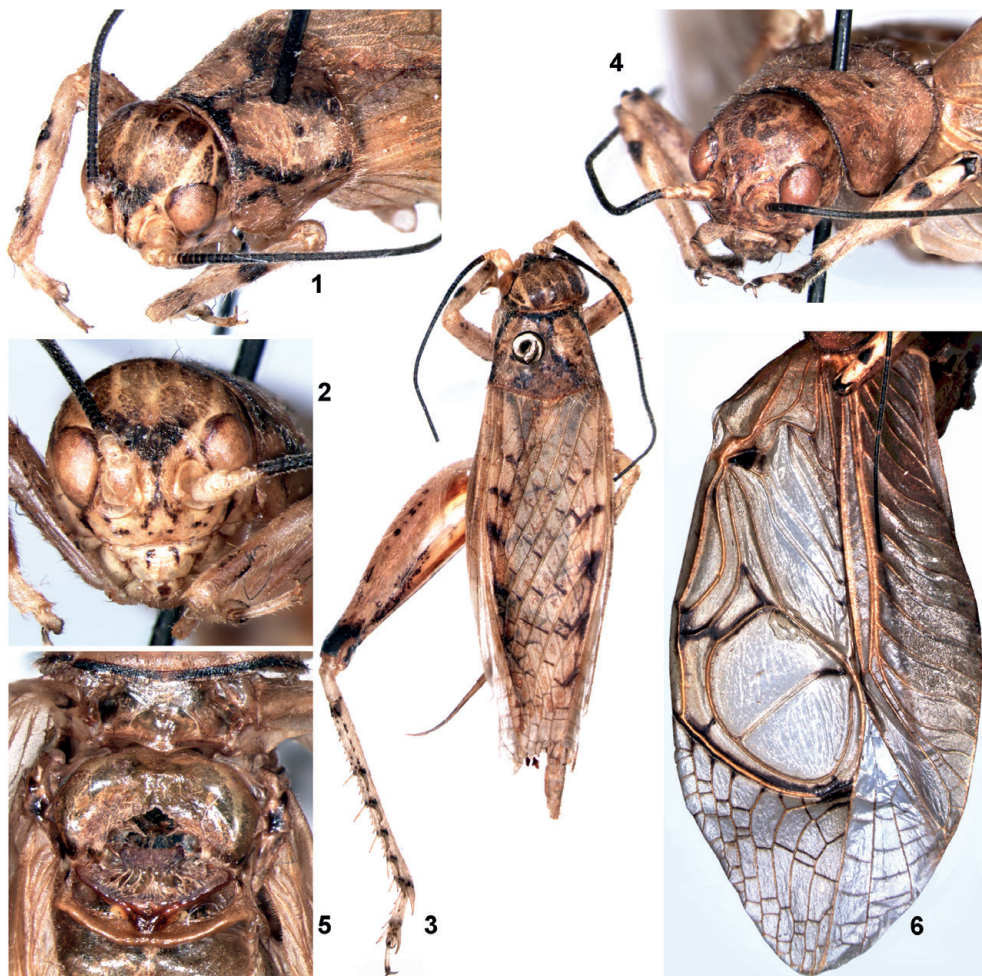
***Cylindrogryllus sympatricus* sp. nov.**

(Figs XXVIII: 12; XXXI: 8, 9)

**Holotype.** Female, **Ecuador**, ~70 km SE of Lago Agrio Town, environs of S. Pablo de Kantesiya Vill. on Aguarico River, lowlying secondary forest, on branch of tree at night, 10–17.XI.2005, A. Gorochov, A. Ovtshinnikov (ZIN).

**Paratype.** Female, same data as for holotype (ZIN).

**Description.** Female (holotype). General appearance also similar to that of *C. noeli* and *C. aguarico* having completely apterous body, but with slightly less slender legs and some other differences. Colouration of head dorsum, of all tergites and of anal plate base brown with lightish narrow stripe along anterior half of ventral edge of each pronotal lateral lobe; rest of head (including antennae), legs, sternites, genital plate, rest of anal plate, and base of cerci light brown but with yellowish labrum, small darkish spots on antennal flagellum, greyish brown rostral apex and a few large dots on fore and



**Figs XXIX (1–6).** *Paroecanthus*. 1–3, *P. tamaulipas* sp. nov., female; 4–6, *P. aztecus* ?*aztecus* Sauss. from Honduras, male. Head with pronotum and fore legs, anterolateral and somewhat dorsal view (1, 4); head in front (2); body with legs from above (3); metanotal gland from above (5); right tegmen (6).

middle femora, darkened spot on fore and middle tibiae near their apical part (Figs XXXI: 8, 9), a few such spots on distal half of hind femur, five dark brown spots on hind tibia, brown to dark brown spot in middle part of hind tarsus, and darkish rest part of cerci. Structure of body also similar to these species, but scape approximately 1.4 times as wide as rostrum between antennal cavities, pronotum slightly narrowing to head (not with parallel lateral sides) and almost as long as wide; pronotal lateral lobes more similar to those of *C. noeli* (Fig. XXXI: 9); anal plate almost as in *C. aguarico*; geni-

tal plate with shallower apical notch (Fig. XXVIII: 12); ovipositor distinctly shorter than hind femur.

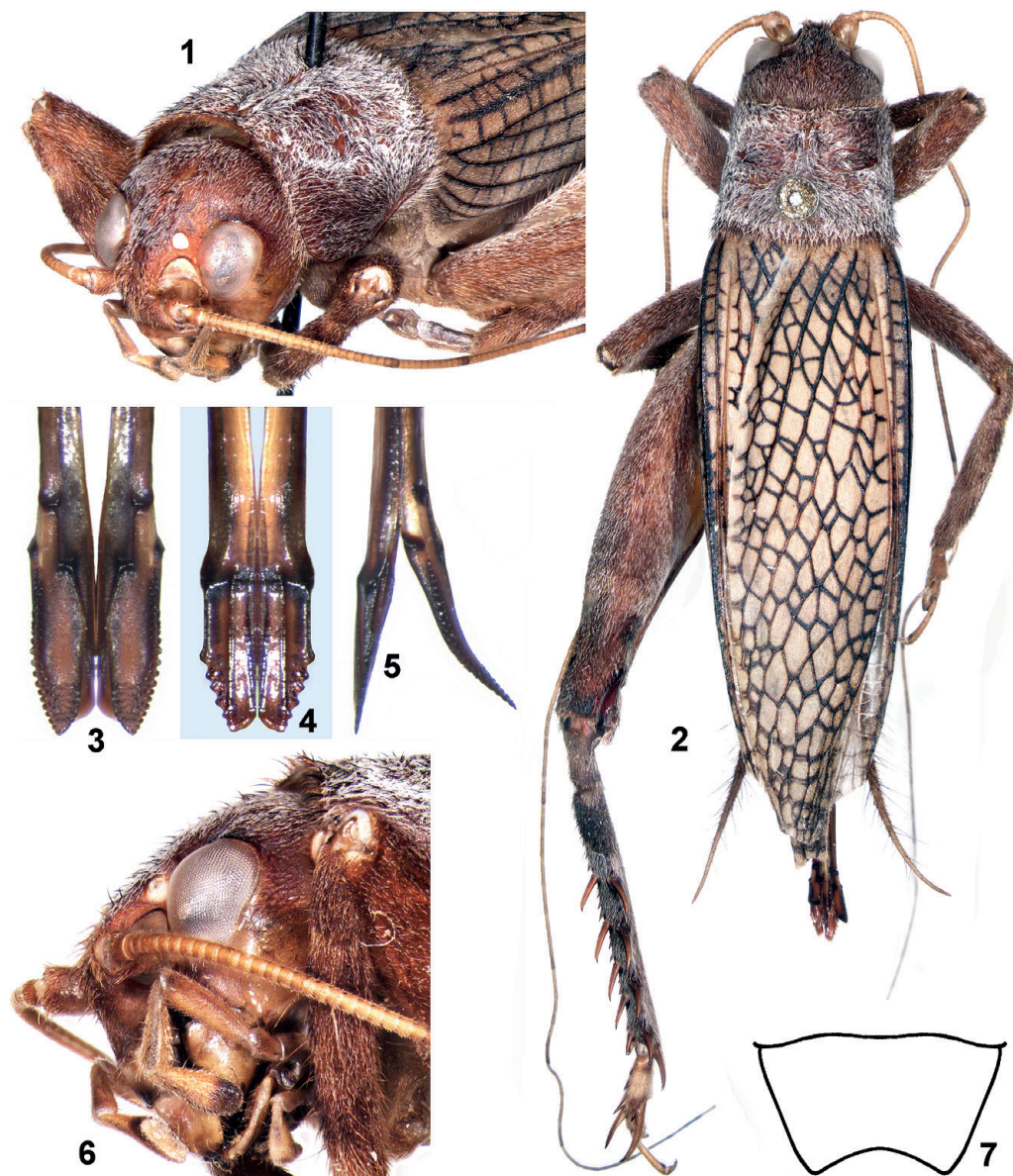
Variations. Paratype with additional darkened spot in proximal part of fore and middle tibiae, and with anal plate completely darkened.

Male unknown.

Length in mm. Body 9.5–10.5; pronotum 2.5–2.6; hind femora 7.8–8; ovipositor 5.9–6.

*Comparison.* The new species differs from *C. noeli* and *C. aguarico* mainly in the shorter ovipositor (hind femur is almost 1.3





**Figs XXX (1–7).** *Tafalisca? huanchaca* sp. nov., female. 1, head with pronotum and fore legs, anterolateral and somewhat dorsal view; 2, body with legs from above; 3–5, distal part of ovipositor from above (3), from below (but without upper valves) (4) and from side (5); 6, head from side; 7, genital plate from below.

times as long as ovipositor in *C. sympatricus* and approximately equal to ovipositor in length in *C. noeli* and *C. aguarico*). From the apterous *C. amazonus*, *C. sympatricus* is distinguished by the shorter pronotum with the lateral sides not parallel, and by

the same character of pronotal anteroventral corners as *C. aguarico*.

**Etymology.** Name of the new species is the Latin word “sympatricus” (sympatric), because this species and *C. aguarico* have the same type locality.



***Cylindrogyllus signatus* sp. nov.**

(Figs XXVIII: 13; XXXI: 10, 11)

**Holotype.** Female, **Peru**, Junin Department, Satipo Prov., ~25 km SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, partly primary / partly secondary forest, at light, 20–23.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

**Paratype.** Female, same data as for holotype (ZIN).

**Description.** Female (holotype). General appearance most similar to that of *C. sympatricus*, but with following differences: head light brown with dark brown ventromedial parts of scapes and rostrum between antennal cavities, with greyish brown pedicel and antennal flagellum, and with scape almost 1.3 times as wide as rostrum between antennal cavities; pronotum light brown with dark brown lateral lobes having light stripes along ventral edges; pterothoracic and proximal abdominal tergites also with dark brown lateral parts and light brown dorsal part (Figs XXXI: 10, 11), but rest of tergites dark brown to greyish brown with slightly lighter small median area only (however, last tergite completely darkened); legs more or less uniformly light brown with barely visible darkish area on hind femur near its apical part only; most part of sternites and genital plate greyish brown; cerci light brown; genital plate with truncated apex (Fig. XXVIII: 13); ovipositor slightly longer than in *C. sympatricus* but shorter than in *C. noeli* and *C. aguarico*.

**Variations.** Paratype with darkish longitudinal stripe behind each eye, with all abdominal tergites having large light brown median area (but last tergite with this area having greyish tinge), with hind femur having darker subapical spot, and with hind tibia having distinct darkened spot near base.

Male unknown.

Length in mm. Body 8.3–9; pronotum 2.7–2.9; hind femora 7–7.5; ovipositor 6–6.5.

**Comparison.** The new species differs from *C. sympatricus* in the more contrast body colouration, uniformly darkened antennal flagellum, and longer ovipositor;

from *C. aguarico* and *C. noeli*, in the same features of its colouration as well as shorter ovipositor; and from *C. amazonus*, in the distinctly more contrast colouration of head and pronotum, and in the hind tibiae without darkened spots or with less numerous such spots.

**Etymology.** Name of the new species is the Latin word “signatus” (signed, marked).

Tribe **APHONOIDINI** Gorochov, 1986

Subtribe **DIATRYPINA** Desutter, 1988

***Diatrypa (Diatrypa?) kwaiker***

(Cadena-Castañeda, Gutierrez et Bacca, 2016), **comb. nov.**

*Antillicharis kwaiker* Cadena-Castañeda, Gutierrez et Bacca, 2016 (Colombia).

**Note.** This species was originally included in the former genus *Antillicharis* belonging to the subtribe Hapithina (Hapithini) and considered here as a subgenus of the genus *Hapithus*. Its male tegmina have the simple (not S-shaped) stridulatory vein and normal (not angularly curved) oblique veins (Cadena-Castañeda et al., 2016: fig. 21); these characters are not characteristic of Hapithini and Paroecanthini, but usual for the subtribe Diatrypina (Aphonoidini). The photographs of its male genitalia are not very clear and were made by the authors only from the dorsal and ventral positions but not from lateral position (most important for this genus); these illustrations can help us in the determination of its genus but not its subgenus. However, moderately narrow tegminal mirror of this species indicates its possible belonging to *Diatrypa* s. str.

***Diatrypa (Diatrypa) glandulifera* sp. nov.**

(Figs XXVII: 11–13; XXVIII: 18–20; XXXII: 3–11)

**Holotype.** Male, **Paraguay**, “Reserva Pantanal Paraguayo” near Bolivia, Los Tres Gigantes Biological Station on Rio Negro (Parana Basin), open landscape with bushes and tall grass as well as small groups of low trees near river, at light, 31.I–4.II.2014, A. Gorochov (ZIN).

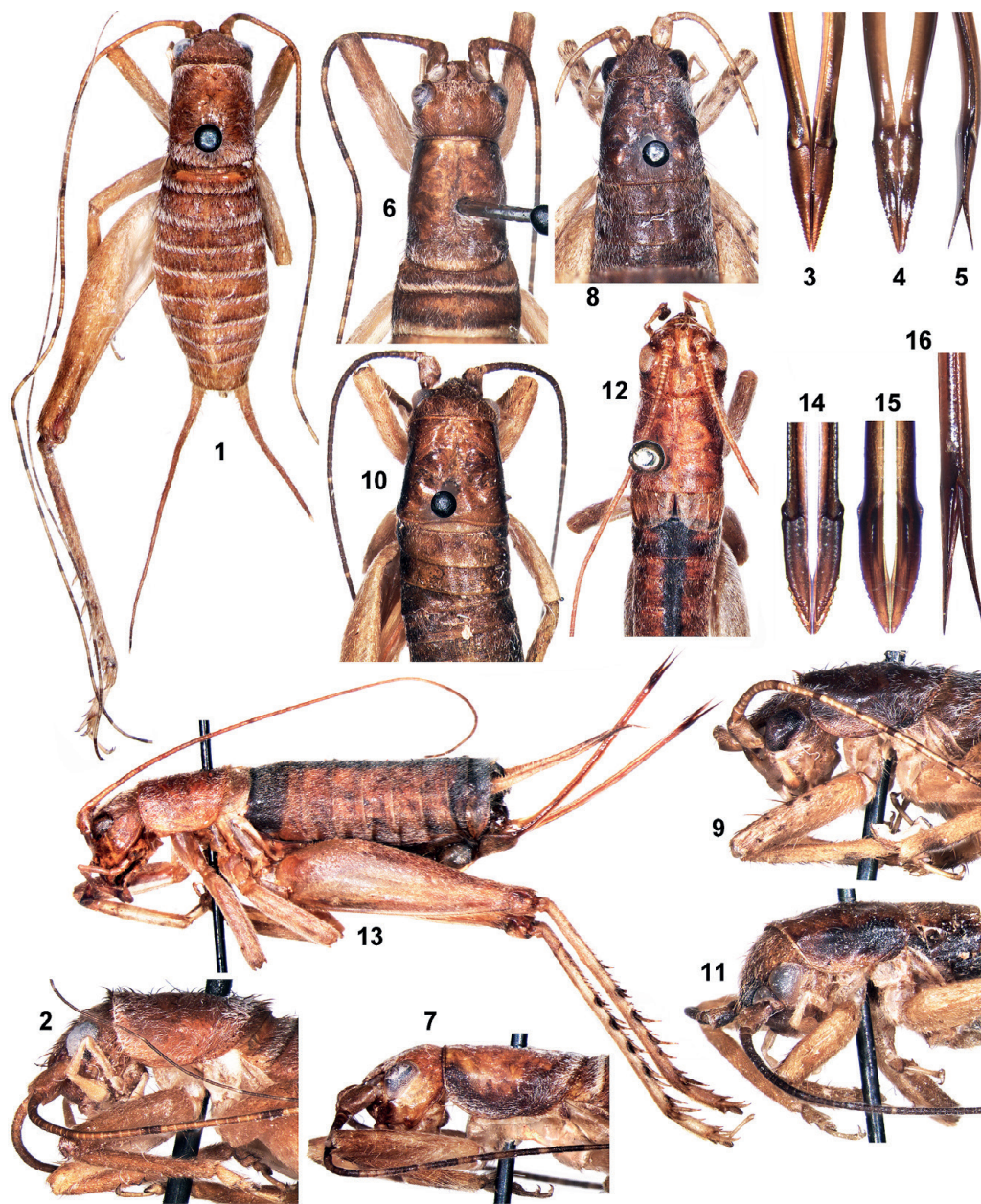
*Paratype.* Female, **Bolivia**, southern part of Santa Cruz Prov. near Brazil, environs of Puerto Suares Town on Rio Paraguay (Parana Basin), ~200 m, secondary forest, on leaf of tree at night, 4–5.II.2014, A. Gorochov (ZIN).

*Description.* Male (holotype). Body small and somewhat dorsoventrally flattened, typical of this subgenus. Colouration yellowish with following marks: head with light brown eyes and darker (dark brown to brown) lines along dorsal edge of each antennal cavities and under this cavity (latter line obliquely running from ventral edge of eye to clypeal suture under medial part of antennal cavity; Fig. XXXII: 3); pronotum with light greyish brown interrupted stripes along lateral edges of disc and a pair of wider spots not far from anterior edge of disc (these spots partly fused with above-mentioned stripes; Fig. XXXII: 4); metanotum and second–eighth abdominal tergites with light brown dorsal projections and with rather numerous brown dots on these abdominal tergites; tegmina with almost completely transparent and semitransparent (yellowish) parts; legs with sparse brown dots on middle and hind femora (but hind femur with sparser dots, except for median line consisting of more dense dots on outer surface), with a few light brown marks on middle tibia, with one darkish spot on dorsal half of hind tibia near its base, and with light brown median line on most part of dorsal surface of this tibia. Head distinctly but not very strongly flattened, with almost angular (in profile) rostrum; scape approximately 1.65 times as wide as rostrum between antennal cavities. Pronotum (Fig. XXXII: 4) with lateral lobes not very low and having ventral edges almost parallel to dorsal edges; metanotal gland with rather large median tubercle (Fig. XXXII: 5, 6). Tegmina and hind wings somewhat protruding behind abdominal apex and behind tegminal apices, respectively; tegminal structure as in Fig. XXXII: 7. Legs with rather large and elongated outer and inner tympana (these tympana almost equal in size and practically not immersed), with moderately widened hind femur, and

with armament of hind tibia and tarsus typical of this genus. Second–eighth abdominal tergites with rather large (but not very high) and more or less angular median projection directed upwards-backwards (Fig. XXXII: 5, 6); anal plate almost rectangular and distinctly transverse; genital plate much longer than anal one but not very long and with rounded distal part (Figs XXVIII: 18; XXXII: 5); genitalia most similar to those of *D. diluta* Gorochov, 2013 and *D. atrata* Gorochov, 2013 in epiphallus having a pair of high spine-like posterodorsal lobes directed upwards and located very near anterior (widened) epiphallic part (Figs XXVII: 13; XXVIII: 19), but genitalia of holotype distinguished from those of these species by posterior or posteroventral projections of distal epiphallic part less strongly protruding behind rachis (Figs XXVII: 11, 12), and by larger (longer) rachis having its apical part clearly visible behind spine-like posterodorsal epiphallic lobes in profile (Figs XXVII: 13; XXVIII: 19).

Female. General appearance as in male, but head with brown to dark brown spot behind traces of ocelli and with a pair of longitudinal stripes behind posteromedial parts of eyes, pronotum with slightly darker lateral marks on disc and additional small darkish spots between these marks (Figs XXXII: 8, 9), tegmina with small brown spot at base and darkish venation in distal half of dorsal field, legs with slightly more numerous dots on hind femur, dorsal tegminal field with 9–10 almost regular longitudinal veins and not numerous regular crossveins between them, lateral tegminal field with 8–10 branches of Sc and rather narrow Sc-R area (only this area with several regular and poorly visible crossveins, but crossveins between Sc branches indistinct); genital plate elongated, with rather deep and narrow apical notch, and with narrowly rounded (in profile) apical lobules around this notch (Fig. XXVIII: 20); ovipositor as in Figs XXXII: 10, 11.

Length in mm. Body: male 10.5, female 9.2; body with wings: male 14, female 13.5;

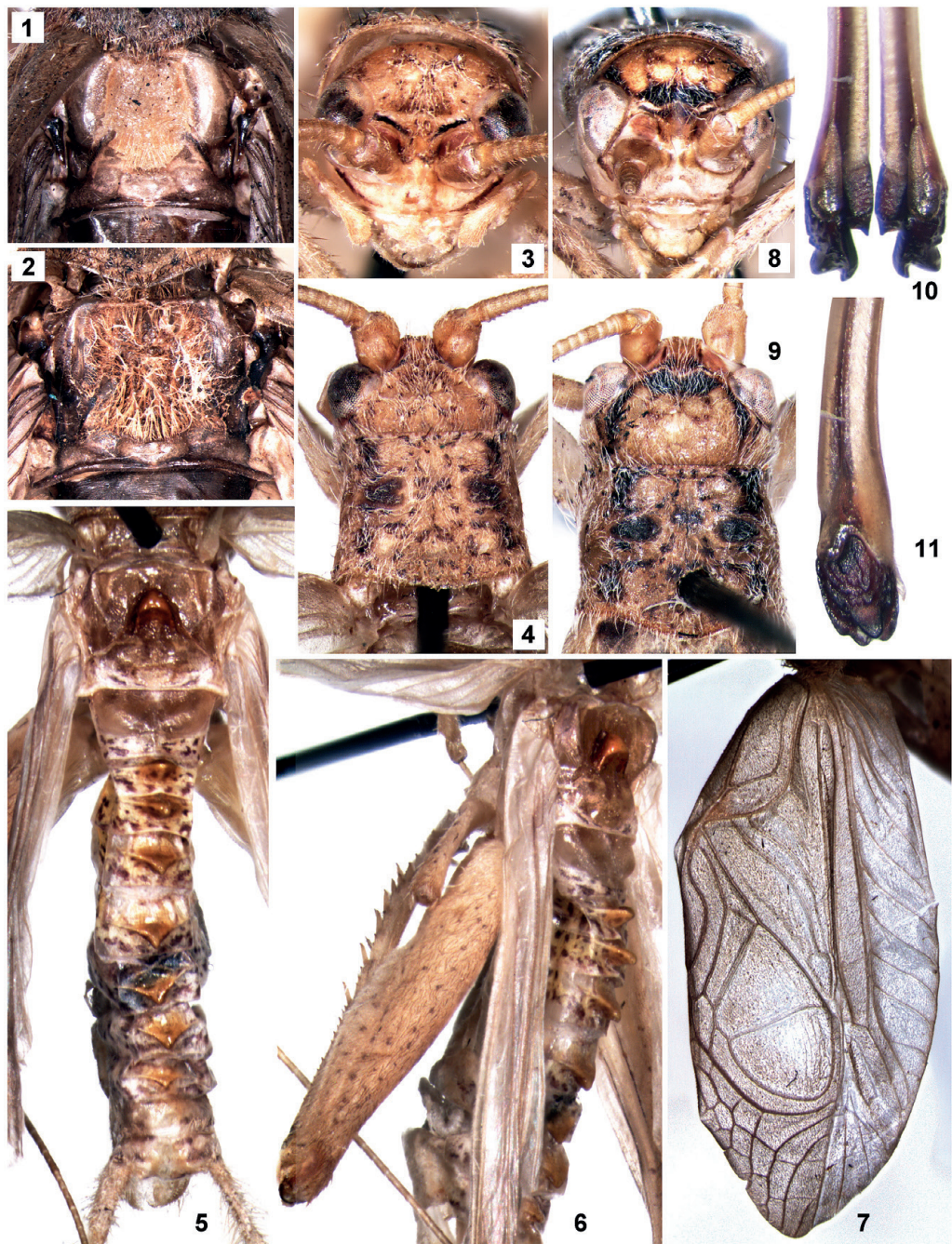


**Figs XXXI (1–16).** *Cylindrogryllus*. 1–5, *C. noeli* sp. nov.; 6, 7, *C. aguarico* sp. nov.; 8, 9, *C. sympatricus* sp. nov.; 10, 11, *C. signatus* sp. nov.; 12–16, *C. aculeatus argentinus* subsp. nov. Body with legs of male (1) and of female (13) from above (1) and from side (13); head with thorax and fore legs of male (2, 12) and of female (6–11) from above (6, 8, 10, 12) and from side (2, 7, 9, 11); distal part of ovipositor from above (3, 14), from below (4, 15) and from side (5, 16).

pronotum: male 1.7, female 1.8; tegmina: male 9, female 8.8; hind femora: male 6.3, female 6.3; ovipositor 5.5.

*Comparison.* The new species is most similar to *D. diluta* (Peru) and *D. atrata* (Ecuador) in the structure of male genitalia.





**Figs XXXII (1–11).** *Aphonimorphus* and *Diatrypa*. 1, *A. distinctus calabaza* **subsp. nov.**; 2, *A. d. distinctus* Gor.; 3–11, *D. glandulifera* **sp. nov.** Male metanotal gland from above (1, 2); head of male (3) and of female (8) in front; head with pronotum of male (4) and of female (9) from above; pterothorax with abdomen in male from above (5), and from side and slightly above but without abdominal apex as well as with left middle and hind legs (6); right male tegmen (7); distal part of ovipositor from below (10) and from side (11).

lia; differences between these species are given above, in the description. From the other true representatives of this subgenus, *D. glandulifera* is distinguished by the posterodorsal spine-like epiphallic lobes situated less far from the anterior (widened) epiphallic part; from *D. pallidilabris* Chopard, 1912 (French Guiana) and *D. nicaragua* Otte et Perez-Gelabert, 2009 (Nicaragua), also probably belonging to *Diatrypa* s. str., by the above-mentioned epiphallic structures distinctly different in the shape; from *D. jansoni* Saussure, 1897 (Nicaragua), *D. tolmeros* (Otte, 2006) (Costa Rica) and *D. kwoiker* with less clear sibgeneric positions, by the very different shape of these epiphallic structures; and from all the other congeners with unstudied male genitalia, by the above-listed peculiarities of body colouration [for example: the new species differs from *D. maculata* Gorochov, 2013 (Panama) and *D. striata* Gorochov, 2013 (Peru), described from females only and having the similar pronotal colouration, in the presence of characteristic dark lines under the antennal cavities (from *D. maculata*), or in these lines not connected with each other along the clypeal suture (from *D. striata*)].

**Etymology.** Name of this species is the Latin word “glandulifera” (wearing glands), because its male has numerous attractive glands on the body dorsum.

## **PODOSCIRTINAE incertae sedis**

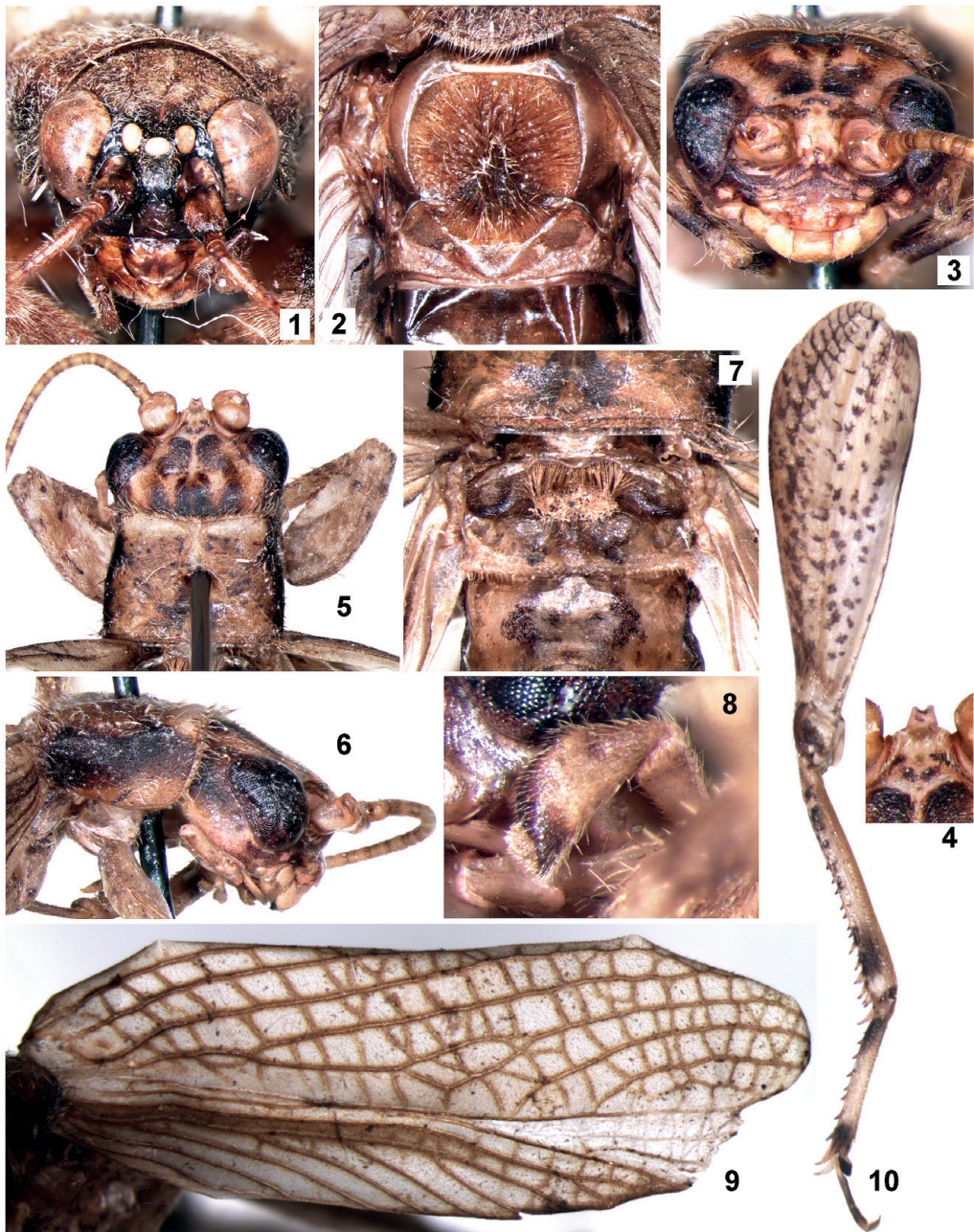
### **Genus *Dicerorostrum* gen. nov.**

Type species *Dicerorostrum diceros* **sp. nov.**

**Diagnosis.** Body comparatively small, very strongly depressed (dorsoventrally flattened). Head with very narrow anterior part of epicranium under eyes, antennal cavities and rostrum; eyes very large, rounded; ocelli indistinct (only very small impression instead median ocellus developed); rostrum strongly angular in profile, with rather large and almost conical apical tubercle divided into a pair of small teeth (Figs XXXIII: 3–6); dorsum of epi-

cranium barely concave between posterior parts of eyes; mouthparts low (short) and with moderately short palpi (maxillary palpi with three last segments more or less equal in length and with apical segment as in Fig. XXXIII: 8). Pronotum moderately transverse, with lateral lobes very low and having ventral edges almost parallel to their dorsal edges; metanotal gland in male distinctly developed (Figs XXXIII: 5–7). Wings rather long but insignificantly protruding beyond abdominal apex (almost reaching apices of hind femora); male tegmina without traces of stridulatory apparatus (Fig. XXXIII: 9); hind wings almost not protruding behind tegminal apices. Legs moderately short and rather robust; all femora more or less laterally compressed, but hind femur clearly widened (adapted to strong jumps); tympana absent; middle tibia barely inflated in middle part; hind tibia short (hind femur almost twice as long as hind tibia), gradually thickening to apex, with 4–5 short articulated outer spines and three similar inner spines (these spines located in distal part of dorsal half of tibia) as well as with more numerous and rather large denticles (these denticles located mainly in middle part of inner and outer dorsal keels of tibia, but one of such denticles situated between outer spines in right leg and between inner spines in left leg), and with six moderately short apical spurs (two ventral spurs and dorsal outer spur short as tibial spines, two inner spurs almost twice longer, and one middle outer spur intermediate between them in length); hind tarsus with long and rather slender basitarsus having several denticles on both dorsal edges (Fig. XXXIII: 10). Male abdomen without glands on tergites, with transversally triangular anal plate having widely rounded apex and distinct dorsal transverse concavity before it, and with genital plate not very long (but almost twice as long as anal plate) and gradually narrowing to rather narrowly rounded apex (Fig. XXVIII: 21); male genitalia somewhat similar to those of subtribe Tafaliscina





**Figs XXXIII (1–10).** *Aphonormorphus* and *Dicerorostrum*. 1, 2, *A. cusco* sp. nov.; 3–10, *D. diceros* sp. nov. Head in front (1, 3); male metanotal gland from above (2, 7); rostral part of head from above (4); head with pronotum and fore legs from above (5) and without these legs from side (6); distal part of maxillary palpus from side (8); male right tegmen (9); left hind leg from side (10).



(Paroecanthini) but distinguished from all known male genitalia of this subtribe by rather large epiphallus with deep and rather narrow anteromedian notch as well as with a pair of elongated posterior lobes located near each other (notch between them very narrow and angular), by moderately long ectoparameres almost contacting with each other in middle part, small (narrow) and semimembranous rachis, and short semisclerotized endoparameres having narrow medial parts fused with each other (and possibly with formula) but lacking long apodemes (Figs XXVII: 14–16; XXVIII: 22).

*Included species.* Type species only.

*Comparison.* This genus is clearly distinguished from all the other genera of Podoscirtinae by the strongly depressed body (including head) in combination with the presence of a characteristic (bifurcated) rostral tubercle, absence of tympana and of stridulatory apparatus in the male tegmina, short articulated spines of the hind tibiae, and the endoparameres possibly fused with formula but lacking long apodemes. *Dicerorostrum* has a similarity to *Perutrella* Gorochov, 2011 (Tafaliscina) in the proportions of hind leg, but this similarity may be a convergence and does not allow me to include the new genus in this subtribe; the absence of data on the ovipositor structure also does not allow us to put it in any tribe of Podoscirtinae.

*Etymology.* This generic name originates from the Latinized Greek prefix “di-” (two, twice) and word “ceras” (horn) as well as from the Latin morphological term “rostrum” (beak, part of head in crickets).

***Dicerorostrum dicerus* sp. nov.**

(Figs XXVII: 14–16; XXVIII: 21, 22; XXXIII: 3–10)

*Holotype.* Male, **Peru**, Junin Department, Satipo Prov., ~25 km SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, partly primary / partly secondary forest, on branch of tree at night, 20–23.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

*Description.* Male (holotype). Colouration light brown with following marks (Figs XXXIII: 3–10): a pair of large brown spots between eyes; four longitudinal brown spots on posterior part of epicranial dorsum; brown line along dorsal edge of each antennal cavity and small arcuate spot behind former median ocellus; brown most part of genae, areas under eyes and under rostrum; dark brown eyes and areas under antennal cavities; darkened apical part of last segment of maxillary palpus; numerous and almost indistinct darkish marks on antennal flagellum; yellowish stripe on pronotal disc along its anterior edge; a pair of small brown spots on posterior half on this disc; dark brown most part of pronotal lateral lobes (but these lobes also with light brown stripe along anterior half of ventral edges); yellowish tegmina having brown longitudinal veins as well as light brown crossveins and most part of Sc-R area; distinct darkish dots on femora and on proximal half of tibiae as well as brown line along outer ventral keel of hind femur; brown transverse subapical band on rest part of tibiae (hind tibia with such band interrupted on ventral surface); mainly brown fore and middle tarsi (having light middle part); mainly yellowish hind tarsus (having basal and distal darkenings on basitarsus and darkened apical segment); rather numerous darkish marks on dorsal part of abdominal tergites; brownish grey pterothoracic and abdominal sternites as well as anal plate and paraprocts; dark brown genital plate and lateral parts of abdominal tergites; and unclear darkish marks on cerci. Scape approximately 1.4 times as wide as rostrum between antennal cavities; bifurcated rostral tubercle and last segment of maxillary palpus as in Figs XXXIII: 4, 8. Pronotum (Figs XXXIII: 5, 6) with barely concave anterior edge of disc and almost straight posterior one; metanotal gland as in Fig. XXXIII: 7. Tegmina with nine slightly irregular longitudinal veins in distal field, with rather numerous and moderately irregular crossveins between them, with

8–9 obliquely longitudinal branches of Sc, and almost without crossveins in lateral field (these crossveins developed only in distal parts of Sc-R and R-M areas) (Fig. XXXIII: 9). Abdominal apex and genitalia as in Figs XXVII: 14–16; XXVIII: 21, 22.

Female unknown.

Length in mm. Body 12; body with wings 13.5; pronotum 2; tegmina 10; hind femora 8.

**Comparison.** Differences of this species from the other podoscirtines are given in the comparison for this genus.

**Etymology.** This species name is given after the mammal genus *Diceros* having two horns on the nose.

## AKNOWLEDGEMENTS

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