

The cricket subfamily Phalangopsinae (Orthoptera: Gryllidae) in Peru Сверчки подсемейства Phalangopsinae (Orthoptera: Gryllidae) в Перу

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Abstract. At present, 58 species and subspecies of the cricket subfamily Phalangopsinae are registered in Peru, and 25 of them are found in the territory covered by the Peruvian project on invertebrate fauna of the Ene and Tambo River Basins. From this country, ten taxa are here described as new to science: *Aclogryllus ashaninka* sp. nov.; *Rumea minispeculum* sp. nov.; *R. pacaya* sp. nov.; *Izerskya minutissima* gen. et sp. nov.; *Kevanacla orientalis zigzag* subsp. nov.; *Adelosgryllina* subtrib. nov.; *Adelosgryllus parasimilis* sp. nov.; *Luzara venado major* subsp. nov.; *Uvaroviella (Holacla) izerskyi multa* subsp. nov. Previously unknown male is described for *Modestozara satipo* Gor. and for *U. (Euacla) grandis* (Des.-Grand.). New data on distribution and systematical position of some taxa as well as a brief discussion about Phalangopsinae classification are also given.

Резюме. К настоящему времени в Перу зарегистрированы 58 видов и подвидов сверчков подсемейства Podoscirtinae, и 25 из них обнаружены на территории, покрываемой перуанским проектом по изучению фауны беспозвоночных бассейнов рек Ене и Тамбо. Десять таксонов из этой страны описаны здесь как новые для науки: *Aclogryllus ashaninka* sp. nov.; *Rumea minispeculum* sp. nov.; *R. pacaya* sp. nov.; *Izerskya minutissima* gen. et sp. nov.; *Kevanacla orientalis zigzag* subsp. nov.; *Adelosgryllina* subtrib. nov.; *Adelosgryllus parasimilis* sp. nov.; *Luzara venado major* subsp. nov.; *Uvaroviella (Holacla) izerskyi multa* subsp. nov. Ранее неизвестный самец описан для *Modestozara satipo* Gor. и для *U. (Euacla) grandis* (Des.-Grand.). Даны также новые сведения по распространению и систематическому положению некоторых таксонов и краткая дискуссия о классификации Phalangopsinae.

Key words: crickets, faunistics, taxonomy, Peru, Orthoptera, Gryllidae, Phalangopsinae, new taxa

Ключевые слова: сверчки, фаунистика, таксономия, Перу, Orthoptera, Gryllidae, Phalangopsinae, новые таксоны

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Introduction

This paper is the second publication containing preliminary synthesis of data on the faunistics and taxonomy of the cricket family Gryllidae in Peru. The first publication was devoted to the subfamily Podoscirtinae (Gorochov, 2018c), but the second one is devoted to the subfamily Phalangopsinae

and is based on a series of my previous articles (Gorochov, 2007, 2009, 2011a, 2011b, 2014) as well as other literary sources and new material collected in 2017–2019. The latter paper is also the next step in a large project on the invertebrate fauna of the Ene and Tambo river basins under the general supervision of the well-known Peruvian and Ukrainian entomologist Volodymyr Izersky.

This project is founded by the National System of Natural State Protected Areas (Servicio Nacional de Áreas Naturales Protegidas) of Peru (Proyecto de Conservación de la Biodiversidad de la Selva Amazonica: Identificación taxonomica de la fauna invertebrada en la cuenca del Rio Ene y Rio Tambo). Peruvian territory in the framework of this project is mainly covered by primary and secondary tropical forests, but there are also numerous anthropogenic and mountain landscapes. All species registered from this territory are marked with **asterisks** in the text.

The American fauna of Phalangopsinae includes representatives of two tribes: Paragryllini and Phalangopsini divided into several subtribes (Gorochov, 2014). The both tribes are not endemic for America, but majority of these subtribes are endemic for Neotropics (maybe except for Nemozarina). All these tribes as well as some of these subtribes are recorded from Peru and include numerous species living in tropical forests: on bark of trees, on leaves of bushes, among dry leaves on forest floor or stones near brooks. They have oviposition in soil, but some of them probably lay eggs in tree bark. The new material used in this paper is deposited at the Zoological Institute, Russian Academy of Sciences, St Petersburg (ZIN). 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., 2019) is here cited as OSF.

Brief discussion on classification of Phalangopsinae

Until 2016, some preliminary proposals for improving the supergeneric classification of Phalangopsinae Subfamily Group were published (Gorochov, 2014, 2015). They contained division of this group into four subfamilies (Pteroplistinae, Phaloriinae, Cacoplistinae and Phalangopsinae) as well as subdivision of these subfamilies (except for Pteroplistinae) into nine tribes and 13 subtribes; however, subtribal position of several little known genera was left in uncertainty. At present, some of these genera are included in two subtribes: *Indozaclina* Gorochov, 2018 and *Adelosgryllina* **subtrib. nov.**

In 2016, the paper about “multilocus phylogenetic analysis” of Grylloidea was published (Chintauan-Marquier et al., 2016). It contains phylogenetic cladograms of crickets belonging to numerous genera and higher taxa of this superfamily from different regions of the Earth. Among these cladograms, the “phylogeny of crickets based on 205 terminals and seven DNA markers...” (Chintauan-Marquier et al., 2016: figs 2–6) looks most interesting.

Firstly, it is useful to note that the Schizodactylinae (Stenopelmatoidea), selected as one of out-groups, is represented in this cladogram by two undoubtedly related genera which fall into different families and even infraorders: *Comicus*, into Rhabdiphoridae (Tettigoniidea: Stenopelmatoidea); *Schizodactylus*, into Myrmecophilidae (Gryllidea: Grylloidea). These phylogenetic positions are in strong contradiction with all the morphological characters of Schizodactylinae, and are clearly erroneous. Therefore, positions of some other taxa distinctly contradicting their morphological characters also may be erroneously determined in this cladogram.

In this connection, it seems most interesting (and useful) to look for cases of similarity between morphological data and molecular cladograms. For Phalangopsinae, such cases are numerous (Fig. 1): the subtribes of Phalangopsinae after Gorochov are almost completely according to the holophyletic groups by Chintauan-Marquier et al. (2016: fig. 4). Differentiation of Phalangopsinae into the tribes Phalangopsini and Paragryllini are also more or less supported in the latter cladogram, but the positions of some subfamilies are different in the schemes of all these authors and, thus, need additional study.

However, the subtribal rank of *Luzarina* firstly grounded by Gorochov (2014) is supported by the both investigations (contrary to the authors of OSF who consider this subtribe as a separate subfamily different from Phalangopsinae); otherwise and based on the both investigations, we must consider *Phalangopsina*, *Nemozarina*, *Amphiacustina* and some other related subtribes as subfamilies also. So, I recommend the authors of OSF to include their “subfamily *Luzarinae*” in the tribe Phalangopsini, and save this “subfamily name” only as subtribal one (*Luzarina*); also it is

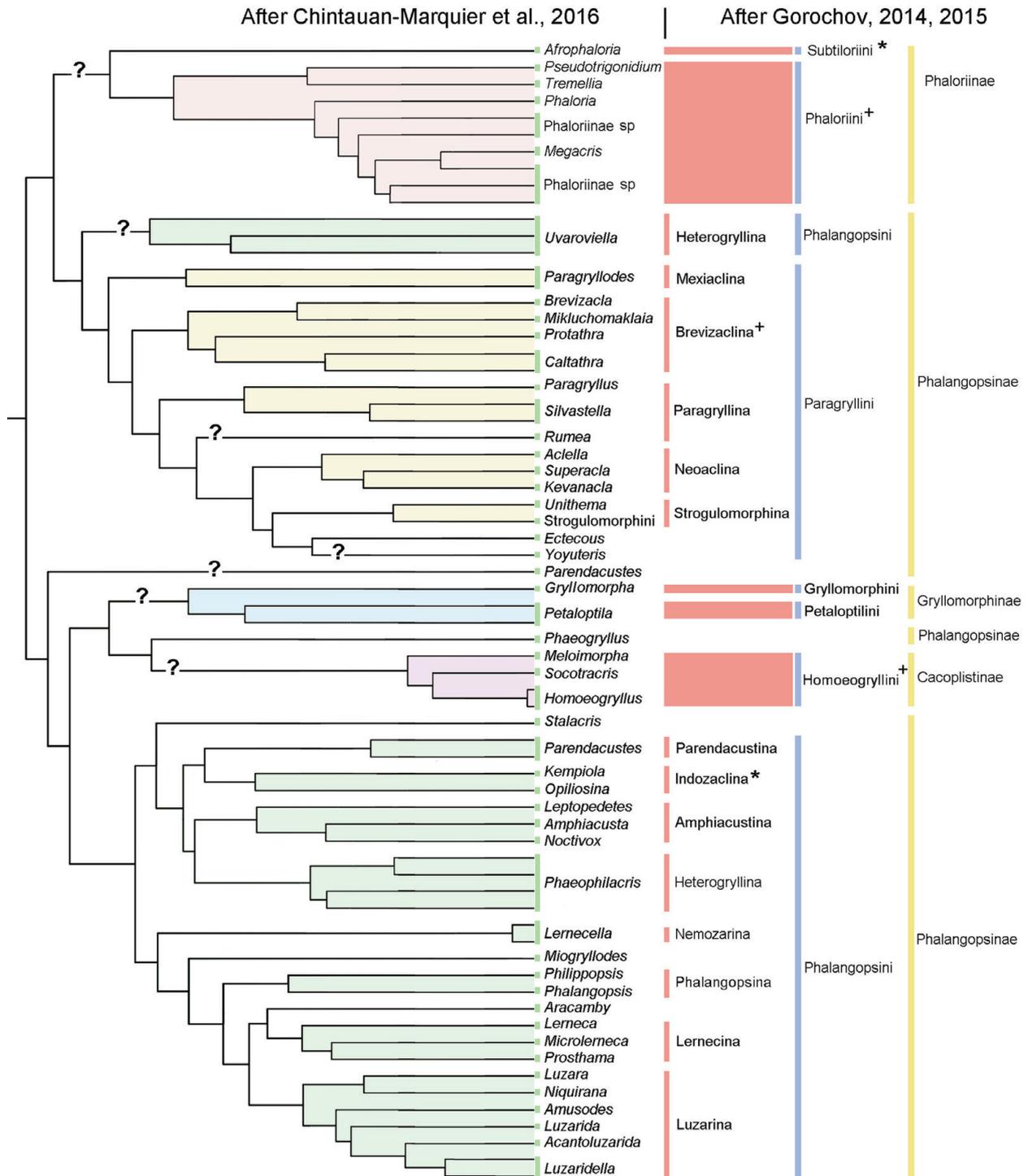


Fig. 1. Comparison of cladogram after Chintauan-Marquier et al. (2016) [modified] and supergeneric classification after Gorochov (2014, 2015) for Phalangopsinae subfamily group (excepting Pteroplistinae). Most doubtful positions of some branches in cladogram are indicated by **question marks**; taxa marked with **asterisks** were described (Indozaclina) or replenished (Subtiloriini) in later papers by Gorochov (2018a, 2018b), but taxa marked with **crosses** tentatively contain here some unclear representatives (*Phaloriinae* sp., *Megacris*, *Protathra*, *Caltathra*, *Socotraxis*).

necessary to include in OSF the species *Paragryllus minutus* Gorochov, 2009 described from Brazil and missed in this useful catalogue.

Annotated list of species

Tribe **Paragryllini** Desutter, 1988

Subtribe **Paragryllina** Desutter, 1988

Genus ***Aclogryllus*** Gorochov, 2009

Type species *Paragryllus crybelos* Nischk et Otte, 2000 (Ecuador).

Note. This taxon was originally described as a subgenus of the genus *Paragryllus* Guérin-Méneville, 1844 (Gorochov, 2009). Later its rank was erected up to generic one (Da Silva et al., 2018). Really *Aclogryllus* is a taxon most related to *Paragryllus* s. str. and may be a subgenus of *Paragryllus* s. l. as well as a separate genus closely related to *Paragryllus*. Here I tentatively consider it as a genus, because *Aclogryllus* has its male genitalia very similar in the structure to those of *Paragryllus* but with distinct differences in the shape of some sclerites, and these taxa are also not identical in the external morphology: *Aclogryllus* lacks a pair of processes on the male anal plate (characteristic of *Paragryllus*) and has all the tibial spurs not thickened (*vs.* dorsal inner spur of hind tibia in male is distinctly thickened).

**Aclogryllus ashaninka* sp. nov.

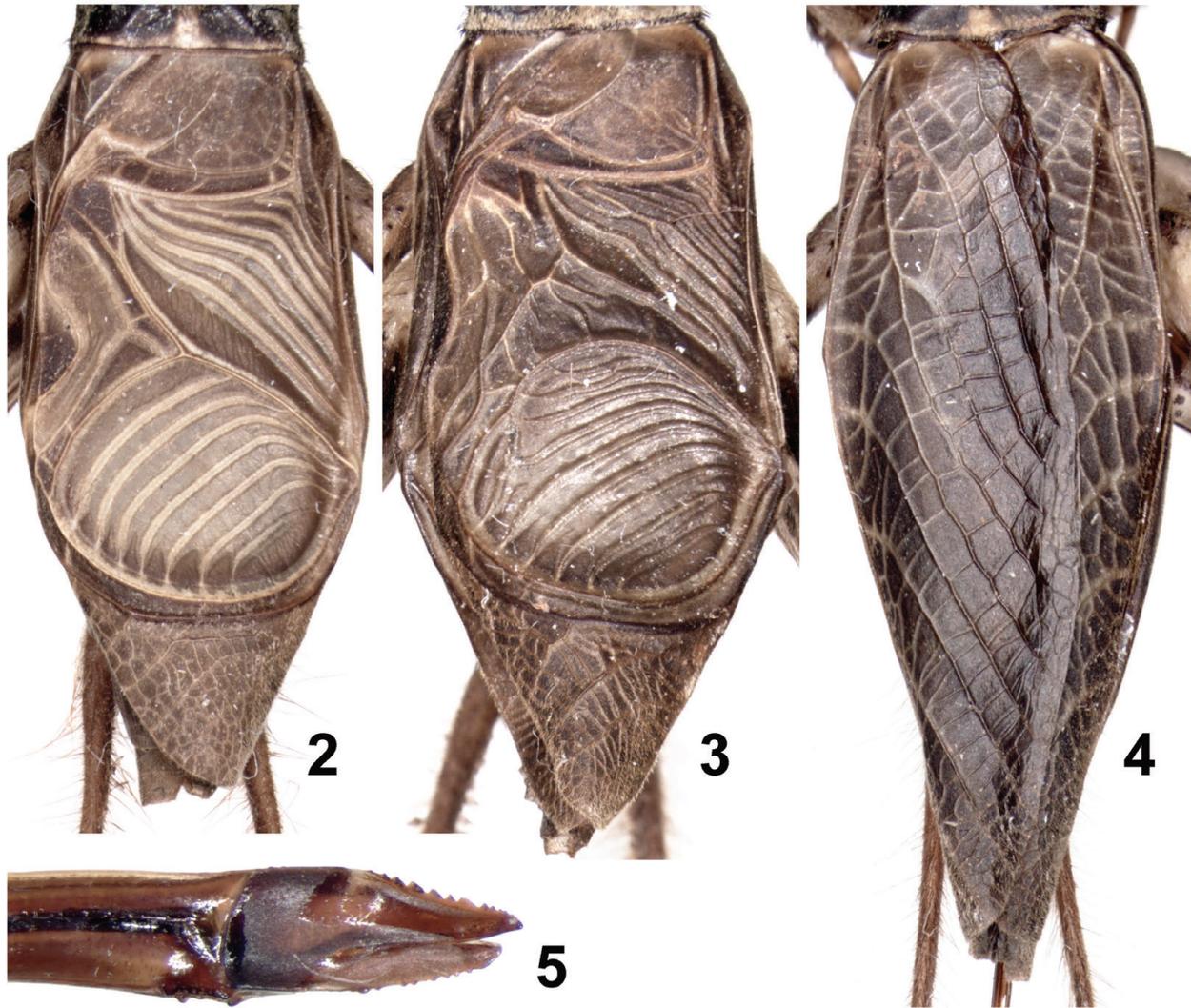
(Figs 3–5, 11–17)

Holotype. Male, **Peru**, Junin Department, Satipo Prov., Rio Tambo Distr., 6 km N of Pichiguia Vill., protected area “Reserva Comunal Ashaninka”, 11.358244°S, 74.0320473°W, ~500 m, primary forest, on bark of living tree (about 2 m from soil) during courtship at night, 14–23.XI.2017, A. Gorochov, G. Irisov (ZIN).

Paratype. Female, same data as for holotype (on same tree not far from holotype) (ZIN).

Description. Male (holotype). Body rather large. Colouration greyish brown with following pattern: head brown with light brown to yellowish wide transverse posterodorsal band extending also on lateral sides along posterior edges of eyes, several small light brown marks on face (from lateral ocelli to labrum) and genae as well as on palpi, more or less light brown scapes, and blackish dot very near each ocellus; pronotum blackish

with large brown central area on disc and dark brown posterior area behind previous one; tegmina with semitransparent some sound-producing membranes as well as light brown to yellowish veins in lateral field and some veins in dorsal field (Fig. 3); visible parts of hind wings almost dark brown; legs light greyish brown with darkened two (subdistal and subapical) areas on fore and middle femora, distal halves of fore tibia and fore and middle tarsi, most part of middle tibia (but with two lightish spots: in subbasal and middle parts), three transverse bands on hind femur, and four similar marks on hind tibia (these marks almost contacting with each other on dorsal tibial surface and almost not reaching ventral tibial surface); genital plate and most part of abdominal tergites dark brown. External structure typical of *Aclogryllus* and *Paragryllus* but having a few characteristic features: tegmina with numerous and partly S-shaped branches of *Sc*, without distinct crossveins between these branches, with most widened part of *R-M* area almost three times as wide as nearest part of *Sc-R* area, and with dorsal field having rather aberrant venation (*i.e.* with irregularities in structure of oblique veins, diagonal vein, chords and dividing veins of mirror more distinct than in all known species of *Aclogryllus*, *Paragryllus* and their relatives; for comparison see Figs 2 and 3); hind wings reaching apices of tegmina; both tympana moderately small (fore tibia in tympanal region almost twice as wide as each tympanum); hind tibia with inner dorsal spur not thicker than nearest spur; anal plate with distal half gradually narrowing to almost truncate and moderately narrow apex but lacking processes; genital plate moderately long, gradually narrowing to rounded and moderately narrow apex (Fig. 16), and with distal part slightly curved upwards. Genitalia (Figs 11–13) similar to those of *A. crybelos* (Figs 6–8), but median part of epiphallus with transverse invagination more projected anteriorly and having less distinct lateral tubercles (see Figs 9 and 14), posterodorsal (dorsolateral) epiphallic lobes with much longer ventral projections (see Figs 10 and 15), posteroventral (ventrolateral) epiphallic lobes narrower and very long (with narrowed distal parts longer than in *A. crybelos*; see Figs 6 and 11), and endoparameral apodemes distinctly wider in distal half (see Figs 7 and 12).

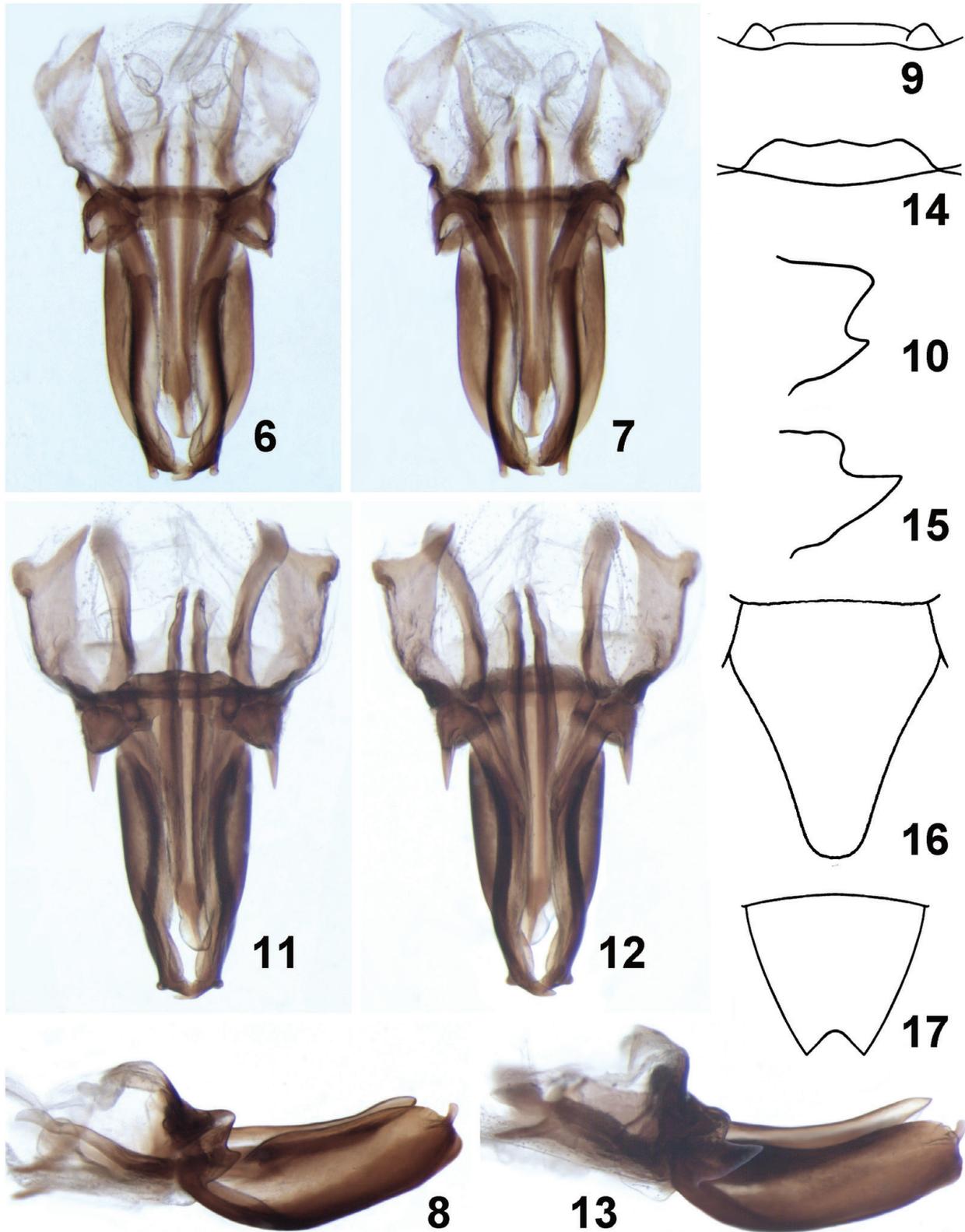


Figs 2–5. *Aclogryllus* Gor.: **2**, *A. crybelos* (Nischk et Otte, 2000); **3–5**, *A. ashaninka* sp. nov. Dorsal field of right male tegmen (2, 3); female tegmina in rest position from above (4); distal part of ovipositor from side (5).

Female. General appearance as in male, but tegminal membranes somewhat darker (almost dark brown), legs with some additional darkish dots on fore and middle femora, outer tympanum slightly smaller than inner one, branches of tegminal *Sc* oblique (not S-shaped), sparse crossveins between them developed, *Sc-R* area in middle part of tegmen clearly wider than nearest part of *R-M* area, venation in dorsal tegminal field as in Fig. 4, and hind wings barely protruding beyond apices of tegmina. Genital plate somewhat similar to male genital plate in shape but clearly shorter, with distal part distinctly notched (this notch roundly angular; Fig. 17) and not curved upwards; ovipositor very long and with denticulate apical part (Fig. 5).

Length in mm. Body: male 22, female 18; body with wings: male 24, female 26; pronotum: male 4, female 3.8; tegmina: male 17.8, female 18.7; hind femora: male 15.5, female 16; ovipositor 20.5.

Comparison. The new species is most similar and related to *A. crybelos*, but it is distinguished by the more irregular venation of male stridulatory apparatus (possibly individual aberration) and above-mentioned characters in the male genitalia. From *A. manauensis* Da Silva et Martins, 2018 (Brazil), *A. ashaninka* differs in the male tegminal mirror almost not transverse, and male genitalia having the posterodorsal epiphallic lobes with long ventral projections (vs. without such projections) and the distal parts of posteroventral



Figs 6–17. *Aclogryllus* Gor.: **6–10**, *A. crybelos* (Nischk et Otte, 2000); **11–17**, *A. ashaninka* sp. nov. Male genitalia from above (6, 11), from below (7, 12) and from side (8, 13); anterior invagination of median epiphallic part from above (9, 14); posterodorsal (dorsolateral) epiphallic lobe from side (10, 15); genital plate of male (16) and of female (17) from below.

epiphallallic lobes less widened in dorsal or ventral views.

Etymology. The species is named after its type locality “Reserva Comunal Ashaninka”.

****Rumea minispeculum* sp. nov.**

(Figs 18–20, 24–30)

Holotype. Male, **Peru**, Junin Department, Satipo Prov., 12 km N of Satipo Town, protected area “Concesion de Conservacion de la Universitaria”, 11.2031563°S, 74.61914062°W, ~600 m, primary/secondary forest, on bark of living tree (about 1.5 m from soil) during courtship at night, 25–27.XI.2017, A. Gorochov, G. Irisov (ZIN).

Paratype. Female, same data as for holotype (on same tree not far from holotype) (ZIN).

Description. Male (holotype). Body somewhat smaller than in *A. ashaninka* and slightly more depressed dorsoventrally. Colouration greyish brown with following marks: head with slightly lighter posterior half of dorsum, light brown genae behind eyes and a few spots on anterior part of epicranium (from median ocellus to clypeal suture), almost yellowish clypeus and labrum, small lightish marks on palpi, light brown to yellowish proximal half of scape, and almost dark brown middle and distal parts of antennal flagellum; pronotum with dark brown upper half of each lateral lobe and a few marks on disc (Fig. 18); tegmina with light greyish brown venation of dorsal field (except for apical area) as well as with almost yellowish *Sc* branches and most part of *M*; legs light greyish brown with femora coloured almost as in *A. ashaninka* but having additional dark spot near base of middle femur and in middle part of hind femur as well as darkish oblique lines at base of latter femur, with two darkened areas on fore and middle tibiae, with yellowish to light brown apical part of these tibiae, with darkened base and dorsal surface of hind tibia, with small yellowish spot between latter darkened parts, and with darkened fore and middle basitarsi; sternites, genital plate and cerci light greyish brown with almost yellowish cercal bases. Structure of body also similar to that of *A. ashaninka*, but: ocelli almost invisible; tegmina with dorsal field having more regular venation and rather small mirror (Fig. 18), with most widened part of *R-M* area approximately 2.5 times as wide as nearest part of *Sc-R* area, and

with *Sc* branches numerous and oblique (but their proximal parts more or less arcuate); hind wings slightly protruding beyond tegminal apices; tympana slightly larger (tympanal region of fore tibia almost 1.5 times as wide as each tympanum); all tibial spurs not widened; anal plate with rounded apex and without processes; genital plate similar to that of *A. ashaninka* in shape but somewhat shorter; male genitalia as in Figs 24–29.

Female. General appearance as in male, but posterior half of head dorsum with poorly distinct darkish longitudinal stripes, clypeus light brown, dorsal tegminal field with venation as in Fig. 19, lateral tegminal field similar to that of female of *A. ashaninka* but having median part of this field almost light brown. Genital plate transverse, almost equal to two thirds of this plate in *A. ashaninka* in length but with similar notch at apex (Fig. 30); ovipositor also similar to that of this species but with apical part lacking denticles (Fig. 20).

Length in mm. Body: male 19, female 16; body with wings: male 22.5, female 21.5; pronotum: male 3.6, female 3.3; tegmina: male 16.5, female 16; hind femora: male 16, female 15.7; ovipositor 16.

Comparison. The new species differs from all the other congeners in the unpaired posteroventral epiphallallic lobe of male genitalia (in *Rumea* Desutter, 1988, this lobe possibly originates from a pair of posteroventral epiphallallic lobes characteristic of *Aclogryllus* and *Paragryllus* but fused with each other) narrower, less high in the distal half and lacking distinct lateral projections near its apex.

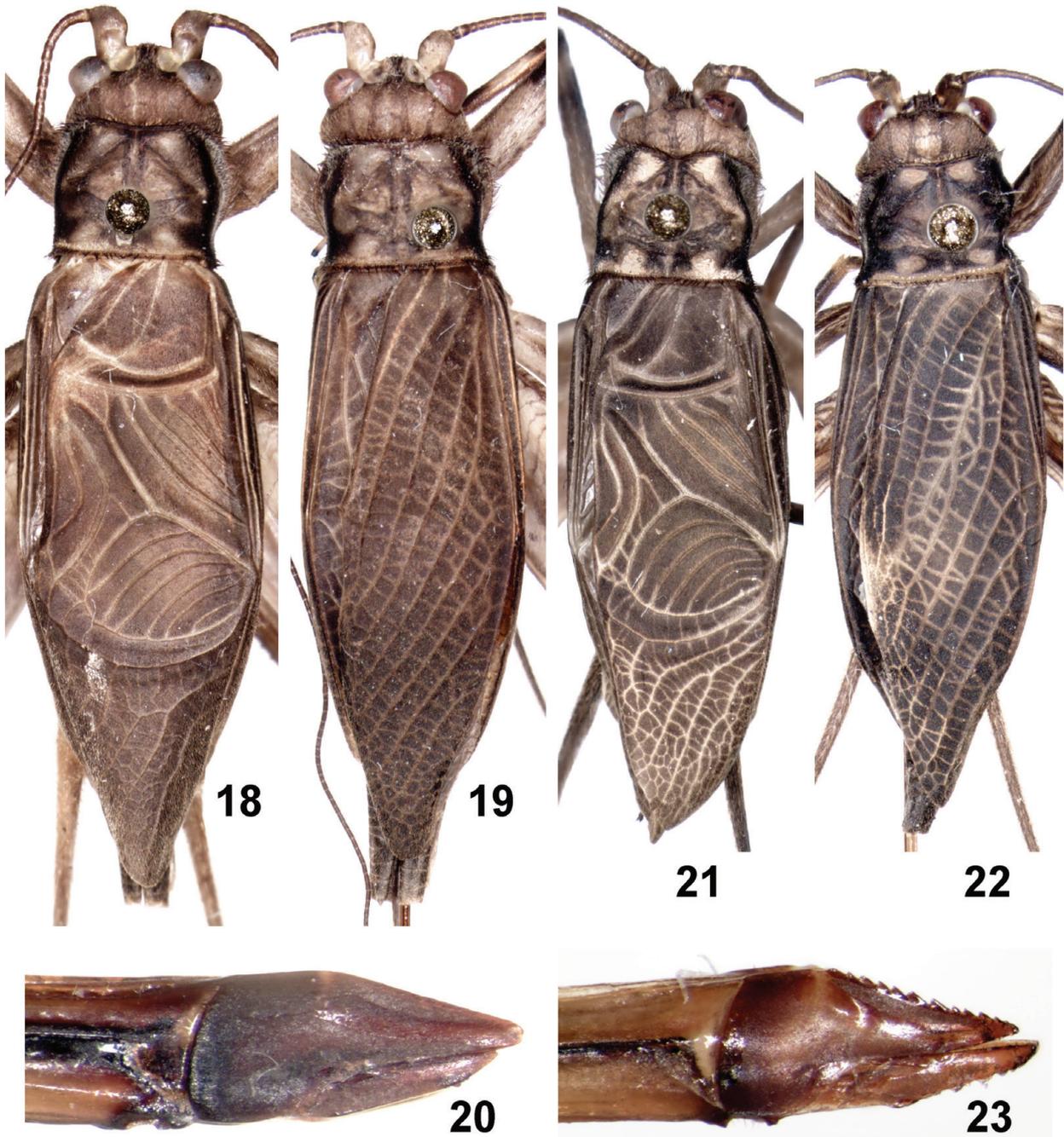
Etymology. The species name is originated from the Latin words “minutus” (small) and “speculum” (mirror), because the tegminal mirror of male is somewhat smaller than in its nearest relatives from the genera *Rumea*, *Paragryllus*, *Aclogryllus* and *Bolivacla* Gorochov, 2014.

***Rumea pacaya* sp. nov.**

(Figs 21–23, 31–37)

Holotype. Male, **Peru**, Loreto Department, bank of Rio Pacaya (tributary flowing into “Canal de Punahua” of Rio Ucayali) in ~10 km from Bretana Vill., Pacaya Samiria National Park (cordon PVC 1), 5°14'39.83"S, 74°23'206"W, low lying primary forest, on bark of living tree (about 3 m from soil) at night, 10–14.I.2019, A. Gorochov, V. Izersky (ZIN).

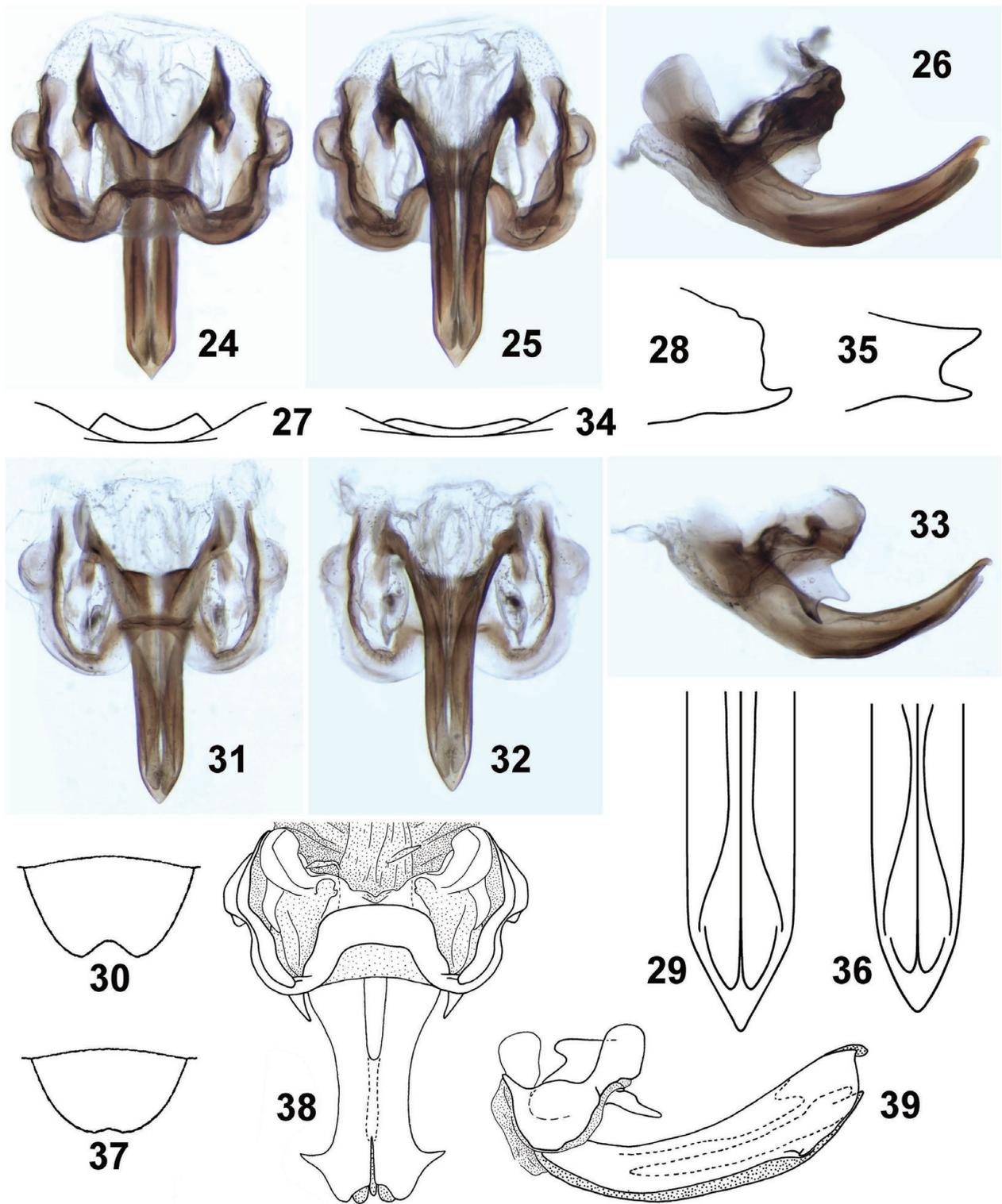
Paratypes. Four females, same data as for holotype (but 1.5–2.5 m from soil) (ZIN).



Figs 18–23. *Rumea* Des.: 18–20, *R. minispeculum* sp. nov.; 21–23, *R. pacaya* sp. nov. Body without legs and some antennal and cercal parts from above, male (18, 21) and female (19, 22); distal part of ovipositor from side (20, 23).

Description. Male (holotype). Colouration and structure of body similar to those of *R. minispeculum* but with following differences: body slightly smaller; head colouration very similar to that of female of this species; pronotum with darkened anterior half of each lateral lobe (including its dorsal and ventral parts) and with lighter anterolateral and posterolateral spots on disc (Fig. 21); teg-

mina with somewhat more contrast colouration (Fig. 21); hind wings reaching tegminal apices; hind tibia almost without lighter spot near basal part and with somewhat lighter dorsal surface behind traces of latter spot; cerci uniformly greyish brown; genitalia (Figs 31–33) distinguished from these of *R. minispeculum* by invagination of median epiphallic part (projected anteriorly) somewhat



Figs 24–39. *Rumea* Des.: 24–30, *R. minispeculum* sp. nov.; 31–37, *R. pacaya* sp. nov.; 38, 39, *R. gaschei* Des. Male genitalia from above (24, 31, 38), from below (25, 32) and from side (26, 33, 39); anterior invagination of median epiphallal part from above (27, 34); posterodorsal (dorsolateral) epiphallal lobe from side (28, 35); unpaired posteroventral epiphallal lobe from below (29, 36); female genital plate from below (30, 37). [38, 39, after Desutter (1988), modified.]

wider and shorter as well as having more rounded (but not angularly tubercle-like) anterolateral convexities (for comparison see Figs 27 and 34), by each semimembranous posterodorsal (dorsolateral) epiphallic lobe having long dorsal projection (*vs.* without such projection; see Figs 28 and 35), by unpaired posteroventral epiphallic lobe (possibly originating from a pair of posteroventral epiphallic lobes fused with each other) having lateral edges of its apical part more roundly convex, by space between apex and ventromedial edges of this lobe longer, and by these ventromedial edges more arcuate in ventral view (see Figs 29 and 36).

Female. General appearance very similar to that of male, but colouration slightly darker (lateral pronotal lobes almost completely darkened, and light spots on pronotal disc less distinct; Fig. 22), and external structure almost as in female of *R. minispeculum*. Genital plate also more or less similar to that of this species, but its apical notch distinctly smaller (Fig. 37); ovipositor distinguished from that of *R. minispeculum* by presence of distinct denticles on apical part (Fig. 23).

Length in mm. Body: male 15, female 11.5–14; body with wings: male 19, female 17–18; pronotum: male 3.3, female 3–3.2; tegmina: male 14.2, female 12.5–13.5; hind femora: male 14.5, female 11.5–13; ovipositor 12–13.

Comparison. The new species is most similar and related to *R. minispeculum* but differs from the latter in the above-mentioned characters of male genitalia, female genital plate less notched, and apical part of ovipositor denticulate. From all the other congeners, *R. pacaya* is distinguished by the same characters as *R. minispeculum*.

Etymology. This species is named after its type locality Pacaya Samiria National Park.

Rumea gaschei Desutter, 1988
(Figs 38, 39)

Note. This species is known from one Peruvian male (holotype) only (Desutter, 1988: Loreto, Iquitos, Rumococha). It is distinctly distinguished from the both species of *Rumea* described above by the body and male tegminal mirror larger, and by the characters of male genitalia given above (in the comparisons for *R. minispeculum* and *R. pacaya*).

Genus ***Izerskya*** gen. nov.

Type species *Izerskya minutissima* sp. nov.

Diagnosis. Body small and dorsoventrally depressed. Head rather short, somewhat transversally triangular in front (Figs 40–42); rostrum moderately projected forwards, roundly angular in profile; eyes large, almost equal in height to distance between eyes; ocelli small but distinct, round, equal to each other in size; scape approximately 1.5 times as wide as rostrum between antennal cavities. Pronotum almost as wide as head, with lateral edges more or less parallel to each other but distinctly S-shaped in dorsal view; disc transverse, with slightly concave anterior edge and almost straight posterior one; lateral lobes moderately low in anterior half but very low in posterior half. Tegmina reaching abdominal apex; in male, dorsal field with moderately short apical area and with venation of stridulatory apparatus most similar to that of *Benoistella* Uvarov, 1939 (Fig. 40), lateral field rather low (narrow), *Sc* branches numerous as well as oblique and partly S-shaped, areas between these branches almost without crossveins, and widest part of *R-M* area almost three times as wide as nearest part of *Sc-R* area; in female, dorsal field narrower than in male, with oblique and somewhat irregular longitudinal veins, and with rather irregular crossveins (Fig. 41), but lateral field distinguished from that of male by a few features only: less S-shaped and longer *Sc* branches, sparse but regular crossveins between them, and *Sc-R* area slightly wider than *R-M* area in middle part of tegmen. Legs comparatively short (Figs 40–42); fore tibia with inner and outer tympana which oval and almost equal to each other in size (tympanal region of this tibia almost 1.7 times as wide as each tympanum); articulated spines of hind tibia not numerous and located in its distal part; spurs of this tibia not thickened. Anal and genital plates unspecialized in both sexes; cerci very long, slightly longer than body. Male genitalia also similar to those of *Benoistella*, because their epiphallus divided into three parts (unpaired anterodorsal plate and a pair of posteroventral lobes) separated from rami, endoparameral apodemes articulated with posteroventral epiphallic lobes only, and formula consisting of a pair of narrow ribbons situated near each other; but rachis strongly reduced, and apices of latter epiphallic lobes with long and thin spine-like

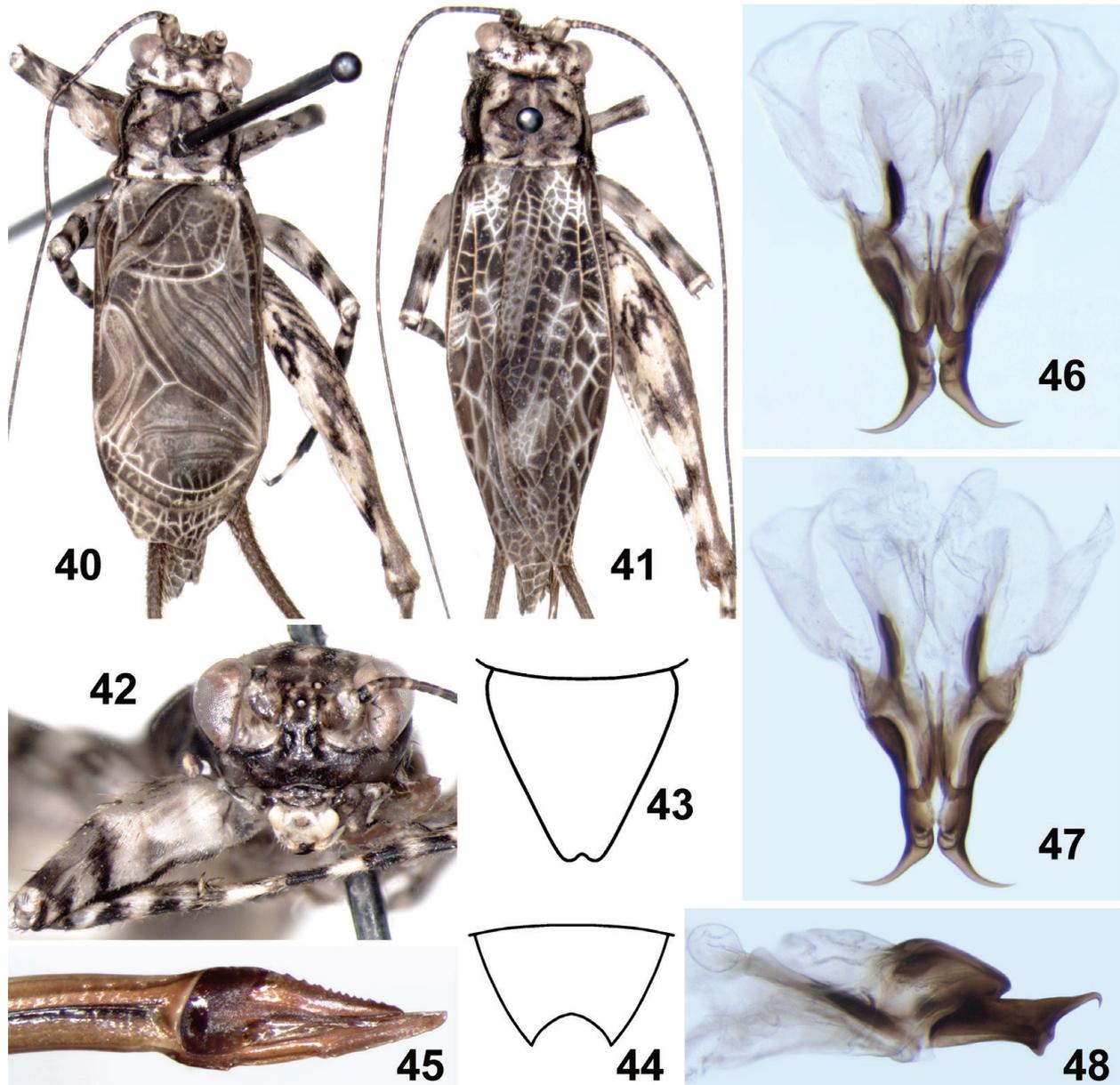
proceses (Figs 46–48). Ovipositor long and with apical part typical of *Paragrillyna* (Fig. 45).

Included species. Type species only.

Comparison. The new genus is most similar to the genus *Benoistella* but distinguished by the body clearly smaller, rachis in the male genitalia strongly reduced, and apices of posteroventral epiphallic lobes with long and thin spine-like processes. From the other genera of *Paragrillyna*,

Izerskya differs in the body much smaller, and mirror of male tegmina with less numerous dividing veins (except for *Silvastella* Desutter, 1988), but also in the fore tibia with a pair of tympana (from *Silvastella* only), and male genitalia very different in the structure (from all these genera).

Etymology. The new genus is named in honor of V. Izerskyy, one of the initiators of this study, who helped me in all aspects of its conduct.



Figs 40–48. *Izerskya minutissima* gen. et sp. nov.: 40, 41, body without hind tibiae and some cercal parts from above, male (40) and female (41); 42, head and right fore leg in front, male; 43, 44, genital plate of male (43) and of female (44) from below; 45, distal part of ovipositor from side; 46–48, male genitalia from above (46), from below (47) and from side (48).

***Izerskya minutissima* sp. nov.**

(Figs 40–48)

Holotype. Male, **Peru**, Loreto Department, bank of Rio Pacaya (tributary flowing into “Canal de Puhahua” of Rio Ucayali) in ~10 km from Bretana Vill., Pacaya Samiria National Park (cordon PVC 1), 5°14'39.83"S, 74°23'206"W, low lying primary forest, on bark of living tree (about 2 m from soil) at night, 10–14.I.2019, A. Gorochov, V. Izerskyy (ZIN).

Paratypes. Two males, 1 female, same data as for holotype (but 1–3 m from soil) (ZIN).

Description. Male (holotype). General colouration of body greyish, but following pattern developed: head dark brown with whitish lateral ocelli, a pair of narrow stripes on rostral dorsum along its lateral edges, and several spots on posterior half of dorsum connected with each other by light transverse (arcuate) stripe, with yellowish grey eyes, with yellowish labrum, and with small light greyish marks on mandibles, clypeus, palpi and antennal flagellum (but scape mainly light grey with brownish grey spots on ventromedial and dorso-lateral parts; Figs 40, 42); pronotum with blackish lateral lobes, brownish grey most part of disc, and whitish to light greyish spots on disc along its posterior edge and median line as well as in its anterolateral parts (Fig. 40); tegmina and visible parts of hind wings greyish brown with semitransparent membranes in mirror and between oblique veins of stridulatory apparatus, with whitish to light greyish venation (but dividing veins of mirror and oblique veins almost brownish grey); legs yellowish to light greyish with three dark spots on fore and middle femora, a few similar spots on distal part of hind femur, dark reticular pattern on dorsal and outer surfaces of rest part of this femur, four dark spots on all tibiae (but in hind tibia, light interspaces between these spots much larger), and two darkened areas (distal half of basitarsus and apical area) of all tarsi; thoracic pleurites, anal plate and visible parts of abdominal tergites darkened; sternites light greyish brown; cerci and genital plate greyish brown. Head dorsum near median ocelli and between eyes barely concave; dorsal tegminal field with transverse mirror having two dividing veins and numerous short veinlets near its distal edge (Fig. 40); hind wings slightly protruding beyond tegminal apices; anal plate triangular but with rather widely rounded apex; genital plate somewhat longer than anal one, slightly elongate

and gradually narrowing to moderately narrow apex having rather small and narrow notch (Fig. 43); genitalia as in Figs 46–48.

Variations. Anterior part of epicranium in both males paratypes with light and thin V-shaped (but reversed) mark under rostral apex; one of these paratypes with tegminal mirror having three dividing veins and almost lacking irregular veinlets along its distal edge.

Female. General appearance as in males paratypes, but structure of tegmina (given in generic diagnosis) and colouration of their dorsal field different (see Fig. 41), and one (right) fore leg without tympana (restored). Genital plate rather short (transverse) and with moderately large (wide) apical notch (Fig. 44); ovipositor with apical part having denticles along dorsal edge (Fig. 45).

Length in mm. Body: male 8.5–9.8, female 9.5; body with wings: male 9.5–11.2, female 12.5; pronotum: male 1.8–2, female 2.1; tegmina: male 6.8–7.7, female 8.7; hind femora: male 7.5–8.5, female 8.4; ovipositor 8.6.

Etymology. This species name is the Latin word “minutissima” (smallest).

Subtribe **Neoaclina** Desutter, 1988

***Neoacla (Neoacla) loiselae** Desutter, 1988
(Figs 49–52)

= *Neoacla loiselae* Desutter, 1988

= *Neoacla (Neoacla) loiselae*: Gorochov, 2009

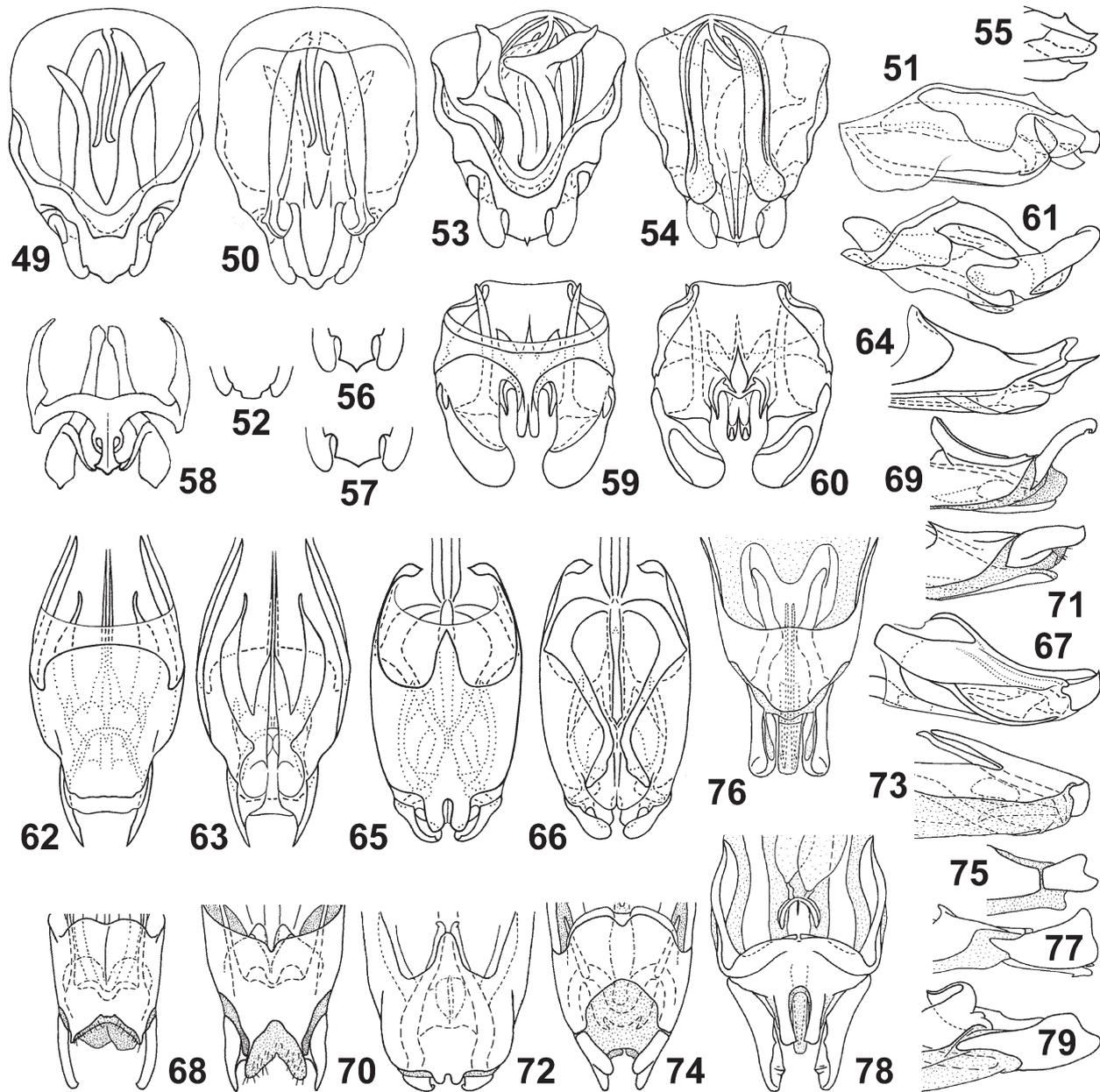
Material studied. **Peru**: 2 males, Ucayali Department, Atalaya Prov., ~35 km NW of Atalaya Town on Rio Ucayali, environs of Sapani Vill., ~300 m, primary forest, on bark of living trees at night, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izerskyy (ZIN).

Note. This species was described from Peru (Desutter, 1988: “Loreto, région de l’Ampiyacu, Brillo Nuevo”). Later, it was recorded from another Peruvian locality (on base of the above-mentioned males) as well as from Brazil (Gorochov, 2009, 2011a). Its male genitalia are slightly varied in the shape of epiphallallic apex (for comparison see Figs 49 and 52).

Neoacla (Neoacla) vicina (Chopard, 1956)
(Figs 53–57)

= *Acla vicina* Chopard, 1956

= *Neoacla (Neoacla) vicina*: Gorochov, 2009



Figs 49–79. Paragryllini: 49–52, *Neoacla loiselae* Des.; 53–57, *N. vicina* (Chop.); 58, *N.? reticulata* (Chop.); 59–61, *Peruaccla solitaria* Gor.; 62–64, *Strogulomorpha davidi* Gor.; 65–67, *S. proxima* Gor.; 68, 69, *S. infuscata* Des.; 70, 71, *S. borea* Des.; 72, 73, *S. estiron* Des.-Gr.; 74, 75, *S. boreita* Des.; 76, 77, *Loretana maxima* Des.-Gr.; 78, 79, *Nigrothema peruviansis* Des.-Gr. Male genitalia from above (49, 53, 58, 59, 62, 65), from below (50, 54, 60, 63, 66) and from side (51, 61); apical (52, 55–57) and distal (64, 67–79) parts of these genitalia from above (52, 56, 57, 68, 70, 72, 74, 76, 78) and from side (55, 64, 67, 69, 71, 73, 75, 77, 79). [49–57, 59–67, after Gorochov (2009, 2011a, b); 58, after Chopard (1956); 68–79, after Desutter (1988) and Desutter-Grandcolas (1991), modified.]

Material studied. Peru: 6 males, 2 females, Loreto Department, bank of Rio Pacaya (tributary flowing into “Canal de Puinahua” of Rio Ucayali) in ~10 km from Bretana Vill., Pacaya Samiria National Park (cordon PVC 1), 5°14'39.83"S, 74°23'206"W, low lying primary forest, 10–14.I.2019, A. Gorochov, V. Izer-

skyy (ZIN); 1 male, bank of Rio Morona near its mouth and not far from Puerto America Town, ~200 m, primary/secondary forest, 20–23.I.2010, A. Gorochov (ZIN); 2 males, bank of Rio Morona approximately at middle of distance between mouth of this river and its Ecuadorian part, 200–300 m, primary forest, 24–

27.I.2010, A. Gorochov (ZIN). **Ecuador**: 1 male, Morona Santiago Prov., bank of Rio Morona near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, 5–15.I.2010, A. Gorochov (ZIN). All specimens collected on bark of living trees at night.

Note. This species was described from Peru (Chopard, 1956: “Cerro Azul, about 120 miles northwest of Pucallpa”). Gorochov (2011a) recorded it from the Peruvian and Ecuadorian banks of Rio Morona on base of the specimens listed above. Here, it is also indicated for another Peruvian locality. The male genitalia of *N. (N.) vicina* are somewhat varied in the width of epiphallic apex (see Figs 53, 56, 57).

Neoacla? reticulata (Chopard, 1956)
(Fig. 58)

= *Acla reticulata* Chopard, 1956
= *Neoacla reticulata*: Gorochov, 2009

Note. This species was described from one Peruvian male (not female) by Chopard (1956: “about 40 miles southwest of Pucallpa”). Its belonging to this genus is problematic but possible, because its male genitalia are insufficiently studied but somewhat similar to those of *Neoacla* Desutter, 1988 (Fig. 58). Moreover, this species has “the reticulation [reticular venation] which almost fills the mirror” of male tegmina (Chopard, 1956); thus, *N.? reticulata* may be more or less similar to *N. (N.) loiselae* in general appearance.

****Kevanacla orientalis contraria***
Gorochov, 2011
(Figs 104, 105)

Material studied. **Peru**: 6 males (holotype and paratypes), 3 females (paratypes), Ucayali Department, Atalaya Prov., ~35 km NW of Atalaya Town on Rio Ucayali, environs of Sapani Vill., ~300 m, primary forest, on bark of living and died trees not far from soil at night, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

Note. This subspecies was described from the above-mentioned specimens as well as from two females (paratypes) collected in the Loreto Department (Gorochov, 2011a). The latter females are not included here in this subspecies, because they may belong to a new subspecies described below. The nominotypical subspecies (*K. o. orientalis* Desutter-Grandcolas, 1992), having the heavily

sclerotized distal parts of ectoparameres shorter, is distributed in French Guiana and in Brazil near French Guiana.

Kevanacla orientalis zigzag Gorochov,
subsp. nov.
(Figs 102, 103, 180)

Holotype. Male, **Peru**, Loreto Department, Maynas Prov., Fuerte de Momon Vill. on Rio Momon (tributary of Rio Amazon) in 10–15 km from Iquitos City, 3°37'0–40"S, 73°19'20–40"W, low lying forest, on bark of living tree not far from soil at night, 16–18.I.2019, A. Gorochov, V. Izersky, G. Quispe Fernandez (ZIN).

Paratypes. **Peru**: 1 male, same data as for holotype, but collected on dry stump at night (ZIN); 2 females (paratypes of *K. o. contraria*), bank of Rio Morona near its mouth and not far from Puerto America Town, ~200 m, primary/secondary forest, 20–23.I.2010, A. Gorochov (ZIN).

Description. Male (holotype). General appearance very similar to that of *K. o. contraria*. Coloration spotted: head dark brown with almost black areas under eyes and antennal cavities as well as with light brown ocelli, four longitudinal stripes on dorsum, small spot on dorsal surface of rostral base, very small marks on genae and spots on antennae (including scapes), yellowish median (vertical) stripe under median ocellus running to rather large light brown to brown spot near (above) clypeal suture, and brown areas on labrum and palpi; pronotum dark brown with six yellowish stripes on disc (a pair of short stripes along lateral edges, three longer longitudinal stripes located between previous stripes and interrupted in middle, and one stripe along anterior edge of disc); tegmina uniformly brown with almost dark brown lateral fields; legs and abdomen with diverse dark brown and light brown spots and areas, but anal plate and cerci brown to greyish brown, and body venter (including genital plate) light greyish brown. Fore tibia with not large inner oval tympanum only; tegmina reaching base of third abdominal tergite; structure of dorsal tegminal field practically indistinguished from that of other known congeners (Fig. 180); lateral tegminal field with two longitudinal and parallel veins only (one of them running along dorsal edge of this field, second vein situated near it); anal plate truncately notched at apex; genital plate rounded at apex;

genitalia distinguished from those of *K. o. contraria* only by distal (heavily sclerotized) part of each ectoparameres shorter and more S-shaped (almost zigzag-like) in profile, and membranous area between this ectoparameral part and ventral (longitudinal) plate smaller (for comparison see Figs 102, 103 and 104, 105).

Variations. Second male with maxillary palpi having lighter longitudinal marks, pronotal disc with light transverse mark near posterior edge, and anal plate truncate but almost not notched at apex.

Female. Colouration and structure of body in these females very similar to those in males of *K. o. zigzag* and practically indistinguishable from those of *K. o. contraria* (Gorochov, 2011a: Ucayali Department), but their locality situated less far from type locality of *K. o. zigzag* than from that of *K. o. contraria*.

Length in mm. Body: male 12–13, female 11–14; pronotum: male 2.3–2.7, female 2.5–2.9; tegmina: male 3.8–4.2, female (visible part) 0–0.1; hind femora: male 10.3–11, female 11.2–11.7; ovipositor 12.8–13.5.

Comparison. This subspecies is distinguished from *K. o. contraria* by the genital characters listed above (see Figs 102–105). From *K. o. orientalis*, the new subspecies differs in the distal ectoparameral parts higher and more S-shaped (almost Z-shaped) in profile [compare Fig. 103 and picture by Desutter-Grandcolas (1992b: fig. 57)].

Etymology. The new subspecies is named “zigzag” (an international word, possibly of French origin, meaning broken line), because it has the male ectoparameres with almost Z-shaped distal parts.

****Peruacla solitaria*** Gorochov, 2011
(Figs 59–61)

Material studied. **Peru:** 1 male (holotype), Junin Department, Satipo Prov., ~25 km SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, primary/secondary forest, 20–23.X.2008; A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

Note. The species is known from this holotype only (Gorochov, 2011a). Its male genitalia are somewhat similar to those of the Ecuadorian genus *Escondacla* Nischk et Otte, 2000; however, *Peruacla* Gorochov, 2011 differs from the latter genus in the male tegmina very strongly reduced

and lacking stridulatory apparatus (in *Escondacla*, male tegmina are well developed and with normal stridulatory apparatus), and in some genital characters: posterolateral lobes in *Peruacla* partly membranous, and endoparameres widely separated from each other (*vs.* these lobes obviously more sclerotized, and endoparameres fused or almost in contact with each other).

Subtribe **Strogulomorpha** Desutter, 1988

****Strogulomorpha davidi*** Gorochov, 2011
(Figs 62–64)

Material studied. **Peru:** 1 male (holotype), 3 females (paratypes), Junin Department, Satipo Prov., ~25 km SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, primary/secondary forest, 20–23.X.2008; A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN); 1 male, 8 females, same province, Pampa Hermosa Distr., environs of waterfall “Cristal” near Pacasmayo Vill., 11°22'02"S, 74°41'55"W, 1400–1600 m, 8–13.XII.2018, A. Gorochov (ZIN); 1 nymph of male, same province, “Zona de amortiguamiento de la bosque de proteccion Pui Pui” near Alto Cuviriaki Vill., 11°11'06–07"S, 74°51'50–51"W, 1100–1200 m, 27.XII.2018–2.I.2019, A. Gorochov (ZIN). All specimens collected on leaves of bushes along forest roads at night.

Note. This small and apterous species is here recorded from two new Peruvian localities. The nymph of male from “Pui Pui” was collected in the beginning of imaginal moult, and its genitalia are almost completely formed and allow me to determine this nymph as *S. davidi*.

Strogulomorpha proxima Gorochov, 2011
(Figs 65–67)

Material studied. **Ecuador:** 1 male (holotype), 1 female (paratype), Morona Santiago Prov., bank of Rio Morona near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, on leaves of bushes not far from soil at night, 5–15.I.2010, A. Gorochov (ZIN).

Note. This species is also small and apterous. It is known only from the above-mentioned specimens which were collected almost on the border between Peru and Ecuador; thus, this species should be distributed at least in nearest localities of Peru.

Strogulomorpha infuscata Desutter, 1988
(Figs 68, 69)

Note. This small and apterous species is known only by its type series (males and females) from Peru (Desutter, 1988: “Loreto, region de l’Ampiyacu, Brillo Nuevo”).

Strogulomorpha borea Desutter, 1988
(Figs 70, 71)

Note. This species is similar to the previous congeners and known only from several type specimens (males and females) collected in the same locality as *S. infuscata*.

Strogulomorpha boreita Desutter, 1988
(Figs 74, 75)

Note. This small and apterous species is known only from a few type specimens (males and females) from the same locality as *S. infuscata* and *S. borea*.

Strogulomorpha estiron
Desutter-Grandcolas, 1991
(Figs 72, 73)

Note. This small and apterous species is known only from two type specimens (male and female) collected in Peru (Desutter-Grandcolas, 1991: “Loreto, rio Ampiyacu, Estiron”).

Loretana maxima Desutter-Grandcolas, 1991
(Figs 76, 77)

Material studied. **Ecuador:** 3 males, 1 female, Morona Santiago Prov., bank of Rio Morona near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, on bark of living trees not far from soil at night, 5–15.I.2010, A. Gorochov (ZIN).

Note. This apterous species was described from a few Peruvian specimens (one male and two females) collected in the same locality as *S. infuscata*, *S. borea* and *S. boreita*. Later, this species was recorded from the border between Peru and Ecuador on base of the above-mentioned specimens (Gorochov, 2011a).

Nigrothema peruviansis
Desutter-Grandcolas, 1991
(Figs 78, 79)

Note. This species is known only from its type series (males and females) collected in the same Pe-

ruvian locality as *S. infuscata*, *S. borea*, *S. boreita* and types of *L. maxima*. Its male and female have very small tegmina probably lacking any stridulatory apparatus (Desutter-Grandcolas, 1991).

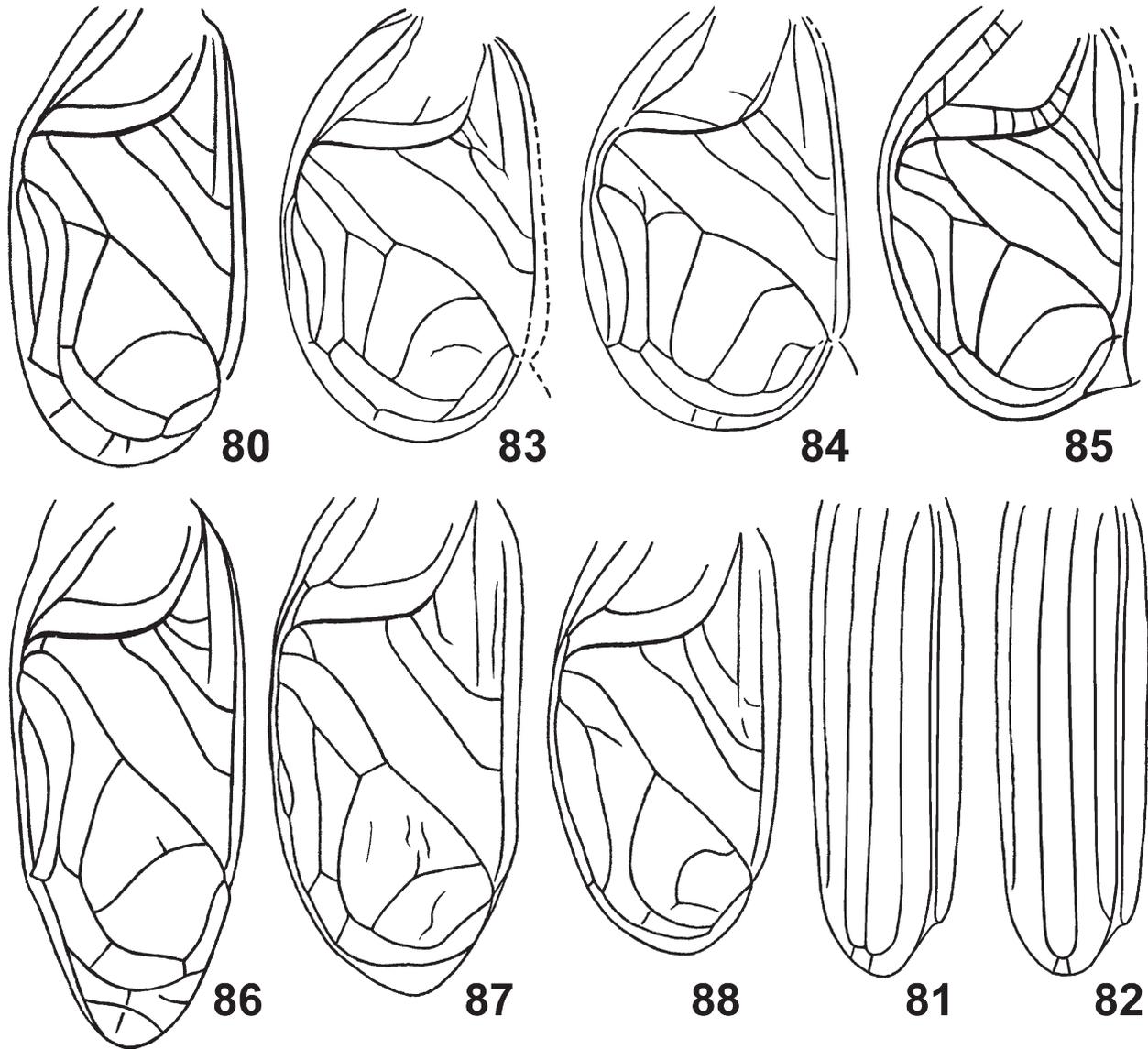
Subtribe ***Adelosgryllina*** subtrib. nov.

Type genus *Adelosgryllus* Mesa et Zefa, 2004 (gender masculine)

Diagnosis. Head high, with rostrum insignificantly projected forwards and rounded in profile; interspace between antennal cavities very narrow (scape 4–5 times as wide as this interspace); ocelli undeveloped. Tegmina in both sexes long (f. macroptera; Figs 89, 95) or variously shortened (f. brachyptera), with normal stridulatory apparatus in male; this apparatus having elongate to almost round mirror usually with one dividing vein (Figs 80, 83–88). Legs with denticles between dorsal spines of hind tibiae very sparse and small (almost indistinct). Male genitalia with epiphallus having a pair of posterolateral lobes and lacking posteromedian process between them; ectoparameres partly sclerotized, separated from epiphallus and articulated with posterior endoparameral arms; middle parts of endoparameres fused with each other by transverse sclerotized bridge and forming H-shaped endoparameral sclerite; rachis developed but rather short and membranous (Figs 90–92, 99–101). Ovipositor with distal part moderately thin and more or less intermediate between those of Paragryllini and Phalangopsini (Fig. 96).

Included genera. Type genus only.

Comparison. The new subtribe differs from all the other subtribes of Paragryllini in the head rostrum less developed and very narrow between the antennal cavities, male tegmina elongate and with the mirror not transverse and usually having one dividing vein (sometimes having two such veins), and distal part of ovipositor somewhat more primitive in the structure. The male genitalia of *Adelosgryllina* are distinguished from those of *Neoaclina* and *Brevizaclina* by the epiphallus having a pair of posterolateral epiphallic lobes only; from those of *Strogulomorpha*, by the endoparameral sclerite H-shaped (not strongly modified); from those of *Paragryllina*, by the epiphallic posteroventral lobes (sometimes fused with each other in *Paragryllini*) not clearly separated from dorsal (proximal) epiphallic part by a distinct transverse fold,



Figs 80–88. *Adelosgryllus* Mesa et Zefa: **80–82**, *A. parasimilis* sp. nov.; **83**, *A. similis* Zefa et Corrêa; **84**, *A. cruscaneus* Corrêa et Zefa; **85**, *A. rubricephalus* Mesa et Zefa; **86–88**, *A. spurius* Gor. Dorsal field of right tegmen in male (80, 83–88) and in female (81, 82; crossveins not pictured): f. macroptera (80–82, 86), f. brachyptera (83–85, 87, 88). [83, 84, after Corrêa et al. (2018), modified; 85, after Mesa & Zefa (2004); 87, 88, after Gorochov (2011a).]

and well developed ectoparameres; and from Mexiaclina, by the absence of even traces of postero-medial epiphallic process (in the latter subtribe, it is distinctly bifurcated and often partly reduced or divided into a pair of isolated sclerites).

****Adelosgryllus spurius*** Gorochov, 2011
(Figs 86–88, 98–101)

Material studied. **Peru:** 2 males (holotype and paratype), 2 females (paratypes), Ucayali Department,

Atalaya Prov., ~35 km NW of Atalaya Town on Rio Ucayali, environs of Sapani Vill., ~300 m, primary forest, on earthen wall (cliff) along forest road at night (but 1 female at light), 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN); 1 male, 3 females, Junin Department, Satipo Prov., forest garden in Satipo Town, at light, 15.X–6.XI.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

Note. The species was described from four specimens collected in the locality not far from

Atalaya Town (Gorochov, 2011a). It is here recorded from a new locality in Peru. This species is characteristic by its small size, reddish head (contrasting with dark brown to blackish most part of rest body), whitish portion of antennal flagellum, presence of both f. macroptera and f. brachyptera, and structure of male genitalia (Figs 99–101).

****Adelosgryllus phaeocephalus* Gorochov, 2011**
(Figs 95–97)

Material studied. **Peru:** 1 female (holotype), Ucayali Department, Atalaya Prov., ~35 km NW of Atalaya Town on Rio Ucayali, environs of Sapani Vill., ~300 m, primary forest, at light, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izerskiy (ZIN).

Note. This species is known from a single female (f. macroptera) sympatric with *A. spurius*. It differs from the latter species mainly in the body somewhat smaller, and head uniformly dark brown.

****Adelosgryllus parasimilis* sp. nov.**
(Figs 80–82, 89–94)

Holotype. Male, **Peru**, Junin Department, Satipo Prov., Rio Tambo Distr., 6 km N of Pichiguia Vill., protected area “Reserva Comunal Ashaninka”, 11.358244°S, 74.0320473°W, ~500 m, primary forest, at light, 14–23.XI.2017, A. Gorochov, G. Irisov (ZIN).

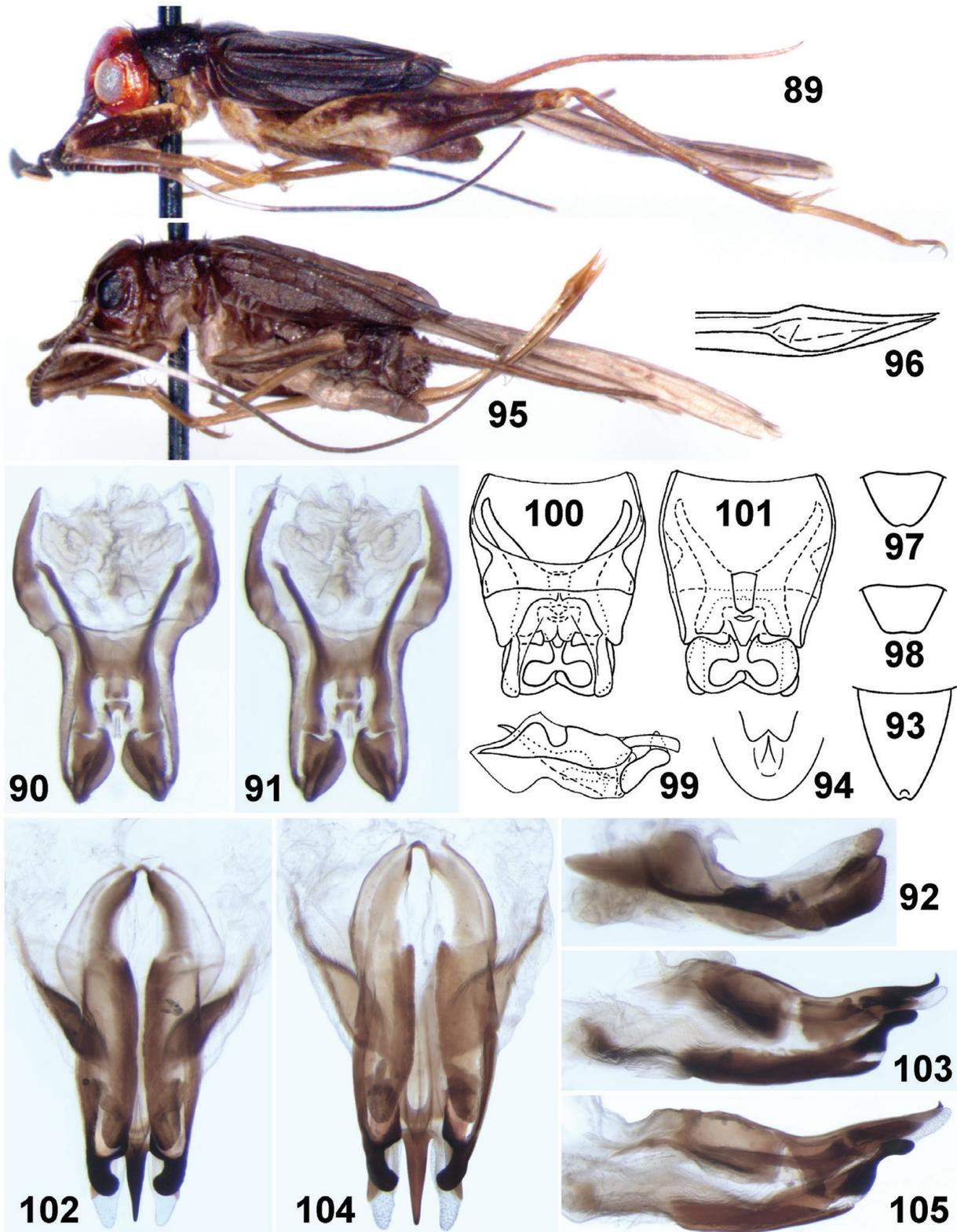
Paratypes. Two females, same data as for holotype (ZIN).

Description. Male (holotype). Body very small, almost as in *A. phaeocephalus* in size but smaller than in *A. spurius*. Head reddish with scapes and a pair of areas behind eyes brown, with palpi and rest of antennae dark brown but having rather long whitish area on each antennal flagellum not far from its base, and with yellow labrum; pronotum and tegmina uniformly dark brown; hind wings in rest position greyish dorsally and laterally, and lighter (almost transparent) ventrally; fore and middle legs more or less dark brown with whitish coxae, trochanters and stripe along proximal half of dorsal part of each femur, and with light greyish brown tibiae and tarsi; hind leg with whitish coxa, trochanter and proximal half of femur, with dark brown distal half of femur (including one dorso-lateral stripe running to basal part of femur), and with greyish brown tibia (except for lightish both

basal part and spines) and light brown tarsus; ventral part of body light greyish brown with a few posterior sternites and genital plate greyish brown; visible parts of abdominal tergites and anal plate almost blackish; cerci light greyish brown with whitish apical part (Fig. 89). Scape almost five times as wide as rostrum between antennal cavities; maxillary palpus with apical segment almost as wide as eye in front and approximately 1.5 times as long as height of eye. Pronotum rather high and moderately transverse, with anterior part slightly narrower than head, and with disc gradually widening towards posterior edge. Tegmina reaching apex of anal plate, with dorsal field rather narrow as well as having elongate mirror (almost 1.5 times as long as wide) and one dividing vein in this mirror (Fig. 80), and with lateral field lacking crossveins as well as having three parallel longitudinal veins in upper half and a few oblique but somewhat irregular *Sc* branches in lower half; hind wings very long, reaching apices of hind tibiae in rest position. Fore tibia with rather large and oval inner tympanum, and without outer tympanum. Anal plate simple, roundly triangular; genital plate almost twice as long as anal one and with apex having very small median invagination dorsally (Figs 93, 94). Male genitalia very similar to that of *A. similis* Zefa et Corrêa, 2018 from Brazil, but epiphallus with somewhat more parallel lateral edges, ectoparameres slightly longer, and posterior endoparameral arms (articulated with ectoparameres) distinctly shorter (these arms not longer than ectoparameres; *vs.* they clearly longer than ectoparameres) (Figs 90–92).

Female. General appearance as in male, but tegminal venation more or less similar to that of female (f. macroptera) of both *A. spurius* and *A. phaeocephalus*, i.e. dorsal field with a few parallel longitudinal veins (Figs 81, 82) and very sparse but regular crossveins between them, and lateral field without crossveins and only with three distinct veins (including vein along dorsal edge of this field) located longitudinally; ovipositor and genital plate also similar to those of *A. spurius* and *A. phaeocephalus* (Figs 96–98), but latter plate almost intermediate between those of these species.

Length in mm. Body: male 5.7, female 6–6.8; body with wings: male 11, female 12.5–13; pronotum: male 1, female 1.2–1.4; tegmina: male 3.8,



Figs 89–105. *Adelosgryllus* Mesa et Zefa and *Kevanacla* Des.-Gr.: 89–94, *A. parasimilis* sp. nov.; 95–97, *A. phaeocephalis* Gor.; 98–101, *A. spurius* Gor.; 102, 103, *K. orientalis zigzag* subsp. nov.; 104, 105, *K. o. contraria* Gor. Body of male (89) and female (95) from side; male genitalia from above (90, 100), from below (91, 101, 102, 104) and from side (92, 99, 103, 105); male (93) and female (97, 98) genital plate from below; apical part of male genital plate from behind (94); distal part of ovipositor from side (96). [99–101, after Gorochov (2011a), modified.]

female 4.1–4.6; hind femora: male 4.2, female 4.4–4.9; ovipositor 3.8.

Comparison. The new species is most similar in the male genitalia to *A. similis*, but its male tegmen is with a distinctly longer mirror as well as with the diagonal and oblique veins more longitudinal (*vs.* more transverse; see Figs 80 and 83), and its male genitalia are with the small characters listed above. These tegminal differences can hardly be the result of the fact that *A. similis* was described from f. brachyptera, but *A. parasimilis* is described from f. macroptera; because in *A. spurius*, the both forms have the diagonal and oblique veins of tegmen very similar in position (see Figs 86 and 87, 88). From *A. cruscastaneus* Corrêa et Zefa, 2018 (f. brachyptera from Brazil), *A. parasimilis* differs in the same characters of wings (see Figs 80 and 84), epiphallus shorter and with the distal parts of posterolateral lobes more widely separated from each other, and ectoparameres longer and more oblique (less vertical) in profile; from *A. rubricephalus* Mesa et Zefa, 2004 (Brazil), in the same tegminal characters (see Figs 80 and 85), and in the epiphallus narrowest (not widest) near its anterior part and lacking distinct posteromedian (posterodorsal) projection or projections in profile; from *A. spurius*, in the ectoparameres much less hooked (see Figs 90–92 and 99–101); and from *A. phaeocephalus*, in the head reddish but not dark brown (all the congeners have the pronotum uniformly dark brown to blackish; see Figs 89 and 95).

Etymology. The species is named after *A. similis* which is most closely related to *A. parasimilis*.

Tribe **Phalangopsini** Blanchard, 1845

Subtribe **Luzarina** Hebard, 1928

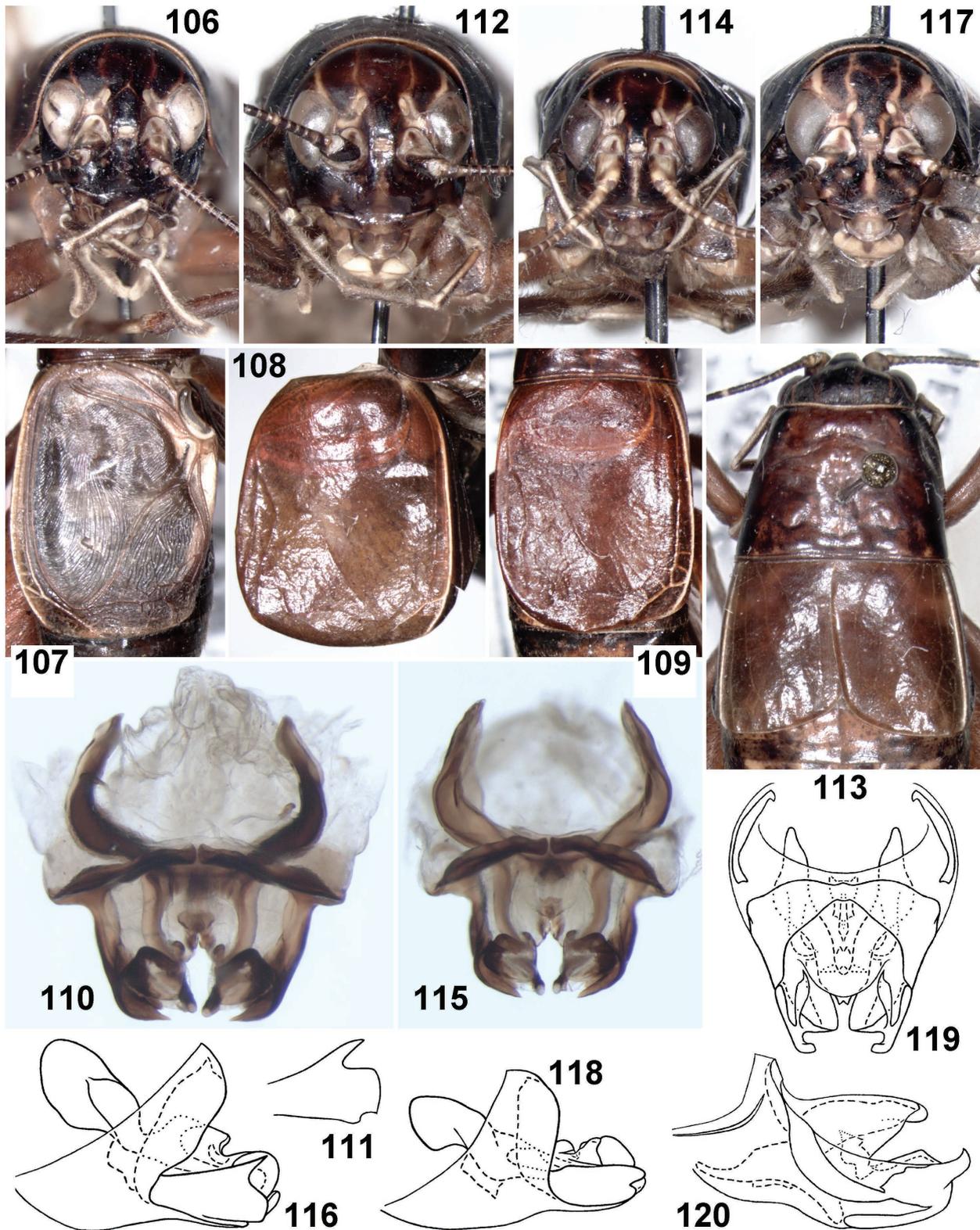
****Luzara venado major* subsp. nov.**
(Figs 106–113)

Holotype. Male, **Peru**, Junin Department, Satipo Prov., Rio Tambo Distr., 6 km N of Pichiguia Vill., protected area “Reserva Comunal Ashaninka”, 11.358244°S, 74.0320473°W, ~500 m, primary forest, among dry leaves on forest floor at night, 14–23.XI.2017, A. Gorochov, G. Irisov (ZIN).

Paratypes. Ten males, 8 females, same data as for holotype (ZIN); 1 male, 1 female, same locality but on bark of lower part of tree trunk (male) and among dry leaves of forest floor (female) at night, 14–19.XII.2018, A. Gorochov (ZIN).

Description. Male (holotype). Body rather large for this species. Colouration somewhat more uniform than in nominotypical subspecies (*L. v. venado* Gorochov, 2011): head black with yellowish to light brown eyes, ocelli, marks on mouthparts, as well as small area between eye, lateral ocellus and antennal cavity, with four dark brown (barely distinct) longitudinal lines on dorsum, and with brown to dark brown antennae having light both dorsal area on scape and sparse spots on flagellum (Fig. 106); pronotum with brown disc, yellowish line along anterior pronotal edge, and dark brown to blackish lateral lobes having posterior edges brown to light brown; tegmina with brown to dark brown lateral field, slightly lighter (reddish brown) dorsal field of upper (right) tegmen, almost transparent dorsal field of opposite tegmen, and almost yellowish narrow humeral stripe between these fields in each tegmen (Figs 107, 108); legs with reddish brown femora having darkened distal parts, with almost dark brown tibiae having whitish tympanal membranes and light brown tibial spurs, and with dark brown tarsi having lightish proximal area on fore and middle basitarsi; abdomen dark brown with somewhat lighter (brown) marks on sternites and almost light greyish brown cerci. External body structure typical of this species (Gorochov, 2011b), but pronotum more distinctly narrowing to rather small head, tegmina reaching apex of fourth abdominal tergite, distal part of dorsal field of upper tegmen wider than proximal part of this field, and venation of dorsal field of lower tegmen as in Fig. 107 (lateral field in both tegmina with 4–5 longitudinal veins only). Genitalia also very similar to those of *L. v. venado*, but their distal part slightly wider than in latter subspecies, and posterodorsal edge of ventral (main) part of each posterolateral epiphallic lobe (behind dorsal spine) less oblique in profile (Figs 110, 111).

Variations. Males of this subspecies somewhat varied in size, colouration, width of tegmina, and shape of genital structures: lightish lines on head dorsum sometimes more distinct (but area under median ocellus always dark); tegmina 1.8–2 times as long as pronotum; dorsal field of upper tegmen clearly varied in width (Figs 108, 109); variations in shape of genital structures also distinct and preventing separation of all males of *L. v. major* from those of *L. v. venado*.



Figs 106–120. *Luzara* Walk. and *Ucayacla* Gor.: **106–113**, *L. venado major* subsp. nov.; **114–117**, *L. v. venado* Gor.; **118**, *L. sapani* Gor.; **119, 120**, *U. pulchella* Gor. Male (106, 114) and female (112, 117) head in front; dorsal field of left (107) and right (108, 109) male tegmen; male genitalia from above (110, 115, 119) and from side (116, 118, 120); posterolateral (posteroventral) lobe of epiphallus from side (111). [116, 118–120, after Gorochov (2011b).]

Female. General appearance as in male, but lightish lines on head dorsum often more distinct than in holotype (as in some other males), epicranium under median ocellus sometimes with traces of lightish median (vertical) stripe, tegmina 1.2–1.3 times as long as pronotum and only insignificantly covered each other with their medial parts (Figs 112, 113), structure and colouration of both tegmina almost identical (dorsal field brown, with traces of venation only, and yellowish humeral stripe from distinct to almost absent; Fig. 113), abdomen with dorsal part brown or having numerous brown to almost light brown spots. Genital plate and ovipositor practically indistinguishable from those of nominotypical subspecies.

Length in mm. Body: male 16–20, female 18–23; pronotum: male 4–5, female 4.5–5.2; tegmina: male 7.5–9.5, female 5.7–6.2; hind femora: male 14.5–17, female 15–18; ovipositor 14–18.

Comparison. The new subspecies is distinguished from nominotypical one by its larger size (but small specimens of *L. v. major* and large specimens of *L. v. venado* are almost identical to each other in size), slightly shorter male tegmina (they are 1.8–1.9 times as long as pronotum in *L. v. major*; but in *L. v. venado*, this ratio is 2–2.1), and mainly less spotted head colouration (in *L. v. major*, male lacks lightish stripe under median ocellus, female has such stripe only sometimes, and lightish lines on head dorsum are more or less poorly developed in both sexes; in *L. v. venado*, all sexes have lightish stripe under median ocellus, and female has light lines on head dorsum very distinct) (for comparison see Figs 106, 112 and 114, 117).

**Luzara venado venado* Gorochov, 2011
(Figs 114–117)

= *Luzara venado* Gorochov, 2011

Material studied. **Peru:** 2 males (holotype and paratype), 4 females (paratypes), Junin Department, Satipo Prov., ~25 km SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, primary/secondary forest, 20–23.X.2008; A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN); 2 males, 2 females, same locality but 11.11552°S, 74.46307°W, 1000–1200 m, 5–9.XII.2017, A. Gorochov, G. Irisov (ZIN);

6 males, 4 females, same province, “Zona de amortiguamiento de la bosque de proteccion Pui Pui” near Alto Cuviriaki Vill., 11°11'06–07"S, 74°51'50–51"W, 1100–1200 m, primary/secondary forest, 27.XII.2018–2.I.2019, A. Gorochov (ZIN); 1 female, same province, “near Mariposa Vill.”, 11°24.9'S, 74°43.7'W, 1637 m, 14–16.XII.2010, V. Sinyaev, S. Sinyaeva, V. Izersky (ZIN). All specimens, except for latter female, collected among dry leaves of forest floor and on living leaves of bushes near this floor at night.

Note. This taxon differs from the above-mentioned subspecies in the characters listed above, in the comparison of *L. v. major* with *L. v. venado*. The latter subspecies is here recorded from some new localities.

**Luzara sapani* Gorochov, 2011
(Fig. 118)

Material studied. **Peru:** 1 male (holotype), 3 females (paratypes), Ucayali Department, Atalaya Prov., ~35 km NW of Atalaya Town on Rio Ucayali, environs of Sapani Vill., ~300 m, primary forest, among dry leaves of forest floor and on living leaves of bushes near this floor at night, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

Note. This species is very similar to the previous species; *L. sapani* is almost identical to *L. v. major* in body size. However, *L. sapani* clearly differs from *L. venado* in the shape of epiphallal posterolateral lobes of male genitalia: in *L. sapani*, each such lobe in profile is without dorsoapical spine; but in all the subspecies of *L. venado*, this lobes has a distinct dorsoapical spine (see Figs 111, 116 and 118).

**Ucayacla pulchella* Gorochov, 2011
(Figs 119, 120)

Material studied. **Peru:** 1 male (holotype), Ucayali Department, Atalaya Prov., ~35 km NW of Atalaya Town on Rio Ucayali, environs of Sapani Vill., ~300 m, primary forest, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN). This specimen collected as nymph of middle age among dry leaves of forest floor at night; imago X.2009 in artificial conditions.

Note. This species is type species of the genus *Ucayacla* Gorochov, 2011 and known from one specimen only.

***Peruzara atalaya** Gorochov, 2011
(Figs 121–123)

Material studied. **Peru:** 1 male (holotype), Ucayali Department, Atalaya Prov., ~35 km NW of Atalaya Town on Rio Ucayali, environs of Sapani Vill., ~300 m, primary forest, among dry leaves on forest floor at night, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

Note. This species is known from a single male only (Gorochov, 2011b).

Peruzara loreto Gorochov, 2011
(Figs 124–126)

Material studied. **Peru:** 1 male (holotype), Loreto Department, bank of Rio Morona near its mouth and not far from Puerto America Town, ~200 m, primary/secondary forest, on open soil of forest floor during stridulation at night, 20–23.I.2010, A. Gorochov (ZIN).

Note. The species is also known from a single male (Gorochov, 2011b).

Amazonacla primitiva Gorochov, 2011
(Figs 130–132)

Material studied. **Ecuador:** 1 male (holotype), 1 female (paratype), Morona Santiago Prov., bank of Rio Morona near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, among dry leaves of forest floor at night, 5–15.I.2010, A. Gorochov (ZIN).

Note. The species is known from these two specimens only. They were collected very near the border with Peru; thus, this species must be distributed in the latter country also.

***Amazonacla imitata** Gorochov, 2011
(Figs 127–129)

Material studied. **Peru:** 11 males (holotype and paratypes), 6 females (paratypes), Junin Department, Satipo Prov., ~25 km SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, primary/secondary forest, 20–23.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN); 3 males, 3 females, same locality but 11.11552°S, 74.46307°W, 1000–1200 m, 5–9.XII.2017, A. Gorochov, G. Irisov (ZIN); 1 male, same province, 18 km N of Satipo Town, forest in environs of waterfall “Cinco Cascadas” near Paratushali Vill., 11.283812°S, 74.713915°W, ~800 m, 4–5.XI.2008, A. Gorochov, M. Berezin, L. Anisyut-

kin, E. Tkatsheva, V. Izersky (ZIN); 1 female, same province, 12 km N of Satipo Town, protected area “Concesion de Conservacion de la Universitaria”, 11.2031563°S, 74.61914062°W, ~600 m, secondary/primary forest, 25–27.XI.2017, A. Gorochov, G. Irisov (ZIN); 1 male, 2 females, same province, Rio Tambo Distr., 6 km N of Pichiguia Vill., protected area “Reserva Comunal Ashaninka”, 11.358244°S, 74.0320473°W, ~500 m, primary forest, 14–19.XII.2018, A. Gorochov (ZIN). All specimens collected at night; majority of them among dry leaves of forest floor, but one male from “Reserva Comunal Ashaninka” on bark of living tree near this floor.

Note. This species is here recorded from some new localities. All its localities (including type one) are within the Satipo Province. It is interesting, but the specimens from environs of the Rio Venado Village (type locality of *L. v. venado*) and from “Reserva Comunal Ashaninka” (type locality of *L. v. major*) lack clear subspecies differences (contrary to specimens of *L. venado*).

***Leptopsis (Leptopsis) ucayali** Gorochov, 2011
(Figs 133–135)

Material studied. **Peru:** 3 males (holotype and paratypes), 3 females (paratypes), Ucayali Department, Atalaya Prov., ~35 km NW of Atalaya Town on Rio Ucayali, environs of Sapani Vill., ~300 m, primary forest, among dry leaves of forest floor, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

Note. The species is known from these specimens only; it is a rather small cricket with long legs, moderately short coriaceous tegmina lacking venation in the both sexes, and a pair of oval tympana on each fore tibia (Gorochov, 2011b).

Leptopsis (Leptopsis) nauta
(Desutter-Grandcolas, 1992)
(Figs 136, 137)

= *Stenotes nauta* Desutter-Grandcolas, 1992
= *Leptopsis nauta*: Desutter-Grandcolas, 1996
= *Leptopsis (Leptopsis) nauta*: Gorochov, 2011

Note. This species is known only from its type material (males and females) collected in Peru (Desutter-Grandcolas, 1992a: “Loreto, région de l’Ampiyacu, Iquitos”). It is very similar to *L. ucayali* in the general appearance.

Leptopsis (Leptopsis) zumun

(Desutter-Grandcolas, 1992)

(Figs 138, 139)

= *Stenotes zumun* Desutter-Grandcolas, 1992

= *Leptopsis zumun*: Desutter-Grandcolas, 1996

= *Leptopsis (Leptopsis) zumun*: Gorochov, 2011

Note. This species is similar to the previous congeners and is also known from its type material (males and females) only (Desutter-Grandcolas, 1992a: “Loreto, région de l’Ampiyacu, Brillo Nuevo”).

Leptopsis (Leptopsis) saussurei

(Desutter-Grandcolas, 1992)

(Figs 140, 141)

= *Stenotes saussurei* Desutter-Grandcolas, 1992

= *Leptopsis saussurei*: Desutter-Grandcolas, 1996

= *Leptopsis (Leptopsis) saussurei*: Gorochov, 2011

Note. The species is known only from three males and one female (type material) collected in the same locality as *L. zumun*. It is also similar to the previous congeners.

Leptopsis (Aberracla) morona Gorochov, 2011

(Figs 142–144)

Material studied. Ecuador: 1 male (holotype), 1 female (paratype), Morona Santiago Prov., bank of Rio Morona near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, among dry leaves on forest floor, 5–15.I.2010, A. Gorochov (ZIN).

Note. This species is also more or less similar in general appearance to the previous congeners, but its male genitalia are somewhat different. It is known only from the above-mentioned specimens collected almost on a border between Peru and Ecuador.

Ochraperites (Ochraperites) ottei

Desutter-Grandcolas, 1993

(Figs 145, 146)

= *Ochraperites ottei* Desutter-Grandcolas, 1993

= *Ochraperites (Ochraperites) ottei*: Gorochov, 2014

Note. The species is characteristic in the male tegmina moderately shortened, with the dorsal field of right (upper) tegmen coriaceous and lacking venation (but having a distinct light stripe along

its lateral and distal edges), and with such field of left (lower) tegmen membranous and probably having only remnants of stridulatory apparatus; there is only inner tympanum on each fore tibia. This species is known only from its type series (males and females) collected in Peru (Desutter-Grandcolas, 1993: “Loreto, region de l’Ampiyacu, Brillo Nuevo”).

Peru dichra (Desutter-Grandcolas, 1993)

(Figs 147, 148)

= *Tetragonia dichra* Desutter-Grandcolas, 1993

= *Peru dichra*: Koçak & Kemal, 2008

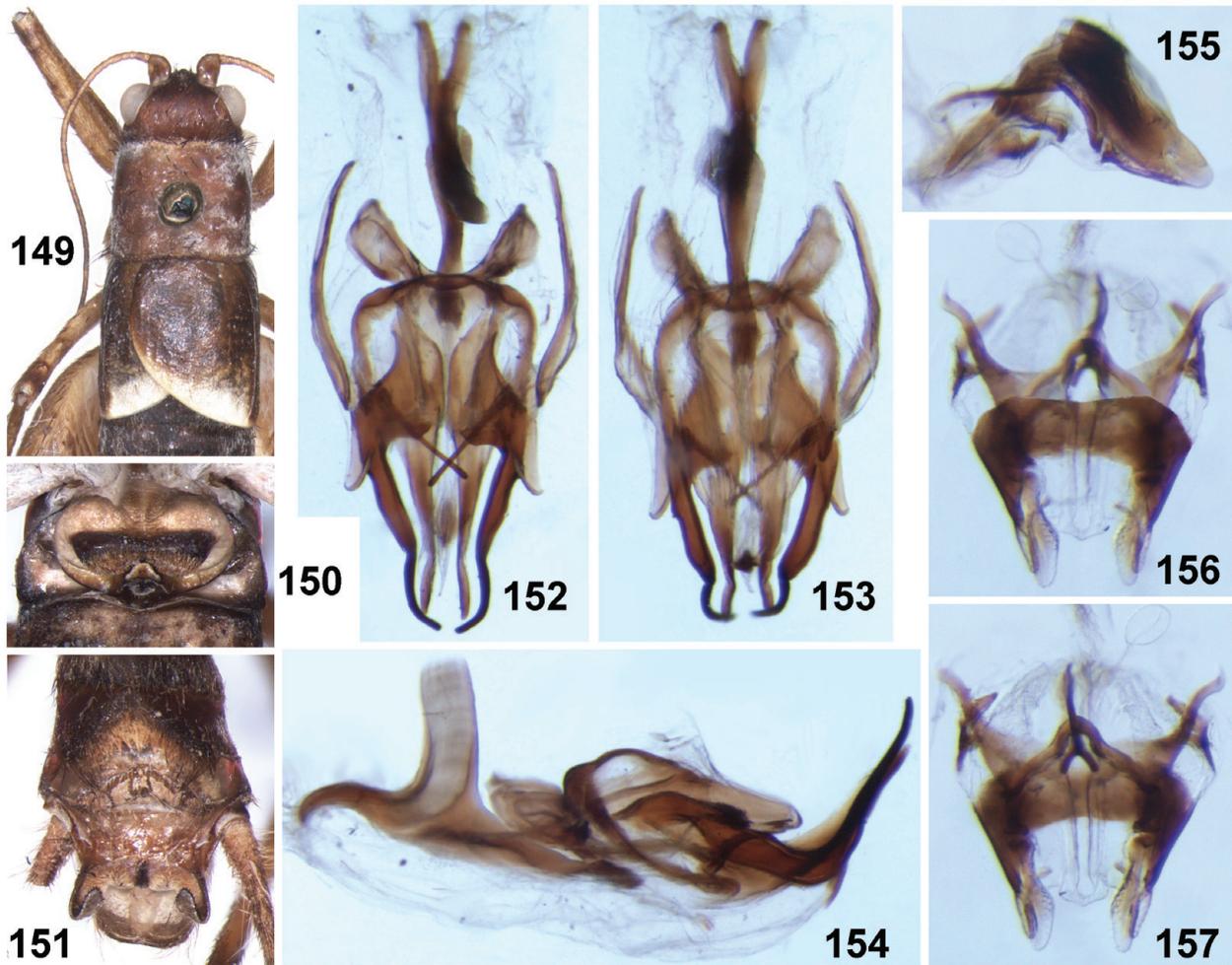
Note. The species is more or less similar to *O. ottei* in the general appearance and male genital structure, but it is distinguished from the latter species by some differences in the male genitalia. Between these species, there are possibly only subgeneric differences. This species is known only from a few males and one female (type series) collected in Peru (Desutter-Grandcolas, 1993: “Loreto, Iquitos, route de Nauta”).

****Daedalonotum daedalum*** Gorochov, 2014

(Figs 149–154)

Material studied. Peru: 6 males (holotype and paratypes), 4 females (paratypes), Ucayali Department, Atalaya Prov., ~35 km NW of Atalaya Town on Rio Ucayali, environs of Sapani Vill., ~300 m, primary forest, among dry leaves on forest floor at night, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

Note. This species belonging to the monotypical genus *Daedalonotum* Gorochov, 2014 was originally included in the subtribe Modestozarina (Gorochov, 2014), but it is possible that this genus is more related to the subtribe Luzarina. *Daedalonotum* lacks tympana in the both sexes and stridulatory apparatus in the male tegmina (these tegmina are moderately shortened, more or less cup-like, similar to each other in structure, almost without venation in the dorsal field, and covering the large metanotal glad of a rather complex shape), but it has small female tegmina and the male genitalia as in Figs 152–154. The species is known only from its type specimens listed above.



Figs 149–157. *Daedalonotum* Gor. and *Nemozara* Gor.: **149–154**, *D. daedalum* Gor.; **155–157**, *N. rio* Gor. Head, pronotum and tegmina of male from above (149); male metanotal gland from above (150); male abdominal apex from above (151); male genitalia from above (152, 156), from below (153, 157) and from side (154, 155). [149–157, after Gorochov (2014).]

****Amusodes andeanum*** Hebard, 1928

Note. This species was described from two females collected in the following localities (Hebard, 1928a): “75°17'W, 11°3'S, central Peru” (Chanchamayo Prov. in Junin Department; holotype); “Pampaconas River, Peru” (Ucayali or Cusco Departments; paratype). These specimens are not identical in the body size and colouration (Hebard, 1928a); thus, they may belong to two species. Moreover, belonging of these females to the genus *Amusodes* Hebard, 1928 as well as differences of this genus from some other genera of Luzarina (having long legs and more or less developed tympana) are unclear, because *Amusodes* male genitalia are unknown.

Subtribe **Nemozarina** Gorochov, 2014

****Nemozara rio*** Gorochov, 2014

(Figs 155–157)

Material studied. **Peru:** 3 males (holotype and paratypes), 6 females (paratypes), Junin Department, Satipo Prov., ~25 km SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, primary/secondary forest, on large leaves of low plants near brook or among dry leaves on forest floor at night, 20–23.X.2008; A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izer-sky (ZIN); 1 female, same province, Pampa Hermosa Distr., environs of waterfall “Cristal” near Pacasmayo Vill., 11°22'02"S, 74°41'55"W, 1400–1600 m, primary/secondary forest, among dry leaves on forest floor at night, 8–13.XII.2018, A. Gorochov (ZIN).

Note. This small, apterous, *Nemobius*-like cricket has an attractive gland on the fourth abdominal tergite of male and is here recorded from a new locality.

Subtribe **Modestozarina** Gorochov, 2014

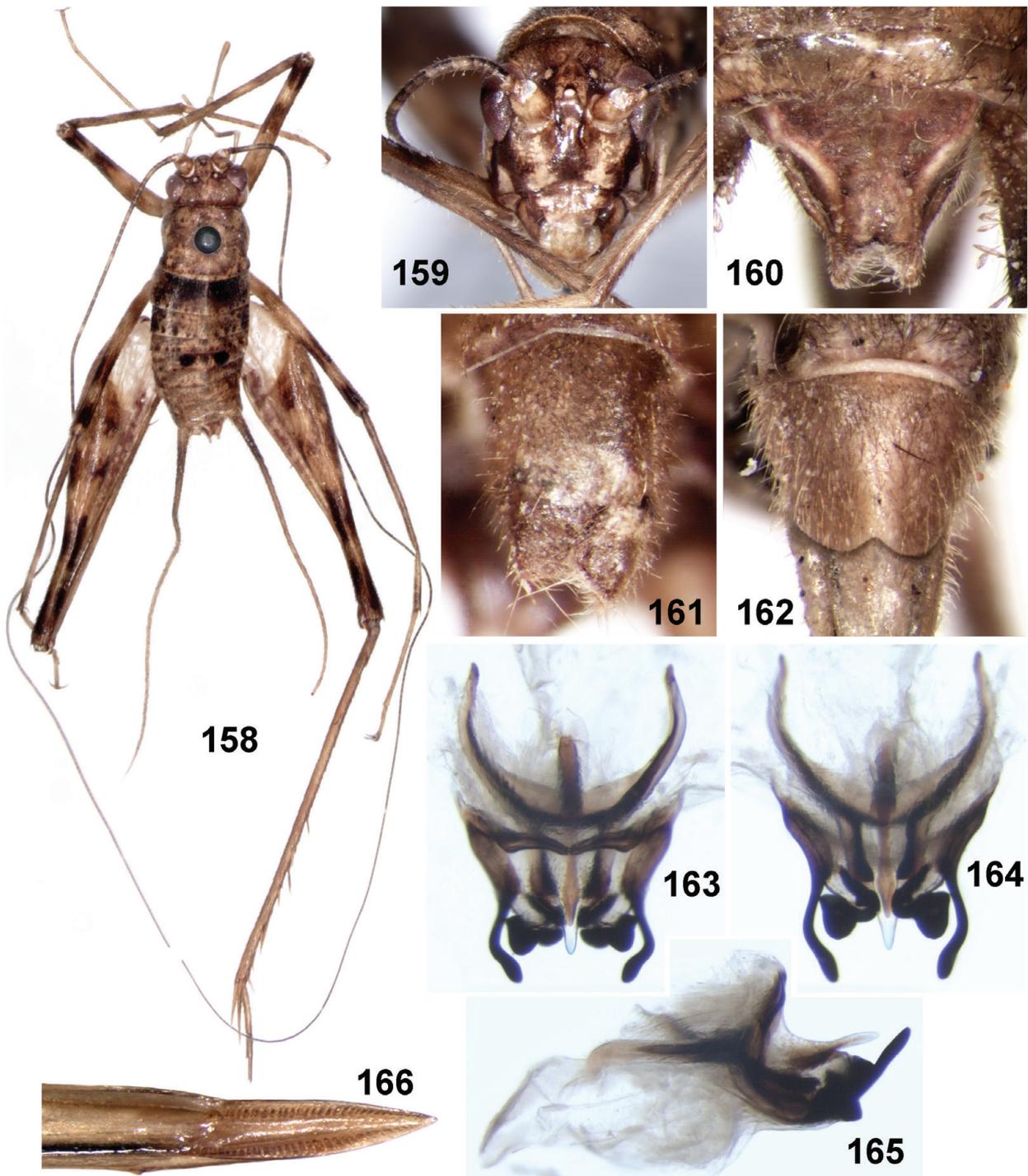
***Modestozara satipo** Gorochov, 2014
(Figs 158–166)

Material studied. **Peru:** 4 females (holotype and paratypes), Junin Department, Satipo Prov., 18 km N of Satipo Town, forest in environs of waterfall “Cinco Cascadas” near Paratushali Vill., ~800 m, primary/secondary forest, among stones on bank of forest brook at night, 4–5.XI.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN); 1 female, same province, ~25 km SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, primary/secondary forest, 20–23.X.2008; A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva & V. Izersky (ZIN); 1 female, same locality but 11.11552°S, 74.46307°W, 1000–1200 m, primary/secondary forest, among dry leaves on forest floor at night, 5–9.XII.2017, A. Gorochov, G. Irisov (ZIN); 5 males, 2 females, same province, “Zona de amortiguamiento de la bosque de proteccion Pui Pui” near Alto Cuviriaki Vill., 11°11'06–07"S, 74°51'50–51"W, 1100–1200 m, primary forest, on earthen wall (cliff) along forest road at night, 27.XII.2018–2.I.2019, A. Gorochov (ZIN).

Description. Male (**nov.**). Body moderately small, apterous and with long and rather thin legs as well as without tympana. Colouration spotted: head light brown with dark brown areas around lateral ocelli, a pair of vertical bands under eyes and a pair of oblique stripes on lower halves of genae, but with ocelli yellowish, area between antennal cavities (under median ocellus) brown, and antennal flagellum greyish brown and having rather sparse lightish spots; pronotum light brown with most part of lateral lobes dark brown, two pairs of brown spots on disc (a pair of spots along anterior edge, and a pair of spots in middle part near lateral edges), and sometimes a few small darkish marks along posterior edge of disc; legs light brown with three dark brown to brown bands on femora [but hind femur with these bands almost blackish and with proximal band divided into a few areas (dorsolateral area largest of them and partly fused with middle band; inner surface of proximal half of this femur with two somewhat lighter spots], two brown

bands on fore and middle tibiae, and one similar mark at base of all tibiae; other tergites also light brown with blackish to dark brown most part of metanotum and lateral parts of first abdominal tergite as well as with several smaller dark spots and dots on rest of tergites; sternites, genital and anal plates light greyish brown; cerci greyish brown with darkened basal parts (Figs 158, 159). Head rather high, with rostrum roundly and shortly projected forwards in profile, with scape slightly wider than rostrum between antennal cavities, with ocelli moderately small and almost round but distinct and more or less equal in size, and with rather long and narrow maxillary palpi (Figs 158, 159); pronotum slightly transverse, not wider than head, with lateral sides more or less parallel, and with lateral lobes rather high and short; hind leg with four outer and three inner dorsal spines (these spines not long and located in distal half of tibia), with very small and very sparse denticles between these spines, and with three such denticles on basitarsus (a pair of apical denticles near its spurs and one outer dorsal denticle in its middle part); anal plate with slightly projected posteromedian part having a pair of rather low and curved lateral keels as well as almost truncate apex; each paraproct with apical lobule protruding beyond apex of anal plate (Fig. 160); genital plate slightly longer than anal one, elongate, with almost parallel lateral edges and not deeply notched apex (Fig. 161); genitalia (Figs 163–165) similar to those of *M. trogliphila* Gorochov, 2014 and *M. modesta* Gorochov, 2014, but: epiphallus more strongly curved than in *M. trogliphila* as well as with longer and thinner posterolateral lobes than in *M. modesta*; each ectoparamere in proximal part with additional both thin proxilateral ribbon and wider proximodistal sclerite (in other congeners, each ectoparamere with only one additional proximal sclerite); distal part of each ectoparamere divided into shorter medial lobe and longer lateral lobe (but in *M. trogliphila*, medial ectoparameral lobe longer than lateral one, and these lobes in *M. modesta* almost undeveloped).

Female. Its characters quite characterized in original description of this species (Gorochov, 2014; Figs 162, 166).



Figs 158–166. *Modestozara satipo* Gor.: **158**, male body from above; **159**, male head in front; **160**, male anal plate from above; **161**, **162**, male (161) and female (162) genital plate from below; **163–165**, male genitalia from above (163), from below (164) and from side (165); **166**, distal part of ovipositor from side.

Length in mm. Body: male 8–8.5, female 9–11.5; pronotum: male 1.7–1.9, female 2–2.2; hind femora: male 9–10, female 10.5–11.5; ovipositor 6.2–6.7.

Remark. The species is clearly distinguished from *M. troglophila* and *M. modesta* (the both are from Ecuador) by the absence of wing traces, not rounded apex of male anal plate, presence of apical

lobules on the male paraprocts, and notched apex of male genital plate, as well as by the above-listed characters of male genitalia. This species is also recorded from two new localities in Peru.

? Subtribe **Phalangopsina** Blanchard, 1845

Dyscophogryllus saltator (Saussure, 1874)

= *Dyscophus saltator* Saussure, 1874

= *Dyscophogryllus saltator*: Rehn, 1901

Note. This species was described from Peru and Brazil without more exact data (Saussure, 1874: “Pérou”, male; “Brésil”, female). Lectotype for this species is not designed, and belonging of these specimens to the same species is problematic. Structure of genitalia in the male syntype is unstudied; therefore, belonging of these specimens to the subtribe Phalangopsina is also problematic (Gorochov, 2014). The syntypes has spotted colouration with striped head, large ocelli, long and thin legs with small inner and very small outer tympana, very short male tegmina reaching middle of metanotum and only contacting with each other by their medial edges, apterous female body, and long ovipositor.

? Subtribe **Heterogryllina** Hebard, 1928

Uvaroviella (Euacla) grandis

(Desutter-Grandcolas, 1992)

(Figs 167–175, 187–189)

= *Aclodes grandis* Desutter-Grandcolas, 1992

= *Uvaroviella grandis*: Gorochov, 2007

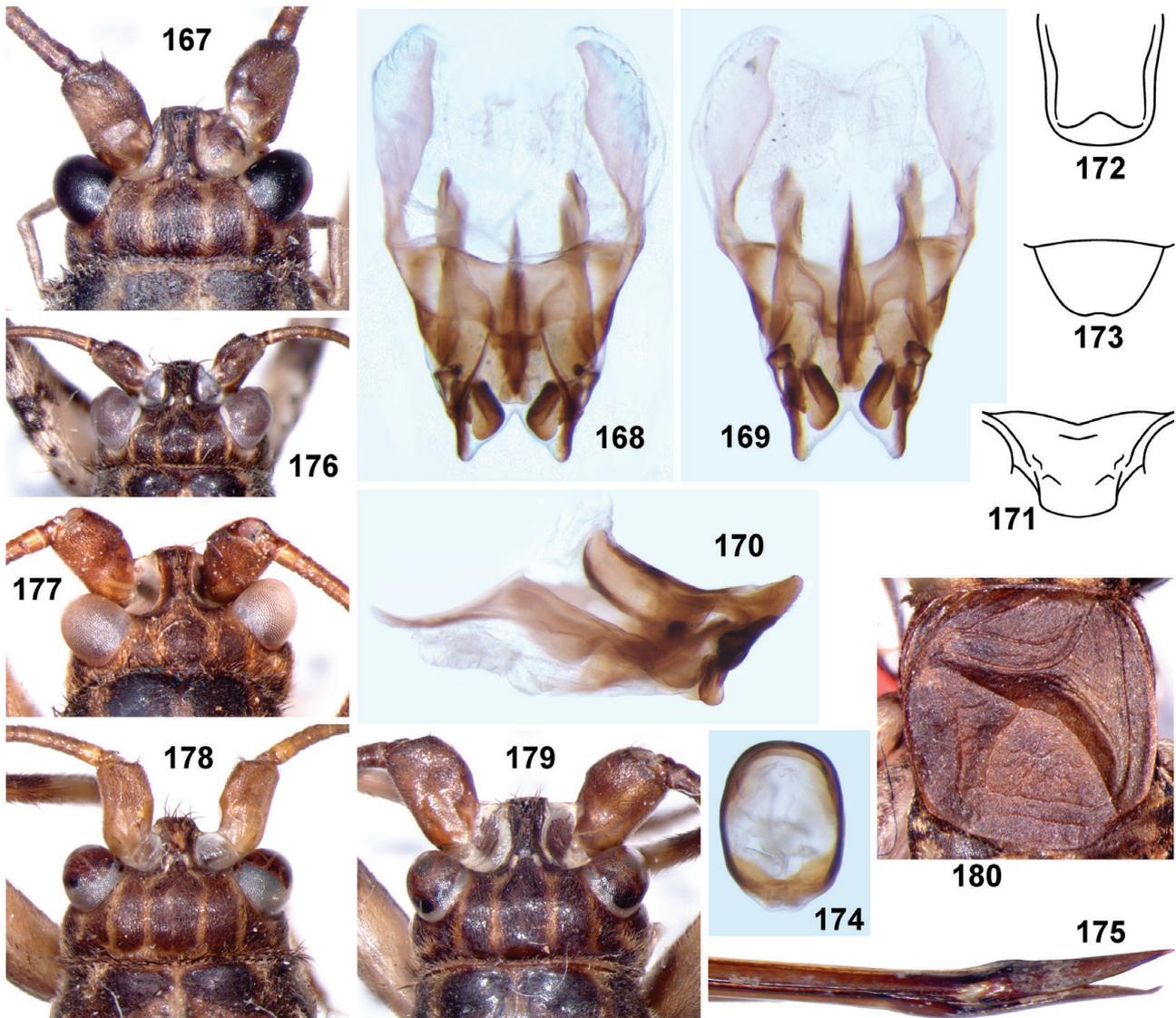
Material studied. **Peru:** 1 male, 1 female, Loreto Department, Maynas Prov., Fuerte de Momon Vill. on Rio Momon (tributary of Rio Amazon) in 10–15 km from Iquitos City, 3°37'0–40"S, 73°19'20–40"W, low lying forest, on bark of living tree not far from soil at night, 16–18.I.2019, A. Gorochov, V. Izersky, G. Quispe Fernandez (ZIN).

Description. Male (**nov.**). Body medium-sized for this genus. Colouration more or less spotted: head yellowish to light brown but with brown dorsal surface of rostrum and five longitudinal stripes on rest of dorsum, a pair of dark brown to brown vertical bands from eyes to distal parts of mandibles, one median dark brown stripe from rostral apex to clypeus (this stripe with median light line between antennal cavities reaching me-

dian ocellus), two dark spots on each gena (upper spot larger, lower one in shape of narrow oblique stripe), darkish median spot on clypeus and a few marks on each scape, and greyish brown antennal flagellum; pronotum with dark brown lateral lobes and spotted (but rather dark) disc; tegmina uniformly greyish brown; legs spotted (light brown to yellowish with dark brown and greyish brown spots); venter of body light greyish brown; abdominal tergites and anal plate more or less darkened; cerci greyish brown. Head typical of this genus in structure: scape approximately 2.2 times as wide as rostrum between antennal cavities; rostrum more or less angularly projected forwards, dorsally narrowed between apex and lateral ocelli; latter ocelli located very near each other. Rest body structures typical of this subgenus, but dorsal tegminal venation as in Fig. 187, lateral tegminal field with 5–6 longitudinal veins (one along dorsal edge; one along this vein but somewhat lower; 3–4 such veins slightly oblique and located in lower half of this field) and with two distal branches of Sc in right tegmen (left tegmen without branches of Sc), anal plate with widely and roundly truncate apex (Fig. 171), genital plate with apex almost angular and curved upwards/forwards (Fig. 172), and genitalia with: angular and rather deep apical epiphallic notch; large membranous area between partly sclerotized posterolateral lobes of epiphallus; anterolateral lobe of each ectoparamere elongate and distinctly projected downwards/forwards; posteromedial ectoparameral lobe characteristic in shape (Figs 168–170).

Female. General appearance as in male, but pronotum with three more distinct light stripes (median one and a pair of stripes along lateral edges of disc), tegmina almost round and reaching middle of first abdominal tergite as well as having four longitudinal veins in dorsal field and 4–5 parallel veins in lateral field (latter veins also parallel to dorsal edge of this field, and irregular crossveins developed only in distal part of dorsal field), abdominal tergites somewhat more spotted, and anal plate slightly shorter. Genital plate with almost truncate apex (Fig. 173); ovipositor very long and with distal part as in Fig. 175; copulatory papilla as in Figs 174, 189.

Length in mm. Body: male 15.2, female 16.5; pronotum: male 2.8, female 3.8; tegmina: male 7,



Figs 167–180. *Uvaroviella* Chop. and *Kevanacla* Des.-Gr.: **167–175**, *U. grandis* (Des.-Gr.); **176**, *U. pequegnita* (Des.-Gr.); **177**, *U. affinis* Gor.; **178**, *U. chamacoru* (Nischk et Otte); **179**, *U. mococharu* (Nischk et Otte); **180**, *K. orientalis zigzag* **subsp. nov.** Head of male from above (167, 176–179); male genitalia from above (168), from below (169) and from side (170); male anal plate from above (171); distal half of male genital plate from above (172); female genital plate from below (173); copulatory papilla from above (174); distal part of ovipositor from side (175); dorsal field of male right tegmen (180).

female 3.3; hind femora: male 13, female 15; ovipositor 18.

Remark. This species was described from a single Peruvian female (Desutter-Grandcolas, 1992: “Loreto, Ampiyacu, Brillo Nuevo”). At present, *U. grandis* is indicated from one male and one female for another locality of the same department, because the copulatory papilla of the latter female is very similar to that of the

above-mentioned holotype (for comparison see Figs 188 and 189).

Uvaroviella (Euacla) pequegnita
(Desutter-Grandcolas, 1992)
(Figs 176, 181–184)

= *Aclodes pequegnita* Desutter-Grandcolas, 1992
= *Uvaroviella (Euacla) pequegnita*: Gorochov, 2011

Note. The species was described from a few specimens (males and female) collected in Peru (Desutter-Grandcolas, 1992c: "Loreto, Ampiyacu, Brillo Nuevo") and questionably recorded from Ecuador (Gorochov, 2007); the Ecuadorian specimens were collected in the same condition as the previous congener. *Uvaroviella pequegnita* differs from the latter species in the body much smaller, male tegmina reaching the abdominal apex, and male genitalia characteristic in structure (Figs 182, 183).

Uvaroviella (Euacla) affinis Gorochov, 2011
(Figs 177, 185, 186)

Material studied. **Peru:** 14 males (holotype and paratypes), 10 females (paratypes), bank of Rio Morona near its mouth and not far from Puerto America Town, ~200 m, primary/secondary forest, 20–23.I.2010, A. Gorochov (ZIN). **Ecuador:** 1 female (paratype), Morona Santiago Prov., bank of Rio Morona near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, 5–15.I.2010, A. Gorochov (ZIN). All specimens collected on dead wood or on bark of living trees at night.

Note. The species is known only from the type specimens listed above. It is very similar to *U. pequegnita* in its general appearance and male genitalia but differs from the latter congener in the body larger, tegmina shorter (not reaching the abdominal apex), and scape twice as wide as the rostrum between antennal cavities (*vs.* 1.3 times as wide as this part of rostrum) (Gorochov, 2011a).

Uvaroviella (Euacla) rumococha
(Desutter-Grandcolas, 1992)
(Figs 195–199)

= *Aclodes rumococha* Desutter-Grandcolas, 1992
= *Uvaroviella (Euacla) rumococha*: Gorochov, 2007

Note. The species is known only from its type series (males and female) collected in Peru (Desutter-Grandcolas, 1992c: "Loreto, Iquitos, Rumococha"). It differs from the previous congeners mainly in the male genitalia (Figs 196–198).

Uvaroviella (Euacla) chamacoru
(Nischk et Otte, 2000)
(Figs 178, 190–194)

= *Aclodes chamacoru* Nischk et Otte, 2000

= *Uvaroviella (Euacla) chamacoru*: Gorochov, 2007

Material studied. **Peru:** 2 males, bank of Rio Morona near its mouth and not far from Puerto America Town, ~200 m, primary/secondary forest, 20–23.I.2010, A. Gorochov (ZIN); 3 males, bank of Rio Morona approximately at middle of distance between mouth of this river and its Ecuadorian part, 200–300 m, primary forest, 24–27.I.2010, A. Gorochov (ZIN). **Ecuador:** 1 male, Morona Santiago Prov., bank of Rio Morona near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, 5–15.I.2010, A. Gorochov (ZIN). All specimens collected on trunks of dead and living trees not far from soil at night.

Note. The species was described from Ecuador (Nischk & Otte, 2000) and was questionably recorded from Peru on base of these specimens (Gorochov, 2011a). It is very similar to *U. rumococha* and may be its synonym or subspecies, but in accordance to Desutter-Grandcolas (1992c: fig. 34A), *U. rumococha* has the anterior edge of epiphallus less notched in the middle (see Figs 192 and 197).

Uvaroviella (Euacla) mococharu
(Nischk et Otte, 2000)
(Figs 179, 200–202)

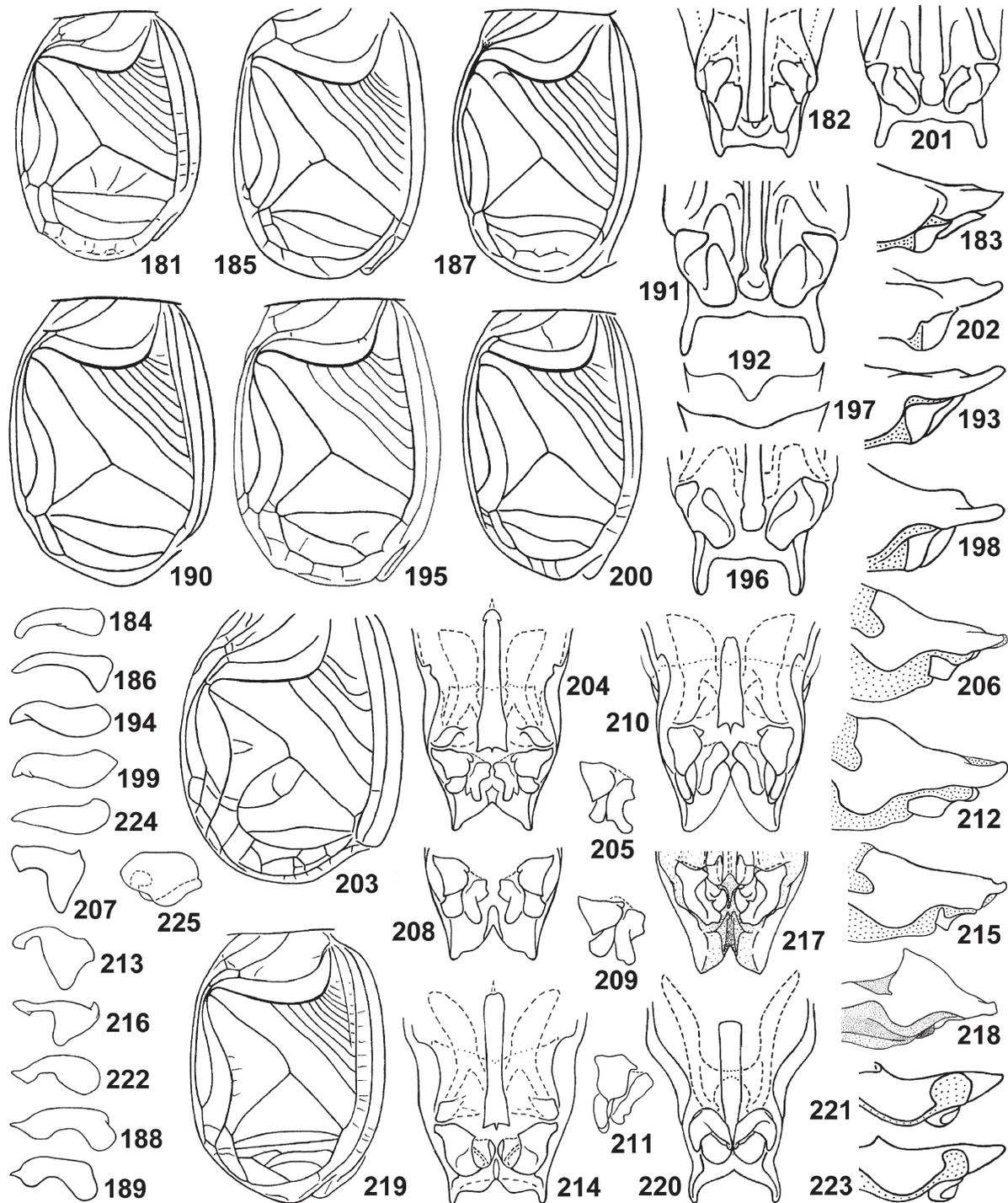
= *Aclodes mococharu* Nischk et Otte, 2000
= *Uvaroviella (Euacla) mococharu*: Gorochov, 2007

Material studied. **Peru:** 3 males, bank of Rio Morona approximately at middle of distance between mouth of this river and its Ecuadorian part, 200–300 m, primary forest, 24–27.I.2010, A. Gorochov (ZIN). Specimens collected in same conditions as *U. chamacoru*.

Note. The species was described from Ecuador and questionably recorded from Peru (on base of the above-mentioned specimens) in the same publications. It is also very similar to the two latter congeners and has the male genitalia almost indistinguishable from those of *U. rumococha*, but its male tegminal mirror is somewhat narrower, and scapes in the above-mentioned males are distinctly larger than in male of *U. chamacoru* (see Figs 178 and 179).

****Uvaroviella (Holoacla) izerskyi multa***
subsp. nov.
(Figs 207–209)

Holotype. Male (paratype of *U. izerskyi* Gorochov, 2007), **Peru**, Junin Department, Satipo Prov., ~25 km



Figs 181–225. *Uvaroviella* Chop.: 181–184, *U. pequegnita* (Des.-Gr.); 185, 186, *U. affinis* Gor.; 187–189, *U. grandis* (Des.-Gr.); 190–194, *U. chamacoru* (Nischk et Otte); 195–199, *U. rumococha* (Des.-Gr.); 200–202, *U. mococharu* (Nischk et Otte); 203–206, *U. izerskyi izerskyi* Gor.; 207–209, *U. i. multa* subsp. nov.; 210–213, *U. morona* Gor.; 214–216, *U. ucayali* Gor.; 217, 218, *U. maculata* (Caud.); 219–222, *U. bora bora* (Des.-Gr.); 223, *U. b. atalaya* Gor.; 224, *U. infuscata* (Des.-Gr.); 225, *U. problematica* Gor. Dorsal field of right male tegmen (181, 185, 187, 190, 195, 200, 203, 219); distal part of male genitalia from below (182, 191, 196, 201, 204, 208, 210, 214, 217, 220) and from side (183, 193, 198, 202, 206, 212, 215, 218, 221, 223); right ectoparamere from below (205, 209, 211); copulatory papilla from side (184, 186, 188, 189, 194, 199, 207, 213, 216, 222, 224, 225). [184, 188, 199, 222, 224, after Desutter-Grandcolas (1992c), modified; 187, 189, 194, 207, original; all others, after Gorochov (2007, 2011a), modified.]

SE of Satipo Town, environs of Rio Venado Vill., ~1200 m, primary/secondary forest, among dry leaves on forest floor at night, 20–23.X.2008; A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

Paratypes. One male and 1 female (paratypes of *U. izerskyi*), same data as for holotype (ZIN); 2 males, 1 female, same locality but 11.11552°S, 74.46307°W, 1000–1200 m, secondary forest, 5–9.XII.2017, A. Gorochov, G. Irisov (ZIN); 3 males (paratypes of *U. izerskyi*), same province, 18 km N of Satipo Town, forest in environs of waterfall “Cinco Cascadas” near Paratushali Vill., 11.283812°S, 74.713915°W, ~800 m, secondary forest, 4–5.XI.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN); 2 males, same locality but 28–30.XI.2017, A. Gorochov, G. Irisov (ZIN); 2 males, 3 females, 12 km N of Satipo Town, protected area “Concesion de Conservacion de la Universitaria”, 11.2031563°S, 74.61914062°W, ~600 m, primary/secondary forest, 25–27.XI.2017, A. Gorochov, G. Irisov (ZIN); 5 males, 1 female, same province, Pampa Hermosa Distr., environs of waterfall “Cristal” near Pacasmayo Vill., 11°22'02"S, 74°41'55"W, 1400–1600 m, 8–13.XII.2018, A. Gorochov (ZIN); 4 males, 4 females, same province, “Zona de amortiguamiento de la bosque de proteccion Pui Pui” near Alto Cuviriaki Vill., 11°11'06–07"S, 74°51'50–51"W, 1100–1200 m, primary/secondary forest, 27.XII.2018–2.I.2019, A. Gorochov (ZIN); 8 males, 5 females, same province, Rio Tambo Distr., 6 km N of Pichiguia Vill., protected area “Reserva Comunal Ashaninka”, 11.358244°S, 74.0320473°W, ~500 m, primary forest, 14–23.XI.2017, A. Gorochov, G. Irisov (ZIN). Most part of paratypes collected on forest floor, but some of them on forest road, on large stones near forest brooks or on trunks of dead and living trees at night.

Description. Male (holotype). Body rather large. Colouration spotted: head light brown with brown rostral dorsum and seven short longitudinal bands on posterior half of head dorsum and behind eyes, with three dark brown vertical stripes under median ocellus and under lateral parts of antennal cavities, and with two brown to dark brown marks on lower half of each gena; pronotum brown with dark brown lateral lobes and several spots on disc along anterior and posterior edges; tegmina brown with dark brown lateral fields having light brown stripe along their ventral (costal) edge; legs light brown with dark brown spots and with numerous oblique stripes on outer surface of hind femur; abdominal tergites also spotted, but body venter light greyish brown, anal plate brown,

and cerci greyish brown. External body structure indistinguishable from that of nominotypical subspecies (Gorochov, 2011a), but anal plate widely rounded at apex, and genital plate with truncately rounded apex; genitalia also very similar to this subspecies, but each ectoparamere with dorsomedial part apically rounded and lacking distinct lateral tooth (Fig. 208).

Variations. Body sometimes somewhat lighter or slightly darker; dorsal field of right tegmen from uniformly dark brown to brown with light brown both lateral stripe (between *R* and *M*) and posterolateral mark; lateral field of both tegmina dark brown to blackish and often with light brown to yellowish stripe along ventral (costal) edge. Genitalia also somewhat varied: some males with posterior part of formula almost twice as wide as that of some other males; one male (having intermediate width of formula) with dorsomedial parts of ectoparameres lacking distinct anteromedial projections; sometimes apices of these ectoparameral parts barely notched (Fig. 209).

Female. General appearance as in males, but tegmina scale-like and insignificantly projected behind pronotum, and other body structures practically indistinguishable from those of female of nominotypical subspecies (genital plate slightly narrowing to rather wide and truncately notched apex; copulatory papilla as in Fig. 207).

Length in mm. Body: male 17–21, female 17–22; pronotum: male 2.9–4, female 3.5–4.2; tegmina: male 5–6.5, female (visible part) 0.5–1; hind femora: male 16–20, female 18–20.5; ovipositor 21–27.

Comparison. This new subspecies differs from the nominotypical subspecies, which is known from another Peruvian department, in the small characters of male genitalia listed above. From all the other species of *Holacla* Gorochov, 2007, it is distinguished by the dorsomedial parts of ectoparameres distinctly protruding beyond the apices of ventrolateral ectoparameral parts, and by the presence of moderately shortened (but not strongly shortened and not almost reaching abdominal apex) tegmina in male.

Etymology. This subspecies name is the Latin word “multa” (numerous), because it is rather usual in many localities of the Satipo Province.

***Uvaroviella (Holoacla) izerskyi izerskyi**

Gorochov, 2011
(Figs 203–206)

= *Uvaroviella (Holoacla) izerskyi* Gorochov, 2011

Material studied. **Peru:** 3 males (holotype and paratypes), 4 females (paratypes), Ucayali Department, Atalaya Prov., ~35 km NW of Atalaya Town on Rio Ucayali, environs of Sapani Vill., ~300 m, primary forest, on trunks of dead and living trees at night, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

Note. The nominotypical subspecies of this species is known only from the type specimens listed above. Differences of *U. i. izerskyi* from the second subspecies are given above, after the description of *U. i. multa*.

***Uvaroviella (Holoacla) morona* Gorochov, 2011**
(Figs 210–213)

Material studied. **Ecuador:** 8 males (holotype and paratypes), 4 females (paratypes), Morona Santiago Prov., bank of Rio Morona near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, 5–15.I.2010, A. Gorochov (ZIN). Specimens collected on trunks of very large living trees near soil at night.

Note. The species was described from these specimens collected almost on the border with Peru. Thus, it must be distributed in Peru also. This species differs from all the previous congeners in the strongly reduced male tegmina located under the pronotum and lacking any stridulatory apparatus.

***Uvaroviella (Holoacla) ucayali** Gorochov, 2011
(Figs 214–216)

Material studied. **Peru:** 7 males (holotype and paratypes), 5 females (paratypes), Ucayali Department, ~35 km NWW of Atalaya Town on Ucayali River, environs of Sapani Vill., ~300 m, primary forest, on trunks of large living trees near soil and on earthen walls (cliffs) along forest road at night, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN).

Note. This species is known only from the above-mentioned specimens and is most similar to *U. morona* in general appearance (including tegminal structure) but distinguished from the latter congener by some characters of the male genitalia and copulatory papilla (see Figs 210–213 and 214–216).

lia and copulatory papilla (see Figs 210–213 and 214–216).

***Uvaroviella (Holoacla) maculata**

(Caudell, 1918)
(Figs 217, 218)

= *Endacusta maculata* Caudell, 1918

= *Aclodes maculatum*: Hebard, 1928

= *Uvaroviella (?Holoacla) maculata*: Gorochov, 2007

Note. This species was described from the type series (males and females) collected in Peru [Caudell, 1918: “75°17'W. of Greenwich, 11°3'S. lat.” (Chanchamayo Prov. in Junin Department)]. Later, it was recorded from Colombia (Hebard, 1928b) and from another locality in Peru (Desutter-Grandcolas, 1992c: “Tingo Maria”). The male genitalia pictured in the latter paper are more or less similar to those of the subgenus *Holoacla* (Figs 217, 218), but it is unclear whether these genitalia belong to Caudell’s specimen or to the male from Tingo Maria; thus, correctness of these determinations is not very evident.

Uvaroviella (Reacla) bora bora

(Desutter-Grandcolas, 1992)
(Figs 219–222)

= *Aclodes bora* Desutter-Grandcolas, 1992

= *Uvaroviella (Reacla) bora*: Gorochov, 2007

= *Uvaroviella (Reacla) bora bora*: Gorochov, 2011

Material studied. **Peru:** 2 males, 1 female, Loreto Department, Maynas Prov., Fuerte de Momon Vill. on Rio Momon (tributary of Rio Amazon) in 10–15 km from Iquitos City, 3°37'0–40''S, 73°19'20–40''W, low lying forest, 16–18.I.2019, A. Gorochov, V. Izersky, G. Quispe Fernandez (ZIN). Specimens collected on trunks of living trees not far from soil at night, but one male as subadult nymph with imago II.2019.

Note. This subspecies was described from several males and females collected in the Loreto Department of Peru (Desutter-Grandcolas, 1992: “Loreto, Ampiyacu, Brillo Nuevo”). Here it is recorded from a new locality of the same department. The species is similar in general appearance to the congeners having their tegmina well developed, but it differs from them in the characteristic male genitalia (Figs 220, 221).

****Uvaroviella (Reacla) bora atalaya***

Gorochov, 2011
(Fig. 223)

Material studied. **Peru:** 3 males (holotype and paratypes), 2 females (paratypes), Ucayali Department, ~35 km NWW of Atalaya Town on Ucayali River, environs of Sapani Vill., ~300 m, primary forest, on trunks of living trees not far from soil at night, 26–31.X.2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky (ZIN); 2 males, 1 female, Loreto Department, bank of Rio Pacaya (tributary flowing into “Canal de Puinahua” of Rio Ucayali) in ~10 km from Bretana Vill., Pacaya Samiria National Park (cordon PVC 1), 5°14'39.83"S, 74°23'206"W, low lying primary forest, on bark of living tree at night, 10–14.I.2019, A. Gorochov, V. Izersky (ZIN).

Note. This subspecies was described from the five type specimens listed above (Gorochov, 2011a) and is here recorded from a new locality of another department. Such wide distribution suggests that *U. b. atalaya* may be a good species in reality. It differs from the nominotypical subspecies in the lateral membranous windows of epiphallus much smaller (see Figs 221 and 223).

Uvaroviella problematica Gorochov, 2014
(Fig. 225)

Material studied. **Ecuador:** 1 female (holotype), Morona Santiago Prov., bank of Rio Morona near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, 5–15.I.2010, A. Gorochov (ZIN).

Note. The species is known only from this female collected very near the border with Peru. Thus, it must be in Peru also. The absence of male does not allow me to establish its subgeneric position, but this species differs from all the congeners examined in the characteristic shape of female copulatory papilla (Fig. 225).

Uvaroviella infuscata
(Desutter-Grandcolas, 1992)
(Fig. 224)

= *Aclodes infuscata* Desutter-Grandcolas, 1992
= *Uvaroviella infuscata*: Gorochov, 2007

Note. It is known only from the two females collected in the same Peruvian locality as *U. gran-*

dis holotype, but *U. infuscata* is much smaller and darker than this species (Desutter-Grandcolas, 1992). Its subgeneric position is also unclear; however, the copulatory papilla is similar to that of the subgenus *Euacla* but with its sclerotized part less arcuate and not S-shaped in profile (see Figs 184, 186, 194, 199 and 224).

Phalangopsini incertae sedis

Grandcolasia bora
(Desutter-Grandcolas, 1992)

= *Smicrotes bora* Desutter-Grandcolas, 1992
= *Grandcolasia bora*: Koçak et Kemal, 2010

Note. This Peruvian species is well described by Desutter-Grandcolas (1992a: “Loreto, région de l’Ampiyacu, Brillo Nuevo” and “rio Ampiyacu, Estiron”). It is known only from the type series (males and females) and has the very small body without tympana, hind wings and female tegmina, but with small and somewhat elongate male tegmina distinctly narrowing to their narrow apices and lacking stridulatory apparatus.

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