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Systematics of the American Katydids (Orthoptera: Tettigoniidae). Communication 10

A.V. Gorochov

Zoological Institute of the Russian Academy of Sciences, Universitetskaya Emb. 1, 199034, Saint Petersburg, Russia;
e-mail: orthopt@zin.ru

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ABSTRACT

A new material on the Neotropical genus *Anaulacomera* Stål, 1873 from its subgenera *Anallomes* Stål, 1875, *Stenotegmora* subgen. nov., *Irisovia* subgen. nov. and *Munticercora* Gorochov, 2020 is considered with description of six new species and one new subspecies: *A. (Anallomes) galarzai* sp. nov. from Peru (Junin Department: Satipo Prov.); *A. (A.) monicae* sp. nov. from Peru (Junin Department: Satipo Prov.); *A. (S.) adunca* sp. nov. from Peru (Junin Department: Satipo Prov.); *A. (S.) spinifera* sp. nov. from Peru (Ucayali Department: Atalaya Prov.); *A. (S.) originalis* sp. nov. from Peru (Junin Department: Satipo Prov.); *A. (I.) grigoryi* sp. nov. from Peru (Junin Department: Satipo Prov.); *A. (M.) sclerogenitalis woronovi* subsp. nov. from Colombia (“Penas Blancos, Rio Magdalena”). The above-mentioned new subgenera are distinguished from all the other subgenera of this genus by the following features: *Stenotegmora* subgen. n. by narrower tegmina, and the male genitalia with a large median inflation on the dorsal fold; *Irisovia* subgen. n. by the male last abdominal tergite with strongly denticulate posterior lobes, the male cerci short but thick and with distal processes having numerous spinule-like setae, and the male genitalia membranous. For *A. (M.) psedoepiproctalis* Gorochov, 2020 and *A. (M.) sclerogenitalis* Gorochov, 2020, some important geographical mistakes in their type data are corrected (Ecuador and Mexico instead Peru, respectively), and for the latter taxon, a previously unknown female is described.

Key words: America, *Anaulacomera*, new taxa, Phaneropterinae, Tettigoniidae.

Систематика американских кузнечиков (Orthoptera: Tettigoniidae). Сообщение 10

А.В. Горохов

Зоологический институт Российской академии наук, Университетская наб. 1, 199034, Санкт-Петербург, Россия; e-mail: orthopt@zin.ru

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РЕЗЮМЕ

Рассмотрен новый материал по неотропическому роду *Anaulacomera* Stål, 1873, относящийся к под родам *Anallomes* Stål, 1875, *Stenotegmora* subgen. nov., *Irisovia* subgen. nov. и *Munticercora* Gorochov, 2020; описаны также шесть новых видов и один новый подвид этих подродов: *A. (Anallomes) galarzai* sp. nov. из Перу (Junin Department: Satipo Prov.); *A. (A.) monicae* sp. nov. из Перу (Junin Department: Satipo Prov.); *A. (S.) adunca* sp. nov. из Перу (Junin Department: Satipo Prov.); *A. (S.) spinifera* sp. nov. из Перу (Ucayali Department: Atalaya Prov.); *A. (S.) originalis* sp. nov. из Перу (Junin Department: Satipo Prov.); *A. (I.) grigoryi* sp. nov. из Перу (Junin Department: Satipo Prov.); *A. (M.) sclerogenitalis woronovi* subsp. nov. из Колумбии (“Penas Blancos, Rio Magdalena”). Вышеупомянутые новые подроды отличаются от всех других подродов этого рода следующими признаками: *Stenotegmora* subgen. n. – более узкими надкрыльями, а также гениталиями самца с крупным срединным вздутием на дорсальной складке; *Irisovia* subgen. n. – последним тергитом брюшка самца с сильно зазубренными задними лопастями, короткими и толстыми церками самца, несущими дистальные выросты с многочисленными шипиковидными щетинками, и мембранозными гениталиями самца. Исправлены некоторые важные ошибки в географических данных

для типов *A. (M.) pseudoepiproctalis* Gorochov, 2020 и *A. (M.) s. sclerogenitalis* Gorochov, 2020 (Эквадор и Мексика вместо Перу соответственно), а для последнего таксона, кроме того, описана ранее неизвестная самка.

Ключевые слова: Америка, *Anaulacomera*, новые таксоны, Phaneropterinae, Tettigoniidae.

INTRODUCTION

This communication is the tenth one in the series of publications on the American Tettigoniidae. It continues the ninth communication (Gorochov 2020) containing some results of the preliminary partial revision of the genus *Anaulacomera* Stål, 1873 (Phaneropterinae: Phaneropterini: Anaulacomerina). In this paper, this genus was firstly divided into six subgenera, three former synonyms of *Anaulacomera* were restored as valid names for some of its subgenera, and three new subgenera of *Anaulacomera* as well as 25 new species from the subgenera *Oecella* Kirby, 1890, *Munticercora* Gorochov, 2020 and *Cervicercora* Gorochov, 2020 were described. In the paper cited, the key to these subgenera was also proposed.

Previously, *Anaulacomera* s. l. was subdivided into numerous species groups (Cadena-Castañeda 2012, 2015); some of them turned out to be separate genera, but the remaining groups (15) were included in the genus *Anaulacomera* and more or less tentatively assigned to the above-mentioned subgenera (Gorochov 2020). In the latter paper, nine additional species groups were also established in the subgenera *Cervicercora* and *Oecella*.

Here, new material on the genus *Anaulacomera*, belonging to the subgenera *Anallomes* Stål, 1875 and *Munticercora* as well as to new subgenera, are considered. Several new taxa (two subgenera as well as seven species and subspecies from Peru and Colombia) are described, and some important corrections to the label data for type material of *Anaulacomera (Munticercora) sclerogenitalis* Gorochov, 2020 and *A. (M.) pseudoepiproctalis* Gorochov, 2020 as well as to the illustrative material for *A. (Irisovia* subgen. nov.) *spinolobata* Gorochov, 2020 are given.

MATERIAL AND METHODS

The material studied (including type specimens) is deposited at the Zoological Institute, Russian Academy of Sciences, Saint Petersburg. All the specimens are dry and pinned. The photographs of their

morphological structures were made with a Leica MZ 16 stereomicroscope. This work was carried out within the framework of a large project on the invertebrate fauna of the Ene and Tambo river basins (Proyecto de Conservación de la Biodiversidad de la Selva Amazónica: Identificación taxonómica de la fauna invertebrada en la cuenca del Río Ene y Río Tambo) under the supervision of the Peruvian and Ukrainian entomologist Volodymyr Izersky (Consortio Reserva de la Biosfera AVIRERI VRAEM, Satipo – La Convencion). This project is funded by the National Service of Natural Areas Protected by the State (Servicio Nacional de Áreas Naturales Protegidas por el Estado – SERNANP) of the Environment Ministry of Peru. The online catalogue Orthoptera Species File (Cigliano et al. 2021) is cited in this paper as OSF.

SYSTEMATICS

Subfamily Phaneropterinae Burmeister, 1838

Tribe Phaneropterini Burmeister, 1838

Subtribe Anaulacomerina Brunner-Wattenwyl, 1878

Genus *Anaulacomera* Stål, 1873

***Anaulacomera (Anallomes) galarzai* Gorochov et Izersky sp. nov.**

(Figs 1, 2, 17–20)

Etymology. This species is named in honor of Dr. Oscar Suárez Galarza, Head of the foundation “Fundeagro” (Representante Legal y Administrador, Fundacion para el Desarrollo del Agro) for his great contribution to the development of forest conservation projects and support of nature research in Peru.

Type material. *Holotype* – male, PERU: Junin Department, Satipo Prov., Pampa Hermosa Distr., forest near waterfall “Cristal” not far from Pacasmayo Vill., 11°22'02"S, 74°41'55"W, 1600 m, at light, 8–13 December 2018, A. Gorochov. *Paratypes*: 2 males, same data as for holotype.

Description. *Male* (holotype). General appearance typical of this genus. Body coloration light

yellowish green with a pair of reddish dots on posterior part of dorsum of upper rostral tubercle, a pair of rose transverse stripes between lateral ocelli and eyes, sparse rose dots on head dorsum behind lateral ocelli as well as on inner surfaces of fore femora and outer surfaces of middle femora and tibiae, very numerous rose dots on pronotum, moderately numerous such dots on outer surfaces of hind femora, brown to light brown cell membranes along anal edges of tegmina behind stridulatory apparatus, semitransparent large membranes in tegminal stridulatory apparatus (Figs 1, 2), light brown marks on medial processes of cerci and on majority of tibial spines and spurs, and brown apici of cerci and a few very small marks on tarsi. Scape insignificantly more than twice as wide as apical part of upper rostral tubercle; latter tubercle slightly narrower in middle part, with a pair of longitudinal lateral keels on dorsum having denticle-like apical parts (these denticles directed upwards) and more rounded (tubercle-like) proximal parts (these tubercles located above lateral ocelli; Fig. 1); lateral pronotal lobes somewhat longer than wide (Fig. 1); tegmina significantly projected beyond apices of hind femora, with stridulatory apparatus as in Fig. 2; hind wings distinctly longer than tegmina, practically transparent; last abdominal tergite with almost straight posterior edge; epiproct small, simple, elongate, triangularly oval, directed downwards; paraprocts also simple and triangularly rounded; cercus almost straight (stick-like) but not very long, thickened in proximal portion, with dorsoventrally flattened (lamellar) apical part angularly rounded in dorsal view and somewhat curved medially, and with short and thick proximomedial process having almost chela-like distal part (Figs 17–19); genital plate short (slightly longer than last tergite), somewhat narrowing to moderately wide apex having short and roundly trapezoidal notch (Fig. 20); genitalia completely membranous.

Variations. Both paratypes with less distinct rose dots on head and pronotum; one of these paratypes with genital plate having very small additional posteromedian notch.

Female unknown.

Length (mm). Body 12–13; body with wings 27–28.5; pronotum 3.5–3.7; tegmina 21–22.5; hind femora 14.5–15.

Comparison. The new species is more or less in accordance to the original description of *A. (A.) lanceolata* Brunner-Wattenwyl, 1878 (Brunner-Wattenwyl

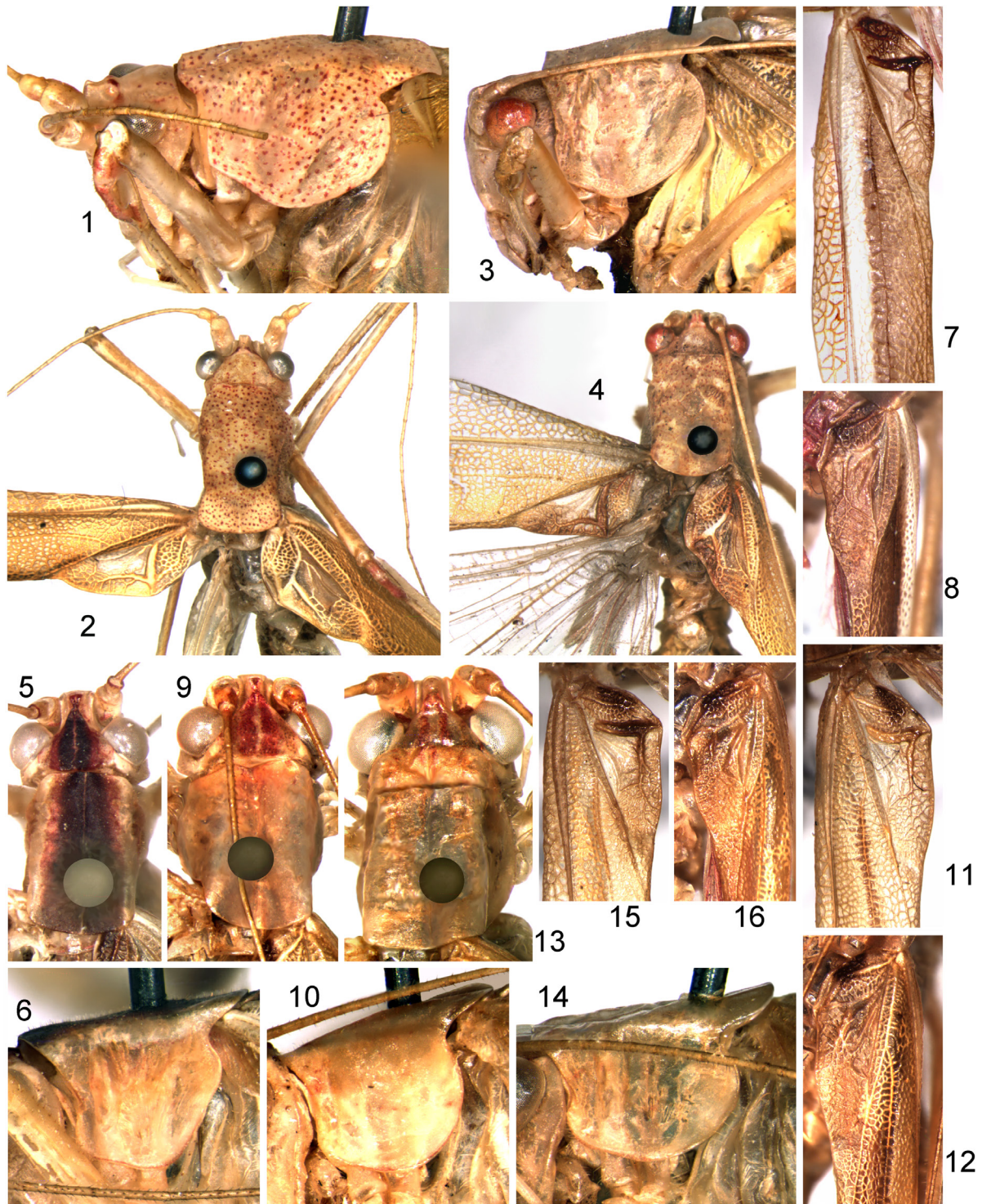
1878), type species of the Lanceolata Species Group sensu Cadena-Castañeda (2012, 2015); but it differs from the latter species in the male last tergite lacking any distinct notch at the apex. Its differences from *A. (A.) nodulosa* Stål, 1873 are less understandable, but the new species pronotum is distinctly dotted (*vs.* not dotted) and with the lateral lobes longer (lower), judging by the holotype photographs of “*Anallomes maranona* Scudder, 1875 (OSF) which is the type species of *Anallomes* synonymized with *A. (A.) nodulosa* by Otte (1997). From all other congeners, possibly belonging to this subgenus, the new species is distinguished by the same characters in combination with the absence of ventral spines or denticles on the hind femur and of dark marks on the tegminal stridulatory apparatus, normal (not very narrow) tegminal shape, and different structure of the male cercus.

***Anaulacomera (Anallomes) monicae* Gorochov et Izerskyy sp. nov.**
(Figs 3, 4, 21–24)

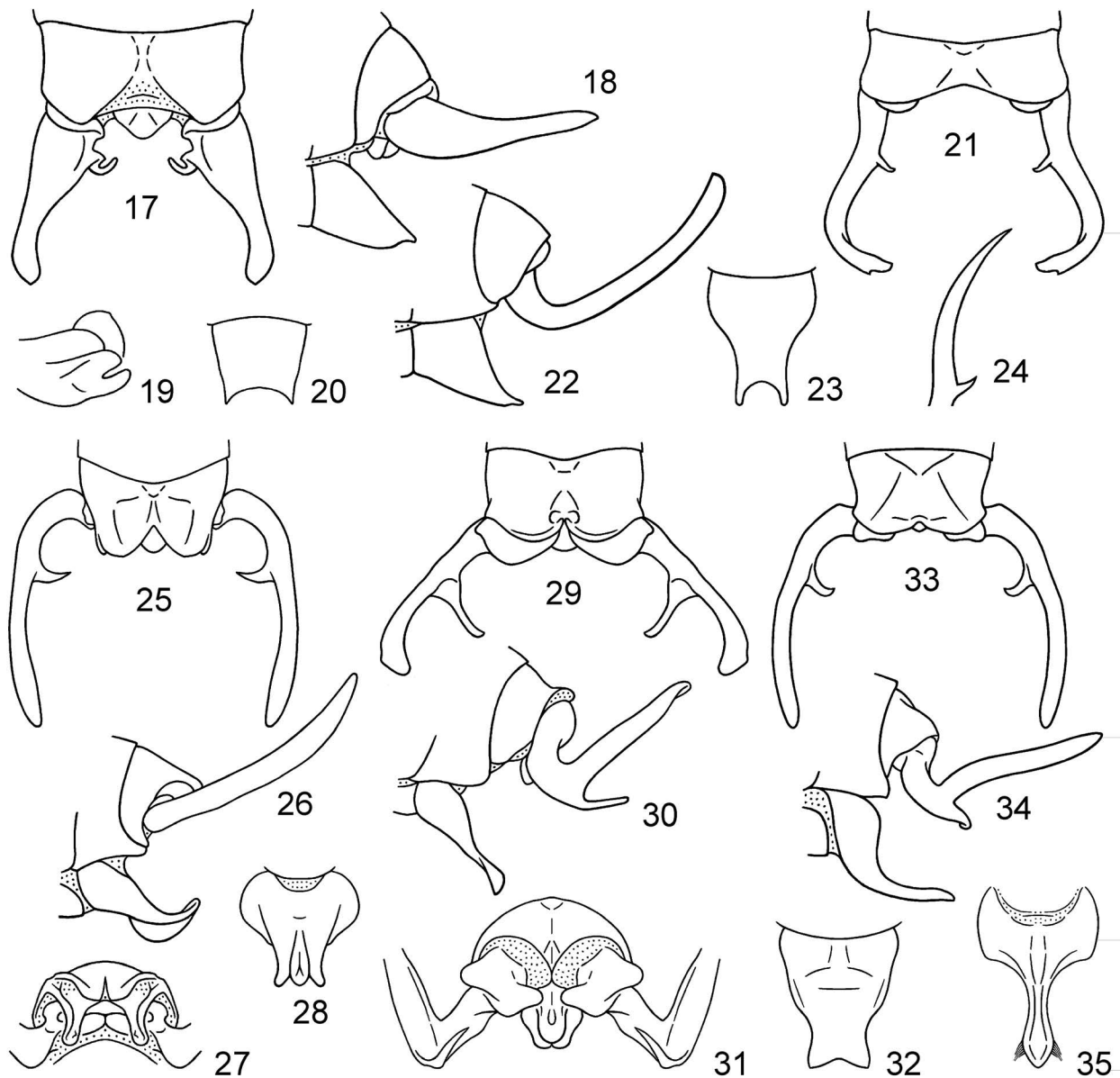
Etymology. The species is named in honor of Miss Monica Chuquimia Velasquez, Major of the Rio Negro Municipality (Alcaldesa de la Municipalidad Distrital de Rio Negro) in Satipo Province of Peru for her important support of natural ecosystem restoration projects.

Type material. *Holotype* – male, PERU: Junin Department, Satipo Prov., outskirts of Satipo Town, 11.265285–6°S, 74.650726–7°W, 600–800 m, forest garden, at light, 5–26 December 2018, A. Gorochov, V. Izerskyy.

Description. *Male* (holotype). General appearance more or less similar to that of *Anaulacomera (A.) galarzai* sp. nov. but with following differences: body coloration also light yellowish green but having a pair of short longitudinal light rose stripes on middle and posterior parts of upper rostral tubercle dorsum, yellowish rose ocelli, light reddish eyes, sparse rose dots on pronotum, light brown stridulatory vein and thickened chord in left tegmen as well as stripe along anal edge near this chord and area behind (near) stridulatory apparatus in this tegmen, similar coloration of right tegmen having also light brown basal area and area between thickened chord and anal tegminal edge as well as yellowish white stridulatory vein (Figs 3, 4), and without any distinct marks on other parts of body; scape approximately 1.5 times as wide as apical part of upper rostral tubercle; middle part of



Figs 1–16. *Anaulacomera*, male: 1, 2 – *A. (Anallomes) galarzai* sp. nov.; 3, 4 – *A. (A.) monicae* sp. nov.; 5–8 – *A. (Stenotegmora) adunca* sp. nov.; 9–12 – *A. (S.) spinifera* sp. nov.; 13–16 – *A. (S.) originalis* sp. nov. Head and pronotum from side (1, 3) and from above (5, 9, 13); same from above but with stridulatory apparatus of tegmina (2, 4); pronotum from side (6, 10, 14); stridulatory apparatus of left (7, 11, 15) and right (8, 12, 16) tegmina.



Figs 17–35. *Anaulacomera*, male: 17–20 – *A. (Anallomes) galarzai* sp. nov.; 21–24 – *A. (A.) monicae* sp. nov.; 25–28 – *A. (Stenotegmora) adunca* sp. nov.; 29–32 – *A. (S.) spinifera* sp. nov.; 33–35 – *A. (S.) originalis* sp. nov. Abdominal apex without genital plate from above (17, 21, 25, 29, 33) and with this plate from side (18, 22, 26, 30, 34); medial cercal process from behind (19); genital plate from below (20, 23, 28, 32, 35); distal half of cercus and its medial process from behind (24); last tergite with epiproct, paraprocts and parts of cerci from behind (27, 31).

this tubercle barely narrowed; upper edges of dorsal longitudinal keels on this tubercle almost straight in profile but with a pair of very small (hardly visible) proximal convexities and with rounded in profile apical part (this tubercle with almost flat dorsal surface of apical part and insignificantly concave rest of dorsum; Figs 3, 4); pronotal lateral lobes almost as long

as high and with circularly rounded posteroventral edges (Fig. 3); tegmina reaching almost middle of hind tibiae, with stridulatory apparatus as in Fig. 4; hind wings much longer than tegmina, reaching distal part of hind tibiae; last abdominal tergite slightly concave in median part and with almost straight posterior edge; epiproct and paraprocts very similar

to those of *A. (A.) galarzai* sp. nov., but cercus clearly longer, strongly curved upwards in proximal part, with strong (not short) medial spine located in this part behind (near) its curvature, and with more distal cercal part almost straight in profile and longer than proximal one (this distal part slightly curved medially and with characteristic apical portion; Figs 21, 22, 24); genital plate somewhat longer than in this species but narrower in distal portion and with distinct widely rounded notch at apex (lobules around this notch almost finger-like; Fig. 23); genitalia completely membranous.

Female unknown.

Length (mm). Body 13; body with wings 30; pronotum 3.3; tegmina 23; hind femora 14.

Comparison. The new species is similar to *Anaulacomera (A.) richteri* Cadena-Castañeda, 2012 in the shape of its male cerci but distinguished by these cerci less arcuate in the profile (i.e. they more strongly curved in the proximal part and more straight in the distal half) as well as with medial processes located in more proximal position (*vs.* almost in middle part of cerci). From all other possible species of *Anallomes*, it differs in the same characters as *A. (A.) galarzai* sp. nov., except for pronotum which is similar to that of possible *A. (A.) nodulosa* in the shape but with dotted disc; additionally, the new species is distinguished from the latter one by the upper rostral tubercle apical part practically without dorsal concavity (*vs.* with distinct and even slightly widened dorsal concavity; see photographs in OSF).

Subgenus *Stenotegmora* Gorochoff subgen. nov.

Type species: *Anaulacomera (Stenotegmora) adunca* sp. nov., designated here.

Etymology. This subgeneric name originates from the Latinized Greek prefix “steno-” (narrowly) and morphological term “tegmen” as well as subgeneric name *Bovicercora*.

Diagnosis. Tegmina clearly narrower than in other subgenera of *Anaulacomera* s. l. (7.5–8 times as long as wide in middle part; *vs.* 5.5–6.5 times as long as wide in middle part); male last abdominal tergite with almost straight or sinuate posterior edge, i. e. this tergite with very small (Fig. 33), moderately small or moderately large but not narrow posteromedian notch (in two latter cases, this tergite also with a pair of short or very short lobes around posteromedian notch; Figs 25, 29); male cercus long or moderately long, rather thin, medially and/or dorsally curved in

proximal part, with almost straight distal half, and with short or moderately short medial spine or hook (Figs 25, 26, 29, 30, 33, 34); male genital plate distinctly or strongly narrowed in distal part (Figs 28, 32, 35); male genitalia with very characteristic large median semisclerotized inflation on dorsal surface of dorsal fold (Figs 36–38).

Included species. Type species; *Anaulacomera (S.) spinifera* sp. nov.; *A. (S.) originalis* sp. nov.

Comparison. The new subgenus, judging by its male abdominal apex, is possibly most related to *Anallomes* but differs from the latter subgenus in the narrower tegmina with a characteristic (longitudinally striped) pattern, and in the male genitalia with a large median semisclerotized inflation on the dorsal fold. These characters distinguish this subgenus also from all other subgenera of *Anaulacomera* s. l.

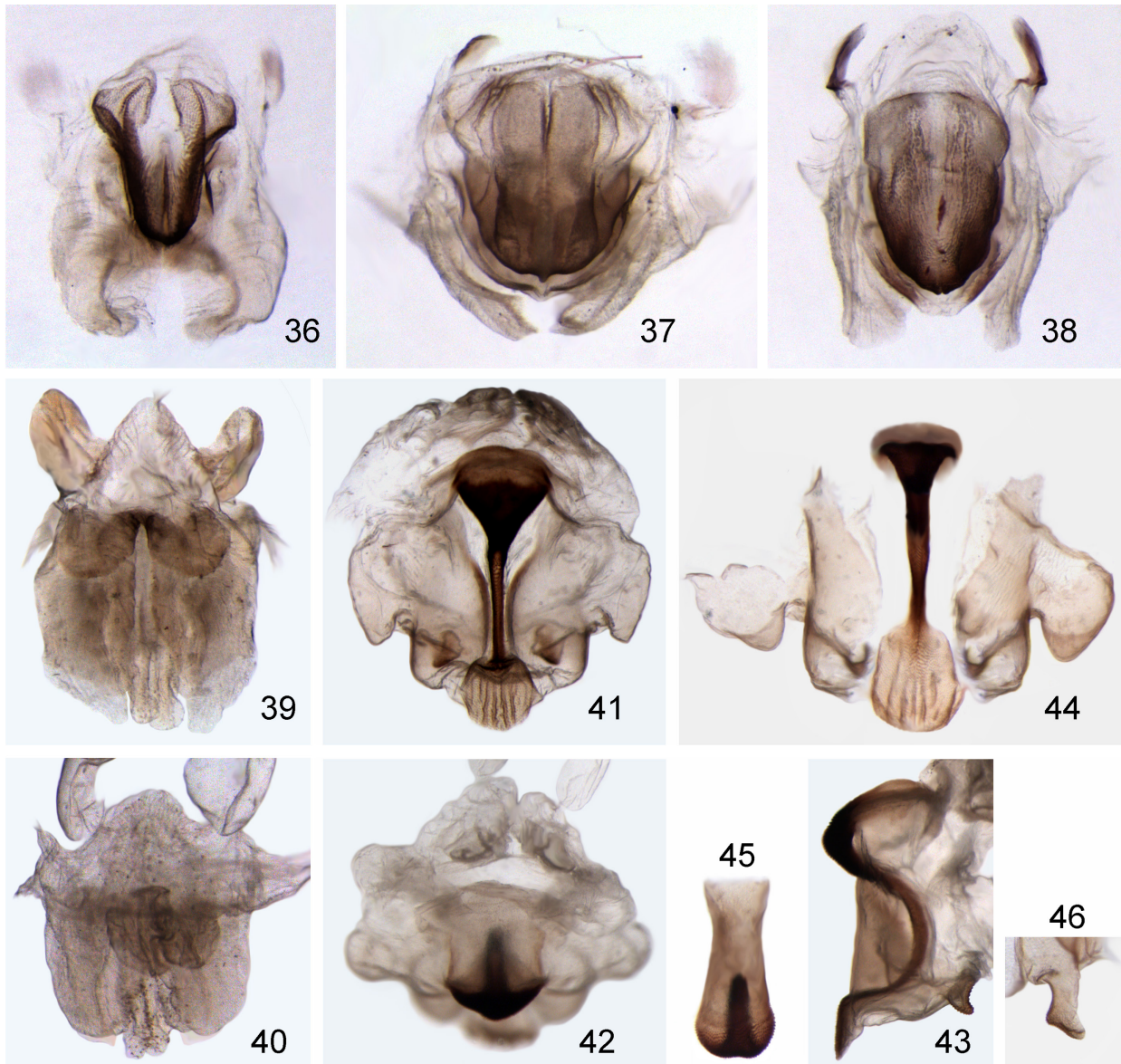
Anaulacomera (Stenotegmora) adunca Gorochoff sp. nov.

(Figs 5–8, 25–28, 36)

Etymology. This name is the Latin word “adunca” (hooked) in connection with the shape of its medial cercal process.

Type material. *Holotype* – male, PERU: Junin Department, Satipo Prov., outskirts of Satipo Town, 11.265285–6°S, 74.650726–7°W, 600–800 m, forest garden, at light, 5–26 December XII.2018, A. Gorochoff, V. Izersky.

Description. *Male* (holotype). Body small for this genus. Coloration yellowish with wide reddish brown median band along head dorsum and pronotal disc (this band laterally bordered by a pair of rose stripes, and apical part of upper rostral tubercle dorsally rose; Figs 5, 6), with rose area on each dorsal part of other tergites, with two thin reddish rings (proximal and distal) on scape, with brown basal area in both tegmina and stridulatory vein in left tegmen, with light brown rest of tegmina having whitish longitudinal stripe between Sc and M (Figs 7, 8), with light brown and partly rose distal part of costal lobe of hind wing (other parts of this wing more or less transparent), with darkened distal part of medial cercal process, and with barely darkened most part of hind tibia. Scape almost twice as wide as apical part of upper rostral tubercle and almost equal to lower rostral tubercle in width; upper rostral tubercle with apical part having thin median groove dorsally and strong narrowing between this



Figs 36–46. *Anaulacomera*, male: 36 – *A. (Stenotegmora) adunca* sp. nov.; 37 – *A. (S.) spinifera* sp. nov.; 38 – *A. (S.) originalis* sp. nov.; 39 – *A. (Irisovia) grigoryi* sp. nov.; 40 – *A. (I.) spinolobata* Gorochov; 41–43 – *A. (Munticercora) sclerogenitalis sclerogenitalis* Gorochov; 44–46 – *A. (M.) s. woronovi* subsp. nov. Genitalia, dorsal (36, 37, 38, 39, 40), ventral (41), frontal (42) and lateral (43) views; four fragments of genitalia in ventral view, reconstruction (44); anterior sclerotized fragment of genitalia, frontal view (45); left postero-dorsal semisclerotized lobule of genitalia, lateral view (46).

part and rest of this tubercle (proximal part of this tubercle dorsally with a pair of very small convexities; Fig. 5); pronotum rather high and short, with posteroventral edges of lateral lobes clearly oblique (Fig. 6); tegmina approximately 7.8 times as long as wide in middle part, almost reaching apices of hind femora, with stridulatory apparatus as in Figs 7, 8;

hind wings almost reaching middle third of hind tibiae; last abdominal tergite with moderately large triangular posteromedian notch and a pair of short roundly angular lobes around it (Fig. 25); posteroventral parts of these lobes with well sclerotized additional lobules directed downwards / forwards (Fig. 27); epiproct and paraprocts small, simple,

rounded apically (epiproct somewhat longer than paraprocts); cercus with distal half not curved upwards, with medial process short and almost hook-like as well as located in proximal cercal half, and with distal part barely curved upwards and having narrowly rounded apex (Figs 25, 26); genital plate almost as long as wide, gradually narrowing to moderately narrow apex having three short apical lobules, and with median keel-like longitudinal convexity on ventral surface of distal half (Figs 26, 28); genitalia as in Fig. 36.

Female unknown.

Length (mm). Body 11; body with wings 25; pronotum 2.7; tegmina 18; hind femora 16.

Comparison. The new species is slightly similar to *Anaulacomera* (*Anallomes*) *richteri* in the narrow tegmina (i.e. the latter species may belong to this subgenus but not to *Anallomes*) but distinguished by the head dorsum and pronotal disc darkened (not almost uniformly light), by the pronotal lateral lobes with oblique (not circularly rounded) posteroventral edges, and by the distal half of the male cercus almost straight (not strongly curved upwards).

Anaulacomera* (*Stenotegmora*) *spinifera

Gorochov sp. nov.

(Figs 9–12, 29–32, 37)

Etymology. This feminine name originates from the Latin roots “spina” (spine) and “-fer” (carrying) in connection with the spine-like shape of the cercal medial process.

Type material. *Holotype* – male, PERU: Ucayali Department, Atalaya Prov., ~35 km NWW of Atalaya Town on Ucayali River, environs of Sapani Vill., ~300 m, primary/secondary forest, at light, 26–31 October 2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky.

Description. *Male* (holotype). Size and structure of body similar to those of *Anaulacomera* (*S.*) *adunca* sp. nov., but some characters somewhat different: coloration lighter (more uniform; Figs 9, 10), yellowish with rose both dorsal surface of upper rostral tubercle and median band on head dorsum behind this tubercle (latter band with thin whitish median line), with small brown spot on basal area and light brown longitudinal stripe along MA in each tegmen (Figs 11, 12), with yellowish distal part of costal lobe in hind wing (rest of this wing with light brown to reddish venation and transparent membranes), and

with barely darkened apices of spines on hind tibiae and of medial processes on cerci; pronotum with posteroventral edges of lateral lobes circularly rounded (Fig. 10); tegmina approximately 7.5 times as long as wide in middle part, approximately reaching bases of hind tibiae, with stridulatory apparatus as in Figs 11, 12; hind wings almost reaching middles of hind tibiae; last abdominal tergite with wide and very short posterior lobes having almost keel-like posterior edges touching each other medially, and with moderately small posteromedian notch before these edges (this notch looking as deep median concavity in dorsal and posterior views; Figs 29, 31); cercus with very short but strongly inflated proximal part, with narrower but somewhat longer subproximal part directed partly downwards, with much longer more distal part which curved upwards/medially and having small almost rounded and lamellar widening, and with spine-like medial process located in place of cercal curvature and directed medially and slightly upwards (Figs 29–31); genital plate clearly longer, with almost dorsoventrally lamellar distal part having a pair of posterolateral lobes and short roundly angular notch between them (Figs 30, 32); genitalia with wider and distinctly larger median semisclerotized inflation (Fig. 37).

Female unknown.

Length (mm). Body 13; body with wings 28; pronotum 2.9; tegmina 20; hind femora 17.

Comparison. Differences of this new species from *Anaulacomera* (*S.*) *adunca* sp. nov. are given above (in the description), and from *A.* (*A.*) *richteri*, the new species differs in the male tegminal stridulatory apparatus less darkened, and in the distal half of the male cercus almost straight (not arcuately curved upwards) and with a lamellar widening at the apex.

Anaulacomera* (*Stenotegmora*) *originalis

Gorochov sp. nov.

(Figs 13–16, 33–35, 38)

Etymology. This name is the Latin word “originalis” (original) due to the peculiar structure of the male genital plate.

Type material. *Holotype* – male, PERU: Junin Department, Satipo Prov., ~25 km SE of Satipo Town, environs of Rio Venado Vill., 1000–1200 m, primary/secondary forest, at light, 20–23 October 2008, A. Gorochov, M. Berezin, L. Anisyutkin, E. Tkatsheva, V. Izersky.

Description. *Male* (holotype). Size, coloration and structure of body similar to those of *Anaulacomera* (*S.*) *spinifera* sp. nov. but with following differences: rose marks on head almost as in this species but with yellowish apical part of upper rostral tubercle (Fig. 13); wings coloured also almost as in this species but with stridulatory vein on left tegmen brown (Fig. 15); tympanic membranes barely darkened (having very light brown central areas); apical part of upper rostral tubercle separated from more proximal part by less strong narrowing (Fig. 13); pronotum with lateral lobes clearly longer (lower) than in both previous species of this subgenus (Fig. 14); tegmina approximately 8 times as long as wide, with stridulatory apparatus as in Figs 15, 16; last abdominal tergite with slightly sinuate (almost straight) posterior edge having very small and roundly angular posteromedian notch (Fig. 33); cerci very similar to those of *A. (S.) spinifera* sp. nov., but their most proximal part less inflated (clearly less wide), their distal part not widened and not lamellar, and their medial process distinctly shorter (Figs 33, 34); genital plate strongly curved in profile, with very narrow and almost straight distal half directed backwards / upwards and having small oval widening in apical part (this widening almost angular at apex and with a pair of groups of distinct setae on lateral sides; Figs 34, 35); genitalia with median semisclerotized inflation somewhat intermediate between those of previous representatives of this subgenus in size (Fig. 38).

Female unknown.

Length (mm). Body 13.5; body with wings 24; pronotum 3; tegmina 19.5; hind femora 17.

Comparison. Differences of this new species from *Anaulacomera* (*S.*) *spinifera* sp. nov. are given above; from other representatives of this subgenus, the new species is distinguished by the body coloration more uniform, or by the male cerci not arcuately curved upwards in the distal half; from all true and possible species of this subgenus together, it differs in the characteristic (distally very narrow) shape of the male genital plate.

Subgenus *Irisovia* Gorochov subgen. nov.

Type species: *Anaulacomera (Irisovia) grigoryi* sp. nov., designated here.

Etymology. This subgenus is named in memory of my late friend and field companion Grigory Irisov who was an excellent animal photographer and a great lover of nature.

Diagnosis. Last abdominal tergite of male with a pair of small or medium-sized posterior lobes, having numerous denticles, and with rather wide and/or not deep notch between them (this tergite more or less desclerotized near deepest part of this notch; Figs 53, 56); male cercus with rather short and thick proximal portion, and with shorter but more widened distal part having two or three processes and/or lobes which rather diverse in shape but provided with numerous very small spinule-like setae (Figs 53, 54, 56, 57); male genital plate slightly elongate but moderately wide and with somewhat narrowed apical part having rather wide and very short posteromedian notch as well as a pair of small lobules around this notch (Fig. 55); male genitalia completely membranous (Figs 39, 40).

Included species. Type species; *Grammadera rosea* Giglio-Tos, 1898; *Anaulacomera (Munticercora) spinolobata* Gorochov, 2020. The two latter species were included in the Rosea Species Group of the subgenus *Munticercora* by Cadena-Castañeda (2015) and Gorochov (2020).

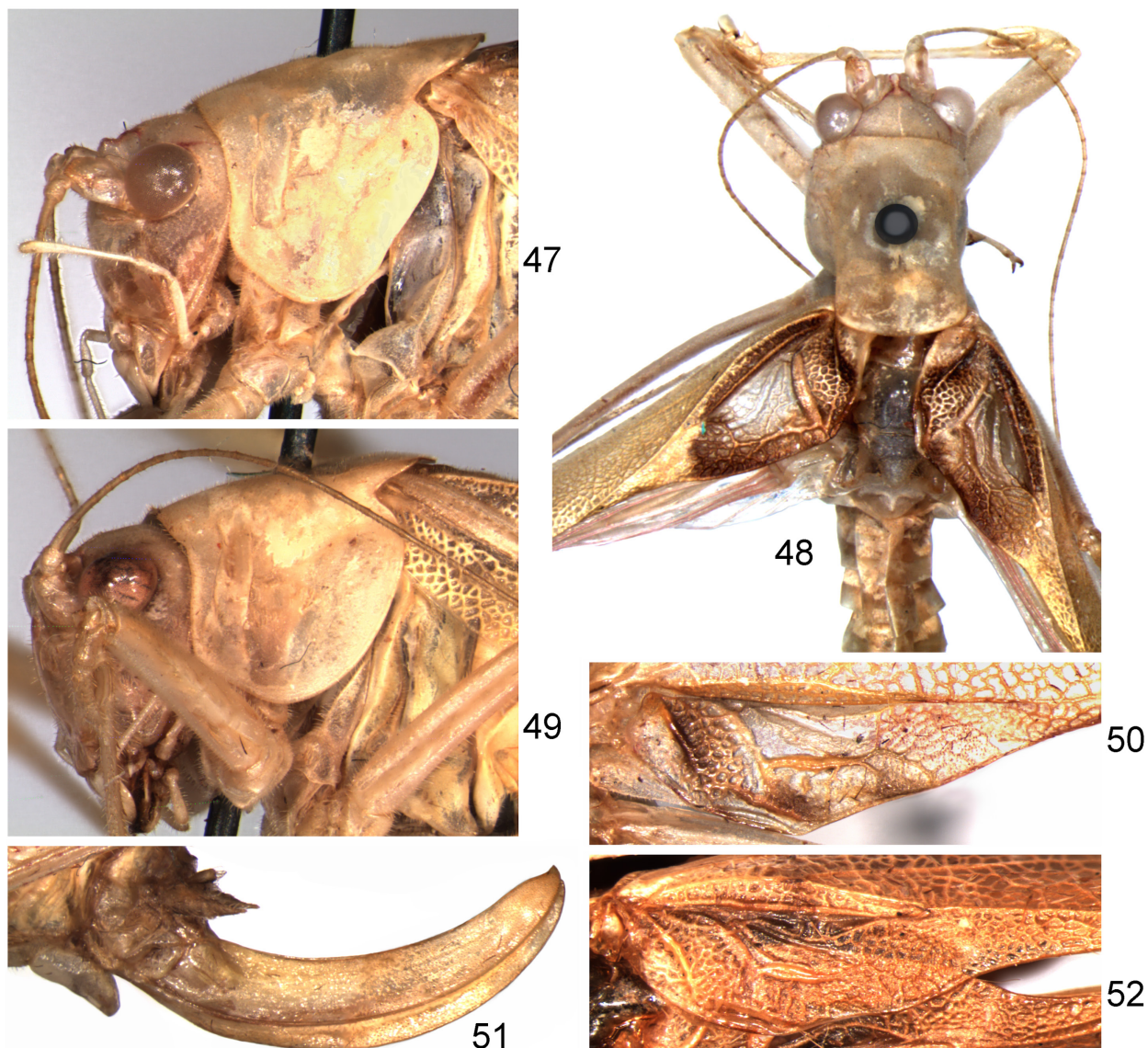
Comparison. This subgenus differs from the subgenus *Munticercora* in the male last abdominal tergite having its posterior lobes strongly denticulated, the male cercus short but thick and with processes or lobes located in its distal (not in proximal or middle) part as well as with numerous spinule-like setae, and the male genitalia completely membranous [the genitalia with a sclerotized area, photographed by Gorochov (2020: fig. 188) and erroneously assigned to *Anaulacomera spinolobata*, do not belong to this species; its true genitalia are in Fig. 40]. From other subgenera of *Anaulacomera*, the new subgenus is distinguished by the same characters as *Munticercora* (these differences are given in the key to *Anaulacomera* subgenera where *Munticercora* and the new subgenus are united by the antithesis 3; Gorochov 2020).

***Anaulacomera (Irisovia) grigoryi* Gorochov sp. nov.**

(Figs 39, 47, 48, 53, 54)

Etymology. The new species is named in memory of Grigory Irisov, one of its collectors.

Type material. *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”,

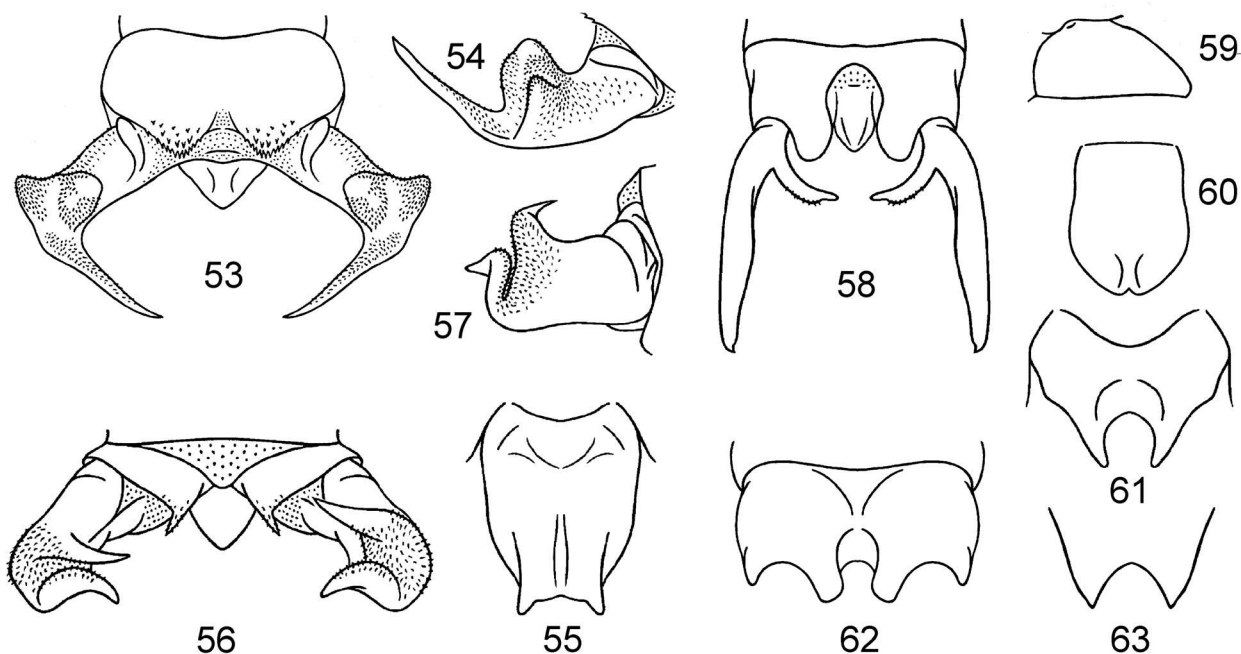


Figs 47–52. *Anaulacomera*: 47, 48 – *A. (Irisovia) grigoryi* sp. nov.; 49 – *A. (I.) spinolobata* Gorochov; 50, 51 – *A. (Munticercora) sclerogenitalis sclerogenitalis* Gorochov; 52 – *A. (M.) s. woronovi* subsp. nov. Head with pronotum of male from side (47, 49); same from above but also with fore legs and tegminal stridulatory apparatus (48); stridulatory apparatus of right tegmen (50, 52); ovipositor from side (51).

~500 m, primary forest, at light, 14–23 November 2017, A. Gorochov, G. Irisov.

Description. *Male* (holotype). General appearance more or less similar to *Anaulacomera (I.) spinolobata* but with some characteristic features: body coloration yellowish (greenish in living condition) with rose lines along lateral keels on dorsum of upper rostral tubercle, with brown stripe (almost ring) around stridulatory apparatus in left tegmen

and barely lighter stripes along medial and lateral edges of this apparatus in right tegmen as well as similar transverse stripe at base of basal area in latter tegmen, with light brown rest part of basal area (including stridulatory vein) and almost transparent central part of stridulatory apparatus in each tegmen (Fig. 48), with light brown distal parts of posterior lobes of last tergite and brown denticles on these lobes, with more or less brownish distal



Figs 53–63. *Anaulacomera*: 53, 54 – *A. (Irisovia) grigoryi* sp. nov.; 55–57 – *A. (I.) spinolobata* Gorochov; 58–61 – *A. (Munticercora) sclerogenitalis sclerogenitalis* Gorochov; 62, 63 – *A. (M.) s. woronovi* subsp. nov. Male abdominal apex from above (53, 56, 58); male right cercus from side (54, 57); male genital plate (55, 61) and its distal part (63) from below; female genital plate from side (59) and from below (60); male last tergite from above (62). [55–58, 61 – after Gorochov (2020).]

parts of some tibial spines and of all tarsal claws, and with blackish small denticle-like setae on cerci; scape almost twice as wide as apical part of upper rostral tubercle; this tubercle barely narrowed in middle part and with distinct longitudinal concavity dorsally; pronotal lobes with posteroventral edges somewhat more oblique than in *A. (I.) spinolobata* (for comparison see Figs 47 and 49); posterior lobes of last tergite almost widely angular (not spine-like) and with more numerous denticles and slightly narrower notch between these lobes (see Figs 53 and 56); cerci with three distal lobules (ventromedial lobule spine-like and directed medially and slightly upwards, lateral one short but not wide and with narrowly rounded apex directed upwards/laterally, and third lobule barely longer than lateral one but somewhat wider and with more widely rounded apex directed upwards and hardly medially; Figs 53, 54); small denticle-like cercal setae located almost on all surfaces of cercus (but not on its ventral surface); genital plate damaged but, judging by its remains, looking very similar to that of *A. (I.) spinolobata* (Fig. 55); genitalia as in Fig. 39.

Female unknown.

Length (mm). Body 16.5; body with wings 34; pronotum 3.8; tegmina 25; hind femora 15.

Comparison. The new species differs from *Anaulacomera (I.) rosea* and *A. (I.) spinolobata* in the pronotal lateral lobes having more oblique posteroventral edges, the male last tergite with more widely angular (not spine-like) posterior lobes, the male cercus with three (not two) distal lobules of different shape and/or with one of these lobules long and thin (distinctly spine-like), and the location of small denticle-like setae on the both proximal and distal parts of the male cercus (in *A. spinolobata* and possibly *A. rosea*, these setae are located on the distal cercal part only; see Figs 53, 54 and 56, 57).

***Anaulacomera (Munticercora) sclerogenitalis*
Gorochov, 2020**

(Figs 41–43, 50, 51, 58–61)

Material examined. MEXICO, Chiapas: 1 male (holotype), 1 female, Ocozocuahtla Distr. (not far from Tuxtla Gutierrez City), Laguna Belgica Educational Reserve near El Ocote Biosphere Reserve, 600–1000 m, partly primary / partly secondary

forest, at light, 30–31 May 2007, M. Berezin, E. Tkatsheva; 2 males, Ocosingo Distr., Selva Lacandona near Guatemala (between Montes Azules Biosphere Reserve and Bonampak Natural Monument), environs of Lacanja-Chansayab Vill., primary forest, at light, 20–27 May 2007, M. Berezin, E. Tkatsheva.

Description. *Female* (nov.). General appearance very similar to male holotype (Gorochov 2020): body yellowish (greenish in living condition) with a pair of reddish lines along lateral keels on dorsum of upper rostral tubercle, numerous reddish dots on pronotum and hind femora as well as rather sparse ones on inner surface of fore femora and on outer surfaces of middle femora and tibiae, semitransparent cell membranes in tegmina, light brown small spot at apex of each dorsal tegminal field and distal portions of majority of tibial spines and spurs; scape almost twice as wide as apical part of upper rostral tubercle, but this tubercle barely narrowed in middle part and with distinctly concave dorsal surface; tegmina with dorsal fields having cellular (simple) venation characteristic of females in this genus; abdominal apex with last tergite having rather deep median concavity and separated from epiproct by thin and almost straight (transverse) fold; epiproct small, elongately triangular, clearly longer than small round paraprocts; cerci fusiform, almost twice as long as epiproct, thin and acute in apical parts; genital plate similar to last abdominal sternite in shape but with posterior part roundly angular and having small and very narrow posteromedian notch (Figs 59, 60); ovipositor rather long, moderately curved upwards, with acute and barely hooked apical part, and without denticles (Fig. 51).

Male. All males almost identical, but specimens from Selva Lacandona with thin denticulation of medial cercal process located only in distal half of this process (in holotype, such denticulation located also in proximal half of this process); their genitalia (Figs 41–43) practically indistinguishable from each other.

Length (mm). Body: male 14.5–17, female 16.7; body with wings: male 33–35, female 37; pronotum: male 3.6–4.1, female 4; tegmina: male 23–26, female 28; hind femora: male 15.5–16.5, female 17.5; ovipositor 8.

Remarks. The label data of the holotype of this species in its original description were erroneously indicated as “Peru: Junin Department ...” (Gorochov 2020). In reality, the holotype of this species was collected in Mexico, and its true label data are given here (above).

***Anaulacomera (Munticercora) sclerogenitalis woronovi* Gorochov subsp. nov.**
(Figs 44–46, 52, 62, 63)

Etymology. This subspecies is named after its collector.

Type material. *Holotype* – male, COLOMBIA: “Penas Blancos, Rio Magdalena Colum. Woronov”, 1926.

Description. *Male* (holotype). Size, coloration and structure of body similar to those of nominotypical subspecies, but with following differences: reddish lines and dots indistinct; tegmina and legs without brown and light brown marks; thickened portion of median longitudinal vein (part of chord) in stridulatory apparatus of right tegmen clearly not reaching apex of large lateral membrane of this apparatus (in *Anaulacomera s. sclerogenitalis*, thickened portion of this chord distinctly longer, reaching apex of this membrane); anal edge of this tegmen near apex of plectrum rounded and less projecting medially (*vs.* more projecting and almost angular; for comparison see Figs 50 and 52); posterior lobules of last abdominal tergite distinctly narrower, and notch between them somewhat less deep (see Figs 58 and 62); cerci missing; genital plate with narrowly angular but not almost spine-like posterolateral lobules (see Figs 61 and 63); genitalia with apical (posterior) median semisclerotized plate longer (see Figs 41 and 44), with anterior partly sclerotized inflation distinctly higher (see Figs 42 and 45), with a pair of semimembranous lateral lobules in middle of genitalia larger (see Figs 41 and 44), and with a pair of posterodorsal semisclerotized and finely denticulate lobules somewhat different in shape (see Figs 43 and 46).

Female unknown.

Length (mm). Body 18; body with wings 37; pronotum 4; tegmina 27; hind femora missing.

Comparison. Differences of this subspecies from the nominotypical one are listed above, in the description of the new subspecies.

***Anaulacomera (Munticercora) pseudoepiproctalis* Gorochov, 2020**

Material examined. ECUADOR: 1 male (holotype), Morona Santiago Prov., bank of Rio Morona near border with Peru, environs of Puerto Morona Vill., ~300 m, primary forest, at light, 5–15 January 2010, A. Gorochov.

Remarks. The label data of this holotype in the original description of this species were erroneously indicated as “Peru: Junin Department ...” (Gorochov 2020). In reality, the holotype of this species was collected in Ecuador, and its true label data are given here (above).

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