

New and little known taxa of the subfamily Meconematinae (Orthoptera: Tettigoniidae) from Indo-Malayan and Papuan Regions

Новые и малоизвестные таксоны подсемейства Месонематинае (Orthoptera: Tettigoniidae) из Индо-Малайской и Папуасской областей

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Key words: taxonomy, Orthoptera, Tettigoniidae, Meconematinae, Asia, Oceania.

Ключевые слова: систематика, Orthoptera, Tettigoniidae, Месонематинае, Азия, Океания.

Abstract. The genera *Pseudoteratura* Gorochov, 1998, *Alloteratura* Hebard, 1922, *Rhinoteratura* Gorochov, 1993, *Odonturisca* Gorochov, 2008 and *Bharatius* Gorochov, **gen.n.** from the tribe Meconematini as well as the genus *Stenophlugis* Gorochov, 2012 from the tribe Phlugidini are considered. Two new subgenera as well as ten new species and four new sub-species are also described: *P. (Pseudoteratura) daedala* **sp.n.**; *P. (P.) bicornis aspineae* **subsp.n.**; *A. (Prototeratura) primitiva* **subgen. et sp.n.**, type of subgenus; *A. (Deinoteratura) admiranda* **subgen. et sp.n.**, type of subgenus; *A. (Alloteratura?) unica* **sp.n.**; *A. (Meconemopsis) sumatrae* **sp.n.**; *A. (M.) sarawaki pallidula* **subsp.n.**; *Rhinoteratura kedah* **sp.n.**; *Rh. lawang* **sp.n.**; *O. karnyi truncata* **subsp.n.**; *O. k. angusta* **subsp.n.**; *Bh. conocercus* **sp.n.**, type of genus; *Bh.? anamalai* **sp.n.**; *S. bacan* **sp.n.** Moreover, previously unknown female of *P. (Subtilotura) subtilissima* Gorochov, 2008 as well as male of *A. (M.) sarawaki sarawaki* Gorochov, 2002 and of *Rh. ketambe* Gorochov, 2022 are described. The former genus *Borneopsis* Gorochov, 2016 is here treated as a subgenus of the genus *Pseudoteratura*, and the following new combinations are proposed: *Pseudoteratura (Pseudoteratura) bicornis* (Ingrisch, 2006), **comb.n.**, *P. (Borneopsis) divulsa* (Gorochov, 2016), **comb.n.**, *P. (B.) contigua* (Gorochov, 2016), **comb.n.**, *Alloteratura (Prototeratura) chela* (Tan, Gorochov et Wahab, 2017), **comb.n.**, *A. (Deinoteratura) podgornaya* Gorochov, 1998, **comb.n.**, *A. (D.) subanalis* Karny, 1926, **comb.n.**, *A. (D.) siamensis* Jin, 1995, **comb.n.**, *A. (Meconemopsis) karnyi* Kästner, 1932, **comb.n.**, *A. (M.) belalongensis* Tan, Gorochov et Wahab, 2017, **comb.n.**, and *A. (M.) eubispina tuberculata* Jin, 2020, **stat. et comb.n.**

Резюме. Рассмотрены роды *Pseudoteratura* Gorochov, 1998, *Alloteratura* Hebard, 1922, *Rhinoteratura* Gorochov, 1993, *Odonturisca* Gorochov, 2008 и *Bharatius* Gorochov, **gen.n.** из трибы Месонематини, а также род *Stenophlugis* Gorochov, 2012 из трибы Флуigidини. Описаны также два новых подрода, десять новых видов и четыре новых подвида: *P. (Pseudoteratura) daedala* **sp.n.**; *P. (P.) bicornis aspineae* **subsp.n.**; *A. (Prototeratura) primitiva* **subgen. et sp.n.**, тип подрода; *A. (Deinoteratura) admiranda* **subgen. et sp.n.**, тип подрода; *A. (Alloteratura?) unica* **sp.n.**; *A. (Meconemopsis) sumatrae* **sp.n.**; *A. (M.) sarawaki pallidula* **subsp.n.**; *Rhinoteratura kedah* **sp.n.**; *Rh. lawang* **sp.n.**; *O. karnyi truncata* **subsp.n.**; *O. k. angusta* **subsp.n.**; *Bh. conocercus* **sp.n.**, тип рода; *Bh.? anamalai* **sp.n.**; *S. bacan* **sp.n.** Кроме того, описаны ранее неизвестные самка

для *P. (Subtilotura) subtilissima* Gorochov, 2008, а также самец для *A. (M.) sarawaki sarawaki* Gorochov, 2016 и *Rh. ketambe* Gorochov, 2022. Род *Borneopsis* Gorochov, 2016 трактуется здесь как подрод рода *Pseudoteratura*, и предложены следующие новые комбинации: *Pseudoteratura (Pseudoteratura) bicornis* (Ingrisch, 2006), **comb.n.**, *P. (Borneopsis) divulsa* (Gorochov, 2016), **comb.n.**, *P. (B.) contigua* (Gorochov, 2016), **comb.n.**, *Alloteratura (Prototeratura) chela* (Tan, Gorochov et Wahab, 2017), **comb.n.**, *A. (Deinoteratura) podgornaya* Gorochov, 1998, **comb.n.**, *A. (D.) subanalis* Karny, 1926, **comb.n.**, *A. (D.) siamensis* Jin, 1995, **comb.n.**, *A. (Meconemopsis) karnyi* Kästner, 1932, **comb.n.**, *A. (M.) belalongensis* Tan, Gorochov et Wahab, 2017, **comb.n.** и *A. (M.) eubispina tuberculata* Jin, 2020, **stat. et comb.n.**

Introduction

This paper is a continuation of my taxonomical work on the subfamily Meconematinae [Gorochov, 1993, 1994, 1998, 2001a, b, c, 2002a, b, 2004, 2005, 2008, 2011, 2012a, b, c, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2022; Gorochov et al., 2005, 2011; Tan et al., 2017] which is a base of the modern views on generic taxonomy of Asiatic, Oceanian and American Meconematinae as well as on subtribal taxonomy of African Meconematini. At present, the Meconematinae is divided into three tribes: Meconematini and Phisidini from the Old World as well as Phlugidini from almost all tropical regions. The Meconematini consists of two subtribes: Meconematina (the Old World) and Acilacridina (Africa). The present paper has dealt with a new material on the following genera of Asiatic Meconematina and Papuan Phlugidini: *Pseudoteratura* Gorochov, 1998, *Alloteratura* Hebard, 1922, *Rhinoteratura* Gorochov, 1993, *Odonturisca* Gorochov, 2008, *Bharatius* Gorochov, **gen.n.** and *Stenophlugis* Gorochov, 2012. This material was collected mainly by Russian colleagues in some countries of South-East Asia and Oceania, and it is deposited at the Zoological Institute, Russian Academy of Sciences, Saint Petersburg (ZIN). All the specimens examined are dry and pinned. The illustrations were

made using a Leica M216 stereomicroscope and a DFC290 digital camera. The online catalogue Orthoptera Species File [Cigliano et al., 2023] is cited here as OSF.

Nomenclatural acts introduced in the present work are registered in ZooBank (www.zoobank.org) under urn:lsid:zoobank.org:pub:4863A824-C960-41D6-9032-1A785EFB7786.

List of new and little known Meconematinae taxa (Orthoptera: Tettigoniidae) from Indo-Malayan and Papuan Regions

Meconematini
Meconematina

Pseudoteratura Gorochov, 1998

Type species: *Xiphidiopsis sundaica* Kästner, 1932.

Notes. According to OSF, this genus contains two subgenera, *Pseudoteratura* Gorochov, 1998 and *Subtilotura* Gorochov, 2008 with 14 and one species, respectively. However, two other species were previously transferred to *P. (Subtilotura)* by Gorochov [2008]: *P. (S.) sugonjaevi* (Gorochov, 1994) and *P. (S.) koncharangi* (Gorochov, 1998) from Vietnam. But these transfers were omitted in OSF, because in this catalogue, these species are mentioned in their original combinations with the former generic name *Leptoteratura* Yamasaki, 1982 and without any reference to my paper of 2008. Moreover, *Xiphidiopsis elaphocerca* Karny, 1926 from Malay Peninsula (attributed in OSF to *P. (Pseudoteratura)*) probably does not belong to *Pseudoteratura* sensu lato, and *Kuzicus bicornis* Ingrisch, 2006 from Sumatra as well as the former genus *Borneopsis* Gorochov, 2016 with two species from Borneo must be included in *Pseudoteratura* sensu lato as *P. (Pseudoteratura) bicornis* comb.n. and the subgenus *P. (Borneopsis)* stat.n., respectively. Also it is necessary to mention that the male from Singapore, determined by Jin et al. [2020] as «*Borneopsis cryptosticta* (Hebard, 1922)», does not belong to *Borneopsis* or *Pseudoteratura* sensu lato and is not conspecific to the male of Sanger & Helfert [1996] which was determined by them as the same species but under the name «*Xiphidiopsis cryptosticta* Hebard, 1922»; all the males of these authors most probably belong to the genus *Xizicus* Gorochov, 1993 but to different subgenera: first one, to the subgenus *Eoxizicus* Gorochov, 1993; second one, to the subgenus *Furcixizicus* Gorochov, 2002 [Gorochov, 2002a]. And the female holotype of this Hebard's species is still without subgeneric and even dependable generic positions.

Thus, together with a new species described below, *Pseudoteratura* sensu lato consists of 20 species: 15 species in the nominotypical subgenus, three species in *P. (Subtilotura)* and two species in *P. (Borneopsis)*. But some of these species are in need of checking their generic and subgeneric positions, for example, *P. lambir* Gorochov, 2014, tentatively considered here as belonging to *Pseudoteratura (Pseudoteratura)*, is more or less intermediate between these subgenera: its general appearance is more similar to this subgenus, because its body is slightly wider than in *Pseudoteratura (Subtilotura)* but narrower than in *P. (Borneopsis)*; its male last tergite has the posteromedian notch short, almost as in *P. (Subtilotura)*; its male epiproct is with the posterior part more specialized than in the latter subgenus, i.e. almost as in the two other subgenera; its male cercus has a characteristic small proximodistal lobule

possibly developed also in the type species of *P. (Borneopsis)* [Gorochov, 2016: Figs 16, 17; Gorochov, 2019: Fig. 49–51]; the large sclerite of its male genitalia lacks dorsal spines which are absent also in *P. (Subtilotura)* and *P. (Borneopsis)* but developed in *P. (Pseudoteratura)* (Figs 9, 10, 12, 17, 18).

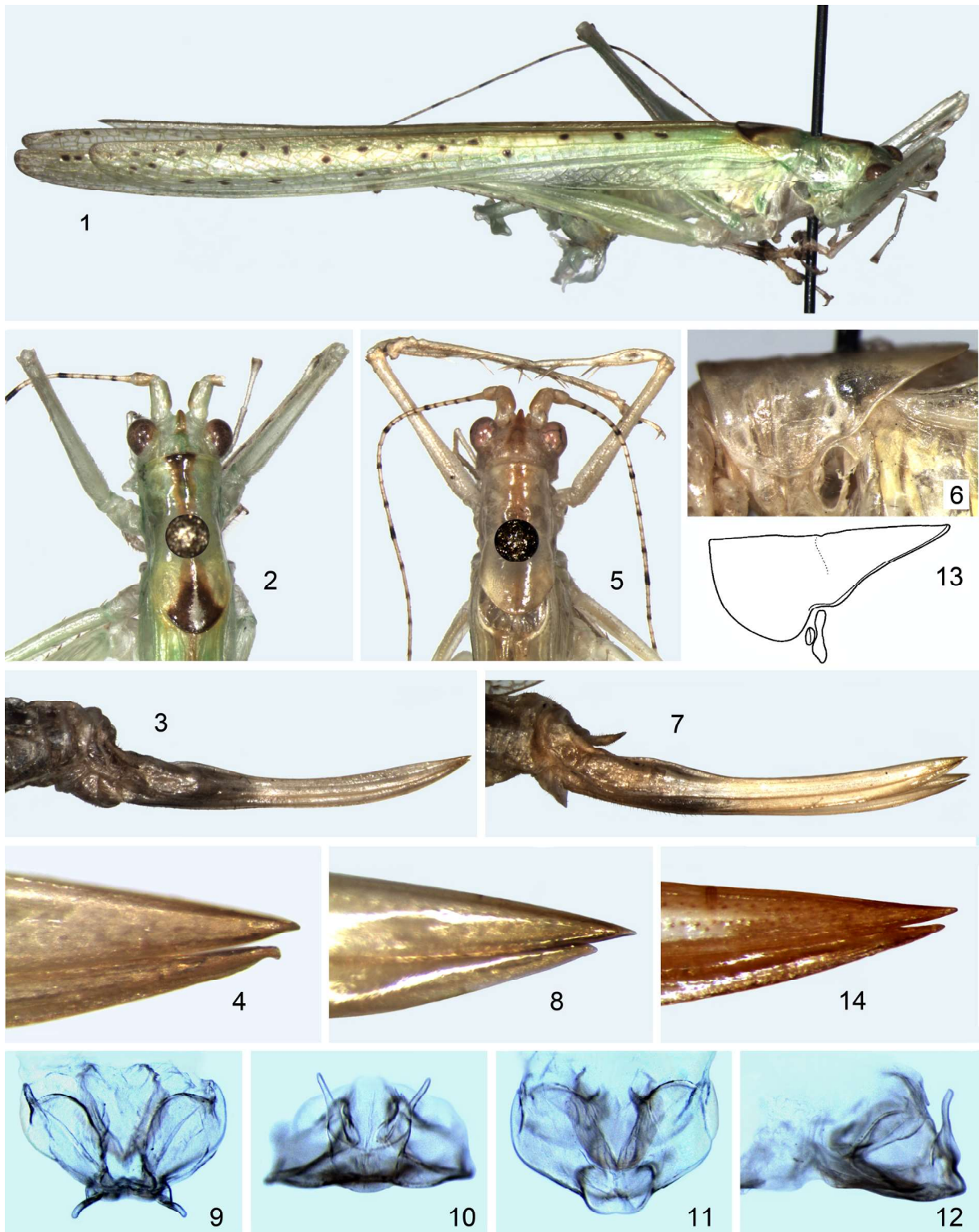
Pseudoteratura (Pseudoteratura) daedala
Gorochov, sp.n.

Figs 1–4, 15–19.

Urn:lsid:zoobank.org:act:D191E92E-FE52-47BE-B6D8-BD-859CCDC68.

Material. Indonesia, *Sumatra Island*: Holotype, ♂: Aceh Prov. not far from North Sumatra Prov., environs of Kedah Lodge on Angkasan River near Gunung Leuser National Park (Mr. Jali's Bungalows, 3.97° N, 97.25° E), h~1000–1500 m a.s.l., primary forest, on leaf of bush at night, 9–15.II.2023 (collected as deutonymph, imago III. 2023), A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN). Paratypes: 1♂, 2♀♀, same data as for holotype, but collected at light (ZIN).

Description. *Male* (holotype). General appearance typical of this subgenus (Fig. 1). Coloration light green with yellowish to greyish pedicel and antennal flagellum (pedicel also with brown distomedial spot, and flagellum with numerous blackish to dark brown rings), light brown dorsum of upper rostral tubercle and apices of apical segments of maxillary palpi, brown eyes and anteromedian spot on pronotal disc, light brown to yellow median longitudinal stripe on anterior half of this disc behind above-mentioned brown spot (this stripe with greenish median longitudinal line), large brown to dark brown area on posterior part of pronotal disc (this area with yellow anterior median tongue and whitish median longitudinal stripe; Fig. 2), yellowish to light brown narrow stripe along anal edge of each tegminal lateral field, several rather small dark brown spots on rest of this field (Fig. 1), transparent membranes of most part of hind wing, mostly yellowish to light brown spines and spurs on legs, greyish distal parts of fore and middle tibiae as well as spots on tympanal region, greyish brown apices of hind tibia and small marks on subapical segment of all tarsi, yellowish rest of tarsi, and whitish all coxae and venter of pterothorax as well as genital sclerite and distal half of genital plate. Head slightly conical, with rather large and strongly convex eyes, low and rather narrow upper rostral tubercle (this tubercle dorsally slightly arcuate in profile, and with almost acute apex and thin but distinct dorsomedial groove; Fig. 2), indistinct lower rostral tubercle and ocelli, and rather long scape which almost twice as wide as space between antennal cavities; pronotum rather narrow and almost semitubular in transverse section, with slightly convex anterior edge of disc, almost angularly rounded posterior edge of disc, and lateral lobes as in Fig. 1; tegmina very long and narrow, with stridulatory apparatus completely hidden under hind pronotal lobe, with normal (primitive) RS having long comb from 6 oblique branches on same base; hind wings distinctly but not strongly protruding beyond tegminal apices; 8th abdominal tergite with rather long and narrowly angular posteromedian projection practically reaching deep posteromedian notch of last tergite (Fig. 15); epiproct completely occupying this notch, elongate, narrowing anteriorly, and with complicated posterior portion (this portion projected backwards, with a pair of rather long and thin lobules directed backwards/laterally, and with wider median part having tubercle-like proximal convexity between these lobules and distinctly lower distal lamellar part; latter part with three apical keel-like angular projections clearly protruding behind apices of aforementioned lobules; Fig. 15); paraprocts very small, roundly plate-like; cercus with characteristic dorsal inflation at base, low and oblique medial keel in proximal half, rather thin middle part, vertically widened (almost lamellar) distal half having two dor-



Figs 1–14. Details of *Pseudoteratura* Gorochov species morphology: *P. (Pseudoteratura) daedala* Gorochov, sp.n. (1–4), *P. (P) bicornis aspineae* Gorochov, subsp.n. (5–12), *P. (P) bicornis bicornis* (Ingrisch) (13) and *P. (Subtilotura) subtilissima* Gorochov (14). 1 — male body; 2, 5 — head, pronotum and fore legs of male; 3, 7 — female abdominal apex; 4, 8, 14 — distal part of ovipositor; 6, 13 — male pronotum; 9–12 — sclerite of male genitalia; 1, 3, 4, 6–8, 12–14 — from side; 2, 5 — from above; 9 — from above and slightly anteriorly; 10 — from behind; 11 — from below. Fig. 13 after Ingrisch, 2006.

Рис. 1–14. Детали строения видов рода *Pseudoteratura* Gorochov: *P. (Pseudoteratura) daedala* Gorochov, sp.n. (1–4), *P. (P) bicornis aspineae* Gorochov, subsp.n. (5–12), *P. (P) bicornis bicornis* (Ingrisch) (13) и *P. (Subtilotura) subtilissima* Gorochov (14). 1 — тело самца; 2, 5 — голова, переднеспинка и передние ноги самца; 3, 7 — вершина брюшка самки; 4, 8, 14 — дистальная часть яйцеклада; 6, 13 — переднеспинка самца; 9–12 — склерит гениталий самца; 1, 3, 4, 6–8, 12–14 — сбоку; 2, 5 — сверху; 9 — сверху и слегка спереди; 10 — сзади; 11 — снизу. Рис.13 из Ingrisch, 2006.

sal and ventral) moderately short lobes of characteristic shape (Figs 15–17) as well as slightly inflated medial keel on dorsal lobe and laterally curved some marginal parts of both lobes (dorsal lobe with only apical marginal parts curved, but ventral one with apical and ventral marginal parts curved; Figs 15, 16); genital plate narrow, somewhat curved upwards, with distinct longitudinal median concavity on ventroproximal half, short but widely rounded posteromedian notch and a pair of rather long styles around this notch (Figs 16, 17); genitalia with very large median sclerite which slightly protruding behind apex of this plate and having a pair of rather strong dorsoproximal processes (spines), a pair of posterior lobules, rather wide rounded notch between these lobules and a pair of proxilateral inflated lobes curved downwards (Figs 16–18).

Variations. Second male yellowish (greenish in living condition) with pattern as in holotype, but head dorsum with light brown area behind rostral tubercle, light parts of tegminal lateral field almost whitish, and distal parts of cerci and genital plate greyish.

Female. Similar to male paratype in coloration, but median stripe on anterior half of pronotal disc sometimes darker (brown with light brown to yellow lateral borders) and having yellowish longitudinal median line, and abdominal apex without distinct greyish marks. Body structure also as in males, but pronotum with somewhat shorter hind lobe (see measurements); tegminal stridulatory apparatus undeveloped; all structures of abdominal apex simple (similar to those of majority of females of this tribe), but genital plate with rather short and laterally concave anterior portion as well as with elongate posterior portion narrowing to rather narrow and rounded posterior lobes separated from each other by very small angular apical notch and longitudinal median groove (anterior portion of this plate and anteromedian area of its posterior portion semimembranous and with numerous transverse wrinkles; Fig. 19), and ovipositor long and barely arcuate as well as with distal parts of upper and lower valves somewhat different: first valve gradually narrowing to acute apex, but second one with very small apical hook (Figs 3, 4).

Length in mm. Body: ♂ — 9–10.5, ♀ — 8–11; body with wings: ♂ — 22.5–23, ♀ — 23–24; pronotum: ♂ — 3.6–3.8, ♀ — 3–3.2; tegmina: ♂ — 17.5–18, ♀ — 17–19.5; hind femora: ♂ — 9.5–10, ♀ — 9.5–10.5; ovipositor 7.5–8.

Comparison. The new species differs from other Sumatran species of this subgenus in the following characters: from *P. (P.) sundaica* (Kästner, 1932) («Soekaranda») as well as Aceh and North Sumatra Provinces), in clearly shorter distal lobes of the male cercus as well as somewhat different shape of the male epiproctal posterior part and of the male genital sclerite (Figs 15–18) [Gorochov, 1998: Figs 208–215]; from *P. (P.) parallela* Ingrisch, 2006 (*P. parallela parallela*, «Si-Rambe»; *P. parallela curup* Gorochov, 2014, Bengkulu Prov.), in the tegminal lateral fields spotted, and in clearly different shape of the male epiproct and of the male cercus as well as of the female genital plate (Figs 15–17, 19) [Ingrisch, 2006: Figs 13–17; Gorochov, 2014: Fig. 24]; from *P. (P.) bicornis* (Ingrisch, 2006) («Si-Rambe») and *P. (P.) spinea* Gorochov, 2014 (Bengkulu Prov.), in the male cercus with two short distal lobes and one distomedial keel (vs. these species have three distinctly longer and thinner distal lobes or spines on the male cercus), and in some features of the male epiproct (Figs 15–17, 20–23) [Gorochov, 2014: Figs 18–22]. From congeners of *P. (Pseudoteratura)* distributed in other Indo-Malayan regions (Malay Peninsula, Java, Borneo, Philippines), the new species is distinguished by the same cercal characters as well as a deeper posteromedian notch of

the male last tergite, the presence of a distinct posteromedian projection on the male 8th abdominal tergite, and some other features of the male and female abdominal apex.

Etymology. The new species name is the Latinized Greek word «daedala» (intricate, bizarre) due to complicated structure of the male epiproct.

Pseudoteratura (Pseudoteratura) bicornis aspinea
Gorochov, **subsp.n.**

Figs 5–12, 20–24.

Urn:lsid:zoobank.org:act:C744369D-6723-4E8A-92CA-8BF-CB9656E11.

Material. Indonesia, *Sumatra Island*: Holotype, ♂: Aceh Prov. not far from North Sumatra Prov., Kedah Lodge on Angkasan River near Gunung Leuser National Park (Mr. Jali's Bungalows, 3.97° N, 97.25° E), h~1000–1500 m a.s.l., primary forest, at light, 9–15.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN). Paratype: 1♀, same data as for holotype (ZIN).

Description. *Male* (holotype). General appearance similar to that of *P. (P.) daedala* sp.n. but with some characteristic features (Figs 5, 6): coloration yellowish (greenish in living condition) with light brown dorsum of upper rostral tubercle, area on epicranial dorsum behind this tubercle, longitudinal median stripe on anterior half of pronotal disc and narrower median stripe on posterior half of this disc, rose eyes, yellow medial half of scape and stripe along anal edge of each lateral tegminal field, numerous brown to dark brown rings on antennal flagellum, several small brown spots on rest part of lateral tegminal field and greyish brown marks on subapical segment of all tarsi; upper rostral tubercle with almost straight dorsal edge in profile; lateral pronotal lobes as in Fig. 6; small distal part of tegminal stridulatory apparatus exposed behind hind pronotal lobe (Fig. 5); last tergite with slightly shorter posteromedian notch, and other abdominal tergites without distinct posteromedian projections; epiproct slightly (barely) projecting behind last tergite, with two pairs of very small and more or less rounded tubercles (these tubercles poorly distinct and located in posterolateral corners of epiproct as well as near these corners along posterior epiproctal edge; Figs 20–22); cercus similar to that of *P. (P.) spinea* in having three long lobes in distal two thirds, but these lobes with somewhat widened and truncated apical parts, and medial of these lobes partly hooked (Figs 21–23) (vs. all these lobes almost spine-like); genital plate slightly wider than in *P. (P.) spinea* and much wider than in *P. (P.) daedala* sp.n. as well as with distal half narrowing to distinctly angular apex (Fig. 22); genitalia with large (but shorter than in latter species) median sclerite (Figs 9–12) having a pair of thin dorsoapical spines directed upwards, and with almost triangular ventral plate having more rounded apical part than in *P. (P.) spinea* (latter species with such plate having angular apical part).

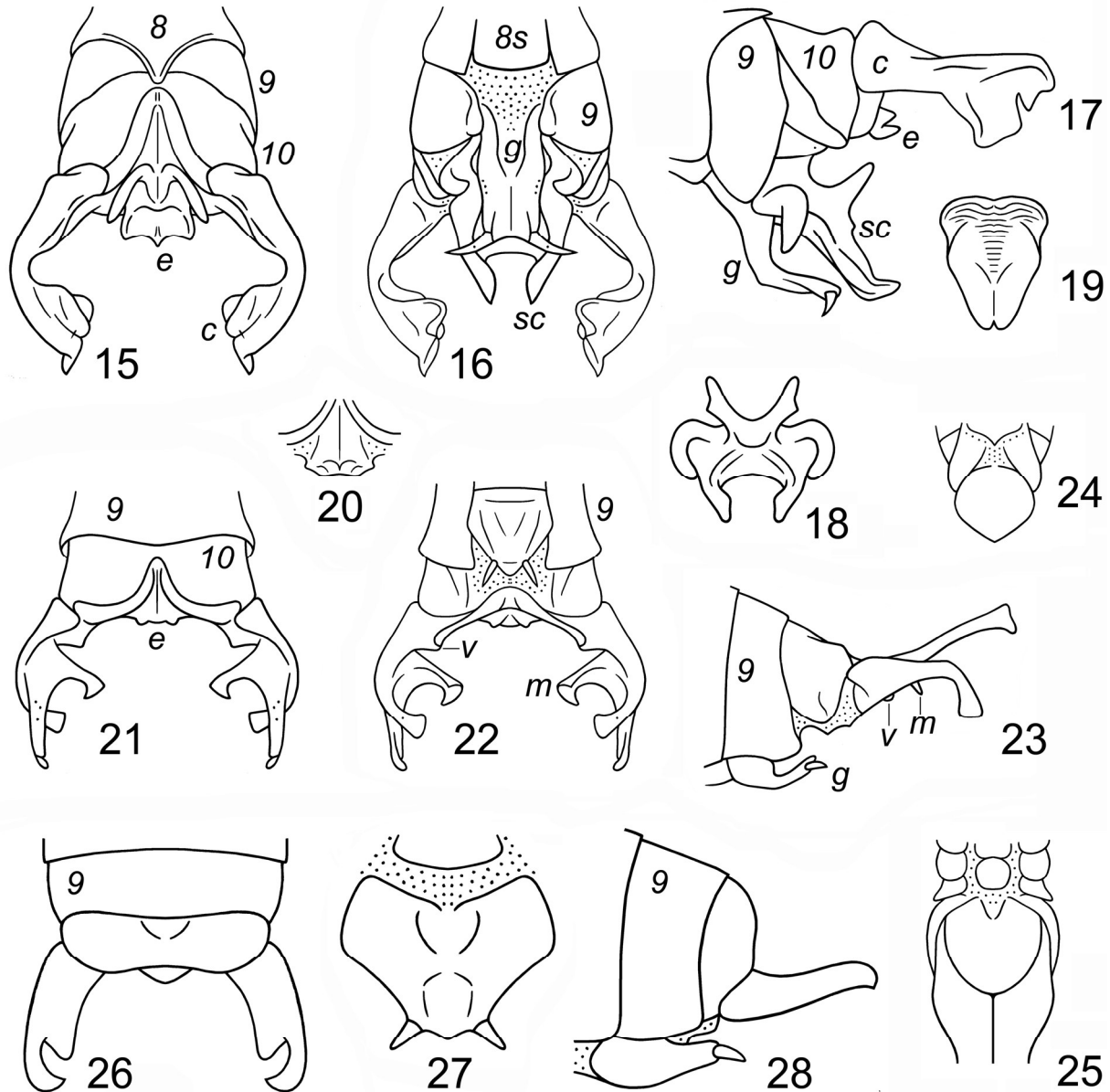
Female. Coloration and structure of body as in male, but dark spots on antennal flagellum slightly lighter (light brown to brown) and smaller as well as sparser, pronotum somewhat shorter (see measurements), and other body parts as in female of *P. (P.) daedala* sp.n. in structure except for genital plate and ovipositor: genital plate obtusely angular at apex, with posterior portion distinctly separated from anterior one by slight transverse groove and lacking any median groove, and with anterior portion longitudinally convex in lateral parts as well as semimembranous and clearly concave in median part (Fig. 24); ovipositor with apices of upper and lower valves simply acute (without very small apical hook on apex of lower valve; Figs 7, 8).

Length in mm. Body: ♂ — 11, ♀ — 9.5; body with wings: ♂ — 24, ♀ — 25; pronotum: ♂ — 3.5, ♀ — 3.2; tegmina:

♂ — 18.5, ♀ — 19; hind femora: ♂ — 10, ♀ — 10.5; ovipositor 7.8.

Comparison. The new subspecies was collected in more northern part of Sumatra than the nominotypical one and differs from the latter in the following small characters: the male pronotal disc is without any dark area on its posterior part (vs. with a large and distinct dark area in this part [Ingrisch, 2006: Fig. 10]); the male lateral pronotal lobes are with less deep

humeral notches (compare Figs 6 and 13); the male 9th abdominal tergite has less elongated posteroventral lobes (see Fig. 23 here and Figs 3, 4 in the above paper); the male last tergite is with less distinct dorsal tubercle before the cercus and almost without any notch behind this tubercle (see Fig. 23 and Fig. 3 in Ingrisch's paper); the projecting part of the male epiproct is probably shorter and/or with a smaller lateral tubercle (in *P. bicornis bicornis*, the right tubercle is spinule-like, but left one



Figs 15–28. Details of *Pseudoteratura* Gorochov and *Alloteratura* Hebard species morphology: *P. (Pseudoteratura) daedala* Gorochov, sp.n. (15–19), *P. (P.) bicornis aspinea* Gorochov, subsp.n. (20–24), *P. (Subtilotura) subtilissima* Gorochov (25) and *A. (Prototeratura) primitiva* Gorochov, sp.n. (26–28). 15–17, 21–23, 26, 28 — abdominal apex; 18 — sclerite of genitalia; 19, 24, 27 — genital plate; 20 — epiproct; 25 — genital plate with nearest abdominal segments and ovipositor base; 15, 20, 21, 26 — from above; 16, 19, 22, 24, 25 — from below; 17, 23, 28 — from side; 18 — from behind; 15–18, 20–23, 26–28, — male; 19, 24, 25 — female. Abbreviations: 8–10 — abdominal tergites 8–10, 8s — abdominal sternite 8, c — cercus, g — genital plate, e — epiproct, m — medial cercal lobe, sc — sclerite of genitalia, v — ventroproximal cercal tubercle.

Рис. 15–28. Детали строения видов родов *Pseudoteratura* Gorochov и *Alloteratura* Hebard: *P. (Pseudoteratura) daedala* Gorochov, sp.n. (15–19), *P. (P.) bicornis aspinea* Gorochov, subsp.n. (20–24), *P. (Subtilotura) subtilissima* Gorochov (25) и *A. (Prototeratura) primitiva* Gorochov, sp.n. (26–28). 15–17, 21–23, 26, 28 — вершина брюшка; 18 — склерит гениталий; 19, 24, 27 — генитальная пластинка; 20 — эпипрокт; 25 — генитальная пластинка с ближайшими сегментами брюшка и основанием яйцеклада; 15, 20, 21, 26 — сверху; 16, 19, 22, 24, 25 — снизу; 17, 23, 28 - сбоку; 18 — сзади; 15–18, 20–23, 26–28, — самец; 19, 24, 25 — самка. Обозначения: 8–10 — тергиты брюшка 8–10; 8s — стернит брюшка 8; c — церк; g — генитальная пластинка; e — эпипрокт; m — медиальная лопасть церка; sc — склерит гениталий; v — вентропроксимальный бугорок церка.

is located more far from the last tergite; see Fig. 20 and Fig. 2 in Ingrisch); the ventroproximal tubercle of the male cercus is clearly lower (shorter), or this tubercle in the nominotypical subspecies is absent (in this case, as Ingrisch's Fig. 4 shows, this tubercle may be the medial cercal lobe located more proximally than in the new subspecies; Fig. 23); the apical part of the male genital plate behind the style base is longer and angular (*vs.* it is distinctly shorter and widely rounded; Fig. 22 and Ingrisch's Fig. 5). However, the first and latter characters may be not very dependable; for example, the males of *P. (P.) sundaica* from the same locality have a rather large dark posterior area on the pronotal disc or lack it [Gorochov, 2019], and in these males, the distal part of the genital plate behind its styles is somewhat variable in width and length.

Etymology. This subspecies name originates from the species name «spinea» and the Latinized Greek prefix «a-» (not, without, against) due to the absence of spinule-like tubercles or acute spines on the epiproct and cerci in the male.

Pseudoteratura (Subtilotura) subtilissima
Gorochov, 2008

Figs 14, 25.

Material. Malaysia, *Borneo Island*: 1♀, Sabah State, environs of Pensiangan Town in southern part of this state, 4°34.948' N, 116°19.935' E, h~516 m a.s.l., 27.V-2.VI.2014, E. Shcherbakov leg. (ZIN).

Description. *Female.* General appearance similar to males of these species, but coloration more similar to that of male from environs of Sepilok Town [Gorochov, 2008, 2016]: body almost whitish (very light greenish in living condition) with light brown apex of upper rostral tubercle and a few small rings on proximal segments of antennal flagellum, with intensively yellow (having orange tinge) median longitudinal band running from light brown part of upper rostral tubercle to posterior edge of pronotal disc (this band with lighter thin longitudinal median line on posterior half of hind pronotal lobe), and with yellow to light yellowish medial edges of antennal cavities as well as most part of three proximal antennal segments and one stripe on each tegmen along its anal edge; body (including head and pronotum) very narrow in dorsal view and almost identical to that of male of this species in structure [Gorochov, 2008], but tegmina lacking stridulatory apparatus, and structure of abdominal apex similar to that of other females of this genus except for shape of genital plate and of ovipositor apex: genital plate slightly elongate, with rounded apex and without any fold or narrowed part separating base of this plate from its more distal portion (however, anterolateral corners of this plate covered with lower portions of 9th abdominal tergite; Fig. 25); ovipositor very similar to that of *P. (P.) bicornis aspinea* subsp.n. (see Figs 8 and 14).

Length in mm. Body 9; body with wings 20.5; pronotum 3.2; tegmina 15.5; hind femora 9.2; ovipositor 7.3.

Remarks. This species is here indicated for another place situated not far from its type locality (Trus Madi Mount) but rather far from Sepilok Town (Sandakan Division of Sabah State) [Gorochov, 2016].

Alloteratura Hebard, 1922

Type species: *Alloteratura bakeri* Hebard, 1922.

Notes. Up to now, this genus consists of two subgenera: nominotypical one with 35 species and *Alloteratura (Meconemopsis)* Karny, 1922 with 15 species (OSF). Also, five species are attributed to *Alloteratura sensu lato* in this catalogue without inclusion in any subgenus. However, some members of the subgenus *Alloteratura* are probably more related to *A. (Meconemopsis)* representatives than to some other species previously included in *A. (Alloteratura)* [Gorochov, 2016; OSF], because *A. (Meconemopsis)* and some members of *A. (Alloteratura)*

have the male genitalia with the dorsal sclerotized plates very similar (having a deep posteromedian notch and spinules along its edges; Figs 90–104), but *A. siamensis* Jin, 1995, *A. podgornajae* Gorochov, 1998, *A. hebari* Gorochov, 1998, *A. cervus* Gorochov, 1998, *Leptoteratura (Rhinoteratura) chela* Tan, Gorochov et Wahab, 2017 (really belonging to *Alloteratura sensu lato*) and some new congeners are with these genitalia almost completely membranous or different in structure (Fig. 46). Moreover, one of these new species lacks even traces of any subanal plate. This plate is a structure developed between the paraprocts and the genitalia in all other studied males: in many species, it is rather large and sclerotized (Figs 45, 46); but in many species of *Alloteratura (Meconemopsis)* and one new species of *Alloteratura (Alloteratura)*, it is probably reduced up to a small membranous fold (Fig. 48). Thus, the taxonomical structure of this genus is more complex, and this genus is here divided into four subgenera (see a subgeneric key of *Alloteratura sensu lato* below); but composition of each subgenus must be clarified after study of the male abdominal apex structures in some little known species.

KEY TO SUBGENERA OF THE GENUS ALLOTERATURA

1. Pronotum with each lateral lobe having sunuate posteroventral edge (i.e. this lobe is practically without distinct humeral notch; Fig. 30); hind femur with rounded apices of apical lobules; male subanal plate undeveloped, and male genitalia completely membranous.....
.....*Alloteratura (Prototeratura)* Gorochov, subgen.n.
- Pronotum with each lateral lobe having distinct and almost angular humeral notch on posteroventral edge (Figs 33, 37, 39); hind femur with diverse apices of apical lobules; male subanal plate developed, i.e. distinct and sclerotized (Figs 45, 46) or represented by small membranous fold (Fig. 48); male genitalia diverse: with plate-like sclerite (Figs 90–104) or a pair of sclerotized spines, but sometimes completely or almost completely membranous (Fig. 46)2
2. Hind femur with rounded apices of apical lobules; male subanal plate sclerotized and laterally fused with 9th abdominal tergite as well as having almost stick-like common distal part (Figs 45, 46); male genitalia membranous but with a pair of semisclerotized apical spinules (Fig. 46)
..... *Alloteratura (Deinoteratura)* Gorochov, subgen.n.
- Hind femur with diverse apices of apical lobules; male subanal plate large to moderately small as well as more or less sclerotized and almost articulated with 9th abdominal tergite but not fused with it, or this plate looking as small membranous fold (Fig. 48); male genitalia diverse3
3. Hind femur with each apical lobule having short acute spine directed backwards; male subanal plate small and often looking as membranous fold between paraprocts and genitalia; male genitalia with plate-like and more or less denticulate sclerite having deep posteromedian notch (Figs 93–104) *Alloteratura (Meconemopsis)* Karny
- Hind femur with each apical lobule having more or less rounded apex; male subanal plate distinct and sclerotized, but sometimes this plate looking as small membranous fold (Fig. 48); male genitalia diverse (including those as in *Alloteratura (Meconemopsis)*; Figs 90–92)
.....*Alloteratura (Alloteratura)* Hebard

Alloteratura (Protoratura) Gorochov, subgen.n.

Urn:lsid:zoobank.org:act:E4DC861B-175C-49BE-A203-C63AB184883D.

Type species: *Alloteratura (Protoratura) primitiva* Gorochov, sp.n.

Etymology. From Latinized Greek prefix «proto-» (original or primitive) and part of generic name *Alloteratura* due to possible primitive condition of pronotum and male copulatory structures.

Composition. *Alloteratura (Protoratura) primitiva* Gorochov, sp.n., *Leptoteratura (Rhinatoratura) chela* Tan, Gorochov et Wahab, 2017.

Alloteratura (Deinoratura) Gorochov, subgen.n.

Urn:lsid:zoobank.org:act:B8366DC2-7A83-496F-8F89-4A99AB7D50C9.

Type species: *Alloteratura (Deinoratura) admiranda* Gorochov, sp.n.

Etymology. From Latinized Greek prefix «deino-» (horribly, ugly) and part of generic name *Alloteratura* due to strongly (ugly) modified structure of male subanal plate.

Composition. *Alloteratura (Deinoratura) admiranda* Gorochov, sp.n., *A. podgornajae* Gorochov, 1998, *A. siamensis* Jin, 1995, *Amytta subanalisis* Karny, 1926.

Alloteratura (Meconemopsis) Karny, 1922

Type species: *Meconemopsis borelli* Karny, 1924.

Composition. *Meconemopsis borelli* Karny, 1924, *Alloteratura sandakanae* Hebard, 1922, *Amytta nigrigutta* Karny, 1924, *Alloteratura karnyi* Kästner, 1932, *A. bispina* Gorochov, 1993, *A. curta* Gorochov, 2008, *A. longa* Gorochov, 2008, *A. media* Gorochov, 2008, *A. (Meconemopsis) breviscula* Gorochov, 2016, *A. (M.) eubispina* Gorochov, 2016, *A. (M.) sarawaki* Gorochov, 2016, *A. (M.) dawwruengi* Tan et Artchawakom, 2017, *A. (M.) pentadactyla* Xin et Shi, 2019, *A. (M.) kalabakanica* Jin, 2020, *A. (M.) kevani* Jin, 2020, *A. (M.) sumatrae* Gorochov, sp.n., *A. (Alloteratura) belalongensis* Tan, Gorochov et Wahab, 2017.

Alloteratura (Alloteratura) Hebard, 1922

Type species: *Alloteratura bakeri* Hebard, 1922.

Composition. *Alloteratura bakeri* Hebard, 1922 (with unknown male genitalia); possibly majority of other congeners from OSF list except for *Amytta delicatula* Chopard, 1924, *Alloteratura nepalica* Kevan et Jin, 1993 and *A. thanjavuensis* Kevan et Jin, 1993 (these species not belonging to *Alloteratura* sensu lato, because their maxillary palpus with rather long apical segment).

Alloteratura (Protoratura) primitiva
Gorochov, sp.n.

Figs 26–31.

Urn:lsid:zoobank.org:act:C48D634B-BAE5-4C8D-8994-CCF4D2371BB9.

Material. Indonesia, *Sumatra Island*: Holotype, ♂: Aceh Prov. not far from North Sumatra Prov., environs of Ketambe Vill. on Alas River near Gunung Leuser National Park, 3°41–42' N, 97°38–39' E, h~300–500 m a.s.l., primary forest, at light, 29.I–8.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN).

Description. Male (holotype). General appearance more or less typical of this genus (Figs 29, 31), but coloration light yellowish (light greenish in living condition) with barely darker (almost yellow) dorsum of upper rostral tubercle and large anterior area on pronotal disc, yellow to light brown stripe along anal edge of each tegmen behind stridulatory apparatus, almost

whitish rest of head (except for yellowish antennae and greyish to light brown apical marks on some mouthparts) and anterior parts of pronotal lateral lobes as well as most part of venation in both pairs of wings, transparent membranes in tegminal stridulatory apparatus and tegminal costal areas as well as in hind wings, and several greyish brown distinct dots on each tegmen between RS and MA as well as between branches of RS. Upper rostral tubercle rather short and triangular but with narrowly rounded apex barely projecting before keels of antennal cavities, and with flattened dorsum having slight longitudinal median concavity; lower rostral tubercle almost indistinct (in shape of almost round and very low convexity between antennal cavities); ocelli indistinct; scape approximately 2.5 times as wide as space between antennal cavities; pronotum with slightly convex anterior edge of disc and more narrowly rounded posterior edge of disc (Fig. 29), and almost without distinct humeral notches (i.e. pronotal lateral lobes with slightly sinuated posteroventral edges; Fig. 30); tegmina long and narrow, strongly protruding beyond abdominal apex, with apical parts somewhat obliquely rounded, and with proximal part of RS located along and near distal part of MA as well as having comb from four oblique branches after MA apex; hind wings insignificantly protruding beyond tegminal apices; abdominal tergites simple and with almost straight posterior edges (Fig. 26); epiproct shortly triangular, directed almost downwards; paraprocts approximately as long as epiproct, roundly lobe-like; cerci moderately elongated, stick-like (almost straight) but with distinct lateroapical hook (acute at apex) as well as small and rounded medial subapical lobule (Figs 26, 28); genital plate short and wide, with distal half narrowing to obtusely angular apex (styles of this plate rather short, clearly shorter than distance between their bases; Figs 27, 28); subanal plate absent; genitalia completely membranous.

Female unknown.

Length in mm. Body 8.6; body with wings 19.7; pronotum 3.5; tegmina 16.3; hind femora 9.

Comparison. The new species differs from *A. (P.) chela* (Tan, Gorochov et Wahab, 2017), comb.n. (Borneo) in the male cercus with clearly wider medial lobule, distinctly longer and narrower lateral (apical) lobule and somewhat deeper notch between these lobules, as well as in the male genital plate more transverse and with distinctly wider proximal part but slightly narrower distal one. From all other congeners, it is distinguished by the characters given in the subgeneric key above.

Etymology. This species name is the Latin word «primitiva» (primitive) due to the likely primitive structure of the pronotum and male copulatory structures.

Alloteratura (Deinoratura) admiranda
Gorochov, sp.n.

Figs 32–35, 44–47.

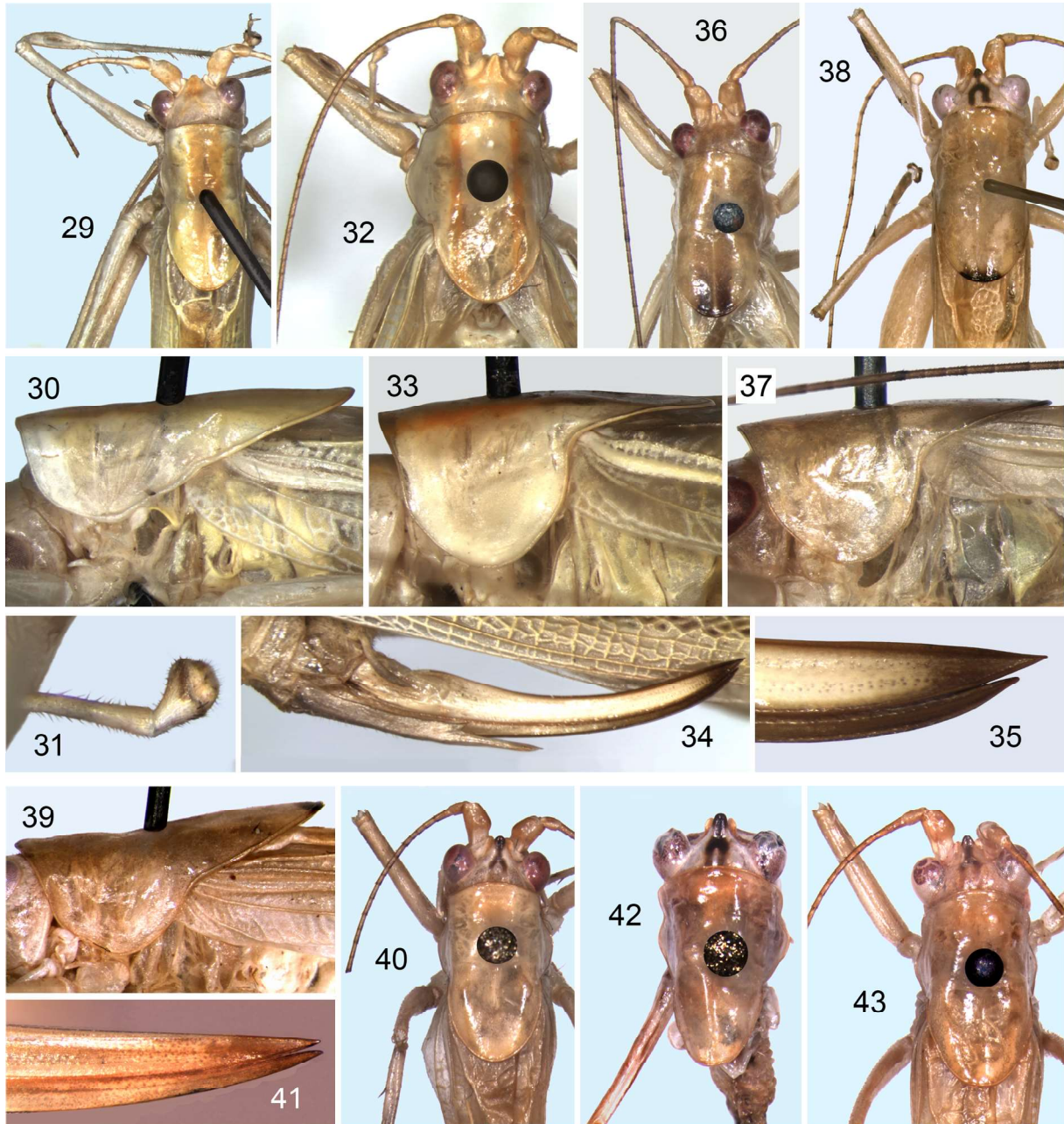
Urn:lsid:zoobank.org:act:7E3B034F-149D-49BC-9C21-87E4AAAB6A56.

Material. Indonesia, *Sumatra Island*: Holotype, ♂: North Sumatra Prov., ~80 km W of Medan City, environs of Bukit Lawang Vill. on Bohorok River near Gunung Leuser National Park, 3°32–33' N, 98°6–7' E, h~200–300 m a.s.l., secondary forest, at light, 6–14.IV.2018, A. Gorochov, N. Berezin, I. Kamskov, E. Tkatsheva leg. (ZIN). Paratypes: 2♀♀, same country and island, Aceh Prov. not far from North Sumatra Prov., environs of Kedah Lodge on Angkasan River near Gunung Leuser National Park (Mr. Jali's Bungalows, 3.97° N, 97.25° E), h~1000–1500 m a.s.l., primary forest, at light, 9–15.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN).

Description. Male (holotype). General appearance typical of this genus (Figs 32, 33) but with following coloration: body light yellowish (light greenish in living condition) with

a pair of yellow stripes on pronotal disc along its lateral edges, transparent membranes in costal areas of tegmina and in hind wings, whitish crossveins of these tegminal areas and venation of hind wings, greyish membranes in anal third of distal half of each tegmen, and light brown apical structures of mouthparts

(except for clypeus and labrum) and apex of subanal plate (hind legs missing). Upper and lower rostral tubercles similar to that of *A. (P.) primitiva* sp.n., but lower one in shape of narrow and very low vertical convexity between antennal cavities; ocelli also indistinct; scape approximately 3.5 times as wide as space



Figs 29–43. Details of *Alloteratura* Hebard species morphology: *A. (Protoratura) primitiva* Gorochov, sp.n. (29–31), *A. (Deinoratura) admiranda* Gorochov, sp.n. (32–35), *A. (Alloteratura?) unica* Gorochov, sp.n. (36, 37), *A. (Meconemopsis) sumatrae* Gorochov, sp.n. (38, 39), *A. (M.) sarawaki pallidula* Gorochov, subsp.n. (40, 41), *A. (M.) sarawaki sarawaki* Gorochov без крыльев (42), and *A. (M.) eubispina tuberculata* Jin (43). 29, 32, 36, 38, 40, 42, 43 — head with pronotum and some legs; 30, 33, 37, 39 — pronotum; 31 — two most distal segments of left maxillary palpus; 34 — ovipositor and genital plate; 35, 41 — distal part of ovipositor; 29, 32, 36, 38, 40, 42, 43 — from above; 30, 31, 33–35, 37, 39, 41 — from side; 29–33, 36–40, 42, 43 — male; 34, 35, 41 — female.

Рис. 29–43. Детали строения видов рода *Alloteratura* Hebard: *A. (Protoratura) primitiva* Gorochov, sp.n. (29–31), *A. (Deinoratura) admiranda* Gorochov, sp.n. (32–35), *A. (Alloteratura?) unica* Gorochov, sp.n. (36, 37), *A. (Meconemopsis) sumatrae* Gorochov, sp.n. (38, 39), *A. (M.) sarawaki pallidula* Gorochov, subsp.n. (40, 41), *A. (M.) sarawaki sarawaki* Gorochov без крыльев (42) и *A. (M.) eubispina tuberculata* Jin (43). 29, 32, 36, 38, 40, 42, 43 — голова с переднеспинкой и некоторыми ногами; 30, 33, 37, 39 — переднеспинка; 31 — два самых дистальных сегмента левого максиллярного щупика; 34 — яйцеклад и генитальная пластинка; 35, 41 — дистальная часть яйцеклада; 29, 32, 36, 38, 40, 42, 43 — сверху; 30, 31, 33–35, 37, 39, 41 — сбоку; 29–33, 36–40, 42, 43 — самец; 34, 35, 41 — самка.

between antennal cavities; pronotum slightly wider and shorter than in this species as well as with barely more convex anterior edge of disc (Fig. 32) and with humeral notches typical of this genus (i.e. these notches deep and almost rectangular; Fig. 33); wings also similar to those of *A. (P.) primitiva* sp.n.; abdominal tergites simple, but last one with rather small posteromedian notch; epiproct elongately triangular, with narrowly rounded apex and a pair of low dorsolateral keels; paraprocts clearly shorter, roundly plate-like; cerci rather long and moderately thin, arcuate, almost lamellar and slightly widened (high) in proximal half, and with rounded apices (Figs 44–46); genital plate slightly wider than long, distinctly narrowing to apical part having somewhat concave posterior edge between moderately long and thin styles, and with a pair of distinct ventral longitudinal keels near lateral edges of this plate (Figs 45, 46); subanal plate consisting of a pair of thin lateral ribbons proximally fused with posteroventral corners of 9th abdominal tergite and distally fused with each other (latter fusion forming rather thin unpaired process directed backwards but somewhat curved downwards and having small apical widening of characteristic shape; Figs 45, 46); genitalia membranous but with a pair of semisclerotized spinules at apex (Fig. 46).

Female. Coloration and structure of body as in male, but hind lobe of pronotum somewhat shorter, stridulatory tegminal apparatus absent, hind femur with apical lobules short and apically rounded (not spine-like), last tergite without distinct posteromedian notch, epiproct somewhat shorter (almost as paraprocts in length), cerci almost twice shorter than in male and very thin as well as slightly arcuate and almost fusiform in distal two thirds; genital plate very characteristic, short and wide, with membranous posteromedian part, transverse wrinkles and longitudinal median groove on venter of rest portion, and a pair of very long and strong posterolateral processes articulated with posterolateral parts of this plate (latter processes almost reaching middle of ovipositor, with few dorsal and ventromedial denticles and spine-like apical part; Figs 34, 47); ovipositor with distal parts of all external valvae having greyish to greyish brown marks and simply acute apices (Fig. 35).

Length in mm. Body: ♂ — 10.3, ♀ — 9–10; body with wings: ♂ — 22, ♀ — 20–21.5; pronotum: ♂ — 3.8, ♀ — 3.2–3.3; tegmina: ♂ — 17.7, ♀ — 17.5–17.8; hind femora, ♀ — 8.4–8.7; ovipositor 7.5.

Comparison. The new species differs from *A. (D.) podgornajae* Gorochov, 1998, comb.n. in the male last tergite with a narrower posteromedian notch, the male epiproct also narrower, the male basal cercal part with a distinctly smaller medial lobe, the male cercal apex narrower and without apical notch, the male subanal plate less strongly curved downwards (Figs 44–46) [Gorochov, 1998: Figs 184–186], and the female genital plate (Figs 34, 47) with characteristic articulated processes (*vs.* this plate is only strongly bifurcated) [Gorochov, 1993: Figs 286, 287]. From *A. (D.) subanalis* Karny, comb.n. [Karny, 1926: Malay Peninsula] and *A. (D.) siamensis* Jin, comb.n. [Jin, 1995: Thailand], the new species differs in the male cerci somewhat shorter and not sinuated in profile (from the first species), and in the male subanal plate more curved and with an acute (not almost truncated) apical part in profile. The differences from other congeners are given in the subgeneric key above.

Etymology. This species name is the Latin word «*admiranda*» (astonishing, surprising) due to the very unusual structure of the female genital plate.

Alloteratura (Alloteratura?) unica Gorochov, sp.n.

Figs 36, 37, 48–51, 90–92.

Urn:lsid:zoobank.org:act:2BBD45FA-F383-4BCC-A725-9458253B2DD5.

Material. Vietnam, *Gia Lai Province*: Holotype, ♂: 35 km N of K'Bang Town, Kon Chu Rang Nature Reserve, 14°28'27.44" N, 108°32'32.78" E, h~830 m a.s.l., 19–23.VI.2022, A. Abramov, L. Anisyutkin leg. (ZIN).

Description. **Male** (holotype). General appearance typical of this subgenus. Coloration yellowish (light greenish in living condition) with barely darker (yellow) scape, pedicel as well as dorsum of head and of pronotum (but pronotal dorsum with brown to light brown area on hind lobe having lighter median longitudinal line; Fig. 36), reddish brown eyes, greyish tinge on antennal flagellum (middle and distal portions of this flagellum somewhat darker, greyish to brownish grey), light brown to brownish grey membranes in anal third of middle part of each tegmen and in anal two thirds of distal part of each tegmen, and dark (brown to blackish) dorsal spines and all spurs of hind tibia. Structure of body similar to that of *A. (D.) admiranda* sp.n., but scape almost 4.5 times as wide as space between antennal cavities, area between anterior parts of these cavities without distinct median convexity, pronotum barely narrower and with more convex anterior edge of disc (Figs 36, 37), wings strongly protruding beyond apices of hind femora (see measurements), last tergite with posteromedian notch slightly shorter and more rounded (but more distinct than in *A. primitiva* sp.n.), epiproct somewhat wider and shorter as well as less concave dorsally, cerci slightly thicker and with wider (higher) flattened medial surfaces as well as with somewhat inflated apical parts (Figs 48–50), subanal plate in shape of poorly distinct small membranous fold (Fig. 48), genital plate more or less oval (not mostly narrowing to apex) as well as with much shorter styles and short rounded lobule between them (this lobule curved upwards and practically invisible from below; Figs 48, 50, 51), and genitalia without long apical spinules but with plate-like dorsal sclerite (this sclerite transversally curved and with small denticles and short apical spinules only; Figs 90–92).

Female unknown.

Length in mm. Body 9.5; body with wings 21; pronotum 3.8; tegmina 17; hind femora 9.3.

Comparison. The new species differs from all other species of this subgenus with known males in the characteristic shape of the male cerci, in the absence of a sclerotized male subanal plate as well as in the male genitalia with a plate-like dorsal sclerite having small denticles and short apical spinules only. From Vietnamese *A. (A.?) vietnami* Gorochov, 2016 and *A. (A.?) bachma* Gorochov, 2005 with only females known, the new species is distinguished by longer wings (in *A. unica* sp.n., *A. vietnami* and *A. bachma*, tegmina are approximately 1.8, 1.4 and 1.1 times as long as hind femora, respectively) and completely dark dorsal spines of the hind tibia (*vs.* these spines are light with dark distal portions).

Etymology. This species name is the Latin word «*unica*» (unique) due to the unique (for *A. (Alloteratura)*) structure of the male subanal plate.

Alloteratura (Meconemopsis) karnyi Kästner, 1932, comb.n.

Material. Indonesia, *Sumatra Island*: 1♂, 1♀, Aceh Prov. not far from North Sumatra Prov., environs of Ketambe Vill. on Alas River near Gunung Leuser National Park, 3°41'–42' N, 97°38'–39' E, h~300–500 m a.s.l., primary forest, at light, 17–24.IV.2018, A. Gorochov, M. Berezin, I. Kamskov, E. Tkatsheva leg. (ZIN); 1♂, same data, 29.I–8.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN).

Notes. This species, recorded from Sumatra (Kästner, 1932: «Liangagas») and Thailand [Sänger & Helfert, 2000], as well as the very similar and most probably related *A. (M.) belalongensis* Tan, Gorochov et Wahab, 2017, comb.n. from Brunei were tentatively included in the subgenus *Alloteratura* [Gorochov, 2016; Tan et al., 2017], because the structure of their hind femora was insufficiently studied. The new material allows me to transfer *A. karnyi* and *A. belalongensis* to the subgenus *Meconemopsis* and to indicate *A. karnyi* for a new locality.

Alloteratura (Meconemopsis) sumatrae
Gorochov, sp.n.

Figs 38, 39, 52–55, 93–95.

Urn:lsid:zoobank.org:act:441A52A6-7803-4785-8264-5E76F-009BEE5.

Material. Indonesia, *Sumatra Island*: Holotype, ♂: Aceh Prov. not far from North Sumatra Prov., environs of Kedah Lodge on Angkasan River near Gunung Leuser National Park (Mr. Jali's Bungalows, 3.97° N, 97.25° E), h~1000–1500 m a.s.l., primary forest, at light, 9–15.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN).

Description. *Male* (holotype). General appearance similar to that of *A. (D.) admiranda* sp.n. and *A. (A.?) unica* sp.n., but coloration light yellowish with almost whitish most part of epicranium and of mouthparts, lateral fields of tegmina, all sternites and coxae as well as lateral parts of abdominal tergites, and with greyish eyes and marks on apices of some mouthparts, brown apex of upper rostral tubercle and U-shaped spot on epicranial dorsum between eyes (these brown marks connected with each other by narrow and short median brownish stripe; Fig. 38), brownish grey small marks on apical segments of palpi near their apices and areas on ventral surfaces of several proximal antennal segments (including scapes and pedicels) as well as sparse and small rings on rest portions of antennae (light parts of these portions with greyish tinge or almost completely greyish), dark brown dorsal spot on apical part of hind pronotal lobe (Figs 38, 39), light greyish distal halves of hind wings, light brown longitudinal stripe on outer side of fore femur and of fore tibia, greyish brown spines and spurs of all tibiae and spines on apical lobules of hind femur, and barely darkened distal third of each cercus and distal part of genital plate (including styles). Structure of body also similar to that of these congeners, but scape almost 3 times as wide as area between antennal cavities, space between anterior parts of these cavities as in *A. (A.?) unica* sp.n., pronotum with somewhat lower lateral lobes and more obtuse humeral notches (compare Figs 37 and 39), wings insignificantly protruding beyond apices of hind femora (apices of tegmina practically reaching apices of hind wings), hind femur with rather short but distinct spine on each apical lobule, last tergite with small and rounded posteromedian notch, epiproct almost as in latter species (Fig. 52), cercus approximately as in *A. (M.) karnyi* but less inflated as well as medially less concave and narrower (lower) in proximal two thirds (distal cercal third flattened as in this species but narrower and more strongly curved upwards; Figs 52, 54, 55), genital plate and genitalia more or less similar to those of *A. (A.?) unica* sp.n. but with following differences: genital plate with slightly longer styles and with apical lobe less curved upwards (Figs 53, 55), and genitalia with plate-like sclerite having a few long spinules (Figs 93–95).

Female unknown.

Length in mm. Body 9; body with wings 14.5; pronotum 4.1; tegmina 11.5; hind femora 9.5.

Comparison. The new species is most similar and probably related to *A. (M.) karnyi* and *A. (M.) belalongensis*, but distinguished from them by the presence of a dark dorsal spot

on the apical pronotal part as well as distinctly narrower male cerci and somewhat shorter wings. From all other members of *A. (Meconemopsis)*, it differs in the same characters as well as the absence of any additional lobes or projections on the male cerci and details of the male genitalia sclerite. Also the new species differs from Bornean *A. (M.) sandakanae* and *A. (M.) kevani*, known only from females, in a different pronotal coloration and shorter wings.

Etymology. This species is named after Sumatra, the island where it was collected.

Alloteratura (Meconemopsis) sarawaki pallidula
Gorochov, subsp.n.

Figs 40, 41, 56–60, 96–98.

Urn:lsid:zoobank.org:act:10992535-C7CC-41D0-BEEF-22608EE3C5EC.

Material. Indonesia, *Sumatra Island*: Holotype, ♂: North Sumatra Prov., ~80 km W of Medan City, environs of Bukit Lawang Vill. on Bohorok River near Gunung Leuser National Park, 3°32–33' N, 98°6–7' E, h~300–400 m a.s.l., secondary forest, at light, 16–22.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN). Paratypes: 1♂, same data, H~200–300 m a.s.l., 6–14.IV.2018, A. Gorochov, N. Berezin, I. Kamskov, E. Tkatsheva leg. (ZIN); 1♀, same country and island, Aceh Prov. not far from North Sumatra Prov., environs of Ketambe Vill. on Alas River near Gunung Leuser National Park, 3°41–42' N, 97°38–39' E, h~300–500 m a.s.l., primary forest, at light, 18–24.IV.2018, A. Gorochov, M. Berezin, I. Kamskov, E. Tkatsheva leg. (ZIN).

Description. *Male* (holotype). Coloration and structure of body similar to those of *A. (M.) sumatrae* sp.n. but with some differences: most part of body yellowish with almost whitish clypeus, labrum, most part of palpi, ventral parts of pronotal lateral lobes, proximal portion of tegminal Sc, all coxae, majority of pleurites and sternites, areas on three last tergites, and genital plate; epicranial dorsum with dark mark on upper rostral tubercle and between eyes similar to that of this species but slightly lighter (almost light brown) and with shorter posterior (widened) portion (this portion also shorter than in *A. sarawaki sarawaki* and with wider light median stripe than in latter subspecies; compare Figs 40 and 42); scape and pronotal disc without any darkened marks, but pedicel with small brown spot ventrally (in *A. sarawaki sarawaki*, scape and pedicel with large dark ventral areas); antennal flagellum without spots; legs light but with spines and spurs brown to light brown as well as with tarsi almost as in *A. (M.) sumatrae* sp.n. (i.e. partly brownish grey); external structure of body (except for abdominal apex) distinguished from that of *A. (M.) sumatrae* sp.n. only by long tegmina strongly protruding beyond apices of hind femora, and by hind wings slightly projecting behind tegminal apices; last tergite with barely deeper posteromedian notch and with more lateral parts having distinct obliquely transverse fold along each of their posterior edges (Fig. 56); cercus shorter, slightly curved, not widened near middle, medially not flattened and not concave, as well as with almost spinule-like medial lobule (this lobule approximately twice shorter than more distal cercal part; Figs 56, 58, 59); genital plate and sclerite of genitalia as in Figs 57, 59, 96–98.

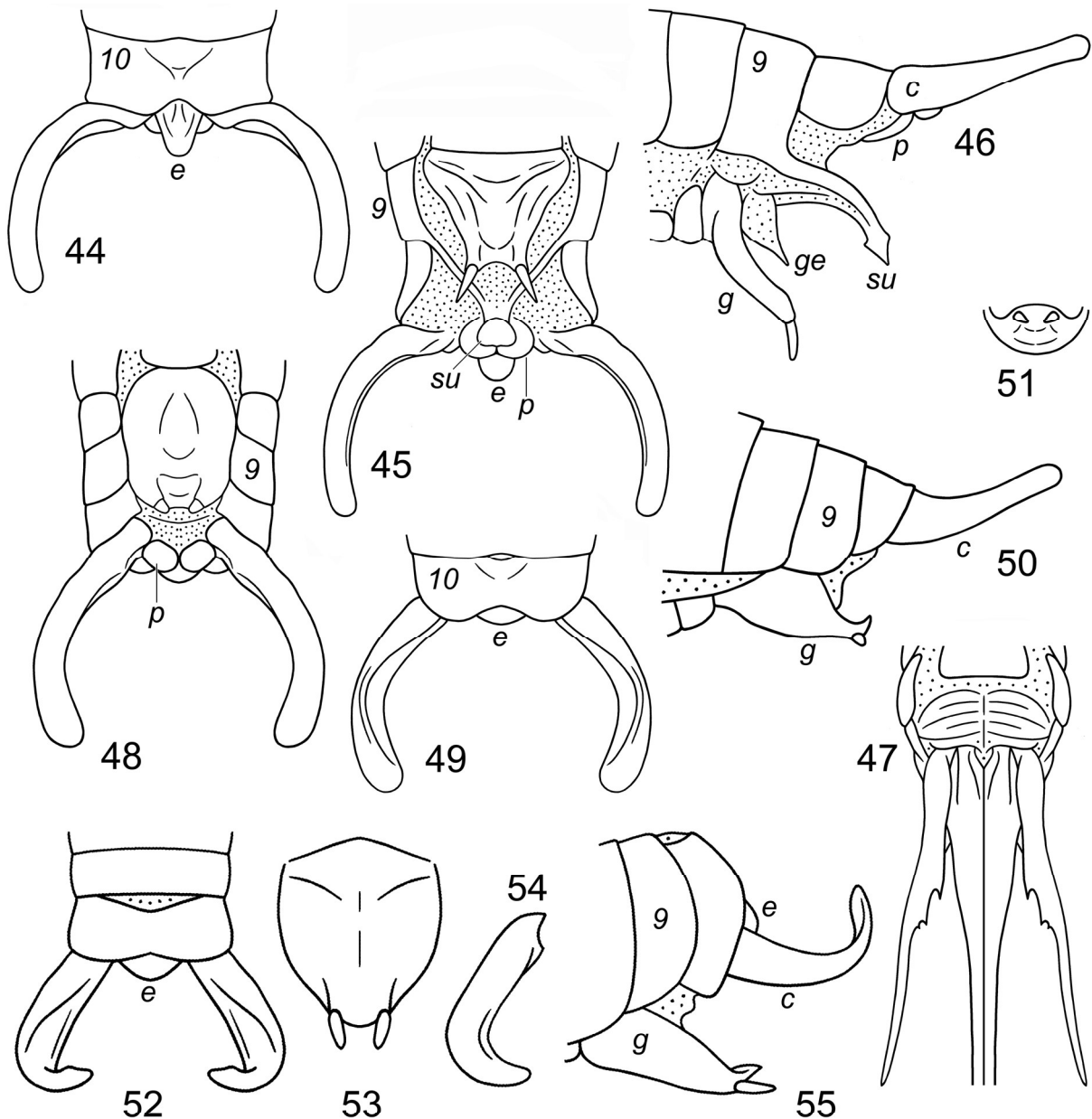
Variations. Second male with slightly less deep posteromedian notch of male last tergite and insignificantly narrower apex of genital plate between styles.

Female. General appearance as in male, but darkened mark on epicranial dorsum slightly darker (brown) and somewhat longer, darkened ventral area on pedicel somewhat larger, pronotum insignificantly shorter, tegmina without stridulatory apparatus, and abdominal apex almost indistinguishable from that of female of nominotypical subspecies but with less deep posteromedian notch of genital plate (Figs 41, 60).

Length in mm. Body: ♂ — 8.5–9.5, ♀ — 8; body with wings: ♂ — 20–21, ♀ — 22; pronotum: ♂ — 3.8–3.9, ♀ — 3.6; tegmina: ♂ — 16.5–17.2, ♀ — 17.8; hind femora: ♂ — 10–10.5, ♀ — 10.8; ovipositor 8.5.

Comparison. The new subspecies is distinguished from the nominotypical one by the posterior portion of a brown mark on the epicranial dorsum with a wider light median

longitudinal stripe (compare Figs 40 and 42), completely light (yellowish) antennal scapes and a shallower postero-medial notch of the female genital plate (compare Figs 60 and 63). From all other species of *A. (Meconemopsis)* with known males, the new subspecies differs in the presence of an almost spinule-like medial lobule of the male cercus (see Figs 56, 58 and 69, 70, 73, 74, 77, 78, 82, 83, 85, 86), but from



Figs 44–55. Details of *Alloteratura* Hebard species morphology: *A. (Deinoratura) admiranda* Gorochov, sp.n. (44–47), *A. (Alloteratura?) unica* Gorochov, sp.n. (48–51), *A. (Meconemopsis) sumatrae* Gorochov, sp.n. (52–55). 44–46, 48–50, 52, 55 — abdominal apex; 47 — abdominal apex without part of ovipositor; 53 — genital plate; 51 — distal part of genital plate; 54 — cercus; 44, 49, 52 — from above; 45, 47, 48, 53 — from below; 46, 50, 55 — from side; 51 — from behind; 54 — from below and slightly behind; 44–46, 48–55 — male; 47 — female. Abbreviations: *p* — paraproct, *su* — subanal plate, *ge* — genitalia, others as in Figs 15–28.

Рис. 44–55. Детали строения видов рода *Alloteratura* Hebard: *A. (Deinoratura) admiranda* Gorochov, sp.n. (44–47), *A. (Alloteratura?) unica* Gorochov, sp.n. (48–51), *A. (Meconemopsis) sumatrae* Gorochov, sp.n. (52–55). 44–46, 48–50, 52, 55 — вершина брюшка; 47 — вершина брюшка без части яйцеклада; 53 — генитальная пластинка; 51 — дистальная часть генитальной пластинки; 54 — церк; 44, 49, 52 — сверху; 45, 47, 48, 53 — снизу; 46, 50, 55 — сбоку; 51 — сзади; 54 — снизу и слегка сзади; 44–46, 48–55 — самец; 47 — самка. Обозначения: *p* — парапрокт; *su* — субанальная пластинка; *ge* — гениталии; другие — как на рис. 15–28.

A. (M.) borellii, it differs in a shorter distal (located behind this medial lobule) part of this cercus (see Figs 56 and 64). From *A. sandakanae* and *A. kevani* (each is known from Bornean females only), the new subspecies differs in a completely light pronotal disc and/or some small details of the female genital plate shape (see Figs 60 and 89, and this plate in *A. kevani* lacks any posteromedian notch). However, it is necessary to remember that the latter plate has a more or less similar shape in many species of this subgenus and may be rather variable (Figs 60, 63, 72, 76, 80, 81, 88, 89).

Etymology. This subspecies name is the Latin word «pallidula» (light, pale) due to the lighter coloration of the two proximal antennal segments.

Alloteratura (Meconemopsis) sarawaki sarawaki
Gorochov, 2016

Figs 42, 61, 62, 63, 99–101.

Material. Malaysia, Borneo Island: 1♂, Sarawak State, environs of Kuching City, Kubah National Park on Matang Mt, h~200–500 m a.s.l., primary forest, on leaf of bush at night, 27.XI–I.XII.2016, A. Gorochov, M. Berezin, E. Tkatsheva, I. Kamskov leg. (ZIN).

Description. *Male (nov.)*. General appearance very similar to that of female holotype of this species described from same locality, but coloration somewhat lighter (possibly in connection with young age of male imago collected briefly after moulting and rather poorly preserved: coloration probably insufficiently developed, and some parts of abdominal apex deformed); head almost whitish, with barely darkened eyes and some apices of mouthparts, with brown mark on epicranial dorsum similar to that of *A. (M.) sarawaki pallidula* subsp.n., but having narrower light median stripe in posterior half (compare Figs 40 and 42), and with yellowish antennae having 3–4 proximal segments without distinct darkened areas as well as greyish brown to light brown spots on other antennal segments (but distal portions of antennae missing); other body parts uniformly yellowish with almost whitish ventral halves of pronotal lateral lobes, most part of pleurites, some sternites and all coxae. Structure of body very similar to that of *A. (M.) sarawaki pallidula* subsp. n., but cercus with thin distal part (located after medial lobule) almost 2.5 times as long as medial lobule (Figs 61, 62), and sclerite of male genitalia with narrower median notch and with two pairs of proximal denticles somewhat moved to upper edge of this sclerite (Figs 99–101) (last tergite, genital plate and other structures of abdominal apex strongly deformed or partly missing).

Length in mm. Body 7; body with wings 19; pronotum 3.5; tegmina 15.5; hind femora 9.7.

Comparison. This subspecies differs from *A. (M.) sarawaki pallidula* subsp.n. in the male cercus with the thin distal part distinctly longer (in *A. s. sarawaki*, this part almost 2.5 times as long as medial cercal lobule, but in *A. s. pallidula* subsp. n., this ratio approximately equal to 2), and possibly in some features of the body coloration listed in the precedent comparison (see above). From all other congeners, this male differs in the same characters as that of *A. (M.) sarawaki pallidula* subsp.n., but from *A. (M.) borellii* (Java) with the male cerci more or less similar, it is distinguished by the presence of a distinct but not deep lateral notch at the base of the thin distal cercal part (compare Figs 61, 62 and 64).

Alloteratura (Meconemopsis) eubispina tuberculata
Jin, 2020, **stat.n.**

Figs 43, 65–68, 102–104.

Material. Malaysia, Borneo Island: 1♂, Sabah State, environs of Pensiangan Town in southern part of this state, 4°34.948'N, 116°19.935'E, h~516 m a.s.l., 27.V–2.VI.2014, E. Shcherbakov leg. (ZIN).

Redescription. *Male.* General appearance similar to that of *A. (M.) sarawaki* but with following characteristic features: body yellowish with brown apex of upper rostral tubercle and dorsal surface of this tubercle, a pair of poorly distinct and rather short light brown longitudinal stripes on epicranial dorsum (these stripes contacting with previous brown mark between eyes, and yellowish stripe between latter stripes almost as in *A. sarawaki pallidula* subsp.n.), rose tinge on genae near lower edges of eyes, light brown to almost yellowish scape and pedicel (Fig. 43) as well as slight small spots on proximal part of antennal flagellum, slightly darkened (almost greyish) distal halves of tarsi (but hind legs missing), and almost whitish pronotal lateral lobes and tegminal costal areas as well as coxae and most part of abdomen (but medial cercal lobule and keel running from apex of this lobule to middle of medial cercal surface yellowish to almost light brown); external structure of body distinguished from that of this species only by less distinct folds along lateral portions of last tergite posterior edge (Fig. 65) and some details of cerci (each cercus somewhat twisted, with medial lobule almost angular and directed upwards, and with distinct keel running from apex of this lobule to middle of cercal medial surface; Figs 65, 67, 68) and of genital plate (compare Figs 57 and 66). Subanal plate in shape of small transverse fold hidden under paraproct; genitalia with plate-like sclerite having rather numerous and moderately long spinules in posterior part (Figs 102–104).

Female distinguished from that of *A. (M.) eubispina eubispina* Gorochov, 2016, **stat.n.** from Laos by a few small differences only (male of this, nominotypical, subspecies unknown): ventrolateral lobules of eighth abdominal tergite shorter (their apices distinctly not reaching middle of genital plate, but in *A. eubispina eubispina*, they almost reaching this middle) and with less acute apices; genital plate somewhat smaller and with shorter truncated part of posterior edge (in nominotypical subspecies, this part also slightly more concave but not almost straight as in *A. eubispina tuberculata*; compare Fig. 65 in paper by Gorochov [2016] with Fig. 2f in paper by Jin et al. [2020]).

Length in mm. male. Body 8.5; body with wings 17.5; pronotum 3.4; tegmina 14.6.

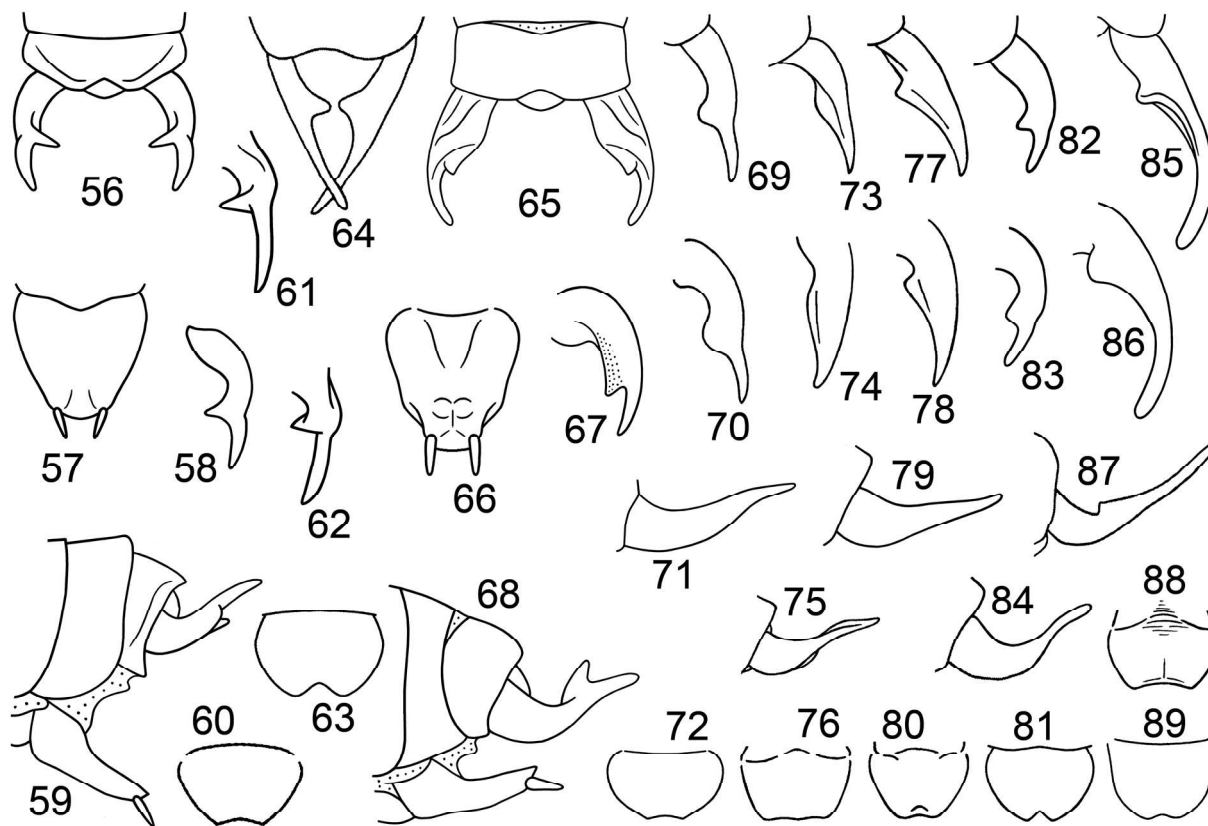
Remarks. This subspecies was described as a separate species from Sabah [Jin et al., 2020: *A. (M.) tuberculata*]. But here it is considered as a Bornean subspecies of *A. (M.) eubispina*, the species firstly established for a single female from Laos [Gorochov, 2016]. However, this decision is somewhat tentative, because it must be supported by data on male from Laos.

Rhinoteratura Gorochov, 1993

Type species: *Leptoteratura (Rhinoteratura) sharovi* Gorochov, 1993.

Leptoteratura sensu Yamasaki, 1982, 1987 and many other authors (not *Leptoteratura* Yamasaki, 1982 = *Meloimorpha* Walker, 1870, Gryllidae).

Notes. Recently, the type species of the genus *Leptoteratura* Yamasaki, 1982 (*Meconema? albicorne* Motschoulsky, 1866) was synonymized with *Meloimorpha japonica japonica* (Haan, 1844) from the family Gryllidae [Gorochov, 2022]; this action was a result of comparison of the original description of *M.? albicorne* with its type specimen from the Zoological Museum of the Moscow University [see the photographs of this type in OSF]. In this connection, the generic name *Leptoteratura* was also synonymized with *Meloimorpha* Walker, 1870 (Gryllidae), and *Rhinoteratura* (the former subgenus of «*Leptoteratura* sensu lato») was erected up to generic rank



Figs 56–89. Details of *Alloteratura* (*Meconemopsis*) Karny species morphology: *A. (M.) sarawaki pallidula* Gorochov, subsp.n. (56–60), *A. (M.) s. sarawaki* Gorochov (61–63), *A. (M.) borellii* (Karny) (64), *A. (M.) eubispina tuberculata* Jin (65–68), *A. (M.) nigrigutta* (Karny) (69–72), *A. (M.) longa* Gorochov (73–76), *A. (M.) media* Gorochov (77–81), *A. (M.) breviscula* Gorochov (82–84), *A. (M.) curta* Gorochov (85–88), *A. (M.?) sandakanae* Hebard (89). 56, 59, 64, 65, 68 — abdominal apex; 57, 60, 63, 66, 72, 76, 80, 81, 88, 89 — genital plate; 58, 61, 62, 67, 69–71, 73–75, 77–79, 82–87 — cercus; 56, 61, 64, 65, 69, 73, 77, 82, 85 — from above; 57, 58, 60, 62, 63, 66, 67, 70, 72, 74, 76, 78, 80, 81, 83, 86, 88, 89 — from below; 59, 68, 71, 75, 79, 84, 87 — from side; 56–59, 61, 62, 64–71, 73–75, 77–79, 82–87 — male; 60, 63, 72, 76, 80, 81, 88, 89 — female. Fig. 64 after Karny, 1924; Figs 63, 73, 75–77, 79, 80, 88 after Gorochov, 2008, 2016; Fig. 89 after Hebard, 1922.

Рис. 56–89. Детали строения видов подрода *Alloteratura* (*Meconemopsis*) Karny: *A. (M.) sarawaki pallidula* Gorochov, subsp.n. (56–60), *A. (M.) s. sarawaki* Gorochov (61–63), *A. (M.) borellii* (Karny) (64), *A. (M.) eubispina tuberculata* Jin (65–68), *A. (M.) nigrigutta* (Karny) (69–72), *A. (M.) longa* Gorochov (73–76), *A. (M.) media* Gorochov (77–81), *A. (M.) breviscula* Gorochov (82–84), *A. (M.) curta* Gorochov (85–88), *A. (M.?) sandakanae* Hebard (89). 56, 59, 64, 65, 68 — вершина брюшка; 57, 60, 63, 66, 72, 76, 80, 81, 88, 89 — генитальная пластинка; 58, 61, 62, 67, 69–71, 73–75, 77–79, 82–87 — cercus; 56, 61, 64, 65, 69, 73, 77, 82, 85 — сверху; 57, 58, 60, 62, 63, 66, 67, 70, 72, 74, 76, 78, 80, 81, 83, 86, 88, 89 — снизу; 59, 68, 71, 75, 79, 84, 87 — сбоку; 56–59, 61, 62, 64–71, 73–75, 77–79, 82–87 — самец; 60, 63, 72, 76, 80, 81, 88, 89 — самка. Рис. 64 по Karny, 1924; рис. 63, 73, 75–77, 79, 80, 88 по Gorochov, 2008, 2016; рис. 89 по Hebard, 1922.

for all the species previously placed in «*Leptoteratura sensu lato*» However, this synonymy is surprisingly transformed in OSF: the both former subgenera («*Leptoteratura*» and «*Rhinoteratura*») are erroneously considered as different genera of Meconematinae. In reality all their species must be included in the same genus *Rhinoteratura*, and possibly it is useful to propose a new subgeneric name for the former nominotypical subgenus («*Leptoteratura sensu stricto*»). But now I think that this subgenus may be described only after restudy of the Japanese congeners related to the species mistakenly determined by Yamasaki [1982, 1987] as *M. albicorne*. The male genitalia of these species have not been studied, which prevents the understanding of their subgeneric position.

Rhinoteratura omeiensis (Tinkham, 1956)

Xiphidiopsis omeiensis Tinkham, 1956;

Leptoteratura albicorne (Motschulsky, 1866) sensu Yamasaki, 1982 (not *Meconema? albicorne* Motschulsky, 1866 = *Meloimorpha japonica japonica* (Haan, 1844), Gryllidae);

Leptoteratura albicornis (Motschulsky, 1866) sensu Yamasaki, 1987 (correction of species name).

Notes. This species, described from Sichuan (China), was synonymized with *L. albicornis* sensu Yamasaki [Jin, Yamasaki, 1995]. But after clarification that *L. albicornis* is a junior synonym of *M. japonica*, *Rh. omeiensis* was restored as a valid species name for a species which was described from Sichuan and in accordance to the latter authors is widely distributed in Japan and China [Gorochov, 2022].

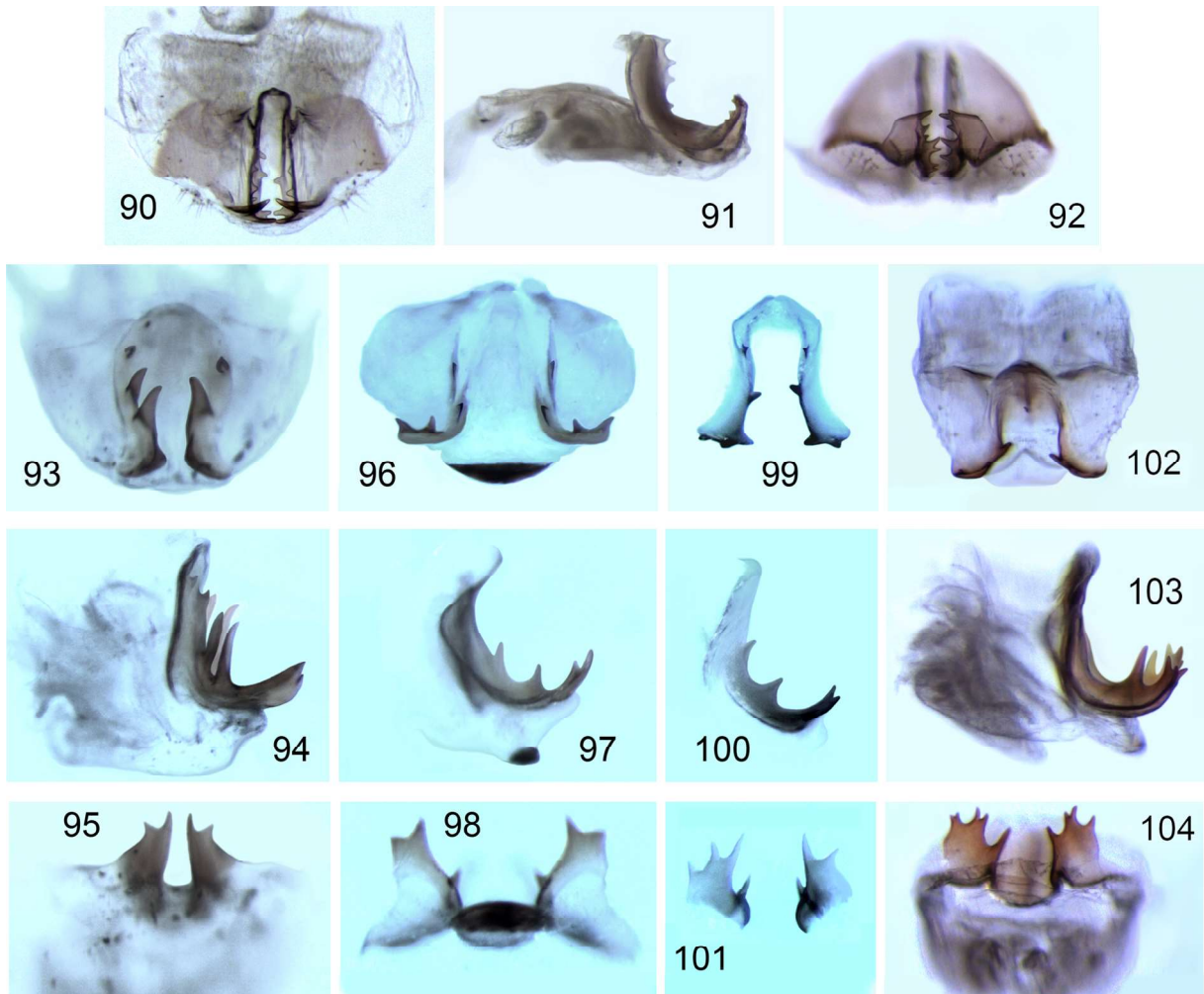
Rhinoteratura kedah Gorochov, sp.n.

Figs 105–108, 123–126, 135, 136.

Urn:lsid:zoobank.org:act:415AA674-3B34-42A6-A14D-8B3D14D57402.

Material. Indonesia, *Sumatra Island*: Holotype, ♂: Aceh Prov. not far from North Sumatra Prov. environs of Kedah Lodge om Angkasan River near Gunung Leuser National Park (Mr. Jali's Bungalows, 3.97° N, 97.25° E), h~1000–1500 m a.s.l., primary forest, at light, 9–15.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN). Paratypes: 1♂, 4♀♀, same data as for holotype (ZIN).

Description. Male (holotype). General appearance typical of this genus. Coloration light greenish with slight pattern: lateral parts of scape and pedicel, a pair of stripes on head



Figs 90–104. Details of *Alloteratura* Hebard species morphology: *A. (Alloteratura?) unica* Gorochov, sp.n. (90–92), *A. (Meconemopsis) sumatrae* Gorochov, sp.n. (93–95), *A. (M.) sarawaki pallidula* Gorochov, subsp.n. (96–98), *A. (M.) sarawaki sarawaki* Gorochov (99–101) and *A. (M.) eubispina tuberculata* Jin (102–104). 90–98, 102–104 — male genitalia; 99–101 — sclerite of male genitalia; 90, 93, 96, 99, 102 — from above; 91, 94, 97, 100, 103 — from side; 92, 95, 98, 101, 104 — from behind.

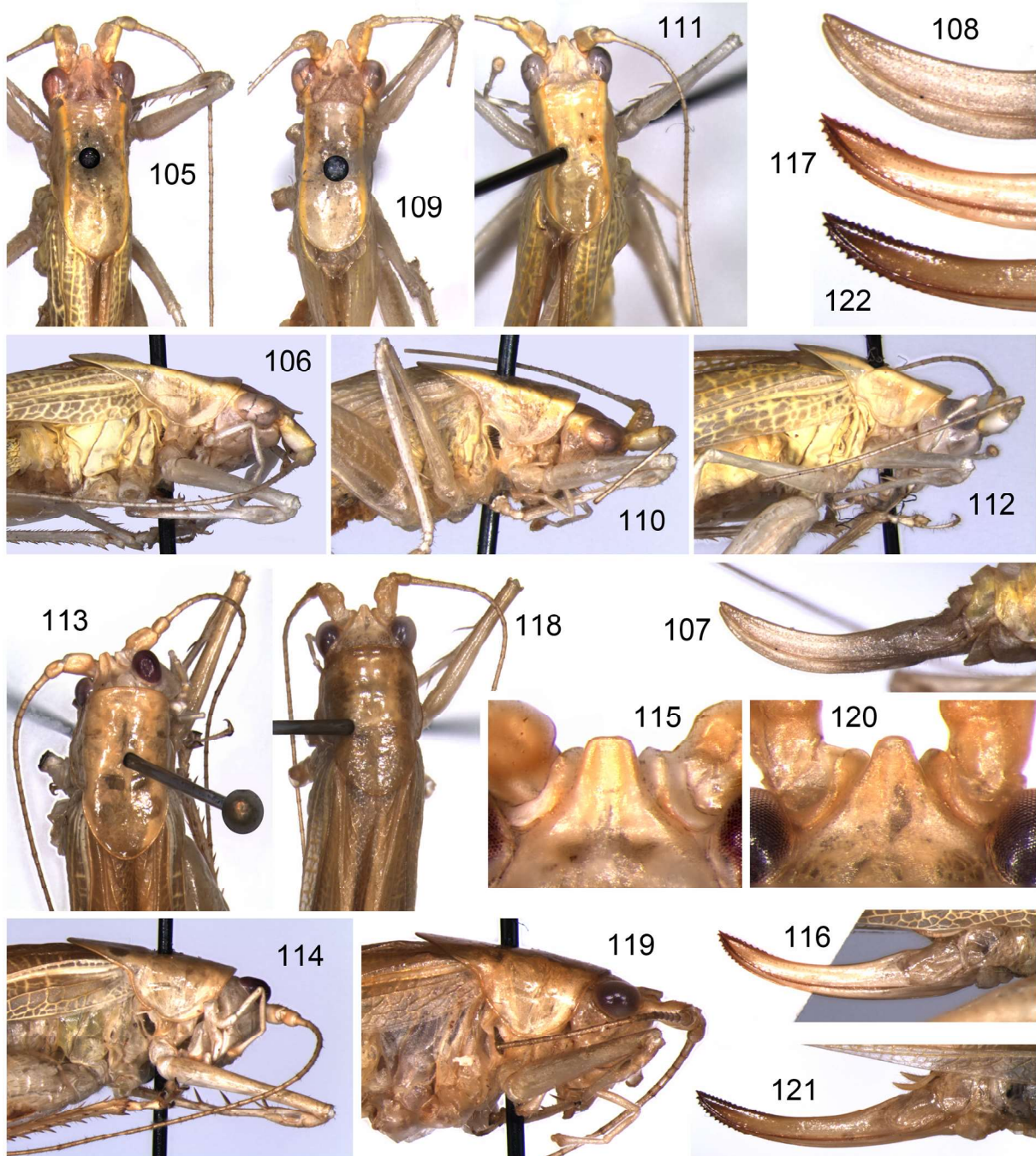
Рис. 90–104. Детали строения видов рода *Alloteratura* Hebard: *A. (Alloteratura?) unica* Gorochov, sp.n. (90–92), *A. (Meconemopsis) sumatrae* Gorochov, sp.n. (93–95), *A. (M.) sarawaki pallidula* Gorochov, subsp.n. (96–98), *A. (M.) sarawaki sarawaki* Gorochov (99–101) and *A. (M.) eubispina tuberculata* Jin (102–104). 90–98, 102–104 — гениталии самца; 99–101 — склерит гениталий самца; 90, 93, 96, 99, 102 — сверху; 91, 94, 97, 100, 103 — сбоку; 92, 95, 98, 101, 104 — сзади.

dorsum behind eyes and on pronotal disc along its lateral edges, and longitudinal tegminal veins yellowish; eyes very light brown with rose tinge; rest of head almost whitish with greyish tinge on epicranial dorsum; legs and thoracic sternites also almost whitish; rest of tegmina more or less transparent with light brown stripe along each anal edge and slightly thickened light greenish to almost whitish crossveins. Body structure with following features: head almost opisthognathous, with slightly elongate (longitudinal) eyes and flat epicranial dorsum having horizontally lamellar upper rostral tubercle (this tubercle almost reaching middle part of scape and narrowing to narrowly rounded apical part having almost truncated apex; Fig. 105); ocelli and lower rostral tubercle of head absent, and anterior part of head under upper rostral tubercle almost truncated (vertically flattened; Fig. 106); pronotum with almost flat disc, vertical lateral lobes (shape of these lobes as in Fig. 106), barely convex anterior edge of disc and clearly rounded posterior edge of hind lobe (this lobe practically completely covering tegminal stridulatory

apparatus; Figs 105, 106); tegmina long and narrow, significantly protruding beyond abdominal apex and apices of hind femora, with RS free and normal in structure but with three rather long branches in distal half; hind wings distinctly but not strongly protruding beyond tegminal apices; last tergite longer than previous ones but transverse and with moderately small posteromedian notch (Fig. 123); epiproct small, roundly lobule-like, slightly longer than wide, directed downwards and separated from nearest tergite by rather small median membranous area; paraprocts very small and also rounded; cercus moderately large (rather long and somewhat vertically widened), with proximal portion lower than middle one and having slight dorsomedial tooth of characteristic shape (Fig. 123, 124), with almost vertically lamellar dorsal part of middle and distal portions, and with laterally compressed distal part looking in profile as in Fig. 124; genital plate not longer than cercus, rather narrow (somewhat compressed laterally), narrowing to almost angular apex with a pair of extremely small (almost indistinct) styles (Figs 123–125);

genitalia membranous with numerous small and short spinules on distal part of dorsal fold, and with rather long and narrow median lobe of ventral fold (Figs 135, 136).

Variation. Upper rostral tubercle of head more truncated, and genital plate somewhat wider (less compressed laterally).
Female. Coloration and structure of body as in males, but



Figs 105–122. Details of *Rhinoteratura* Gorochov and *Odonturisca* Gorochov species morphology: *Rb. kedab* Gorochov, sp.n. (105–108), *Rb. lawang* Gorochov, sp.n. (109, 110), *Rb. ketambe* Gorochov (111, 112), *O. karnyi truncata* Gorochov, subsp.n. (113–117), and *O. karnyi angusta* Gorochov, subsp.n. (118–122). 105, 106, 109–112, 113, 114, 118, 119 — head with pronotum and nearest body parts; 107, 116, 121 — ovipositor; 108, 117, 122 — distal part of ovipositor; 115, 120 — rostrum of head; 105, 109, 111, 113, 115, 118, 120 — from above; 107, 108, 113–122 — from side; 105, 106, 109–112 — male; 107, 108, 113–122 — female.

Рис. 105–122. Детали строения видов родов *Rhinoteratura* Gorochov и *Odonturisca* Gorochov: *Rb. kedab* Gorochov, sp.n. (105–108), *Rb. lawang* Gorochov, sp.n. (109, 110), *Rb. ketambe* Gorochov (111, 112), *O. karnyi truncata* Gorochov, subsp.n. (113–117) и *O. karnyi angusta* Gorochov, subsp.n. (118–122). 105, 106, 109–112, 113, 114, 118, 119 — голова с переднеспинкой и ближайшими частями тела; 107, 116, 121 — яйцеклад; 108, 117, 122 — дистальная часть яйцеклада; 115, 120 — ростр головы; 105, 109, 111, 113, 115, 118, 120 — сверху; 1107, 108, 113–122 — сбоку; 105, 106, 109–112 — самец; 107, 108, 113–122 — самка.

upper rostral tubercle of head sometimes with slightly narrower apex, light brown stripes on tegmina from more distinct to less distinct, widened parts of dorsal tegminal fields without stridulatory apparatus but with densely reticular light greenish venation, and abdomen with somewhat smaller both last tergite and epiproct (last tergite without posteromedian notch; epiproct directed backwards and almost as long as paraproct); genital plate short but slightly varied in length, rather wide, almost rounded distally or with apex as in Fig. 126; ovipositor with anterior half straight, and with posterior half comparatively high and slightly curved upwards as well as lacking any denticles or hooks (Figs 107, 108).

Length in mm. Body: ♂ — 9.5–10, ♀ — 9–10; body with wings: ♂ — 19.5–20, ♀ — 20–21.5; pronotum: ♂ — 3.3–3.4, ♀ — 2.8–3.1; tegmina: ♂ — 15.4–16, ♀ — 15.5–16.3; hind femora: ♂ — 7.3–7.6, ♀ — 7–7.8; ovipositor 4.2–4.5.

Comparison. The new species is most similar to *Rh. ketambe* Gorochov, 2022 from a nearest Sumatran locality but distinguished by the female genital plate without any posteromedian notch (vs. this plate is with a distinct posteromedian notch). From all other congeners, it differs in the male cerci symmetrical and lacking any distinct processes or separated lobes, and in a different shape of the female genital plate.

Etymology. The new species is named after the Kedah Lodge situated near its type locality.

Rhinoteratura lawang Gorochov, sp.n.

Figs 109, 110, 127–129, 137, 138.

Urn:lsid:zoobank.org:act:349DBB93-805E-47D3-AF67-997805488DA9.

Material. Indonesia, *Sumatra Island*: Holotype, ♂: North Sumatra Prov., ~80 km W of Medan City, environs of Bukit Lawang Vill. on Bohorok River near Gunung Leuser National Park, 3°32–33' N, 98°6–7' E, h~300–400 m a.s.l., secondary forest, at light, 16–22.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN).

Description. Male (holotype). General appearance similar to that of holotype of *Rh. kedah* sp.n., but with following differences: tegmina with crossveins thinner (not thickened) and yellowish to almost whitish; pronotum with anterior half of disc slightly narrower (Fig. 109) and dorsally somewhat convex (not almost flat) as well as with lateral lobes as in Fig. 110; last tergite with barely widened posterior part, and membranous area between this tergite and epiproct less distinct; cercus longer and thinner as well as somewhat medially curved after basal portion and with two lobes (proximal lobe in shape of acute and rather large spine-like process directed backwards/medially, and distal lobe in shape of rounded lamellar lobule directed upwards/medially and separated from narrow and longer apical part of cercus by distinct angular notch; Figs 127, 128); genital plate with very small apical notch and insignificantly larger (but also very small) styles (Figs 127–129); genitalia with less numerous but larger (thicker and much longer) spinules on distal part of dorsal fold as well as with shorter median lobe of ventral fold (Figs 137, 138).

Female unknown.

Length in mm. Body 8.5; body with wings 18; pronotum 3.2; tegmina 14; hind femora 7.6.

Comparison. The new species is most similar and probably related to *Rh. kailingensis* (Jin, 2020), described as «*Leptoteratura (Rhinoteratura) kailingensis*» from Borneo, but distinguished from the latter species by the proximal cercal lobes acute and spine-like (not distally widened and truncated), and by the apices of the distal cercal lobes significantly not reaching the cercal apices (vs. the apices of these lobes reach the cercal apices). From other congeners, the new species

differs in a characteristic shape of the male cerci and in the above-mentioned details of the body coloration.

Etymology. This species is named after the Bukit Lawang Village situated near its type locality.

Rhinoteratura ketambe Gorochov, 2022

Figs 111, 112, 130–132, 139, 140.

Material. Indonesia, *Sumatra Island*: 1♂, 3♀♀, Aceh Prov. not far from North Sumatra Prov., environs of Ketambe Vill. on Alas River near Gunung Leuser National Park, 3°41–42' N, 97°38–39' E, h~300–500 m a.s.l., primary forest, at light, 29.I–8.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN).

Diagnosis. *Male (nov.)*. General appearance very similar to that of holotype of *Rh. kedah* sp.n., but with following different characters: dorsum of head without greyish tinge (Fig. 111); pronotal lateral lobes as in Fig. 112; tegminal longitudinal veins from light brown to yellowish and even almost whitish; last tergite somewhat narrowed posteriorly and practically without distinct posteromedian notch (Fig. 130), and membranous area between this tergite and epiproct also indistinct; epiproct shorter (almost as long as paraproct); cercus also somewhat shorter, curved medially (this curvature as in *Rh. lawang* sp.n., but cercus distinctly wider than in latter species), with proximal lobe developed and located in basal cercal portion (this lobe larger than in *Rh. kedah* sp.n. and shorter than in *Rh. lawang* sp.n. but rounded at apex and directed upwards/medially), and with distal cercal portion in shape of horizontally compressed and somewhat widened suboval lobe not subdivided into additional lobules (Figs 130, 131); genital plate larger than in these species and with higher distal half having a pair of dorsal subapical tubercles as well as very small styles between these tubercles and apex of this plate (Figs 130–132); genitalia with a pair of apical bunches of spinules on dorsal fold (these spinules longer than in *Rh. kedah* sp.n. and thinner than in *Rh. lawang* sp.n.) as well as with wider median lobe of ventral fold (Figs 139, 140).

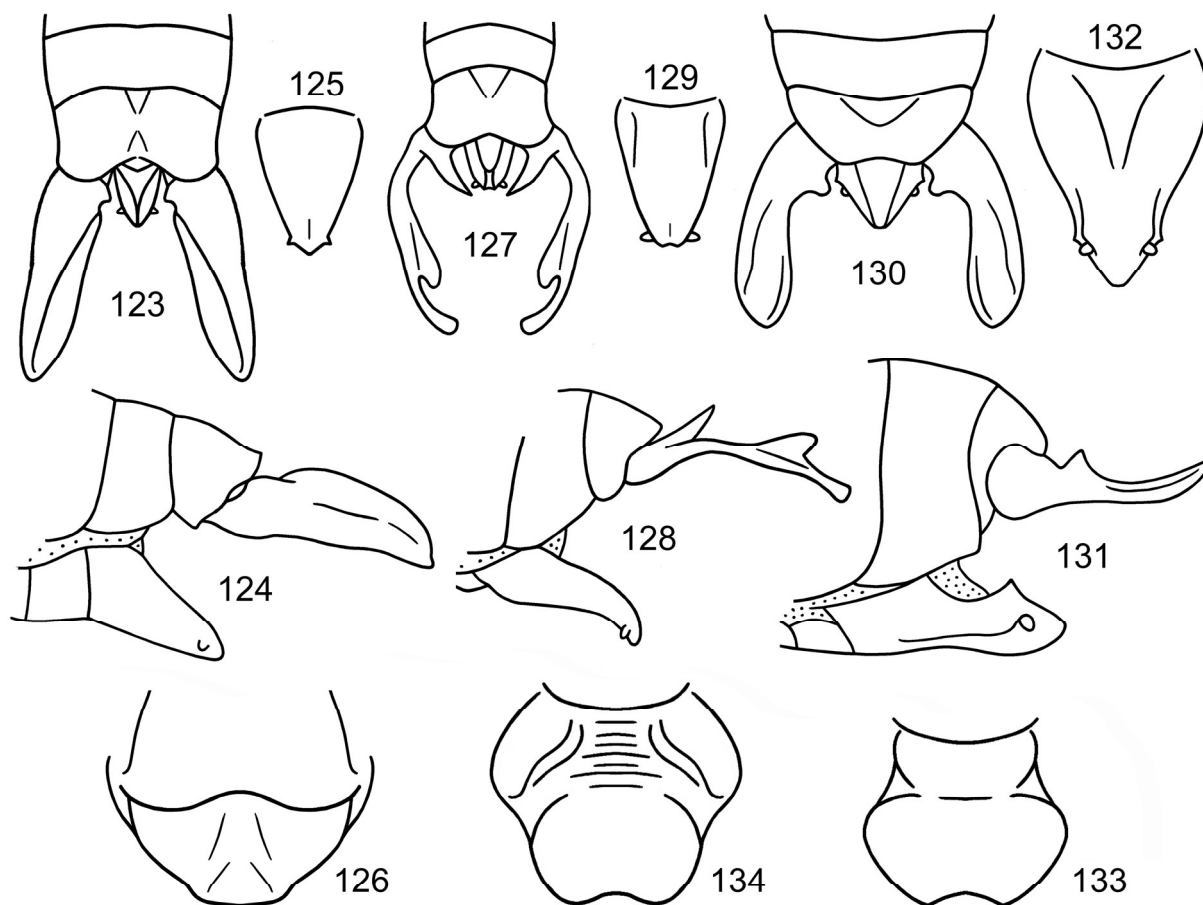
Female. New females practically indistinguishable from type material on this species [Gorochov, 2022]; all females with light brown marks on tegmina more distinct than in male (these light brown areas occupying dorsal tegminal fields and running along anal edge of each tegminal lateral field in shape of narrow stripe), and with additional brown spot in proximal part of each dorsal field.

Length in mm. Body: ♂ — 9, ♀ — 10–11; body with wings: ♂ — 19, ♀ — 19–21.5; pronotum: ♂ — 3.3, ♀ — 3.2–3.5; tegmina: ♂ — 15, ♀ — 15–17.5; hind femora: ♂ — 8, ♀ — 8–9; ovipositor 4.1–4.6.

Odonturisca Gorochov, 2008

Type species: *Odonturisca grigoriji* Gorochov, 2008.

Notes. Previously this genus contained the following species: type one from Borneo; *O. serricauda* (Karny, 1924) from southern part of Sumatra; *O. karnyi* Kästner [Liu, 2020], *O. dentata* Gorochov, 2022 and possibly *O.? epiproctalis* Gorochov, 2008 (all from Borneo). These species (except for the latter one with only male known) are characterized by the denticulated ovipositor and some other characters listed in Gorochov [2008]. Here I add an additional generic character: the apices of the hind wings are reaching or not reaching the tegminal apices (in most other Meconematina genera with completely developed wings, the hind wings clearly protruding beyond the tegminal apices). Also two new taxa of this genus are described below.



Figs 123–134. Details of *Rhinoteratura* Gorochov and *Odonturisca* Gorochov species morphology: *Rh. kedah* Gorochov, sp.n. (123–126), *Rh. lawang* Gorochov, sp.n. (127–129), *Rh. ketambe* Gorochov (130–132), *O. karnyi truncata* Gorochov, subsp.n. (133), and *O. karnyi angusta* Gorochov, subsp.n. (134). 123, 124, 127, 128, 130, 131 — abdominal apex; 125, 126, 129, 132–134 — genital plate; 123–125, 127–132 — male; 126, 133, 134 — female; 123, 127, 130 — from above; 124, 128, 131 — from side; 125, 126, 129, 132–134 — from below.

Рис. 123–134. Детали строения видов родов *Rhinoteratura* Gorochov и *Odonturisca* Gorochov: *Rh. kedah* Gorochov, sp.n. (123–126), *Rh. lawang* Gorochov, sp.n. (127–129), *Rh. ketambe* Gorochov (130–132), *O. karnyi truncata* Gorochov, subsp.n. (133) и *O. karnyi angusta* Gorochov, subsp.n. (134). 123, 124, 127, 128, 130, 131 — вершина брюшка; 125, 126, 129, 132–134 — генитальная пластинка; 123–125, 127–132 — самец; 126, 133, 134 — самка; 123, 127, 130 — сверху; 124, 128, 131 — сбоку; 125, 126, 129, 132–134 — снизу.

Odonturisca karnyi truncata Gorochov, **subsp.n.**

Figs 113–117, 133.

Urn:lsid:zoobank.org:act:270D88C5-0636-4A88-BF2E-5B33B-FD1C119.

Material. Indonesia, *Sumatra Island*: Holotype, ♀, Aceh Prov. not far from North Sumatra Prov., environs of Ketambe Vill. on Alas River near Gunung Leuser National Park, 3°41–42' N, 97°38–39' E, h~300–500 m a.s.l., primary forest, at light, 29.I–8.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN).

Description. *Female* (holotype). General appearance somewhat similar to that of three previous species of *Rhinoteratura* described here, but following characteristic features developed: coloration (Figs 113–116) light yellowish with light brown eyes, almost whitish rest of head (except for yellowish upper rostral tubercle and antennae), yellow pronotal disc, yellow to almost light brownish most part of tegmina (but costal tegminal parts with yellowish to almost whitish venation and more or less transparent membranes), and somewhat darkened (light greyish brown to greyish brown) distal portion of ovipositor (Figs 116, 117) and small marks on third segments of tarsi; head almost hypognathous but with its anterior part approximately as in all aforementioned species of *Rhinoteratura*, with insignificantly less flat dorsum, and with upper rostral tubercle slightly shorter

and barely less lamellar as well as having somewhat concave dorsal surface and rather widely truncated apex (Fig. 115); pronotum slightly wider in middle part, with anterior edge of disc almost straight, with hind lobe rounded posteriorly (Fig. 113), with insignificantly convex disc, and with lateral lobes as in Fig. 114; tegmina significantly protruding beyond apex of ovipositor, but apices of hind wings barely not reaching tegminal apices; abdominal apex approximately as in *Rh. kedah* sp.n., but genital plate moderately short as well as with proximal part clearly narrower than distal part and separated from latter part by ventral transverse concavity (distal part of this plate laterally rounded as well as having moderately wide but very short and rounded posteromedian notch (Fig. 133), and ovipositor slightly and almost arcuately curved upwards as well as having small but distinct denticles along dorsal and ventral edges of distal part (Figs 116, 117).

Male unknown.

Length in mm. Body 9.5; body with wings 20; pronotum 3.7; tegmina 17.2; hind femora 9.8; ovipositor 5.4.

Comparison. The new subspecies is most similar to the nominotypical one from Borneo in the shape of the female genital plate, but it differs from the latter subspecies in a somewhat wider distal half of the female genital plate and a

shorter ovipositor (in *O. karnyi truncata* subsp.n., hind femur is almost 1.8 times as long as ovipositor, but this ratio in *O. karnyi karnyi* is 1.5); such difference in ovipositor length may also indicate that these taxa belong to different species. From *O. dentata*, the new subspecies is distinguished by less rounded (more angular) humeral notches of the pronotum, longer wings and a shorter ovipositor (in *O. dentata*, tegmen is 3.8 times as long as pronotum, and hind femur is 1.3 times as long as ovipositor, but these ratios in *O. karnyi truncata* subsp.n. are 4.6 and 1.8, respectively). From Bornean *O. epiproctalis* with only male known, the new subspecies differs in the presence of an additional very shallow notch on each ventral edge of the pronotal lateral lobe before the humeral notch.

Etymology. The new subspecies name is the Latin word «truncata» (truncated) due to the upper rostral tubercle structure.

Odonturisca karnyi angusta Gorochov, **subsp.n.**

Figs 118–122, 134.

Urn:lsid:zoobank.org:act:A5322D04-C312-4A72-9397-4A241A3E5A1C.

Material. Indonesia, *Sumatra Island*: Holotype, ♂: North Sumatra Prov., ~80 km W of Medan City, environs of Bukit Lawang Vill. on Bohorok River near Gunung Leuser National Park, 3°32–33' N, 98°6–7' E, h~300–400 m a.s.l., secondary forest, at light, 16–22.II.2023, A. Gorochov, M. Omelko, A. Fomitshev leg. (ZIN).

Description. *Female* (holotype). Coloration and structure of body very similar to those of *O. karnyi truncata* subsp.n. but with following differences: upper rostral tubercle of head and lateral lobes of pronotum as well as thoracic pleurites almost whitish; other body parts (including most part of tegmina and venation in their almost transparent costal parts) yellowish with light brownish grey membranes in tegmina along distal two thirds of each anal edge as well as with slightly darkened areas on distal portion of ovipositor (Fig. 121, 122) and small marks on third segments of tarsi; upper rostral tubercle of head as in *O. karnyi truncata* subsp.n. in length but with distinctly narrower and rounded apex as well as with thin and straight dorsomedian (longitudinal) groove (Figs 118, 120); pronotum with almost roundly angular apex of hind lobe and less sinuate (almost rounded) posteroventral edges of lateral lobes before humeral notches (Figs 118, 119); genital plate with somewhat narrower distal part and distinctly wider proximal part which separated from previous part by a pair of obliquely transverse lateral folds as well as having wrinkled median part and probably widened but ventrally concave lateral parts (these lateral parts difficult for separation from membranes between tergites and this plate; Fig. 134); ovipositor as in Figs 121 and 122.

Male unknown.

Length in mm. Body 10; body with wings 18.7; pronotum 3.2; tegmina 15.8; hind femora 8.5; ovipositor 5.7.

Comparison. The new subspecies differs from *O. karnyi truncata* subsp.n. in the upper rostral tubercle narrower and rounded at the apex and with a thin longitudinal groove dorsally (vs. this apex is wider and clearly truncated, and the dorsal surface of this tubercle is more widely concave; compare Figs 115 and 120), and in the ovipositor length (ratio of hind femur length to ovipositor length is almost 1.8 in *O. karnyi truncata* subsp.n. and approximately 1.5 in the new subspecies). From *O. karnyi karnyi* (Borneo) having similar ovipositor, the new subspecies is distinguished by a rounded but not truncated apex of the upper rostral tubercle as well as a shorter female pronotum (ratio of hind femur length to pronotum length is almost 2.7 in the new subspecies and approximately 2.3 in *O. karnyi karnyi*). From *O. dentata*, the new subspecies is distinguished

by almost the same characters as *O. karnyi truncata* subsp.n. (in *O. dentata*, tegmen is 3.8 times as long as pronotum, and hind femur is 1.3 times as long as ovipositor, but these ratios in *O. karnyi angusta* subsp.n. are 4.9 and 1.5, respectively). Differences of the new subspecies from *O. epiproctalis* with only male known are unclear.

Etymology. The new subspecies name is the Latin word «angusta» (narrow) due to the upper rostral tubercle shape.

Bharatius Gorochov, **gen.n.**

Urn:lsid:zoobank.org:act:D0F19C4F-F781-4220-9041-1FA2617E9BE6.

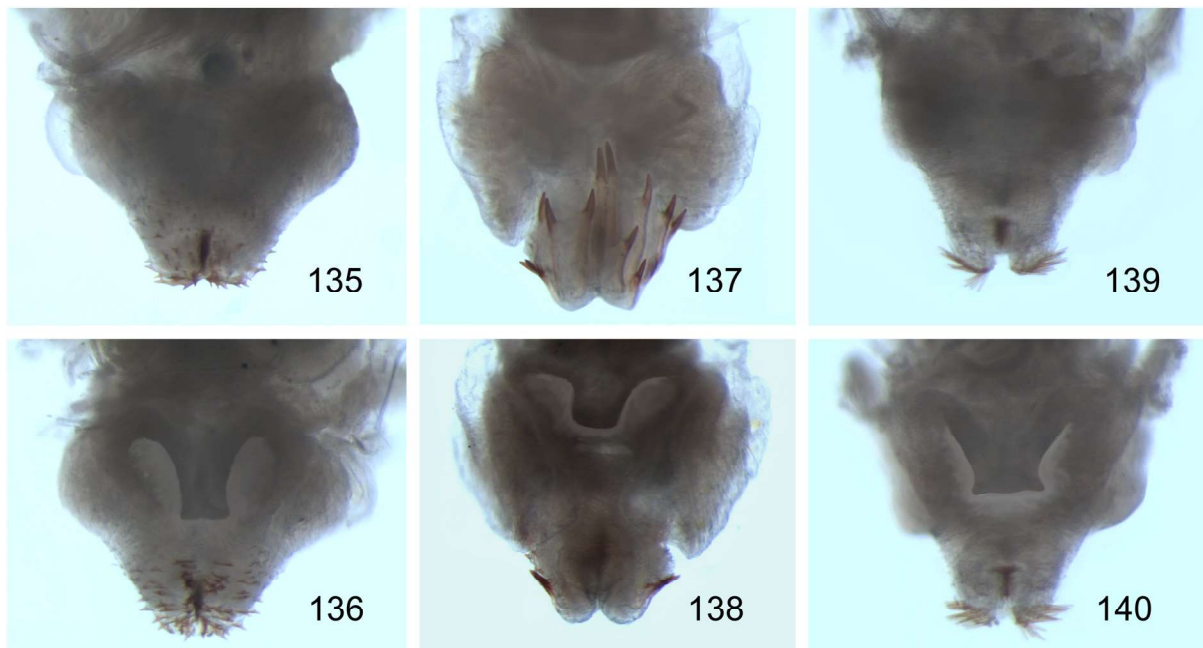
Type species: *Bharatius conocercus* Gorochov, sp.n.

Diagnosis. Structure of body typical of subtribe Meconematina. Body size moderately small. Head hypognathous; eyes rather large and almost round; upper rostral tubercle moderately small (reaching middle part of scape), not lamellar but almost conical with distinct dorsomedian (longitudinal) concavity or groove as well as with narrow and rounded apex (Figs 141, 142, 144, 145); lower rostral tubercle absent; rostrum under upper rostral tubercle and between antennal cavities narrow (scape 4–5 times as wide as space between these cavities) as well as with slight vertical convexity between lower parts of these cavities; traces of ocelli developed on this convexity and on lateral parts of base of upper rostral tubercle; dorsum of head not flattened; maxillary palpi rather long and thin, with apical segments almost equal to subapical ones in length (Figs 142, 145). Pronotum more or less similar to that of *Alloteratura* sensu lato (except for its subgenus *Prototeratura* subgen.n.) but with slight or very slight additional notch on posteroventral part of each lateral lobe before humeral notch (Figs 142, 145); tegmina long and narrow, distinctly protruding beyond apices of abdomen and of hind femora, with free RS having 3–4 branches in distal half, and with normal stridulatory apparatus in male; hind wings also protruding beyond tegminal apices; all femora unarmed; fore tibia with a pair of rather large oval tympana and four pairs of short to moderately long ventral spines; middle tibia with similar but slightly or barely shorter spines; hind tibia with numerous small spines on outer and inner ventral edges. Last tergite simple and transverse (similar to other abdominal tergites); epiproct and paraprocts small and lobule-like in both sexes also, but paraprocts in male more specialized than in female (Fig. 157); cerci elongately conical in male (Figs 154–156) as well as smaller and fusiform in female; male genital plate rather small and almost rectangular but with smaller posteromedian lobule as well as with rather small styles around it (Figs 155, 156, 157); female genital plate short (transverse) and with very short posteromedian notch or without such notch (Fig. 158); male genitalia membranous, with a pair of long posterior (membranous) processes strongly curved in rest position (Fig. 143); ovipositor moderately short, slightly or barely curved upwards, and with acute upper valves and very small hook on apex of each lower valve only (Figs 146, 147).

Included species: *Bharatius conocercus* sp.n. and possibly *Bh.? anamalai* sp.n.

Comparison. From all other genera of Meconematina, the new genus differs in the following combination of characters: head is hypognathous; pronotum is *Alloteratura*-like; wings are long and with tegmina shorter than hind wings; all abdominal tergites and epiproct as well as paraprocts are simple; male cerci are elongately conical; male genital plate has an apical lobule; male genitalia are membranous and with a pair of long posterior processes; ovipositor is without numerous denticles but with characteristic apex.

Etymology. This genus is named after the country Bharat (another official name for India) where it was discovered.



Figs 135–140. Details of *Rhinoteratura* Gorochov species morphology: *Rb. kedab* Gorochov, sp.n. (135, 136), *Rb. lawang* Gorochov, sp.n. (137, 138), *Rb. ketambe* Gorochov (139, 140). 135–140 — male genitalia; 135, 137, 139 — from above; 136, 138, 140 — from below.

Рис. 135–140. Детали строения видов рода *Rhinoteratura* Gorochov: *Rb. kedab* Gorochov, sp.n. (135, 136), *Rb. lawang* Gorochov, sp.n. (137, 138), *Rb. ketambe* Gorochov (139, 140). 135–140 — гениталии самца; 135, 137, 139 — сверху; 136, 138, 140 — снизу.

***Bharatius conocercus* Gorochov, sp.n.**

Figs 141–147, 154–158.

Urn:lsid:zoobank.org:act:BFF21659-81C8-49D3-A5DA-E8239A42C8A2.

Material. India (Bharat): Holotype, ♂: «South India, Kerala State, Wālayac Forest», h~200 m a.s.l., IX.1959, Coll.?: (ZIN). Paratypes: 2♀♀, «South India, Anamalai Hills, Chinchona», h~1000 m a.s.l., V.1959, Coll.?: (ZIN).

Description. *Male* (holotype). Body coloration light greenish with rose eyes, a pair of yellowish stripes on pronotum along lateral edges of disc, transparent membranes in costal parts of tegmina and in hind wings. Upper rostral tubercle of head with longitudinal median concavity on dorsum; maxillary palpi moderately long (length of apical segment of these palpi almost equal to height of eye). Pronotum with almost straight anterior edge of disc and roundly angular distal part of hind lobe (Fig. 141); this lobe completely covering stridulatory apparatus of tegmina; lateral pronotal lobes as in Fig. 142; tegmina with 3–4 branches of RS; hind wings clearly but not strongly protruding beyond tegminal apices; fore and middle tibiae with moderately short ventral spines (second, subbasal, inner ventral spine of fore tibia longest, and its length almost equal to width of widened tympanal part of this tibia); hind tibia with 26–28 spines on each dorsal edge and with distinctly sparser ventral spines. Last tergite with slightly concave posterior edge between cerci (Fig. 154); epiproct very small, somewhat wider than long, directed downwards and with widely rounded apex; paraproct somewhat larger than epiproct and with dorsoapical spinule-like tubercle directed upwards (Fig. 157); cercus almost as long as width of last tergite, straight, slightly widened in proximal part, narrowing to almost spine-like apex, with concave ventromedial surface, and with small but distinct medial convexity before apical part (Figs 154–156); genital plate with short apical lobule and rather thin styles (Figs 155–157); genitalia as in Fig. 143.

Female. General appearance as in male (Figs 144, 145), but coloration with brownish tinge on greenish areas (these areas probably light greenish in living condition), last tergite very short and with straight posterior edge, epiproct somewhat longer than in male (its length and width almost equal) and directed backwards as well as with simply round distal part, paraprocts without any tubercles, and cerci typical of Meconematina female (see generic diagnosis); genital plate rather large and with barely concave posterior edge (ventral parts of ninth abdominal tergite forming a pair of elongate and oblique folds around this plate, and these folds with proximal angular projections directed medially and located near each other; Fig. 158); ovipositor barely curved upwards (Figs 146, 147).

Length in mm. Body: ♂ — 9, ♀ — 12–13.5; body with wings: ♂ — 18.8, ♀ — 24; pronotum: ♂ — 3.7, ♀ — 4.1–4.3; tegmina: ♂ — 14.8, ♀ — 19–19.6; hind femora: ♂ — 9.2, ♀ — 10.5–11; ovipositor 7.2–7.5.

Etymology. The new species name originates from the Latin prefix «cono-» (conical) and the morphological term «cercus» due to the conical shape of the male cercus.

***Bharatius? anamalai* Gorochov, sp.n.**

Figs 148–151, 159.

Urn:lsid:zoobank.org:act:D3D57F9A-947C-486F-8ACF-9893B8F94429.

Material. India (Bharat): Holotype, ♀: «South India, Anamalai Hills, Chinchona», h~1000 m a.s.l., V.1959, Coll.?: (ZIN).

Description. *Female* (holotype). Size, coloration and structure of body more or less similar to those of female of *Bh. conocercus* sp.n. but distinguished by following features: body almost completely greenish with brownish tinge, i.e. without yellowish stripes along lateral edges of disc (Figs 148, 149); upper rostral tubercle of head with slightly narrower longitudinal dorsomedian concavity (this concavity almost groove-like); maxillary palpi

slightly longer (their apical segment almost 1.3 times as long as height of eye); hind pronotal lobe with somewhat more rounded (not roundly angular) distal part (Fig. 148); lateral pronotal lobes as in Fig. 149; all wings somewhat longer (tegmina with four RS branches), and hind wings strongly protruding beyond tegminal apices (compare measurements of this female with those for female of *Bh. conocercus* sp.n.); ventral spines on fore and middle tibiae insignificantly longer (second, subbasal, inner ventral spine of fore tibia longest, slightly longer than width of this tibia in its widened tympanal part); hind tibia with less numerous dorsal spines (20–22 on each edge) and very sparse ventral spines; last tergite with concave posterior edge; epiproct smaller; genital plate also distinctly smaller and with

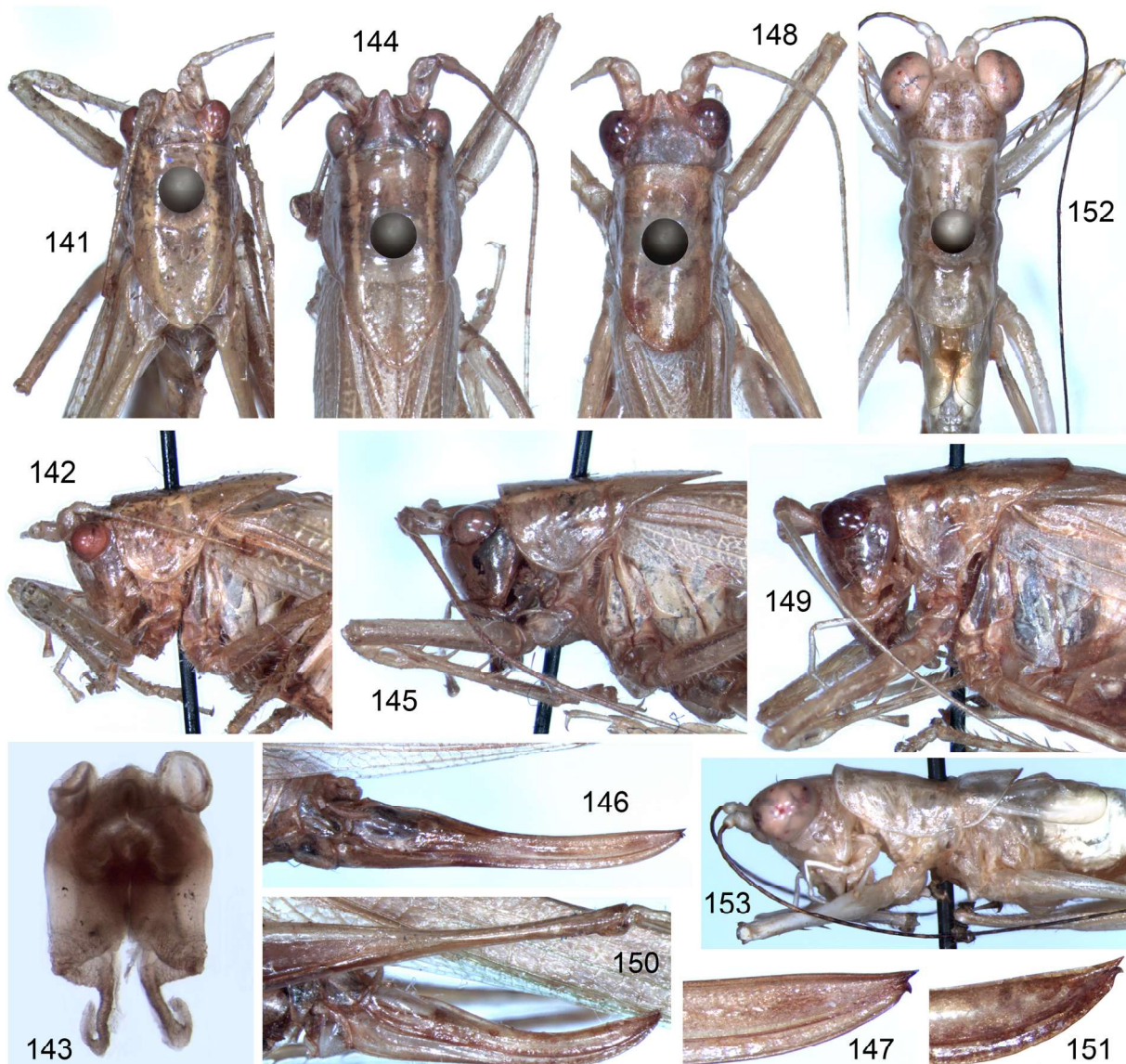
almost straight posterior edge, but ventral portions of ninth abdominal tergite around this plate lacking distinct oblique folds and possibly with less projecting proximal parts (ventral part of abdomen before genital plate damaged; Fig. 159); ovipositor with distal part more curved upwards (Figs 150, 151).

Male unknown.

Length in mm. Body 11.3; body with wings 26; pronotum 3.6; tegmina 20.5; hind femora 11.5; ovipositor 6.4.

Comparison. The new species is distinguished from *Bh. conocercus* sp.n. by the characters listed above, in the description of this species.

Etymology. The new species is named after the Anamalai Hills where it was collected.



Figs 141–153. Details of *Bharatius* Gorochov, gen.n. and *Stenoplugis* Gorochov species morphology: *Bh. conocercus* Gorochov, sp.n. (141–147), *Bh. ? anamalai* Gorochov, sp.n. (148–151) and *S. bacan* Gorochov, sp.n. (152, 153). 141–143, 152, 153 — male; 144–151 — female; 141, 142, 144, 145, 148, 149, 152, 153 — head and pronotum with nearest body parts; 143 — genitalia; 146, 150 — ovipositor with nearest body parts; 147, 151 — distal part of ovipositor; 141, 143, 144, 148, 152 — from above; 142, 145–147, 149–151, 153 — from side.

Рис. 141–153. Детали строения видов родов *Bharatius* Gorochov, gen.n. и *Stenoplugis* Gorochov: *Bh. conocercus* Gorochov, sp.n. (141–147), *Bh. ? anamalai* Gorochov, sp.n. (148–151) и *S. bacan* Gorochov, sp.n. (152, 153). 141–143, 152, 153 — самец; 144–151 — самка; 141, 142, 144, 145, 148, 149, 152, 153 — голова и переднеспинка с ближайшими частями тела; 143 — гениталии; 146, 150 — яйцеклад с ближайшими частями тела; 147, 151 — дистальная часть яйцеклада; 141, 143, 144, 148, 152 — сверху; 142, 145–147, 149–151, 153 — сбоку.

Phlugidini

Stenophlugis Gorochov, 2012

Type species: *Stenophlugis subtilis* Gorochov, 2012.

Note. The genus was established for this type species from Sulawesi I. with questionable addition of a few old species from Oceania and Australia [Gorochov, 2012]. At present, the composition of this genus and its diagnosis have been corrected, and the following characters may be proposed for its determination: body is rather narrow; male pronotum is moderately long and distinctly narrower than head as well as having more or less inflated hind lobe which covers a part of tegminal stridulatory apparatus; tegmina are distinctly shortened (Figs 152, 153); legs are with only inner spines on fore femur, with two rows of ventral spines and a pair of rather large (elongated) oval tympana on fore tibia, and without spines on middle legs; male abdomen are with a pair of posterior lobes on last tergite, without any additional hook or spinule on basal cercal part, and with short genital plate having a pair of long and thin apical styles (Figs 160–162). Only two additional species are in accordance to this diagnosis: *S. bacan* sp.n. and probably *Phlugis novaeguineensis* Jin, 1993. But *Ph. burgersi* Jin, 1993 and all Australian representatives, recently placed in the genus *Lucienola* Gurney, 1975 [OSF], possibly do not belong to *Stenophlugis* contrary to the previous assumption of Gorochov [2012b]. Their generic position as well as the generic position of *Ph. buruensis* Karny, 1924 from Buru I. are in need of clarification.

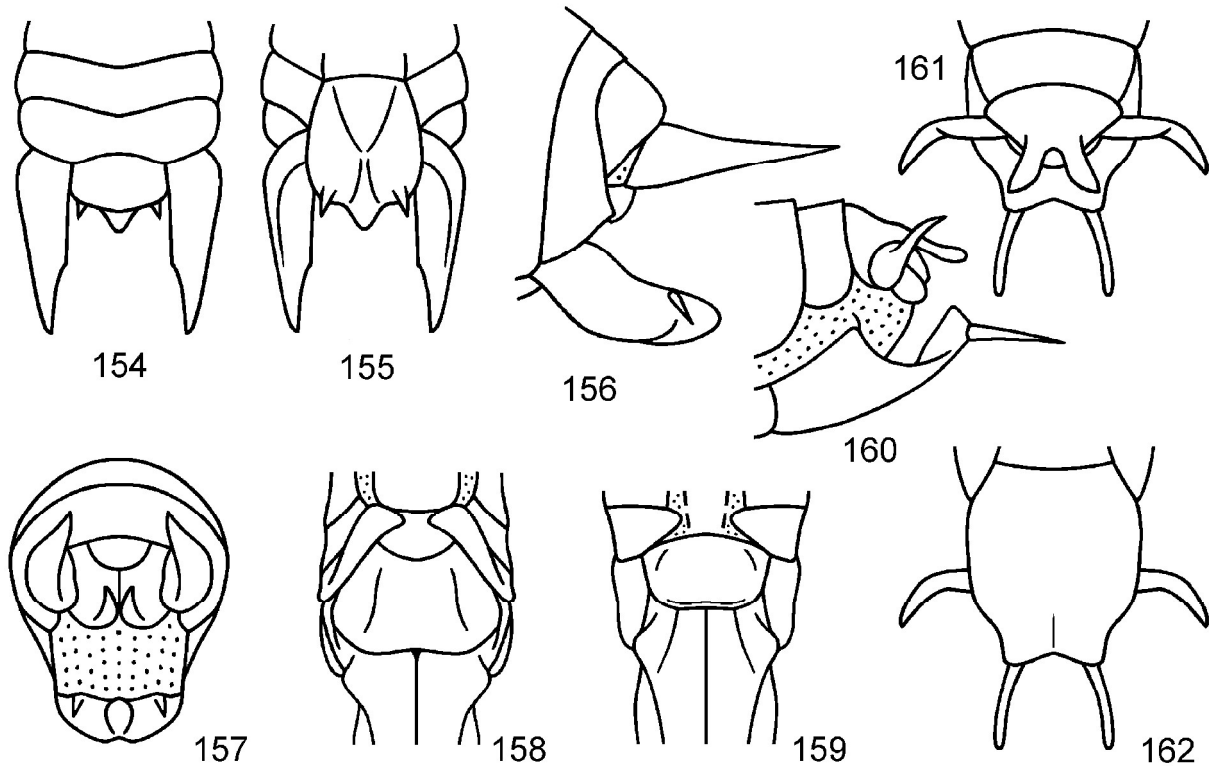
Stenophlugis bacan Gorochov, sp.n.

Figs 152, 153, 160–162.

Urn:lsid:zoobank.org:act:AD130036-BB61-4998-A5CB-48F0F91B62C2.

Material. Indonesia, Maluku Utara Province: Holotype, ♂: Bacan Island very near Halmahera Island, environs of Labuha Town, primary/secondary forest, 2–7.V.2019, A. Egorov leg. (ZIN).

Description. Male (holotype). General appearance similar to that of *S. subtilis*. Coloration very light greenish with yellowish eyes and area on each tegmen near anal edge of distal part of stridulatory apparatus (eyes also with rose tinge and sparse reddish brown dots), light greyish brown small spots on proximal portion of antennal flagellum and longitudinal line on dorsolateral part of fore tibia, almost dark grey rest of this flagellum and somewhat darkened marks on two distal segments of tarsi. Head more opistognathous than hypognathous, with barely concave anterior part of head (under eyes) in profile, very large and slightly longitudinal eyes (Figs 152, 153); pronotum reaching middle of tegminal stridulatory apparatus, with barely concave anterior edge of disc, strongly convex (rounded) posterior edge of slightly inflated hind lobe (Fig. 152) and lateral lobes as in Fig. 153; tegmina reaching posterior part of third abdominal tergite, with large stridulatory apparatus occupying approximately 2/3 of tegminal length, and with rounded apical parts (Figs 152, 153); fore coxa without distinct spine; fore femur with three moderately long inner spines; fore tibia with four pairs of longer spines; hind leg with more or less rounded apical lobules of femur and moderately numerous microscopical denticles on



Figs 154–162. Details of *Bharatius* Gorochov, gen.n. and *Stenophlugis* Gorochov species morphology: *Bh. conocercus* Gorochov, sp.n. (154–158), *Bh. ? anamalai* Gorochov, sp.n. (159) and *S. bacan* Gorochov, sp.n. (160–162). 154–157, 160–162 — male abdominal apex; 158, 159 — female genital plate with nearest abdominal structures; 154, 161 — from above; 155, 158, 159, 162 — from below; 156, 160 — from side; 157 — from behind.

Рис. 154–162. Детали строения видов родов *Bharatius* Gorochov, gen.n. и *Stenophlugis* Gorochov: *Bh. conocercus* Gorochov, sp.n. (154–158), *Bh. ? anamalai* Gorochov, sp.n. (159) и *S. bacan* Gorochov, sp.n. (160–162). 154–157, 160–162 — вершина брюшка самца; 158, 159 — генитальная пластинка самки с ближайшими абдоминальными структурами; 154, 161 — сверху; 155, 158, 159, 162 — снизу; 156, 160 — сбоку; 157 — сзади.

both dorsal edges of tibia; last tergite slightly longer than nearest abdominal tergite, with a pair of elongated posterior lobes similar to those of *S. novaeguineensis* in shape but distinctly smaller and directed backwards/laterally (Figs 160, 161); epiproct and paraprocts moderately small and roundly lobule-like (epiproct slightly larger than paraprocts); cerci (Figs 160, 161) rather small, moderately thin but dorsoventrally flattened, with distal halves almost angularly curved upwards/medially, and with apical parts narrowly rounded (almost acute); genital plate (Fig. 162) wide in proximal 2/3, somewhat narrowing to apical part having very short but rather wide posteromedian notch, and with long and thin styles around this notch (in profile, distal part of this plate slightly curved upwards and somewhat compressed laterally, and its median part concave as well as forming longitudinal keel with angular projection between bases of styles; Fig. 160); genitalia membranous.

Female unknown.

Length in mm. Body 12; pronotum 3.7; tegmina 2.8; hind femora 11.6.

Comparison. The new species is most similar to *S. novaeguineensis* in the shape of the male last tergite lobes, but it is distinguished from the latter species by these lobes clearly smaller (in the new species, these lobes are shorter than the cerci, but in *S. novaeguineensis*, they are distinctly longer than the cerci). From *S. subtilis*, the new species differs in the absence of any spine on the fore coxa as well as in a very different shape of the male cerci and of the male last tergite lobes.

Acknowledgements

The author is grateful to all the colleagues collected these interesting katydids. This study was performed in the frames of the state research project № 122031100272-3 (Russian Federation).

References

- Cigliano M.M., Braun H., Eades D.C., Otte D. 2023. Orthoptera Species File Online. Version 5.0/5.0. Visited 30 September 2023. Available from: <http://orthoptera.speciesfile.org>.
- Gorochov A.V. 1993. A contribution to the knowledge of the tribe Meconematini (Orthoptera: Tettigoniidae) // Zoosystematica Rossica. Vol.2. No.1. P.63–92.
- Gorochov A.V. 1994. New data on the Meconematini from Vietnam (Orthoptera, Tettigoniidae) // Zoosystematica Rossica. Vol.3. No.1. P.44.
- Gorochov A.V. 1998. New and little known Meconematinae of the tribes Meconematini and Phlugidini (Orthoptera: Tettigoniidae) // Zoosystematica Rossica. Vol.7. No.1. P.101–131.
- Gorochov A.V. 2001a(2000). A new species of the genus *Euanisous* (Orthoptera: Tettigoniidae: Meconematinae) // Zoosystematica Rossica. Vol.9. No.1. P.42.
- Gorochov A.V. 2001b(2000). A new genus of Meconematini from Sumatra (Orthoptera: Tettigoniidae) // Zoosystematica Rossica. Vol.9. No.2. P.276.
- Gorochov A.V. 2001c. A new species of *Teratura* from Thailand (Orthoptera: Tettigoniidae: Meconematinae) // Zoosystematica Rossica. Vol.10. No.1. P.32.
- Gorochov A.V. 2002a(2001). A new subgenus and two new species of *Xizicus* (Orthoptera: Tettigoniidae: Meconematinae) // Zoosystematica Rossica. Vol.10. No.2. P.256.
- Gorochov A.V. 2002b(2001). A new subgenus of *Leptoteratura* for a new species from Sumatra (Orthoptera: Tettigoniidae: Meconematinae) // Zoosystematica Rossica. Vol.10. No.2. P.280.
- Gorochov A.V. 2004. A new subgenus and two new species of *Decma* (Orthoptera: Tettigoniidae: Meconematinae) // Zoosystematica Rossica. Vol.13. No.1. P.28.
- Gorochov A.V. 2005. Three new species of Meconematini from tropical Asia (Orthoptera: Tettigoniidae: Meconematinae) // Zoosystematica Rossica. Vol.14. No.1. P.36.
- Gorochov A.V. 2008. New and little known katydids of the tribe Meconematini (Orthoptera: Tettigoniidae: Meconematinae) from South-East Asia // Proceedings of the Zoological Institute RAS. Vol.312. Nos 1/2. P.26–42.
- Gorochov A.V. 2011. Taxonomy of the katydids (Orthoptera: Tettigoniidae) from East Asia and adjacent islands. Communication 1 // Far Eastern Entomologist. No.220. P.1–13.
- Gorochov A.V. 2012a. Taxonomy of the katydids (Orthoptera: Tettigoniidae) from East Asia and adjacent islands. Communication 4 // Far Eastern Entomologist. No.243. P.1–9.
- Gorochov A.V. 2012b. Taxonomy of the katydids (Orthoptera: Tettigoniidae) from East Asia and adjacent islands. Communication 5 // Far Eastern Entomologist. No.252. P.1–26.
- Gorochov A.V. 2012c. Systematics of the American katydids (Orthoptera: Tettigoniidae). Communication 2 // Proceedings of the Zoological Institute RAS. Vol.316. No.4. P.285–306.
- Gorochov A.V. 2013. Taxonomy of the katydids (Orthoptera: Tettigoniidae) from East Asia and adjacent islands. Communication 6 // Far Eastern Entomologist. No.259. P.1–12.
- Gorochov A.V. 2014. Taxonomy of the katydids (Orthoptera: Tettigoniidae) from East Asia and adjacent islands. Communication 9 // Far Eastern Entomologist. No.283. P.1–12.
- Gorochov A.V. 2015. Systematics of the American katydids (Orthoptera: Tettigoniidae). Communication 2 // Proceedings of the Zoological Institute RAS. Vol.319. No.4. P.480–503.
- Gorochov A.V. 2016. Taxonomy of the katydids (Orthoptera: Tettigoniidae) from East Asia and adjacent islands. Communication 10 // Far Eastern Entomologist. No.304. P.1–32.
- Gorochov A.V. 2017. New taxa of the subfamily Meconematinae (Orthoptera: Tettigoniidae) from Africa and adjacent islands // Proceedings of the Zoological Institute RAS. Vol.321. No.1. P.32–64. <https://doi.org/10.31610/trudyzin/2017.321.1.32>.
- Gorochov A.V. 2018. Systematics of the American katydids (Orthoptera: Tettigoniidae). Communication 8 // Proceedings of the Zoological Institute RAS. Vol.322. No.4. P.398–456. <https://doi.org/10.31610/trudyzin/2018.322.4.398>.
- Gorochov A.V. 2019. Taxonomy of the katydids (Orthoptera: Tettigoniidae) from East Asia and adjacent islands. Communication 12 // Far Eastern Entomologist. No.379. P.1–24. <https://doi.org/10.25221/fee.379.1>.
- Gorochov A.V. 2020. New species of the genus *Phlugiolopsis* from its subgenus *Omkoiana* stat. nov. (Orthoptera: Tettigoniidae: Meconematinae) // Proceedings of the Zoological Institute RAS. Vol.324. No.3. P.346–352. <https://doi.org/10.31610/trudyzin/2020.324.3.346>.
- Gorochov A.V. 2022. Taxonomy of the katydids (Orthoptera: Tettigoniidae) from East Asia and adjacent islands. Communication 15 // Far Eastern Entomologist. No.459. P.1–26. <https://doi.org/10.25221/fee.459.1>.
- Gorochov A.V., Liu Ch.-X., Kang L. 2005. Studies on the tribe Meconematini (Orthoptera: Tettigoniidae: Meconematinae) from China // Oriental Insects. Vol.39. P.63–88.
- Gorochov A.V., Tan M.K. 2011. New katydids of the genus *Asiophlugis* Gor. (Orthoptera: Tettigoniidae: Meconematinae) from Singapore and Malaysia // Russian Entomological Journal. Vol.20. No.2. P.129–133.
- Ingrisch S. 2006. Two new species of Xiphidiopsini (Orthoptera, Tettigoniidae, Meconematinae) from Sumatra in the collection of the Museo Civico di Storia Naturale «G. Doria», Genova // Doriana. Vol.7. No.348. P.1–8.
- Jin X. 1995. Remarks on the genus *Alloteratura* Hebard and new species from Indo-Malayan Regions (Orthoptera: Tettigoniidae: Meconematidae) // Entomologica Sinica. Vol.2. No.3. P.193–205.
- Jin X., Yamasaki T. 1995. Remarks on the genus *Leptoteratura* Yamasaki, 1982 and a new species from North Borneo (Grylloptera: Tettigoniidae: Meconematidae) // Proceedings of the Japanese Society of Systematic Zoology. No.53. P.81–84.
- Jin X., Liu X., Wang H. 2020. New taxa of the tribe Meconematini from South-Pacific and Indo-Malayan Regions (Orthoptera, Tettigoniidae, Meconematinae) // Zootaxa. Vol.4772. No.1. P.1–53. <https://doi.org/10.11646/zootaxa.4772.1.1>.

- Karny H.H. 1926. II. On Malaysian katydids (Tettigoniidae), represented in the collections of the F.M.S. Museum (Kuala Lumpur) and the Raffles Museum (Singapore) // Journal of the Federated Malay States Museums. Vol.13. Pts 2–3. P.69–153. Pls 3, 4.
- Kästner A. 1932. Die Meconeminae des Stettiner Museums (Orthoptera) // Stettiner Entomologische Zeitung. Bd.93. Ht.2. S.163–182.
- Sänger K., Helfert B. 1996. New Meconematinae (Ensifera: Tettigoniidae) from Thailand // European Journal of Entomology. Vol.93. No.4. P.607–616.
- Sänger K., Helfert B. 2000. Notes on Meconematinae from Thailand (Insecta: Ensifera: Tettigoniidae) // Senckenbergiana biologica. Vol.80. Nos 1–2. P.141–147.
- Tan M.K., Gorochoy A.V., Wahab R.B.H.A. 2017. New taxa and notes of katydids from the tribe Meconematini (Orthoptera: Meconematinae) from Brunei Darussalam // Zootaxa. Vol.4337. No.3. P.390–402. <https://doi.org/10.11646/zootaxa.4337.3.4>.
- Yamasaki T. 1982. Some new and little known species of the Meconematinae (Orthoptera, Tettigoniidae) from Japan // Bulletin of the National Science Museum. Series A (Zoology). Vol.8. No.3. P.119–130.
- Yamasaki T. 1987. Four new Meconematine species of the genus *Leptoteratura* (Orthoptera, Tettigoniidae) from the Ryukyu Islands and Taiwan // Kontyû. Vol.55. No.2. P.342–353.

Поступила в редакцию 29.10.2023