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A review of the genus *Mecopoda* (Orthoptera: Tettigoniidae: Mecopodinae) from Indo-Malayan and Papuan Regions

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ABSTRACT

The genus *Mecopoda* A.-Serv. is divided into three subgenera: *Eumecopoda* Heb., stat. nov., *Mecopoda* s. str. and *Paramecopoda* subgen. nov. The following species and subspecies are described or briefly redescribed: *M. (E.) cyrtoscelis* Karsch; *M. (E.) c. moresby* subsp. nov.; *M. (E.) c. aru* subsp. nov.; *M. (E.) spinosa* sp. nov.; *M. (E.) s. tuberculata* subsp. nov.; *M. (E.) s. supiori* subsp. nov.; *M. (E.) superba* Bol.; *M. (E.) moluccarum* Griff.; *M. (P.) granulosa* sp. nov.; *M. (M.) kerinci* sp. nov.; *M. (M.) angusta* sp. nov.; *M. (M.) a. borealis* subsp. nov.; *M. (M.) dilatata* Redt.; *M. (M.) d. basimaculata* subsp. nov.; *M. (M.) ampla* sp. nov.; *M. (M.) a. malayensis* subsp. nov.; *M. (M.) a. javaensis* subsp. nov.; *M. (M.) niponensis continentalis* subsp. nov.; *M. (M.) fallax* He; *M. (M.) f. sulawesi* subsp. nov.; *M. (M.) f. macassariensis* (Haan), stat. nov.; *M. (M.) f. aequatorialis* subsp. nov.; *M. (M.) f. oceanica* subsp. nov.; *M. (M.) tibetensis* Liu; *M. (M.) prominens* sp. nov.; *M. (M.) stridulata* sp. nov.; *M. (M.) s. latiuscula* subsp. nov.; *M. (M.) elongata* (L.); *M. (M.) e. minahasa* subsp. nov.; *M. (M.) e. darevskiyi* subsp. nov.; *M. (M.) e. buru* subsp. nov.; *M. (M.) e. maculata* A.-Serv., stat. nov.; *M. (M.) tenebrosa* (Walk.), sp. resurr.; *M. (M.) shveri* sp. nov.; *M. (M.) hainanensis* He. The keys to subgenera and subspecies of some species as well as new geographical records are also given.

Key words: Indo-Malayan and Papuan Regions, *Mecopoda*, Mecopodinae, new taxa, Orthoptera, taxonomy, Tettigoniidae

Обзор рода *Mecopoda* (Orthoptera: Tettigoniidae: Mecopodinae) из Индо-Малайской и Папуасской областей

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РЕЗЮМЕ

Род *Mecopoda* A.-Serv. подразделен на три подрода: *Eumecopoda* Heb., stat. nov., *Mecopoda* s. str. и *Paramecopoda* subgen. nov. Описаны или кратко переописаны следующие видовые и подвидовые таксоны: *M. (E.) cyrtoscelis* Karsch; *M. (E.) c. moresby* subsp. nov.; *M. (E.) c. aru* subsp. nov.; *M. (E.) spinosa* sp. nov.; *M. (E.) s. tuberculata* subsp. nov.; *M. (E.) s. supiori* subsp. nov.; *M. (E.) superba* Bol.; *M. (E.) moluccarum* Griff.; *M. (P.) granulosa* sp. nov.; *M. (M.) kerinci* sp. nov.; *M. (M.) angusta* sp. nov.; *M. (M.) a. borealis* subsp. nov.; *M. (M.) dilatata* Redt.; *M. (M.) d. basimaculata* subsp. nov.; *M. (M.) ampla* sp. nov.; *M. (M.) a. malayensis* subsp. nov.; *M. (M.) a. javaensis* subsp. nov.; *M. (M.) niponensis continentalis* subsp. nov.; *M. (M.) fallax* He; *M. (M.) f. sulawesi* subsp. nov.; *M. (M.) f. macassariensis* (Haan), stat. nov.; *M. (M.) f. aequatorialis* subsp. nov.; *M. (M.) f. oceanica* subsp. nov.; *M. (M.) tibetensis* Liu; *M. (M.) prominens* sp. nov.; *M. (M.) stridulata* sp. nov.; *M. (M.) s. latiuscula*

subsp. nov.; *M. (M.) elongata* (L.); *M. (M.) e. minahasa* subsp. nov.; *M. (M.) e. darevskyi* subsp. nov.; *M. (M.) e. buru* subsp. nov.; *M. (M.) e. maculata* A.-Serv., stat. nov.; *M. (M.) tenebrosa* (Walk.), sp. resurr.; *M. (M.) shveri* sp. nov.; *M. (M.) hainanensis* He. Приведены определительные таблицы для подродов и подвидов некоторых видов, а также представлены новые данные по географическому распространению.

Ключевые слова: Индо-Малайская и Папуаская области, *Mecopoda*, Mecopodinae, новые таксоны, Orthoptera, таксономия, Tettigoniidae

INTRODUCTION

The genus *Mecopoda* A.-Serville, 1831 contains numerous species and is widely distributed in Indo-Malayan and Papuan Regions as well as reaching Australia. It consists of three subgenera at least: *Eumecopoda* Hebard, 1922, stat. nov., *Mecopoda* s. str. and *Paramecopoda* subgen. nov. Previously, the two first subgenera were considered as different genera (OSF – “Orthoptera Species File”, see below), but they are closely related and very similar to each other; moreover, subgeneric position of some species is somewhat problematic, because its characters show similarity as to *Mecopoda* s. str. as to *Eumecopoda*. The copulatory and stridulatory apparatus as well as the ovipositor in these subgenera are also similar and lacking any generic differences. However, these large insects are diverse in some less important features of the pronotal and tegminal structure. Moreover, they are insufficiently studied for the most part of the area of this genus and include many new taxa, some of which are described below.

MATERIAL AND METHODS

The studied material, including all types of new species and subspecies described in this paper, is deposited at the Zoological Institute, Russian Academy of Sciences, Saint Petersburg. It is dry and pinned. Photographs of the morphological structures of the taxa under consideration were made using a Leica MZ 16 stereomicroscope. The internet-catalogue “Orthoptera Species File” (Cigliano et al. 2020) is here cited as OSF

SYSTEMATICS

Tribe Mecopodini Walker, 1871

Genus *Mecopoda* Audinet-Serville, 1831

Note. This genus differs from the other genera of this tribe in the following combination of characters: body from moderately large to very large; coloration

very variable (from light brown to dark brown, with diverse spots or almost without them, but often greenish with brown or grey spots); head with very wide upper rostral tubercle between antennae, closely pressed to wide lower rostral tubercle (these tubercles almost fused with each other); pronotum with flat disc crossed by two distinct transverse sutures (Figs 1, 3, 6, 8, 10, 12, 13, 15, 18), and with high vertical lateral lobes having widely rounded humeral notches and ventral edges mainly convex (each of these edges also with one small and almost angular anteroventral lobule barely or distinctly curved aside); wings from long to moderately shortened, with lateral tegminal field having all RS branches starting from RA but not fused or almost not fused with MA (Figs 20–39), with dorsal tegminal field moderately short and thickened in left tegmen as well as having characteristic acoustic apparatus in right tegmen (this apparatus distinguished from that of other genera of Mecopodini by larger fold partly covering mirror [overmirror fold] and by mirror divided into convex proximal and concave distal parts; Figs 2, 4, 5, 7, 9, 11, 14, 16, 17, 19, 40–69); abdominal apex rather simple in both sexes, with slightly concave posteromedian edge of last tergite, with small and rounded epiproct and paraprocts, with elongately conical cerci (in male, thin distal portions of cerci longer and slightly arcuate as well as having 1–2 small medial denticles on each apical part of these portions), with male genital plate elongate and having narrowly notched distal part and small or obliterated styles (Figs 72, 77, 80, 81, 84, 85, 88), with female genital plate small and almost trapezoidal (but sometimes having apical notch) or roundly triangular (Figs 73–76, 78, 79, 82, 83, 86, 87, 89, 90), with ovipositor elongate and acute as well as barely arcuate (curved upwards) or practically straight, and with male genitalia completely membranous.

A key to subgenera of *Mecopoda* s. l.

1. Upper rostral tubercle of head practically angular in profile; pronotum with low longitudinal keels separat-



Figs 1–19. *Mecopoda* A.-Serv.: 1, 2 – *M. (Eumecopoda) cyrtoscelis cyrtoscelis* Karsch; 3, 4 – *M. (E.) spinosa* sp. nov.; 5 – *M. (E.) s. tuberculata* subsp. nov.; 6, 7 – *M. (E.) s. supiori* subsp. nov.; 8, 9 – *M. (E.) moluccarum* Griff.; 10, 11 – *M. (E.) superba* Bol.; 12 – *M. (Paramecopoda) granulosa* sp. nov.; 13, 14 – *M. (Mecopoda) kerinci* sp. nov.; 15, 16 – *M. (M.) angusta* sp. nov.; 17 – *M. (M.) a. borealis* subsp. nov.; 18, 19 – *M. (M.) dilatata* Redt. Head with pronotum from above, male (1, 3, 6, 8, 10, 13, 15, 18) and female (12); stridulatory apparatus of male right tegmen (2, 4, 5, 7, 9, 11, 14, 16, 17, 19).



Figs 20–39. *Mecopoda* A.-Serv.: 20 – *M. (Eumecopoda) spinosa supiori* subsp. nov.; 21 – *M. (Paramecopoda) granulosa* sp. nov.; 22 – *M. (Mecopoda) kerinci* sp. nov.; 23 – *M. (M.) angusta* sp. nov.; 24, 25 – *M. (M.) dilatata* Redt.; 26 – *M. (M.) d. basimaculata* subsp. nov.; 27 – *M. (M.) niponensis continentalis* subsp. nov.; 28 – *M. (M.) ampla* sp. nov.; 29 – *M. (M.) a. malayensis* subsp. nov.; 30 – *M. (M.) a. javaensis* subsp. nov.; 31 – *M. (M.) fallax fallax* He; 32 – *M. (M.) f. aequatorialis* subsp. nov.; 33 – *M. (M.) f. sulawesi* subsp. nov.; 34 – *M. (M.) f. macassariensis* (Haan); 35 – *M. (M.) stridulata* sp. nov.; 36 – *M. (M.) s. latiuscula* subsp. nov.; 37 – *M. (M.) elongata elongata* (L.); 38 – *M. (M.) e. minahasa* subsp. nov.; 39 – *M. (M.) hainanensis* He. Right tegmen of male (20, 31, 34) and female (21, 25, 26); left tegmen of male in mirror-inverted position (22–24, 27–30, 32, 33, 35–39).

ing disc from lateral lobes (Fig. 12); both tympana slit-like; female tegmina almost obliquely cutting in distal part (Fig. 21). Philippines

Paramecopoda subgen. nov.

[Etymology: from generic name *Mecopoda* with prefix “para” (near in Latinized Greek). Composition: type species *Mecopoda (Paramecopoda) granulosa* sp. nov. only.]

- Head and pronotum diverse in structure (Figs 1, 3, 6, 8, 10, 13, 15, 18); both tympana more or less oval, not slit-like; tegmina in both sexes with angular apex (located almost on median line of tegmen) or with more or less rounded apex (Figs 20, 22–39) 2
- 2. Upper rostral tubercle and pronotum as in *Paramecopoda* subgen. nov. (Figs 1, 3, 6, 8, 10); both tympana more or less oval, with tympanic membrane partly (slightly or barely) covered with narrow ventral fold; tegmina with angular apex; mirror in stridulatory apparatus of male right tegmen divided into proximal and distal portions by narrow and almost arcuate convexity (proximal portion of this mirror partly convex and much smaller than its distal part, and latter portion more or less concave but not forming almost round or oval distal concavity; Figs 2, 4, 5, 7, 9, 11); male genital plate usually with very short styles and characteristic denticle-like medial tubercle located very near base of each style, but sometimes this plate without styles and distinct tubercles (Figs 72, 77, 80, 81). Papuan Region, Philippines.
. subgenus ***Eumecopoda*** Hebard, 1922, stat. nov. [Composition (in original binomen): type species *Mecopoda cyrtoscelis* Karsch, 1888 with 5 possible subspecies (see below); *M. walkeri* Kirby, 1891; *M. superba* Bolivar, 1898; *M. cyrtoscelis moluccarum* Griffini, 1908 (now species); *Eumecopoda reducta* Hebard, 1922; *M. (E.) spinosa* sp. nov. with 2 new subspecies.]
- Upper rostral tubercle of head roundly angular or practically angular in profile; pronotum with more or less distinct carinae (but not keels) separating disc from lateral lobes (Figs 13, 15, 18); both tympana clearly oval, with completely open tympanic membrane; tegmina usually with more or less rounded apex (Figs 23–39) but in one species with apex similar to that of *Eumecopoda* (Fig. 22); mirror in stridulatory apparatus of male right tegmen usually divided into proximal and distal portions by wider triangular convexity (proximal portion of this mirror more convex and less small, i. e. almost inflated in base and comparable with distal portion of mirror in size, and latter portion forming almost round or oval distal concavity; Figs 40–69), but sometimes this mirror as in *Eumecopoda* (Figs 14, 16, 17, 19; primitive condition ?); male genital plate usually with elongate styles (but sometimes with very short styles) and without distinct denticle-like medial tubercle very near base of each style (Figs 84, 85, 88).

Indo-Malayan Region and western part of Papuan Region (unknown in Waigeo I. and in more eastern Islands). subgenus ***Mecopoda*** s. str. [Composition (in original binomen): type species *Mecopoda maculata* Audinet-Serville, 1831 (now subspecies of *M. elongata*); *Gryllus (Tettigonia) elongatus* Linnaeus, 1758 with 4 subspecies at least (3 of them new); *Locusta (Mecopoda) niponensis* Haan, 1843 with 1 new subspecies; *Decticus tenebrosus* Walker, 1869; *M. dilatata* Redtenbacher, 1893 with 1 new subspecies; *M. divergens* Redtenbacher, 1893; *M. hainanensis* He, 2019; *M. fallax* He, 2019 with 5 subspecies (3 of them new); *M. marmorata* He, 2019; *M. crescendo* Liu, 2020; *M. himalaya* Liu, 2020; *M. tibetensis* Liu, 2020; *M. confracta* Liu, 2020; *M. synconfracta* Liu, 2020; *M. minor* Liu, 2020 with 2 subspecies; *M. (M.) kerinci* sp. nov.; *M. (M.) angusta* sp. nov. with 1 new subspecies; *M. (M.) ampla* sp. nov. with 2 new subspecies; *M. (M.) prominens* sp. nov.; *M. (M.) stridulata* sp. nov. with 1 new subspecies; *M. (M.) shveri* sp. nov.]

There are a few other species, which were described after nymphs and, therefore, are unsuitable for species identification and difficult for subgeneric determination: *Lucera bicoloripes* Walker, 1869; *Decticus pallidus* Walker, 1869; *Locusta longipes* Thunberg, 1815. Each of these species is included in *Mecopoda* s. str. but reasonably considered as nomen dubium in the internet-catalogue (OSF). Also, *M. platyphoea* Walker, 1870, described after a female from Sri Lanka (Walker 1870), has its tegmina apically angular as in *Eumecopoda* and in one species of *Mecopoda* s. str. (*M. kerinci* sp. nov.) but wider than in all *Eumecopoda* representatives considered here and longer than in *M. (M.) kerinci* sp. nov. (see photograph of its holotype in OSF); subgeneric status of *M. platyphoea* is unclear.

***Mecopoda (Eumecopoda) cyrtoscelis* Karsch, 1888**
(Figs 1, 2, 72–76)

Note. This species was described from one female collected in New Guinea (Bird’s Head Peninsula) (Karsch 1888: “Segaar Bay”). Later two species, described from Australia and Bismarck Archipelago by Kirby (1891), were included in this species as its varieties (Karny 1924) or subspecies (Beier 1966). Here I add in this species two additional subspecies: from environs of Port Moresby City and from Aru Islands. The systematic position of all these subspecies (including nominotypical one) is problematic, because

all they are known only after male with undescribed stridulatory apparatus or after female; some of these subspecies may be separate species. The specimens, determined here as belonging to the nominotypical subspecies, are included in this subspecies also rather tentatively.

Thus, *M. (E.) cyrtoscelis* may be characterized by the following characters: body coloration diverse, from light brown with brown and/or dark brown spots to dark brown with lighter dorsal areas; upper rostral tubercle of head angular in profile, with barely concave dorsal surface; pronotum with short and roundly angular lateral projections in anterior half of disc (Fig. 1); wings longer or insignificantly shorter than hind femora, with tegmina 3.4–4 times as long as wide; in male from Waigeo I., right tegmen with M-Cu area moderately narrow but looking slightly widened in short proximal portion (in reality, this “widened portion” includes proximal part of this area and small inflated part of nearest tegminal area), with overmirror fold having barely sinuate lateral edge, and with distal part of mirror concavity medially angular (Fig. 2); legs with several small (but distinct) tubercles on dorsoproximal part of hind femur and with distinct longitudinal median carina on outer part of this femur; in above-mentioned male, cerci reaching distal part of genital plate and with two denticles on each apex, and this plate moderately long and with moderately deep and narrowly angular notch between a pair of narrow apical lobules completely fused with styles and almost lacking any tubercles at their apices (Fig. 72); in female, ovipositor barely arcuate, and this structure as well as genital plate somewhat varied in length and in shape, respectively (see subspecies key below).

The lengths of some structures of this species are following (mm): pronotum in male 7.2–7.5, in female 8.0–9.2; tegmina in male 40.0–54.0, in female 60.0–72.0; hind femora in male 37.0–43.0, in female 45.0–57.5; ovipositor 22.0–30.0.

A key to subspecies of *M. (E.) cyrtoscelis*

1. Tegmen slightly shorter than hind femur. Australia *M. (E.) c. karschi* Kirby, 1891.
 - Tegmen distinctly longer than hind femur. New Guinea and adjacent islands 2
2. Female hind femur approximately 2.4 times as long as ovipositor. Bismarck Archipelago *M. (E.) c. regina* Kirby, 1891.

- Female hind femur 1.7–2.1 times as long as ovipositor 3
- 3. Female tegmen approximately 3.4 times as long as wide; female hind femur approximately 1.7 times as long as ovipositor; female genital plate widely truncate at apex (Fig. 75). Eastern part of New Guinea *M. (E.) c. moresby* subsp. nov. [Etymology: after Port Moresby City situated near type locality. Type material: holotype – female, PAPUA NEW GUINEA, “Bohioles (?) inland from Port Moresby”.]
 - Female tegmen 3.6–3.7 times as long as wide; female hind femur 1.9–2.1 times as long as ovipositor; female genital plate more diverse (Figs 73, 74, 76) 4
- 4. Female genital plate obtusely angular at apex (Fig. 76). Aru Islands *M. (E.) c. aru* subsp. nov. [Etymology: after type locality (Aru Islands). Type material: holotype – female, INDONESIA, “Aru Ins. (= Aru Islands)”; paratype – female, same data as for holotype.]
 - Female genital plate narrowly truncate or slightly concave at apex (Figs 73, 74). Western part of New Guinea and Waigeo I *M. (E.) c. cyrtoscelis* Karsch, 1888

Mecopoda (Eumecopoda) spinosa sp. nov. (Figs 3, 4, 77, 78)

Etymology. This species name is the Latin word “spinosa” (spinose, with spines), because its hind femora have long (almost spine-like) tubercles on the dorsal surface.

Type material. *Holotype* – male, INDONESIA: Papua Prov. (New Guinea I.), environs of Fawi (= Faowi) Vill. in upper part of Tariku River (tributary of Mamberamo River), lowlying forest / forest on hills, 29 January – 17 February 2012, A. Goročov. *Paratypes*: 2 males, 3 females, same data as for holotype; 1 male, 2 females, same province (New Guinea I.), environs of Nabire Town, secondary forest on hills, 28 February – 2 March 2012, A. Goročov.

Description. *Male* (holotype). Body size and general appearance more or less similar to those of *M. (E.) cyrtoscelis*. Coloration brown with light brown dorsum of head, labrum, most part of clypeus and sparse small spots on antennal flagellum, as well as with rather small light and dark brown spots on tegmina. Body structure distinguished from this species by following characters: upper tubercle of head rostrum with flat dorsal surface (Fig. 3); pronotum with somewhat larger and more angular lateral projections of disc in middle part (Fig. 3); wings distinctly longer than hind femora; tegmina approximately 3.8 times as

long as wide; right tegmen with overmirror fold light brown, with lateral edge of this fold clearly S-shaped and non-denticulate, and with distal part of mirror concavity rounded (Fig. 4); hind femur with longer (almost spine-like) some tubercles on dorsoproximal part of hind femur; genital plate somewhat longer and with extremely short (almost indistinct) styles and distinct small apical tubercle very near medial edge of each style (Fig. 77).

Variations. Coloration of body varied (including overmirror fold but excepting pronotal lateral lobes) from light brown with darker spots to almost uniformly brown; styles of genital plate sometimes more distinct but not protruding beyond apical medial tubercles of this plate.

Female. Structure and coloration of body as in males, but body somewhat larger, tegmina sometimes with a few rather large greyish spots in median part of lateral field, tegminal venation and abdominal apex similar to those of female of *M. (E.) cyrtoscelis* (but hind femur approximately 2 times as long as ovipositor, and genital plate almost as in its nominotypical subspecies or with barely more notched apex; Fig. 78).

Length (mm). Pronotum: male 8.0–9.0, female 9.0–10.5; tegmina: male 56.0–59.0, female 70.0–72.0; hind femora: male 44.0–47.0, female 51.0–53.0; ovipositor 25.0–27.0.

Comparison. The new species is most similar to *M. (E.) cyrtoscelis* but distinguished from the nominotypical subspecies by the above-listed characters of the stridulatory apparatus in the male right tegmen, from *M. (E.) c. karschi* by the tegmina longer, from *M. (E.) c. aru* subsp. nov. by the female genital plate not obtusely angular at the apex, and from *M. (E.) c. regina* and *M. (E.) c. moresby* subsp. nov. by the ovipositor longer and shorter, respectively. From *M. (E.) walkeri* and *M. (E.) reducta*, the new species differs in narrower or longer tegmina (in *M. walkeri* and *M. reducta*, tegmen 3 or less times as long as wide), and from *M. (E.) superba*, in shorter pronotum and ovipositor (in *M. superba*, pronotal length 14 mm, and hind femur almost 1.5 times as long as ovipositor).

***Mecopoda (Eumecopoda) spinosa tuberculata* subsp. nov.**
(Fig. 5, 79)

Etymology. This subspecies name is the Latin word “tuberculata” (tuberculate, with tubercles), because its hind femora have short (not spine-like)

tubercles on the dorsal surface.

Type material. *Holotype* – male, INDONESIA: Papua Prov. (New Guinea I.), environs of Jayapura City near Cyclop Mts, ~500 m, primary-secondary forest, 17–19 November 2004, A. Gorochov. *Paratype* – female, same data as for holotype.

Description. *Male.* Coloration and structure of body as in nominotypical subspecies but with following differences: lateral lobes of pronotum black in upper and light brown in lower halves (not uniformly brown); right tegmen with proximal “widened portion” of M-Cu area (in reality consisting of narrow true proximal part of this area and inflated part of nearest tegminal area) slightly longer, and with overmirror fold of right tegmen black (not spotted, light brown or brown) and with finely denticulate lateral edge (Fig. 5); tubercles on dorsal surface of proximal half of hind femur shorter (not spine-like).

Female. Body coloration as in male; however, tegmina with a few moderately large darker and very light (almost whitish) spots along median line of each lateral field, structure of body as in female of nominotypical subspecies but with dorsal tubercles of hind femur intermediate between those of *M. s. spinosa* and male of this subspecies as well as with genital plate slightly narrowing to rather widely truncate apex (almost as in *M. c. moresby* subsp. nov.; Fig. 79).

Length (mm). Pronotum: male 9, female 11; tegmina: male 67, female 79; hind femora: male 47, female 59; ovipositor 31.

Comparison. Differences from *M. s. spinosa* are listed above, in the description of this subspecies.

***Mecopoda (Eumecopoda) spinosa supiori* subsp. nov.**
(Figs 6, 7, 20)

Etymology. This subspecies is named after its type locality, Supiori Island.

Type material. *Holotype* – male, INDONESIA: Papua Prov., Supiori I. very near Biak I. (not far from New Guinea I.), environs of Korido Vill. on southern coast of Supiori I., primary forest on hills near sea, 10–11 November 2004, A. Gorochov.

Description. *Male.* Coloration and structure of body as in nominotypical subspecies and *M. (E.) s. tuberculata* subsp. nov., but pronotum (Fig. 6) with light brown lateral lobes having narrow black stripe along each dorsal edge only and with lateral projections of disc almost as in *M. (E.) cyrtoscelis*, tegmina

(Fig. 20) somewhat more spotted than in both previous subspecies and with overmirror fold of right tegmen brown in proximal half and almost light brown in distal half, tubercles on dorsal surface of proximal half of hind femur and dorsal field of right tegmen almost as in nominotypical subspecies (however, lateral edge of overmirror fold in this field slightly more S-shaped than in both these subspecies, and area between distal apex of this fold and anal edge of tegmen distinctly narrower than in these subspecies; Fig. 7).

Female unknown.

Length (mm). Pronotum 8.0; tegmina 56.0; hind femora 41.5.

Comparison. Differences from nominotypical subspecies and *M. s. tuberculata* subsp. nov. are listed in the description of this subspecies.

***Mecopoda (Eumecopoda) superba* Bolivar, 1898**
(Figs 10, 11, 81, 82)

Material examined. INDONESIA: 1 male, 3 females, West Papua Prov. (in New Guinea I.), environs of Manokwari Town, primary forest on hills, 4–6 November 2004, A. Goročov.

Description. *Male.* Body size and general appearance more or less similar to those of *M. (E.) cyrtoscelis* and *M. (E.) spinosa* sp. nov. Coloration almost uniformly brown with slightly lighter dorsum of head and pronotal disc, with light brown lower part of pronotal lateral lobes, and with dark brown rest of these lobes, fore and middle femora, large areas on hind femur as well as spots on fore and middle tibiae. Body structure distinguished from these species by following characters: upper tubercle of head rostrum roundly angular (less angular) in profile, with barely concave dorsal surface; pronotum somewhat larger, without angular and almost without roundly angular lateral projections of disc (Fig. 10); wings distinctly longer than hind femora; tegmina almost 4 times as long as wide; right tegmen with proximal “widened portion” of M-Cu area (in reality consisting of narrow true proximal part of this area and inflated part of nearest tegminal area) somewhat longer, with overmirror fold having clearly convex (arcuate) and non-denticulate lateral edge, and with distal part of mirror concavity medially angular (Fig. 11); hind femur with tubercles on dorsoproximal part of hind femur as in female of *M. (E.) s. tuberculata* subsp. nov.; genital plate as in *M. (E.) spinosa* sp. nov. but with very small and distinct styles protruding slight-

ly beyond apical medial tubercles (Fig. 81).

Female. General appearance as in male, but tegminal coloration almost as in *M. (E.) s. tuberculata* subsp. nov., genital plate widely truncate at apex (Fig. 82), and ovipositor straight and distinctly longer than in all congeners with known female (hind femur almost 1.5 times as long as ovipositor).

Length (mm). Pronotum: male 11.0, female 12.0–13.5; tegmina: male 61.0, female 71.0–74.0; hind femora: male 55.0, female 51.0–56.0; ovipositor 35.0–38.0.

Remark. The previous determination and description of male of this species were very problematical and insufficient (Griffini 1908); thus, the above-mentioned description is practically the first for male of this species.

***Mecopoda (Eumecopoda) moluccarum* Griffini, 1908**
(Figs 8, 9, 80)

Material examined. INDONESIA: 5 males, 3 females, Maluku Utara Prov., Bacan I. very near Halmahera I., environs of Labuha Town, primary-secondary forest, 2–7 May 2019, A. Egorov; 4 males, 1 female, same province, Halmahera I., eastern coast not far from Veda Town, primary-secondary forest, 8–11 May 2019, A. Egorov.

Note. This species was described as a subspecies of *M. cyrtoscelis* from a few specimens collected in the two nearest islands: Ternate I. and Halmahera I. (Griffini 1908). Later it was recorded from Obi I. (another island near these islands) and erected up to species status (Hebard 1922).

This species is similar to the previous congeners, considered here, but characterized by the following features: coloration more or less dark brown; upper rostral tubercle angular in profile and with barely concave dorsal surface; pronotal disc with lateral projections more distinct than in *M. (E.) superba* and shorter than in other previous congeners considered here as well as less rounded than in *M. (E.) cyrtoscelis* and *M. (E.) s. supiori* subsp. nov. (Fig. 8); tegmina moderately wide, approximately 3.2 and 3.4 times as long as wide in male and female, respectively; male right tegmen with distal portion of M-Cu area narrower, with proximal “widened portion” of M-Cu area (in reality consisting of narrow true proximal part of this area and inflated part of nearest tegminal area) distinctly longer and more widened, with

lateral edge of overmirror fold arcuate in proximal half and almost straight in distal half, and with distal part of mirror concavity rounded (Fig. 9); hind femur almost as in *M. (E.) cyrtoscelis*; male abdominal apex with cerci and genital plate similar to those of *M. (E.) superba* and *M. (E.) spinosa* sp. nov., but styles completely fused with apical lobules of this plate, and these fused structures slightly or barely protruding beyond small medial apical tubercles of these lobules (Fig. 80); female genital plate narrowly truncate or slightly concave at apex (approximately as in *M. c. cyrtoscelis* and *M. s. spinosa* sp. nov.); hind femur approximately 1.7 times as long as barely arcuate ovipositor.

The lengths of some structures of this species are following (mm): pronotum in male 7.5–10.0, in female 9.5–11.0; tegmina in male 52.0–65.5, in female 69.0–75.0; hind femora in male 40.0–50.0, in female 51.0–55.0; ovipositor 30.0–32.5.

***Mecopoda (Paramecopoda) granulosa* sp. nov.**
(Figs 12, 21, 83)

Etymology. This species name is the Latin word “granulosa” (granulose, with small granules), because this species has the pronotal disc with partly granulose lateral keel-like edges.

Type material. *Holotype* – female, PHILIPPINES: Palawan I., southern part, environs of Brooke’s Point Vill. on eastern coast, forest near sea, 6–8 March 2014, A. Gorochov.

Description. *Female.* Body rather small for this genus. Coloration light brown with yellowish mouthparts and a few small and medium-sized brown spots on tegmina. Upper rostral tubercle of head angular in profile and with almost flat dorsal surface; pronotum without distinct angular or roundly angular projections on lateral edges of disc but with these edges partly granulose (Fig. 12); tegmina somewhat shortened (almost reaching apices of hind femora), with distal edges obliquely cutting, and with tegminal length almost 3.4 times as great as tegminal width (Fig. 21); legs with outer and inner tympana practically slit-like, and with hind femora lacking distinct tubercles on dorsal surface; abdominal apex similar to that of female of all previous congeners, but genital plate with distinct (larger than in other congeners studied by me) angular posteromedian notch and a pair of angular projections around it (Fig. 83), and ovipositor barely arcuate (hind femur almost 1.7

times as long as ovipositor).

Male unknown.

Length (mm). Pronotum 7.8; tegmina 42.0; hind femora 40.0; ovipositor 23.0.

Comparison. Differences of this species from the other congeners are given in the subgeneric key for *Mecopoda* s. l.

***Mecopoda (Mecopoda) kerinci* sp. nov.**
(Figs 13, 14, 22, 84)

Etymology. This species is named after Kerinci Mt, its type locality.

Type material. *Holotype* – male, INDONESIA: Sumatra I., Jambi Prov., ~35 km N of Sungaipenuh Town, environs of Kerinci-Seblat National Park, Kerinci Mt, 1500–2000 m, primary forest, 18–22 November 1999, A. Gorochov.

Description. *Male.* Body rather small for this genus. Coloration greenish with yellowish grey dorsum of head and pronotal disc, with light brown anterior surface of upper rostral tubercle of head, proximal portions of antennae, most part of all tibiae (but with yellowish proximal part of fore tibia), all tarsi and cerci, with brown upper part of pronotal lateral lobes, a small spot in middle of distal half of both tegmina, dorsal field of left tegmen, overmirror fold of right tegmen and proximal part of middle tibia, and with dark brown rest of antennae (distal half of antennae with very sparse and small whitish marks) and small spot on fore tibia near each tympanum. Head with upper rostral tubercle roundly angular in profile and having flat dorsal surface; pronotum typical of this subgenus (its disc separated from lateral lobes angular carinae but not low longitudinal keels; Fig. 13) and with small and almost rectangular anteroventral corner of each lateral lobe; wings somewhat shortened, barely protruding beyond apices of hind femora, with tegmina approximately 2.6 times as long as wide and having apical part angular (almost as in *Eumecopoda*; Fig. 22); right tegmen with primitive (*Eumecopoda*-like) type of mirror (Fig. 14); abdomen with cercal apex having 2 small hooks very near each other, and with apical lobules of genital plate thin and long as well as having small but slightly elongate styles and lacking any distinct denticles or tubercles (Fig. 84).

Female unknown.

Length (mm). Pronotum 6.2; tegmina 37.0; hind femora 34.5.

Comparison. This new species distinctly differs

from all the other congeners by somewhat shortened wings having the tegminal apices clearly angular (almost as in *Eumecopoda*), by primitive (*Eumecopoda*-like) mirror type in the right tegmen, the pronotal and femoral structure typical of *Mecopoda* s. str., and the abdominal apex also characteristic for the latter subgenus.

***Mecopoda (Mecopoda) angusta* sp. nov.**
(Figs 15, 16, 23, 85, 86)

Etymology. This species name is the Latin word “angusta” (narrow), because this species has very narrow tegmina.

Type material. *Holotype* – male, MALAYSIA: Pahang State, Tioman I. very near Mersing City (Johor State) in Malay Peninsula, environs of Juara Vill. on eastern coast, forest, 6–14 April 2010, A. Gorochoy, M. Berezin, E. Tkatsheva. *Paratypes*: 1 male, 1 female, same data as for holotype.

Description. *Male* (holotype). Body moderately small for this genus. Coloration uniformly dark brown but with brownish grey genae and dorsum of head, with brown eyes and most part of tegmina (however, dorsal field of left tegmen almost dark brown) including overmirror fold of right tegmen, with greyish brown abdomen, lower half of pronotal lateral lobes and areas on pleurites and on hind femur, and with almost whitish ocelli, sparse and very small spots on antennal flagellum as well as a few small spots on tegminal lateral field. Upper rostral tubercle of head as in *M. (M.) kerinci* sp. nov. but with barely concave dorsal surface; pronotum also as in this species but with distinctly punctate disc (Fig. 15) and anteroventral corners of lateral lobes barely curved aside; wings long, significantly protruding beyond apices of hind femora, with narrow tegmina which almost 4.5 times as long as wide, and with stridulatory apparatus of right tegmen having clearly S-shaped lateral edge of overmirror fold and very narrow distal sclerotized portion of this fold (Fig. 16); abdominal apex distinguished from that of *M. (M.) kerinci* sp. nov. by much shorter and significantly wider apical lobules of genital plate, and extremely short styles (Fig. 85).

Variations. Second male with slightly lighter (brownish grey) pronotal disc, almost light brownish grey distal half of tegmina, and only one small hook at apex of right cercus.

Female. General appearance as in male; however,

body slightly larger, coloration with pronotal disc as in male paratype but with a few small dark brown spots in proximal half of tegmen and with slightly lighter (than other parts of tegmen) dorsal tegminal field, abdominal apex as in previous females considered here but with straight ovipositor and with genital plate almost widely truncate at apex (Fig. 86).

Length (mm). Pronotum: male 6.7–7.3, female 8.2; tegmina: male 51.0–57.0, female 60.0; hind femora: male 38.0–42.0, female 45.0; ovipositor 31.0.

Comparison. The new species is distinguished from all the other congeners by the tegmina very narrow and with primitive mirror type in the male right tegmen, by the male genital plate with short and wide apical lobules as well as strongly shortened styles. The similar characters are visible in the photograph of a male from “Ding Ding is.” (Data Portal of the Natural History Museum, London: <https://data.nhm.ac.uk/dataset/collection-specimens/resource/05ff2255-c38a-40c9-b657-4ccb55ab2feb/record/8231732/1575504000000>); this male is determined as *Mecopoda divergens* Redtenbacher, 1893, but this species is insufficiently described from a female without geographical data (Redtenbacher 1893: “Patria: ?”) and now is impossible for understanding. This male differs from the new species in the male right tegmen having an arcuate (completely convex but not S-shaped) lateral edge of the overmirror fold and a clearly narrower visible part of the mirror. Possibly, the male from “Ding Ding is.” is an additional subspecies of *M. (M.) angusta* sp. nov.

***Mecopoda (Mecopoda) angusta borealis* subsp. nov.**
(Figs 17, 87)

Etymology. This subspecies name is the Latin word “borealis” (northern), because this subspecies is more northern than nominotypical one.

Type material. *Holotype* – male, INDONESIA: Sumatra I., Aceh Prov. near border with North Sumatra Prov., environs of Ketambe Vill. on Alas River very near Gunung Leuser National Park, 3°41–42' N, 97°38–39' E, 300–500 m, primary forest, 15–24 April 2018, A. Gorochoy, M. Berezin, I. Kamskov, E. Tkatsheva. *Paratypes*: 2 males, 3 females, same data as for holotype.

Description. *Male* (holotype). General appearance as in nominotypical subspecies, but epicranium and pronotum almost completely very dark brown

(blackish), tegmina dark brown with almost blackish dorsal field of left tegmen and overmirror fold of right tegmen, fore and middle femora and tibiae also almost blackish, stridulatory apparatus of right tegmen with overmirror fold having almost straight distal half of lateral edge and clearly wider distal sclerotized portion (Fig. 17).

Variations. Coloration of other males of this subspecies more similar to that of nominotypical subspecies, but one male with almost light brown overmirror fold in right tegmen; latter male also with genital plate having one of apical lobules smaller (underdeveloped), and other male with only one small hook at apex of left cercus.

Female. Body structure practically indistinguishable from female of nominotypical subspecies, but coloration of tegmina somewhat spotted (with light grey large spots on lateral field), genital plate with slightly narrower (Fig. 87) and sometimes hardly more notched apex, and ovipositor barely arcuate.

Length (mm). Pronotum: male 7.4–8.0, female 8.5–9.0; tegmina: male 54.0–56.0, female 67.0–70.0; hind femora: male 39.0–41.0, female 48.0–50.0; ovipositor 31.0–33.0.

Comparison. The new species differs from the nominotypical subspecies by the characters listed in the description, and from a male from “Ding Ding is.”, in the overmirror fold of the male right tegmen with an almost straight middle part of its lateral edge (the latter male has this edge strongly convex in the middle part).

***Mecopoda (Mecopoda) dilatata* Redtenbacher, 1893**

(Figs 18, 19, 24, 25, 89)

Material examined. MALAYSIA: 4 males, Sabah State (Borneo I.), Tawau Hills National Park near Tawau City, 200–400 m, secondary-primary forest, 14–20 May 2013, A. Gorochov, M. Berezin, E. Tkatsheva; 1 female, same state, Sandakan Division, environs of Sukau Vill. on Kinabatangan River (~35 km from sea), ~sea level, secondary-primary forest, 8–13 May 2013, A. Gorochov, M. Berezin, E. Tkatsheva; 1 female, Sarawak State (Borneo I.), Bako National Park on sea bank near Kuching City, forest on hills, 18–22 March 2012, A. Gorochov, M. Berezin, E. Tkatsheva, I. Kamskov; 1 female, “Borneo?”, “478”, “620-25”, “№ 131-97”, “*Mecopoda elongata*”, “Saussure det.”.

Note. This species is in accordance to its original

description (Redtenbacher 1893: “Borneo”). It has the body large and brown but with the head (except for its dorsum), pronotal lateral lobes, fore and middle femora, distal half of the hind femur and some parts of the stridulatory apparatus in the male right tegmen more or less dark brown, and with the fore and sometimes middle tibiae as well as some membranes in the lateral tegminal field almost light brown (Figs 24, 25) and sometimes (in females) having 1–2 almost whitish spots. This species is characterized also by the following features: upper rostral tubercle of head roundly angular in profile and with barely concave dorsal surface; pronotum (Fig. 18) approximately as in *M. (M.) angusta* sp. nov.; wings long (strongly protruding beyond apices of hind femora), with tegmina rather wide in male and distinctly narrower in female (tegmina 3.3–3.4 times in male and 4 times in female as long as wide) as well as having distal parts in both sexes narrowly rounded (Figs 24, 25), with stridulatory apparatus of male right tegmen long and narrow as well as having primitive structure of mirror (approximately as in *M. kerinci* sp. nov. and *M. angusta* sp. nov.) and almost completely convex lateral edge of overmirror fold (Fig. 19); male abdominal apex similar to that of *M. (M.) kerinci* sp. nov., but genital plate with slightly less deep posteromedian notch, almost not narrowed apices of apical lobules and barely narrower styles; female abdominal apex practically as in *M. (M.) a. borealis* subsp. nov., but genital plate of female from Sabah with apical part slightly wider (Fig. 89).

The lengths of some structures of this species are following (mm): pronotum in male 8.6–9.0, in female 9.0–9.6; tegmina in male 65.0–70.0, in female 72.0–77.0; hind femora in male 50.0–54.0, in female 54.0–58.0; ovipositor 31.0–33.0.

***Mecopoda (Mecopoda) dilatata basimaculata* subsp. nov.**

(Figs 26, 90)

Etymology. The subspecies name originates from the Latin words “basis” (base) and “maculata” (spotted) in connection with the tegminal coloration.

Type material. *Holotype* – female, INDONESIA: Java I., Gunung Gede Pangrango National Park near Situ Gunung Lake, 9–12 April 2003, M. Berezin.

Description. *Female.* General appearance (including body coloration) almost as in nominotypical subspecies, but tegmina with distinct whitish and rather large spot almost in middle of proximal half

as well as with somewhat shortened distal part (tegmina approximately 3.3 times as long as wide, and its RS region distinctly shorter) and widened area between distal third of MA and anal tegminal edge (in nominotypical subspecies this area not widened in distal third; compare Figs 25 and 26), genital plate with narrowly truncate apex (this apex narrower than in all females of nominotypical subspecies; Fig. 90), and hind femur approximately 1.5 times as long as almost straight ovipositor.

Male unknown.

Length (mm). Pronotum 7.8; tegmina 59.0; hind femora 45.0; ovipositor 29.0.

Comparison. The new subspecies differs from the nominotypical subspecies in the characters listed above (in *M. d. dilatata*, hind femur 1.7–1.8 times as long as ovipositor), and from the other congeners of *Mecopoda* s. str. in wider tegmina and a characteristic dark coloration with a whitish spot in the proximal tegminal half.

***Mecopoda (Mecopoda) ampla* sp. nov.**

(Figs 28, 40, 88)

Etymology. This name is the Latin word “*ampla*” (wide) in connection with wide tegmina in male.

Type material. *Holotype* – male, VIETNAM: Gia Lai Prov., Ka Bang Distr., environs of Krong Pa Vill., forest, September 1997, N. Orlov. *Paratypes*: 1 male, same data as holotype; 3 males, same province, environs of Kannack Town, secondary forest, 8 November 1988, A. Gorochoy; 3 males, same province, 20 km N of Kannack Town, environs of Buon Luoi Vill., primary forest, 3–11 November 1993, A. Gorochoy; 1 male, same province, 40 km N of Kannack Town, environs of Tram Lap Vill., primary forest, 8 December 1988, A. Gorochoy; 1 male, VIETNAM, Kon Tum Prov., Kon Plong Distr., environs of Mang Canh Vill., 1100–1350 m, forest, 11 December 2018, N. Orlov, L. Ioganssen.

Additional material. Numerous males from more northern part of Vietnam (Phu Tho, Cao Bang and Vinh Phu Provinces as well as environs of Hanoi City) and from Myanmar and Cambodia.

Description. *Male* (holotype). Body large, approximately as in *M. (M.) dilatata*. Coloration light brown with brown anterior surface of upper rostral tubercle, disc of pronotum, numerous spots on tegmina and heavily sclerotized part of overmirror fold of right tegmen, with almost dark brown fore and

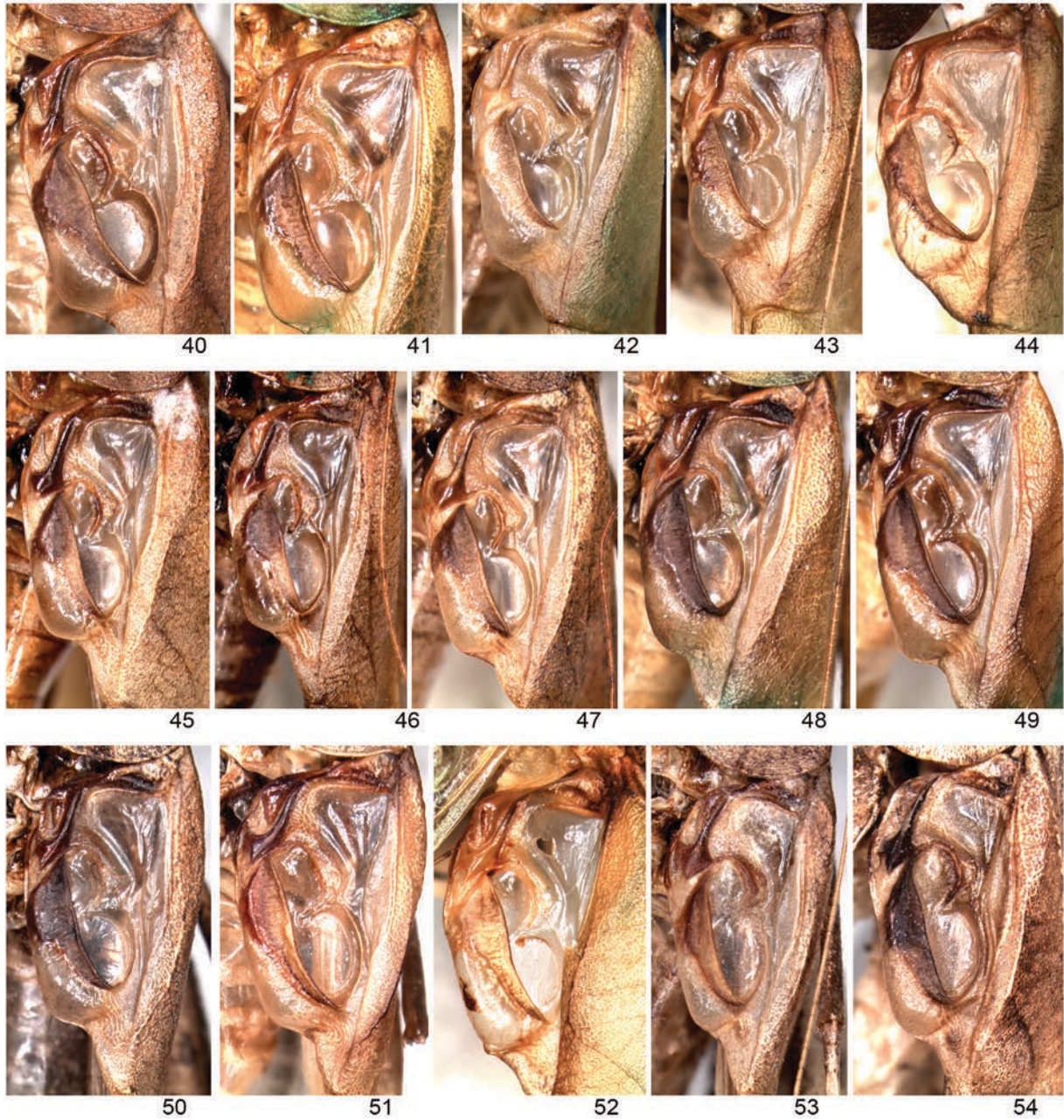
middle femora and tibiae as well as hind tibia and distal half of hind femur, and with darkened apical portion of each cercus. Upper rostral tubercle of head roundly angular in profile and with convex dorsal surface; pronotum more or less similar to that of *M. (M.) angusta* sp. nov. and *M. (M.) dilatata*; wings similar to those of latter species in general appearance, i.e. tegmina approximately 3.3 times as long as wide (Fig. 28), and hind wings slightly protruding beyond tegminal apices in rest condition; stridulatory apparatus of left tegmen with 112 teeth in stridulatory vein; this apparatus in right tegmen distinctly shorter and wider, with mirror typical of *Mecopoda* s. str. (this mirror completely divided by triangular convexity into almost round distal concavity and basally inflated proximal part), with visible (not covered with overmirror fold) distal concavity of this mirror rather large (wide and somewhat longer than proximal portion of this mirror), and with overmirror fold having proximal half of lateral edge slightly convex (Fig. 40); male abdominal apex similar to that of *M. (M.) kerinci* sp. nov. and *M. (M.) dilatata*, but genital plate slightly more similar to that of latter species (Fig. 88).

Variations. Other males strongly varied in coloration and less strongly in tegminal length and shape of genital plate: coloration from brown or light brown (often somewhat spotted) to almost uniformly light green but with darker (greyish brown to dark brown) dorsal tegminal field, parts of legs and sometimes some other smaller spots; tegmina 3.1–3.7 times as long as wide; right tegmen with proximal half of overmirror fold lateral edge sometimes almost straight; genital plate slightly wider or barely narrower.

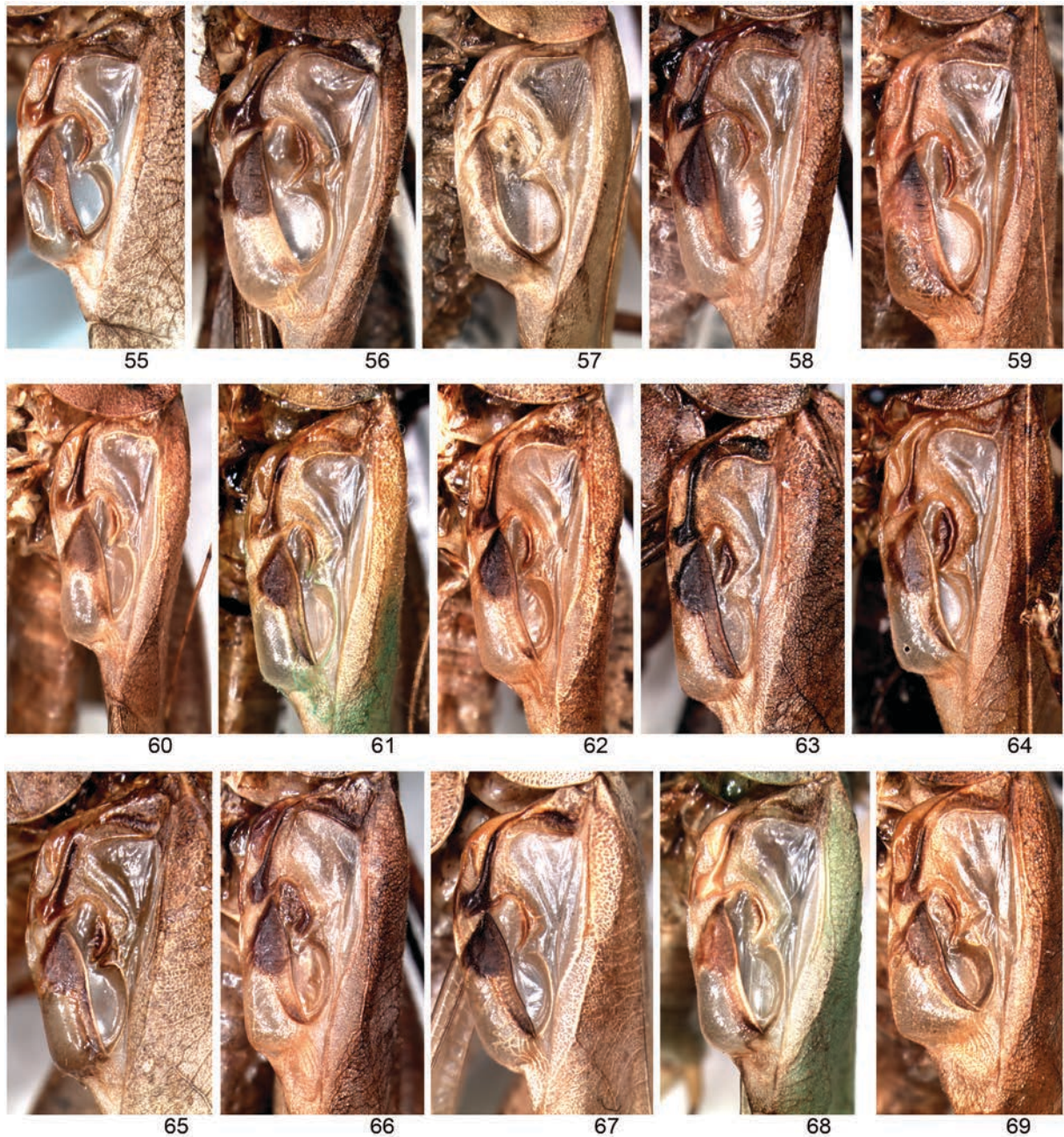
Female unknown.

Length (mm). Pronotum 8–11; tegmina 53–71; hind femora 47–55.

Comparison. The new species is most similar to *M. (M.) niponensis* in the structure of the stridulatory apparatus in the right tegmen but distinguished from it by distinctly longer wings (in *M. niponensis*, tegmina usually 2.5–3 times as long as wide, and hind wings clearly not protruding beyond tegminal apices). The new species also differs from *M. (M.) fallax*, *M. (M.) tibetensis* and *M. (M.) crescendo* in a distinctly wider area between the distal sclerotized part of the overmirror fold in the right tegmen and the anal edge of this tegmen, from *M. (M.) himalaya* in less narrow tegmina and more numerous teeth of the stridulatory vein of the left tegmen (in *M. hima-*



Figs 40–54. *Mecopoda* A.-Serv., stridulatory apparatus of male right tegmen: 40 – *M. (Mecopoda) ampla* sp. nov.; 41 – *M. (M.) a. malayensis* subsp. nov.; 42 – *M. (M.) a. javaensis* subsp. nov.; 43 – *M. (M.) niponensis continentalis* subsp. nov.; 44 – *M. (M.) n. niponensis* (Haan) from Japan; 45–47 – *M. (M.) fallax fallax* He from Northeastern China (45), from Hainan (46) and from Vietnam (47); 48–50 – *M. (M.) f. aequatorialis* subsp. nov. from Sumatra (48), from Java (49) and from Borneo (50); 51 – *M. (M.) f. sulawesi* subsp. nov.; 52 – *M. (M.) f. macassariensis* (Haan); 53, 54 – *M. (M.) f. oceanica* subsp. nov. from Ternate I. (53) and from Busuanga I. (54).



Figs 55–69. *Mecopoda* A.-Serv., stridulatory apparatus of male right tegmen: 55 – *M. (Mecopoda) minor* Liu; 56 – *M. (M.) prominens* sp. nov.; 57 – *M. (M.) tibetensis* Liu from Nepal; 58 – *M. (M.) stridulata* sp. nov.; 59 – *M. (M.) s. latiuscula* subsp. nov.; 60 – *M. (M.) elongata elongata* (L.) from India; 61–63 – *M. (M.) e. maculata* A.-Serv. from Vietnam (61), from Thailand (62) and from Sumatra (63); 64 – *M. (M.) e. buru* subsp. nov.; 65 – *M. (M.) e. darevskyi* subsp. nov. from Flores; 66 – *M. (M.) e. minahasa* subsp. nov.; 67 – *M. (M.) tenebrosa* (Walk.) from Palawan; 68 – *M. (M.) shveri* sp. nov.; 69 – *M. (M.) hainanensis* He.

laya, tegmina 3.95 times as long as wide and with 96 stridulatory teeth in this tegmen) as well as the distal portion of the overmirror fold lateral edge less curved laterally, and from all the other species of this subgenus with the stridulatory apparatus studied in a clearly wider visible part of the distal mirror concavity or in another shape of this mirror part.

Remark. A part of the very numerous females, studied here and originating from the same localities, may belong to this species; but it is practically impossible to identify these females with males, because some other closely related and similar species of *Mecopoda* s. str. live or may live in these localities (genital plates of such females are approximately as in Figs 73–76, 78, 79, 82, 86, 87, 89, 90).

***Mecopoda (Mecopoda) ampla malayensis* subsp. nov.**

(Figs 29, 41)

Etymology. This subspecies is named after Malay Peninsula, where its type locality is situated.

Type material. *Holotype* – male, THAILAND: Surat Thani Prov. (Malay Peninsula), ~40 km WSW of Phanom Town, environs of Khao Sok National Park, secondary-primary forest, 20–28 July 1996, A. Gorochov. *Paratypes*: 5 males, same data as for holotype; 1 male, MALAYSIA, Pahang State (Malay Peninsula), environs of Kuala Tahan Vill. on Tembeling River near Taman Negara National Park, primary forest, 12–16 July 1996, A. Gorochov.

Description. *Male* (holotype). General appearance very similar to that of nominotypical subspecies, but coloration as in green specimens of this taxon, anteroventral corners of lateral pronotal lobes almost acute-angled and more strongly curved aside as well as less moved upwards (almost as in some paratypes of this subspecies but not as in its holotype), tegmina narrower (3.8 times as long as wide; Fig. 29) and with 107 teeth in stridulatory vein of left tegmen, and stridulatory apparatus of right tegmen with straight proximal half of lateral edge of overmirror fold as well as with distal part of this edge slightly curved laterally (Fig. 41).

Variations. Coloration sometimes with a few small dark spots on lateral tegminal field; tegmina 3.8–4.1 times as long as wide; proximal half of lateral edge of overmirror fold sometimes barely or slightly convex; genital plate and its apical lobules sometimes barely wider than in nominotypical subspecies.

Female unknown.

Length (mm). Pronotum 9–10; tegmina 63–69; hind femora 47–51.

Comparison. This subspecies differs from the nominotypical subspecies in the characters listed in the description, from *M. (M.) himalaya* with a similar tegminal shape in the more numerous teeth of the stridulatory vein of the left tegmen and the distal portion of the overmirror fold lateral edge less curved laterally, and from all the other species of this subgenus in the same features as the nominotypical subspecies. If the new subspecies does not belong to this species, it may be a subspecies or synonym of *M. (M.) himalaya*; but it is unlikely, because their geographic areas are very distant (southern part of Malay Peninsula and Yunnan Prov. in China), and similar forms are unknown in the intermediate territory.

***Mecopoda (Mecopoda) ampla javaensis* subsp. nov.**

(Figs 30, 42)

Etymology. This subspecies is named after Java Island, its type locality.

Type material. *Holotype* – male, INDONESIA: “Java merid. 1500’ 1891 H. Fruhstorfer”, “104-98”, “*Mecopoda elongata* № 42”.

Description. *Male*. Coloration and structure of body very similar to those of holotype of *M. (M.) a. malayensis* subsp. nov., but size somewhat smaller, tegmina shorter (they as in nominotypical subspecies, i.e. approximately 3.3 times as long as wide; Fig. 30), stridulatory apparatus with 81 stridulatory teeth in left tegmen as well as with distal concavity of mirror of right tegmen somewhat smaller than in both previous subspecies of this species (this concavity almost equal to proximal portion of mirror in length; Fig. 42).

Female unknown.

Length (mm). Pronotum 8.5; tegmina 53.0; hind femora 41.0.

Comparison. This subspecies differs from the nominotypical subspecies in the stridulatory apparatus of the male right tegmen with a slightly smaller distal concavity of its mirror and with a less convex proximal half of the overmirror fold, from *M. (M.) a. malayensis* subsp. nov. in the characters listed in the description of *M. (M.) a. javaensis* subsp. nov., from *M. (M.) himalaya* in distinctly wider tegmina, and

from all the other species of this subgenus in the same features as the nominotypical subspecies.

Mecopoda (Mecopoda) niponensis continentalis
subsp. nov.

(Figs 27, 43)

Etymology. This subspecies is named “continentalis” (continental in Latin) in opposition to the nominotypical subspecies described from islands.

Type material. *Holotype* – male, CHINA: Guangdong Prov., “*Mecopoda niponensis* D. H. Canton” [= Guangzhou City or Guangdong Province].

Description. *Male.* Coloration and structure of body similar to those of *M. (M.) a. malayensis* subsp. nov. and *M. (M.) a. javaensis* subsp. nov. but with much shorter distal half of tegmina (tegmina almost 2.7 times as long as wide and slightly protruding beyond apices of hind femora; Fig. 27), with distinctly shorter hind wings which not protruding beyond tegminal apices in rest condition (but in *M. ampla* sp. nov., these wings clearly or slightly protruding beyond tegminal apices), with wider visible (open) part of proximal portion of mirror in right tegmen (this part almost equal to area between lateral edge of proximal half of overmirror fold and anal edge of tegmen in width, but in *M. ampla* sp. nov., latter area approximately 1.2–1.3 times as wide as this part of mirror; compare Figs 40–42 and 43), and with straight proximal half of lateral edge of overmirror fold in this tegmen (Fig. 43).

Female unknown for me, but females from China, determined by Liu et al. (2019) and Liu et al. (2020) as *M. niponensis*, distinguished from this male by much narrower tegmina (these tegmina 3.5–5.36 times as long as wide), and having hind femur 1.5–1.7 times as long as ovipositor.

Length (mm), holotype. Pronotum 7.9; tegmina 43.0; hind femora 33.0.

Comparison. The new subspecies is distinguished from the nominotypical subspecies from Japan by a somewhat smaller distal concavity of the mirror in the male right tegmen, a less strongly curved distal half of the overmirror fold lateral edge in this tegmen (see Figs 43 and 44), and somewhat more elongate styles of the male genital plate (in *M. n. niponensis*, these styles shorter, almost as long as wide). Numerous other specimens of *M. niponensis*, recorded by the above-mentioned authors from very different provinces of China, have their measurements rather

variable and may belong to more than one subspecies.

***Mecopoda (Mecopoda) fallax* He, 2019**

(Figs 31–34, 45–54)

Note. This species was described from South China (Liu et al. 2019: Yunnan Prov.) and then re-described and recorded from some other provinces of China (Liu et al. 2020). It is similar and related to *M. (M.) ampla* but distinguished from the latter species as well as from *M. (M.) niponensis*, *M. (M.) himalaya* and *M. (M.) marmorata* by a more or less narrower area between the distal part of the overmirror fold lateral edge and the anal edge of the male right tegmen (compare Figs 40–44 and 45–54). Additionally from *M. (M.) niponensis*, the species considered more or less differs in the tegminal shape (tegmina 2.19–3.36 times as long as wide in *M. niponensis* and 3.21–4.23 times as long as wide in *M. fallax*; see Figs 27 and 31–34). Morphological differences of *M. (M.) fallax* from *M. (M.) minor* and *M. (M.) crescendo* are less understandable: *M. (M.) minor* is rather variable in size and tegminal proportions, and its nominotypical subspecies has the above-mentioned character of the male stridulatory apparatus as in *M. (M.) ampla* and others, but one my male from the environs of Shanghai City (Fig. 55) is in accordance to the original description of *M. (M.) m. minor* and with this apparatus more similar to that of *M. (M.) fallax*; *M. (M.) m. yunnana* Liu et al., 2020 and *M. (M.) crescendo* are also similar to *M. (M.) fallax* in this character but known only from Yunnan. Moreover, *M. (M.) fallax* is probably rather variable also (see its tegminal measurements above), and in my collection, there are a few dry specimens very similar to the descriptions of *M. (M.) fallax* but from different Chinese territories: the males from Northeastern China and from “Shanghai” have the mirror distal concavity of the male right tegmen almost round, but the male from Hainan I. has this mirror concavity somewhat more elongate (see Figs 45 and 46).

Thus, *M. (M.) fallax* may consists of more than one Chinese subspecies; however, the stridulatory apparatus of its holotype is not described, therefore we cannot decide this question now. Here, I tentatively include numerous similar specimens from different territories of Indo-Malayan Region in this species; they are also tentatively divided into a few subspecies which (or some of which) may be closely related but separate species. Differences between these taxa are listed in the key below.

The lengths of some male structures of this species are following (mm): pronotum 7.0–9.5; tegmina 47.0–66.0; hind femora 38.0–56.0.

A key to subspecies of *M. (M.) fallax* for males

1. Tegmina moderately long (their length 47–53 mm) and narrow (3.6–3.9 times as long as wide; Fig. 33); visible part of distal concavity of mirror in right tegmen wide (1.3–1.5 times as wide as area between middle of lateral edge of overmirror fold and anal tegminal edge; Fig. 51); coloration variable (from greenish with greyish brown areas to light brownish grey with more or less distinct darker marks). Northern part of Sulawesi *M. (M.) f. sulawesi* subsp. nov. [Etymology: from type locality, Sulawesi I. Type material: holotype – male, INDONESIA, Sulawesi I., Sulawesi Utara Prov., Bogani Nani Wartabone National Park near Toraut Vill. not far from Doloduo Town, environs of Wallace Base Camp, 17–25 January 2011, A. Gorochov; paratypes – 4 males, same data as for holotype. Additional material: numerous males from different localities of northern and central parts of Sulawesi.]
 - Tegmina diverse; however, visible part of distal concavity of mirror in right tegmen narrower (almost as wide as area between middle of lateral edge of overmirror fold and anal tegminal edge; Figs 45–50, 52–54) 2
2. Tegmina long (their length 56 mm) and narrow (almost 3.6 times as long as wide), but they widest in distal (subapical) part (Fig. 34); coloration greenish with greyish brown areas and small spots on tegminal lateral field. Southern part of Sulawesi *M. (M.) f. macassariensis* (Haan, 1843), stat. nov. [Material examined: 1 – male, INDONESIA, Sulawesi I., “S. Celebes (= Southern Sulawesi), Patuhuang”, I.1896, H. Fruhstorfer (Fig. 52). This male is tentatively determined as Haan’s species, insufficiently described from Southern Sulawesi and provisionally restored here from synonymy with *M. elongata*.]
 - Tegmina diverse, but widest in middle part (Figs 31, 32) 3
3. Tegmina long or moderately long (their length 49–56 mm), and narrow or moderately narrow (3.2–3.8 times as long as wide). Coloration variable (approximately as in *M. f. sulawesi* subsp. nov.). China and Indochina *M. (M.) f. fallax* He, 2019. [Material examined. CHINA: 1 male, Northeastern China, “Syunyao (in Russian)”, 30 August 1954, G. Bey-Bienko (Fig. 45); 1 male, “Shanghai (city or municipality?)”, June–July, Tshernyshev; 1 male, “Hainan (island or province?)”, 7 May 1958, D. Naumov (Fig. 46). VIETNAM: numerous males from Vinh Phu, Hoa Binh and Gia Lai Provinces (Fig. 47).]
 - Tegmina similar in length to those of *M. (M.) f. fallax*

- or very long (their length 49–66 mm), and very narrow (3.9–4.5 times as long as wide) 4
- 4. Tegmina very long (their length 57–66 mm). Coloration almost as in *M. (M.) f. sulawesi* subsp. nov. and *M. (M.) f. fallax*. Sumatra, Java, Borneo, Malay Peninsula *M. (M.) f. aequatorialis* subsp. nov. [Etymology: “aequatorialis” (equatorial in Latin) in connection with distribution of this taxon. Type material: holotype – male, INDONESIA, West Sumatra Prov., environs of Harau Valley National Park, equator, 24–26 November 1990, A. Gorochov (Fig. 48); paratype – 1 male, same data as for holotype. Additional material: numerous males from different localities of Northern and Southern Sumatra, Western Java (Fig. 49) and Sabah and Sarawak in Borneo (Fig. 50).]
 - Tegmina moderately long (their length 49–52 mm). Coloration similar to that of light specimens of previous subspecies of this species but with dark brown upper parts of pronotal lateral lobes. Philippines and Maluku Islands *M. (M.) f. oceanica* subsp. nov. [Etymology: “oceanica” (oceanic in Latin) in connection with distribution of this taxon. Type material: holotype – male, INDONESIA, Maluku Utara Prov., Bacan I. very near Halmahera I., environs of Labuha Town, 2–7 May 2019, A. Egorov (Fig. 53); paratypes – 2 males, same province, Ternate I. very near Halmahera I., garden on hill near Ternate City, 2 February 2011, A. Gorochov. Additional material: 1 male, PHILIPPINES, Busuanga I., southern coast near Coron I., 21–23 February 2004, A. Gorochov (Fig. 54).]

Mecopoda (Mecopoda) tibetensis Liu, 2020 (Fig. 57)

Material examined. NEPAL: 1 male, Illam Distr., “Rakse Pawabhanjyng”, 26°59'26" N, 87°51'27" E, 2600 m, 6–10 October 1996, N. Orlov.

Note. This species is in accordance to its original description (Liu et al. 2020) and differs from the most similar congeners (*M. minor*, *M. crescendo* and majority of *M. fallax* subspecies) in a characteristically widened visible part of the mirror distal concavity in the right tegmen (this widening almost as in *M. f. sulawesi* but with a more strongly curved distal half of the overmirror fold lateral edge; Fig. 57). Coloration of the specimen studied is more or less uniformly greenish but with light brown upper part of the pronotal lateral lobes, dorsal field of the left tegmen and a rather small spot at the middle of each lateral tegminal field. The tegmina of this male are 3.5 times as long as wide, and its body structures are distinctly smaller (new subspecies?): length of

pronotum 7.4 mm; length of tegmina 45 mm; length of hind femora 38 mm.

***Mecopoda (Mecopoda) prominens* sp. nov.**
(Figs 56, 70)

Etymology. This species name is the Latin word “prominens” (prominent, projected) in connection with a projected plectral area in the stridulatory apparatus of the left male tegmen.

Type material. *Holotype* – male, VIETNAM: Gia Lai Prov., environs of Kannack Town, primary-secondary forest, 8 November 1988, A. Gorochov. *Paratypes*: 1 male, same data as for holotype; 1 male, VIETNAM, Hoa Binh Prov., Ky Son Distr., environs of Cao Phong Vill., secondary forest, 24–29 October 1990, A. Gorochov.

Description. *Male* (holotype). General appearance very similar to light greyish brown specimens of *M. (M.) f. aequatorialis* but with following characteristic features: pronotal lateral lobes dark brown in upper half; tegminal lateral field with several lighter (almost whitish) small spots along median line; dorsal field of left tegmen (Fig. 70) somewhat wider than in *M. (M.) fallax* (approximately 7.5 mm in width; vs. 5.5–6.5 mm in width); stridulatory apparatus of right tegmen transparent with 2 brown marks, and its plectral region (Fig. 56) medially more projected than in this species and having keel-like part of plectrum longer (almost 2 mm in length; vs. 1.2–1.6 mm in length).

Variations. Male from Hoa Binh Prov. practically without almost whitish spots in lateral tegminal field.

Female unknown.

Length (in mm). Pronotum 82.0–8.8; tegmina 53.0–57.0; hind femora 43.0–45.0.

Comparison. The new species is distinguished from its most similar congeners (*M. fallax*, *M. crescendo*, *M. minor*, *M. tibetensis*) by the characters of the plectral region in the male right tegmen listed above as well as a wider dorsal tegminal field in the male left tegmen. From *M. (M.) ampla* sp. nov., *M. (M.) niponensis*, *M. (M.) himalaya* and *M. (M.) marmorata*, it differs in the male right tegmen with a less wide area between the distal part of the overmirror fold lateral edge and the anal tegminal edge, and from the other representatives of this subgenus, in a not primitive (typical of *Mecopoda* s. str.) structure of the mirror in this tegmen as well as a distinctly wider visible part of the distal concavity of this mirror.

***Mecopoda (Mecopoda) stridulata* sp. nov.**
(Figs 35, 58, 71)

Etymology. The species name originates from the Latin word “stridula” (stridulatory) in connection with the presence of long stridulatory apparatus in the male right tegmen.

Type material. *Holotype* – male, MALAYSIA: Sarawak State (Borneo I.), Bako National Park on sea bank not far from Kuching City, primary forest on hills, 18–22 March 2012, A. Gorochov, M. Berezin, E. Tkatsheva, I. Kamskov. *Paratypes*: 1 male, MALAYSIA, Sabah State (Borneo I.), “Sepilok”, 1–6 February 2014, M. Berezin; 2 males, “Nord-Borneo (= Sabah State of Malaysia ?) ex coll. Fruhstorfer”.

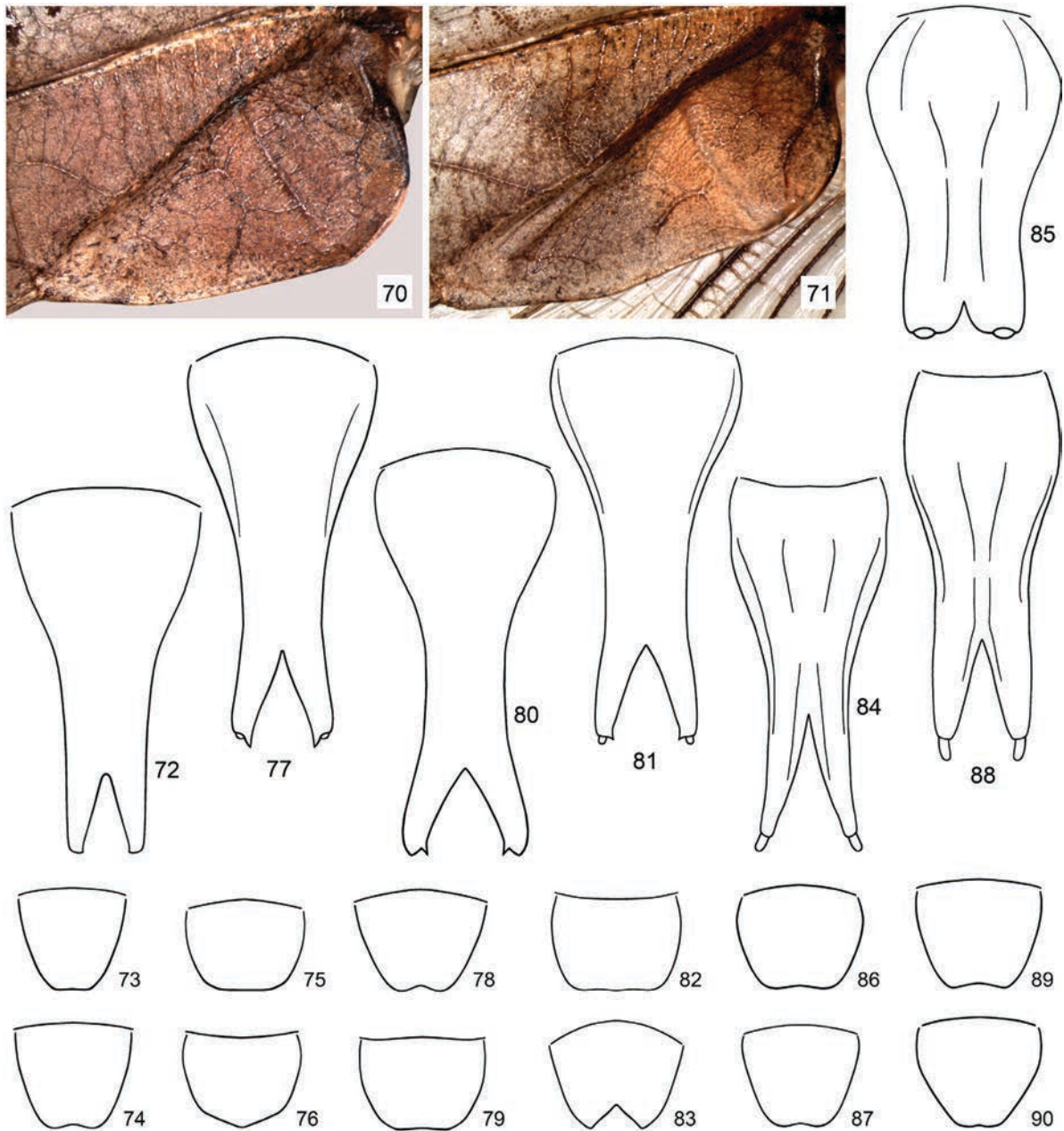
Description. *Male*. General appearance almost as in male of *M. (M.) prominens* sp. nov. but with following differences: transverse spot on anterior surface of upper rostral tubercle of head, upper half of lateral lobes and partly fore and middle legs brown; dorsal field of left tegmen somewhat narrower (6.5 mm in width; Fig. 71); stridulatory apparatus of right tegmen somewhat longer (its length from transverse portion of CuP to end of medial inflation near apex of mirror almost 1.9 times as great as its width between proximal part of CuA and anal tegminal edge; vs. this length approximately 1.6 times as great as this width) and with rather large but elongate visible part of distal concavity of mirror (this part distinctly wider than area between middle of overmirror fold lateral edge and anal tegminal edge; Fig. 58).

Variations. Sometimes pronotal lobes with upper darkened areas darker (almost dark brown), lateral tegminal field with two rather large spots along median line (these spots dark in anal half and almost whitish in costal half), and visible parts of mirror in right tegmen insignificantly narrower.

Female unknown.

Length (mm). Pronotum 9.0–10.0; tegmina 53.0–56.0; hind femora 44.0–47.0.

Comparison. The new species differs from *M. (M.) prominens* sp. nov., *M. (M.) fallax*, *M. (M.) crescendo*, *M. (M.) minor*, *M. (M.) tibetensis*, *M. (M.) niponensis*, *M. (M.) himalaya* and *M. (M.) ampla* sp. nov. in the stridulatory apparatus of the right tegmen longer (in these species, this apparatus almost as in *M. prominens* and *M. tibetensis* in general shape). From *M. (M.) marmorata* with this apparatus also rather long, the new species is distinguished by the area between the distal end of the visible part of its



Figs 70–90. *Mecopoda* A.-Serv.: 70 – *M. (Mecopoda) prominens* sp. nov.; 71 – *M. (M.) stridulata* sp. nov.; 72–74 – *M. (Eumecopoda) cyrtoscelis cyrtoscelis* Karsch; 75 – *M. (E.) c. moresby* subsp. nov.; 76 – *M. (E.) c. aru* subsp. nov.; 77, 78 – *M. (E.) spinosa* sp. nov.; 79 – *M. (E.) s. tuberculata* subsp. nov.; 80 – *M. (E.) moluccarum* Griff.; 81, 82 – *M. (E.) superba* Bol.; 83 – *M. (Paramecopoda) granulosa* sp. nov.; 84 – *M. (M.) kerinci* sp. nov.; 85, 86 – *M. (M.) angusta* sp. nov.; 87 – *M. (M.) a. borealis* subsp. nov.; 88 – *M. (M.) ampla* sp. nov.; 89 – *M. (M.) dilatata* Redt.; 90 – *M. (M.) d. basimaculata* subsp. nov. Dorsal field of male left tegmen (70, 71); male genital plate from below (72, 77, 80, 81, 84, 85, 88); female genital plate from below (73–76, 78, 79, 82, 83, 86, 87, 89, 90).

mirror and the anal tegminal edge clearly narrower, and from the other representatives of this subgenus, by this mirror typical of *Mecopoda* s. str. (not primitive in structure) or with its visible part wider.

Mecopoda (Mecopoda) stridulata latiuscula
subsp. nov.
(Figs 36, 59)

Etymology. This subspecies name is the Latin word “latiuscula” (broadish) in connection with broadish male tegmina.

Type material. *Holotype* – male, INDONESIA: Java I., “*Mecopoda elongata* Fab. Java”, “Brunner v. W. det.”.

Description. *Male.* Coloration and structure of body very similar to those of nominotypical subspecies, but upper part of pronotal lateral lobes almost dark brown, dorsal tegminal field in left tegmen brown and in right tegmen with light brown medial parts having small darkened spot at base of overmirror fold, tegmina somewhat wider (almost 3.5 times as long as wide; vs. almost 4.2 times as long as wide) (for comparison see Figs 35 and 36) and with visible parts of mirror in right tegmen somewhat narrower (visible part of distal concavity of this mirror slightly narrower than area between middle of overmirror fold lateral edge and anal tegminal edge; Fig. 59).

Female unknown.

Length (mm). Pronotum 8.5; tegmina 53.0; hind femora 40.0.

Comparison. The new subspecies differs from the nominotypical subspecies in the above-mentioned characters, from *M. (M.) marmorata* in the distinctly wider tegmina (in this species, tegmina 3.91 times as long as wide; Liu et al. 2020) and from the other representatives of this subgenus in the same characters as the nominotypical subspecies.

***Mecopoda (Mecopoda) elongata* (Linnaeus, 1758)**
(Figs 37, 38, 60–66)

Note. This species was established after a female from India preserved at the Linnean Collection in London (OSF). Previously I wrote that females in this subgenus are almost unsuitable for species determination at the present, and here I am guided by the paper by Liu et al. (2020) with a photograph of the tegminal stridulatory apparatus of a male from India

determined as “*M. elongata*”. This apparatus has a very narrow visible part of the mirror distal concavity in the right tegmen which is very similar to that of my males from the former Bombay State of India (Fig. 60). These males are tentatively considered here as belonging to the nominotypical subspecies of this species. Thus, *M. (M.) elongata* is probably widely distributed species which differs from all the other species of *Mecopoda* s. str., considered above, in a medium-sized body, long wings, narrow tegmina (3.7–4.2 times as long as wide), the male tegminal stridulatory apparatus rather long (almost as in *M. stridulata* sp. nov.), the mirror distal concavity of the male right tegmen narrower than in all these species (Figs 60–66), and the area between the distal part of the overmirror fold lateral edge and the anal tegminal edge in this tegmen not very widened (approximately as in *M. fallax*, *M. prominens* sp. nov., *M. stridulata* sp. nov., *M. tibetensis*, *M. crescendo* and *M. minor yunnanensis*). However, the body structure and the male stridulatory apparatus in *M. (M.) confracta* and *M. (M.) synconfracta* from China are practically identical to those of my Indian males, but these species differs from each other only acoustically and cannot be distinguished from numerous similar collectible specimens from the other territories of Indo-Malayan Region studied by me. Moreover, there are several old scientific names synonymized with *M. (M.) elongata* (OSF); some of them are proposed without geographical data and probably for color variants only (i.e. taxonomically unavailable), but other ones may be true synonyms of the Indian subspecies as well as belong to very insufficiently described taxa and be tentatively suitable for different subspecies of this species or for some closely related species.

A key to subspecies of *M. (M.) elongata* for males

1. Tegmina moderately narrow (3.4–3.6 times as long as wide) and with widest part located in distal third of tegmen (Fig. 38); proximal (strongly S-shaped) part of CuP in stridulatory apparatus of right tegmen with medial curvature almost angularly projected proximad (Fig. 66); body coloration more or less dark greyish brown. Northern Sulawesi
. ***M. (M.) e. minahasa*** subsp. nov.
[Etymology: after Minahasa Peninsula of Sulawesi I. where type locality is situated. Type material: holotype – male, INDONESIA, Sulawesi I., Sulawesi Utara Prov., Bogani Nani Wartabone National Park near Toraut Vill. not far from Doloduo Town, envi-

- rons of Wallace Base Camp, 17–25 January 2011, A. Gorochov; paratype – male, same data as for holotype. Length (mm): pronotum 7.0–7.7; tegmina 64.0–66.0; hind femora 42.0–45.0.]
- Tegmina narrower (3.7–4.1 times as long as wide) and with widest part located in middle third of tegmen (Fig. 37); part of CuP, mentioned in thesis 1, with medial curvature less angular and not projected proximad (Figs 60–65); body coloration variable (from greenish with a few light greyish brown areas to almost light greyish brown or distinctly spotted) 2
 - 2. Stridulatory apparatus in right tegmen with visible part of proximal (convex) portion of mirror rather wide, slightly wider than visible part of distal concavity (distal portion) of mirror (Fig. 65); body coloration light brown with a few darker spots on anterior surface of upper rostral tubercle of head, on upper half of pronotal lateral lobes and on medial part of stridulatory apparatus in right tegmen. Lesser Sunda Islands. *M. (M.) e. darevskyi* subsp. nov. [Etymology: after collector of this subspecies. Type material: holotype – male, INDONESIA, Flores I., 28 August 1962, I. Darevsky. Additional material: 1 male, INDONESIA, Komodo I., 2–3 August 1962, I. Darevsky. Length (mm): pronotum 8.0–8.5; tegmina 54.0–57.0; hind femora 40.0–44.0.]
 - Stridulatory apparatus in right tegmen with visible part of proximal (convex) portion of mirror rather narrow, slightly or distinctly narrower than visible part of distal concavity (distal portion) of mirror (Figs 60–64); body coloration variable (see antithesis 1) 3
 - 3. Stridulatory apparatus in right tegmen with distal concavity of mirror having distinct additional narrow and sloping arcuate fold around transparent bottom of visible part of this concavity (Fig. 64); body coloration similar to that of *M. (M.) e. darevskyi* subsp. nov. but slightly darker and with almost uniformly brown head and pronotum. Maluku Islands *M. (M.) e. buru* subsp. nov. [Etymology: after type locality, Buru I. Type material: holotype – male, INDONESIA, “Boeroe (= Buru I.)”, 1921, Estrin, Smotritskaya; paratype – male, same data as for holotype. Length (mm): pronotum 8.5–9.0; tegmina 54.0–60.0; hind femora 46.0–50.0.]
 - Stridulatory apparatus in right tegmen with distal concavity of mirror lacking distinct additional arcuate fold around transparent bottom of visible part of this concavity (Figs 60–63); body coloration variable (as in antithesis 1) 4
 - 4. Body small (length in mm: pronotum 7.0–7.2; tegmina 48.0–50.0; hind femora 31.0–33.0); body coloration light greyish brown with greyish brown upper portions of epicranial anterior surface and of pronotal lateral lobes as well as with some parts of legs. India

- *M. (M.) e. elongata* (Linnaeus, 1758) [Material examined: 3 males, INDIA, “Bombay State (= Maharashtra State ?), Surat Town (in Russian)”, at light, 25 October 1957, E. Shver (Fig. 60).]
- Body larger (length in mm: pronotum 7.5–9.3; tegmina 51.0–66.0; hind femora 36.0–47.0); body coloration variable (from light brown with numerous darker spots to almost greenish with some light greyish brown areas or similar to that of *M. e. elongata*). Indochina, Malay Peninsula, Sumatra and Java. *M. (M.) e. maculata* Audinet-Serville, 1831, stat. nov. [Material examined: numerous males from different localities in Vietnam, Laos, Cambodia, Thailand, Malaysia (Malay Peninsula only), Sumatra and Java (Figs 61–63).]

***Mecopoda (Mecopoda) tenebrosa* (Walker, 1869), sp. resurr.**
(Fig. 67)

Material examined. PHILIPPINES: 1 male, Palawan I., Puerto Princesa Town, 9 March 2004, A. Gorochov; 1 male, Southern Palawan, environs of Quezon Town, 4–5 March 2004, A. Gorochov; 1 male, Southern Palawan, environs of Brooke’s Point Town, 6–8 March 2004, A. Gorochov; 1 male, Northern Palawan, environs of Port Barton Town, 27–29 February 2004, A. Gorochov; 1 male, Northern Palawan, environs of Taytay Town, 25–26 February 2004, A. Gorochov; 2 males, Busuanga I., southern coast near Coron I., 21–23 February 2004, A. Gorochov; 1 male, Mindoro I., environs of Puerto Galera Town, 11–13 March 2004, A. Gorochov.

Note. This species was described from 2 localities (Walker 1869: “*Decticus tenebrosus*”): “Philippine Isles” and “Corea”. Later, it was synonymized with *M. (M.) elongata* and some of its possible but enigmatic synonyms (see OSF), and one of its syntypes (female from the Philippines) was designated as the lectotype of this species (Storozhenko and Paik 2007). The above-mentioned specimens are tentatively determined here as belonging to this species, because they are different from *M. (M.) elongata* in some small but important characters of the male stridulatory apparatus: this apparatus in the right tegmen is somewhat shorter than in *M. (M.) elongata*, *M. (M.) confracta*, *M. (M.) synconfracta*, *M. (M.) marmorata* and *M. (M.) stridulata* sp. nov., and almost as in all the other species of *Mecopoda* s. str.; however, the visible part of its mirror distal concavity is as narrow as in *M. (M.) elongata* and narrower than in the other congeners of

this subgenus (Fig. 67). It is a reason that I propose a preliminary restoration of this Walker's species for these specimens from the Philippines. In the other characters, the specimens examined are similar to *M. (M.) e. elongata* (including length and shape of tegmina) and having a light brown body coloration with dark brown upper halves of the pronotal lateral lobes and two marks on the stridulatory apparatus of the male right tegmen (Fig. 67).

The lengths of some male structures in this species are following (mm): pronotum 8.0–9.5; tegmina 52.0–56.0; hind femora 45.0–48.0.

***Mecopoda (Mecopoda) shveri* sp. nov.**
(Fig. 68)

Etymology. This species is named after its collector.

Type material. *Holotype* – male, INDIA: “Delhi (= National Capital Territory of Delhi ?)”, at light, October 1957, E. Shver.

Description. *Male.* General appearance (including structure of stridulatory apparatus) similar to *M. (M.) tenebrosa* but with following differences: body coloration greenish with light greyish brown anterior surface of upper rostral tubercle of head, band on each pronotal lateral lobe along its dorsal edge, and dorsal tegminal field, as well as with yellowish and brownish marks on medial part of stridulatory apparatus of right tegmen; tegmina somewhat wider (almost 3.5 times as long as wide), and plectral region of stridulatory apparatus in right tegmen barely less projected medially and having somewhat shorter non-sclerotized area located very near plectrum along most proximal part of anal tegminal edge (this area almost reaching proximal edge of plectrum; Fig. 68).

Female unknown.

Length (mm). Pronotum 7.3; tegmina 49.0; hind femora 47.0.

Comparison. The new species is distinguished from *M. (M.) tenebrosa* by the characters listed above, from the other congeners of this subgenus by the same characters as this species and somewhat wider tegmina, and additionally from *M. (M.) stridulata latiuscula* subsp. nov., having its tegmina similar to those of the new species, by a less distinct difference in the width of the visible parts of the proximal

and distal mirror portions in the male right tegmen (compare Figs 59 and 68).

***Mecopoda (Mecopoda) hainanensis* He, 2019**
(Figs 39, 69)

Material examined. CHINA: 1 male, Hainan I., July 2000, N. Orlov.

Note. This species is a second (after *M. niponensis*) Chinese species of this genus with significantly widened and somewhat shortened tegmina, but it differs from *M. (M.) niponensis* in different shape and venation of these tegmina as well as in a different coloration (greenish in *M. niponensis* and light brown in *M. hainanensis*; compare Figs 27 and 39). Some more important differences are in the structure of the stridulatory apparatus of the male right tegmen, firstly described here for *M. (M.) hainanensis*: this apparatus with a narrower and longer membrane before the mirror than in *M. (M.) niponensis* and some similar congeners (this membrane almost as in *M. elongata* and *M. stridulata* sp. nov.), and with a shortest mirror among all the other species of *Mecopoda* s. str., but the area between the distal part of the overmirror fold lateral edge and the tegminal anal edge is wide (almost as in *M. niponensis*, *M. himalaya*, *M. marmorata*, *M. minor minor* and *M. ampla* sp. nov.; Fig. 69).

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