New and little known crickets from the collection of the Humboldt University and some other collections (Orthoptera: Grylloidea). Part 2

A.V. Gorochov

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The subfamilies Hemigryllinae, Landrevinae, Phalangopsinae, Cacoplistinae, Phaloriinae are considered. 1 new genus, 6 new subgenera, 43 new species are described. 4 generic and 4 specific names are resurrected from synonymy. New synonymies (1 generic and 1 specific) are established. 2 former generic names are downgraded to subgeneric rank. Lectotypes of 9 species and neotype of 1 species are designated. Redescriptions, new data on the systematic position and geographical distribution of several species are given.

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Introduction

The second part of the present research is based on material of the subfamilies Hemigryllinae, Landrevinae, Phalangopsinae, Cacoplistinae, and Phaloriinae. The subfamilies Gryllomiminae, Itarinae, Gryllomorphinae, and Gryllinae were considered in the first part of this publication (Gorochov, 1996).

The examined material is mostly kept in the collection of the Humboldt University (Museum für Naturkunde der Humboldt Universität), Berlin (MNHU), and partly in the following collections: Zoological Institute, Russian Academy of Sciences, St.Petersburg (ZIAS), Naturhistoriska Riksmuseet, Stockholm (NHRM), Deutsches Entomologisches Institut, Eberswalde (DEIE), d'Histoire Naturelle, Geneva Museum (MHNG), Forschungs-Institut und Natur-Museum "Senckenberg", Frankfurt am Main (FNSF), Museo Nacional de Ciencias Naturales, Madrid (MNCN), Academy of Natural Sciences, Philadelphia (ANSP), Zoological Museum of Moscow University, Moscow (ZMMU).

Family **GRYLLIDAE** Laicharting, 1781

Subfamily HEMIGR YLLINAE Gorochov, 1986

Genus Hemigryllus Saussure, 1877

Hemigryllus columbi sp. n. (Figs 1-5)

Holotype. o', Colombia, "Columbien. Moritz", "998" (MNHU).

Paratypes. Colombia: 1 o', 2 9, same data as holotype (MNHU and ZIAS); 1 o', 1 9, "Colombie. M.H. de Saussure" (MHNG).

Description. Male (holotype). Size, general coloration, and shape of body typical of this genus. Head noticeably narrower than pronotum, round, very light with dark spots and longitudinal stripes on vertex and rostrum; antennae and palpi very light; scape almost half as wide as rostrum between antennal cavities. Pronotum strongly transverse (2.2 times as wide as long), clearly narrowing in front, very light with dark stripes



Figs 1-10. Hemigryllus, of. 1-5, H. columbi Sp. n. (holotype); 6-10, H. femineus Gor. (holotype). Dorsal part of tegmen (1, 6); intercalar triangle of tegmen (lanceolate cell dotted) (2, 7); genitalia from above (3, 8), from below (4, 9), and from the side (5, 10).

along lateral edges of disc and with slight darkish spots on disc. Tegmina with slightly reduced lanceolate cell (Fig. 2); chords strongly curved; mirror rather large, with dividing vein; coloration greyish, light. Hind wings very long, greyish. Legs typical of this genus (fore tibiae short, with only inner large oblong tympanum; hind tibiae wide, with very long pubescent spines and spurs; hind metatarsi wide, with several outer denticles and almost without inner denticles), very light with small, sparse dark spots. Abdomen, cerci, and genital plate very light. Genitalia with long and S-shaped (in profile) epiphallus; ectoparameres with rather long distal process, but almost without proximal one; mould of spermatophore attachment plate rather large.



Figs 11-21. Hemigryllus, o. 11-15, H. sharovi Sp. n.; 16, H. ortonii (Scud.) [type of H. kriechbaumeri Sauss. (Saussure, 1877)]; 17-21, H. woronovi Gor. (holotype). Dorsal part of tegmen (11, 16, 17); intercalar triangle of tegmen (lanceolate cell dotted)(12, 18); genitalia from above (13, 19), from below (14, 20), and from the side (15, 21).

Variations. Sometimes general coloration darker (light brown with dark brown ornament).

Female. Similar to male, but dorsal part of tegmina with comb-like, slightly irregular venation. Ovipositor strongly reduced. Females of this species almost indistinguishable from females of other species of *Hemigryllus*.

Length. Body: σ 12-14, φ 13-15 mm; body with wings: σ 18- 22, φ 19-21 mm; pronotum: σ 1.7-1.9, φ 2-2.2 mm; tegmina: σ 8.5-9.5, φ 8.5-9.5 mm; hind femora: of 7-8, 97.5-8.5 mm; ovipositor 0.6-0.8 mm.

Etymology. The species is named in honour of the Discoverer of America.

Hemigryllus sharovi sp. n.

(Figs 17-18)

Holotype. o, Peru, "Peru. 500 m. Ob Madre de Dios. X. Garlepp V." (MNHU).

Paratypes. 2 Q, same data as holotype, but VI (MNHU and ZIAS).



Figs 22-31. Otteana. 22-27, O. truncicola sp. n.; 28-31, O. dilinhensis (Otte). Dorsal part of male tegmen (22, 28); male genitalia (holotypes) from above (23, 29), from below (24, 30), and from the side (25, 31); maxillary palpi (26) and distal half of ovipositor (27) from the side (paratype).

Description. Male. Size, coloration, and external structure of body similar to previous species, but tegmina with strongly reduced lanceolate cell (Fig. 18) and mediumsized undivided mirror. Genitalia similar to those of *H. woronovi* Gor., but epiphallus longer and ectoparameres comparatively smaller.

Female. Similar to male, practically indistinguishable from female of previous species.

Length. Body: of 12, 9 11.5-12.5 mm; body with wings: of 19, 9 20-21 mm; pronotum: of 2, **φ**2.1-2.2 mm; tegmina: σ 9, φ 9-9.5 mm; hind femora: σ 7.8, φ 7.5-8 mm; ovipositor 0.7-0.8 mm.

Etymology. This species is named in memory of A.G. Sharov, well-known entomologist and paleontologist.

Hemigryllus woronovi Gorochov, 1986

Material. Bolivia: 2 o', 2 9, "Bolivien. Villa Montes", X-XI.1930, "Dr. Eisentraut" (MNHU and



Figs 32-39. Otteana, Ahldreva, and Duolandrevus, pterothorax of male without tegmina from above. 32, O. truncicola sp. n. (paratype); 33, A. andreevi sp. n.; 34, D. sumatranus sp. n.; 35, D. rarus sp. n.; 36, D. brachypterus (Haan) (neotype); 37, D. fruhstorferi sp. n.; 38, D. lombokensis sp. n.; 39, D. minus sp. n.

ZIAS); 1 or, 1 9, "Bolivia. Prov. Sara. J. Steinbach S.V." (MNHU).

Note. These specimens are slightly larger and lighter than type specimens from Colombia. The species is recorded from Bolivia for the first time.

Key to species of Hemigryllus for males

- 1. Mirror of tegmina without dividing vein (Figs 11, 12, 17).....2
- Mirror of tegmina with dividing vein (Figs 1, 6).. 4
- 2. Tegmina with slightly curved chords (Fig. 11). Ecuador, Brazil, Argentina (?). H. ortonii (Scud.)
- 3. Tegmina with rather short apical area and welldeveloped lanceolate cell (Figs. 12-13). Genitalia





Figs 40-42. Duolandrevus, of. 40, D. bodemensis (Otte); 41, 42, D. shilovi Sp. n. Pterothorax without tegmina from above (40, 41); dorsal part of tegmen (42).

Subfamily LANDREVINAE Saussure, 1878

Genus Otteana Gorochov, 1990

Otteana truncicola sp. n.

(Figs 22-27, 32)

Holotype. J. Vietnam, Prov. Gia Lai, Buon Luoi (20 km N of Kannack), 700 m, 1-10.IV.1995, A. Gorochov (ZIAS).

Paratypes. Vietnam, Prov. Gia Lai: $2 \sigma', 5 \varphi, 1$ nymph, same data as holotype (ZIAS); $1 \sigma', 1$ nymph, Tram Lap (40 km N of Kannack), 800 m, 20-24.IV.1995 and 1-14.XII.1988, A. Gorochov (ZIAS).

Description. Male (holotype). Small, dorsoventrally flattened. Head strongly flattened, yellowish white with brown genae, subgenae, upper part of mandibles, transverse stripe between eyes, pair of S-shaped lines between antennal cavities, and pair of spots along upper (hind) part of eyes; antennae light with numerous brownish rings on flagellum; palpi short, light brownish, with last segment of characteristic shape (Fig. 26). Pronotum distinctly transverse, with low black lateral lobes and yellowish white disc. Tegmina with rather long apical area; mirror round, with single dividing vein; dorsal part yellowish white with brownish spots on basal area, between 3 medial (anal) chords, near lateral (costal) edge of mirror, and with slightly darkened apical area (but with lighter veins); lateral area dark (blackish brown) with lighter stripe along lower edge; tegmina and hind wings of almost equal length. Metanotal gland as in Fig. 32. Fore tibiae with rather large oblong tympanum at outer side only; fore and middle legs light with darkened spots on tarsi and upper surface of tibiae; hind legs light with darkened reticular ornament on outer surface of femora, dark upper half of tibiae, and darkened spots on tarsi. Abdomen brown with light spots on upper surface; cerci yellow; genital plate black. Genitalia with partly membranous proximal part of epiphallus, slightly curved distal paired processes of epiphallus, and short apodeme of mould of spermatophore attachment plate.

Variations. Sometimes hind tibiae lighter with only distal part of upper surface dark.

Female. Similar to male. Dorsal part of tegmina darkened (blackish or brown) with most veins and basal spot whitish. Genital plate brown. Ovipositor brownish, typical of Landrevinae (Fig. 27).

Length. Body: of 11-13, 912-13.5mm; body with wings: of 12.5-14.5, 914-15 mm; pronotum: of 2.2-2.4, 92.5-2.7 mm; tegmina: of 9-10, 910-11 mm; hind femora: of 8.8-9.8, 99-10 mm; ovipositor 8-9 mm.

Comparison. The new species is closely similar to O. dilinhensis (Otte), but differs in the lighter coloration, presence of only outer tympanum at fore legs (O. dilinhensis has only inner tympanum), longer apical area of male tegmina, characteristic shape of epiphallus, and short apodeme of mould of spermatophore attachment plate. The holotype of O. dilinhensis (ANSP) has been examined by me (Figs 28-31).



Figs 43-50. Duolandrevus and Ahldreva, J. 43, D. brachypterus (Haan) (neotype); 44, D. fruhstorferi sp. n. (holotype); 45, D. lombokensis sp. n.; 46, D. sumatranus sp. n.; 47, D. rarus sp. n.; 48, D. minimus sp. n.; 49, D. sapidus (Gor.) (holotype); 50, A. andreevi sp. n. Tegmen without venation of lateral area (43-49); pterothorax from above (50).

Note. This species was collected on trunks and under bark of living and dead trees in forest at night.

Genus Duolandrevus Kirby, 1906

Type species Gryllus brachypterus Haan, 1842, Java.

I consider that this genus consists of several subgenera and is characterized by the shortened tegmina (Figs 42-49), absent or reduced hind wings (Figs 34-41), presence of inner and outer tympana in most cases, and epiphallus with a pair of large hind lateral processes and usually bifurcated small hind medial process (sometimes latter process without bifurcation) (Figs 51-80). The condition of the tympana can be used for separating of genera in the Landrevinae only with great caution as the example of the *Otteana* shows.

Subgenus Duolandrevus s. str.

Description. Male tegmina with rather long enlarged part of lateral area (Figs 43, 44). Metanotal gland well-developed, comparatively small (Figs 36, 37). Male genitalia with rather small epiphallus (its length ap-



Figs 51-56. Duolandrevus. 51-53, D. brachypterus (Haan) (neotype); 54-56, D. fruhstorferi sp. n. (holotype). Male genitalia from above (51, 54), from below (52, 55), and from the side (53, 56).

proximately equal to or less than half of total genital length) and without very small numerous denticles at hind lateral processes of epiphallus (Figs 51-56).

Included species: type species, Duolandrevus karnyi Otte, 1988, D. (D.) fruhstorferi sp. n., possibly D. saltator Bey-Bienko, 1966, D. luzonensis Otte, 1988, and some of other species included by Otte (1988) in this genus. Duolandrevus (Duolandrevus) brachypterus (Haan, 1842) (Figs 36, 43, 51-53)

Neotype. o', Java, "Java occident. Sukabumi. 2000. 1893. H. Fruhstorfer" (MNHU).

Note. The types of this species from Java are lost (Otte, 1988). I designate here the neotype of Gryllus brachypterus as it is the type species of the genus *Duolandrevus*. This specimen corresponds to Haan's (1842) and Saussure's (1877) descriptions although they are insufficient for exact identification.

Description. Male (neotype). Rather small for this genus, slightly flattened dorsoventrally. Head flattened, insignificantly wider than pronotum; rostrum between antennal cavities insignificantly wider than scape; coloration brown, uniform; postclypeus, antennae, and palpi very slightly lighter. Pronotum distinctly transverse, with parallel sides, brown, unicolorous. Tegmina extending to base of 6th abdominal tergite; mirror developed, rather small, without dividing veins; coloration brownish (slightly lighter than head and pronotum), uniform. Hind wings very small; almost as long as metanotum. Metanotal gland as in Fig. 36. Fore tibiae with rather large oval tympana at outer and inner sides; legs light brown with slightly darker apical part of hind femora and upper side of hind tibiae. Abdomen brown with dark brown longitudinal medial stripe above; cerci and genital plate brownish. Genitalia with small epiphallus; hind medial process rather small and without bifurcation.

Female unknown to me.

Length. Body 19 mm; pronotum 2.8 mm; tegmina 8.5 mm; hind femora 10.5 mm.

Comparison. The species is closely similar to *D. karnyi*, but distinguished from it by the coloration (tegmina not dark brown, legs not uniformly reddish) and structure of epiphallus (smaller hind medial process and shape of notches near it).

Duolandrevus (Duolandrevus) fruhstorferi sp. n. (Figs 37, 44, 54-56)

Holotype. o', Lombok I. (near Java), "Lombok. Sapit. 2000. Mai-Juni 1896. H. Fruhstorfer" (MNHU).

Paratype. 1 o', Lombok I., "Lombok. 1909. J. Elbert", "Tengengeak. 1000-1500 m" (FNSF).

Description. Male (holotype). Very similar to D. brachypterus, but tegmina extending to middle of 5th abdominal tergite, hind wings twice as long as metanotum (metanotal gland as in Fig. 37), cerci light brownish, genitalia with medium-sized characteristic epiphallus (paired hind lateral processes high and comparatively short, hind medial process very small and deeply bifurcated), unusually long and rather narrow guiding rod, and narrow sclerotized part of mould of spermatophore attachment plate. Female unknown.

Length. Body 20 mm; pronotum 2.9 mm; tegmina 8 mm; hind femora 12 mm.

Comparison. The new species differs from other similar species in the very characteristic structure of the male genitalia.

Subgenus Eulandrevus Gorochov, 1988, stat. n.

Type species Eulandrevus sonorus Gorochov, 1988, Vietnam.

Description. Male tegmina (Figs 46, 47) as in nominotipical subgenus. Metanotal gland well-developed, comparatively large (Figs 34, 35). Male genitalia with very large epiphallus (its length considerably greater than half of total genital length) and without very small numerous denticles at hind lateral processes of epiphallus (Figs 57-62).

Included species: type species, Eulandrevus dendrophilus Gorochov, 1988, E. ivani Gorochov, 1988, E. guntheri Gorochov, 1988, Duolandrevus major Otte, 1988, E. enatus Gorochov, 1990, D. (E.) sumatranus sp. n., D. (E.) rarus sp. n., and, possibly, D. rufus Chopard, 1931, D. palauensis Otte, 1988, D. pendleburyi Otte, 1988, D. yaeyamensis Oshiro, 1988.

Duolandrevus (Eulandrevus) sumatranus sp. n. (Figs 34, 46, 57-59)

Holotype. o', Sumatra, "Sumatra. Hast.", "3337" (MNHU).

Description. Male (holotype). Mediumsized, almost not flattened dorsoventrally. Head rather high, almost as wide as pronotum; rostrum between antennal cavities slightly narrower than scape; coloration dark brown with slightly lighter postclypeus, labrum, palpi, 3 pairs of narrow longitudinal stripes on hind part of vertex, and pair of spots under eyes; antennae rather dark brown, unicolorous. Pronotum slightly transverse, feebly narrowing in front, dark brown with small light spot on fore part of lateral lobes near their lower edge. Tegmina extending to base of 7th abdominal tergite; mirror developed, rather large, with dividing veins; dorsal part light (transparent) with darkish base and apical area; lateral area dark with narrow lighter stripe along lower edge. Hind wings absent. Metanotal gland as in Fig. 34. Fore tibiae with medium-sized, almost round inner tympanum and small, oval outer one; legs uniformly dark brown (hind) legs lost). Abdomen brown; cerci and genital



Figs 57-62. Duolandrevus. 57-59, D. sumatranus sp. n.; 60-62, D. rarus sp.n. Male genitalia from above (57, 60), from below (58, 61), and from the side (59, 62).

plate dark brown. Genitalia with long and characteristic hind lateral processes of epiphallus; hind medial process of epiphallus rather large, wide, deeply bifurcated, with hooked apex.

Female unknown.

Length. Body 24 mm; pronotum 4.5 mm; tegmina 11.8 mm.

Comparison. The new species differs from other species of this genus in the peculiarities of metanotal gland, rather long tegmina with large mirror, and shape of epiphallus (especially shape of hind lateral and medial processes).

Duolandrevus (Eulandrevus) rarus sp. n.

(Figs 35, 47, 60-62)

Holotype. o', Vietnam, Prov. Gia Lai, Buon Luoi (20 km N of Kannack), 700 m, 22-31.III.1995, A. Gorochov (ZIAS).

Description. Male (holotype). Rather small for this genus, almost not flattened dorsoventrally. Head high, considerably wider than pronotum; rostrum between antennal cavities as wide as scape; coloration brown with dark brown genae, anteclypeus, mandibles, and pair of spots under antennal cavities; antennae and palpi brown, unicolorous. Pronotum distinctly transverse, with parallel



Figs 63-68. Duolandrevus. 63-65, D. curtipennis Chop. (holotype); 66-68, D. lombokensis sp. n. Male genitalia from above (63, 66), from below (64, 67), and from the side (65, 68).

sides, dark brown (almost blackish), unicolorous. Tegmina extending to base of 4th abdominal tergite; mirror strongly reduced; coloration as in *D. sumatranus*. Hind wings absent. Metanotal gland as in Fig. 35. Fore tibiae with medium-sized, almost round inner tympanum only (there are only traces of outher tympanum); coloration of legs as in *D. brachypterus* and *D. fruhstorferi*. Abdomen as in both these species, but lateral parts of tergites blackish; cerci brown; genital plate blackish. Genitalia similar to those of *D. sumatranus*, but hind medial process of epiphallus narrower and very deeply bifurcated.

Female unknown.

Length. Body 19.5 mm; pronotum 3 mm; tegmina 6.2 mm; hind femora 12 mm.

Comparison. The new species is distinguished from other species of this genus by the peculiarities of metanotal gland, tegmina, and male genitalia.

Note. The holotype was collected on the trunk of a living tree in forest at night.





Subgenus Jorama Otte, 1988, stat. n.

- Jorama Otte, 1988. Type species Jorama palawanensis Otte, 1988, Palawan I.
- Neova Otte, 1988, syn. n. Type species Neova bodemensis Otte, 1988, New Guinea.

Note. The description of Neova (Otte, 1988) contains only characters usual for *Duolandrevus*, except small details of coloration. I cannot find generic or subgeneric differences between *D. (J.) bodemensis* and other representatives of Jorama.

Description. Male tegmina (Figs 42, 45) as in previous subgenera. Metanotal gland small or almost absent (Figs 38, 40, 41). Male genitalia with epiphallus of almost same size as in subgenus Duolandrevus and with very small numerous denticles at hind lateral processes of epiphallus (Figs 63-74).

Included species: both type species, Duolandrevus curtipennis Chopard, 1937, Jorama isarogensis Otte, 1988, D. kotoshoensis Oshiro, 1989, D. (J.) lombokensis sp. n., and D. (J.) shilovi sp. n. Duolandrevus (Jorama) lombokensis sp. n. (Figs 38, 45, 66-68)

Holotype. o', Lombok I. (near Java), "Sunda-Exp. Rensch O. Lombok. Swela. 3-450 m. 22-27.3.1927" (MNHU).

Description. Male (holotype). Mediumsized, flattened dorsoventrally. Head rather strongly flattened, slightly wider than pronotum; rostrum between antennal cavities as wide as scape; coloration rather dark brown with short brown longitudinal stripe under median ocellus; palpi and antennae brownish, unicolorous. Pronotum strongly transverse, with parallel sides, darkish brown, unicolorous. Tegmina extending to apex of 3rd abdominal tergite; mirror absent; coloration brownish with dark lateral area, except narrow lighter stripe along its lower edge. Hind wings absent. There are only traces of metanotal gland (Fig. 38). Fore tibiae with rather large inner tympanum and noticeably smaller outer one; legs reddish brown, rather light, unicolorous. Abdomen brown; cerci brownish; genital plate dark brown. Genitalia with distinctly



Figs 75-83. Duolandrevus and Ahldreva. 75-77, D. sapidus Gor. (holotype); 78-80, D. minus sp. n.; 81-83, A. andreevi sp. n. Male genitalia from above (75, 78, 81), from below (76, 79, 82), and from the side (77, 80, 83).

bifurcated hind medial process of epiphallus and practically without bifurcation at apex of hind lateral processes of epiphallus.

Female unknown.

Length. Body 23 mm; pronotum 3.1 mm; tegmina 7.5 mm; hind femora 15.7 mm.

Comparison. This species differs from D. curtipennis [its holotype (DEIE) has been examined by me (Figs 63-65)], D. isarogensis, D. bodemensis, and D. kotoshoensis in the deeper bifurcated hind median process of epiphallus, from D. palawanensis in this process less deeply bifurcated, and from all these species in the hind lateral processes of epiphallus practically without bifurcation.

Duolandrevus (Jorama) shilovi sp. n.

(Figs 41, 42, 72-74)

Holotype. o', New Guinea, "D. N. Guinea. 369. Mäanderberg. 670 m. 19-31. VII. 13. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Description. Male (holotype). Rather small, more or less similar to D. lombokensis, but tegmina extending to apex of 5th abdominal tergite and with distinct small mirror, hind wings strongly reduced, legs shorter, outer tympanum larger (almost equal in size to inner tympanum); there are also some differences in metanotal gland (Fig. 41), genitalia (Figs 72-74), and coloration (head brown with dark brown upper and fore parts of rostrum, with darkenings under rostrum and antennal cavities, with dark anteclypeus, with light brown postclypeus and scape; disc of pronotum brown, but its lateral lobes darkened, with small light brown spot at fore lower corner; legs light brown with somewhat darkened hind tibiae and distal part of hind femora; cerci with small proximal area lightish).

Female unknown.

Length. Body 15.3 mm; pronotum 2.2 mm; tegmina 6.2 mm; hind femora 11 mm.

Comparison. The new species is similar to D. lombokensis in the hind lateral processes of epiphallus practically without bifurcation at apex (all other species of the subgenus have this bifurcation) and to D. bodemensis (Figs 40, 69-71) in the presence of a mirror of male tegmina (absent in all other species of Jorama).

Etymology. This species is named in honour of Dr. V.F. Shilov (Schilow) who helped me in many ways during my visit to Germany.

Subgenus Vietlandrevus subgen. n.

Type species *Eulandrevus* sapidus Gorochov, 1990, Vietnam.

Description. Male tegmina with rather short enlarged part of lateral area (Figs 48, 49). Metanotal gland reduced or absent (Fig. 39). Male genitalia with epiphallus of same size as in subgenus *Jorama*, without very small numerous denticles at hind lateral processes of epiphallus (Figs 75-80).

Included species: type species and Duolandrevus (Vietlandrevus) minimus sp. n. **Duolandrevus (Vietlandrevus) minimus** sp. n. (Figs 39, 48, 78-80)

Holotype. o', Vietnam, "Annam. Phuc-Son. Nov. Dez. H. Fruhstorfer" (MNHU),

Description. Male (holotype). Small for this genus, almost not flattened dorsoventrally. Head almost round (with slightly angular rostrum), almost as wide as pronotum; rostrum between antennal cavities as wide as scape; coloration reddish brown with light brown postclypeus, labrum, and pair of spots under eyes; palpi and antennae light brown, unicolorous. Pronotum slightly transverse, with parallel sides, brown, unicolorous. Tegmina reddish brown, rather light, extending to apex of 2nd abdominal tergite; mirror absent; apical area slightly stretched posteromedially. Hind wings absent. There are only traces of metanotal gland (Fig. 39). Fore tibiae with mediumsized, oval inner tympanum and very small, oblong outer one; coloration of legs light reddish brown, unicolorous. Abdomen brown; cerci light brown; genital plate dark brown. Genitalia with narrow and very deeply bifurcated hind medial process of epiphallus, only partly bifurcated apex of hind lateral processes of epiphallus, and small sclerotized part of mould of spermatophore attachment plate.

Female unknown.

Length. Body 18.5 mm; pronotum 3 mm; tegmina 5.4 mm; hind femora 10.5 mm.

Comparison. This species differs from D. sapidus (Figs 49, 75-77) in the smaller size, structure of tegmina and genitalia of male, and more reduced metanotal gland (this gland in D. sapidus has a small group of short hairs).

Genus Ahldreva Otte, 1988

Ahldreva andreevi sp. n.

(Figs 33, 50, 81-83)

Holotype. o', New Guinea, 1913, V. Andreev (ZMMU).

Description. Male (holotype). Small for this genus, slightly flattened dorsoventrally. Head almost not flattened, with normal (not enlarged) mandibles and maxillae, noticeably wider than pronotum; rostrum between antennal cavities as wide as scape; coloration brown, rather dark, almost uniform; antennae light brown with darker scape; palpi yellowish. Pronotum slightly transverse, with parallel sides, rather dark brown, unicol-



Figs 84-90. Mikluchomaklaia, of. 84, 85, M. buergersi sp. n.; 86, 87, M. papuana Gor. (holotype); 88-90, M. phantastica sp. n. (holotype). Upper tegmen from above (84, 86, 88) and from the side (85, 87, 89); head from above (90). Hollows and concavities dotted.

orous. Tegmina very small, extending to hind part of metanotum, without stridulatory apparatus, with only several longitudinal veins, brown, unicolorous. Hind wings absent. Metanotal gland as in Fig. 33. Fore tibiae without tympana; hind tibiae almost half as long as hind femora; legs light brown with somewhat darker apical part of hind femora and upper side of distal half of hind tibiae. Abdomen rather dark brown; cerci lighter; genital plate dark. Genitalia with rather wide proximal part of hind medial notch of epiphallus and with numerous hairs on upper side of epiphallus.

Female unknown.

Length. Body 17 mm; pronotum 3 mm; tegmina 1.7 mm; hind femora 10.5 mm; hind tibiae 5.5 mm; hind metatarsi 3.1 mm.

Comparison. The new species is distinguished from A. nondugli Otte by the smaller size, normal jaws, coloration of tegmina without yelowish veins, presence of numerous hairs on epiphallus, and wider proximal part of hind medial notch of epiphallus.

Subfamily PHALANGOPSINAE Saussure, 1878

Tribe Phalangopsini Saussure, 1878

Genus Mikluchomaklaia Gorochov, 1986

The three new species of this genus described below are very different from each other and from the type species (see key to species of *Mikluchomaklaia* below). Perhaps all these species belong to different subgenera.



Figs 91-99. Mikluchomaklaia and Parendacustes. 91, 92, M. discoptila sp. n.; 93, M. papuana Gor. (holotype); 94, M. buergersi sp. n.; 95, 96, M. phantastica sp. n. (holotype); 97, M. longicerca Gor. (holotype); 98, 99, P. glandulosus sp. n. Head and thorax of male without left tegmen (91) and without both tegmina (98) from above; male genital plate without base from below (92-95, 99); proximal part of inner side of fore tibia (96, 97).

Mikluchomaklaia buergersi sp. n.

(Figs 84, 85, 94, 103-105)

Holotype. o', New Guinea, "D. N. Guinea. 276. Huosteinspitze. 25.II.13. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Description. Male (holotype). Body slightly pubescent, brownish. Head rather high, with narrow rostrum between antennal cavities (scape 1.5 times as wide as rostrum), light brown with dark brown pair of short narrow oblique stripes between median edge of eyes and lateral ocelli, unpaired longitudinal stripe between apical part of rostrum and clypeal suture, paired longitudinal stripes between lower edge of eyes and subgenae, with slightly darkened, almost indistinct spots along hind edge of vertex, and with very light (yellowish) areas under antennal cavities (between dark longitudinal stripes); antennae light brown with sparse lighter rings; palpi light brown. Pronotum distinctly transverse, with rather dark brown lateral lobes and somewhat lighter disc (disc noticeably spotted; lobes more unicolorous). Upper (right) tegmen light brown, shortened, disc-shaped, sclerotized, with rather small group of hairs at center of large sloping concavity (Fig. 84); lateral area of this tegmen slightly reduced; lower (left) tegmen insignificantly smaller than upper one, partly membranous, possibly rudimentary; stridulatory apparatus absent. Hind wings absent. Legs rather long, light brown with darker (brown) spots; tympana absent; longest spurs of hind tibiae slightly shorter than half of metatarsi. Abdomen brownish with numerous small darker spots; cerci brownish, unicolorous; genital plate brown, with distal part as in Fig. 94. Genitalia with long epiphallus and endoparameres; apex of epiphallus slightly widened, with denticles; ectoparameres short, with widened and denticulated apical part; rami isolated from epiphallus.

Female unknown.

Length. Body 12.5 mm; pronotum 2 mm; upper tegmen 3.7 mm; hind femora 11.7 mm.

Mikluchomaklaia phantastica sp. n.

(Figs 88-90, 95, 96, 107-109)

Holotype. o', New Guinea, "D. N. Guinea. Regenberg. 550 m. 8-15.V.13. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Paratypes. New Guinea: 1 o', "D. N. Guinea. 266. Lager am Rosensee. 15.11.13. Kais. Augustafl. Exp. Bürgers S.G." (MNHU); 1 o', "D. N. Guinea. 179. Standlager a. Aprilfluss. 10-11.X.1912. Kais. Augustafl. Exp. Bürgers S.G." (ZIAS).

Description. Male (holotype). Similar to previous species. Head with pair of large deep hollows at vertex connected by rather narrow hollow; these hollows with groups of hairs (Fig. 90); rostrum between antennal cavities as in previous species; coloration yellowish with dark brown transverse stripe crossing both lateral ocelli, longitudinal median stripe between previous stripe and middle of clypeus, paired longitudinal stripes between lower edge of eyes and subgenae, stripes along hind edge of genae, and transverse spot on hind part of vertex; scape yelFigs 100-106. Mikluchomaklaia. 100-102, M. papuana Gor. (holotype); 103-105, M. buergersi sp. n.; 106, M. longicerca Gor. (holotype). Male genitalia from above (100, 103), from below (101, 104), and from the side (102, 105); distal part of ovipositor from the side (106).



lowish; other parts of antennae brownish with sparse light rings; palpi light brown. Pronotum slightly transverse; lateral lobes dark brown with lighter spot at fore lower corner; disc brown, spotted. Upper (right) tegmen light brown, strongly shortened, almost disc-shaped, sclerotized, with sharply limited concavity, but without noticeable groups of hairs (Fig. 88); lateral area of this tegmen slightly reduced; lower (left) tegmen considerably smaller than upper one, partly membranous, probably rudimentary; stridulatory apparatus absent (or strongly reduced?). Hind wings absent. Legs and abdomen as in previous species, but fore tibiae with only very small inner tympanum (Fig. 96) and distal part of genital plate as in Fig. 95. Genitalia with medium-sized epiphallus and endoparameres; apex of epiphallus narrow, without denticles; ectoparameres short, without denticles, with narrow apical part; rami fused with epiphallus.

Variations. Inner tympanum can be almost lost and ectoparameres can have slightly narrower distal half.

Female unknown.

Length. Body 11.5-12.5 mm; pronotum 2-2.2 mm; upper tegmen 2-2.2 mm. Note. M. phantastica has a character unique for the Grylloidea – presence of the head gland used for attracting and holding of female during copulation. The species shows transition from use of analogous gland on upper tegmen to use of head gland (I found abundant remains of secretion in hollows of the head gland and only traces of it in the concavity of upper tegmen).

Mikluchomaklaia discoptila sp. n.

(Figs 91, 92, 110-112)

Holotype. o, Bismarck Archipelago, New Britain, "Neu-Mecklenburg. VI.1908. Friederici S.G." (MNHU).

Description. Male (holotype). Body slightly pubescent, brownish. Head and pronotum as in M. buergersi, but rostrum slightly narrower and slightly longer, coloration of upper part of head and pronotum distinctly darker (Fig. 91). Right tegmen very small, scale-like, pubescent, without stridulatory apparatus and gland (but lower surface of it covered with longer hairs and, possibly, used as a gland), brownish (left tegmen missing, probably identical with right one). Hind wings absent. Legs (hind legs missing) and abdomen as in M. buergersi



Figs 107-112. Mikluchomaklaia. 107-109, M. phantastica sp. n. (holotype); 110-112, M. discoptila sp. n. Male genitalia from above (107, 110), from below (108, 111), and from the side (109, 112).

(tympana absent), but distal part of genital plate as in Fig. 92. Genitalia with long epiphallus and medium-sized endoparameres; apex of epiphalus characteristic (Figs 110, 112); ectoparameres medium-sized, without denticles, with rather narrow apical part; rami fused with epiphallus.

Female unknown.

Length. Body 11.5 mm; pronotum 2.5 mm; tegmen 0.5 mm.

Key to species of Mikluchomaklaia

- 1. Fore tibiae without tympana (female unknown).
- Fore tibiae with a small (sometimes almost absent) inner tympanum (Figs 96, 97)4
- Tegmina of male distinctly larger, not scale-like, with long hairs on upper surface of upper teg-

- 4. Inner tympanum very small, as in Fig. 96, or almost absent. Head of male with gland (Fig. 90). Upper tegmen, genital plate, and genitalia of male as in Figs 88, 89, 95, 107-109 (female unknown). New Guinea M. phantastica sp. n.
- Inner tympanum distinctly larger, as in Fig. 97. Apex of ovipositor as in Fig. 106 (male unknown). New Guinea.....M. longicerca Gor.

Figs 113-121. Parendacustes. 113-115, P. glandulosus sp. n.; 116-118, P. egregius sp. n.; 119-121, P. annulipes (Bol.) (lectotype). Male genitalia from above (113, 116, 119), from below (114, 117, 120), and from the side (115, 118, 121).



Genus Parendacustes Chopard, 1924

Note. The three species considered below are similar in the narrow rostrum of head, presence of shortened male tegmina, distinct stridulatory apparatus with mirror (Figs 131, 135) and inner tympanum of fore tibiae, characteristic peculiarities of male genitalia: epiphallus divided into 2 lateral parts by membranous medial area, provided with paired proximal sclerotized bands directed medially and paired large distal processes (Figs 113-121). However these species are clearly distinguished from each other. They clearly belong to different subgenera, but I cannot describe them as the structure of male genitalia of the type species of Parendacustes (P. cavicola Chopard, 1924, Sumatra) is not sufficiently studied.

Parendacustes glandulosus sp. n.

(Figs 98, 99, 113-115, 136)

Holotype. o', New Guinea, "D. N. Guinea. Regenberg. 550 m. 8-15.V.13. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Description. Male (holotype). Small, spotted. Head rather high, with blackish, brownish, and yellowish areas (see Figs 98, 136); antennae brownish, but scape yellowish with small brownish marks; palpi brown with whitish last segment of maxillary palpi. Pronotum blackish with several yellowish spots; mesonotum and metanotum with characteristic gland (Fig. 98). Tegmina missing. Hind wings absent. Legs rather long; fore tibiae with only medium-sized elongated inner tympanum. Abdomen and legs spotted (spots brown and light brown); cerci brown with light brown base. Anal



Figs 122-130. Arachnomimus. 122-125, A. nietneri (Sauss.) (lectotype); 126-130, A. amboinensis (Karsch) (126-129, lectotype; 130, paralectotype). Male genitalia from above (122, 126), from below (123, 127), and from the side (124, 128); distal part of male genital plate from below (125, 129); distal part of ovipositor from the side (130).

plate normal; genital plate and genitalia (rami developed) as in Figs 99, 113-115.

Female unknown.

Length. Body 8 mm; pronotum 1.4 mm; hind femora 6.7 mm.

Comparison. The new species differs from other species of the genus in the characteristic coloration, shape of notal gland and genitalia of male.

Parendacustes egregius sp. n. (Figs 116-118, 131-134)

Holotype. o, Java, "Tengger-Geb. Ostjava. Fruhstorfer S." (MNHU).

Description. Male (holotype). Large, spotted. Head rather high, with dark brown and light brown areas (see Figs 132, 133); antennae brown with somewhat lighter scape; palpi greyish brown with darkish apex of last segment. Pronotum dark brown with several light brown spots at its fore half (Fig. 133). Tegmina extending to middle of 4th abdominal tergite; venation of their dorsal part as in Fig. 131; coloration of tegmina brown with light diagonal vein, proximal veins of mirror, Sc, C, and narrow stripe along lower edge of lateral area (R, M, and area between these veins very dark). Hind



Figs 131-136. Parendacustes, o'. 131-134, P. egregius sp. n.; 135, P. annulipes (Bol.) (lectotype); 136, P. glandulosus sp. n. Dorsal part of upper tegmen (131, 135); head in front (132, 136); head and fore part of pronotum above (133); genital plate without base from below (134).

wings absent. Legs very long; fore tibiae with only small oblong inner tympanum; legs light brown with dark brown spots. Abdomen and cerci brown; anal plate normal; genital plate and genitalia (rami absent) as in Figs 116-118, 134.

Female unknown.

Length. Body 16.8 mm; pronotum 2.9 mm; tegmina 6 mm; hind femora 17.2 mm.

Comparison. This new species differs from other species of the genus in the size, structure of tegmina and genitalia of male.

Parendacustes annulipes (Bolivar, 1889),

comb. n.

(Figs 119-121, 135)

Lectotype. o', Philippines, Luzon I., "Cueva Puning. Angat" (MNCN).

Note. I designate here the lectotype of *Arachnopsis annulipes.* The paralectotypes (2 nymphs) are also deposited in MNCN. Originally the species was described as a representative of the genus *Arachnopsis* Sauss. subsequently renamed in *Arachnominus* Sauss. because of homonymy. But the latter includes only apterous species without stridulatory apparatus and tympanal organs.

Description. Male (lectotype). Rather small, light. Head high, yellowish with brownish paired longitudinal bands from lower parts of eyes and antennal cavities to clypeal suture, small spots around lateral ocelli and on hind part of genae; antennae and palpi also yellowish. Pronotum yellowish with 2 pairs of brownish small spots: on fore part of disc and on hind lower part of lateral lobes. Tegmina extending to middle of 5th abdominal tergite; venation of their dorsal part as in Fig. 135; coloration of tegmina yellowish, almost transparent, but with slight darkenings on central part of large membranous areas. Hind wings absent. Legs long; fore tibiae with only rather narrow inner tympanum; legs yellowish, unicolorous (hind legs missing). Abdomen and cerci light brownish; anal plate normal; genital plate damaged; genitalia (rami absent) as in Figs 119-121.

Female unknown to me.

Length. Body 10.5 mm; pronotum 1.8 mm; tegmina 4.9 mm.

Genus Arachnomimus Saussure, 1897

Note. The genus is similar to Parendacustes in the male genitalia (Figs 122-124, 126-128) and general shape, but differs in the absence of wings (both pairs), stridulatory apparatus, and tympanal organs. The genus is divided into 2 subgenera.

Subgenus Arachnomimus s. str.

Description. Male genital plate with bifurcate apical part (Fig. 125). Male genitalia with ectoparameres not isolated from epiphallus and with very wide transverse sclerite connecting endoparameres with each other; rami developed (Figs 122-124).

Included species: type species and, possibly, Arachnomimus bicolor Chopard, 1928, A. annulicornis Chopard, 1936, A. brevipalpis Chopard, 1969.

Arachnomimus (Arachnomimus) nietneri

(Saussure, 1878)

(Figs 122-125)

Lectotype. o', Sri Lanka, "Ceylon. Nietn.", "3155" (MNHU).

Note. This species was described from at least two syntypes (Saussure, 1878). I designate here the lectotype of Arachnopsis nietneri. The paralectotype (1 nymph) is apparently deposited in MHNG. Indication of BMNH as place of keeping of the "type" of this species by Chopard (1969) is erroneous.

Description. Male (lectotype). Rather small, brownish. Head typical of this tribe, light brownish with rather dark grevish brown rostrum, pairs of large vertical spots under antennal cavities, stripe along clypeal suture, and spots on lateral parts of clypeus, with distinctly darkened other mouthparts, and with slightly darkened spots on lower and hind parts of genae; antennal scape 2.2 times as wide as rostrum between antennal cavities; antennae brownish grey with slightly lighter distal part and distinctly darkened scape; palpi long and thin, brownish grey. Pronotum distinctly transverse, with shallow transverse concavity of disc. Legs long; tympana absent; metatarsi and apical segment of tarsi very long; spines of hind tibiae rather sparse and small; legs light greyish brown with large indistinct darkenings. Abdomen rather small; its size almost equal to size of thorax; thorax and abdomen brownish grey with sparse indistinct spots above and lighter, unicolorous beneath; cerci very long, considerably longer than hind femora, brownish grey; shape of

Type species Arachnopsis nietneri Saussure, 1878, Sri Lanka.



Figs 137-143. Paragryllodes optimus sp. n., o. 137-139, genitalia from above (137), from below (138), and from the side (139); 140, head and pronotum from above; 141, head in front; 142, genital plate from below; 143, dorsal part of upper tegmen.

anal plate typical of this tribe; genital plate rather small; genitalia as in Figs 122-124.

Female unknown to me.

Length. Body 10.5 mm; pronotum 2 mm; hind femora 15 mm; hind tibiae 17 mm.

Subgenus Euarachnomimus subgen. n.

Type species *Phalangopsis amboinensis* Karsch, 1886, Ambon I.

Description. Male genital plate with truncate apical part (Fig. 129). Male genitalia with ectoparameres isolated from epiphallus and narrow transverse sclerite connecting endoparameres with each other; rami absent (Figs 126-128).

Included species: type species and, possibly, some other species from the genus Arachnomimus sensu Chopard (1968).

Arachnomimus (Euarachnomimus)

amboinensis (Karsch, 1886) (Figs 126-130)

Lectotype. o', Moluccas, Ambon I., "Amboina. In caverna Gazelle", "4815" (MNHU).

Paralectotypes. 1 9, 2 nymps, same data as lectotype (MNHU).

Note. This species was described from 4 syntypes (Karsch, 1886). I designate here the lectotype of *Phalangopsis amboinensis*.

Description. Male (lectotype). Rather small, distinctly spotted. Head rather high, with large ball-shaped eyes strongly moved upward, brown with light brownish spots above and whitish yellow with dark areas (pair of wide blackish vertical stripes between antennal cavities and clypeus, narrow brown vertical stripes along hind edge of genae, brownish lateral and lower parts of clypeus, darkened other mouthparts) below; antennal scape 3 times as wide as rostrum between antennal cavities; scape light brown with indistinct darkenings, next 3.5 segments of antennae dark brown, next 0.5 light brown, next 5.5 dark brown, next 1.5 whitish, next 5.8 dark brown, next 0.2 light brown, next 7 dark brown, next 3 whitish, other extant segments brownish; palpi long and thin, light with several darkenings. Legs very long, light brownish with distinct dark spots; tympana absent; metatarsi and apical segment of tarsi very long; spines of hind tibiae typical of this tribe. Pronotum slightly transverse, with two low transverse convexities on disc; abdomen normal, distinctly larger than thorax; thorax and abdomen dark brown with distinct small light brownish spots above and light brown with less distinct dark spots beneath; cerci dark with light base; shape of anal plate typical of this tribe; genital plate rather narrow, with



Figs 144-157. Ectecous and Endecous, o'. 144-147, Ec. hedyphonus Sauss. (lectotype); 148-153, Ec. segregatus sp. n.; 154-157, En. arachnopis Sauss. (lectotype). Genitalia from above (144, 148, 154), from below (145, 149, 155), and from the side (146, 150, 156); dorsal part of upper tegmen (147, 151, 157); hind part of abdomen from above (152); apex of genital plate from below (153).

pair of longitudinal convexities near apex; genitalia as in Figs 126-128.

Female. Similar to male, but genital plate unicolorous, light. Ovipositor half as long as hind femora; its apex as in Fig. 130.

Length. Body: σ 12.7, φ 12.5 mm; pronotum: σ 2.5, φ 2.4 mm; hind femora: σ 12.6, φ 13.7 mm; hind tibiae: σ 12, φ 13 mm; ovipositor 7.2 mm. Genus Paragryllodes Karny, 1909

Paragryllodes optimus sp. n. (Figs 137-143)

Holotype. o', Nigeria, Kororofa (?), "Kororosa ter. 1903" (ZIAS).

Description. Male (holotype). Brownish with dark spots. Head and pronotum dark brown



Figs 158-164. Luzara and Ectecous. 158-160, L. kirschiana (Sauss.) (lectotype); 161-163, L. rufipennis Walk: (holotype); 164, E. hedyphonus Sauss. (paralectotype). Male genitalia from above (158, 161), from below (159, 162), and from the side (160, 163); apex of ovipositor from the side (164).

brown with distinct light brown ornament, as in Figs 140, 141 (eyes brown; lateral lobes of pronotum blackish); scape twice as wide as rostrum between antennal cavities; antennae brown with indistinct light brown spots on scape and sparse rings on flagellum; palpi brownish, with rather short 4th segment of maxillary palpi. Tegmina shortened, extending to hind part of 3rd abdominal tergite; dorsal part of upper tegmen as in Fig. 143; lateral area small, with 4 longitudinal veins; coloration brown with mark on dorsal part and stripe along upper edge of lateral area slightly lighter, reddish brown. Hind wings absent. Legs rather long, typical of this genus, light brown with numerous dark brown spots (outer surface of hind femora with distinct oblique short dark stripes in upper half); fore tibiae with only inner medium-sized oval tympanum; hind tibiae with 3 inner and 4 outer rather large articulated spines (in addition to 6 apical spurs). Abdomen light brown with numerous brown, dark brown, and blackish spots; cerci brownish; genital plate and genitalia as in Figs 137-139, 142.

Female unknown.

Length. Body 15 mm; pronotum 2.7 mm; tegmina 4.3 mm; hind femora 12 mm.

Comparison. This species is distinguished from other species of the genus by the ornament of head and pronotum, venation of male tegmina, armature of hind tibiae, and structure of male genitalia. Tribe Neoaclini Desutter, 1988

Genus Ectecous Saussure, 1878

Ectecous hedyphonus Saussure, 1878 (Figs 144-147)

Lectotype. o', Brazil, "Brasil", "1028" (MNHU). Paralectotype. 1 9, Brazil, "Brasil. v. Charp.", "1042" (MNHU).

Note. This species was described from at least two syntypes (Saussure, 1878). I designate here the lectotype of *Ectecous hedyphonus*.

Description. Male (lectotype). Brownish, slightly spotted. Head typical for this tribe, brownish; scape1.6 times as wide as rostrum between antennal cavities; antennae and palpi light brown. Pronotum typical of the tribe, brownish. Legs light brown with slight darkish spots; fore tibiae with only outer elongated tympanum; metatarsi very long. Tegmina shortened, extending to apex of 6th tergite of abdomen, light (almost yellowish); venation of dorsal part of upper tegmen as in Fig. 147. Abdomen brownish with brownish grey cerci; anal plate simple. Genitalia as in Figs 144-146.

Female. Similar to male, but apterous and with lighter cerci. Apex of ovipositor rather smooth and tapering (Fig. 164).

Length. Body: σ 12, φ 14.3 mm; pronotum: σ 2.2, φ 2.9 mm; tegmina (σ) 6 mm; hind femora: σ 11, φ 13 mm; ovipositor 14.5 mm.

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Figs 165-180. Meloimorpha, d. 165-169, M. japonica albicornis (Walk.) (Vietnam); 170-180, M. japonica japonica (Haan) (170-174, Japan; 175-179, North China; 180, Korea). Epiphallus and ectoparameres from above (165, 168, 170, 175) and from the side (166, 169, 171, 176); dorsal part of tegmen (167, 177); mirror of tegmen (172-174, 178-180).

Ectecous segregatus sp. n. (Figs 148-153)

Holotype. o', Brazil, "Espirito-Santo. Brasil. ex coll. Fruhstorfer" (MNHU).

Description. Male (holotype). Similar to previous species. Head brown with dark brown rostrum and slight lightish spots on mouthparts and under antennal cavities; scape 1.8 times as wide as rostrum between antennal cavities; antennae and palpi brown (but scape slightly lighter). Pronotum dark brown, almost unicolorous. Legs as in *E.* hedyphonus. Tegmina shortened, extending to base of 7th abdominal tergite, light brownish; venation of dorsal part of upper tegmen as in Fig. 151. Abdomen (and cerci) brown, with characteristic abdominal gland (see Fig. 152); anal plate simple. Genitalia and genital plate as in Figs 148-150, 153.

Female unknown.

Length. Body 12 mm; pronotum 2.3 mm; tegmina 6.7 mm; hind femora 10.5 mm; hind tibiae 9.5 mm; hind metatarsi 3 mm.

Comparison. This species is readily distinguished from other species of the genus by the characteristic genitalia and abdominal gland of male.

Tribe Luzarini Hebard, 1928

Genus Endecous Saussure, 1878

Endecous arachnopis Saussure, 1878 (Figs 154-157)

Lectotype. o', Brazil, "Sierra Geval. Hensel", "4070" (MNHU).

Paralectotype. 1 o', same data as lectotype (MNHU).

Note. This species was described from at least two males (both specimens are marked as syntypes). I designate here one of them (with labels: "Endacusta arachnoides Sss.", "Endecous Sauss.", "Endecous arachnopis Sauss.", and "Endocous arachnopis Sauss.") as lectotype and other one (with label "Endocous arachnopis Sauss.") as paralectotype.

Description. Male (lectotype). Rather brownish, more or less unicolorous. Head typical of this tribe, light brown with darkish hind part of vertex and almost yellowish mouthparts; scape twice as wide as rostrum between antennal cavities; eyes not very large, almost black; antennae brown with lightish marks on scape; palpi light brown. Pronotum typical of the tribe, brown (almost unicolorous). Legs light brown with slightly darkened apex of femora and base of tibiae; fore tibiae with only inner small oval tympanum. Tegmina strongly shortened, extending to middle of 2nd abdominal tergite, light brown with slightly darkened lateral area; upper tegmen leathery, but with visible venation (Fig. 157). Abdomen brown above and light brown beneath; cerci brown with light brown bases; anal plate simple. Genitalia as in Figs 154-156.

Female unknown to me.

Length. Body 10.5 mm; pronotum 2.5 mm; tegmina 3.8 mm; hind femora 10 mm; hind tibiae 10.8 mm; hind metatarsi 3 mm.

Genus Luzara Walker, 1869

Luzara kirschiana (Saussure, 1878), sp. dist. (Figs 158-160)

Lectotype. o, Venezuela, "Venezuela, La Guayra. Leg. Münter", "992"(MNHU).

Note. There were several syntypes of this species (Saussure, 1878: Amusus kirschianus). I designate here one of them as lectotype. The paralectotypes males were deposited in the Museums of Geneva and Dresden. The paralectotype female with the same data (MNHU) differs in the coloration and probably belongs to another species.

Description. Male (lectotype). Large, brown, shining, similar to L. rufipennis. Head and pronotum uniformly dark brown with light ocelli, postclypeus, and labrum; antennae brown with sparse lightish rings; palpi dark. Legs brown, unicolorous; fore tibiae with small, oval, equal inner and outer tympana. Tegmina shortened, extending to middle of 4th abdominal tergite; upper tegmen leathery, almost sclerotized, smooth above, with only traces of venation of dorsal part, brown; lower tegmen more or less membranous and transparent. Abdomen brownish with darkened band along hind edge of tergites and sternites; paraprocts dark. Genitalia as in Figs 158-160.

Female unknown to me.

Length. Body 22 mm; pronotum 4.5 mm; tegmina 10 mm; hind femora 17.5 mm; hind tibiae 16.5 mm; hind metatarsi 5 mm.

Comparison. The species is very similar to L. rufipennis Walker, 1869 from Colombia (these specific names were considered synonyms during long time), but distinguished in the structure of the male genitalia: peculiarities of shape of epiphallus and ectoparameres, more heavily sclerotized mould of attachment plate of spermatophore (for comparison see Figs 161-163).

Subfamily CACOPLISTINAE Saussure, 1877

Tribe Homoeogryllini Gorochov, 1986

Genus Meloimorpha Walker; 1870

Type species Meloimorpha cincticornis Walker, 1870, Hindostan.

Note. This genus was restored from synonyms of the genus Homoeogryllus Guér.-Mén. (Gorochov, 1986) for Asiatic species (type species, Gryllus japonicus Haan, 1842, and Phalangopsis longicornis Walker, 1869). It differs from Homoeogryllus in the solid sclerotized part of epiphallus (epiphallus of Homoeogryllus consists of two sclerotized parts; apical part of it is mobile), presence of only unpaired process at middle of distal edge of epiphallus, and large ectoparameres (Figs 165, 166, 168-171, 175, 176).

Meloimorpha japonica albicornis (Walker,

1869), stat. n. (Figs 165-169)

Material. Vietnam: 2 o', 1 9, Ba Vi mountain (50 km NW of Hanoi), 19.VIII.1993, A. Baranov (ZIAS).

Description. Very similar to M. j. japonica (Haan), but darker and with some distinctions in structure of tegmina, legs, and genitalia: male tegmina with shorter stridulatory vein (its length/length of tegmen = 0.3; in nominotypical subspecies, this ratio = 0.35), longer apical area, and only 2 regular dividing veins of mirror (in nominotypical subspecies, mirror with 2 or 3 regular or somewhat irregular dividing veins; for comparison see Figs 167, 172-174, 177-180), longer legs (length of hind femur/width of mirror = 2.5; in nominotypical subspecies, this ratio = 1.8), epiphallus with larger and more acute medial process of distal edge and without distinct slightly sclerotized ribbon along lower edge of membranous lobes of distal lateral processes (for comparison see Figs 165, 166, 168-171, 175, 176), ovipositor shorter than hind femora (in nominotypical subspecies, slightly longer than hind femora).

Length. Body: of 13-14, 915 mm; body with wings: of 24-26, 927.5 mm; pronotum: of 2.3-2.5, 92.9 mm; tegmina: of 14-15, 914.5 mm;



Figs 181-202. Heterotrypus. 181-186, H. laqueatus Karsch (181-185, holotype; 186, holotype of H. maculosus Karsch); 187-190, H. modestus sp. n.; 191-194, H. conradti sp. n.; 195-199, H. succineus Bol. (195-197, lectotype; 198, 199, paralectotypes); 200-202, H. subtilis sp. n. (holotype). Dorsal part of male tegmen (181, 187, 191, 195); male anal plate from above (182, 188, 192, 196, 201); male genital plate from below (183, 189, 193, 197, 200); head and pronotum from above (184); head in front (185, 190, 194); apical part of ovipositor from above and from the side (186), from the side and from above (199); aberrant mirror (198); apical part of male tegmen (202).

hind femora: of 12.8-13.2, 9 14.5 mm; ovipositor 11.5 mm.

Note. This subspecies was described from India as a separate species by Walker (1869). For a long time it was considered a synonym of *M. japonica* (Chopard, 1968, 1969). Shiraki (1930) distinguished "Japanese species" from "Formosan species" although he named both of them "*Homoeogryllus japoni*cus". Shiraki's "Formosan species" corresponds to *M. j. albicornis.* The distribution of this subspecies, is probably limited to the Indo-Malaysian region, including India, Vietnam, and Taiwan. It is recorded from Vietnam for the first time.

Subfamily PHALORIINAE Gorochov, 1985

Genus Heterotrypus Saussure, 1878, gen. dist.

Type species Heterotrypus africanus Saussure, 1878, Sudan.

Note. This genus must be restored from synonymy with the genus *Phaloria* Stål for



Figs 203-217. Heterotrypus. 203-205, H. laqueatus Karsch (holotype); 206-208, H. conradti sp. n.; 209-211, H. modestus sp. n.; 212-214, H. succineus Bol. (lectotype); 215-217, H. subtilis sp. n. (holotype). Male genitalia from above (203, 206, 209, 212, 215), from below (204, 207, 210, 213, 216), and from the side (205, 208, 211, 214, 217).

African species (type species, Heterotrypus laqueatus Karsch, 1893, H. succineus Bolivar, 1910, H. villosus Chopard, 1967, H. angustus Chopard, 1958, H. modestus sp. n., H. conradti sp. n., and H. subtilis sp. n.). It differs from other genera of Phaloriinae in the apical part of ovipositor flattened laterally, smooth or provided with small denticles only along upper and/or lower edges (Figs 186, 199), and male genitalia with guiding rod and sclerotized part of mould of attachment plate of spermatophore fused (Figs 204, 207, 210, 213, 216). The structure of the male genitalia of these species is very diverse. It is possible that this genus consists of several subgenera or related genera.

Heterotrypus laqueatus Karsch, 1893 (Figs 181-186, 203-205, 230, 231)

= Heterotrypus maculosus Karsch, 1893, syn. n.

Holotype of H. laqueatus. o', Ghana, "Togo. Bismarckburg. 20.9-31.10.90. R. Büttner S.", "6485" (MNHU).

Material. Cameroon: 1 o', "Kamerun. L. Conradt. 1898-1899" (MNCN); 1 9 (holotype of *H. maculo*sus), "Kamerun. Barombi-Stat. Preuss S.", "6486" (MNHU). Equatorial Guinea, Bioko I.: 1 o', "Fernando Poo. Rebola. X-1919. Escalera" (MNCN).

Description. Male (holotype). Mediumsized. Light brownish with slight and sparse dark spots. Rostrum between antennal cavities almost as wide as scape; coloration of head as in Figs 184, 185; base of antennae uniformly light brownish; other parts of antennae darker, greyish brown. Pronotum narrowing in front; coloration of disc as in Fig. 184; lateral lobes light brownish with dark brown stripe along fore, hind, and lower edges. Tegmina with rather wide dorsal part (its venation as in Fig. 181); lateral part with rather narrow area between R and M, with numerous (30) oblique branches of Sc and C; coloration of tegmina uniformly light brownish. Hind wings only slightly longer than tegmina. Legs not very long; tympanal organ with inner and outer tympana (Figs 230, 231); outer tympanum clearly immersed, but open; hind tibiae with 8 not very long spines, with slight pubescence, and almost without small denticles; upper inner spur of these tibiae long, slightly longer than hind metatarsus (without metatarsal spurs); hind metatarsi with only 1 row of denticles; coloration of legs light with sparse darkish spots. Abdomen light brownish; anal and genital plates as in Figs 182, 183. Genitalia as in Figs 203-205.

Variations. Sometimes pronotum with distinct dark stripe along fore and hind edges of disc. Mirror of other specimens with only two simple dividing veins.

Female. Very similar to male, but dorsal part of tegmina with small darkish spots. Ovipositor noticeably shorter than cerci and hind femora (hind femora 1.9 times as long as ovipositor), very slightly curved upwards; its apical part as in Fig. 186.

Length. Body: of 17-19, 9 17 mm; body with wings: of 18-22, 9 23 mm; pronotum: of 2.3-2.5, 9 2.8 mm; tegmina: of 15-17, 9 15.5 mm; hind femora: of 11-12, 9 12.5 mm; ovipositor 6.6 mm.

Heterotrypus succineus Bolivar, 1910 (Figs 195-199, 212-214)

Lectotype. o', Equatorial Guinea, "Cabo San Juan" (MNCN).

Paralectotypes. 1 σ' , 5 φ , same data as lectotype (MNCN).

Note. This species was described from several syntypes from the same locality (Bolivar, 1910). There are 6 specimens with the only label "Sintipo?" and 1 male with more exact labels ("Heterotrypus succineus Bol. Cabo San Juan", "Sintipo") in the collection of MNCN. I here designate the latter as lectotype and the rest as paralectotypes.

Description. Male (lectotype). Very small, slender, uniformly light brown. Head rather small, with large eyes and ocelli; rostrum between antennal cavities scarcely narrower than scape. Pronotum strongly narrowing in front. Tegmina with narrow dorsal part (its venation as in Fig. 195); lateral part with rather narrow area between R and M, with 18 oblique branches of Sc and C; upper tegmen slightly pubescent; lower tegmen almost without pubescence. Hind wings noticeably longer than tegmina. Legs not very long; tympanal organ with inner and outer tympana; outer one strongly immersed, almost slit-like (as in Figs 232, 233); hind tibiae and tarsi similar to those of previous species, but distinctly pubescent. Anal and genital plates as in Figs 196, 197. Genitalia as in Figs 212-214.

Variations. Mirror of lower tegmen of male paralectotype aberrant, with single dividing vein (Fig. 198).

Female. Similar to male, but with slightly darkened spots under medial ocellus (similar to those in Fig. 190), between ocelli, under eyes, and on pronotum. Tegmina with 7-9 longitudinal veins in dorsal part. Ovipositor shorter than hind femora, almost straight; its apical part as in Fig. 199.

Length. Body: σ 12-13.3, φ 11-13.5 mm; body with wings: σ 18-18.7, φ 19-21 mm; pronotum: σ 1.7, φ 2-2.4 mm; tegmina: σ 11.7-12, φ 12-15 mm; hind femora: σ 8.2-8.8, φ 9-10.5 mm; hind tibiae: σ 7.8-8.5, φ 8.2-9.8 mm; ovipositor 6.3-8 mm.

Heterotrypus subtilis sp. n.

(Figs 200-202, 215-217)

Holotype. o', Nigeria, Kororofa (?), "Kororosa ter. 1903" (ZIAS).

Paratype. Cameroon: 1 o, "Kamerun. Victoria. Preuss S." (MNHU).

Description. Male (holotype). Very similar to *H. succineus*, but distinguished by some-



Figs 218-233. 218, 219, Phaloria amplipennis Stål (holotype); 220, 221, Tremellia spurca Stål (holotype); 222, 223, Vescelia infumata Stål (holotype); 224, 225, V. picta (Chop.) (holotype); 226, 227, Trellius siveci sp. n. (holotype); 228, 229, Strophiola lugubrina (Stål) (holotype); 230, 231, Heterotrypus laqueatus Karsch (holotype); 232, 233, H. conradti sp. n. Tympanal organ: inner (218, 220, 222, 224, 226, 228, 230, 232) and outer (219, 221, 223, 225, 227, 229, 231, 233) sides.

what more spotted coloration (coloration of head as in female of *H. succineus*, legs with very slight darkish spots), slightly shorter apical area of tegmina (Fig. 202), numerous spines of anal plate (Fig. 201), characteristic shape of apical part of genital plate (Fig. 200), peculiarities of genitalia (specifically in short guiding rod) (Figs 215-217).

Variations. Genitalia of paratype slightly longer and somewhat more heavily sclerotized.

Female unknown.

Length. Body 14.5-15 mm; body with wings 20-21 mm; pronotum 1.8 mm; tegmina 13-13.5 mm; hind femora 9-9.5 mm; hind tibiae 8.2-8.7 mm.

Comparison. The new species differs from other species of this genus (except *H. angustus*) in the small size and peculiarities of the male genitalia, from *H. angustus* (its size is also small and male genitalia not examined) in somewhat lighter coloration and male anal plate with numerous spines.

Heterotrypus modestus sp. n.

(Figs 187-190, 209-211)

Holotype. o', Cameroon, "S. O. Kamerun. Lolodorf. L. Conradt. 95" (MNHU).

Description. Male (holotype). Rather small. Coloration and structure of head similar to those of H. laqueatus (Fig. 190). Pronotum distinctly narrowing in front, uniformly light brown. Tegmina with rather narrow dorsal part (its venation as in Fig. 187); lateral part with very narrow area between R and M, with 22 branches of Sc and C; coloration of tegmina uniformly light brownish. Hind wings noticeably longer than tegmina. Legs not very long; tympanal organ similar to that of H. succineus and H. subtilis (as in Figs 232, 233); hind tibiae and tarsi as in H. laqueatus; coloration of legs light, almost without darkish spots. Abdomen light; anal and genital plates as in Figs 188, 189. Genitalia as in Figs 209-211.

Female unknown.

Length. Body 14.2 mm; pronotum 2 mm; tegmina 15 mm; hind femora 9.7 mm; hind tibiae 9.4 mm; distal inner spine of hind tibiae 1.7 mm; hind metatarsi 2.3 mm.

Comparison. The new species differs from *H. africanus* in the coloration of pronotum (without dark spots) and small size, from *H. angustus* in the more uniform light coloration and wider mirror of male tegmina, from other species of the genus in the structure of



Figs 234-261. 234, 235, Phaloria ikonnikovi sp. n.; 236, 237, Ph. solomonica sp. n.; 238, 239, Ph. vulgata sp. n.; 240, 241, Ph. curta sp. n.; 242, 243, Ph. gilva sp. n.; 244, 245, Ph. eximia sp. n.; 246, 247, Ph. rava sp. n.; 248, 249, Strophiola lugubrina (Stål) (holotype); 250, 251, Vescelia infumata Stål (holotype); 252, 253, V. picta (Chop.) (paratype); 254, 255, Tremellia spurca Stål (holotype); 256, 257, Trellius riparius Gor. (paratype); 258, 259, Pseudotrigonidium javanicum (Chop.); 260, 261, P. anomalum sp. n. Apical part of ovipositor from below (234, 236, 238, 242, 244, 248, 250, 252, 254, 256, 258, 260) and from the side (235, 237, 239, 243, 245, 249, 251, 253, 255, 257, 259, 261); apical part of upper valva from below (240, 246) and its apex from the side (241, 247).

the male genitalia and some other characters.

Heterotrypus conradti sp. n.

(Figs 191-194, 206-208, 232, 233)

Holotype. J., Cameroon, "N. Kamerun. Job-Albrechtshöhe. 26.I.96. L. Conradt S.", "26/1.96" (MNHU).

Male (holotype). Rather Description. small. Coloration and structure of head similar to those of H. laqueatus and H. modestus (Fig. 194). Pronotum as in H. modestus. Tegmina with rather narrow dorsal part (its venation as in Fig. 191); lateral part as in H. modestus; coloration of tegmina uniformly light brownish. Hind wings as in H. modestus. Legs as in H. modestus (Figs 232, 233), but their spots slightly darker and more distinct, hind tibiae and their spines noticeably pubescent, these spines longer, and upper inner spur of hind tibiae very long, markedly longer than hind metatarsus (without metatarsal spurs). Abdomen light brownish; anal and genital plates as in Figs 192, 193. Genitalia as in Figs 206-208.

Female unknown.

Length. Body 16.5 mm; pronotum 2.3 mm; tegmina 18 mm; hind femora 11 mm; hind tibiae 10.7 mm; distal inner spine of hind tibiae 2.5 mm; hind metatarsi 2.8 mm.

Comparison. This new species differs from other species of the genus in the coloration, shape of mirror, pubescense of hind tibiae and their spines, length of spines and spurs of these tibiae, structure of anal and genital plates of male, and peculiarities of the male genitalia.

Genus Phaloria Stål, 1877

Type species *Phaloria amplipennis* Stål, 1877, Philippines.

This genus includes several species from Philippines, New Guinea, and adjacent territories. There is also a single species from Seychelles. The genus is characterized by open and not very large inner and outer tympana (Figs 218, 219), apical part of ovipositor widened laterally and provided with 2-4 large rounded teeth on lateral surface of upper valve and 1-4 teeth on lower surface of lower valve (Figs 234-247), some peculiarities of the male genitalia (Figs 354-423): guiding rod isolated from sclerotized part of mould of attachment plate of spermatophore, left and right endoparameres and rami isolated from each other, ectoparameres rather small. This genus is divided into 3 subgenera: *Phaloria* s. str., *Papuloria* subgen. n., and *Trelloria* subgen. n.

Subgenus Phaloria s. str.

Diagnosis. Male genitalia (Figs 354-364): epiphallus with 2 pairs of distal lobes (rather short medial and longer lateral), mould of attachment plate of spermatophore without large unpaired apodeme directed backwards.

Included species: type species, Heterotrypus modulator Saussure, 1878, H. insularis Bolivar, 1912, and possibly Phaloria ikonnikovi sp. n.

Phaloria (Phaloria) amplipennis Stål, 1877 (Figs 218, 219, 298, 314, 315, 354-357)

Holotype. o', Philippines, "Ins. Philipp.", "Semper" (NHRM).

Description. Male (holotype). Rather large, almost uniformly light brown. Width of rostrum between antennal cavities almost equal to width of scape; head light brown with slightly darkened upper part. Pronotum strongly narrowing in front, uniformly brown. Tegmina with very wide dorsal part; lateral part with wide area between R and M, with numerous oblique branches of Scand C; coloration of tegmina light brownish with some slight darkenings on dorsal part (Fig. 298) and along upper edge of lateral part. Hind wings almost as long as tegmina. Legs rather long, light brownish with brown femora and slightly darkened spots on other parts; hind tibiae with 8 rather long spines and slight pubescence; middle inner spur of these tibiae slightly shorter than hind metatarsus. Abdomen light brown; anal and genital plates as in Figs 314, 315. Genitalia as in Figs 354-357.

Female unknown to me.

Length. Body 20 mm; body with wings 23 mm; pronotum 3.7 mm; tegmina 16.5 mm; hind femora 14.8 mm.

Phaloria (Phaloria) modulator (Saussure,

1878), sp. dist.

(Figs 265, 299, 316, 317, 358-360)

Holotype. o', Philippines, "Manila. Meyen", "965" (MNHU).

Description. Male (holotype). Similar to *Ph. amplipennis* (with which it was erroneously synonymized), but differs in coloration



Figs 262-297. 262-264, Phaloria ikonnikovi sp. n.; 265, Ph. modulator (Sauss.) (holotype); 266, Ph. solita sp. n.; 267, 268, Ph. vulgata sp. n. (holotype); 269-271, Ph. pulchra sp. n. (holotype); 272, 273, Ph. rava sp. n. (holotype); 274-276, Ph. aspersa sp. n. (holotype); 277, Ph. parva sp. n. (holotype); 278-284, Ph. similis (Chop.); 285-287, Ph. eximia sp. n. (paratype); 288, Ph. dahli sp. n.; 289, Strophiolalugubrina (Stål) (holotype); 290, S. renschi sp. n.; 291, Ceyloria latissima sp. n.; 292, Trellius siveci sp. n. (holotype); 293, 294, Vescelia picta (Chop.) (holotype); 295-297, Tremellia spurca Stål (holotype). Head and pronotum from above (262, 268, 269, 274, 279, 285, 293, 296) and from the side (263, 270, 275, 286, 294, 295); head in front (264, 266, 267, 271, 273, 276, 277, 280-284, 287, 288, 290-292, 297); pronotum from the side (265, 272, 278, 289).



Figs 298-301. Phaloria, dorsal part of male tegmen. 298, Ph. amplipennis Stål (holotype); 299, Ph. modulator (Sauss.) (holotype); 300, Ph. insularis (Bol.) (lectotype); 301, Ph. dahli sp. n.

(head light brown with slight darkening on apical part of scape; pronotal disc brownish with small darkish spots; lateral lobes of pronotum dark brown with wide light brownish stripe, as in Fig. 265; tegmina uniformly light brownish; femora light brown; anal plate brown) and structure of genitalia (Figs 358-360) (genitalia damaged: rami, guiding rod, endoparameres, and some other parts missing). Anal and genital plates as in Figs 316, 317.

Female unknown to me.

Length. Body 20.5 mm; body with wings 22.5 mm; pronotum 3.4 mm; tegmina 16.5 mm; hind femora 16 mm.

Phaloria (Phaloria) insularis (Bolivar, 1912)

(Figs 300, 361-364)

Lectotype. o', Seychelles, "Mahe, '08-9. Seychelles Exp." (MNCN).

Note. This species was described from several syntypes (Bolivar, 1912). The male in MNCN (with above-mentioned label and labels: "Heterotrypus insularis Bol. 119", "Paratype", "Sintipo") is designated here as lectotype. The paralectotypes (6 °) are deposited in museums of London and Cambridge.

Description. Male (lectotype). Mediumsized. Brownish. Rostrum between antennal cavities slightly narrower than scape; head uniformly brownish; antennae and palpi light brownish. Pronotum distinctly narrowing in front, brown with rather wide dark brown band along hind edge. Tegmina with wide dorsal part (especially mirror) and rather short apical area (Fig. 300); lateral part of tegmina with comparatively wide area between R and M, with 25 oblique branches of Sc and C; coloration of tegmina uniformly light brown. Legs brownish with slight darkish spots (outer side of hind femora with numerous slight oblique lines); hind tibiae almost without pubescence, with 4 pairs of thin and not very long spines; upper inner spur of hind tibiae almost as long as hind metatarsi. Abdomen brownish, uniform (with only small dark spot on central part of genital plate); shape of anal and genital plates similar to that in Figs 318, 319. Genitalia as in Figs 361-364.

Female unknown.

Length. Body 13.5 mm; body with wings 15 mm; pronotum 2.8 mm; tegmina 12 mm; hind femora 11.4 mm; hind tibiae 11.2 mm.

Comparison. This species differs essentially from both previous species in the structure of the male genitalia (not semimembranous epiphallus, isolated rami). It is not improb-



Figs 302-313. Phaloria, dorsal part of male tegmen. 302, Ph. solomonica sp. n.; 303, Ph. vulgata sp. n. (holotype); 304, Ph. aspersa sp. n. (holotype); 305, Ph. solita sp. n.; 306, Ph. pulchra sp. n. (holotype); 307, Ph. rava sp. n.; 308, Ph. curta sp. n. (holotype); 309, Ph. gilva sp. n.; 310, Ph. parva sp. n.; 311, Ph. similis Chop.; 312, Ph. eximia sp. n. (holotype); 313, Ph. chopardi (Will.).



Figs 314-353. Anal and genital plates of male. 314, 315, Phaloria amplipennis Stål (holotype); 316, 317, Ph. modulator (Sauss.) (holotype); 318, 319, Ph. vulgata sp. n. (holotype); 320, 321, Ph. solomonica sp. n.; 322, 323, Ph. aspersa sp. n. (holotype); 324, 325, Ph. solita sp. n.; 326, 327, Ph. pulchra sp. n. (holotype); 328, 329, Ph. rava sp. n.; 330, 331, Ph. curta sp. n. (holotype); 332, 333, Ph. gilva sp. n.; 334, 335, Ph. parva sp. n.; 336, 337, Ph. similis Chop.; 338, 339, Ph. eximia sp. n. (holotype); 340, 341, Ph. chopardi (Will.); 342, 343, Ph. dahli sp. n.; 344, 345, Strophiola renschi sp. n.; 346, 347, Trellius siveci sp. n.; 348, 349, Ceyloria latissima sp. n.; 350, 351, Vescelia picta (Chop.) (holotype); 352, 353, V. fratercula (Chop.) (holotype). Anal plate without base from above (314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352); genital plate from below (315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341, 343, 345, 347, 349, 351, 353).

able that it is a representative of a new subgenus.

Phaloria (subgenus?) ikonnikovi sp. n. (Figs 234, 235, 262-264)

Holotype. 9, Philippines, "Philippinos. Los Banos. 15.V.917. N. Ikonnikov" (ZIAS).

Description. Female (holotype). Mediumsized. Light brownish with several darkenings. Rostrum between antennal cavities almost as wide as scape; head light brownish with distinct darkenings, as in Figs 262-264; antennae uniformly yellowish. Pronotum slightly narrowing in front, light brownish (almost yellowish) with distinct darkenings, as in Figs 262, 263. Tegmina with sparse oblique longitudinal veins in dorsal part (7); transverse veinlets between these veins also sparse; lateral part of tegmina with 17

oblique branches of Sc and C; coloration of tegmina light brownish with rather dark longitudinal veins in dorsal part. Length of hind wings and length of tegmina almost equal. Legs rather long, light brownish with dark brown apical part of femora (hind femora in addition with 2 indistinct darkenings at middle part), darkened base and apical part of fore and middle tibiae, dark proximal part of spines of hind tibiae and small spot near their base, and slightly darkened distal half of tarsi; hind tibiae with 8 rather short spines and numerous denticles, almost without pubescence; upper inner spur of hind tibiae almost as long as hind metatarsus; middle inner spur of hind tibiae noticeably shorter. Abdomen light brown. Ovipositor almost straight, with apical part as in Figs 234, 235. Male unknown.



Figs 354-364. Phaloria. 354-357, Ph. amplipennis Stål (holotype); 358-360, Ph. modulator (Sauss.) (holotype; without rami, guiding rod, endoparameres, and some other structures); 361-364, Ph. insularis (Bol.) (lectotype). Male genitalia from above (354, 358, 361), from below (356, 359, 362), and from the side (357, 360, 364); guiding rod from below (355, 363).

Length. Body 14 mm; pronotum 3 mm; tegmina 12.5 mm; hind femora 12.3 mm; hind tibiae 11.9 mm; distal inner spine of hind tibiae 1.1 mm; hind metatarsi 2 mm; ovipositor 9.2 mm.

Comparison. This species has some similarity to *Ph. modulator* in the coloration of lateral lobes of pronotum (Figs 263, 265), but colorations of head in these species are different. From other species of the genus



Figs 365-372. Phaloria. 365-368, Ph. solomonica sp. n.; 369-372, Ph. vulgata sp. n. (holotype). Male genitalia from above (365, 369), from below (366, 370), and from the side (368, 372); guiding rod from below (367, 371).

Phaloria, this new species differs also in the coloration of pronotum and legs.

Subgenus Papuloria subgen. n.

Type species Phaloria (Papuloria) solomonica sp. n.

Diagnosis. Male genitalia (Figs 365-419): epiphallus provided with only one pair of distal lobes, mould of attachment plate of spermatophore without large unpaired apodeme directed backwards.

Included species: type species, Phaloria similis Chopard, 1968, Ph. (Papuloria) vulgata sp. n., Ph. (P.) aspersa sp. n., Ph. (P.) solita sp. n., Ph. (P.) pulchra sp. n., Ph. (P.) rava sp. n., Ph. (P.) curta sp. n., Ph. (P.) gilva sp. n., Ph. (P.) parva sp. n., Ph. (P.) eximia sp. n., Heterotrypus chopardi Willemse, 1950, and possibly H. funambulus Saussure, 1878, H. mimulus Krauss, 1903, Platydactylus pacificus Walker, 1871, Ph. anapina Otte & Alexander, 1983. **Phaloria (Papuloria) solomonica** sp. n. (Figs 236, 237, 302, 320, 321, 365-368)

Holotype. o', Solomon Is, Guadalcanal I., Rua Vatu, 5.IV.1955, E.S. Brown (ZIAS).

Paratype. 2, same data as holotype, but 18.VIII.1955 (ZIAS).

Description. Male (holotype). Mediumsized, almost uniformly light brown. Rostrum between antennal cavities slightly narrower than scape; head (including antennae) light brownish with very slightly darkened upper part. Pronotum strongly narrowing in front, uniformly light brown. Tegmina with very wide dorsal part (its venation as in Fig. 302); lateral part with wide area between Rand M, with numerous oblique branches of Sc and C; coloration of tegmina uniformly yellowish. Length of hind wings and length of tegmina almost equal. Legs rather long, light brownish with darkened apical part of hind femora, distal half of hind tarsi, spots on hind tibiae, and very slight, indistinct spots on other parts of hind femora; hind



Figs 373-380. *Phaloria.* 373-376, *Ph. aspersa* sp. n. (holotype); 377-380, *Ph. solita* sp. n. Male genitalia from above (373, 377), from below (374, 378), and from the side (376, 380); guiding rod from below (375, 379).

tibiae with 8 rather short spines, with numerous denticles, and slight pubescence; upper inner spur of hind tibiae slightly longer and middle inner spur of hind tibiae noticeably shorter than hind metatarsus. Abdomen light brown; anal and genital plates as in Figs 320, 321. Genitalia as in Figs 365-368.

Female. Similar to male. Tegmina with rather numerous oblique longitudinal veins in dorsal part (10); transverse veinlets between these veins sparse; lateral part of tegmina with 16-17 oblique branches of Sc and C; coloration of tegmina as in male. Ovipositor long, with apical part as in Figs 236, 237.

Length. Body: $\sigma' 16$, $\varphi 15$ mm; pronotum: σ' 3.3, φ 3.2 mm; tegmina: $\sigma' 14.5$, $\varphi 13.2$ mm; hind femora: $\sigma' 13.7$, $\varphi 12.8$ mm; hind tibiae: σ' 12.9, $\varphi 12.2$ mm; distal inner spine of hind tibiae: σ' and $\varphi 1$ mm; hind metatarsi: σ' and φ 2.3 mm; ovipositor 14.4 mm.

Comparison. The new species is distinguished from *Ph. mimula* in the uniform coloration of head and pronotum, from *Ph. funambula* in the long ovipositor, from *Ph.* *pacifica* in the armature of hind tibiae, from *Ph. anapina* and *Ph. similis* in the shape of sclerites of the male genitalia, from *Ph. chopardi* in the shape of the male tegmina and other peculiarities.

Phaloria (Papuloria) vulgata sp. n.

(Figs 238, 239, 267, 268, 303, 318, 319, 369-372)

Holotype. o', New Guinea, "D.N. Guinea. Mäanderberg. 21-30.VIII.13. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Paratypes. New Guinea: 9 o', 8 9, same data as holotype, but 1-30.VIII.1913 (MNHU and ZIAS); 2 o', "D.N. Guinea. Hauptlg. b. Malu", 28.I-2.II.1913, "Kais. Augustafl. Exp. Bürgers S.G." (MNHU); 2 o', "D.N. Guinea. Lager s. Töpferfluss", 19-22.IV.1913, "Kais. Augustafl. Exp. Bürgers S.G." (MNHU). Bismarck Archipelago, New Britain: 1 9, "Neu-Britannien. Ralum. E. Dahl S.", "30.XII.96" (MNHU).

Description. Male (holotype). Mediumsized, almost uniformly light brown. Rostrum between antennal cavities almost as wide as scape; head light brown with slight darkenings as in Figs 267, 268 (antennae



Figs 381-388. Phaloria. 381-384, Ph. pulchra sp. n. (holotype); 385-388, Ph. rava sp. n. Male genitalia from above (381, 385), from below (382, 386), and from the side (384, 388); guiding rod from below (383, 387).

uniformly light brownish). Pronotum narrowing in front, light brown with slightly darkened areas on disc (Fig. 268). Tegmina with dorsal part as in Fig. 303; their lateral part as in *Ph. solomonica*, except more numerous branches of *Sc* and *C* (27-28); coloration of tegmina uniformly light brownish. Hind wings and tegmina of almost equal length. Legs medium-sized, light brown with slightly darkened spots; hind tibiae with armature as in *Ph. solomonica* (except that their upper inner spur almost as long as hind metatarsus). Abdomen light brown; anal and genital plates as in Figs 318, 319. Genitalia as in Figs 369-372.

Variations. Coloration sometimes scarcely darker or lighter (sometimes genital plate with small dark medial spot).

Female. Similar to male, but specimen from New Britain with rather dark (brown) cerci. Tegmina as in *Ph. solomonica* (11-12 longitudinal veins in dorsal part and 18-19 branches of *Sc* and *C*), but coloration from light brown to yellowish. Ovipositor rather short, with apical part as in Figs 238, 239.

Length. Body: of 15-17, 913-16 mm; pronotum: of 3.1-3.5, 93.1-3.5 mm; tegmina: of 15.5-17, 914-16 mm; hind femora: of 12.5-14, 91213.5 mm; hind tibiae: $\sigma' 11.5$ -13, $\varphi 11.2$ -12.5 mm; distal inner spine of hind tibiae: $\sigma' 1.1$, φ 1-1.1 mm; hind metatarsi: $\sigma' 2.4$ -2.6, $\varphi 2.3$ -2.6 mm; ovipositor 6.8-8.2 mm.

Comparison. This new species differs from *Ph. funambula* in the short teeth of lower valves of ovipositor, proportions of body parts (length of hind femur/ length of ovipositor = 1.7 in the new species and 1.5 in *Ph. funambula*; length of hind femur/ length of tegmina = 0.8 in the new species and 1 in *Ph. funambula*) and from other known species of this genus in the coloration, armature of hind tibiae, structure of male tegmina and male genitalia.

Phaloria (Papuloria) aspersa sp. n.

(Figs 274-276, 304, 322, 323, 373-376)

Holotype. o, New Guinea, "Hol. N. Guinea. Pauwi-Samberi. 17-20.VI.10. Moszkowski S.G." (MNHU).

Paratype. New Guinea, o', "D. N. Guinea i. Lager 29 km unterh. d. Mäanderberges a. Sepik. 11-16. VII.13, Nr. 361. Kais, Augustafl. Exp. Bürgers S.G." (MNHU).

Description. Male (holotype). Large, brown and distinctly spotted. Rostrum between antennal cavities noticeably narrower than scape; coloration of head as in Figs

274-276; antennae more or less uniformly brownish. Pronotum narrowing in front; its coloration as in Figs 274, 275 (dark brown with more light parts). Tegmina with dorsal part as in Fig. 304 (light brown with dark brown spots); their lateral part with rather wide area between R and M, with numerous oblique branches of Sc and C (28), almost uniformly brownish. Hind wings noticeably longer than tegmina. Legs rather long, light brown with distinct dark brown spots; hind tibiae with 8 long spines and numerous denticles, distinctly pubescent; upper inner spur of hind tibiae noticeably longer and their middle inner spur noticeably shorter than hind metatarsus. Abdomen brownish with lighter cerci; anal and genital plates as in Figs 322, 323. Genitalia as in Figs 373-376.

Variations. Paratype slightly smaller; its scape spotted.

Female unknown.

Length. Body 19-21 mm; pronotum 3.3-3.9 mm; tegmina 21 mm; hind femora 15.3-18.8 mm; hind tibiae 15.2-18.7 mm; distal inner spine of hind tibiae 2.7-2.8 mm; hind metatarsi 3.6-3.8 mm.

Comparison. The species is similar to *Ph. mimula*, but the mirror is longitudinal, tegmina and legs noticeably longer and body without whitish pubescence. Other known species of this genus have differing coloration and structure of male genitalia.

Phaloria (Papuloria) solita sp. n.

(Figs 266, 305, 324, 325, 377-380)

Holotype. o', Bismarck Archipelago (?), "Cballua" (MNHU).

Description. Medium-sized, almost uniformly light brownish. Rostrum between antennal cavities almost as wide as scape; head light brown with darkenings as in Fig. 266 (base of antennae light brown, their other parts uniformly yellowish). Pronotum narrowing in front, almost uniformly light brown. Tegmina with dorsal part as in Fig. 305; their lateral part as in *Ph. vulgata*; coloration of tegmina uniformly yellowish. Hind wings almost as long as tegmina. Legs as in *Ph. vulgata*, but with some differences in coloration (femora, tarsi, spines and spurs of hind tibiae almost uniformly light brownish; proximal half of fore and middle tibiae slightly darkened, distal half uniformly light brownish; hind tibiae darkened). Abdomen light brown; anal and genital plates as in Figs 324, 325. Genitalia as in Figs 377-380.

Female unknown.

Length. Body 15 mm; pronotum 2.9 mm; tegmina 14.8 mm; hind femora 12.5 mm; hind tibiae 12.2 mm; distal inner spine of hind tibiae 1 mm; hind metatarsi 2.4 mm.

Comparison. From Ph. funambula, the new species differs in the presence of distinct dark spots on fore surface of head, and from other species of the genus in the same characters as Ph. vulgata.

Phaloria (Papuloria) pulchra sp. n.

(Figs 269-271, 306, 326, 327, 381-384)

Holotype. o', New Guinea, "D. N. Guinea. Lager am Rosensee. 10.II.13. Kais. Augustafl. Exp. Burgers S.G." (MNHU).

Paratypes. New Guinea: 1 o, "D. N. Guinea. Hauptlg. b. Malu. 3.II.13. Kais. Augustafl. Exp. Bürgers S.G." (MNHU); 1 o, "D. N. Guinea. Standlager a. Aprilfluss. 1.V-11.X.1912. Kais. Augustafl. Exp. Bürgers S.G." (ZIAS); 1 o, "Hol. N. Guinea. 10-13.VII.10. Taua. Moszkowski S.G." (MNHU).

Male (holotype). Rather Description. large. Light brown with darkenings. Rostrum between antennal cavities noticeably narrower than scape; head light brownish with dark spots as in Figs 269-271 (antennae almost uniformly light brownish). Pronotum narrowing in front, light brown with yellowish white lower part of lateral lobes and dark brown bands as in Figs 269, 270. Tegmina with dorsal part as in Fig. 306; their lateral part as in Ph. vulgata; coloration of tegmina light brownish with darker stripe along upper edge of lateral part and darkish branches of Sc and C. Hind wings slightly longer than tegmina. Legs as in Ph. solo*monica*, but distal part of hind femora, hind and middle tibiae, and all tarsi distinctly spotted. Abdomen brownish with light brownish cerci; anal and genital plates as in Figs 326, 327. Genitalia as in Figs 381-384.

Variations. Sometimes dark spots and bands smaller and large dark spot on fore surface of head less developed (there is only pair of narrow dark vertical stripes between antennal cavities); sometimes darkenings on upper part of head and disc of pronotum more distinct.

Female unknown.

Length. Body 19-21 mm; pronotum 3.6-3.8 mm; tegmina 17-18.5 mm; hind femora 15.5-16.5 mm; hind tibiae 15-16 mm; distal inner spine of hind tibiae 1.3-1.4 mm; hind metatarsi 2.8-3 mm.

Comparison. This new species differs from *Ph. mimula* in the longer legs, absence of



Figs 389-404. Phaloria. 389-394, Ph. curta sp. n. (holotype); 395-399, Ph. gilva sp. n.; 400-404, Ph. parva sp. n. Male genitalia from above (389, 395, 400), from below (390, 396, 401), and from the side (394, 399, 404); sclerotized part of mould of attachment plate of spermatophore from below (391, 397, 402); ectoparamere from below (392); guiding rod without (393, 403) and with (398) endoparameres from below.

whitish pubescence, and peculiarities of venation of male tegmina; from other known species of the genus it differs in the structure of the male genitalia and coloration.

Phaloria (Papuloria) rava sp. n.

(Figs 246, 247, 272, 273, 307, 328, 329, 385-388)

Holotype. o', New Guinea, "D. N. Guinea. Hauptlager b. Malu. Kaiserin Augustafl. Exp. VI-VIII.12. Bürgers S.G." (MNHU). Paratype. "New Guinea", 9 (ZIAS).

Description. Male (holotype). Similar to Ph. pulchra, but dark spots and bands lighter (brown), light longitudinal band on lateral lobes of pronotum narrower (there is rather

wide darkening between this band and lower edge of the lobes) (Figs 272, 273), tegmina uniformly light brownish, mirror of tegmina slightly smaller, apical area of their dorsal part longer (Fig. 307), fore and middle femora with very small dark spots, and male genitalia different (Figs 385-388). Anal and genital plates as in Figs 328, 329.

Female. Similar to male, but very small dark spots of fore and middle femora indistinct. Tegmina as in Ph. solomonica. Ovipositor short, with apical part as in Figs 246, 247.

Length. Body: of 17, 914 mm; pronotum: of 3.4, 9 3.2 mm; tegmina: of 16.5, 9 16 mm; hind femora: of 14, 9 12.5 mm; hind tibiae: of 13.5, 9 12 mm; distal inner spine of hind tibiae: of



Figs 405-419. Phaloria. 405-410, Ph. similis Chop.; 411-415, Ph. eximia sp. n. (411, 412, 414, 415, holotype; 413, paratype); 416-419, Ph. chopardi (Will.). Male genitalia from above (405, 411, 416), from below (406, 412, 417), and from the side (410, 415, 419); ectoparamere from below (407, 413); guiding rod from below (408, 409, 414, 418).

1.4, 9 1.3 mm; hind metatarsi: o' 2.7, 9 2.4 mm; ovipositor 8.5 mm.

Comparison. The species is similar to Ph. pulchra, distinguished from it by the male genitalia and coloration, and from other known species of the genus by the same characters as Ph. pulchra.

Phaloria (Papuloria) curta sp. n. (Figs 240, 241, 308, 330, 331, 389-394)

Holotype. o', New Guinea, "Neu Guinea. Wasior (Wandammen). 18-25.7.1928. Mayr leg." (MNHU).

Paratypes. New Guinea: 2 o', same data as holotype (MNHU and ZIAS); 1 9, "Neu-Guinea. Momi (Arfakgeb.) gekauflt. 1928. Mayr" (MNHU); 1 9, "D. N. Guinea. Quelllag. 13-16.VIII.12. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Description. Male (holotype). Rather small, almost uniformly light brown. Rostrum between antennae almost as wide as scape; head (with antennae) uniformly brownish. Pronotum strongly narrowing in front, uniformly brownish. Tegmina with dorsal part as in Fig. 308; their lateral part as in *Ph. vulgata*; coloration of tegmina light brown, uniform. Hind wings slightly shorter than tegmina. Legs as in *Ph. vulgata*, but slightly shorter. Abdomen light brown; anal and genital plates as in Figs 330, 331. Genitalia as in Figs 389-394.

Variations. Coloration sometimes darker (head and pronotum brown; tegmina, legs, and abdomen brownish) and darkish spots on legs sometimes more distinct.

Female. Similar to male, but pronotum slightly narrowing in front, upper part of head and disc of pronotum with slightly lighter indistinct spots. Tegmina brownish or brown, with 10 oblique longitudinal veins of dorsal part and sparse transverse veinlets between these veins, with 17 branches of Sc and C. Ovipositor short, with apical part as in Figs 240, 241.

Length. Body: σ 13-15, φ 11-13.5 mm; pronotum: σ 2.6-2.8, φ 2.5-2.7 mm; tegmina: σ 11.5-12.5, φ 10.5 mm; hind femora: σ 10.5, φ 9.5-10 mm; hind tibiae: σ 9.5, φ 9-9.5 mm; distal inner spine of hind tibiae: σ 0.9, φ 0.8-1 mm; hind metatarsi: σ 2.2, φ 1.8-2 mm; ovipositor 5.5-6.5 mm.

Comparison. The new species differs from other species of this genus in the size, coloration, shape and venation of the male tegmina, structure of the male genitalia.

Phaloria (Papuloria) gilva sp. n.

(Figs 242, 243, 309, 332, 333, 395-399)

Holotype. o', New Guinea, "D. N. Guinea. Lager a. Lehmfluss. IV-V.1913. Kais. Augustafl. Exp. Bürgers S.G.", "N. 329" (MNHU).

Paratypes. New Guinea: 1 9, same data as holotype, but "323. 30.IV" (MNHU); 1 9, "D. N. Guinea. Lager am Rosensee. 13.II.13. Kais. Augustafl. Exp. Bürgers S.G." (ZIAS); 1 9, "D. N. Guinea. Regenberg. 550 m. 8-15.V. 13. Kais. Augustafl. Exp. Bürgers S.G.", "N. 334" (MNHU).

Description. Male (holotype). Rather small. Yellowish. Rostrum between antennal cavities slightly narrower than scape; head (with antennae) uniformly yellowish. Pronotum strongly narrowing in front, uniformly yellowish. Tegmina with dorsal part as in Fig. 309; their lateral part as in *Ph. solo-monica*; coloration of tegmina yellowish, uniform. Hind wings slightly shorter than tegmina. Legs as in *Ph. solomonica*, but almost uniformly yellowish (only with sparse indistinct slightly darkened spots). Abdomen light brownish; anal and genital plates as in Figs 332, 333. Genitalia as in Figs 395-399.

Female. Similar to male. Tegmina with rather numerous oblique longitudinal veins in dorsal part (10); transverse veinlets between these veins sparse; lateral part of tegmina as in *Ph. solomonica*; coloration of tegmina as in male. Ovipositor short, with apical part as in Figs 242, 243.

Length. Body: σ 12, φ 11-12 mm; pronotum: σ 2.7, φ 2.6-2.8 mm; tegmina: σ 11.5, φ 10.3-10.5 mm; hind femora: σ 11.2, φ 11.8-12 mm; hind tibiae: σ 10.7, φ 11.2-11.5 mm; distal inner spine of hind tibiae: σ 0.9, φ 0.9 mm; hindmetatarsi: σ 2, φ 2mm; ovipositor 5.8-6.2mm.

Comparison. The new species differs from other species of this genus in the size, coloration, structure of the male tegmina and male genitalia.

Phaloria (Papuloria) parva sp. n.

(Figs 277, 310, 334, 335, 400-404)

Holotype. o', New Guinea, "D. N. Guinea. Lager a. Topferfluss. 17.IV.13. Kais. Augustafl. Exp. Bürgers S.G.", "N 313" (MNHU).

Paratypes. New Guinea: 1 9, same data as holotype (MNHU); 1 9, "D. N. Guinea. Lager a. Lehmfluss. IV-V.1913. Kais. Augustafl. Exp. Bürgers S.G.", "N 328" (MNHU).

Description. Male (holotype). Rather small, almost uniformly light brownish. Rostrum between antennal cavities slightly narrower than scape; head (with antennae) uniformly yellowish, but with slight darkenings as in Fig. 277 (there is rather long pubescence along oblique narrow darkenings under eyes and antennae). Pronotum strongly narrowing in front, uniformly light brown. Tegmina uniformly light brownish, with dorsal part as in Fig. 310; their lateral part as in *Ph. solomonica*. Hind wings slightly shorter than tegmina. Legs as in *Ph. vulgata*. Abdomen light brownish; anal and genital plates as in Figs 334, 335. Genitalia as in Figs 400-404.

Female. Similar to male, but 1 paratype (N 328) with slightly darker head and almost without any darkenings and long pubescence on frontal surface of head. Tegmina as in *Ph. solomonica*; their coloration as in male. Ovipositor long, with apical part as in *Ph. solomonica*.

Length. Body: σ 13, φ 11-12 mm; pronotum: σ 2.7, φ 2.7-2.8 mm; tegmina: σ 11.3, φ 10.5-11 mm; hind femora: σ 10.5, φ 11.5 mm; hind tibiae: σ 9.8, φ 11 mm; distal inner spine of hind tibiae: σ 0.9, φ 0.9 mm; hind metatarsi: σ 2.1, φ 2.2mm; ovipositor 11.3-11.7 mm.

Comparison. The species differs from other species of *Phaloria* in the size, coloration, structure of the male genitalia, and length of ovipositor.

Phaloria (Papuloria) similis Chopard, 1968 (Figs 278-284, 311, 336, 337, 405-410)

Material. New Guinea: 3 o', "D. N. Guinea. Berlinhafen. H. Schoede S.G." (MNHU and ZIAS); 2 o', "D. N. Guinea. Lager a. Topferfluss. Kais. Augustafl. Exp. Bürgers S.G.", 13-19.IV.1913 (MNHU and ZIAS); 1 o', "D. N. Guinea. Hauptig. b. Malu. 7.II.1913. Kais. Augustafl. Exp. Bürgers S.G." (MNHU); 1 q, "D. N. Guinea. Regenberg. 550 m. 8-15.V.1913. Kais. Augustafl. Exp. Bürgers S.G." (MNHU). Bismarck Archipelago, New Britain, 1 q, "Neupommern. Karlei. Weite Bucht. Peter J. Schneider leg. 1929" (MNHU).

Description. Male. Similar to Ph. solomonica, but differs in coloration of head and pronotum (Figs 278-280, 282-284), structure of genitalia (Figs 405-410), and small peculiarities of tegmina: shape and venation of dorsal part slightly different (for comparison see Figs 302, 311), lateral part with 26-28 branches of Sc and C, dorsal part with slight (distinct or almost indistinct) darkenings (Fig. 311). Anal and genital plates as in Figs 336, 337.

Female (nov.). Similar to male, but specimen from New Britain slightly darker (only frontal surface of head with 1 dark spot near median ocellus, as in Fig. 281). Tegmina as in *Ph. solomonica*, but with more numerous oblique longitudinal veins of dorsal part (12). Ovipositor (including its apical part) as in *Ph. solomonica*.

Length. Body: σ 18-21, φ 15-19 mm; pronotum: σ 3-3.4, φ 3.4-3.8 mm; tegmina: σ 14-15.5, φ 15.5 mm; hind femora: σ 14-15, φ 14-15.5 mm; hind tibiae: σ 13.5-14.5, φ 13.5-15 mm; distal inner spine of hind tibiae: σ 0.9-1.1, φ 1-1.1 mm; hind metatarsi: σ 2.5-2.8, φ 2.5-2.8 mm; ovipositor 14-15 mm.

Phaloria (Papuloria) eximia sp. n.

(Figs 244, 245, 285-287, 312, 338, 339, 411-415)

Holotype. o', New Guinea, "D. N. Guinea. Lordberg. 29.XI-2.XII.12. Kais. Augustafl. Exp. Bürgers S.G. (MNHU). Paratypes. New Guinea: 1 o', "D. N. Guinea. Lager a. Lehmfluss. IV-V.1913. Kais. Augustafl. Exp. Bürgers S.G.", "326.1.V" (MNHU); 1 Q, "D. N. Guinea. Hunsteinspitze. 10.11.13. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Description. Male (holotype). Rather small. Brownish, spotted. Rostrum between antennal cavities slightly wider than scape; coloration of head light brown with slightly darker spots, similar to that in Figs 285-287, but dark spots almost indistinct; antennae uniformly brownish. Pronotum narrowing in front; its coloration darker, similar to that in Figs 274, 275, but light spots of disc slightly larger. Tegmina uniformly brownish grey, with dorsal part as in Fig. 312; their lateral part with rather wide area between R and M, with 26 branches of Sc and C. Hind wings noticeably longer than tegmina. Legs rather short, light brownish with distinct dark spots; hind tibiae slightly pubescent, with 8 medium-sized spines; their inner spurs and metatarsi missing. Abdomen uniformly light brown, except slightly darker anal plate; structure of anal and genital plates as in Figs 338, 339. Genitalia as in Figs 411-415.

Variations. Paratype with more distinct spots on head and with somewhat smaller lightish spots of disc (Figs 285-287).

Female. Similar to male, but very slightly lighter. Tegmina uniformly light brownish, with 9 oblique longitudinal veins of lateral part and with rather sparse distinct transverse veinlets. Hind legs missing. Ovipositor rather short, with apical part as in Figs 244-245.

Length. Body: σ 14-15, φ 13 mm; pronotum: σ 2.6-2.8, φ 2.7 mm; tegmina: σ 14.5-17.8, φ 17 mm; hind femora (σ) 11 mm; hind tibiae (σ) 10.5 mm; distal inner spine of hind tibiae (σ) 1.3 mm; ovipositor 6 mm.

Comparison. The species has male genitalia with narrow rami isolated from epiphallus. Rami of all other species of this subgenus male genitalia of which were examined are wide and not isolated from epiphallus. It is not improbable that this species is a representative of a new subgenus. From other species it is distinguished by the width of head rostrum, coloration, venation of the male tegmina, and some other characters.

Phaloria (Papuloria) chopardi (Willemse, 1950) (Figs 313, 340, 341, 416-419)

Material. Caroline Is: 1 o', "Karolinen. Punape Patapat. 30.X-15.XI.13. Lederman S." (MNHU); 1 9, "Palau Inseln" (MNHU).

Note. These specimens were identified by D.K.McE. Kevan. They correspond to the



Figs 420-431. Phaloria and Strophiola. 420-423, Ph. dahli sp. n.; 424-427, S. renschi sp. n.; 428-431, S. xanthella sp. n. Male genitalia from above (420, 424, 428), from below (421, 425, 430), and from the side (423, 427, 431); guiding rod from below (422, 426, 429).

original description (Willemse, 1950) containing sufficient information, except description of male genitalia. The latter are characterized by membranous lateral parts of paired distal processes of epiphallus and some peculiarities of ectoparameres and rami. It is not improbable that this species also is a member of a new subgenus. Subgenus Trelloria subgen. n.

Type species Phaloria (Trelloria) dahli sp. n.

Diagnosis. Male genitalia (Figs 420-423): epiphallus with only one pair of distal lobes, mould of attachment plate of spermatophore with large unpaired apodeme directed backwards.



Figs 432-440. Dorsal part of male tegmen. 432, Strophiola renschi sp. n.; 433, S. xanthella sp. n.; 434, Trellius siveci sp. n. (holotype); 435, T. buqueti (A.-Serv.); 436, T. dulcis sp. n.; 437, Ceyloria latissima sp. n.; 438, Vescelia variegata (Chop.) (lectotype); 439, V. picta (Chop.) (holotype); 440, V. fratercula (Chop.) (holotype).

Included species: only the type species.

Phaloria (Trelloria) dahli sp. n.

(Figs 288, 301, 342, 343, 420-423)

Holotype. o', Bismarck Archipelago, New Britain, "Bismarck-Arch. Ralum. Dahl S. 1896-97" (MNHU). Description. Male (holotype). Rather large. Brownish, spotted. Rostrum between antennal cavities slightly narrower than scape; coloration of head light brown with dark spots as in Fig. 288 (upper part of head intermediate between Figs 274 and 293); antennae almost uniformly brownish. Prono-

tum strongly narrowing in front; its coloration very similar to that of Ph. aspersa, but light medial longitudinal line of disk absent. Tegmina brownish with transparent lateral part; their dorsal part as in Fig. 301; their lateral part with brownish veins, with rather wide area between R and M, with 26-27 branches of Sc and C. Hind wings noticeably longer than tegmina. Legs rather short, light brown with distinct dark spots; hind tibiae slightly pubescent, with 8 very long spines and rather sparse denticles; their inner upper spur noticeably longer and their middle inner spur noticeably shorter than hind metatarsus. Abdomen uniformly light brown; anal and genital plates as in Figs 342, 343. Genitalia as in Figs 420-423.

Female unknown.

Length. Body 18.7 mm; pronotum 3.3 mm; tegmina 20.5 mm; hind femora 15 mm; hind tibiae 15 mm; distal inner spine of hind tibiae 3.4 mm; hind metatarsi 3.5 mm.

Genus Strophiola Uvarov, 1940, gen. dist.

Type species Strophia lugubrina Stål, Philippines.

Note. This genus must be restored from synonymy with the genus Phaloria for 3 species: the type species, Strophiola renschi sp. n., and S. xanthella sp. n. It is characterized by the tympanal organs with slit-like inner and open outer tympana (Figs 228, 229), by the male genitalia with guiding rod isolated from sclerotized part of mould of attachment plate of spermatophore, with rather large ectoparameres, with left and right endoparameres and rami isolated from each other (Figs 424-431), and by the apical part of ovipositor laterally widened and provided with 5 medium-sized rounded teeth on lateral surface of upper valve and 5 teeth on lower surface of lower valve (Figs 248, 249).

Strophiola renschi sp. n.

(Figs 290, 344, 345, 424-427, 432)

Holotype. o', Flores I., "West Flores. Siba. 700 m. Dr. Rensch" (MNHU).

Description. Male (holotype). Rather large. Brownish, spotted. Rostrum between antennal cavities slightly narrower than scape; head spotted (light brown with dark brown) as in Fig. 290 (upper part of head intermediate between Figs 274 and 293); antennae uniformly brownish. Pronotum strongly narrowing in front, its coloration similar to that of *Ph. aspersa*, but lower half of lateral lobes with long longitudinal S-shaped light spot only. Tegmina with dorsal part as in Fig. 432; their lateral part with rather wide area between R and M, with 32-33 branches of *Sc* and *C*; coloration of tegmina as in *Ph. dahli*. Hind wings considerably longer than tegmina. Legs long, light brown with dark spots; hind tibiae with distinct pubescence, 8 very long spines, and not very numerous denticles; their upper and middle inner spurs as in *Ph. dahli*. Abdomen brownish; anal and genital plates as in Figs 344, 345. Genitalia as in Figs 424-427.

Female unknown.

Length. Body 20.5 mm; body with wings 33 mm; pronotum 3 mm; tegmina 21.5 mm; hind femora 17.7 mm; hind tibiae 17.7 mm; distal inner spine of hind tibiae 3.8 mm; hind metatarsi 3.7 mm.

Strophiola lugubrina (Stål, 1877) (Figs 228, 229, 248, 249, 289)

 $(1 1g_{3} 220, 229, 240, 249, 209)$

Holotype. 9, Philippines, "Ins. Philipp.", "Semper", "Quelgebeif des Baubo. 8-10/10.64" (NHRM).

Description. Female (holotype). Very similar to S. renschi, but smaller, rostrum between antennal cavities narrower (scape 1.5 times as wide as rostrum), and lower half of lateral lobes of pronotum with only 2 light spots (as in Fig. 289). Tegmina light brownish with sparse slight darkenings and with 11 oblique longitudinal veins of dorsal part. Hind legs missing. Ovipositor long, with apical part as in Figs 248, 249.

Male unknown.

Length. Body 16.5 mm; body with wings 29.5 mm; pronotum 2.8 mm; tegmina 19.5 mm; ovipositor 14 mm.

Strophiola xanthella sp. n.

(Figs 428-431, 433)

Holotype. o, Sulawesi, Minahasa, "Minahassa. Staudinger" (MNCN).

Description. Male (holotype). Mediumsized. Uniformly light brownish, almost yellowish (there are only slight traces of ornament on head similar to that in Figs 267, 268, 279, but lighter and without spots near ocelli). Scape 1.3 times as wide as rostrum between antennal cavities. Pronotum strongly narrowing in front. Tegmina with dorsal part as in Fig. 433; their lateral part similar to that of *S. renschi*. Hind wings as in *S. renschi*. Legs long, with hind tibiae rather pubescent, provided with 8 very long spines



Figs 441-446. Trellius. 441-443, T. siveci sp. n. (holotype); 444-446, T. helverseni (Heller) (holotype). Male genitalia from above (441, 444), from below (442, 445), and from the side (443, 446).

and rather numerous denticles; upper and middle inner spurs of hind tibiae as in *Phaloria dahli*. Anal and genital plates similar to those of *S. renschi*, but apex of anal plate almost truncate and genital plate slightly wider. Genitalia as in Figs 428-431.

Female unknown.

Length. Body 18 mm; body with wings 32 mm; pronotum 2.9 mm; tegmina 20 mm; hind femora 16 mm; hind tibiae 16 mm; distal inner spine of hind tibiae 3.5 mm; hind metatarsi 3.6 mm.

Comparison. This new species differs from S. lugubrina and S. renschi in the light uniform coloration, from S. renschi also in the peculiarities of the male genitalia: ectoparameres shorter and their shape somewhat different, guiding rod symmetrical, rami distinctly longer, mould of attachment plate of spermatophore reduced.

Genus Trellius Gorochov, 1988

Type species Heterotrypus vitalisi Chopard, 1925, Vietnam.

Note. This genus consists of 3 subgenera: Trellius s. str. [type species, Trellius deminutus Gorochov, 1990, T. riparius Gorochov, 1990, T. litophilus Gorochov, 1990, T. (T.) certus Gorochov, 1992, T. (T.) verus Gorochov, 1992, T. (T.) alius Gorochov, 1992,



Figs 447-457. Trellius and Ceyloria. 447-449, T. buqueti (A.-Serv.); 450-452, T. dulcis sp. n.; 453-457, C. latissima sp. n. Male genitalia from above (447, 450, 453), from below (448, 451, 454), and from the side (449, 452, 455); endoparameres (456) and guiding rod (457) from below.

and possibly Heterotrypus jacobsoni Chopard, 1925], Neotrellius Gorochov, 1992 (Heterotrypus tonkinensis Chopard, 1925), and Protrellius subgen. n. It is characterized by the tympanal organs with practically open both (inner and outer) tympana (Figs 226, 227), male genitalia with guiding rod lost or isolated from sclerotized part of mould of attachment plate of spermatophore (this mould with unpaired large apodeme directed backwards), without ectoparameres or with rather small ones, with left and right endoparameres fused, with left and right rami fused or almost fused, with left and right halves of epiphallus isolated or almost isolated from each other (Figs 441-452), and by apical part of ovipositor laterally widened and provided with 5 large sharp teeth on lateral surface of upper valve (Figs 256, 257).

Subgenus Protrellius subgen. n.

Type species Trellius (Protrellius) siveci sp. n.

Diagnosis. Male genitalia (Figs 441-452): left and right halves of epiphallus isolated, guiding rod and ectoparameres developed, apodemes of endoparameres rather large, rami fused.

Included species: type species, Platydactylus buqueti Audinet-Serville, 1839, Phaloria helverseni Heller, 1985, and Trellius (Protrellius) dulcis sp. n.

Trellius (Protrellius) siveci sp. n.

(Figs 226, 227, 292, 346, 347, 434, 441-443)

Holotype. o', Malaysia, "Perak. Hulu. 5° 30' 07" N, 101° 26' 21" E. 250 m, light trap. 21.III-14.IV.1994. Belum Exp. B. Camp, leg. I. Sivec" (ZIAS).

Paratype. o', same data as holotype (ZIAS).

Description. Male (holotype). Mediumsized. Brown. Rostrum between antennal cavities slightly narrower than scape; coloration of head dark brown with somewhat more lighter spots on lower half (as in Fig. 292); antennae almost uniformly brown. Pronotum strongly narrowing in front, almost uniformly dark brown. Dorsal part of tegmina as in Fig. 434, brownish, rather dark; lateral part of tegmina with wide area between R and M, almost transparent with brownish veins. Hind wings noticeably longer than tegmina. Legs medium-sized, light brownish with rather large dark spots; hind tibiae, their spines and spurs with long pubescence; these tibiae with 8 very long spines and rather numerous denticles; their upper inner spur significantly longer and their middle inner spur slightly shorter than hind metatarsus. Abdomen brown with dark brown genital plate; anal and genital plates as in Figs 346, 347. Genitalia as in Figs 441-443.

Variations. Paratype with somewhat lighter coloration of head (upper part of head with ornament almost as in Fig. 293, but this ornament less noticeable as it consists of dark brown stripes with brown spaces between them).

Female unknown.

Length. Body 16-17 mm; pronotum 3.1-3.3 mm; tegmina 17.5-18 mm; hind femora 13.5-14 mm; hind tibiae 13-13.5 mm; distal inner spine of hind tibiae 3.2-3.3 mm; hind metatarsi 2.8-3 mm.

Trellius (Protrellius) helverseni (Heller, 1985) (Figs 444-446)

Holotype. o, Malaysia, "Kuala Lumpur. 16.III. 1981, leg. Heller" (FNSF).

Description. Male (holotype). Similar to T. siveci, but lighter. Head light brownish with brown ornament similar to that in Figs 291 and 293, but with some peculiarities: apex of rostrum unicolorous; genae and dorsal part of head lighter; there is a long longitudinal light stripe from medial ocellus to clypeus; areas under antennal cavities as in T. siveci (see Fig. 292), but lighter and with light spot connected with other light spot under eye by narrow light band. Antennae and palpi light brownish. Pronotum uniformly reddish brown. Legs spotted, but rather light. Abdomen light brownish. Genitalia (Figs 444-446) similar to those of T. siveci, but distinct in shape of epiphallus, ectoparameres, and guiding rod.

Female unknown.

Length. Body 20 mm; pronotum 2.9 mm; tegmina 19.5 mm; hind femora 13.8 mm; hind tibiae 13.2 mm; distal inner spine of hind tibiae 3.5 mm; hind metatarsi 3.2 mm.

Trellius (Protrellius) buqueti

(Audinet-Serville, 1839) (Figs 435, 447-449)

Material. Java, 1 or, "Java. Ex coll. H. Dohrn" (DEIE).

Description. Male. Rather large, brownish. moderately spotted. Rostrum between antennal cavities almost as wide as scape; coloration of head similar to that in Figs 274, 288, but light longitudinal medial spot near clypeus slightly larger and dark longitudinal stripes on vertex distinctly lighter; antennae and palpi light brown, but palpi slightly lighter than antennae. Disc of pronotum rather light reddish brown with large darkish brown medial spot not far from hind edge; lateral lobes of pronotum brown (slightly darkened) with longitudinal light brownish spot not far from lower edge; pronotum strongly narrowing in front. Dorsal part of tegmina as in Fig. 435, light brown, unicolorous; lateral part of tegmina similar to that of T. siveci, but with light (almost yellowish) veins. Hind wings as in T. siveci. Legs medium-sized, light brown with slight darkish spots; hind tibiae with distinct pubescence, with 8 long spines and not very numerous denticles; their inner upper spur noticeably longer and their inner middle spur distinctly shorter than hind metatarsus. Thorax and abdomen brownish (thorax somewhat lighter than abdomen); anal and genital plates similar to those of T. siveci, but with obtuse, round, and somewhat wider



Figs 458-467. Vescelia. 458-460, V. fratercula (Chop.) (holotype); 461-463, V. picta (Chop.) (holotype); 464-467, V. variegata (Chop.) (lectotype). Male genitalia from above (458, 461, 464), from below (459, 462, 465), and from the side (460, 463, 466); guiding rod from below (467).

apex. Genitalia differ from those of all previous species of this subgenus in comparatively short epiphallus and endoparameral apodemes, and in narrow apex of guiding rod (Figs 447-449).

Female unknown to me.

Length. Body 20.5 mm; pronotum 3.3 mm; tegmina 21.5 mm; hind femora 14.3 mm; hind tibiae 14.7 mm; distal inner spine of hind tibiae 3.8 mm; hind metatarsi 3.4 mm.

Trellius (Protrellius) dulcis sp. n. (Figs 436, 450-452)

Holotype. o', Philippines, Luzon I., "Angat. Maeso!" (MNCN).

Description. Male (holotype). Very similar to *T. buqueti*, but smaller, darker, and with slightly shorter legs. Head brown with indistinct darkish spots; antennae and palpi light brown with darker (brown) scape. Pronotum darkish brown with large lighter, reddish brown, indistinct spots on middle parts of disc and lateral lobes. Dorsal part of tegmina as in Fig. 436, brownish, unicolorous; lateral part of tegmina with brown veins (Cand Sc with 21-24 branches). Legs spotted; hind tibiae with slight pubescence (hind tarsi and distal part of hind tibiae missing). Thorax and abdomen brownish with somewhat darker upper part of abdomen; anal and genital plates as in *T. buqueti*. Genitalia as in Figs 450-452.

Female unknown.

Length. Body 13 mm; pronotum 3 mm; tegmina 19.5 mm; hind femora 11.9 mm.

Comparison. This species is distinguished from other species of the genus by the male genitalia, coloration, and peculiarities of male tegminal venation.

Note. This specimen was earlier mentioned as belonging to "Heterotrypus buqueti" (Bolivar, 1889).

Genus Ceyloria gen. n.

Type species Ceyloria latissima sp. n.

Diagnosis. Tympanal organ as in Trellius. Male genitalia with guiding rod isolated from sclerotized part of mould of attachment plate of spermatophore (this mould with apodeme as in Trellius), with rather large ectoparameres, with left and right endoparameres fused, with epiphallus divided into 3 large and 2 small isolated parts (medial, 2 lateral, and 2 small proximal), with left and right rami fused (Figs 453-457). Ovipositor similar to that of Trellius.

Included species: type species, Heterotrypus vicinus Chopard, 1928, and possibly Heterotrypus elegans Chopard, 1936.

Ceyloria latissima sp. n.

(Figs 291, 348, 349, 437, 453-457)

Holotype. o', Sri Lanka, "Ceylon. Nietner", "966" (MNHU).

Description. Male (holotype). Mediumsized. Brownish. Rostrum between antennal cavities slightly narrower than scape; head brownish with darker spots (Fig. 291) (upper part of head similar to that of *Strophiola renschi*); antennae brownish. Pronotum strongly narrowing in front, almost uniformly brown. Tegmina with very wide dorsal part as in Fig. 437; their lateral part similar to that of *Trellius siveci*; coloration of dorsal part of tegmina brownish, rather light; coloration of lateral part of tegmina as in *T. siveci*. Hind wings almost as long as tegmina. Legs rather long, light brownish with slightly darkened (but distinct) spots; hind tibiae, their spines and spurs distinctly pubescent; these tibiae with 8 long spines and very small denticles; their upper inner spur considerably longer than hind metatarsus; their middle inner spur almost as long as this metatarsus. Abdomen brownish (rather light) with darkish anal plate; shape of anal and genital plates as in Figs 348, 349. Genitalia as in Figs 453-457.

Female unknown.

Length. Body 17.3 mm; pronotum 3.2 mm; tegmina 21 mm; hind femora 13.7 mm; hind tibiae 13.4 mm; distal inner spine of hind tibiae 3 mm; hind metatarsi 2.8 mm.

Comparison. The species is similar to C. vicina, but differs from it in the wider dorsal part of male tegmina and wider lower distal lobes of epiphallus fused with rami.

Genus Vescelia Stål, 1877, gen. dist.

Type species Vescelia infumata Stål, 1877, Philippines.

Note. I think that this genus must be restored from synonymy with the genus Phaloria. It consists of 2 groups of species (maybe subgenera?) distinguished from each other by the peculiarities of the male genitalia: (1) Heterotrypus pictus Chopard, 1931, H. variegatus Chopard, 1937, and possibly Phaloria ryukyuensis Oshiro, 1985, (2) H. fraterculus Chopard, 1937. The male of the type species of Vescelia is unknown. The generic position of remaining species (H. simillimus Sauss., H. tripartitus Sauss., H. longipes Sauss., H. moorei Chop., H. hobbyi Chop., H. gracilis Chop., H. testaceus Chop., H. pieli Chop., H. karnyi Chop., H. kotoshoensis Shir., Ph. karnyello Chop.) put by Chopard (1968) in *Phaloria* is not clear. The genus is characterized by the tympanal organ as in *Phaloria*, but with large tympana (Figs 222-225), by the male genitalia with guiding rod isolated from sclerotized part of mould of attachment plate of spermatophore, with left and right endoparameres fused, without division of epiphallus into 2 or more isolated parts (Figs 458-467), and by the apical part of ovipositor more or less similar to that of *Trellius* (Figs 250-253).



Figs 468-497. Pseudotrigonidium. 468-471, P. summum sp. n.; 472-475, P. medium sp. n.; 476-479, P. imum sp. n.; 480-483, P. affine sp. n.; 484-487, P. anomalum sp. n. (holotype); 488-490, P. proximum sp. n.; 491-497, P. javanicum (Chop.). Head and pronotum from above (468, 472, 476, 480, 484, 488, 491), and from the side (469, 473, 477, 481, 485, 489, 492); head in front (470, 474, 478, 482, 486, 490, 493); male genital plate from below (494), from the side (495), and from behind (496); apical part of male abdomen (497) and distal half of male anal plate (471, 475, 479, 483, 487) from above.

Vescelia picta (Chopard, 1931)

(Figs 224, 225, 252, 253, 293, 294, 350, 351, 439, 461-463)

Holotype. o', Kalimantan, "Mt Tibang. 1300 m", "Borneo, Mjöberg" (NHRM).

Paratype. Kalimantan, 9, "Songei", "O. Borneo. Mjöberg" (NHRM). Description. Male (holotype). Rather small. Greyish brown, spotted. Rostrum between antennal cavities almost as wide as scape; head light brownish with dark spots, as in Figs 293, 294 and almost as in Fig. 288. Pronotum narrowing in front, dark brown with light spots, as in Figs 293, 294. Tegmina brownish with dark spots on dorsal part (Fig. 439); their lateral part with wide area between R and M, with 22-25 branches of Sc and C. Hind wings slightly longer than tegmina. Legs light brown with distinct dark spots; hind tibiae with 8 long pubescent spines. Abdomen light brown beneath and somewhat darker above; cerci light brown; anal and genital plates as in Figs 350, 351. Genitalia as in Figs 461-463.

Female. Similar to male, but head slightly lighter beneath and slightly darker above. Tegmina light brownish with brown stripes along veins and veinlets; dorsal part of tegmina with 11 longitudinal veins and rather sparse transverse veinlets. Ovipositor short, with apical part as in Figs 252, 253.

Length. Body: σ 13.5, φ 14 mm; body with wings: σ 25, φ 26 mm; pronotum: σ 2.4, φ 2.8 mm; tegmina: σ 17, φ 18 mm; hind femora: σ 11.5, φ 12.2 mm; ovipositor 4.7 mm.

Vescelia infumata Stål, 1877, sp. dist. (Figs 222, 223, 250, 251)

Holotype. 9, Philippines, "Ins. Philipp.", "Dugang. Juli 64" (NHRM).

Note. This species was placed in synonymy with *Trellius buqueti* in error.

Description. Female (holotype). Similar to V. picta, but tegmina without darkenings along veins and veinlets, hind femora almost unicolorous (brownish and without darkenings), and dorsal part of tegmina with 12-13 longitudinal veins.

Male unknown.

Length. Body 14.6 mm; body with wings 24.5 mm; pronotum 2.7 mm; tegmina 16.3 mm; hind femora 11.3 mm; ovipositor 4 mm.

Vescelia variegata (Chopard, 1937)

(Figs 438, 464-467)

Lectotype. o', Philippines, "N. Palawan. Binaluan. Nov.-Dez. 1913. Leg. G. Boettcher" (DEIE).

Paralectotype. 1 9, same data as lectotype (DEIE). Note. The species was described from 2 syntypes (Chopard, 1937). The lectotype (male) is designated here.

Description. Male (lectotype). Rather small, brownish, spotted. Head light brown with dark ornament rather similar to that of V. picta. Pronotum dark brown with indistinct small lightish spots, pubescent, noticeably narrowing in front. Tegmina light greyish brown with indistinct darkish spots; venation of dorsal part as in Fig. 438; lateral area almost transparent, with 21-22 branches of C and Sc, and with wide area between R and M provided with numerous transverse veinlets. Hind wings only slightly longer than tegmina (almost equal in length). Legs light brown with dark spots; hind tibiae with 8 rather long spines. Abdomen greyish brown, rather light, more or less unicolorous; anal and genital plates rather similar to those of V. picta. Genitalia as in Figs 464-467.

Female. Similar to male. Dorsal part of tegmina with 9 oblique longitudinal veins and more or less numerous transverse veinlets, noticeably spotted. Ovipositor with apex of lower valves similar to that of V. *picta*, but apex of its upper valves with less numerous large teeth (4).

Length. Body: σ 12.5, φ 14 mm; body with wings: σ 15.5, φ 16.8 mm; pronotum: σ 2.4, φ 2.6 mm; tegmina: σ 11, φ 11.3 mm; hind femora: σ 11.8, φ 12 mm; ovipositor 6.8 mm.

Vescelia fratercula (Chopard, 1937)

(Figs 352, 353, 440, 458-460)

Holotype. o', Philippines, "N. Palawan. Binaluan. Nov.-Dez. 1913. Leg. G. Boettcher" (DEIE).

Description. Male (holotype). Mediumsized, almost uniformly brownish. Head light brown; its upper part slightly darkened and with light brownish (almost yellowish) rostrum, spots near lateral ocelli, 3 longitudinal narrow stripes, and indistinct spots behind eyes. Pronotum brown, narrowing in front. Tegmina uniformly light brownish, with dorsal part as in Fig. 440, with wide R-M area and numerous branches of Sc and Cin their lateral part. Hind wings and tegmina of almost equal length. Legs uniformly light brown; hind tibiae with rather long spines and numerous denticles. Abdomen light brownish; anal and genital plates as in Figs 352, 353. Genitalia as in Figs 458-460.

Female unknown.

Length. Body 19 mm; body with wings 21 mm; pronotum 3.3 mm; tegmina 16 mm; hind femora 14.7 mm; hind tibiae 14.9 mm; hind metatarsi 3 mm.

Genus Tremellia Stål, 1877

Type species Tremellia spurca Stål, 1877, Philippines.

Note. I consider that the genus includes only the type species characterized by the tympanal organ as in *Phaloria*, but with both tympana small (Figs 220, 221), by the apical part of ovipositor almost without widening and with numerous rather small teeth



Figs 498-503. Pseudotrigonidium, dorsal part of male tegmen. 498, P. summum sp. n.; 499, P. medium sp. n.; 500, P. anomalum sp. n. (holotype); 501, P. imum sp. n.; 502, P. affine sp. n.; 503, P. javanicum (Chop.).

on lateral surface of upper valve (Figs 254, 255). The male of this genus is unknown.

Tremellia spurca Stål, 1877 (Figs 220, 221, 254, 255, 295-297)

Holotype. 9, Philippines, "Ins. Philipp.", "Semper" (NHRM).

Description. Female (holotype). Mediumsized. Brownish grey, spotted. Rostrum between antennal cavities slightly narrower than scape; head dark brown with light brown spots (Figs 295-297). Pronotum slightly narrowing in front, dark brown with somewhat lighter spots (Figs 295, 296). Tegmina rather short, extending to apex of abdomen; their dorsal part with 9-10 longitudinal veins; coloration of tegmina light brownish with somewhat darker veins and veinlets (transverse veinlets rather sparse). Hind wings slightly shorter than tegmina. Legs light brown with brown spots; hind tibiae with rather long spines. Abdomen light brownish grey beneath and slightly darker above; cerci brownish grey with light base. Ovipositor rather short, with apical part as in Figs 254, 255.



dium. 504-506, P. summum sp. n.; 507-509, P. medium sp. n. Male genitalia from above (504, 507), from below (505, 508), and from the side (506, 509).

Male unknown.

Length. Body 14.5 mm; body with wings 15 mm; pronotum 3.2 mm; tegmina 10.5 mm; hind femora 14.2 mm; ovipositor 7.5 mm.

Genus Pseudotrigonidium Chopard, 1915, gen. dist.

Type species Pseudotrigonidium sarasini Chopard, 1915, New Caledonia.

Note. This genus must be restored from synonyms of the genus Tremellia. It is distinguished in the presence of only inner tympanum on fore tibiae (there are inner and outer tympana on these tibiae in Tremellia) and specific shape of the apical part of ovipositor, as in Figs 258-261 (for comparison with Tremellia see Figs 254, 255). The genus consists of 2 subgenera: Pseudotrigonidium s. str., and Tripsegonium subgen. n.

Subgenus Pseudotrigonidium s. str.

Diagnosis. Male genitalia: epiphallus rather narrow, rami long, guiding rod very large and curved upwards, mould of attach-





ment plate of spermatophore with more or less long unpaired apodeme (Figs 504-518).

Included species: type species, Tremellia caledonica Otte, 1987, T. tiwaka Otte, 1987, T. alpha Otte, 1987, T. beta Otte, 1987, Pseudotrigonidium (Pseudotrigonidium) summum sp. n., P. (P.) medium sp. n., P. (P.) imum sp. n., P. (P.) affine sp. n., P. (P.) anomalum sp. n., P. (P.) proximum sp. n., and possibly T. australis Chopard, 1951.

Pseudotrigonidium (Pseudotrigonidium) summum sp. n.

(Figs 468-471, 498, 504-506)

Holotype. o', New Guinea, "D. N. Guinea. Hunsteinspitze. 6.111.13. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Description. Male (holotype). Small, brownish, spotted. Rostrum between antennal cavities almost as wide as scape; head with ornament as in Figs 468-470, consisting of yellowish, brown and dark brown spots;

antennae brownish. Pronotum noticeably narrowing in front, brown with lightish spots (Figs 468, 469). Tegmina with dorsal part as in Fig. 498; this part light greyish with brown spots; lateral part of tegmina with very wide R-M area and numerous oblique branches of Sc and C; coloration of this part light greyish with large dark brown spots on distal part of R-M area and on distal part of lancet-like cell, with yellowish transverse veinlets of R-M area (except distal ones), and with darkish other veins. Hind wings noticeably shorter than tegmina. Middle and hind legs medium-sized, light brownish with darkish spots (greater part of hind tibiae, hind tarsi, and fore legs missing). Abdomen brownish; anal plate as in Fig. 471; genital plate simple, with slightly bifurcated apex. Genitalia as in Figs 504-506, with guiding rod very strongly curved.

Female unknown.

Length. Body 12.8 mm; pronotum 1.9 mm; tegmina 11.5 mm; hind femora 10.7 mm.



Figs 516-521. Pseudotrigonidium. 516-518, P. anomalum sp. n. (holotype); 519-521, P. javanicum (Chop.). Male genitalia from above (516, 519), from below (517, 520), and from the side (518, 521).

Comparison. From other species of this subgenus, the new species differs in the characteristic coloration of head, venation of male tegmina, and shape of ectoparameres.

Pseudotrigonidium (Pseudotrigonidium) medium sp. n.

(Figs 472-475, 499, 507-509)

Holotype. o', New Guinea, "D. N. Guinea. Lordberg. 1000 m. 19-30.XI.12. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Description. Male (holotype). Similar to P. summum, but head and pronotum with small differences in coloration (see Figs 472-474), tegmina somewhat smaller (Fig. 499), genitalia with 2 long processes of ectoparameres and with guiding rod not very strongly curved (Figs 507-509). Fore legs mediumsized; hind tibiae pubescent, with 8 short spines and sparse denticles; longest spur of these tibiae noticeably shorter than hind metatarsus; coloration of fore legs and distal part of hind legs light brownish with darkish spots. Anal plate as in Fig. 475.

Female unknown.

Length. Body 11.6 mm; pronotum 1.9 mm; tegmina 10.5 mm; fore femora 4.2 mm; hind femora 10.2 mm; hind tibiae 9 mm; distal inner spine of hind tibiae 0.4 mm; hind metatarsi 1.8 mm.

Comparison. This species differs from other species of the subgenus in the same characters as *P. summum*.

Pseudotrigonidium (Pseudotrigonidium) imum sp. n.

(Figs 476-479, 501, 510-512)

Holotype. o', New Guinea, "D. N. Guinea. Lordberg. 2-4.XII.12. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Description. Male (holotype). Small, light brownish, spotted. Scape 1.7 times as wide as rostrum between antennal cavities; head light brownish with characteristic dark spots as in Figs 476-478; antennae brownish. Pronotum slightly narrowing in front, light brown with dark spots as in Figs 476, 477. Tegmina with dorsal part as in Fig. 501; this part very light brownish with several slight darkenings and sparse small yellow spots; lateral part of tegmina with rather wide R-Marea and numerous oblique branches of Sc and C; coloration of this part light brownish with yellowish R-M area and lancet-like cell (transverse veinlets of R-M area yellowish, other veins of lateral part darkened). Hind wings distinctly shorter than tegmina. Hind legs (fore and middle legs missing) long, light brownish with slightly darker spots; hind tibiae slightly pubescent, with 4 short spines and rather numerous denticles; hind tarsi very long; hind metatarsus 2.7 times as long as longest spur of hind tibiae. Abdomen light brownish; anal plate as in Fig. 375; genital plate as in *P. summum*. Genitalia as in Figs 510-512, with guiding rod curved less strongly than in all previous species.

Female unknown.

Length. Body 14 mm; pronotum 1.2 mm; tegmina 11 mm; hind femora 15.3 mm; hind tibiae 14.2 mm; distal inner spine of hind tibiae 0.7 mm; hind metatarsi 3.3 mm.

Comparison. This new species differs from other species of the subgenus in the coloration, length of legs, venation of the male tegmina, and peculiarities of the male genitalia.

Pseudotrigonidium (Pseudotrigonidium) affine sp. n.

(Figs 480-483, 502, 513-515)

Holotype. o', New Guinea, "D. N. Guinea. Lager a. Lehmfluss. IV.1913. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Description. Male (holotype). Similar to P. imum, but head and pronotum with somewhat differing ornament (see Figs 480-482), tegmina and their mirror somewhat smaller (Fig. 502), genitalia with shorter ectoparameres and longer apodemes of endoparameres and mould of attachment plate of spermatophore (Figs 513-515). Fore legs (middle and hind legs missing) long, light brownish with darkish spots. Anal plate as in Fig. 483.

Female unknown.

Length. Body 13.5 mm; pronotum 1.3 mm; tegmina 10 mm; fore femora 6.7 mm.

Comparison. This species differs from other species of the subgenus in the same characters as *P. imum.*

Pseudotrigonidium (Pseudotrigonidium)

anomalum sp. n.

(Figs 260, 261, 484-487, 500, 516-518)

Holotype. o', New Guinea, "D. N. Guinea. Standlager a. Töpferfl. 22.IV.1913. Kais. Augustafl. Exp. Bürgers S.G." (MNHU).

Paratypes. 1 σ , 1 φ , same data as holotype (ZIAS and MNHU).

Description. Male (holotype). Small, brown, spotted. Head as in *P. summum* and *P. medium*, but with somewhat differing coloration (with large dark brown spots as in Figs 484-486); antennae brownish. Pronotum with almost parallel lateral sides, more or less dark, as in Figs 484, 485. Tegmina with dorsal part as in Fig. 500; this part light brownish with several slight darkenings and sparse small yellow spots; lateral part of tegmina with rather wide R-M area and numerous oblique branches of Sc and C; coloration of this part dark brown with yellowish white proximal half of R-M area and lancetlike cell. Hind wings distinctly shorter than tegmina. Legs rather short, light brown with dark spots; hind tibiae slightly pubescent, with 8 short spines and numerous denticles; hind tarsi rather short, but somewhat longer than longest spur of hind tibiae. Abdomen brown; anal plate as in Fig. 487; genital plate as in all previous species. Genitalia as in Figs 516-518, with guiding rod curved almost as in P. imum and P. affine.

Variations. Tegmina of paratype without yellow spots.

Female. Similar to male, but with lighter cerci. Dorsal part of tegmina with 8 oblique longitudinal veins and irregular transverse veinlets, brownish with somewhat darker spots near lateral edge; lateral part of tegmina light brownish with dark stripes along longitudinal veins and their branches. Ovipositor with apical part as in Figs 260, 261.

Length. Body: $\sigma' 11-12$, $\varphi 11.5$ mm; pronotum: $\sigma' 1.9-2.1$, $\varphi 2.2$ mm; tegmina: $\sigma' 8.5-9$, φ 9.1 mm; fore femora: $\sigma' 3.6$, $\varphi 3.7$ mm; hind femora: $\sigma' 11-11.5$, $\varphi 12$ mm; hind tibiae: σ' 10.2-10.6, $\varphi 11$ mm; distal inner spine of hind tibiae: $\sigma' 0.5$, $\varphi 0.6$ mm; hind metatarsi: $\sigma' 1.7$, $\varphi 1.7$ mm; ovipositor 6 mm.

Comparison. The species differs from other species of this subgenus in the coloration and very characteristic male genitalia.

Pseudotrigonidium (Pseudotrigonidium)

proximum sp. n.

(Figs 488-490)

Holotype. 9, Bismarck Archipelago, New Britain, "Bismarck-Arch. Ralum. Dahl S. 1896-97" (MNHU).

Description. Female (holotype). Very similar to P. anomalum, but head and pronotum with somewhat differing coloration (dark spot between antennae isolated from dark spot above clypeus and pronotal lateral lobes with larger light spots) (Figs 488-490), dorsal part of tegmina with 9 oblique longitudinal veins and regular transverse veinlets, coloration of this part of tegmina greyish with yellowish and brown spots near lateral edge, lateral part of tegmina with brown lower half and yellowish (with brown veins) upper half. Male unknown.

Length. Body 11.5 mm; pronotum 2.1 mm; tegmina 9.2 mm; fore femora 3.8 mm; hind femora 12.2 mm; hind tibiae 11.1 mm; distal inner spine of hind tibiae 0.4 mm; hind metatarsi 1.7 mm; ovipositor 6 mm.

Comparison. This species differs from other species of the subgenus in the peculiarities of coloration.

Subgenus Tripsegonium subgen. n.

Type species Tremellia javanica Chopard, 1954, Java.

Diagnosis. Male genitalia: epiphallus rather wide, rami short, guiding rod rather small and without noticeable curvature, mould of attachment plate of spermatophore with short unpaired apodeme (Figs 519-521).

Included species: only the type species.

Pseudotrigonidium (Tripsegonium) javanicum (Chopard, 1954)

(Figs 258, 259, 491-497, 503, 519-521)

Material. Java, 1 o', 1 9, "Preanger. Java" (MNHU).

Description. Male. Small. Yellowish with dark brown spots. Scape 1.5 times as long as rostrum between antennal cavities; coloration of head as in Figs 491-493; antennae spotted. Pronotum with almost parallel lateral sides; its coloration as in Figs 491, 492. Dorsal part of tegmina as in Fig. 503, transparent with small yellowish and dark spots (veins brownish); lateral part of tegmina with rather wide R-M area and numerous oblique branches of Sc and C; upper half of this part dark brown with yellowish spots on proximal parts of R-M area and lancet-like cell; lower half of lateral part of tegmina transparent with darkish stripes along veins. Legs dinctinctly spotted, long; hind tibiae pubescent, with 8 short spines and numerous denticles; hind tarsi long; length hind metatarsus twice as long as longest spur of hind tibiae. Abdomen yellowish with several darkenings; anal and very characteristic genital plates as in Figs 494-497. Genitalia as in Figs 519-521.

Female. Similar to male. Dorsal part of tegmina with 7 oblique longitudinal veins and irregular transverse veinlets, greyish with darkish and yellowish spots along lateral edge and dark venation; lateral part of tegmina very light (yellowish grey) with dark venation. Ovipositor with apical part as in Figs 258, 259.

Length. Body: σ 12, φ 10.6 mm; pronotum: σ 2.2, φ 2.3 mm; tegmina: σ 9.7, φ 8.7 mm; fore femora: σ 5.5, φ 5.6 mm; hind femora: σ 13, φ 13.3 mm; hind tibiae: σ 12, φ 12.2 mm; distal inner spine of hind tibiae: σ and φ 0.5 mm; hind metatarsi: σ and φ 2.5 mm; ovipositor 6 mm.

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Correction

In Zoosystematica Rossica, Vol. 4, No. 2, p. 204, I proposed *Rammeihippus* as a new replacement name for *Microhippus* Ramme, 1939 (Orthoptera: Acrididae). The new name was given correctly in the abstract, but as *Rameihippus* (misprint) in the text. Acting as first reviser, I select here *Rammeihippus* as the correct original spelling. — *A.Ju. Woznessenskij.*