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# Flatidae of New Guinea and Adjacent Areas (Homoptera: Fulgoroidea)

John T. Medler

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# Flatidae of New Guinea and Adjacent Areas

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## ABSTRACT

The Flatidae of New Guinea including Irian Jaya, Papua New Guinea, and outlying islands are revised. Keys, descriptions, and illustrations are presented to help with identifications of the 36 genera (12 new) and 191 species (92 new). The following new genera are described: *Brysora*, with type species, *B. lineola*, n. sp.; *Cromgar*, with type species, *C. oculum*, n. sp.; *Cryomna*, with type species, *Flata farinosa* Montrouzier; *Dascanga*, with type species, *D. enigma* n. sp.; *Demina*, with type species, *D. anigis*, n. sp.; *Desanta*, with types species, *D. flexa*, n. sp.; *Erotana*, with type species, *E. tagalis*, n. sp.; *Garanta*, with type species, *G. opaca*, n. sp.; *Humgar*, with type species, *H. insulum*, n. sp.; *Ijagar*, with type species, *I. maculum*, n. sp.; *Neosephena*, with type species, *N. novara*, n. sp.; *Shadaka*, with type species, *S. petita*, n. sp.; The following new species (exclusive of those new species that are species of new genera listed above) are described: *Acrophaea dianata, Atracis termina, Colgar arizum, C. britor, C. calcum, C. duxor, C. eirlor, C. harum, C. manor, C. rakum, C. satum, C. wadum, Cromgar lacerum, C. rubellum, C. sparkum, C. toridum, Dascanga novotnyi, Erotana ruberis, Garanta masiris, Neodaksha carbona, N. marginata, N. mirana, N. sordida, Papuanella bigata, P. erupta, P. exeva, P. graxa, P. isleta, P. kwena, P. lemapa, P. mimica, P. mutior, P. nobara, P. papija, P. redaga, P. sarapa, P. tenapa, P. torima, P. watera, Sephena abcina, S. archula, S. astigma, S. ausena, S. besula, S. bifidex, S. corata, S. digita, S. dulena, S. errena, S. extensa, S. fuscara, S. gatula, S. hijeka, S. intexa, S. ketena, S. kuloma, S. linirosa, S. marena, S. medova, S. nadira, S. opara, S. parasa, S. parena, S. polara, S. quintena, S. ramana, S. rosata, S. rustena, S. sancta, S. signa, S. tagosa, S. vexora, S. waxa, S. widena, S. wista, S. xenena, S. yumata, S. zipenda, S. zolexa, Taparella kripta, Utakwana rubreta.* The following new synonymies are proposed (junior synonym listed first): *Colgar granulatum* Kirkaldy = *Colgar laraticum* Kirkaldy; *Cromna notata* Melichar = *Colgar surrectum* (Melichar); *Cromnella pales* Fennah = *Cryomna farinosa* (Montrouzier); *Cromnella sancus* Fennah = *Cryomna farinosa* (Montrouzier); *Flatoides semialbus* Walker = *Atracis fasciata* (Walker); *Grapaldus corticinus* Distant = *Atracis scissa* (Melichar); *Flata flava* Montrouzier = *Papuanella rubra* (Montrouzier); *Paratella modesta* Melichar = *Dworena repleta* (Walker); *Phyllyphanta limbata* Montrouzier = *Cryomna farinosa* (Montrouzier); *Phymoides atromaculatus* Distant = *Neocromna hastifera* (Walker); *Ricania consentanea* Walker = *Sephena nivosa* (Walker); *Nephesa obtusa* Walker = *Sephena albescens* (Walker); *Sephena pulchra* Melichar = *Sephena rubrovenosa* Melichar; *Uxantis bipunctata* Schmidt = *Atracis subrufescens* (Walker); *Uxantis illota* Melichar = *Atracis pyralis* (Guérin-Méneville); *Uxantis nexa* Melichar = *Atracis pyralis* (Guérin-Méneville); *Uxantis patula* Melichar = *Atracis pyralis* (Guérin-Méneville). The following new combinations are proposed: *Colgar rostratum* (Montrouzier), ex *Flata rostratum* Montrouzier; *Cryomna farinosa* (Montrouzier), ex *Flatta flava* Montrouzier; *Papuanella rubra* (Montrouzier), ex *Flatta rubra* Montrouzier; *Paradaksha composita* (Melichar), ex *Colgar composita* Melichar; *Paradaksha furtiva* (Melchar), ex *Colgar furtiva* Melichar.

## INTRODUCTION

This publication is a continuation of research reported previously and should be used in conjunction with the following publications: Medler, 1989, New Guinea Flatidae; Medler, 1990b, *Sosephena* and *Trisephena*; Medler, 1990d, *Jamella* and *Malleja*; Medler, 1991a, Sulawesi Flatidae; Medler, 1991b, *Paratella* and *Taparella*; Medler, 1996a, Borneo Flatidae; Medler, 1999a, Indonesia Flatidae.

The comprehensive chronology of biological exploration in New Guinea by Frodin & Gressitt (1982) includes information on historical collections of insects in general. Specifically for Flatidae, I have examined all available historical collections preserved in Museums. A brief summary of collectors and their collections most pertinent to research on New Guinea Flatidae is presented.

Evelyn Cheesman of England was a pioneer collector of Flatidae in Irian Jaya. She did extensive collecting for the British Museum (Natural History) and South Australian Museum in the Cyclops Mts in 1932 and Waigeo I in 1938–1939. Several informative journal articles and books were published by Cheesman (1937, 1940, 1941) that record collecting experiences and detailed information about the localities visited in New Guinea. Her collections of Flatidae deposited in BMNH and SAMA contained new species that I have named.

The Archbold Expedition III in Irian Jaya, 1938–1939, was a joint Netherlands Indies Government–American Expedition. Informative reports on the expedition were published by Brass (1941), Archbold, Rand & Brass (1942), and Toxopeus (1940). Based in Hollandia [now Jayapura], the collecting areas of this major expedition included the northern slopes of the Snow Mountains from the Balim River to Lake Habbema and Mt Wilhelmina (4750 m), and the lowlands and mountains of the middle Idenburg region. Entomologists T.J. Toxopeus and J. Olthof were responsible for a substantial collection of Flatidae. Specimens deposited in RMNH were loaned to me for my research in 1981. The undetermined material in that loan contained taxa that provided important extension of knowledge on the Irian Jaya flatid fauna.

In addition to the Archbold Expedition III in Irian Jaya, there were 6 Archbold Expeditions in Papua New Guinea. Based on specimens deposited in the American Museum of Natural History, Flatidae are known only from Expeditions V (Brass, 1959), VI (Brass, 1964) and VII (Van Deusen (1966, 1978). The Archbold V collections were made mostly in eastern Papua and outlying islands; namely, Normanby I and Fergusson I of the D'Entrecasteaux Group, Misima, Sudest, and Rossel of the Louisiade Archipelago, and on Woodlark I. Although obtaining insects was a secondary interest of the expedition, a small collection of Flatidae was valuable in providing 2 new species and specimens that helped elucidate the status of Flatidae from Woodlark I described by Montrouzier in 1855, namely *Colgar rostratum, Papuanella rubra,* and *P. flava.* The Archbold VI expedition was based at Lae, and made collections in the Eastern Highlands of New Guinea, including the high peaks of Mts Wilhelm, Otto, and Michael, and also the Upper Markham River Valley. Flatidae collected included several new species of *Colgar* and a new species named *Trisephena rubeola* by Medler (1990b). The Archbold VII expedition occupied seven camps in the Huon Peninsula that ranged in elevation from sea level (near Finschhaffen) to 3500 m (on the Saruwaged Plateau). A new species of flatid collected at Pindiu was named *Sosephena rinkela* by Medler (1990b).

In Irian Jaya the Dutch collecting expeditions were associated in large part with the Rijksmuseum van Natuurlijke Historie [now the Nationaal Natuurhistorische Museum ("Naturalis")] at Leiden, and this institution served as major repository of insect collections. Their loan of specimens helped provide new records and new species, and further enabled preparation of the comprehensive database for the Flatidae recorded in this publication. The Royal Netherlands Geographical Society's 1939 expedition to the Netherlands Indies collected Flatidae at Paniai [Wissel Lakes] and Etna Bay. A description and map of collecting stations in the Wissel Lakes region from which the

zoologist of the expedition, Prof. Dr. H. Boschma, obtained specimens was given by Holthuis (1949). The specimens are labeled uniformly with the initials "K.N.A.G." and locality names, but are without collector data. Many of the specimens of Irian Jaya Flatidae deposited in RMNH were collected by L.D. Brongersma and colleagues during expeditions from 1952–1959. A brief summary of these expeditions was published by M.S. Hoogmoed (1995). The detailed publication on the 1959 Star Mountains expedition written in Dutch by Brongersma and Venema appeared in 1960, and soon afterwards translations appeared in 6 languages, including English entitled "To the Mountains of the Stars" (Brongersma & Venema, 1963). The first of Brongersma's collecting trips to Netherlands New Guinea was a visit of 6 months in 1952. A Catalina flying boat of the Royal Netherlands Navy was used for visiting various collecting places together with a technical assistant, W. J. Roosdorp. Specimens of flatids were collected in several Vogelkop localities, Wissel Lakes in the Central Highlands, Merauke, Hollandia, and the islands of Biak, Misool, and Salawatti. The second trip to New Guinea took place in 1954–1956. Brongersma was accompanied by two curators of the Leiden Museum, L.B. Holthuis and M. Boeseman. Places visited were Hollandia, Lake Sentani, Lake Jamoer, and Tanah Merah. A third trip in 1956 was made with G.F. Venema to prepare for a major scientific expedition to the Mountains of the Stars. During this trip Biak I, Hollandia, and Merauke were visited. The prestigious fourth expedition was undertaken in 1959. Brongersma was general and scientific leader of a large multidisciplinary staff that carried out scientific explorations with air support for a period of 6 months. Collections were made in areas of the Star Mountains close to the Papuan border in the central part of New Guinea's major mountain range. Insects were collected chiefly at light or by sweeping by L.D. Brongersma, W. Vervoort, C. van Heijningen and C.B. Nichols. Research on various groups of insects collected during the expedition has been published during subsequent years, for example Tortricidae by A. Diakonoff (1972), but a bibliography of titles specifically on scientific results has not been available, other than references gleaned from the compilation by Gressitt & Szent-Ivany (1968).

The majority of Flatidae studied during preparation of this report are deposited in the Bernice P. Bishop Museum, Honolulu, Hawai'i. In the period from 1955 until his untimely death in 1982, J. Linsley Gressitt provided inspiration and leadership for a comprehensive project on the zoogeographic importance of the rich insect fauna of New Guinea. Independently, as well as in association with his wife and entomological colleagues, he visited essentially all parts of New Guinea to collect huge numbers of insects that were processed and deposited in the Bishop Museum. Names of collectors making notable contribution of material includes W.W. Brandt, J.L. and M. Gressitt, T.C. Maa, N.L.H. Krauss, G.A. Samuelson, J. and J.H. Sedlacek, and R. Straatman. Additional impetus to insect research was given by establishment of the Bishop Museum New Guinea Field Station at Wau in 1961. The field station developed into the Wau Ecology Institute in 1971. Medler (1989) reported on Flatidae collected during surveys of agricultural and forest insects that were made under direction of J.J.H. Szent-Ivany during the years 1955–1985, and J.W. Ismay 1983–1985.

Significant collections of Flatidae in Madang Province were made by J. van Goethem, P. Grootaert, J.-M. Ouin, and J. Van Stålle while in residence at the ISNB field station on Laing Island, 1980–1988. The Christensen Research Institute near Madang provided facilities for several visiting entomologists who collected Flatidae in Madang Province. New species of *Sosephena* and *Trisphena* collected by N.D. Penny, CASC, were published by Medler (1990b). Flatids collected by O. Missa at light or by canopy fogging, including several new species, are deposited at ISNB. Dr. Vojtech Novotny conducted research on host specificity of Homoptera on rain forest trees during 1995–1998. Several hundreds of flatids were collected from 15 species of *Ficus* during his study. About 30 morphospecies of flatids were recognized by V. Novotny based on characters of male genitalia. Representative specimens with species identifications confirmed by Medler are deposited in

the Bishop Museum. Collections by Novotny *et al.* around Madang were supported by National Science Foundation grants DEB-94-07297, 96-28840, and 97-07928 to Bishop Museum.

## MATERIAL AND METHODS

Codens sensu Arnett, *et al.* (1993) are used to specify museums that loaned specimens for examination, as follows: AMNH—American Museum of Natural History, New York; AMSA—Australian Museum, Sydney; BMNH—The Natural History Museum, London; BPBM—Bernice P. Bishop Museum, J. Linsley Gressitt Center for Research in Entomology, Honolulu; CASC—California Academy of Sciences, San Francisco; HNHM—Hungarian Natural History Museum, Budapest; ISNB—Institut Royal des Sciences Naturelles de Belgique, Bruxelles; MCSN—Museo Civico di Storia Naturale "Giacoma Doria", Genova; MMBC—Moravian Land Museum, Department of Entomology, Brno; MNHN—Museum National d'Histoire Naturelle, Paris; MVMA—Victoria Natural History Museum, Abbotsford; MZLU—Lund University Museum of Zoology and Entomology, Lund; MZUN—Museo di Zoologia di Napoli, Naples; NCSU—North Carolina State University Insect Collection, Raleigh; NHMB—Naturhistorisches Museum, Basel; NHMW—Naturhistorisches Museum, Wien; NHRS—Museum of Natural History, Stockholm; RMNH—Nationaal Natuurhistorische Museum ("Naturalis"), Leiden; SAMA—South Australian Museum, Adelaide; SMTD—Staatliches Museum für Tierkunde, Dresden, Germany; TPNG—Papua New Guinea, Department Primary Industry, Boroko; USNM—National Museum of Natural History, Washington, DC; ZMAN—Zoölogisch Museum, Universiteit van Amsterdam; ZMHB—Museum für Naturkunde der Humboldt-Universität, Berlin; ZMPA—Polish Academy of Sciences, Institut of Zoology, Warszawa; ZMUH—Universität Zoologisches Institut und Zoologisches Museum, Hamburg.

Abbreviations below are used for following words that are cited within parentheses following literature citations in the synonymy lists: (cat) = catalog; (comb) = combination; (fig) = figure; (figs) = figures; (pl) = plate; (rev) = review; (syn) = synonym. Also the following place name abbreviations are used: Prov = province, Pltn = plantation, Vill = village, Mt = mountain, I = island.

Throughout this article the morphological character "spines" normally refers only to hind leg spines. In keys, the metatibial lateral spines are used (e. g., 0, 1, 2). In descriptions, the spines are given by formula—metatibial lateral: metatibial apical: metatarsal I apical (e. g., 1: 6: 6, 2: 5: 7 , etc.).

Measurements are standardized in the following format: Length in mm overall in lateral view from anterior margin of head to posterior margin of tegmen. v (vertex), p (pronotum), m (mesonotum), along the dorsal midline; f (frons) from dorsal apex to frontoclypeal suture; t (tegmen) from basal margin to center of apical margin; pcl (postclaval sutural margin) from apex of clavus to intersection with convex arc of sutural angle, or to tip of sutural angle. Width. v (vertex) transversely along intergenal carina or maximum width above eyes; f (frons) maximal point, usually near antennal insertions; t (tegmen) at maximal point between costal and sutural margins at apex of clavus. Measurement parameters on the tegmen are shown by Medler (1999, fig. 49). Measurements were made with a binocular microscope fitted with a 15 × ocular and grid of 20 units. The 3× objective was used for most figures.

For genera with conical heads, e. g. *Colgar* Kirkaldy and *Colgaroides* Distant, measurement of species head length in relation to pronotum length along the dorsal midline was expressed as vertex: pronotum (v/p) measurement units of an ocular grid, where 1 unit = 0.17 mm.

Wherever possible measurements were made on the holotype ♂ and allotype ♀ of a species. In cases where primary types were unavailable, the term plesiotype is used for a representative male

or female specimen that has been illustrated or measured. The term has no status under taxonomic rules. However, a specimen bearing my blue plesiotype label is accurately identified in relation to published data, and the depository of the plesiotype is given so that future workers may examine the specimen.

## SYSTEMATICS

### Key to Genera of Flatidae in New Guinea and Adjacent Areas

1. One metatibial lateral spine ..... 2
— Two metatibial lateral spines. Small brown species about 5 mm long. Sutural angle of tegmen acute, very short, submarginal line of crossveins present. Widespread along Pacific Rim from Japan to Australia . ..... **Mimophantia** Matsumura
2. Ovipositor primitive, with piercing valvulae. Small testaceous species 6–8 mm long. New Caledonia ... 3
— Ovipositor derived, without piercing valvulae; nearly all species in New Guinea and outlying Islands ... 4
3. Tegmen narrow elongate, costal and sutural margins mostly parallel, apical margin strongly oblique, postclaval margin obtusely convex ..... **Cromnella** Fennah
— Tegmen widened distally, apical margin shallowly oblique, nearly straight, postclaval margin angulate . . ..... **Cryomna** Medler, **n. gen.**
4. Body shape more or less flattened, rostrum directed horizontally. Tegmen costal margin often undulate, veins usually R+S, M, claval veins with apical Y-stem; submarginal line may be present . . . (Tribe Flatoidini) ..... 5
— Not as described ..... 7
5. Tegmen with elongated R+S basal stem, bulla prominent, crossed medially by vein R ..... **Atracis** Stål
— Tegmen without R+S basal stem, or if present, then basal stem short ..... 6
6. Tegmen postclaval sutural margin not raised convexly; veins R and S united in short stem basally. ..... **Jamella** Kirkaldy
— Tegmen postclaval sutural margin strongly convex, 3 longitudinal veins (R,S,M) arising from basal stem, vein S displaced against vein M by prominent bulla ..... **Malleja** Medler
7. Size small to medium (length 5–10 mm), overall appearance dark brown or black. Anterior margin of vertex delimited by sharp intergenal transverse carina. Tegmen more or less constricted between claval apex and precostal margin at junction of C+R veins, claval vein A1 carinate and strongly elevated basally . . . (Tribe Selizini) ..... 8
— Size medium (length 10–15 mm) or large (length more than 15 mm), variously colored, usually green or ochraceous, rarely dark brown or black. Anterior margin of vertex variable. Tegmen precostal margin not sinuate, claval vein A1 not strongly raised basally ..... 10
8. Tegmen apical margin almost straight, postclaval sutural margin obtusely convex ..... **Talopsus** Medler
— Tegmen apical margin concave, sinuate ..... 9
9. Tegmen sutural angle crenulate, acutely pointed ..... **Anidora** Melichar
— Tegmen sutural angle convex ..... **Dascanga** Medler , **n. gen.**
10. Dorsum of head flat, rugulose, anterior margin carinate; intergenal transverse carina separating frons from recognizable vertex; veins R and S united basally in strong stem, vein S with 3 branch veins parallel to vein R (Australia, rarely New Guinea) ..... **Siphanta** Stål
— Vertex not rugulose; if anterior margin carinate, then venation not as described (Tribe Nephesini) .. 11
11. Size medium to large (length 10 mm or more); dorsum of head formed by conical projection or obtuse bulge of convex frons; intergenal transverse carina on dorsum of head adjacent to anterior margin of pronotum; vertex much reduced or absent; frons without multiple carinae. Tegmen apical margin variable, ovoid, or shallowly convex . . . (*Neocromna* complex) ..... 12
— Size medium to small (length 15 mm or less); Without combination of characters as specified. Head and tegmen widely variable, vertex present or absent. Tegmen apical margin variable ..... 15
12. Frons in profile view obtusely angulate at plane of antennal insertions; without median longitudinal carina, dorsum of head convex, slightly produced, no vertex. Tegmen broad, paraboloid, apical and sutur-

al angles ovoid, short R+S stem arising from basal stem ..... **Shadaka** Medler, **n. gen.**

— Frons in profile view convex, not angulate, short dorsal median carina usually present; head produced obtusely. Tegmen triangular, sutural angle acutely pointed, right-angled or convex, 3 longitudinal veins (R,S,M) arising from basal stem ..... **13**

**13.** Head elongate, obtusely conical, slightly upturned in profile view, frons with remnant of U-carina that forms indistinct margin between frons and vertex. Tegmen sutural angle drawn out acutely, 2–3 red spots or bars aligned lengthwise across disc ..... **Neocromna** Distant

— Head broadly obtuse, apex bluntly convex, frons with median longitudinal carina. Tegmen sutural angle convex or acutely angled, disc without aligned red spots, black spots or bars present or absent ..... **14**

**14.** Tegmen sutural margin drawn out acutely. Australia and New Guinea ..... **Paradaksha** Distant

— Tegmen apical margin convex, sutural angle not drawn out acutely. New Guinea .. **Neodaksha** Distant

**15.** Head pointed, more or less conical, intergenal transverse carina defining anterior margin of recognizable vertex of variable length, discal cell of tegmen closed by strong cross vein between inner branches of M-vein, (*Colgar* complex) ..... **16**

— Anterior margin of head truncated or more or less shallowly convex, intergenal transverse carina often defining posterior margin of reduced or unrecognizable vertex shorter than pronotum; discal cell cross vein present or absent (*Sephena* complex) ..... **26**

**16.** Vertex much prolonged, narrowly conical; frons without longitudinal median carina, transversely concave between elongated V-carinae sinuately narrowed to blunt apex ..... **Utakwana** Distant

— Vertex more or less moderately prolonged; frons with 1–5 longitudinal median carinae, with or without V- or U-configuration ..... **17**

**17.** Frons with median longitudinal carina only ..... **18**

— Frons with lateral V or U carinae in addition to median longitudinal carina ..... **20**

**18.** Tegmen with 3 longitudinal veins (R,S,M) arising from basal stem ..... **19**

— Tegmen with 2 longitudinal veins (R+S, M) arising from basal stem. Frons acutely pointed dorsally, vertex short, triangular, with median longitudinal carina. Tegmen apical margin obliquely convex, sutural angle obtusely rounded ..... **Cromgar** Medler, **n. gen.**

**19.** Head narrow, upturned, frons apex narrowly elongate, bluntly pointed, obsolete V carina marked by residual lines of red dots ..... **Desanta** Medler, **n. gen.**

— Frons bulbous, vertex bluntly pointed, with median longitudinal carina. Tegmen wide apically, apical margin slightly oblique ..... **Ijagar** Medler, **n. gen.**

**20.** Frons with 3 carinae, consisting of median carina and pair of V- or U-shaped lateral carinae ..... **21**

— Frons with 5 carinae, consisting of median carina and two pairs of V-shaped lateral carinae ..... **24**

**21.** Overall body color dark fuscous. Vertex short, triangular, with median carina; frons broadly U-shaped, converging with median longitudinal carina at dorsal apex, lateral margins flared outward basally before uniting with clypeus. Tegmen with numerous dark fuscous wax pustules. Australia, rare in New Guinea ..... **Euryphantia** Kirkaldy

— Overall body color green or stramineous. Head conical or nearly so ..... **22**

**22.** Vertex somewhat flat, without median longitudinal carina, lateral margins delimited by intergenal transverse carina, frons V-carinae extending nearly to clypeus, hooked outward basally then merging with lateral margins. Australia, rare in New Guinea ..... **Euphanta** Melichar

— Vertex more or less convex, usually lateral margins not delimited by intergenal transverse carina; frons V-carinae relatively short, extending no more than half length to clypeus ..... **23**

**23.** Head acutely conical, usually as long as or longer than pronotum, lateral margins not carinate; sharply merged with median carina at dorsal margin, without basal loop . ..... **Colgar** Kirkaldy

— Frons narrow, elongate, with margins slightly convex; V-carinae rounding at junction with median carina ..... **Garanta** Medler, **n. gen.**

**24.** Intergenal carina forming lateral margins of vertex; Frons outer lateral V-carinae not meeting median longitudinal carina at apex; inner V-carinae extending less than half length of frons. Tegmen with 3 longitudinal veins (R,S,M) arising from basal stem, postclaval sutural margin angulate at apex, discal cell crossvein usually with a red dot ..... **Colgaroides** Distant

— Not as described. Tegmen with 2 longitudinal veins (R+S, M) arising from basal stem ..... 25

25. Apical margin of frons blunt, U-shaped. Tegmen R+S stem short, postclaval sutural margin obtusely angled, precostal costal margin pustulate ..... **Humgar** Medler, **n. gen.**

— Apical margin of narrow frons sharply pointed, narrow V-shaped carinae close together and converging at apex, inner V-carinae extending 2/3 length of frons. Tegmen apical margin strongly sinuate at sutural angle ..... **Erotana** Medler, **n. gen.**

26. Dorsum of head with smooth flat transverse ledgelike vertex much wider than long, nearly truncate anteriorly with entire margin carinate; frons with median longitudinal carina only, in profile view frons and vertex meeting at right angle. Tegmen with 3 longitudinal veins, R, S, M, arising from basal stem; metatibial spine formula 1: 5 ..... **Papuanella** Distant

— Not as described; frons median longitudinal carina and U- or V-shaped carinae, or traces, merged medially with dorsal transverse carina on anterior margin of vertex ..... 27

27. Transverse intergenal carina or transverse frontal carina clearly defining anterior margin of recognizable vertex ..... 28

— Transverse frontal carina not defining anterior margin of recognizable vertex; frons extending convexly onto dorsum of head, usually reaching anterior margin of pronotum; transverse intergenal carina adjacent to pronotum, vertex absent or very short remnant adjacent to eyes; 2 or 3 longitudinal veins; 1: 5 or 1: 6 metatibial spines ..... **Sephena** Melichar

28. In dorsal view, anterior margin of vertex truncate or nearly so ..... 29

— In dorsal view, anterior margin of vertex convex, shallow triangular or protruding forward ..... 34

29. Metatibial spines 1: 5 or 1: 7. Overall color usually dark fuscous or purple ..... 30

— Metatibial spines 1: 6. Overall color not dark fuscous or purple ..... 32

30. Metatibial spines 1: 7. Tegmen dark fuscous, apical margin oblique between rounded angles, hind wing not purple. Australia, rare in New Guinea ..... **Dworena** Medler

— Metatibial spines 1: 5, rarely 1: 7 ..... 31

31. Overall color dark fuscous. Anterior margin of vertex angulate in dorsal view. Tegmen with 2 longitudinal veins, R, S+M. Metatibial spines 1: 5, Length 6.5 mm ..... **Demina** Medler, **n. gen.**

— Anterior margin of vertex truncate in dorsal view. Tegmen red purple (or faded), 3 longitudinal veins, R,S,M. Metatibial spines 1: 5, rarely 1: 7. Length 9—11.5 mm ..... **Paratella** Melichar

32. Tegmen with variable longitudinal veins arising from basal stem, R,S,M, R+S,M or R,S+M. Frons strongly tricarinate, usually longer than wide, separated from reduced vertex by transverse intergenal carina; vertex with short median sulcus ..... **Trisephena** Medler

— Three longitudinal veins (R,S,M) arising from basal stem of tegmen. ..... 33

33. Head convex in profile. Frons broad, dorsal margin medially delimited by broad U-shaped carinae. Tegmen apical margin nearly truncate or shallowly convex. Color patterns widely variable. Length 12 mm or longer ..... **Taparella** Medler

— Two longitudinal veins (R+S, M) arising from basal stem of tegmen. Head angular in profile. Frons wide, dorsal margin entirely delimited by sharp carina, vertex narrow ledgelike. Profile frons/vertex right angled 2 dark fuscous fasciae on costal margin, round fuscous spot on discal cell crossvein ..... **Acrophaea** Melichar

34. Tegmen with 3 longitudinal veins, R, S, M; anterior margin of vertex produced well forward of genal angles, with strong median sulcus ..... **Sosephena** Medler

— Tegmen with 2 longitudinal veins rising from basal stem ..... 35

35. Tegmen with veins R+S, M (Fig. 133); anterior margin of vertex convex, profile frons/vertex acute (genitalia ♂, fig. 134; ♀, fig. 117) ..... **Brysora** Medler, **n. gen.**

— Tegmen with veins R, S+M; anterior margin of vertex angulate (genitalia ♂, fig. 137; ♀, fig. 118) ..... **Neosephena** Medler, **n. gen.**

## Subfamily Flatinae Melichar, 1901
## Tribe Phantiini Melichar, 1923

### 1. Genus MIMOPHANTIA Matsumura

*Mimophantia* Matsumura 1900: 212 (n. gen.); Metcalf, 1957: 190 (cat); Fang, 1989: 126 (Taiwan); Medler, 1996a: 33 (Borneo); Medler, 1999: 57 (Java, Moluccas). Type species, *Mimophantia maritima* Matsumura.

*Microflata* Melichar 1902: 9 (n. gen.); Metcalf, 1957: 141 (cat). Type species, *Microflata stictica* Melichar, monobasic.

*Diagnosis*: A helpful translation of the generic description by Melichar (1902: 212) was published by Fang (1989: 126). The small size, brown color and unique tegmen morphology as shown variously by authors enables recognition of the genus. Frons wide basally, narrowed dorsally, convex, with short median carina at dorsal margin; vertex obtusely conical, slightly longer than pronotum, anterior margin derived from transverse intergenal carina; pronotum disc flat, anterior margin carinate medially, lateral margins blunt ridgelike; postocular eminence well defined small cone. Tegmen with veins R, S and M arising from basal stem; postclaval margin slightly drawn out apically. Valvulae III narrowed apically, 5–6 interspaced teeth on ventral margin. Two metatibial lateral spines. Size very small.

*Distribution*: Widespread along Pacific Rim, from Japan to New Guinea and Australia.

#### 1. **Mimophantia maritima** Matsumura

*Mimophantia maritima* Matsumura, 1900: 212 (n. sp.); Melichar, 1902: 17 (pl. V, fig. 5); Metcalf, 1957: 191 (cat); Fennah, 1956: 517 (China); Tsaur, 1989: 31, fig. 1 (V instar nymph); Fang, 1989: 128, fig. 4 (Taiwan); Medler, 1989: 63 (PNG, Irian Jaya); Medler, 1992b: 181 (syntype); Medler, 1996a: 34 (Sabah); Medler, 1999: 57, figs. 2, 46 (Java, Moluccas).

*Diagnosis*: Habitus figure of Melichar (1902, fig. 5), and detailed figures by Fang (1989: 128, fig. 4) help in the recognition of this species.

*Specimens examined*: **PAPUA NEW GUINEA**: Eastern Highlands Prov, Sira Ira, Stn. 032, 15.v.1988, ♀, J. Van Stålle, ISNB. **IRIAN JAYA**: Ifar, 300 m, 17.ix.1959, 2♂, ♀, C. v. Heijningen, Neth NG Exped, RMNH.

## Tribe Siphantini Melichar, 1923

### 2. Genus SIPHANTA Stål

*Siphanta* Stål 1862: 69 (n. gen.); Kirkaldy, 1907: 98, pls III–VI (rev); Metcalf, 1957: 231 (cat); Fletcher, 1985: 3 (rev); Medler, 1989: 7 (New Guinea, plant data); Medler.1999: 66, fig. 47 (Indonesia). Type species, *Poeciloptera acuta* Walker.

*Siphantoides* Distant 1910a: 305 (n. gen.); Metcalf, 1957: 245 (cat); Fletcher, 1985: 3, 40 (rev, syn.). Type species, *Siphantoides conspicua* Distant.

*Parasalurnis* Distant 1910a: 309 (n. gen.); Metcalf, 1957: 199 (cat); Fletcher, 1985: 3, 31 (rev, syn.). Type species, *Poeciloptera insularis* Distant.

*Lombokia* Distant 1910b: 323 (n. gen.); Metcalf, 1957: 250 (cat); Fletcher, 1985: 3, 19 (rev, syn). Type species, *Lombokia everetti* Distant.

*Diagnosis*: See Fletcher (1985) for revision of the genus, with descriptions and illustrations of 40 species. Dorsum of head, pronotum and mesonotum mostly flat, rugulose; anterior margin of vertex delimited by transverse intergenal carina. Tegmen veins R and R+S arising from basal stem, branches of vein S extending parallel to vein R.

*Distribution*: Widespread Australia, Indonesia, New Guinea, Philippines.

1. **Siphanta acuta** (Walker)

*Poeciloptera acuta* Walker 1851: 448 (n. sp.); Medler, 1990a: 131 (lectotype). Lectotype, ♀, Australia, BMNH. Plesiotype, ♂, Australia, Sydney, BPBM. *Siphanta acuta* Stål, 1862: 69 (comb); Metcalf, 1957: 233 (cat); Fletcher, 1985: 7, figs. 1, 2, 89, 125–128 (rev.).

*Siphanta lucindae* Kirkaldy, 1906: 455 (n. sp.); Fletcher, 1985: 33, figs. 71–72, 116, 253–256 (rev.); Medler, 1987a: 122, fig. 1 (holotype); Medler, 1989: 64 (Port Moresby). Holotype, ♂, Queensland, Lucinda Point, vii.1904, BPBM.

*Specimens examined*: Prior records (Fletcher, 1985: 41): **IRIAN JAYA**: Eramboe; **PAPUA NEW GUINEA**: Daru I.

*New Record*: **PAPUA NEW GUINEA**: Central Prov, Port Moresby area, 28.iv.1947, 4♀, McCormick, BMNH.

2. **Siphanta patruelis** (Stål)

*Phyllyphanta patruelis* Stål 1859: 283 (n. sp.); Medler, 1986h: 331, fig. 13 (holotype). Holotype, ♂, Philippine Islands, Manila, Kinbergen, NHRS.

*Siphanta patruelis*, Stål, 1862: 69 (comb); Metcalf, 1957: 239 (cat); Fletcher, 1985: 19, figs. 33–34, 101, 189–193 (rev.); Medler, 1989: 7, fig. 9, 17, 41 (rev.); Medler, 1999: 67 (Indonesia).

*Siphanta togo* Kirkaldy 1906: 454 (n. sp.); Metcalf, 1957: 240 (cat); Fletcher, 1985: 19 (syn); Medler 1987a: 123, fig. 3 (lectotype). Lectotype, ♂, Queensland, Cairns, BPBM.

*Siphanta javana* Kirkaldy, 1913: 21 (n. sp.); Medler, 1987a: 122, fig. 2 (lectotype). Lectotype, ♂, Java, Pekalongan, Muir, BPBM.

*Siphanta togo maculata* Lallemand 1935: 662 (n. var.); Fletcher, 1985: 19 (syn); Medler, 1987c: 39 (syn, type ex Burnside); Medler, 1988b: 84, fig. 2 (lectotype). Lectotype, ♂, Australia, N.T., Marrakai, Handschin, NHMB.

*Diagnosis*: Excellent reproduction of tegmen given by Kirkaldy, 1907: pl. III, fig. 3 (as *toga*). See Fletcher (1989) for diagnosis and illustration of male genitalia (figs. 33–34). Holotype male genitalia illustrated by Medler, 1986h: 331, fig. 13. Hind leg spine formula 1: 6: 9.

*Specimens examined*: Prior records (Medler, 1989: 7): **PAPUA NEW GUINEA**: Aroa, Bisianumu, Boroko, Daru Is, Dogura, Gordon, Itikinumu, Konedobu, Laloki, Port Moresby, Oriomo, Rouna, Taurama. **IRIAN JAYA**: Eramboe.

*New records*: **PAPUA NEW GUINEA**: Port Moresby Dist, Variarata, 18.iii.1956, ♀, E.S. Brown, BMNH. **IRIAN JAYA**: Fakfak, 9.iv.1952, ♀, L.D. Brongersma; Merauke, 6.iv.1952, 2♂, ♀, L.D. Brongersma; RMNH.

## Tribe Nephesini Melichar, 1923

### 3. Genus COLGAR Kirkaldy

*Atella* Stål, 1866: 238 (n. gen.). (Preoccupied by *Atella* Doubleday, 1857).

*Colgar* Kirkaldy, 1900: 242 (n. gen.); replacement name for *Atella* Stål, 1866; Metcalf, 1957: 260 (cat); Medler, 1989: 9 (rev). Type species, *Cromna peracuta* Walker, 1858, original designation.

*Cromna*, Melichar, 1902: 58 (misidentified, not *Cromna*, Walker, 1857; Kirkaldy, 1906: 458 (syn).

*Diagnosis*: Vertex usually triangular, acutely pointed, convex laterally; lateral margins usually not delimited by intergenal carina; frons with 3 carina, V- shaped; tegmen apical margin acute, truncate or shallow convex, costal and sutural angles angles angular or rounded. All species of *Colgar* known to me have 1: 6 spine formula, except *Colgar peracutum* which is 1: 7. Size relatively small, 8–15, with majority of species about 10 mm.

*Distribution*: Australia and New Guinea.

KEY TO SPECIES OF *COLGAR*

1. Vertex acutely conical (Fig. 22); frons with lateral arms of V-carinae distinct on basal half, curving inward; tegmen usually with small red spot on discal cell crossvein; hind leg spines 1: 7; margin ♀ segment VII concave, with median tooth (Fig. 43, genitalia ♂, fig. 11); distribution in Australia, Tonga, Cook Islands ..... **peracutum**
— Vertex widely or acutely conical, or rarely blunt; lateral arms of frontal V-carinae usually evanescent on basal half; tegmen with or without red spot on discal cell crossvein; hind leg spines 1: 6; margin of ♀ segment VII convex or transverse without median tooth; distribution in New Guinea ... 2
2. Vertex usually not longer than pronotum, obtusely rounded or bluntly conical (Fig. 18) ..... 3
— Vertex as long as, or longer than pronotum, acutely or obtusely conical ..... 8
3. Tegmen with 3 red spots aligned with middle spot on discal cell crossvein; postclaval sutural margin strongly convex ..... **bespectum**
— Tegmen without 3 red spots as described ..... 4
4. Tegmen postclaval sutural margin and sutural angle convex ..... 5
— Tegmen postclaval sutural margin straight or nearly so, sharply angled with apical margin . ..... 6
5. Tegmen pale stramineous, without indication of red margins (genitalia ♂, fig. 1) ..... **arizum, n. sp.**
— Tegmen pale green, usually thick red apical margin ..... *orisum*
6. Anterior margin of vertex weakly convex (Fig. 20), in lateral view vertex and pronotum on same plane; tegmen membrane without small red dots (genitalia ♂, fig. 6) ..... **duxor, n. sp.**
— Anterior margin of vertex obtuse or shallow triangular; in lateral view vertex slightly uplifted from pronotum; tegmen membrane with small red dots . ..... 7
7. Vertex shallow triangular; length same as pronotum or noticeably shorter than pronotum, vertex/pronotum ratio 0.67–1.0; margins of frons not flared basally; Irian Jaya (genitalia ♂, fig. 14)..... **satum, n. sp.**
— Vertex obtuse; length slightly shorter than pronotum; tegmen green or stramineous, apical vein terminations narrowly red. Papua New Guinea and Irian Jaya (genitalia ♂, fig. 12)..... **rakum, n. sp.**
8. Tegmen postclaval margin convex, sutural angle convex ..... 9
— Tegmen postclaval margin straight or nearly so; sutural angle right angled or acute . ..... 11
9. Tegmen with 3 red spots aligned with middle spot on discal cell crossvein ..... **ligorum**
— Tegmen with or without red spots; if present, then not 3 spots aligned with middle spot on discal cell crossvein ..... 10
10. Head obtusely conical (Fig. 19); tegmen light green, often partially or completely faded; apical margin not red, or with only faint indication of red, discal cell crossvein usually with small red spot or remnant (genitalia ♂, fig. 5) ..... **chlorospilum**
— Head moderately acute; tegmen bright green, discal cells strongly mottled white, terminal veins forming red network adjacent to red apical margin ..... **missior**
11. Tegmen postclaval sutural margin strongly angled from apex of clavus; sutural angle right angle or extended acutely; tegmen usually with 3 large crescent shaped spots composed of minute red dots; length 13–15 mm ..... 12
— Postclaval sutural margin more or less angled from apex of clavus; sutural angle not extended acutely; tegmen without red spots as described; length less than 12 mm ..... 13
12. Apical margin of tegmen nearly straight, meeting postclaval sutural margin at right angle, sutural angle not projecting acutely (genitalia ♂, fig. 2) ..... **asperum**
— Apical and postclaval sutural margins projecting in acute point (genitalia ♂, figs. 15–16) ... **surrectum**
13. Tegmen with red spot on discal cell crossvein ..... 14
— Tegmen without red spot on discal cell crossvein ..... 16
14. Spot on discal cell crossvein aligned with apical red spot and very small basal spot; tegmen with numerous red dashes; length less than 10 mm (genitalia ♂, fig. 8) ..... **harum, n. sp.**
— Tegmen with 3 aligned spots; spots composed of varying concentrations of minute red dots; length 11 mm. or more ..... 15
15. Tegmen membrane often mottled with white; vertex/pronotum ratio = 1.27–1.33; length 12.5–13 mm. New Guinea mainland (genitalia ♂, fig. 7) ..... **elatum**
— Tegmen membrane usually clear; vertex/pronotum ratio = 1.00–1.14; length 11–13 mm. Australia and New

Guinea Outlying Islands ..... **tricolor**

16. Vertex acutely conical (Fig. 21), in profile view strongly angled from pronotum; vertex/pronotum ratio 1.75; frons lateral margins basally strongly flared; New Ireland ..... **eirlor, n. sp.**
— Vertex moderately conical, in profile view angle from pronotum variable; length variable, vertex/pronotum ratio variable but not less than 1.0; frons lateral margins not strongly flared ..... **17**
17. Tegmen postclaval sutural margin meeting apical margin acutely. Larat Is. (genitalia ♂, fig. 9) .. **laraticum**
— Tegmen sutural angle not pointed acutely ..... **18**
18. Vertex in lateral view strongly angled with pronotum ..... **19**
— Vertex in lateral view no more than slightly angled with pronotum ..... **20**
19. Margin widely red, strongly contrasting with green tegmen; red tinged veins sharply outlined, color green, apical margin and veins strongly red; vertex: pronotum length ratio = 1.29–133. New Britain (genitalia, ♂, fig. 3) ..... **britor, n. sp.**
— Tegmen mottled white, apical vein terminations widely red. Irian Jaya, Waigeo Is (genitalia ♂, fig. 17) ..... **wadum, n. sp.**
20. Vertex moderately angled with pronotum; tegmen pale pink, testaceous or white. Vertex and pronotum about same length; tegmen with wide red margins in ♂, red lacking in ♀. Longer than 9 mm. Woodlark Island (genitalia ♂, fig. 13) ..... **rostratum**
— Vertex variably angled from pronotum; apical margin not sinuate at sutural angle; postclaval sutural margin variable ..... **21**
21. Color reddish tawny, veins not red, apical margin faintly red; not contrasting with tegmen bronze red color, veins unicolorous with membrane; vertex: pronotum length ratio = 1.0–1.27. Irian Jaya (Malu) (genitalia ♂, fig. 4) ..... **calcum, n. sp.**
— Vertex: pronotum ratio = 1.33–1.41, vertex not strongly angled with pronotum; dorsal median carina crossing vertex, pro-and mesonotum not colored red, tegmen strongly green, pustules and veins green. Manus Is (genitalia ♂, fig. 10) ..... **manor, n. sp.**

### 1. **Colgar arizum** Medler, new species Figs. 1, 18

*Diagnosis*: Shape of vertex (Fig. 18) differs distinctly from most conical-headed species, anterior margin bluntly bulbous, frons with faint V-carina, vertex/pronotum ratio = 1.0. Genitalia illustrated (Fig. 1) show characters similar to *C. orisum* (Medler, 1989, fig. 28), but apical process of aedeagus differs.

*Measurements*: Holotype ♂, Allotype ♀: Length: overall 9.75, 9.75; v 0.50, 0.50; f 1.41, 1.41; p 0.50, 0.50; m 1.66, 1.83; t 8. 13, 8.30; pcl 2.49, 2.66. Width: v 0.91, 0.91; f 1.12, 1.04; t 4. 15, 4. 15. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,065), PAPUA NEW GUINEA: East Sepik Prov, Maprik, 230 m, 21-vi.1961, J.L. Gressitt. Allotype, ♀, Maprik, light trap, 14.x.1957, J.L. Gressitt, BPBM. Paratypes, ♀, East Sepik Prov, Angoram, 10 m, 13.viii.1969, J.L. Gressitt; ♀, Dreikikir, 350–400 m, 22.vi.1961, J.L. Gressitt; ♀, Maprik, Bainyik Agr. Sta., at lights, 28.vi.1959, J.J.H. Szent-Ivany, ex PNGDPI; Madang Prov, ♀, Finisterre Range, Saidor, Sibog Vill, 6–16.vi.1958, W.W. Brandt; BPBM. 2♀, Laing Is, Sta. 03, 20–vii.1987, P. Grootaert, ISNB.

### 2. **Colgar asperum** (Melichar) Fig. 2

*Cromna aspera* Melichar, 1902: 60 (n. sp.). Lectotype ♂, Irian Jaya, Key Is (Kai), Melichar, MMBC. *Colgar aspera*, Melichar, 1923: 60 (comb); Metcalf, 1957: 262 (cat., *asperum*).

*Diagnosis*: Vertex longer than pronotum, ratio = 1.23–1.52. Pronotum postocular pleural ridge carinate. Tegmen sutural angle right angled or nearly so, without acute point, not strongly produced. Male genitalia are illustrated (Fig. 2). The pygofer posterior-dorsal margin is pointed, not notched, or only with slight indication of notch.

*Measurements*: ♂, Biroe; ♀, Inanwatan, Irian Jaya. Length: overall 12.25, 12.25; v 1.00, 0.81; f 1.99, 1.99; p 0.66, 0.66; m 2.16, 2.32; t 10.62, 10.46; pcl 3.65, 3.32. Width: v 1.00, 1.08; f 1.41, 1.41; t 6. 14, 6. 14. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Specimens examined*: **IRIAN JAYA**: Biak Island: airport, 19–24.v.1959, ♂, ♀, T.C. Maa, Makmar, 5–10 m, 26.v.1959, ♀, J.L. Gressitt. Mangrowawa, 50–100 m, 29.xi.1959, ♂, J.L. Gressitt, Strand, 24.vi.1959, 3♂, 2 ♀, T.C. Maa; Bodem, 100 m, 11 km SE Oeberfaren, 7–17.vii.1959, ♂, T.C. Maa; Inanwatan, 17.iii.1939, ♀, R. G. Wind, Kampong Baroe, 10.viii.1939, ♂, R. G. Wind; BPBM. Biak Is, Sorido, iv.1945, AMNH. Mt. Nomo, S. of Mt. Bougainville, 700 ft (214 m), ii.1936, ♀, L.E. Cheesman, Waigeu, Camp Nok, 2500 ft (762 m), iv.1938, ♂, ♀, L.E. Cheesman, BM 1938–593; BMNH. Etnabaai, 25.xi.1939, ♀, K.N.A.G., det. *Phyllyphanta* 4; Rattan Camp, 1150 m. 6.iii.1939, ♂, 1200 m, 12.ii.1939, ♂, L.J. Toxopeus; Bernhard Camp, 50 m, vii.1938, ♂, xi.1938, ♀, J. Olthof, Archbold Exped III; Star Range, 1500 m, Bivak 39A, 8.vii.1959, ♂, Neth NG Exp; Sentani, nr Jayapura [Hollandia], iv.1975, ♀, Br. Casimirus; RMNH. Dotir, 300 m, river Maway 6 km inland, primary forest, at light, ♂, ZMA Exp.1996, ZMAN. **PAPUA NEW GUINEA**: Madang Prov, Baiteta Village, Light trap, 7.vi–10.vii.1996, 3♂, 2 ♀, O. Missa, ISNB; Mis Village, on *Macaranga* sp, 3.viii.1997, ♀, V. Novotny, BPBM.

*Taxonomic note*: In Melichar's key (1902), this species was grouped with *surrecta* and *notata*. Based on a study of male genitalia characters, *notata* has been designated junior synonym of *surrecta*. The tegminal spot markings are variable, and could not be relied upon for separation of the species.

### 3. **Colgar bespectum** Medler

*Colgar bespectum* Medler, 1989: 19, fig. 27 (n. sp.). Holotype, ♂, Irian Jaya, Hollandia, NCSU.

*Diagnosis*: Refer to Medler (1989: 19) for diagnosis, measurements and figure of ♂ genitalia. Hind leg spine formula 1: 6: 7.

*Specimens examined*: Prior records (Medler 1989: 19): **PAPUA NEW GUINEA**: Lae, Misima Is, Port Moresby, Tapini. Irian Jaya: Hollandia, Kota Nica.

*New records*: **PAPUA NEW GUINEA**: (no locality), ix.1944, ♂, C. S. Lanbly, NCSU. **IRIAN JAYA**: Cyclops Mts, Sabron, 930 ft (219 m), vi.1936, ♀, L.E. Cheesman, BMNH. Cyclops Mts, Hollandia, 500 ft (152 m), foothills, Kundi grass, 7.iii.1945, ♂; rain forest, 250 ft (76 m), 19.iii.1945, ♂, H. Hoogstraal, NCSU.

### 4. **Colgar britor** Medler, **new species** Fig. 3

*Diagnosis*: Head conical, in profile slightly angled dorsally from pronotum, vertex/pronotum ratio = 1.29–1.33. Tegmen light green, apical half with margins red from claval apex, bleached specimens stramineous, unmarked or with very faint trace of red margin. Holotype genitalia are illustrated (Fig. 3).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 10.0, 10.5; v 0.66, 0.75; f 1.83, 1.91; p 0.50, 0.58; m 1.66, 1.99; t 8.30, 8.80; pcl 2.66, 2.99. Width: v 0.66, 1.75; f 1.16, 1.20; t 4.65, 4.81. Hind leg spine formula: 1: 6: 8, 1: 6: 8.

*Types*: Holotype ♂ (BPBM 16,066), Allotype, ♀, Paratype, ♀, **NEW BRITAIN**: Gazelle Peninsula, Bainings, St. Pauls, 350 m, 7.ix.1955, J.L. Gressitt; BPBM. Paratypes, 2 ♀, Bainings, St. Pauls, 9.ix.1955, J.L. Gressitt; ♀, Keravat, 60 m, 11.ix.1955; ♀, Keravat, 30 m, light trap, 4.iv.1956, J.L. Gressitt; ♀, Keravat, 135 m, 20–25.xi.1959, T.C. Maa; ♀, Palmalmal, 29.iv.1956, J.L. Gressitt; ♀, Pila Pila, x.1949; ♂, ♀, Rabaul, 0–50 m, xi.1971, N.L.H. Krauss; ♂, Lolobau Pltn, on cacao, v.1966, D.F. O'Sullivan; 2 ♀, Keravat, Lowl. Agr. Exp. Sta, on cacao, 15.vi.1954, J.J.H. Szent-Ivany; sawmill at lights, 1.vii.1954, Mrs. P. Catanach, ex PNGDPI, BPBM. 2 ♀, Keravat, on cocoa tree, 4.i.1934, J.L. Froggatt; ♀, Rabaul, F.H. Taylor, BM 1933-603, BMNH. ♀, Rabaul, Mulutu, ix.1929, tattered ♀, C. Harslett, # K 61960, AMSA.

*Taxonomic note*: The specimens of *britor* from New Britain closely resemble the collection of *eirlor* from New Ireland. The taxa were separated by differences in shape of tegmen sutural angle and vertex length. The vertex: pronotum ratio of 15 *britor* paratype females from New Britain averaged 1.22. The allotype ratio was 1.29. The ratios of 5 *eirlor* paratype females from New Ireland averaged 1.55. The holotype ratio was 1.75. A misidentified male in RMNH labeled N. Brit, *Phyllyphanta* 5, is assigned to *britor*.

**5. Colgar calcum** Medler, new species Fig. 4

*Diagnosis*: Body and tegmina uniformly orange stramineous. Tegmen postclaval sutural margin slightly convex, sutural angle obtuse; apical and postclaval sutural margins narrowly red, which may be lost in faded specimens. Vertex /pronotum ratio = 1.13–1.27.

Aedeagus with unique triangular apex as shown in illustration of genitalia (Fig. 4).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 11.0, 13.0; v 0.79, 0.75; f 1.99, 2.16; p 0.62, 0.66; m 2.16, 2.49; t 8.80, 10.79; pcl 3.15, 3.65. Width: v 1.00, 1.16; f 1.33, 1.66; t 4.98, 6.64. Hind leg spine formula: 1: 6: 8. 1: 6: 8.

*Types*: Holotype, ♂, **IRIAN JAYA**: Standlager b. Malu, 12–13.iii.1912, Dr. Bürger, *Colgar obtusum* det H. Synave, 1972, ISNB; Allotype, ♀, Cyclops Mts, Sabron, 930 ft (283 m), iv.1936, L.E. Cheesman, BM 1936–271; Paratypes, 2 ♀, Humboldt Bay, Malay Archipelago, W. Doherty, 1903-31; BMNH.

**6. Colgar chlorospilum** (Walker) Fig. 5, 19

*Nephesa chlorospila* Walker, 1870: 173 (n. sp.); Medler, 1986f: 208, fig. 1 (lectotype). Lectotype ♂, Maluku, Aru Is, MVMA.

*Nephesa monoleuca* Walker, 1870: 177 (n. sp.); Melichar, 1902: 61 (syn); Medler, 1990a: 151 (lectotype). Lectotype ♀, M [Mysol Is], Wallace, BMNH.

*Cromna quadripunctata* Walker, 1870: 182 (n. sp.); Melichar, 1902: 61 (syn); Medler, 1990a: 157 (lectotype). Lectotype ♀, Mysol, Wallace, BMNH.

*Cromna obtusa* Melichar, 1902: 61, misidentified, not *Nephesa obtusa* Walker, 1870: 177.

*Cromna chlorospila*, Melichar, 1902: 61 (comb).

*Phyllyphanta birarae* Kirkaldy, 1905: 335 (n. sp.); Metcalf, 1957: 183 (cat., error); Medler, 1989: 10 (lectotype, syn.). Lectotype, ♀, New Britain, Birara, Willey, BMNH.

*Euphanta pokiana* Distant, 1910b: 324 (n. sp.); Medler, 1989: 10 (syn); Medler, 1990a: 176, fig. 46 (lectotype). Lectotype ♂, Pokia, Papua New Guinea, BMNH.

*Euphanta chlorospila* Distant, 1910b: 324, pl. xxii, fig. 10 (comb); Metcalf, 1957: 242 (cat., error).

*Colgar chlorospilus* Kirkaldy, 1913: 20 (comb); Medler, 1989: 10, fig. 24 (plant records).

*Diagnosis*: Refer to Medler (1989: 10) for diagnosis, measurements and figure of ♂ genitalia. Tegmen more obtusely rounded than related taxa. Vertex and pronotum about equal length (Fig. 19), vertex/pronotum ratio = 0.93–1.17. Hind leg spine formula 1: 6: 7.

Male genitalia illustrated (Fig. 5) is redrawn from lectotype from Maluku, MVMA.

*Specimens examined*: Prior records (Medler 1989: 10): **PAPUA NEW GUINEA**: Atkamba, Bemberi, Bena Bena, Bereina, Betege, Bisianumu, Bisiatabu, Bomana, Brown River, Bulolo, Buna, Cape Rodney, Daradae, Daru Is, Dylup, Eilogo, Garaina, Goroka, Iriri, Itikinumu, Javarere, Kapagere, Karimui, Kerema, Kikori, Kinbangwa, Kiunga, Koitaki, Kokebagu, Kokoda, Komokpin, Kuin, Kunngim, Kura, Laloki, Loloipa, Lolorua, Mafulu, Mamai, Mamba, Mamoo, Mendi, Middle Fly River, Milne Bay, Moian Is, Mondo, Mororo, Mt Lamington, Murua River, Ningerum, Nondugl, Oriomo, Otomata, Petoi, Pitoki, Popondetta, Port Moresby, Redscar Bay, Rodney Cape, Roku, Rouna, Sinaeada, Subuanna, Sirinumu, Sogeri, Tabuil, Tapini, Tugiri, Ukua, Vailala River, Varirata, Wararota, Woodlark Island. **IRIAN JAYA**: Atinjo, Ajamaroe, Ayam, Binnen, Bujakori, Cyclops Mts, Danowaria, Digoel, Djidmaoe, Eramboe, Etna Bay, Fakfak, Gariau, Genjem, Hollandia, Ifar, Inanwatan, Jef Lio Is, Kampong Baroe, Katem, Kebar Valley, Kei Is, Kulima, Manoiwa, Manokwari, Marjan, Merauke, Nabire, Orokola, Roon Is, Sabron, Seroei, Sorong, Star Mts, Tanah Merah, Toem, Triton Bay, Waigeu Is, Wasian. Maluku Dobbo, Ureiuning, Wokan. Australia, Queensland: Murray Is, Rennel Is, Yorke Is.

*New records*: **PAPUA NEW GUINEA**: Herbert Riv, 14.ix.1922, ♀, A.R. McCulloch, BPBM. Central Prov, Koitaki, 5–12.v.1921, ♀, E.O. Pockley, BMNH. Podbielsky Point, 7.vi.1982, ♀, P. Grootaert, ISNB. **IRIAN JAYA**: SE Biak Is, light trap, 1.vii.1962, 2 ♂, J.L. Gressitt & J. Sedlacek; NW Japen Is, SSE Sumberbaba, Dawai Riv, secondary jungle, 22.x.1962, ♀, H. Holtmann; BPBM. Baie de Humboldt at Dorey, 1906, ♂, O. K. Pasteur, MNHN. Res. Manokwari, Ambon, cacao twig, 2.ix.1960, ♂, F. Schneurs, ZMAN. **MALUKU**: Ceram: Piroe, i.1909, ♂, ♀, F. Muir, BPBM. Ceram [Seram], Ruhuwa, 3.v.1970, ♂, Ellen; BMNH. Ambon Is, Waai, 70 m, 13.xi.1961, ♂, ♀, A.M.R. Wagner; 19.xi.1964, 2 ♂, ♀, J. Winkler, BPBM. Ambon Is, Kampung Laha near Pattimura Airport, 25.xii.1980, 3♂, P. M. Taylor, USNM. **PHILIPPINES**: Mindanao, Zamboanga Del Sur, Lemesahan, 600 m, light trap, 7.ix.1958, 4♂, 4♀, H. E. Milliron; BPBM. **AUSTRALIA**: N. T., Darwin, ♂, ♀, G. F. Hill, BMNH.

7. **Colgar duxor** Medler, **new species** Figs. 6, 20

*Diagnosis*: Head broadly conical, short (Fig. 20), frontal carinae obscure, indicated by line of red dots; vertex/pronotum ratio = 1.0. Tarsi red, this color extending for short distance on tibiae. Tegmen light green, margins thinly red, sometimes faded; postclaval sutural margin straight. Genitalia characters (Fig. 6) similar to *chlorospilum*, but apical scimitarlike process of aedeagus larger and arising dorsally from apical coil.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 12.0 13.0; v 0 50, 0.50; f 1.66, 1.66; p 0.54, 0.54; m 2.15, 2.49; t 9.30, 10.79; pcl 3. 15, 3.49. Width: v 1.00, 1.00; f 1.33, 1.37; t 9.30, 10.79. Hind leg spine formula: 1: 6: 8, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,067), **PAPUA NEW GUINEA**: Eastern Highlands Prov, Numbu, Upper Chimbu Vall, 2400 m, light trap, 5.vii.1955; Allotype, ♀, Paratype ♀, Upper Chimbu Vall, 2200 m, 5.vii.1955; BPBM. Paratypes, ♂, Eastern Highlands Prov, Goroka, 5100 ft (1554 m), Coffee Ext. Sta., 2.iii.1962, J.H. Barrett; ♀, Gena, 5.ii.1960, K. Cole, BPBM ex PNGDPI; ♂, Western Highlands Prov, Korn Farm, 1560 m, light trap, 16.x.1958, J.L. Gressitt; ♀, Nondugl, Medic Aid Post, 5500 ft (1676 m), citrus orchard, foliage of orange tree, 18.x.1954, unknown collector; BPBM. **IRIAN JAYA**: ♀, Star Range, Sibil, 1260 m, 4.vii.1959, Neth New Guinea Exped, RMNH.

8. **Colgar eirlor** Medler, **new species** Fig. 21

*Diagnosis*: Vertex elongated (Fig. 21); vertex/pronotum ratio = 1.75.

*Measurements*: Holotype ♀. Length: overall 12.0; v 1.16; f 2.32; p 0.66; m 1.99; t 9.30; pcl 3. 15. Width: v 1.08; f 1.37; t 5.31. Hind leg spine formula: 1: 6: 7.

*Types*: Holotype ♀ (BPBM 16,068), Paratypes, 2♀, **NEW IRELAND**: Kavieng, 0–50 m, x.1968, N.L.H. Krauss; ♀, Kandan, 1.i.1960, W.W. Brandt; ♀, Ruwong Pltn, cacao (bush planting), 19.ii.1966, D.F. O'Sullivan; ♀, 15 km up Kait Riv, 250–750 m, ridge above Camp Bishop, light trap, 13.viii.1956, J.L. Gressitt, BPBM.

*Taxonomic note*: The vertex is noticeably longer than found in specimens of closely related *britor* in New Britain, which has a vertex: pronotum ratio of 1.2. Study of characters of the male genitalia is needed for better understanding of this taxon.

9. **Colgar elatum** Medler Fig. 7

*Colgar elatum* Medler, 1989: 13, fig. 4, 10, 25 (n. sp.). Holotype, ♂, Papua New Guinea, Morobe Prov, Wau, BPBM.

*Diagnosis*: Refer to Medler (1989: 13) for diagnosis, measurements and figure of ♂ genitalia. This species is recognized usually by 3 red spots on tegmen aligned with spot on discal cell crossvein; postclaval sutural margin straight, arising at slight angle from apex of clavus (Medler, 1989, fig. 4). Vertex noticeably longer than pronotum, vertex/pronotum ratio = 1.27–1.33. Length overall 12.5–13.0 mm. Hind leg spine formula 1: 6: 9. Genitalia illustrated (Fig. 7) redrawn from holotype from Wau, BPBM.

*Specimens examined*: Prior records (Medler 1989: 13): **PAPUA NEW GUINEA**: Aiyura, Awar, Awelkom, Bainding, Bainyik, Bairyer River, Boana, Boram, Bubia, Bulldog Road, Buso, Busu River, Daru River, Dreikikir, Finschhafen, Gurakor, Kagona, Kainantu, Mt Kaindi, Kalalo, Karkar Is, Karubaka, Kassem, Kinbangwa, Kiunga, Korop, Krisa, Lae, Laing Is, Lambaeb, Mt Lamington, Lowes, Mamoo, Mapril, Milne Bay, Mirilunga, Mokai, Nadzab, Namie Creek, Pindui, Pitoki, Samarai, Sangeman, Sepalakembang, Singaua River, Sugoite, Tikeling, Tuwep, Ulap, Umboi Is, Umi River, Wantipi, Wanuma, Wasu, Wau, Wewak. **IRIAN JAYA**: Ambon, Biak Is, Genjam, Mt Gyifrie, Hollandia, Ifar, Kotanica, Krisa, Liki Is, Maffin Bay, Sarmi, Sobron, Sorido, Toem, Torricelli Mts, Tor River, Vanmimo, Waris.

*New records*: **PAPUA NEW GUINEA**: East Sepik Prov: Maprik, 28.x.1958, ♂, J. Smart; Northern Prov: Kokoda, 1200 ft (366 m), v.1933, ♀, L.E. Cheesman; Western Prov: Fly Riv, ♀, Geo. Soc. Exp.; BMNH. Eastern Highlands Prov: Kainantu, 8.x.1989, ♂, ♀, J.-M. Ouin; ISNB. Madang Prov, Baitabag Village, on *Ficus nodosa, trachypison, wassa*, viii.1995, 3♂, 2 ♀, Ohu Village, on *Ficus dammaropsis*, ix.1995, ♂; Riwo Village, on *Ficus*

*microcarpa*, ii.1996, ♂, V. Novotny, BPBM. Finisterre Mts, Damanti, 3550 ft (1082 m), 2–11.x.1964, ♀, M. E. Bacchus; BMNH. Bogia, Sta. 73, 19.viii.1987, ♀; Laing Is, Sta. 04, 20.vii.1987, ♀; Laing Is, Sta. 64, viii.1987, 3♀; Tok-Tok Is, Sta. 012, 21.vi.1987, ♀; P. Grootaert; Laing Is., Sta. 002, 004, 25–27.iv.1988, 10♂, 6♀, Sepen Vill, No. 2, Sta. 012, 1.v.1988, 2♂, ♀; J. Van Stålle; Boisa volc., 7.vii.1988, 4♂, 5♀; Marangis Is, 24.vi.1988, 2♂, 2♀; J. -M. Ouin; ISNB. Morobe Prov, Bubia Pltn, on cacao, 18.x.1956, ♂, M. Nango; Buso, 5.x–xi.1979, ♂, ♀, J. H. Martin; Huon Gulf, 22.v–19.vi.1937, ♀, J. L. Froggatt; Lae, Bubia, 22.xi.1956, ♀, E. S. Brown; Lae coast, ex cotton, 10.ix.25, ♀, E. Ballard; Markham Vall, Kiapit, 950 ft (289 m), cotton, ♀, E. Ballard; Wau, at light, 24–25.x.1979, ♂, ♀, J. H. Martin; Wau, on citrus, 30.xii.1972, 2♂, 2♀, O. W. Richards; Wau, Dept. Agr. Farm, dense numbers on *Coffea arabica*, estimated 60–70% killed by entomogen fungus, 1.vii.1963, 3♂, 4♀, J.J.H. Szent-Ivany & B. J. Kebby; BMNH. Bulolo, 300 m, Sta. 036, 038, 039, 17–18.v.1988, 2♂, 3♀; Mt Susu, 950 m, Sta. 40, 19.v.1988, 10♂, 13♀; McAdam Nature Reserve, 850 m, Sta. 46, 20.v.1988, ♂, 9♀; J. Van Stålle; ISNB. **IRIAN JAYA**: Mt Gyifrie, 1000 ft (305 m), iv.1939, ♀, L.E. Cheesman; BMNH. Maffin Bay, 27.vi.1944, ♂, E. S. Ross, CASC.

### 10. **Colgar harum** Medler, **new species** Fig. 8

*Diagnosis*: Head sharply conical, vertex/pronotum ratio = 1.33. Specimens resemble *elatum* in overall appearance, but tegmen more pustulate, red dots basally, veins outlined thinly with red; tegmen apical margin truncate, margins red, discal red spot faint, composed of minute dots, postclaval sutural margin pointed apically. Genitalia characters (Fig. 8) are different from those of *elatum*.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.5, 9.0; v 0.66, 0.66; f 1.58, 1.54; p 0.50, 0.50; m 1.83, 1.66; t 7.64, 7.64; pcl 2.99, 2.82. Width: v 0.79, 0.83; f 1.00, 1.00; t 4. 15, 3.82. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,069), Allotype, ♀, **PAPUA NEW GUINEA**: Eastern Highlands Prov, Goroka, coffee, ix.1964, G. S. Dun, ex PNGDPI, BPBM. *Paratypes*, ♀, Eastern Highlands Prov, Aiyura, 1800 m, Malaise trap, 1.i.1964, J.L. Gressitt; ♀, Purosa, 20–26 km SE Okapa, 1800–2020 m, 28.viii.1964, J. & M. Sedlacek; ♀, Morobe Prov, Wau, Edie Creek, 2100 m, 9.viii. 63, H. C; ♀, Mt Missim, S side, 2000 m, 15.vii.1984, pyrethrin fog of *Castanopsis acuminatissima*, W. Gagné, BPBM. ♂, ♀, Eastern Highlands Prov, Okapa area, No. 10 Purosa Camp, 21–26.ix.1959; ♂, Morobe Prov, No 4, Kaindi on Meari Creek, 9.5 mi from Wau, 2050 m, 20.v.1959; L.J. Brass, Archbold Exped VI, AMNH;

### 11. **Colgar laraticum** Kirkaldy Fig. 9

*Colgar laraticus* Kirkaldy 1913: 20 (n. sp.); Metcalf, 1957: 263 (cat., as *laraticum*), Medler, 1987a: 122, fig. 14 (lectotype); Medler, 1989: 62 (Larat). Lectotype, ♂, Larat, Muir, BPBM.

*Colgar granulatus* Kirkaldy, 1913: 20 (n. sp.); Metcalf, 1957: 263 (cat., as *granulatum*); Medler, 1987a: 121 (holotype); Medler, junior synonym of *Colgar laraticum* Kirkaldy, here designated, **NEW SYNONYMY**. Holotype, ♀, Larat, Muir, BPBM.

*Diagnosis*: Vertex/pronotum ratio = 1.08–1.20. Genitalia (Fig. 9) help distinguish this taxon from *chlorospilum*.

*Measurements*: Lectotype ♂, paralectotype ♀. Length: overall 8.00, 9.00.; v 0.50, 0.58; f 1.54, 1.58; p 0.50, 0.50; m 1.49, 1.66; t 6.97, 7.64; pcl 2.49, 2.82. Width: v 0.83, 0.91; f 1.08, 1.16; t 3.65, 3.98. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Specimens examined*: Prior records (Medler, 1987a: 122): **IRIAN JAYA**: Larat, xii.1907, 8♂, 7♀, F. Muir, BPBM.

*New records*: **PAPUA NEW GUINEA**: Manus Prov, 1932, ♂, ♀, N. E. H. Caldwell, BMNH.

### 12. **Colgar ligorum** Medler

*Colgar ligorum* Medler, 1989: 18, fig. 26 (n. sp.). Holotype, ♂, Papua New Guinea, Northern Prov, Popondetta, BPBM.

*Diagnosis*: See Medler (1989: 18) for diagnosis, measurements and figure of ♂ genitalia).

Vertex/pronotum ratio = 1.14–1.33. Hind leg spine formula 1: 6: 7.

*Specimens examined*: Prior records (Medler 1989: 18): **PAPUA NEW GUINEA**: Asela, Awala Pltn, Funyende Vill, Gabumi Vill, Garaina, Hahota Pltn, Igora Pltn, Ishurava, Kagona, Kokoda, Laloki, Mt Lamington, Mamai, Mamba, Mamoo, Manaru Pltn, Oro Bay, Sopovi Pltn, Talia Point, Popondetta. **IRIAN JAYA**: Nabire, Sabron, Waigeu.

*New records*: **PAPUA NEW GUINEA**: Bunato Seputa, 5.vi.1921, ♀, Sombroto Wasida, 8.vi.1921, ♂, E. O. Pockley; Central Prov, Port Moresby area, 23.i.1947, ♀, McCormick; BMNH.

13. **Colgar manor** Medler, new species Fig. 10

*Diagnosis*: Head obtusely pointed, in profile not angled dorsally from pronotum, vertex/pronotum ratio = 1.33–1.41. Specimens normally brightly colored, tegmina green, margins of apical half from claval apex solid red; median longitudinal carina of vertex and pronotum strongly red. Characters of genitalia (Fig. 10) show close relationship to those of *britor*.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.00, 10.25.; v 0.50, 0.50; f 1.49, 1.54; p 0.50, 0.50; m 1.83, 1.99; t 7.80, 8.47; pcl 2.66, 3. 15. Width: v 0.83, 0.91; f 1.16, 1.25; t 4.32, 4.81. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,070), Allotype, ♀, Paratype, ♀, **PAPUA NEW GUINEA**: Manus Prov, Rossum, 6 km S of Lorengau, 180 m, 23.xii.1959, T.C. Maa; BPBM. *Paratypes*, ♂, Manus Prov, Momote, 24.xii.1959, T.C. Maa; ♂, Rossum, 180 m, 23.xii.1959, T.C. Maa; ♀, Rossum, 35–125 m, 29.vi.1959, J.L. Gressitt; ♂ Admiralty Is., 23/xii.1944, P. T. Riherd 107; BPBM.

14. **Colgar missior** Medler

*Colgar missior* Medler, 1989: 22, fig. 29 (n. sp.). Holotype, ♂, Papua New Guinea, Madang Prov, Wanuma, BPBM.

*Diagnosis*: See Medler (1989: 22) for diagnosis, measurements and figure of male genitalia. Note the acutely conical vertex, in profile view strongly angled with pronotum; tegmen postclaval sutural margin convex, sutural angle obtusely convex, margin thinly red, along with vein terminals. All red coloring lost in faded green specimens. Vertex/pronotum ratio = 1.25–1.33. Hind leg spine formula 1: 6: 7.

*Specimens examined*: Prior records (Medler 1989: 22): **PAPUA NEW GUINEA**: Angoram, Bainyik, Dreikikir, Dylup, Koitaki, Maprik, Matoka, Port Moresby, Sepen Vill, Sugoitei Vill, Torricelli Mts, Wanuma.

*New records*: **PAPUA NEW GUINEA**: East Sepik Prov, May Riv, 6.vi.1963, ♀, R. Straatman; BPBM. Maprik, 17–24.x.1957, 3♂, 4♀, J. Smart, BMNH. Madang Prov, Baitabag Village, on *Ficus copiosa, trachypison*, 11–20.vii.1995, 2 ♂, ♀; Mis Village, on *Ficus wassa*, x.1995, ♂; Ohu Village, on *Ficus phaeosyce*, ix.1995, ♀, V. Novotny; Awar Pltn, Sta. 037, 31.viii.1987, ♂; Borol, Sta. 079, 21.viii.1987, ♀; Sisimangum, Sta. 037, 3.viii.1987, 3♂, ♀; P. Grootaert, ISNB. Marangis Is, 24.vi.1988, 3♂, 2♀; Marangis 2, Ramu, 24.vi.1988, 4♂, 3♀, J. -M. Ouin, ISNB. Awar Pltn, Sta. 013, 2.v.1988, ♂, 4♀; Brahman Miss., Sta. 16, 5.v.1988, ♂; Sepen Vill No. 2, Sta. 007, 012, 063, 064, 068, 28.iv. –10.vi.1988, 10♂, 14♀; J. Van Stålle; ISNB. **IRIAN JAYA**: Humboldt Bay Dist, Bewani Mts, ix.1937, ♀, W. Stüber; BMNH. **PHILIPPINES**: Mindanao, Agusan, S. Francisco, 10 km SE, 14.xi.1959, 3♂, L. W. Quate, BPBM.

15. **Colgar orisum** Medler

*Colgar orisum* Medler, 1989: 20, fig. 28 (n. sp.). Holotype, ♂, Irian Jaya: Hollandia-Binnen, BPBM.

*Diagnosis*: See Medler (1989: 20) for diagnosis, measurements and figure of ♂ genitalia. Note bluntly conical, slightly obtuse vertex, in profile view weakly angled from pronotum; tegmen light green, white mottling of discal cells faint or absent, postclaval sutural margin convex, sutural angle obtusely convex, margin thickly red, adjacent vein terminals without red coloring. All red coloring lost in faded specimens. Vertex/pronotum ratio = 1.0. Hind leg spine formula 1: 6: 7.

*Specimens examined*: Prior records (Medler, 1989: 20): **PAPUA NEW GUINEA**: Bembol, Iabru, Kamberatoro, Krisa, Kwek, Punda, Schotchiao. **IRIAN JAYA**: Bernhard Camp, Binnen, Bodem, Cyclops Mts,

Enerotali, Genjem, Mt Gyifrie, Hollandia, Ifar, Kota Baru, Kotanica, Manokwari, Middelburg Is, Njau-limon, Sabron, Waris, Wisselmeren.

*New records*: **PAPUA NEW GUINEA**: Madang Prov, KarKar Is, Kurum, 0–100 m, viii.1968, 3♂, 6♀; Kurum, Bagisi Crater Trail, 0–100 m, viii.1968, ♀, N.L.H. Krauss; Baitabag Village, on *Ficus bernaysii, copiosa, hispidoides*, vii–viii.1995, 5♂, 4♀, Ohu Village, on *Ficus nodosa, septica, variegata, wassa*, vii–viii.1995, 3♂, 5♀, V. Novotny, BPBM. Madang Prov, Gogol River, 12 km SW Madang, (5°20'S 145°42'E), 12–15.ii.1987, ♂, 3♀; Nobonob Hill, 7 km NW Madang, (5°10'S 145°45'E), 21.iii.1987, ♂; Tapo Creek, 26 km SW Madang, (5°24'S 145°38'E), 21–25.ii.1987, 2 ♀; Nagada Harbor, 8 km N Madang, (5°09'S 145°48'E), 16.ii.1957, ♀; N. D. Penny; CASC. **IRIAN JAYA**: Humboldt Bay, Hollandia, iv.1936, ♀, L.E. Cheesman, BMNH.

### 16. Colgar peracutum (Walker) TYPE SPECIES Figs. 11, 22, 43

*Cromna peracuta* Walker, 1858: 120 (n. sp.); Medler, 1990a: 153, fig. 28 (lectotype). Lectotype, ♂, Australia, BMNH.

*Phyllyphanta hylinata* Stål, 1859: 282 (n. sp.); Medler 1986h: 328 (lectotype). Lectotype ♀, Australia, Moreton Bay, NHRS.

*Colgar peracuta* Kirkaldy, 1900: 242 (comb); Metcalf, 1957: 264 (cat., as *peracutum*); Walker & Dietz, 1979: 73 (citrus flatid in Cook Islands).

*Colgar roseipennis* Distant, 1910a: 307 (n. sp.); Metcalf, 1957: 265 (cat); Medler, 1990a: 179, fig. 60 (holotype, syn.). Holotype, ♂, Queensland, Distant, BMNH.

*Colgar rufostigmata* Distant, 1910a: 308 (n. sp.); Metcalf, 1957: 265 (cat); Fennah, 1958: 219 (fig. 77); Medler, 1990a: 180 (lectotype, syn.). Lectotype ♀, Queensland, Townsville, Dodd, BMNH.

*Diagnosis*: Vertex noticeably longer than pronotum (Fig. 22), vertex/pronotum ratio = 1.33–1.66. The male genitalia of specimen from Brisbane is illustrated (Fig. 11) to show the prominent spine on posterior-dorsal margin of pygofer. The female genitalia (Fig. 43) are unique in presence of notch and median tooth on posterior ventral margin of segment VII.

*Measurements*: ♂, ♀, ex Brisbane, BPBM. Length: overall 9.0, 11.0; v 0.66, 0.83; f 1.83, 2.16; p 0.50, 0.50; m 1.74, 2.16; t 7.47, 8.47; pcl 2.16, 2.49. Width: v 0.83, 1.00; f 1.08, 1.16; t 3.65, 4.81. Hind leg spine formula: 1: 7: 9, 1: 7: 9.

*Taxonomic note*: The 7 metatibial apical spines are constant in this species. All other species of *Colgar* known to me have 6 spines.

*Specimens examined*: Prior records: **AUSTRALIA**: New South Wales: Tweed River. Queensland: Babinda, Brisbane, Bundaberg, Cairns, Canungra, Cardwell, Charters Towers, Coolangata, Halifax, Ingham, Moreton Bay, Moreton Is, Redlynch, Rockhampton, Sandgate, Townsville. Cook Is: Rarotonga.

*New Records*: **AUSTRALIA**: S. Queensland: S of Beenleigh, S of Brisbane, 25 m, *Melaleuca*, 15.x.1960, ♀, J.L. Gressitt, BPBM. **COOK ISLANDS**: Aitutaki Is: Amuri, 9–50 m, iii.1977, 2♂, 2♀; 0–100 m, xii.1977, 4♀; 0–100 m, xi.1979, 2♂, 2♀; Aitutaki, i–ii.1960, 2♂, 2♀; N. H. L. Krauss; BPBM. Amuri, 0–50 m, iii.1977, ♀; 0–100 m, xii.1977, 2 ♀, N.L.H. Krauss, AMNH. Atiu Is: 0–70 m, iii.1976, 6♂, 16♀, N. H. L. Krauss, BPBM. Mauke Is: Kimiangatau, 0–20 m, 9.iii.1976, ♂, ♀, N. H. L. Krauss, BPBM. Rarotonga Is: Avarua, ii.1977, ♂, N.L.H. Krauss; Rarotonga, on citrus, xi.1931, 2♀, C. I. E.; Titikaveka, on stem of *Artocarpus integra*, 4.ii.1975, ♂; on stem of *Clerodendrum fallax*, 1.ii.1975, ♀; on *Sophora tomentosa*, 1.ii.1975, ♂, ♀, P. A. Maddison, C. I. E. coll A8730; BMNH. Amuri, 0–100 m, 2.xii.1979, ♂, ♀; Avarua, 0–100 m, ii–iii.1977, 8♂, 8♀; xi.1977, 4♂, 6♀; ii.1979, ♂, 3♀, N. H. L. Krauss. Avarua, ex coffee; 30.iii.1929, ♀; 4.iii.1929, ♀; 7.vi.1929, ♀; banana, 2 nymphs, viii.1929, G. P. Wilder. Rarotonga, 8.xi.1929, ♀; 11.x.1931, ♂, *Colgar rufostigmata*, det R. G. Fennah; Avatiu, 0–200 m, xi.1979, ♀; Titikaveka, 0–100m, xii.1977, ♂, ♀; Tokokoitu, 0–20 m, 25.ii.1977, ♂; Tupepa. 0–200 m, ♂, 25.xi.1979, N. H. L. Krauss; BPBM. Avarua, 0–100 m, ii–iii.1977, 8♂, 8♀; xi.1977, /4/, 4♀. Avatiu Valley, 0–100 m, ii.1979, 2♀; Titikaveka, 0–100 m, xii.1977, 2♂, N. H. L. Krauss; AMNH. TONGA: Eua Is: Hafu, 100–200 m, ii.1972, 2 ♂; Pangai, 0–100 m, ii.1972, 3♂, ♀; i.1979, 2♀; N. H. L. Krauss, BPBM. Hafu, ii.1972, 2♂, N.L.H. Krauss, BMNH. Tongatapu Is: Breeding on lime tree, 10.viii.1966, 4♂, 7♀, F. A. Bianchi; Fahefa, 0–100 m, 27.xi.1969, ♂, ♀; Kolovai, 0–20 m, 20.i.1979, 2♂, 2♀; Mu'a, 0–50 m, 20.iii.1969, 2♂, 9♀; 30–100 m, 1.xi.1969, 2 ♀; Nukualofa, 0–50 m, iii.1969, ♂; 0–100 m, x–xi.1969, 7♂, 18♀; 0–50 m,

ii.1972, 7♂, 7♀; 0–50 m, i.1978, ♂, 2♀; i.1979, 4♂, 2♀; 0–100 m, ix–xii.1979, 4♂, 8♀, N. H. L. Krauss; BPBM. Nukua, 0–50 m, ii.1978, 13♂, 11♀; Nukualofa, 0–50 m, i.1978, 8♂, 2♀, N.L.H. Krauss; AMNH. Nukualofa, iii.1966, ♂, ♀; iii.1972, ♂, ♀, N.L.H. Krauss; Govt Exp Farm, on *Citrus limon*, 19.viii.1976, 2♂, ♀, P. Crooker; BMNH.

### 17. **Colgar rakum** Medler, new species Fig. 12

*Diagnosis*: Head conical, short, vertex/pronotum ratio = 1.0. Tegmen green with red margin, without red spots. Faded specimens have lighter shade of green color. Genitalia of holotype unique (Fig. 12). Dorsal margin of aedeagus widely crenulate, with dorsal process arising from apical coil elongated basad.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 10.5, 10.5; v 0.50, 0.54; f 1.74, 1.83; p 0.87, 0.54; m 1.99, 1.83; t 8.63, 8.63; pcl 3. 15, 3.32. Width: v 0.91, 0.91; f 1.16, 1.20; t 4.81, 4.81. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,071), **PAPUA NEW GUINEA**: East Sepik Prov, Swart Valley, Karubaka, 1300 m, 7.xi.1958, J.L. Gressitt; Allotype, ♀, Karubaka, 1500 m, 20.xi.1958; Paratypes, ♀, Swart Val. W side, 1400–2000, 19.xi.1958; ♀, Kutsime, West of Swart Val. 1500 m, 14.xi.1958; J.L. Gressitt; ♂, **IRIAN JAYA**: Wisselmeren, 1700 m, Waghete, Tiga L., 17 viii.1955, J.L. Gressitt, BPBM.

### 18. **Colgar rostratum** (Montrouzier) Fig. 13

*Flatta rostrata* Montouzier, 1855: 112 (n. sp.); *Flata rostrata*: Metcalf, 1957: 174 (cat).

*Colgar rostrata*: Medler, here designated, **NEW COMBINATION**. Plesiotype, ♂, Woodlark Is, Kulumadau, Camp 15, 0–100 m, 10.xi.1956, L. G. Brass, Archbold Exped V, BPBM ex AMNH.

*Diagnosis*: Head conical, vertex/pronotum ratio = 1.0–1.08. Tegmina margins red, sutural angle acute; Male genitalia (Fig. 13) differs from *tricolor*, a larger size species that also has distribution on Woodlark Island.

*Measurements*: ♂ Plesiotype, ♀ ex Kulumadau. Length: overall 8.75, 9.50; v 0.50, 0.54; f 1.41, 1.66; p 0.50, 0.50; m 1.83, 1.74; t 7.47, 8.30; pcl 2.49, 2.66. Width: v 0.87, 0.87; f 1.16, 1.20; t 4. 15, 4.48. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Specimens examined*: **PAPUA NEW GUINEA**: MILNE BAY PROV: Woodlark Is. (Murua), Kulumadau Hill, 9–12.iii/7–13.iv.1957, 2 ♀, W.W. Brandt, BPBM. Recorded as *chlorospilum* by Medler (1989: 11) in error. Woodlark Is, Kulumadau, Camp 15, 0–100 m, 11–13.xi.1956, ♂, L. G. Brass, Archbold Exped V, AMNH. Fergusson Is, Mts. between Agamoia and Ailulua, Camp 4, 900 m, 5–17.vi.1956, 2 ♀, L.J. Brass; Archbold Exped V, AMNH. Sudest Is, Joe Landing, Camp 9, 0–100 m, 15–22.viii.1956, 2 ♀, L. G. Brass; Rambuso, Camp 11, 0–100 m, 10.ix.1956, ♀, L. G. Brass; Archbold Exped V, AMNH.

### 19. **Colgar satum** Medler, new species Fig. 14

*Diagnosis*: Vertex shorter than pronotum or same length, vertex/pronotum ratio = 0.67–1.0. Tegmen without red dots, margins red. Genitalia of holotype are illustrated (Fig. 14).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.25, 10.5; v 0.33, 0.58; f 1.49, 1.74; p 0.50, 0.58; m 1.66, 1.83; t 7.47, 8.47; pcl 2.49, 2.99. –Width: v 0.87, 1.00; f 1.16, 1.16; t 7.47, 8.47. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype, ♂, Allotype, ♀, Paratypes, 2 ♂, **IRIAN JAYA**: Waigeu, Camp Nok, 2500 ft (762 m), iv.1938, L.E. Cheesman, BM 1938–593, BMNH. ♂, same data as holotype, ex BMNH, BPBM.

### 20. **Colgar surrectum** (Melichar) Figs. 15, 16

*Cromna surrecta* Melichar, 1902: 59 (n. sp.); Medler, 1986c: 115, (lectotype). Lectotype: ♀, Papua New Guinea: Erima, Astrolabe Bay, HNHM.

*Cromna notata* Melichar, 1902: 60, pl. III, fig. 3 (n. sp.); Metcalf, 1957: 263 (*notatum*, cat); Medler, 1986a: 112, fig. 5 (holotype). Holotype, ♂, New Britain, Gazelle Peninsula, SMTD.

*Colgar surrectus*, Kirkaldy, 1913: 20 (Larat, comb); Schmidt, 1926: 249 (Buru Is); Metcalf, 1957: 265 (cat, *surrectum*); Medler, 1986a 112 (note); Medler, 1989: 23, fig. 31 (plant records).

*Colgaroides acuminata* sensu Melichar, 1923: 61 (*Cromna surrecta*, error).

*Colgar notatum*, Melichar, Medler, junior synonym of *Colgar surrectum* (Melichar), here designated, **NEW SYNONYMY**.

*Diagnosis*: Vertex noticeably longer than pronotum, vertex/pronotum ratio = 1.66–1.68. Pronotum postocular pleural ridge carinate. Tegmen sutural angle acutely produced. Considerable variation in color markings exists among specimens that have similar morphological characters of head and tegmen. A study of male genitalia enabled separation of specimens with typical characters (Fig. 16), notably the notched apex of the posterior-dorsal projection of the pygofer. Variant genital characters (Fig. 15) mostly involved shape of processes arising from the apical coil of the aedeagus. Further study of the *surrectum* complex is needed to establish the taxonomic status of the variants.

*Measurements*: ♂, ♀, ex Wisselmeren. Length: overall 14.0, 14.5; v 1.16, 1.16; f 2.16, 2.49; p 0.75, 0.83; m 2.49, 2.49; t 11.12, 11.62; pcl 4.32, 4.48. Width: v 1.16, 1.16; f 1.49, 1.49; t 6.64, 6.97. Hind leg spine formula: 1: 6: 6, 1: 6: 6.

*Specimens examined*: Prior records (Medler 1989: 23): **PAPUA NEW GUINEA**: Awowata, Brown River, Bulolo, Erima, Kokoda, Lae, Laloki, Mt Lamington, Mendi, Mt Missim, Popondetta, Port Moresby, Otomata, Siboma, Tapini, Tugiri. Irian Jaya: Agats, Waris. Maluku: Dobbo, Ureiuning. **AUSTRALIA**: Queensland: Cornwallis Is.

*New records*: **PAPUA NEW GUINEA**: West Sepik Prov, Torricelli Mts, Mobotei, 750 m, 5–15.iii.1959, ♂, W.W. Brandt; S. Highlands Prov, Lake Kutubu, Tugiri, 1000 m, 7–9.ii.1978, ♀, J.L. Gressitt & Wita; BPBM. Madang Prov, Ohu Village, on *Ficus wassa*, xi.1995, ♂; Pau Village, on *Ficus nodosa*, i.1996, ♂; Riwo Village, on *Ficus tinctoria*, ♂, xii.1995; V. Novotny, BPBM. Sepen Village 2, Sta. 012, 1.v.1988, J. Van Stålle, ISNB. **IRIAN JAYA**: Nabire, S. Geelvink Bay, 0–30 m, light trap, 2–9.vii.1962, J.L. Gressitt; BPBM. Waigeu, Camp Nok, 2500 ft (762 m), iv.1938, ♂, ♀, L.E. Cheesman, BMNH. Hollandia, Rain Forest, 250 m, xi.1944, ♀; xii.1944, ♂; v.1945, ♀, H. Hoogstraal; Hollandia, v.1945, ♀, S. G. Jewett,Jr.; NCSU. Bernhard Camp, 50 m, vii–xi.1938, 2♂, 4♀, J. Olthof, Archbold Exped III; Biak, Borokoe, 6.iii.1952, ♀, det *Phyllyphanta* 1; Schouten Is, Biak, W of Sorido, 25.i.1955, ♀, L.D. Brongersma; Ifar, xii.1957, ♂, G. den Hoed, det *Phyllyphanta* sp. Gravestein; Paniai, 5.ix.1939, ♂, K.N.A.G., det *Phyllyphanta* 2; Manokwari, 3.ii.1957, ♂, G. F. Mees, Neth NG Exp; RMNH.

### 21. **Colgar tricolor** Distant

*Colgar tricolor* Distant, 1910a: 309 (n. sp.); Medler, 1989: 17, fig. 30 (rev.); Medler, 1989: 63 (new records); Medler, 1990a: 182, fig. 56 (holotype). Holotype, ♂, Queensland, Kuranda, BMNH.

*Diagnosis*: This species has wide distribution on mainland and eastern outlying islands of Australia and New Guinea. Vertex/pronotum ratio = 1.0–1.14. Hind leg spine formula 1: 6: 7. Tegmina spots are variable in size and intensity of red coloration due to composition of minute red dots.

*Specimens examined*: Prior records (Medler 1989: 17): **PAPUA NEW GUINEA**: Bougainville Is, Fergusson Is, Iamelele, Kiriwina Is, Lae, Losuia, Misima Is, Normanby Is, Port Moresby, Tapini, Trobriand Is, Waikaiuna, Wawela. Irian Jaya: Katem, Manokwari, Star Range.

*New records*: **AUSTRALIA**: N. Q., Cairns, 16.vii–viii.1904, 9♂, 16♀, Koebele, ex W. H. Giffard Collection; BPBM. N. Q., Babinda, iv.1919, ♀, F.X. Williams; ix.1919, ♂, F. Muir; Queensland, Kuranda, iv–v.1904, ♂, ♀, F.P. Dodd. **PAPUA NEW GUINEA**: Andai, 1903, ♂, W. Doherty; BMNH. **IRIAN JAYA**: Ambon I., Manokwari, from cacao twig, viii.1960, ♂, G. Schneurs; Doom Is, 11.viii.1957, ♂, G.F. Mees; Schouten Is, Biak, W of Sorido, 26.i.1955, 20.x.1955, 2 ♀, L.D. Brongersma, RMNH.

### 22. **Colgar wadum** Medler, **new species** Fig. 17

*Diagnosis*: Bluntly conical head, vertex/pronotum ratio = 1.0–1.25. Tegmina without red margins. Holotype genitalia (Fig. 17) have characters similar to those of *bespectum*.

*Measurements*: holotype ♂, allotype ♀. Length: overall 10.0, 9.0; v 0.66, 0.46; f 1.66, 1.49; p 0.54, 0.46; m 1.83, 1.66; t 8. 13, 7.64; pcl 2.82, 2.49. Width: v 0.91, 0.91; f 1.16, 1.08; t 4. 15, 3.98. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype, ♂, Allotype, ♀, **IRIAN JAYA**: Waigeu Camp 2, 2500 ft (762 m), at light, iv.1938, L.E. Cheesman, BM 1938-593, BMNH.

Dispositions of *Colgar* sensu Metcalf Catalog (1957):
*farinosum* (Montrouzier). See *Cryomna*.
*granulatum* Kirkaldy. See *Colgar laraticum* Kirkaldy.
*invasum* (Walker). See *Taparella intacta* (Walker).
*limbata* Montrouzier. See *Cryomna farinosum* (Montrouzier).
*notatum* (Melichar). See *Colgar surrectum* (Melichar).
*obtusum* (Walker). See *Sephena albescens* (Walker).
*punctatum* Lallemand. See *Karrama*.
*roseipennis* Distant. See *Colgar peracutum* (Walker).
*rubromarginata* Schmidt. See *Colgar peracutum* (Walker).
*rufostigmatum* Distant. See *Colgar peracutum* (Walker).

Generic combinations sensu Metcalf (1957) transferred to *Colgar*:
*Flata rostrata* Montrouzier. See *Colgar*
*Euphanta chlorospila* Walker. See *Colgar*.
*Phyllyphanta birarae* Kirkaldy. See *Colgar chlorospilum*.
*Phyllyphanta hyalinata* Stål. See *Colgar peracutum*.

## 4. Genus COLGAROIDES Distant

*Colgaroides* Distant, 1910b: 324 (n. gen.); Metcalf, 1957: 265 (cat); Fletcher, 1988: 15, fig. 23, 24 (male genitalia, notes). Type species, *Poeciloptera acuminata* Walker.

*Diagnosis*: Vertex triangular, lateral margins delimited sharply by intergenal carina; frons with 5 carinae, longitudinal median carina and 2 pairs of V-carinae converging at acute apex of head; the extra pair of carinae are inside the position of V-carinae on frons of *Colgar*; pronotum post ocular eminence conspicuous, elevated, posterior margin ridge-like; tegmen with 3 longitudinal veins (R,S,M); frequently discal cell crossvein marked with small red spot, and apical margin narrowly bordered with red. Hind leg spines 1: 6.

*Taxonomic note*: *Colgar, Colgaroides* and *Euphanta* are superficially similar in head structure, and each genus has strong V-shaped carinae on frons. *Colgaroides* and *Euphanta* differ from *Colgar* in presence of the strong intergenal carina delimiting lateral margins of the vertex.

*Distribution*: Australia, New Guinea and Southeast Asia.

### Key to Species of *Colgaroides*

1. Vertex distinctly longer than pronotum: ratio vertex: pronotum = 2.0–1.75 (6: 3–7: 4 units[1]) ..... 2
— Vertex only slightly longer than pronotum; ratio vertex: pronotum = 1.33 (4: 3 units). Northwestern Australia (genitalia ♂, fig. 27) ..... **viridis**
2. Overall length 13–14 mm. Australia, Southern coast of New Guinea (genitalia ♂, fig. 25) ..... **acuminata**
— Overall length 10–12 mm. Philippines, Indonesia (genitalia ♂, fig. 26) ..... **everetti**

1. Ratio — 1 unit = 0.17 mm.

1. **Colgaroides acuminata** (Walker) TYPE SPECIES Fig. 25

*Poeciloptera acuminata* Walker, 1851: 460 (n. sp.); Medler, 1990a: 131 (holotype). Holotype (abdomen mutilated), New Holland (Australia), BMNH.

*Cromna frontalis* Melichar, 1902: 59 (n. sp.); Distant, 1910b: 325 (syn); Medler, 1986h: 328 (lectotype, fig. 7); Medler 1987c: 37 (fig. 2). Lectotype, ♂, Rockhampton, Thorey, NHRS.

*Colgaroides acuminata* Distant, 1910b: 325 (comb); Metcalf, 1957: 266 (cat); Fletcher, 1988: 15 (fig. 23–24); Medler, 1989: 63 (Irian Jaya).

*Colgaroides circumcincta* Jacobi, 1928: 21 (n. sp.); Metcalf, 1957: 267 (cat); Medler, 1986a: 108 (fig. 12); Medler 1986h: 326 (lectotype, fig. 8, syn). Lectotype, ♂, N. W. Australia, Kimberly District, NHRS.

*Diagnosis*: Vertex: pronotum lengths ratio ♂ 1.41, ♀ 1.44. Specimens from Eramboe used for measurements and illustration of male genitalia (Fig. 25).

*Measurements*: ♂, ♀, ex Eramboe. Length: overall 13.0, 14.0; v 1.00, 1.08; f 2.16, 2.16; p 0.71, 0.75; m 2.49, 2.66; t 9.79, 10.29; pcl 2.99, 3.49. Width: v 1.16, 1.25; f 1.41, 1.66; t 5.48, 5.81. Hind leg spine formula: 1: 6: 7/8, 1: 6: 8.

*Specimens examined*: **IRIAN JAYA**: Eramboe, 80 km ex Merauke, 29.i–5.ii.1960, 4♂, 6♀, T.C. Maa (Medler, 1989: 63), BPBM; Merauke, sea level, 1.iv.1955, ♀, L.D. Brongersma, RMNH. **PAPUA NEW GUINEA**: Central Prov, Port Moresby, 77/92, ♂, BMNH. **TORRES STRAIT**: Banks Is, 2.vi.1969, ♂, Neboiss, MVMA; Prince of Wales Is, 10.ii.1939, ♂, ♀, R. G. Wind, NCSU; Thursday Is, (no abdomen), Noualhier, 1898, *Cromna frontalis*, det Melichar, MNHN; **AUSTRALIA**: Northern Territory, Arnhem Land: Darwin, Katherine, Maningrida; Queensland: Bamaga, ex Jambolan Plum, Cairns, Ingham, Missim Bch 128 km S Cairns, Townsville 24 km N, BPBM; Coen, 25–26.vi.1970, ♀, Yeppoon, 7–17.vii.1962, 2♂, J.C. LeSouf; Western Australia: Fitzroy Crossing, 19.viii.1974, F. Morris; MVMA; N. Holl, N. G. Nat. Ver. (no other data), RMNH. **TIMOR**: (no other data), ♀, Meinecke; RMNH.

2. **Colgaroides everetti** Distant Fig. 26

*Colgaroides everetti* Distant, 1910b: 325, pl. xxii, fig. 8 (n. sp.); Metcalf, 1957: 267 (cat); Fletcher, 1988: 16 (listed); Medler, 1990a: 169 (lectotype). Lectotype, ♂, Philippines, Savu, Everett, BMNH.

*Diagnosis*: Conforms with characters of the genus. Species is figured in original description (Distant, 1910b). Vertex: pronotum lengths ratio ♂ 2.00, ♀ 1.52. Genitalia of lectotype ♂ are illustrated (Fig. 26).

*Measurements*: Lectotype ♂, Paralectotype ♀. Length: overall 10.0, 12.5; v 1.00, 1.00; f 2.16, 2.32; p 0.50, 0.66; m 2.32, 2.49; t 7.14, 9.96; pcl 2.49, 3.24. Width: v 0.95, 1.08; f 1.33, 1.49; t 4.48, 5.81. Hind leg spine formula: 1: 6: 7, 1: 6: 8.

*Specimens examined*: New records. **INDONESIA**: BALI: Tejakula, on *Citrus reticulata*, T364, 19.xi.1975, ♀, L. C. Knorr, det. nr. *everetti*, M. S. K. Ghauri, C. I. E. A8371, BMNH. LESSER SUNDA I: Komodo I., 19.viii.1965, ♂, 2♀, J. Winkler, BPBM. Sumba I: Rua, 28–29.viii.1949, 2 ♂, C. Buhler & Sutter; TIMOR: Rote, ix.1935, 2 ♀, C. Buhler & Meyer; ISNB; Timor (only data), ♀, Meinecke, RMNH.

3. **Colgaroides viridis** Lallemand Fig. 27

*Colgaroides viridis* Lallemand, 1935: 665, fig. 1, 2 (n. sp.); Metcalf, 1957: 267 (cat); Fletcher, 1988: 16 (listed); Medler, 1988b: 85 (holotype). Holotype, ♀, Australia, Northern Terr., Burnside, NHMB. Plesiotype ♂ Australia, Northern Terr., Humpty Doo, 40 km S of Darwin, Martin, BMNH.

*Diagnosis*: Conforms with morphological characters of the genus. Strong similarity in habitus appearance to *acuminata*, but smaller size and vertex: pronotum lengths ratio ♂ 0.40, ♀ 0.36. Male genitalia of plesiotype are illustrated (Fig. 27).

*Measurements*: Plesiotype ♂, Holotype ♀. Length: overall 9.5, 10.0; v 0.66, 0.66; f 1.66, 1.66; p 0.50, 0.54; m 1.66, 1.83; t 7.64, 8. 13; pcl 2.16, 2.49. Width: v 0.91, 0.83; f 1.08, 1.16; t 4.48, 4.73. Hind leg spine formula: 1: 6: 7, 1: 6: 8.

*Specimens examined*: **AUSTRALIA**: Northern Territory: Arnhem Land: Maningrida, 5 m, 22.iii.1961, ♂, ♀, J.L. Gressitt, BPBM; Humpty Doo, 40 km S of Darwin, on *Opilla amentacea* Roxb, 25.xii.1996, 5♂, 5♀, 1 nymph, J. H. Martin, BMNH.

## 5. Genus **CROMGAR** Medler, **new genus**

*Diagnosis*: External appearance closely resembles *Colgar*, but with acutely conical frons, single strong median longitudinal carina on frons, vertex, pro- and mesonotum; tegmen rounded or truncated apically, R, S and M longitudinal veins arising basally, or R and S or M and S united in a short stem basally, variable patterns of red spots or stippling.

Type species, *Cromgar oculum* Medler, here designated.

*Distribution*: Papua New Guinea.

### Key to Species of *Cromgar*

1. Tegmen apical margin shallowly convex, apical and postclaval sutural margins meeting obtusely with sutural angle rounded; 2 longitudinal veins arising from basal stem ..... 2
— Tegmen apical margin truncate, apical and postclaval sutural margins meeting at right angle or acutely pointed; 3 longitudinal veins (R, S, M) arising from basal stem ..... 4
2. Tegmen with veins R, S+M arising from basal stem; without conspicuous large red spots (genitalia ♂, fig. 32) ..... **toridum, n. sp.**
— Tegmen with veins R+S, M arising from basal stem; with large red spots, or faded remnants of large spots ..... 3
3. Tegmen angled, with 4–6 large red spots, margins thinly red (genitalia ♂, fig. 28)..... **lacerum, n. sp.**
— Tegmen obtusely rounded, with 2 large red spots, margins strongly red; or faded remnants of red spots or margins in females (genitalia ♂, fig. 29) ..... **oculum, n. sp.**
4. Overall color stramineous; tegmen acute, areolate, with variable mix of red dashlike spots on crossveins and heavy stippling of minute red dots except in center of cells (genitalia ♂, fig. 30) .. **rubellum, n. sp.**
— Overall color green; tegmen with reduced red stippling and dashlike spots on crossveins (genitalia ♂, fig. 31) ..... **sparkum, n. sp.**

### 1. **Cromgar lacerum** Medler, **new species** Fig. 28

*Diagnosis*: Close to *oculum*, but tegmen obtusely rounded and heavily marked with large red round spots. Holotype genitalia illustrated (Fig. 28) shows elongation of dorsal process of aedeagus.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 10.0, 11.0; v 0.66, 0.71; f 1.49, 1.66; p 0.50, 0.58; m 1.66, 1.83; t 8. 13, 9. 13; pcl 3. 15, 2.99. Width: v 0.83, 0.83; f 1.00, 1.16; t 4. 15, 4.32. Hind leg spine formula: 1: 6: 5, 1: 6: 6.

*Types*: Holotype ♂ (BPBM 16,072), **IRIAN JAYA**: Swart Valley, W side, 1400–2000 m, 19.xi.1958, J.L. Gressitt; Allotype, ♀, **PAPUA NEW GUINEA**: East Sepik Prov, Swart Valley, Karubaka, 1500 m, J.L. Gressitt, BPBM.

### 2. **Cromgar oculum** Medler, **new species** TYPE SPECIES Fig. 29

*Diagnosis*: Tegmen with 2 bold red spots, which may be faded in some specimens. Holotype genitalia are illustrated (Fig. 29).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.0, 10.5; v 0.50, 0.58; f 1.33, 1.54; p 0.46, 0.50; m 1.49, 1.83; t 7. 14, 9. 13; pcl 2.66, 2.99. Width: v 0.75, 0.83; f 1.00, 1.16; t 3.49, 4.32. Hind leg spine formula: 1: 7: 7, 1: 6: 6.

*Types*: Holotype ♂ (BPBM 16,073), Allotype, ♀, Paratypes, 15♂, 10♀, **IRIAN JAYA**: Wamena, 1700 m, 10–25.ii.1960, T.C. Maa, BPBM.

### 3. **Cromgar rubellum** Medler, **new species** Fig. 30

*Diagnosis*: Tegmen heavily marked with variable mix of red dashlike spots on crossveins and heavy red stippling of minute red dots except in center of cells. Holotype genitalia illustrated (Fig. 30).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 10.5, 11.0; v 0.66, 0.66; f 1.66, 1.66; p 0.62, 0.58; m 1.83, 1.99; t 8.47, 9.96; pcl 3. 15, 3.65. Width: v 0.83, 1.00; f 1.16, 1.16; t 4.65, 5. 15. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,074), **PAPUA NEW GUINEA**: Morobe Prov, Mt Kaindi, 2200–2350 m, v.1968, N.L.H. Krauss; Allotype, ♀, Mt Kaindi, 2000–2350 m, 10–11.i.1965, J. & M. Sedlacek, BPBM. Paratypes, **PAPUA NEW GUINEA**: ♂, Eastern Highlands Prov, Asaro-Chimbu div., Daulo Pass, 2500 m, 1.ii.1978, 2♂, 2800–3000 m, 13–14.vi.1955, J.L. Gressitt; 2♂, Nenguag, 2500 m, 29.vi.1955, J.L. Gressitt; ♀, Mt Wilhelm, 2550–2700 m, 10.viii.1969, J.L. Gressitt & Mena; ♂, Mt Wilhelm, Keglsugl, 2460 m, 25.viii.1974, A. D. Hart; BPBM. Madang Prov, Chimbu div, 2♂, Simbai, 2820 m, 29.v.1966, J.L. Gressitt; NE, ♀, EHD, Goroka-Kabebe, 1800 m, 24.vi.1955, J.L. Gressitt; ♀, Ialibu, 2100 m, 8–14.iv.1968, Gressitt & Maa; ♀, Kepitan, 2450–2600 m, 22.vi.1963, J. Sedlacek; 2♂, Simbai, 2820 m, 29.v.1961, J.L. Gressitt; ♂, Sinofi, 1590 m, 30 km S of Kainantu, 30.ix.1959, T.C. Maa; ♂, Mt Strong, N. Slope, 2600–3000 m, 8–10.i.1968 (collector unknown); SE, 2♂, 2♀, Mt Giluwe, 2500 m, 1.v.1963, J. & M. Sedlacek; BPBM. ♀, Finisterre Mts, Damanti, Stn. No. 30, 3550 ft (1082 m), 2–11.x.1964, M. E. Bachus; ♂, Mt Tafa, 8500 ft (2590 m), iii.1934, L.E. Cheesman, BMNH. Madang Prov, 2♀, Bismarck Range, Iwam Pass, (St. 027), 12.v.1988, J. van Stålle; ♂, Baiteta Village, light trap, 5.vi.1996, O. Missa, ISNB. Morobe Prov: ♀, Mt Kaindi 2350 m, 31.xii.1964, J. Sedlacek; ♀, Mt Kaindi, 2350 m, 15.iv.1966, J. & M. Gressitt; ♂, Wau, 1200 m, light trap, 1.ix.1961, J. Sedlacek; ♀, Wau, Edie Creek, 2050–2300 m, 17–18.viii.1965, J. Sedlacek; NE, 2♂, 6♀, Mt Otto, 2200 m, 22–24.vi.1955, J.L. Gressitt; BPBM. Eastern Highlands Prov: ♀, No. 6 Pengagl Camp, east slopes of Mt Wilhelm, 2770 m, 9–11.vii.1959, L.J. Brass, Archbold Exped VI, AMNH. ♀, EHD, Aiyura, Highland Agr. Exp. Stat., 6000 ft (1829 m), on foliage of *Coffea arabica*, 21.x.1954, J. Szent-Ivany; ex PNGDPI; Southern Highlands Prov, ♂, ♀, Dimifa, SE of Mt Giluwe, 2200 m, 10–11.x.1958, J.L. Gressitt; 2♂, ♀, Mt Giluwe, 2500–2550 m, 1.v.1963, J. & M. Sedlacek, ♂, Noroba, 17.x.1960, ex PNGDPI, BPBM. **IRIAN JAYA**: 2♂, 2♀, Wisselmeren, Enerotali, 1900–2000 m, light trap, 5–20.viii.1955, J.L. Gressitt; 2♂, 2♀, Enerotali, 1800–11900, malaise trap, 12.vii–11.viii.1962; J. Sedlacek, BPBM. ♀, Iebele Camp, 2250 m, 25.xi.1938; ♂, Mist Camp, 1800 m, 14.i.1939; ♀, Sigi Camp, 1500m, 23.ii.1939, L.J. Toxopeus, Archbold Exped III; ♀, Star Range. Bivac 39A, 1500 m, 1.vii.1959, Neth New Guinea Exped, RMNH. **PHILIPPINES**: ♂, Mindanao, Agusan, San Francisco, 10 km SE, 14.xi.1959, L. W. Quate, BPBM.

### 4. **Cromgar sparkum** Medler, **new species** Fig. 31

*Diagnosis*: Only member of genus known with tegmen uniform green color; head, pro- and mesonotum testaceous. Numerous *rubellum* like minute red spots show up well on tegmen, with very few spots clumped on veins.

Holotype genitalia illustrated (Fig. 31). Pygofer posterior-dorsal margin pointed; aedeagus with thickened ventral lateral ridge ending in strong apical coil which gives rise to ventral process extended basad to pygofer margin.

*Measurements*: Holotype ♂. Length: overall 10.0; v 0.50; f 1.49; p 0.54; m 1.66; t 8.30; pcl 23.15. Width: v 0.91; f 1.16; t 4.48. Hind leg spine formula: 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,075), Paratype, ♂, **IRIAN JAYA**: Mile 54 along Timika Road, 4.24121°S, 137.04129°E, 1500 m, mercury vapor light, 17.iii.1997, PTFI site 12, mossy mid-montane forest, S.E. Miller, R. Ubaidillah, A. Yaku, D. Peggie & J. T. Polhemus, BPBM Ent. 50919.

### 5. **Cromgar toridum** Medler, **new species** Fig. 32

*Diagnosis*: Separated from congeners by lack of conspicuous red spots and veins R, R+S arising from basal stem. Holotype genitalia illustrated (Fig. 32).

*Measurements*: Holotype ♂. Length: overall 10.0; v 0.50; f 1.33; p 0.46; m 1.66; t 8.47; pcl 3.15. Width: v 0.66; f 0.95; t 4.15. Hind leg spine formula: 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,076), **PAPUA NEW GUINEA**: Gulf Prov, Bulldog Road, 40 km S of Wau, 2700–2800 m, 22–31.vi.1969, J. Sedlacek, BPBM.

## 6. CROMNELLA Fennah

*Cromnella* Fennah, 1969: 102 (n. gen.). Type species, *Cromnella doto* Fennah, 1969, original designation.

*Diagnosis*: Tegmen narrow elongate, apical margin strongly oblique, 2 longitudinal veins arising from basal stem, R + S united basally in short stem; without red spot on discal cell crossvein; vertex triangularly produced, without median longitudinal carina; frons sharply pointed, with median longitudinal carina; hind leg spine formula 1: 7: 8/9. Ovipositor primitive, bladelike, adapted for piercing, valvulae III oval, margin with stout spines.

*Distribution*: New Caledonia.

*Taxonomic note*: *Cromnella* is here restricted to status of a monotypic genus based on characters of the tegmina of type species *Cromnella doto*. . Other species sensu Fennah included in the genus, namely *Cromnella pales* Fennah, *C. sancus* Fennah, *C. farinosa* (Montrouzier), and *C. limbata* (Perroud & Montrouzier), are transferred to new genus *Cryomna* Medler.

### 1. Cromnella doto Fennah — Fig. 44

*Cromnella doto* Fennah, 1969: 103, figs. 547–53 (n. sp.). Holotype, ♂, New Caledonia, Col de Mouirance, Krauss, BPBM.

*Diagnosis*: Conforms with generic diagnosis. Male genitalia figured by Fennah, 1969: 103. Female genitalia in ventral view illustrated (Fig. 44).

*Measurements*: Holotype ♂. Length: overall 8.0; v 0.54; f 1.41; p 0.50; m 1.41; t 6.81; pcl 1.66. Width: v 0.75; f 0.95; t 2.99. Hind leg spine formula: 1: 7: 8.

*Specimens examined*: All New Caledonia, BPBM. Prior records (Fennah, 1969: 103): All listed paratypes examined with exception of Montague, iii.1959, ii.1963, Krauss.

*New Records*: **NEW CALEDONIA**: Mt Koghi, 450–600 m, 4–6.x.1967, 2♀; 500–800 m, dry scrub, 23–27.x.1967, ♀, J. & M. Sedlacek; Plum, 20–60 m, 23–25.iii.1968, 7♂, 3♀; bet. Plum & Yati, 25.iii/1968, ♂, 3♀, T.C. Maa; 10 km NW of Plum, 24.iii.1968, 7♂, 8♀; Yati, 2–50 m, 25.iii.1968, ♀, J.L. Gressitt & T.C. Maa; behind Plum, 20–80 m, 24.iii.1968, ♀, J.L. Gressitt; Mts des Koghis, 400–600 m, i.1969, ♂, ♀; N.L.H. Krauss; Grand Lac, 9–10.viii.1971, ♀; headland S of Yate, 5.viii.1971, Maquis scrub, ♀, light trap, ♂, J. Holloway; pass between Ba & Moneo, 200 m, 1.viii.1971, ♀, J.L. Gressitt; Mt Mou, 500–600 m, 7.iii.1972, 2♂, 4♀, J.L. Gressitt; Mt Koghi, 400–600 m, ii.1973, ♀, N.L.H. Krauss; Plateau de Dogny, 300–400 m, 9.iv.1973, ♀, J.L. Gressitt; Baie de Prony, W side, 0–10 m, 14-viii.1979, ♀, W.C. Gagné.

## 7. Genus CRYOMNA Medler, new genus

*Diagnosis*: Vertex and frons conical, frons with median longitudinal carina; tegmen widened distally, pcl sutural margin meeting apical margin at right angle, two longitudinal veins (R+S, M) arising from basal stem; ovipositor primitive, bladelike, adapted for piercing, valvulae III ventral margin with row of small spines; hind leg with one preapical tibial spine.

Closely related to *Cromnella* in conical shape of head and characters of male and female genitalia. Differs in having tegmina that are much widened apically, without strongly oblique apical margin. Also related to *Cromgar* in New Guinea, but without distinct median longitudinal carina on the vertex and derived ovipositor not adapted for piercing that are found in *Cromgar*.

Type species, *Flata farinosa* Montrouzier, 1861, here designated.

*Distribution*: New Caledonia.

### 1. Cryomna farinosa (Montrouzier) TYPE SPECIES — Fig. 33

*Flata (Phylliphanta) farinosa* Montrouzier, 1861: 73 (n. sp.); Medler, 1993d: 438 (lectotype). Lectotype (abdomen lost), New Caledonia, Lifu, NHMW. Plesiotype ♂, New Caledonia, Plum, BPBM.

*Phyllyphanta limbata* Perroud & Montrouzier, 1864: 243 (n. sp.). Plesiotype, ♂, New Caledonia, Sarramea, ii.1963, Krauss, BPBM, here designated.
*Cromna farinosa*: Melichar, 1902, 59 (comb).
*Colgar farinosum*: Metcalf, 1957: 262 (cat).
*Salurnis limbata*: Metcalf, 1957: 196 (cat., error).
*Cromnella farinosa*: Fennah, 1969: 105, figs. 563–66 (comb).
*Cromnella limbata*: Fennah, 1969: 107, figs. 567–72 (comb).
*Cryomna farinosa*: Medler, **NEW COMBINATION**, here designated.
*Cryomna limbata*: Medler, Junior synonym of *Flatta farinosa*, here designated, **NEW SYNONYMY.**
*Cromnella pales* Fennah, 1969: 104, figs. 554–58 (n. sp.). Holotype ♂, New Caledonia, Mt Koghi, Yoshimoto, BPBM.
*Cryomna pales*: Medler, Junior synonym of *Cryomna farinosum* (Montrouzier), here designated, **NEW SYNONYMY.**
*Cromnella sancus* Fennah, 1969: 105, figs. 559–62 (n. sp.). Holotype ♀, New Caledonia, Vallée d'Amoa, Krauss, BPBM. Paratype ♀, La Crouen, Sedlacek, BPBM.
*Cryomna sanca*: Medler, Junior synonym of *Cromna farinosa* Montrouzier, here designated, **NEW SYNONYMY.**

*Diagnosis*: Fennah's description along with his tegmen figure 566 should be adequate for general recognition of this species. The plesiotype genitalia are illustrated (Fig. 33) to show precisely the bilateral character of processes arising from apex of the aedeagus. Female genitalia have the same alignment of teeth and minute setae on margins of Valvulae III as shown for *Cromnella doto* (Fig. 44).

*Measurements*: from plesiotype ♂, Lifou ♀, BPBM. Length: overall 7.0, 8.5; v 0.42, 0.50; f 1.16, 1.25; p 0.42, 0.50; m 1.49, 1.66; t 5.81, 7. 14; pcl 1.99, 2.49. Width: v 0.75, 0.87; f 0.91, 1.00; t 3.32, 3.82. Hind leg spine formula: 1: 7: 9, 1: 7: 9.

*Specimens examined*: All New Caledonia. Prior record (Fennah, 1969: 105): **NEW CALEDONIA**: Isle of Pines, iii.1959, ♀, N.L.H. Krauss, BPBM. Sarramea, ii.1963, ♂, Krauss; 6 km N of Paita, i.1963, Yoshimoto; det. *Cromnella limbata* Fennah, BPBM.

*New records*: **NEW CALEDONIA**: Tao, 0–10 m, 8.x.1967, 2♀; Yiambi, NE, 50–500 m, newly cleared forest, 14.x.1967, ♂, ♀, J. & M. Sedlacek; Lifou Is, 26–28.iii.1968, 2♀; 10 km NW of Plum, 24.iii.1968, ♀, Gressitt & Maa; Mts des Koghis, 400–600 m, i.1969, ♂, 2♀; Plateau de Dogny, 31.i.1969, ♂; Poindime, 0–50 m, i.1969, ♂; Yahoue, ii.1976, ♀; Plum, 0–100 m, N.L.H. Krauss; Lifu Is, 2 km S Doucoulou, 0–30 m, beating, 19–20.viii.1979, ♀; Yahoue, 60–100 m, ii.1980, ♂, ♀; Yahoue, 100–200 m, i.1985, ♀, N.L.H. Krauss; BPBM. Plaine de Lacs, 20.ii.1914, 5 ex, P.D. Montague, 318, (BM 1918–87), BMNH. Mt Champeau Gendarme, sweeping, 8.vi.1944, ♂, J.C. Herron; Nouméa, at light, xii.1944, ♂, J.C. Herron, NCSU. Lifu, 2♂, ♀, G. Fallou, 259-95, det. *Phyllyphanta marginalis* Signoret (in error), det *Cromna farinosa* Montrouzier (Melichar's handwriting), MNHN.

*Taxonomic note*: Male specimens examined from Mts des Koghis, Plum, Yahoue, and Yiambi (BPBM), Nouméa (NCSU), and Lifu (MNHN) had the same genital characters as shown in fig. 571 for *Cromnella limbata* (Perroud & Montrouzier) sensu Fennah (1969). Examination of the holotype ♂ of *Cromnella pales* Fennah appeared to show the genitalia pattern as illustrated in fig. 558. However, it is believed that the apical processes of the aedeagus are not shown accurately. The naturally paired and curved processes that I have shown clearly in fig. 33 could have been flattened and distorted by the microscope slide mount technique used by Fennah. Frons of the holotype of *pales* has a distinct median carina, which was not shown by Fennah (1969, fig. 554). Tegmen of the holotype of *sancus* has a distinct R+S stem, which was not shown by Fennah (1969, fig. 562).

As all specimens examined were of nearly uniform size, had similar characters of head and tegmina, and male genitalia were one pattern, I have concluded that *Cryomna farinosa* is a monotypic taxon in New Caledonia.

*Measurements*: Holotype ♂ of *Cromnella pales* Fennah. . Length: overall 9.0; v 0.50; f 1.49; p 0.50; m 1.66; t 7.80; pcl 2.49. Width: v 0.66; f 1.00; t 3.98. Hind leg spine formula: 1: 7: 10.

*Measurements*: Holotype ♂ of *Cromenlla sancus* Fennah. Length: overall 10.0; v 0.66; f 1.49; p 0.50; m 1.83; t 7.97; pcl 2.82. Width: v 0.83; f 1.00; t 4.32. Hind leg spine formula: 1: 7: 9.

## 8. Genus **DESANTA** Medler, **new genus**

*Diagnosis*: Head pointed and strongly upturned; vertex elongated, anterior margin defined by inter-genal carina, strong median longitudinal carina extending from vertex across pro- and mesonotum; frons median carina full length, lateral margins strongly flared basally; pronotum postocular eminence conical. Tegmen with veins R, S, and M arising from basal stem, postclaval sutural margin convex. This taxon closely resembles *Humgar* and *Utakwana*, but differs in carination of frons.

Type species, *Desanta flexa* Medler.

*Distribution*: Papua New Guinea.

### 1. **Desanta flexa** Medler, **new species** Fig. 23, 34

*Diagnosis*: Morphological characters as described for genus. Head shape strongly acute (Fig. 23). General color brown; tegmen maculations brown, with 3 red spots aligned on discal cell spot. Vertex/pronotum ratio = 2.0. Holotype genitalia illustrated (Fig. 34).

*Measurements*: Holotype ♂. Length: overall 7.0; v 0.79; f 1.25; p 0.42; m 1.16; t 5.81; pcl 1.83. Width: v 0.58; f 0.83; t 2.82. Hind leg spine formula: 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,077), **PAPUA NEW GUINAE**: Central Prov, Bisianumu, E of Port Moresby, 500 m, 25.ix.1955, J.L. Gressitt, BPBM.

## 9. Genus **EROTANA** Medler, **new genus**

*Diagnosis*: Head conical, in profile view strongly uplifted; vertex triangular, with lateral margins delimited by strong intregenal carina; frons with median carina and 2 pairs of V-carinae united at apex, weakly developed but traceable by red dots, inner V-carinae longer than outer V-carinae; postocular ridge not developed; tegmen with 3 longitudinal veins, R,S,M, bubblelike bulla between veins R and S, postclaval sutural margin extended acutely.

Type species, *Erotana tagalis* Medler.

*Distribution*: Papua New Guinea and Irian Jaya.

### Key to Species of *Erotana*

1. Tegmen membrane with relatively few scattered small red-brown spots (genitalia ♂, fig. 35) . . **tagalis, n. sp.**
— Tegmen membrane with numerous minute red dots . . . . . **ruberis, n. sp.**

### 1. **Erotana ruberis** Medler, **new species**

*Diagnosis*: Holotype ♀ conforms with diagnosis for genus; male unknown. Characters of tegmina given in the key enable recognition.

*Measurements*: Holotype ♀. Length: overall 13.0; v 1.16; f 2.32; p 0.75; m 1.99; t 9.96; pcl 2.99. Width: v 0.91; f 1.25; t 4.98. Hind leg spine formula: 1: 7: 5.

*Types*: Holotype, ♀, **IRIAN JAYA**: Salawatti (1°07'S 150°52'E), 22.v.1952, L.D. Brongersma & W. J. Roosdorp, (det Phyllyphanta 3), RMNH.

2. **Erotana tagalis** Medler, **new species** Fig. 35

*Diagnosis*: Characters conforms with diagnosis for genus. Characters given in key used for recognition. Holotype genitalia illustrated (Fig. 35).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 11.0, 12.0; v 0.91, 0.83; f 1.16, 1.08; p 0.54, 0.50; m 1.99, 1.99; t 9.46, 9.96; pcl 2.49, 2.82. Width: v 0.83, 0.83; f 1.16, 1.08; t 4.98, 5.31. Hind leg spine formula: 1: 7: 7, 1: 7: 6.

*Types*: Holotype ♂ (BPBM 16,078), Allotype, ♀, **IRIAN JAYA**: Vogelkop, Bomberi, 700–900 m, on palm, 9.vi.1959, J.L. Gressitt, Paratypes, **IRIAN JAYA**, ♂, Bodem, 100 m, 11 km SE of Oeberferen, 7–17.vii.1959, T.C. Maa; **PAPUA NEW GUINEA**: East Sepik Prov, ♂, Dreikikir, 350–400 m, 22.vi.1961, J. L. & M. Gressitt, BPBM.

## 10. Genus **EUPHANTA** Melichar

*Euphanta* Melichar 1902: 38 (n. gen.); Metcalf, 1957: 241 (cat); Fletcher, 1988: 17 (key). Type species, *Poeciloptera munda* Walker, subsequent designation by Distant, 1910: 324.

*Delostenopium* Jacobi 1928: 21 (n. gen.); Metcalf, 1957: 72 (cat); Medler, 1986h: 332 (syn); Fletcher, 1988: 18 (listed). Type species, *Delostenopium rubripes* Jacobi, 1928, monobasic.

*Diagnosis*: Vertex triangular, lateral margins delimited by intergenal carina; V-carinae of frons hook-shaped basally, turned laterad to join margins that are flared out over antennal insertions; post ocular eminence with elevated ridge; tegmen with 3 longitudinal veins (R,S,M), finely reticulated with crossveins apically.

*Distribution*: Australia, Papua New Guinea.

1. **Euphanta munda** (Walker) TYPE SPECIES Fig. 36

*Poeciloptera munda* Walker 1851: 455 (n. sp.); Medler, 1990a: 151 (holotype). Holotype ♀, New Holland (Australia), BMNH.

*Cromna nasalis* Walker, 1858: 120 (n. sp.). Holotype ♀, S. Australia, Adelaide, Cuming, BMNH.

*Euphanta munda*, Melichar, 1902: 40 (comb); Metcalf, 1957: 244 (cat); Medler, 1989: 63 (Papua New Guinea).

*Diagnosis*: Vertex slightly longer than pronotum, vertex/pronotum ratio = 1.08–1.38; tegmen green, margins red. Genitalia of specimen ex Laloki are illustrated (Fig. 36).

*Measurements*: ♂ ex Laloki, ♀, ex Port Moresby, BPBM. Length: overall 9.75, 11.0; v 0.71, 0.91; f 1.83, 2.16; p 0.66, 0.66; m 1.99, 2.16; t 7.80, 8.80; pcl 1.83, 1.83. Width: v 0.91, 0.91; f 1.33, 1.33; t 4.32, 4.98. Hind leg spine formula: 1: 8: 9, 1: 7: 9.

*Specimens examined*: **PAPUA NEW GUINEA**: Central Prov, Laloki, 1909, ♂, F. Muir; Port Moresby, 21.ix.1955, light trap, ♀, J.L. Gressitt; BPBM. Port Moresby area, 23.iv.1947, ♀, McCormich, BM 1948–548, BMNH. **AUSTRALIA**: N. Queensland, Prince of Wales Is, 10.ii.1939, ♂, R. G. Wind, NCSU.

## 11. Genus **EURYPHANTIA** Kirkaldy

*Euryphantia* Kirkaldy 1906: 456 (n. gen.); Metcalf, 1957: 241 (cat); Fletcher, 1980: 21 (rev.); Medler, 1987a: 120 (type); Fletcher, 1988: 16 (notes). Type species, *Euryphantia cinerascens* Kirkaldy 1906: 456; monobasic.

*Thanatochlamys* Kirkaldy 1907: 101 (n. gen.); Metcalf, 1957: 380 (cat); Fletcher, 1980: 21 (syn). Type species, *Thanatochlamys tristis* Kirkaldy 1907. monobasic.

*Diagnosis*: *Euryphantia* is closely related to *Euphanta*, with similar characters of the head but with different venation and overall color dark brown. Tegmen vein S with only 1 branch on corium; pustules well developed; apical terminals sparse, without fine crossveins reticulation.

*Distribution*: Australia, Papua New Guinea.

1. **Euryphantia tristis** (Kirkaldy)

*Thanatochlamys tristis* Kirkaldy 1907: 101, pl.v, fig. 4, pl. vi, figs. 9, 10 (n. sp.); Metcalf, 1957: 380 (cat); Medler, 1987a: 124, fig. 18 (type). Holotype ♂, Queensland, Cairns, vii.1904, BPBM.

*Euryphantia minax* Jacobi, 1928: 19 (n. sp.). Lectotype ♂, N. W. Australia, Broome, Mjöberg, NHRS.

*Euphanta obscura* Jacobi, 1928: 20 (n. sp.); Medler.1986h: 331 (lectotype, syn.). Holotype (no abdomen), Queensland, Yarrabah, Mjöberg, NHRS.

*Euryphantia tristis*, Fletcher, 1980: 24, figs. 9–11 (comb); Medler, 1989: 63 (Port Moresby, Brown River).

*Diagnosis*: Distribution of the 2 species comprising this genus in Australia was studied by Fletcher (1980: 24). As *tristis* had tropical distribution, it is not unexpected that the species occurs in New Guinea.

*Measurements*: ♂, ♀, ex Port Moresby, BPBM. Length: overall 8.0, 9.5; v 0.25, 0.33; f 1.33, 1.49; p 0.46, 0.58; m 1.49, 1.66; t 6.64, 7.80; pcl 1.66, 1.83. Width: v 0.75, 0.83; f 1.08, 1.16; t 3.65, 4. 15. Hind leg spine formula: 1: 7: 9, 1: 8: 9.

*Specimens examined*: **PAPUA NEW GUINEA**: Central Prov, Port Moresby, 30 m, 27.ii.1964, ♂, J. Sedlacek; Port Moresby, ix.1949, ♀, N.L.H. Krauss; between Laloki R and Brown R., 35 m, 16.iii.1956, ♀, J.L. Gressitt; BPBM. **AUSTRALIA**: Prince of Wales I., Cape York Is., viii.1920, ♂, J. A. Kusche, coll. W. M. Giffard, BPBM. N. Queensland: Prince of Wales Is., 10.ii.1939, ♂, R. G. Wind, NCSU.

## 12. Genus GARANTA Medler, new genus

*Garanta* and *Ijagar* superficially resemble each other in general habitus, but differ in frontal carinae and shape of the head. *Garanta* frons has 3 carinae, whereas *Ijagar* has only the median longitudinal carina.

Type species, *Garanta opaca* Medler.

*Distribution*: Papua New Guinea and Irian Jaya.

### Key to Species of *Garanta*

1. Median longitudinal carina of vertex weakly carinate; inter-genal transverse carina convex laterally (genitalia ♂, fig. 38) ..... **opaca, n. sp.**
– Median longitudinal carina of vertex sharply defined; inter-genal transverse carina not convex laterally (genitalia ♂, fig. 39) ..... **masiris, n. sp.**

1. **Garanta masiris** Medler, new species Fig. 37

*Diagnosis*: Holotype genitalia are illustrated (Fig. 37).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.0, 10.0; v 0.62, 0.71; f 1.49, 1.58; p 0.37, 0.42; m 1.49, 1.66; t 7. 14, 7.97; pcl 1.99, 2.32. Width: v 0.62, 0.71; f 0.83, 0.87; t 4. 15, 4.32. Hind leg spine formula: 1: 7: 5, 1: 7: 5.

*Types*: Holotype ♂ (BPBM 16,079), Allotype, ♀, **PAPUA NEW GUINEA**: East Sepik Prov, Dreikikir 350 m, light trap, 22.vi.1961, J. L. & M. Gressitt, BPBM.

2. **Garanta opaca** Medler, new species TYPE SPECIES Fig. 38

*Diagnosis*: Holotype genitalia are illustrated (Fig. 38).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.0, 10.25; v 0.66, 0.71; f 1.49, 1.66; p 0.37, 0.46; m 1.54, 1.66; t 7.30, 7.80; pcl 2.16, 2.16. Width: v 0.62, 0.71; f 0.83, 1.00; t 3.98, 4.48. Hind leg spine formula: 1: 7: 6, 1: 7: 5.

*Types*: Holotype ♂ (BPBM 16,080), Allotype, ♀, Paratype, ♂, **IRIAN JAYA**: Waris, S of Hollandia, 450–500 m, on Rattans, 23–31.viii.1959, T.C. Maa, BPBM.

### 13. Genus **HUMGAR** Medler, **new genus**

*Diagnosis*: Head bluntly pointed. Frons with 5 carinae joined at apex, median pair half as long as outer pair, lateral carinae evanescent, barely seen; frons margins flared out between eye margin and clypeal suture; intergenal transverse carina weakly residual along lateral margins of acutely projecting vertex, connecting with frontal carinae at apex; strong dorsal median longitudinal carina across vertex, pro- and mesonotum; pronotum postocular eminence ridgelike. Tegmen pustulate; apical margin oblique; 2 longitudinal veins (R+S, M) arising from basal stem; Cu cell slightly widened medially, Cu-M oblique vein strong; anal veins in clavus ending in short Y-stem. Female anal plate oval, slightly wider than long, about as wide as apex of abdomen.

Type species, *Humgar insulum* Medler, n. sp. (monobasic).

*Distribution*: Thursday Is and Cape York Is.

**1. Humgar insulum** Medler, **new species** Figs. 24, 39, 159

*Diagnosis*: Characters conform with those given for genus. Acutely projecting head illustrated (fig. 24), frons with diagnostic pattern of 5 carinae shown (fig. 159). Vertex/pronotum ratio = 1.20 –1.25. Apex of vertex red, wide red band along longitudinal carina of pro- mesonotum, front tibiae and tarsi red. Markings of tegmina testaceous, red rectangular spots at vein terminals along precostal, apical and sutural margins; white spots in cells; vaguely arranged in 2 narrow oblique bands in apical area of tegmen. Paratype male genitalia are illustrated (Fig. 39).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 10.5, 13.0; v 0.79, 0.83; f 1.83, 2.16; p 0.66, 0.66; m 1.99, 2.16; t 7.80, 9. 13; pcl 2.32, 2.49. Width: v 0.83, 1.08; f 1.33, 1.37; t 4.48, 5.31. Hind leg spine formula: 1: 7: 8, 1: 6: 8.

*Types*: Holotype, ♂, Allotype, ♀, Paratypes, 2♂, **AUSTRALIA**: Thursday Is, A.M. Lea & C.T. McNamara, SAMA. Paratypes, 4♀, Prince of Wales Is, Cape York Is, 10–14.viii.1920, J A. Kusche, W.M. Giffard coll, BPBM.

### 14. Genus **IJAGAR** Medler, **new genus**

*Diagnosis*: Blunt bulbous head, frons convex, with median longitudinal carina only, vertex poorly defined by indistinct transverse intergenal carina, pronotum postocular eminence small triangular. Tegmen sutural angle right angled, 2 longitudinal veins, R, S+M, arising basally, the R+S stem short and obscured by wax pustules, no submarginal line of crossveins, discal cell crossvein with red spot, clavus and precostal margin heavily pustulate. The non-pointed head and single median longitudinal frontal carina separates *Ijagar* from closely related *Garanta* and other genera in the *Colgar* complex that have acutely pointed head and 3 carinae on the frons.

Type species, *Ijagar maculum* Medler, n. sp., here designated.

*Distribution*: Irian Jaya Star Mountains.

**1. Ijagar maculum** Medler, **new species** Fig. 40

*Diagnosis*: Conforms with morphological characters of generic diagnosis. Dorsum of thorax with indistinct median color line. Tegmen with 3 spots aligned with spot on discal cell crossvein. Holotype genitalia are illustrated (Fig. 40).

*Measurements*: Holotype ♂. Length: overall 7.5; v 0.33; f 1.08; p 0.33; m 1.16; t 6.31; pcl 2.16. Width: v 0.66; f 0.75; t 3.32. Hind leg spine formula: 1: 6: 7.

*Types*: Holotype, ♂, Paratypes, ♂, **IRIAN JAYA**: Star Range, 3400 m, Bivak 42, 27.vii.1959, Neth New Guinea Exped, RMNH; ♂, same data, ex RMNH, BPBM.

## 15. Genus UTAKWANA Distant

*Utakwana* Distant 1914: 353 (n. gen.); Metcalf, 1957: 230 (cat). Type species, *Utakwana rubromaculata* Distant, monobasic.

*Diagnosis*: Sharply acute triangular vertex. Differs from other taxa in complex by frons not having median longitudinal carina in association with V-shaped carinae. Lateral margin of vertex sharply defined by transverse intergenal carina. Postocular eminence with ridge. Tegmen venation variable, 2 or 3 longitudinal veins arising from basal stem.

*Distribution*: Papua New Guinea Eastern Highlands and Irian Jaya.

### KEY TO SPECIES OF *UTAKWANA*

1. Tegmen with 3 longitudinal veins (R,S,M) arising basally (genitalia ♂, fig. 41) ..... **rubreta, n. sp.**
— Tegmen with 2 longitudinal veins (R, S+M) arising basally (genitalia ♂, fig. 42) ..... **rubromaculata**

### 1. Utakwana rubreta Medler, new species Fig. 41

*Diagnosis*: Tegmen ochraceous red, red spots not contrasting strongly with background color of membrane. Known only from unique specimen similar to *rubromaculata*, but with R+S, M venation. Holotype genitalia illustrated (Fig. 41).

*Measurements*: Holotype ♂. Length: overall 8.00; v 0.83; f 1.49; p 0.42; m 1.16; t 6.47; pcl 2.32. Width: v 0.62; f 0.83; t 3.65. Hind leg spine formula: 1: 6: 7.

*Types*: Holotype ♂ PAPUA NEW GUINEA: Eastern Highlands Prov, Aiyura, Highlands Agr. Exp. Sta., 8.vii.1959, J. H. Barrett, BMNH.

### 2. Utakwana rubromaculata Distant TYPE SPECIES Fig. 42

*Utakwana rubromaculata* Distant, 1914: 353 (n. sp., pl. xxxiv, fig. 8); Metcalf, 1957: 230 (cat); Medler, 1990a: 179 (lectotype). Lectotype ♂, Irian Jaya, Utakwa River. BMNH.

*Diagnosis*: Frons elongated, concave, without median carina, vertex with transverse intergenal carina, pronotum with postocular ridge. Tegmen longitudinal veins arising from basal stem consisting of R vein and S+M vein, red spots contrasting strongly with green background color. Lectotype genitalia are illustrated (Fig. 42).

*Measurements*: Lectotype ♂, Paralectotype ♀. Length: overall 9.0, 9.0; v 1.00, 1.00; f 1.66, 1.58; p 0.50, 0.50; m 1.33, 1.33; t 6.64, 6.64; pcl 2.24, 2.41. Width: v 0.66, 0.66; f 0.91, 0.91; t 3.65, 4. 15. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Specimens examined*: **IRIAN JAYA**: Kab. Merauke, KOUH, 17.vi.1933, ♀, P. J. A. de Vries; ZMAN.

## 16. Genus PAPUANELLA Distant

*Papuanella* Distant 1914: 352 (n. gen.); Metcalf, 1957: 71 (cat); Medler, 1989: 40 (PNG). Type species: *Papuanella mirabilis* Distant 1914, a junior synonym of *Sephena despecta* Melichar, 1902.

This genus is distinctive. Vertex a flat ledge; tegmina with 3 longitudinal veins, R, S, and M, arising from basal stem; color usually stramineous, often with with red, green or fuscous marginal pigmentation; sometimes dark spots present on sutural margin of tegmen. All species of *Papuanella* known to me have metatibial spine formula 1: 5. Nothing about *Papuanella* appeared in the literature since original description and the catalog entry by Metcalf (1957), who misplaced the genus in Phromniini between *Lechaea* and *Delostenopium*, where it was considerably removed from the closely related *Sephena* complex where the genus belongs. Medler (1989) described 8 new species of *Papuanella* from New Guinea.

*Papuanella* is a relative large genus containing 13 species previously named and 16 species

described as new at this time. The species have considerable color variability. Red, blue green, yellow, orange and black pigments form distinctive color patterns. As colors may be faded or lost to varying extent in both sexes, positive identification should be made with the aid of characters of the male genitalia.

*Distribution*: New Guinea and off-shore islands, Mysol, Philippine Islands.

### KEY TO SPECIES OF *PAPUANELLA*

Note: It is recommended that identifications using following key be confirmed whenever possible by using characters of the ♂ genitalia.

1. Length 8.5 mm or less ..... 2
— Length 9 mm or more ..... 4
2. Tegmina infuscated dark red, apical margin oval, hind wings red (genitalia ♂, fig. 57) ... **redaga, n. sp.**
— Tegmina not infuscated dark red; apical margin slightly convex, hind wings not red ..... 3
3. Overall color green, tegmen sutural margin with black spot at claval apex and sutural angle .... **dilexa**
— Overall color stramineous, tegmen sutural margin without spots (genitalia ♂, fig. 49) ..... **graxa, n. sp.**
4. Cubital cell with one or more red spots ..... 5
— Cubital cell without red spots ..... 8
5. Tegmen and hind wing red, one round red spot in Cu cell and on discal cell crossvein (genitalia ♂, fig. 47) ..... **erupta, n. sp.**
— Tegmen green or stramineous ..... 6
6. Apex of clavus with large fuscous spot, large red round spot on oblique crossvein of Cu cell (genitalia ♂, fig. 45) ..... **bigata, n. sp.**
— Apex of clavus without fuscous spot, red spots in Cu cell variable ..... 7
7. Tegmina and frons strongly blue green, apical and postclaval sutural margins dark fuscous, discal cell crossvein with small red spot (genitalia ♂, fig. 46) ..... **cyanea**
— Tegmina and frons testaceous or light green, apical and postclaval sutural margins not dark fuscous, discal cell crossvein with large red spot ..... **jacata**
8. Tegmina unicolorous red or testaceous, without indication of contrasting color margins ..... 9
— Precostal, sutural and apical margins red, green, fuscous or black, collectively or in part ..... 11
9. Distribution on New Guinea mainland; tegmina red or testaceous (genitalia ♂, fig. 56) .. **papija, n. sp.**
— Distribution on outlying islands ..... 10
10. Sutural angle convex; tegmina red or testaceous (Woodlark Island) (genitalia ♂, fig. 58) ..... **rubra**
— Sutural angle right angled (New Ireland) (genitalia ♂, fig. 53) ..... **mimica, n. sp.**
11. Precostal and apical margins strongly fuscous or black ..... 12
— Precostal and apical margins distinctly red, or with indication of faded red margins ..... 18
12. Precostal inner margin without blue green ..... 13
— Precostal inner margin with blue green ..... 14
13. Frons green; precostal and claval margins strongly red, apical margin strongly fuscous curving from claval apex (Normanby Island) (genitalia ♂, fig. 55) ..... **nobara, n. sp.**
— Frons testaceous; precostal and claval margins not red, apical margin not strongly fuscous widened at claval apex (Gulf Prov.) (genitalia ♂, fig. 62) ..... **watera, n. sp.**
14. Apex of clavus with strong fuscous spot (Papua New Guinea) ..... 15
— Apex of clavus without fuscous spot (Irian Jaya) (genitalia ♂, fig. 54) ..... **mutior, n. sp.**
15. Tegmen light yellow green, without well defined green band contiguous to dark apical margin; sutural angle nearly right angled. Aedeagus lateral carina with large curved spine directed anteriorly (Papua New Guinea) ..... **destituta**
— Tegmen stramineous, usually with strong green band contiguous to black apical margin. Aedeagus with long basal spine directed posteriorly ..... 17
16. Narrow green inner margin in fuscous apical margin, hind wing pink; lateral carinate margin of aedeagus with 4–6 teeth (Morobe Prov.) ..... **rufilis**

— Without green in fuscous apical margin; lateral carinate margin of aedeagus without teeth (Northern Prov.) ..... **affinis**

17. Sutural margin without indication of dark brown spot ..... 18
— Sutural margin with 1 or 2 large fuscous spots; precostal margin strongly red with ivory or faded ivory inner border ..... 22

18. Precostal, apical and sutural margins strongly red with inner border ivory or green ..... 19
— Precostal and sutural margins red, apical margin not red; crossveins in precostal margin usually strongly red (genitalia ♀, fig. 111) ..... **despecta**

19. Precostal margin not red basally. Pygofer posterior dorsal margin sharply pointed. Mysol ... **rufilinea**
— Precostal, apical and sutural margins strongly red, usually with contiguous inner ivory or green border. Pygofer posterior dorsal margin rounded ..... 20

20. Green or ivory border encircling tegmen contiguous to red precostal, apical and sutural margins. Aedeagus lateral carina with 2 prominent teeth. Torricelli Mts (genitalia ♂, fig. 61) ..... **torima, n. sp.**
— Tegmen apical margin without green or ivory border that is present in red precostal and sutural margins . ..... 21

21. Aedeagus lateral carina forked basally, dorsal branch with 3 small teeth. Wisselmeren (genitalia ♂, fig. 51) ..... **kwena, n. sp.**
— Aedeagus lateral carina without teeth, posterior margin of style with unique spinelike projection. Western Papua New Guinea ..... **flexior**

22. One black fuscous spot on sutural margin, either at claval apex or sutural angle ..... 23
— Two black fuscous spots on sutural margin, one at claval apex, the other at sutural angle ..... 27

23. Tegmen with fuscus black spot on sutural angle ..... 24
— Tegmen with strong fuscous black spot at apex of clavus . ..... 25

24. Male vertex red orange; tegmen margins bright red, notum median longitudinal band clearly defined; aedeagus ventral process slender elongate (genitalia ♂, fig. 48) ..... **exeva, n. sp.**
— Male vertex testaceous; tegmen margins narrowly testaceous, notum median longitudinal band poorly defined; aedeagus ventral process relatively thick, stubby (genitalia ♂, fig. 59) ..... **sarapa, n. sp.**

25 Tegmen sutural angle slightly obtuse. Frons moderately flared over antennae. Distribution on mainland .. 26
— Tegmen sutural angle nearly right angled. Frons lateral margins strongly flared over antennae. Distribution insular (genitalia ♂, fig. 50) . ..... **isleta, n. sp.**

26. Male frons testaceous; pronotum without median longitudinal band; aedeagus basally with paired dorsal elongate spines directed apically (genitalia ♂, fig. 60). Length 10 mm . ..... **tenapa, n. sp.**
— Male frons light green; pronotum with orange brown median longitudinal band; aedeagus with paired ventral basal short spines directed apically (genitalia ♂, fig. 52). Length 12 mm ... **lemapa, n. sp.**

27. Sutural and apical margins meeting at right angle; pygofer posterior-dorsal margin rounded, aedeagus lateral line with single large spine. Central Province ..... **bistigma**
— Sutural angle convexly rounded; genitalia characters not as described ..... 28

28. Pygofer posterior-dorsal margin pointed; aedeagus lateral line with 5–6 small teeth. Widespread, Irian Jaya and western Papua New Guinea ..... **similata**
— Pygofer posterior-dorsal margin rounded; aedeagus with elongate curved process following dorsal margin of aedeagus, lateral carina without small teeth or large curved spine. New Britain .... **rufomarginata**

### 1. **Papuanella affinis** Medler

*Papuanella affinis* Medler, 1989: 42, figs. 6, 14, 35 (n. sp.). Holotype, ♂, Papua New Guinea, Popondetta, BPBM

*Diagnosis*: Original description, measurements and illustrations presented by Medler (1989, fig. 35). Black spot at apex of clavus and strong black apical margin help recognition. The strong median spine on ventral process of the aedeagus is diagnostic.

*Specimens examined*: Prior records (Medler, 1989: 42): **PAPUA NEW GUINEA**: Jumbura Pltn, Killerton Cape, Popondetta, Saiho, Wararota Pltn.

*New records*: **PAPUA NEW GUINEA**: Northern Prov, Mt. Lamington, vii.1927, ♂, C. T. McNamara, AMSA; Oro Bay, 100 ft (30 m), 5.xi.1944, ♂, H. P. Chandler, CASC.

2. **Papuanella bigata** Medler, **new species** Fig. 45

*Diagnosis*: Overall color olive green; frons blue green, median and lateral carinae red orange; pronotum anterior margin thinly green, posterior margin entirely faded orange; tegmen margins narrowly red, precostal margin dusky with blue green interior border, crossveins red; faint fuscous patch extending across tegmen from apex of clavus, strong dark fuscous spot at apex of clavus; cubital cell often with diffuse dark red spot, especially in females. Illustration of male genitalia (Fig. 45) shows placement of 4 strong teeth along lateral carinate ledge of aedeagus.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.50, 10.25; v 0.21, 0.25; f 1.25, 1.37; p 0.37, 0.42; m 1.83, 2.68; t 7.80, 8.80; pcl 2.82, 3. 15. Width: v 0.95, 1.00; f 1.25, 1.25; t 4.65, 4.81. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,082), Allotype, ♀, **PAPUA NEW GUINEA**: Morobe Prov, Kalolo, 750 m, 20–30.viii.1966, G. A. Samuelson and Mena; Paratypes, 5♀, Morobe Prov, Finisterre Range, Saidor, Kiambavi Vill, 1–29.viii.1959, W.W. Brandt; 2♂, 2♀, Ulap, 800–1100 m, ix.1968, N.L.H. Krauss, BPBM. 3♀, Madang Prov, Nobonob Hill, 7 km NW Madang, 2.iii.1987, N. D. Penny, CASC.

3. **Papuanella bistigma** Medler

*Papuanella bistigma* Medler, 1989: 49, fig. 34 (n. sp.). Holotype, ♂, Papua New Guinea, Central Prov, Brown River, BPBM.

*Diagnosis*: See Medler (1989: 49, fig. 34) for diagnosis, measurements and figure of male genitalia. Note red brown spot at apex of clavus and red apical margin.

*Specimens examined*: Prior records (Medler, 1989: 49): Papua New Guinea: Central Prov: Brown River, Bisianumu, Daradae, Musgrave River, Otamata, Port Moresby,

4. **Papuanella cyanea** (Melichar) Fig. 46

*Sephena cyanea* Melichar, 1902: 127 (n. sp.); Metcalf, 1957: 368 (cat); Medler, 1986c: 112, fig. 11 (holotype). Holotype ♂, New Pommern, Kinigunang, C. Ribbe, HNHM.

*Papuanella cyanea*: Medler, 1986c: 112 (comb); Medler, 1989: 54, fig. 40 (rev.).

*Diagnosis*: Medler's (1989) description of color pattern applies to most specimens. Variants without blue green color and red spots are known, but their male genital characters are same as shown in Fig. 46, which is redrawn illustration of ♂ holotype.

*Measurements*: ♂, ♀, Dailena Plantation. See Medler (1989: 54). Hind leg spine formula: 1: 5: 6.

*Specimens examined*: Prior records (Medler, 1989: 54): New Britain: Bainings, St. Pauls, Dailena Pltn, Keravat. Bougainville: Numa Numa Pltn.

*New records*: **NEW BRITAIN**: Keravat, 30 m, 4.iv.1956, light trap, ♂, ♀, J.L. Gressitt; Keravat, 60 m, 31.viii.1935, ♀, J.L. Gressitt; Gazelle Peninsula, Gaulim, 130 m, 23–28.x.1962, ♀, J. Sedlacek; Ti, Nakanai Mts, 28.viii.1956, ♂, E. J. Ford, Jr., BPBM. Keravat, nr Rabaul, on *Theobroma cacao*, 22.vi.1954. ♂, J. Edward, TPNG.

5. **Papuanella despecta** (Melichar) TYPE SPECIES Fig. 111

*Sephena despecta* Melichar 1902: 129 (n. sp.); Medler, 1986c: 112, fig. 3 (holotype). Holotype, ♂, Irian Jaya, Roon Is, Fruhstorfer, HNHM.

*Papuanella mirabilis* Distant 1914a: 353 fig. 6 (n. sp.); Medler, 1990a: 173, fig. 43 (holotype, syn). Holotype, ♂, Irian Jaya, Utakwa River, BMNH.

*Papuanella despecta*: Medler, 1986c: 112 (comb).

*Diagnosis*: Morphological characters of vertex and tegmina conform with generic description. Tegmen precostal and sutural margins strongly red, with adjacent ivory or green inner border; margin red color may be faded to extent that only unicolorous ivory or pale green remains. Female genitalia of specimen ex Manokwari illustrated (Fig. 111)

*Specimens examined*: **IRIAN JAYA**: Waigeu, Camp Nok, 2500 ft (762 m), v.1938, ♀, L.E. Cheesman, BM

1938–593, BMNH; **ARU I**, Ureiuning, 1884, ♀, C. Ribbe, Coll. Noualhier, MNHN; Dobbo, ♂, NCSU; Bernhard Camp, 50 m, viii.1938, ♀, J. Olthof, Archbold Exped III; Fakfak, 0–50 m, 11.i.1955, ♂, L.D. Brongersma; Manokwari, 134°5'E, 0°52'S, 13.iii.1955, ♀, L.D. Brongersma, RMNH; Birdshead Peninsula, Manokwari, garden at light, 4–31.x.1993, 5♂, 5♀, A. J. deBoer, A. L. M. Rutten & R. deVos; Wandamman Peninsula, Wondiboi, 7 km S Wasior, 4.xi.1993, ♂, A. J. deBoer, et al, ZMAN.

### 6. **Papuanella destituta** Medler

*Papuanella destituta* Medler, 1989: 49, fig. 32 (n. sp.). Holotype, ♂, Papua New Guinea, Morobe Prov, Komiatum Village, BPBM

*Diagnosis*: Diagnosis, measurements and figure of male genitalia given by Medler (1989: 49, fig. 32). Dark apical margin of tegmen and black spot at apex of clavus suggests close relationship with *affinis*, but differences in male genitalia characters separate the taxa.

*Specimens examined*: Prior records (Medler, 1989: 49): **PAPUA NEW GUINEA**: Boram, Busa River, Komiatum Vill, Lae, Madang, Negoo, Singuawa River, Wewak.

*New Records*: **PAPUA NEW GUINEA**: East Sepik Prov, Angoram, 10–30 m, 14–16.viii.1969, 2♀, J.L. Gressitt, Wewak, 0–100 m, viii.1968, ♂, N.L.H. Krauss, BPBM. Madang Prov, Baitabag Village, on *Ficus copiosa, hispidoides, trachypison*, viii.1995, 9♂, 5♀, Pau Village. on *Ficus variegata*, iv.1996, ♂, V. Novotny, BPBM; Sepen Village 2, Sta. 063, 3.vi.1988, ♂ ♀, J.van Stålle, ISNB.

### 7. **Papuanella dilexa** Medler

*Papuanella dilexa* Medler, 1989: 41, fig. 36 (n. sp.). Holotype, ♂, Papua New Guinea, Central Prov, Idler's Bay, BPBM

*Diagnosis*: See Medler (1989: 41, fig. 36) for diagnosis, measurements and figure of male genitalia. Distinguished by shortest overall length of species in the genus (7.5—8.0 mm). Also may be recognized by distinctive black spot on sutural angle and clavus apex.

*Specimens examined*: Prior records (Medler, 1989: 41): Papua New Guinea: Aroa, Idler's Bay, Kerema, Loloata Is, Petoi Vill, Port Moresby,

*New records*: **PAPUA NEW GUINEA**: Central Prov, Hisiu, breeding on *Aegicersa corniculatus* (L.) Blanco [Myrsinaceae, mangrove] 22.iii.1986, 5♂, 4♀, J.W. Ismay, TPNG (Vouchers, 2♂, ♀, BPBM).

### 8. **Papuanella erupta** Medler, new species Fig 47

*Diagnosis*: Frons stramineous, carinae red; vertex red; pronotum and mesonotum yellow stramineous, median red band continuous from pronotum across mesonotum, widened apically; clypeus and legs stramineous. Tegmen completely red, veins red, red spot in Cu cell, small red spot on M cell basal crossvein, discal crossvein at plane of claval apex with red spot same size as cell Cu spot; M cell wider than Cu cell, Cu-M oblique vein distinct, small red spot in M cell opposite claval apex. Tegmen apical margin tattered and partially lost, therefore configuration of apical margin and postclaval sutural angle unknown. Genitalia are illustrated (Fig. 47). Known only from holotype.

*Measurements*: Holotype ♂. Length: overall 10.00; v 0.21; f 1.25; p 0.42; m 1.99; t 8.30; pcl 1.99. Width: v 0.91; f 1.16; t 4.65. Hind leg spine formula: 1: 5: 6.

*Types*: Holotype, ♂, **PAPUA NEW GUINEA**: Northern Prov., Mt. Lamington, 4.vii.1927, C.T. McNamara, AMSA.

### 9. **Papuanella exeva** Medler, new species Fig. 48

*Diagnosis*: Frons median carina and lateral margins weakly red, notum dorsal stripe red, tegmen stramineous, margins red, faint ivory green along inside of precostal and sutural margins, black spot on sutural angle; tibiae red; red spot on tegmen. Genitalia are illustrated (Fig. 48). Known only from the holotype ♂.

*Measurements*: Holotype ♂. Length: overall 9.75; v 0.21; f 1.20; p 0.33; m 1.99; t 7.80; pcl 2.66. Width: v 0.91; f 1.12; t 3.98. Hind leg spine formula: 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,083), **PAPUA NEW GUINEA**: (NE), Mt Otto, 2200 m, 24.vi.1955, J.L. Gressitt, BPBM.

10. **Papuanella flexior** Medler

*Papuanella flexior* Medler, 1989: 52, fig. 38 (n. sp.). Holotype, ♂, Papua New Guinea, Southern Highlands Prov, Dimifa, BPBM.

*Diagnosis*: See Medler (1989: 52, fig. 38) for diagnosis, measurements and figure of male genitalia. This species resembles *exeva* with regard to red median carina and lateral margins of frons, dorsal red stripe on notum and ivory inner linings to red margins of tegmen, but lacks black spot at sutural margin apex.

*Specimens examined*: Prior records (Medler, 1989: 52): **PAPUA NEW GUINEA**: Aiyuro-Rumpi, Dimifa, Jimi Valley, Kainantu, Mt Giluwe, Pari, Punano Village, Tapibagar.

11. **Papuanella graxa** Medler, **new species** Fig. 49

*Diagnosis*: Color uniformly orange, tegmen with faint indication of red pigmentation, black spot on sutural angle only. The species is recognized by characters of male genitalia shown in Fig. 49. Large curved spine on lateral ledge of aedeagus, small bifurcate spine at middle of ventral process, and short pointed process arising basally in addition to upcurved dorsal process extending along aedeagus.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.50, 8.50; v 0.17, 0.21; f 1.00, 1.16; p 0.33, 0.33; m 1.58, 1.66; t 6.31, 6.81; pcl 1.66, 2.16. Width: v 0.79, 1.79; f 0.95, 1.04; t 3.49, 3.98. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,084), Allotype, ♀, **PAPUA NEW GUINEA**: Morobe Prov, Mindik, 1200–1600 m, ix.1968, N.L.H. Krauss, BPBM.

12. **Papuanella isleta** Medler, **new species** Fig. 50

*Diagnosis*: Frons light green, median carina and lateral margins weakly red orange, vertex red orange, anterior margin of pronotum green, mesonotum without median colored band. Tegmen stramineous, dark fuscous spot at claval apex, tegmen margins thinly red, with narrow ivory band inside of precostal margin; junction of apical and sutural margins at right angle. Holotype genitalia are illustrated (Fig. 50)

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.50, 10.50; v 0.25, 0.29; f 1.33, 1.33; p 0.50, 0.50; m 2.16, 2.32; t 7.97, 8.96; pcl 2.99, 3. 15. Width: v 1.00, 1.04; f 1.25, 1.33; t 4.48, 4.48. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype, ♂, Allotype, ♀, Sudest Is, Rambuso, 0–100 m, No. 11, 9.23.1956, L.J. Brass, Archbold Exped V, AMNH; Paratype, ♂, Tagula Is: Hinan Bay, Hula River. 10 m, 6.iii.1979, W.C. Gagné, Acc #1980.2, BPBM.

13. **Papuanella jacata** Medler

*Papuanella jacata* Medler 1989: 54, fig. 39 (n. sp.). Holotype, ♂, Gazelle Peninsula, East New Britain Prov, Bainings, St. Paul's, 350 m, 5.ix.1955, J.L. Gressitt.

*Diagnosis*: See original description and illustration of male genitalia given by Medler (1989 54, fig. 39). Close relationship to *cyanea* is suggested by similarity of genital characters, but consistent color patterns given in key were used to separate the taxa.

*Specimens examined*: Prior records: **Papua New Guinea**, New Britain: Bainings, Dailena, Keravat, Lablab, Tuna Puna, Umboi Is, Vudal, Vunabakan, Warangoi Valley.

*New Records*: **PAPUA NEW GUINEA**: New Britain, Wilolo [Wololo], on *Eucalyptus deglupta* seedling <10', 15–16.iv.1971, 2 ♀, B. C. Peters, C. I. E. #A–5067, det *Neomelicharia* sp., M. S. K. Ghauri, 1972; Northern Prov, Kokoda, 1200 ft (366 m), viii.1933, ♀, L.E. Cheesman, B. M.1933–427, det. *Paratella*, BMNH.

14. **Papuanella kwena** Medler, **new species** Fig. 51

*Diagnosis*: Frons green, median carina and lateral margins faded red, mesonotum median band strongly orange red. Margins of tegmen strongly red without indication of fuscous spots, precostal red margin bordered with ivory. Precostal margin of bleached specimens usually retains faint indication of red margin with ivory inner border. Holotype genitalia are illustrated (Fig. 51). Lateral carina of aedeagus forked basally; dorsal branch with 3 small teeth, unique ventral branch curving along ventral margin of aedeagus to apex.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.50, 10.00; v 0.25, 0.25; f 1.25, 1.25; p 0.42, 0.46; m 1.83, 1.83; t 9.97, 8.80; pcl 2.82, 2.99. Width: v 0.91, 1.00; f 1.25, 1.25; t 4.32, 4.32. Hind leg spine formula: 1: 5: 5, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,085), **IRIAN JAYA**: Wisselmeren, Tage Lake, 1760 m, 4.viii.1955, J.L. Gressitt, Allotype, ♀, Wisselmeren, Enerotali, 1800–1900 m, 17–18.vii.1962, J. Sedlacek, Paratypes, ♂, Same labels as the holotype; ♂, (headless), Wisselmeren, Wagheto, Tigi Lake, 1700 m, 17.viii.1955, J.L. Gressitt; ♀, same labels as the allotype, except dated 1–9.viii.1962, BPBM.

15. **Papuanella lemapa** Medler, **new species** Fig. 52

*Diagnosis*: Distinguished by longest overall length of species in the genus. Color stramineous, margins of tegmen red. Characters of the male genitalia unique (Fig. 52). Pairs of strong spines and elongate processes arising basally, the latter extending along basal margin to apex of aedeagus. Ventral process arising from apical coil of aedeagus elongate, reaching margin of pygofer. Female unknown, but when found probably will be recognized by large size.

*Measurements*: Holotype ♂. Length: overall 12.00; v 0.33; f 1.49; p 0.50; m 2.32; t 9.96; pcl 3.49. Width: v 1.16; f 1.33; t 5.31. Hind leg spine formula: 1: 5: 6.

*Types*: Holotype, ♂, **IRIAN JAYA**: Star Range, Katem, 200 m, 2.vii.1959, Neth New Guinea Exped, RMNH. Paratype, ♂, same label data as holotype, ex RMNH, BPBM.

16. **Papuanella mimica** Medler, **new species** Fig. 53

*Diagnosis*: Head and thorax yellow stramineous, sharply contrasting with clear red tegmen; median carina and lateral margins of frons red, anterior margin of pronotum green. Apical and postclaval margins of tegmen narrowly red, which color is somewhat replaced by fuscous; postclaval margin slightly elevated from claval apex, sutural angle sharp, acutely pointed. In female red pigment of tegmen lost except in precostal margin. Illustration of holotype genitalia (Fig. 53) shows triangular flange arising medially from lateral carina of aedeagus. The red and yellow coloration of males and females is similar to sexual bicolors found in *rubra*, but the shape of sutural angle differs in the two species, along with different characters of the male genitalia.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.00, 10.00; v 0.25, 0.25; f 1.16, 1.16; p 0.42, 0.50; m 1.14, 1.99; t 7.64, 8.80; pcl 2.49, 3. 15. Width: v 0.91, 0.95; f 1.16, 1.16; t 4.32, 4.65. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,086), Allotype, ♀, Paratypes, 2♂, **NEW IRELAND**: Soho Pltn, K303, 16.ii.1966, D. F. O'Sullivan & D. August, No. 13279, ex Dept Agr, P. M., BPBM, Paratype, ♂, New Ireland, Lakuramou Pltn, 15.ii.1966, D. F. O'Sullivan & D. August, BPBM. 2♂, same label as holotype, C. I. E. Coll. A 3841, BMNH.

17. **Papuanella mutior** Medler, **new species** Fig. 54

*Diagnosis*: Frons yellow green, median carina and lateral margins red, anterior margin of pronotum faded green, faint brown longitudinal band on mesonotum. Tegmen veins green, precostal and apical margins narrowly black, without spots, bordered green from claval apex nearly to junction of veins C + R. Holotype genitalia are illustrated (fig. 54).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.50, 10.50; v 0.17, 0.21; f 1.33, 1.33; p 0.33, 0.42; m 1.66, 1.99; t 7.80, 8.96; pcl 2.82, 3.32. Width: v 0.95, 1.00; f 1.16, 1.25; t 4.65, 5. 15. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,087), Allotype, ♀, Paratypes, 4♂, 5♀, **IRIAN JAYA**: Genjem, 40 km W of Hollandia, 100–200 m, 1–10.iii.1960, T.C. Maa, BPBM. Paratypes, **IRIAN JAYA**: 2♂, 4♀, River Tor mouth, 4 km E of Hol Maffen, 3–4.vii.1959, T.C. Maa; 2♂, Japen I, SSE Sumberbaba, along Dawai River, 15.x.1962, H. Holtmann; ♂, Nabire, S. Geelvink Bay, 5–50 m, 25.viii—2.ix.1962, J. Sedlacek; 1♂, 4♀, Nabire, S. Geelvink Bay, 0–30 m, light trap, 2–9.vii.1962, J.L. Gressitt; ♀, Km 8 along Timika Road, PTFI plot 2, inner mature mangrove, 0 m, mercury vapor light, S.E. Miller & R. Vbaidillah, Freeport Biodiversity Survey, BPBM. ♀, Bernhard Camp, 50 m, xi.1938, J. Olthof, III Archbold Exped, RMNH. **PAPUA NEW GUINEA**: Madang Prov, ♂, ♀. Sepen Village 2, Sta. 063, 33.vi.1988, J. van Stålle, ISNB; Western Prov, ♀, Ningerum, on guava, 20.xi.1985, J.W. Ismay, BPBM.

18. **Papuanella nobara** Medler, **new species** Fig. 55

*Diagnosis*: Frons and anterior margin of pronotum blue green, frons median and lateral margin carinae red orange; vertex strongly red; mesonotum with narrow brown orange stripe covering median longitudinal carina; front and middle tibiae pink. . Tegmen dark stramineous contrasting with dull yellow thorax; precostal margin red, claval margin red, apical margin narrowly red overlaid with wide fuscous band reaching from claval apex to termination of vein S on precostal margin; claval apex with brown black spot. Genitalia illustrated (Fig. 55). Aedeagus lateral carina with very large preapical spine curved anteriorly; ventral process bifurcate near apex, with shorter branch small and spinelike.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.50, 10.00; v 0.17, 0.29; f 1.29, 1.33; p 0.42, 0.42; m 1.99, 1.99; t 7.97, 8.30; pcl 2.82, 2.82. Width: v 1.00, 0.95; f 1.20, 1.20; t 4.65, 4.48. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,088), Allotype, ♀, Paratypes, 3♂, 4♀, **PAPUA NEW GUINEA**: Normanby Is, Wakaiuna, Sewa Bay, 1–30.xi.1956, 11–20.xi.1956, W.W. Brandt, BPBM. ♂, Normanby I., Waikaiuna, 0–50 m, 19.iv.1956, L.J. Brass, Archbold Exped V, AMNH.

19. **Papuanella papija** Medler, **new species** Fig. 56

*Diagnosis*: Frons usually with only faint tinge of green. Tegmen in both sexes uniformly stramineous, red or pink, contrasting strongly with ochraceous pro- and mesonotum; without distinctive dark spot at claval apex, without marginal markings. Apex of tegmen nearly truncate, junction of apical and sutural margins nearly right angled, apex narrowly rounded. Genitalia are illustrated (Fig. 56). No differences were found in genital characters of red and stramineous color variants.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.50, 10.75; v 0.17, 0.25; f 1.33, 1.33; p 0.37, 0.42; m 1.83, 2.32; t 7.97, 8.96; pcl 2.99, 3. 15. Width: v 0.95, 1.04; f 1.08, 1.25; t 4.48, 4.81. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,089), Allotype ♀, Paratypes, 4♀, **PAPUA NEW GUINEA**: Madang Prov, Finisterre Range, Saidor, Kiambavi Village, 22–29.vii.1958, W.W. Brandt, BPBM. Paratypes, Madang Prov, 2♂, Ohu Village, on *Ficus nodosa, septica*, ix-x.1995; ♂, ♀, Mis Village, on *Ficus trachypison*, xii.1995; 10♂, 6♀, Riwo Village, on *Ficus microcarpa, tinctoria*, 11–20.vii.1995, xi.1995, V. Novotny, BPBM. 22♂, 27♀,

Nobonob Hill, 17 km NW Madang, 24.ii–28.iii.1987, N. D. Penny, CASC. **IRIAN JAYA**: ♂, Bongu, (no other data), SMTD.

*Taxonomic note*: There is noticeable similarity in color variation in populations of *papija* and *rubra* (Montrouzier). Distribution records of *rubra* are insular, whereas *papija* appears restricted to mainland localities. As bleaching may produce unicolorous coloration, it may be necessary to utilize male genital characters for identification of variable material.

20. **Papuanella redaga** Medler, new species Fig. 57

*Diagnosis*: Tegmen not elongated, apical margin oval, sutural angle strongly rounded; color uniformly purple red, black bordered apically; pro- and mesonotum light red, frons and vertex yellow. Holotype genitalia distinctive, apical coil flattened, bar like, as illustrated (Fig. 57). Faded red specimens exist that may require study of genitalia characters for identification.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.00, 8.50; v 0.17, 0.21; f 1.08, 1.16; p 0.33, 0.33; m 1.49, 1.49; t 6.64, 7. 14; pcl 2.16, 2.66. Width: v 0.79, 0.79; f 0.91, 1.00; t 3.98, 4. 15. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,090), Allotype, ♀, Paratypes, 5♂, ♀, **PAPUA NEW GUINEA**: Madang Prov, Wanuma, 600–720 m, viii.1968, N.L.H. Krauss, BPBM. Paratypes, Madang Prov, ♂, ♀, Baitabag Village, on *Ficus bernaysii*, ix.1995; 3♂. Ohu Village, on *Ficus variegata*, i.1996, V. Novotny, BPBM; ♀, Bundi, 10–12.iii.1987; ♀, Nobonob Hill, 7 km NW Madang, 2.iii.1987, N. D. Penny, CASC; ♀, Finistere Mts, Moro C. 5550 ft (1691 m) 30.x.–15.xi.1964; ♂, Damanti, 3550 ft (1082 m), 2–11.x.1964, M.E. Bacchus, BM 1965–120, BMNH.

21. **Papuanella rubra** (Montrouzier) Fig. 58

*Flatta* (Fab.) *rubra* Montrouzier, 1855: 111 (n. sp.); Plesiotype, ♂, Papua New Guinea, Woodlark I, Murua, Kulumadua Hill, 16.ii.1957, W. M. Brandt, BPBM.
*Flatta flava* Montrouzier, 1855: 111 (n. sp.).
*Paratella miniata* Melichar, 1902: 120 (error).
*Paratella flava*: Metcalf, 1957: 375 (cat).
*Paratella rubra*: Metcalf, 1957: 378 (cat).
*Taparella flava*: Medler, 1989: 33 (comb).
*Taparella rubra*: Medler, 1989: 33 (comb).
*Papuanella rubra*: Medler, here designated, **NEW COMBINATION**.
*Papuanella flava*: Medler, junior synonym of *Papuanella rubra* (Montrouzier), here designated, **NEW SYNONYMY**.

*Diagnosis*: Dorsal median longitudinal carina absent on vertex and pronotum, present on frons and mesonotum. In males, thorax, body and legs light ochraceous, pronotum and vertex dull reddish brown, tegmina red, underwings usually tinged with red. In females, overall color of body and tegmina stramineous, rarely apical and costal margins of tegmina very narrowly red. Genitalia of male (Fig. 58) have diagnostic characters constant for the species. Ventral process bifid about middle of length; lateral carinate ledge of aedeagus with short prominent spine directed ventrally, dorsal medial process that arises at base of aedeagus extends apicad along dorsal margin nearly to curved apex of aedeagus. Female anal plate oval.

*Measurements*: ♂ Plesiotype, ♀ ex Woodlark I. Length: overall 9.75, 10.50; v 0.21, 0.17; f 1.33, 1.33; p 0.37, 0.50; m 2.08, 2.16; t 8.30, 9.30; pcl 2.66, 3. 15. Width: v 0.95, 1.00; f 1.16, 1.16; t 4.48, 4.98. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Specimens examined*: **PAPUA NEW GUINEA**: Woodlark I (Murua), Kulumadua Hill, 16–25.ii. - 27–30.iv.1957, 15♂, 7♀, W. M. Brandt, BPBM. Fergusson I, Iamelele No. 1, 15 m, No.3, 29–31.v.1956, 2♂, L. G. Brass; Woodlark I, Kulumadau, 0–100 m, No. 15, 3.xi.1956, ♀, L. G. Brass; Archbold Exped V, AMNH. Trobriand Is., Kiriwina nr. Losuia, 13.viii.1983, 17♂, 11♀, J.W. Ismay, BPBM.

*Taxonomic note*: This distinctively bi-colored species has not been recognized since date of very brief original description. Other than Woodlark Island locality, no type data were given in original publication. As the existence of type specimen(s) is unknown, a plesiotype male is designated herewith to make known genital characters of the taxon.

22. **Papuanella rufilinea** (Walker)

*Nephesa rufilinea* Walker 1870a: 174 (n. sp.); Medler, 1986f: 210 (paralectotype); Medler, 1990a: 159, fig. 15 (lectotype, paralectotype). Lectotype, ♂, Mysol, Wallace, NHRS.

*Sephena rufilinea*, Metcalf, 1957: 370 (cat).

*Papuanella rufilinea*, Medler, 1986f: 210 (comb).

*Diagnosis*: Tegmen light green or burnished green, margins thin red except no red basally on precostal margin. Specimens may be faded to pale saffron color. Thin red orange median band on head, pronotum and mesonotum. Genitalia of lectotype illustrated (Medler, 1990a: fig. 15). The strongly pointed pygofer margin suggests that *rufilinea* and *similata* are closely related, but *rufilinea* has elongated dorsal process along the aedeagus that is absent in *similata*.

*Measurements*: Paralectotype ♀, ex MVMA. Length: overall 10.5; v 0.17; f 1.33; p 0.46; m 1.66; t 8.50; pcl 3.00. Width: v 1.00; f 1.33; t 5.00. Hind leg spine formula: 1: 5: 6.

*Specimens examined*: Known only from type material, Mysol Island.

*Taxonomic note*: The ♀ specimen in the BMNH from Mysol/Wallace, bearing the unpublished name *concolor* Walker, was assigned to *Papuanella* by Medler (1990a: 138). The specimen is disposed herewith as a junior synonym of *Nephesa rufilinea* Walker.

23. **Papuanella rufilis** Medler

*Papuanella rufilis* Medler, 1989: 50, fig. 33 (n. sp.). Holotype, ♂, Papua New Guinea, Morobe Prov, Bubia Lae, BPBM

*Diagnosis*: See Medler (1989: 50, fig. 33) for diagnosis, measurements and illustration of holotype genitalia. Relatively small specimens with faded colors exist.

*Specimens examined*: Prior records (Medler, 1989: 50): **PAPUA NEW GUINEA**: Buso, Lae, Bubia Pltn.

24. **Papuanella rufomarginata** (Melichar)

*Sephena rufomarginata* Melichar, 1902: 129 (n. sp.); Medler, 1986a: 112, fig. 13 (lectotype ♂). Lectotype ♂, Gazelle Hibins, Jacobi, SMTD.

*Papuanella rufomarginata*: Medler, 1986a: 112 (comb).

*Diagnosis*: Frons median carina orange; tegmen light green or yellow green, margins narrowly red with interior adjacent band ivory green; sutural angle convex, dark fuscous spot at apex of clavus and on sutural angle. The lectotype genitalia illustrated by Medler (1986a, fig. 13) resembles that of *destituta* illustrated by Medler (1989, fig. 32), but aedeagus does not have large apical spine on lateral carina as shown for *destituta*. Overall length: 10 mm.

*Specimens examined*: Known only from lectotype, and paralectotypes, here designated: **PAPUA NEW GUINEA**, Madang Prov, ♂, Astrolabe Bay, Stephensort, Biró, HNHM; 2♂, ♀, Astrolabe Bay, Stephensort, 1897, Biró; ♂, Astrolabe Bay, Erima, 1986, Biró, *rufomarginata* det. Melichar, MMBC. The specimens at MMBC are undoubtedly syntypes recorded from HNHM by Melichar in original description, but retained for his personal collection now at MMBC.

*Taxonomic note*: All of the Sulawesi specimens in HNHM bearing Melichar's determination label *rufomarginata* were described as new species in *Lecopia* and *Somisha* by Medler (1991a: 13).

25. **Papuanella sarapa** Medler, **new species** Fig. 59

*Diagnosis*: Color uniformly yellow orange, with exception of apical fuscous spot on sutural

angle of tegmen, and mesonotum yellow stramineous. Vertex anterior margin slightly produced at junction with median frontal carina. Tegmen with M-Cu vein strongly oblique. Genitalia illustrated (Fig. 59) show aedeagus with relatively thick and short ventral process arising apically, and irregular spacing of teeth on lateral ledge. The holotype is probably bleached, as it does not show the narrow red precostal margin that is found in the paratypes. There was no difference in genital characters of the holotype and red-margined paratypes examined.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 10.00, 10.00; v 0.25, 0.29; f 1.33, 1.33; p 0.50, 0.50; m 1.99, 1.99; t 8.63, 8.63; pcl 2.82, 3. 15. Width: v 1.00, 1.00; f 1.33, 1.25; t 4.81, 4.32. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,091), **IRIAN JAYA**: Genjem, 40 km W. of Hollandia, 100–200 m, 1–10.iii.1960, T.C. Maa, BPBM; Allotype, ♀, Irian Jaya, Lower Mist Camp, 1500 m, 27.i.1939, L.J. Toxopeus, Archbold Exped III, RMNH. Paratypes, 4♂, Irian Jaya, Araucaria Camp, 800 m, 15.iii.1939; Rattan Camp, 1200 m, 2.ii.1939, 2.iii.1939; Top Camp, 1150 m, 14.i.1939; L.J. Toxopeus, Archbold Exped III; ♂, Star Range, 1500 m, Bivak 39A, 10.vii.1959, Neth New Guinea Exped, RMNH; ♂, Hollandia, 60 m, 10.xi.1954, L.D. Brongersma, ex RMNH, BPBM; Hollandia, Rain forest, Elev. 250 ft [76 m], 7.ii.1945, H. Hoogstraal, NCSU.

### 26. **Papuanella similata** Medler

*Papuanella similata* Medler 1989: 51, fig. 37 (n. sp.). Holotype, ♂, Papua New Guinea, East Sepik Prov, Dreikikir, BMNH.

*Diagnosis*: See diagnosis, measurements, and figure of male genitalia in Medler (1989: 51, fig. 37). Color variation in red margined tegmina ranges from dark green to stramineous green, and shades of green may be faded entirely. The two black spots spaced on sutural margin help recognition of the taxon.

*Specimens examined*: Prior records (Medler, 1989: 51): **PAPUA NEW GUINEA**: Astrolabe Bay, Biak Vill, Boroi Vill, Dreikikir, Karkar Is, Kurum, Maprik, Nubia Vill, Numbia Vill, Sisimangum Vill, Stephensort, Tamaui. **IRIAN JAYA**: Araucaria Camp, Cyclops Mts, Dawai River, Hollandia, Ifar, Japen Is, Kebar Valley, Manokwari, Mt Lina, Serui, Sumberbapa, Waris.

*New records*: **PAPUA NEW GUINEA**: Madang Prov, Ohu Village, on *Ficus copiosa, trachypison*, x.1995, ii.1996, 2♂, ♀, V. Novotny, BPBM.

### 27. **Papuanella tenapa** Medler, new species Fig. 60

*Diagnosis*: Frons median carina and lateral margins red, carina on anterior margin of vertex red, fore and middle tibiae red. Tegmen dark stramineous, precostal margin red with inner border ivory, apical and sutural margins thin red brown, with prominent black spot at apex of clavus. Female tegmen with similar red margins, ivory border and claval apex black spot, but overall color pale yellowish brown. Genitalia are illustrated (Fig. 60).

*Measurements*: Holotype ♂, Allotype ♀. length: overall 10.00, 10.50; v 0.17, 0.21; f 1.33, 1.29; p 0.33, 0.37; m 1.83, 1.99; t 8.30, 9. 13; pcl 2.82, 3. 15. Width: v 1.00, 1.00; f 1.25, 1.25; t 4.32, 4.98. Hind leg spine formula: 1: 5: 6, 1: 5: 5.

*Types*: Holotype ♂ (BPBM 16,092), **PAPUA NEW GUINEA**: Western Prov, Oriomo Govt. Sta., 26–28.x.1960, J.L. Gressitt, Allotype, ♀, **PAPUA NEW GUINEA**, Kiunga, Fly Riv, 9–14.x.1957, W.W. Brandt, BPBM. Paratypes, ♀, East Sepik Province, Maprik, 150 m, xii.29–17.i.1960, T.C. Maa; ♀, Northern Province, Kokoda, Piive Vill., 7.vi.1972, E. S. C. Smith; /3/, **IRIAN JAYA** (SW), Asewets Riv, (Utumbuwe Riv), 18–27.xii.1976, J. C. Wright, Acc. #1977–24; 3♀, Eramboe, 80 km ex Merauke, 29.i–5.ii.1960, T.C. Maa, BPBM.

### 28. **Papuanella torima** Medler, new species Fig. 61

*Diagnosis*: Frons brown, anterior margin of pronotum green; median red stripe on pronotum continuing on mesonotum as ill-defined faint median band in male, but better defined red band in

female. Tegmen dark stramineous basally, blending into light stramineous apically; thin red precostal, apical and sutural margins, precostal margin with faint remnant of green inner border in male or ivory in female. Genitalia are illustrated (Fig. 61).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 9.50, 10.25; v 0.21, 0.25; f 1.25, 1.33; p 0.37, 0.50; m 1.83, 1.99; t 8. 13, 8.30; pcl 2.82, 2.99. —Width: v 0.95, 1.00; f 1.25, 1.33; t 4.32, 4.65. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

Types: Holotype, ♂, Allotype, ♀, **PAPUA NEW GUINEA**: Torecella Mts [sic, = Torricelli] between Afua & Chinapelli, Akimbo River, sea falls, 1700 ft (518 m), G. P. Moore, BM 1939–479, BMNH. Paratypes, ♂, 2♀, same labels as holotype, BMNH. **IRIAN JAYA**: ♀, Bernhard Camp, 50 m, viii.1938, J. Olthof, Archbold Exped III, RMNH.

29. **Papuanella watera** Medler, **new species** Fig. 62

*Diagnosis*: Color faded, light testaceous, unicolorous except for small dark fuscous spot at claval apex, and faint fuscous apical margin. Holotype genitalia are illustrated (Fig. 62).

*Measurements*: Holotype ♂. Length: overall 10.00; v 0.17; f 1.25; p 0.33; m 1.83; t 8.63; pcl 2.9. Width: v 0.83; f 1.16; t 5. 15. Hind leg spine formula: 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,093), **PAPUA NEW GUINEA**: Gulf Prov, Murua Riv, south side, 2–10 m, 21.xii.1964, L. & M. Gressitt, BPBM.

## 17. Genus **SEPHENA** Melichar

*Sephena* Melichar, 1902: 123 (n. gen.); Metcalf, 1957: 366 (cat); Medler, 1989: 33 (Key, Papua New Guinea).

Type species: *Nephesa spargula* Walker 1870.

*Diagnosis*: Five species complexes are recognized, based principally on characters of the head, tegmina venation and hind leg spines. Seventy-five per cent of species (40) have 1: 6 metatibial spine formula; twenty-five per cent of species (13) have 1: 5 metatibial spine formula.

*spargula* complex

Frons width about same as length; U-carina forming thickened but not sharp anterior margin of transverse ledge. Tegmen with 2 longitudinal veins arising from basal stem, R+S stem distinct; vein S forked, red spots variable, usually confined to cell Cu. Metatibial spines 1: 6.

*conspersa* complex

Frons scarcely longer than wide, median carina joined with U-carinae and intergenal transverse carina that forms carinate anterior margin of very short vertex. Dorsal obsolete U-carinae of frons not merged with intergenal carina, forming anterior margin; vertex very short ledgelike; anterior margin "incomplete" laterally next to lateral margins of the frons; this space rounded without carina. Carina of anterior margin derived from horseshoe carinae of frons—for this reason anterior margin does not reach lateral margins of frons. Tegmen apical margin shallow convex or slightly sinuate, costal angle narrowly convex, sutural angle obtusely convex; 2 longitudinal veins arising from basal stem, R+S stem distinct; numerous spots of variable sizes usually scattered in apical and costal areas of tegmen in addition to strong spots on discal cell crossvein and in Cu and M cells. Metatibial spines 1: 6.

*albescens* complex

Frons relatively narrow, longer than wide, with median carina; dorsal convexity of frons submerging anterior margin of vertex. Tegmen broad, apical margin shallow convex, sutural angle acute

and pointed or oval convex, costal angle narrowly rounded, 3 longitudinal veins arising from basal stem, basal origin of vein S obscured by pustules; cell Cu not as wide as cell M, without red spot; cell M wide, with conspicuous red spot or spots. Male genitalia usually with pointed prolongation of the dorsal-posterior margin of pygofer. Metatibial spines 1: 6.

*scutellata* complex

Head, tegmen and male genitalia characters closely similar to *punctula* complex. Tegmen with very large red spots at 3 sites: (1) Discal cell crossvein; (2) M cell basal crossvein; (3) Cu cell, with spot(s) as wide as or wider than cell. Metatibial spines 1: 6.

*punctula* complex

Frons as wide as or slightly wider than long; U-carina weak or lost; frons convex dorsally as far as intergenal transverse suture next to pronotum margin, vertex not defined. Tegmen apical margin oblique, convexly rounded much the same at both angles; 3 longitudinal veins arising from basal stem, R+S basal stem absent, or weak and obscured by pustules; Cu cell relatively narrow, elongated; slightly widened at mid length; tegmen spots often small or obscured by fading. Metatibial spines in *punctula* series 1: 6, or *rubrovenosa* series with 1: 5 metatibial spines.

*Distribution*: Widespread in the Papuan Subregion.

KEY TO SPECIES COMPLEXES OF *SEPHENA*

1. Dorsum of head with short ledgelike vertex, anterior margin defined by weak U-carina of frons; tegmen with veins R + S with basal stem; apical margin usually convexly rounded much the same at both angles; Cu cell triangular, widened at mid length; metatibial spines 1: 6 ..... 2
— Dorsum of head normally without well defined ledgelike vertex; frons convex across dorsum of head reaching intergenal transverse carina at margin of pronotum, tegmen veins R, S, M arising basally, or with weak R + S stem, often obscured by pustules, metatibial spines 1: 5 or 1: 6 ..... 3
2. Anterior margin of vertex a narrow transverse ledge, thickened by U carina of frons but margin not sharply carinate; spots usually red ..... ***spargula*** complex
— Dorsum of head with short ledgelike vertex margined anteriorly by transverse sharp frontal carina and intergenal transverse carina; veins R and S usually united basally in clearly defined short stem; spots variable, red or brown ..... ***conspersa*** complex
3. Frons narrow, U-carinae dorsal margin weak, merging with obscure convex vertex; tegmen M cell distinctly wider than narrow C cell, often with large red spots, C cell without red spots, metatibial spines 1: 6 ..... ***albescens*** complex
— Frons usually without U-carinae or with only obscure dorsal indication of U-carinae, frons convex across dorsum of head, vertex suppressed. Tegmen without R + S stem, or with very short weak stem obscured by pustules, Cu and M cells approximately equal width, Cu cell usually with red spots; metatibial spine 1: 5 or 1: 6 ..... 4
4. Tegmen apical margin oblique; with bold pattern of one or more very large red spots, tegmen discal cell cross vein marked by large red spot; metatibial spines 1: 6 ..... ***scutellata*** complex
— Tegmen apical margin usually convex; tegmen usually with medium and small spots in discal cell, M cell and Cu cell, large spots when present usually restricted to Cu cell; tegmen rarely unicolorous blue green or stramineous without red spots; metatibial spines 1: 5 or 1: 6 ..... ***punctula*** complex

Note: It is recommended that identifications using following keys be confirmed whenever possible by using characters of the ♂ genitalia.

KEY TO SPECIES IN *SPARGULA* COMPLEX

1. Tegmen light green or stramineous, without red spots; often with narrow red margins (genitalia ♂, fig. 81) ..... **interstincta**
— Tegmen usually with variable patterns of one or more red or black spots ..... 2
2. Tegmen sutural angle slightly obtuse; spots in male black at three sites, female without spots. Solomon Is, Malaita (genitalia ♂, fig. 108) ..... **xenena, n. sp.**
— Tegmen sutural angle convex, usually with variable pattern of one or more red spots. Irian Jaya & Papua New Guinea ..... 3
3. Tegmen postclaval sutural margin strongly convex, apical margin widely oval, Cu cell with 4–5 orange crossveins (Fig. 120). Bismarck Arch, Rossum (genitalia ♂, fig. 65) ..... **archula, n. sp.**
— Tegmen postclaval sutural margin straight or slightly convex; apical margin not widely oval; Cu cell red spot patterns variable ..... 4
4. Tegmen with distinct red, orange or fuscous round spots on crossveins at 3 sites: (1) discal cell, (2) basal M cell, (3) Cu cell ..... 5
— Tegmen collectively without spots on crossveins at sites 1–3 as defined; discal cell crossvein usually without red spot, or rarely with small and obscure remnant spot ..... 7
5. Tegmen apical margin concavely sinuate at junction with post claval sutural margin (Fig. 127) (genitalia ♂, fig. 79) ..... **hijeka, n. sp.**
— Junction of apical and postclaval sutural margins convexly rounded or obtusely angulate ..... 6
6. Frons horseshoe-shaped carina not well defined; postclaval sutural margin strongly convex, entire tegmen with numerous red spots widely variable in size. Solomon Is (genitalia ♂, fig. 75) .... **errena, n. sp.**
— Cu cell with 3–5 red spots, median spots large, about twice size of M cell basal spot; small red spot usually basad and apicad of large median spots in Cu cell (Fig. 122) (genitalia ♂, fig. 70) ..... **conforma**
7. Tegmen uniformly white; spots limited to faint narrow orange lines on crossveins of Cu cell (genitalia ♂, fig. 86) ..... **marena, n. sp.**
— Tegmen not white, Cu cell normally with well defined round red spots ..... 8
8. Cu cell with one large round red spot basad in array of 2–3 smaller round spots; M cell with large red spot on basal crossvein (Fig. 124). (genitalia ♂, fig. 76) ..... **extensa, n. sp.**
— Cu cell with 2–5 small to medium red or orange round spots, or faded remnants of spots; M cell basal crossvein usually without red spot ..... 9
9. Postclaval sutural margin and apical margin meeting at obtuse angle; Cu cell with 3—5 small round spots of equal size, or discernible remnants of spots in faded specimens; ..... 10
— Postclaval sutural margin and apical margin meeting convexly; Cu cell with 2–5 round red spots of unequal sizes ..... 11
10. Tegmina usually stramineous; M cell basal crossvein without spot, rarely discal cell crossvein with small faded red spot. Male genitalia ventral process arising from apex of aedeagus not forked (genitalia ♂, fig. 102) ..... **spargula**
— Tegmen usually suffused with green; M cell basal crossvein with weak red spot, discal cell crossvein spot variable, usually faded or absent. Male genitalia ventral process arising from apex of aedeagus forked (genitalia ♂, fig. 69; ♀, fig. 114) ..... **bifidex, n. sp.**
11. Cell C with 3 or 4 small red or orange spots of equal size, or discernible remnants of spots in faded specimens; M cell without basal red spot (genitalia ♂, fig. 74) ..... **dulena, n. sp.**
— Cell C with 2 to 5 round red spots of unequal sizes, M cell with basal red spot (genitalia ♂, fig. 106) .. ..... **widena, n. sp.**

KEY TO SPECIES IN *CONSPERSA* COMPLEX

1. Tegmen apical margin noticeably or slightly sinuate at junction with postclaval sutural margin; sutural angle angulate, apex pointed ..... 2
— Tegmen apical margin not sinuate at junction with sutural margin; sutural angle obtuse or convex .. 3
2. Tegmen noticeably sinuate, postclaval sutural margin raised convexly (Fig. 132); vertex anterior margin sharply truncated, dorsum concave, length about half that of pronotum (genitalia ♂, fig. 110) .... **zolexa, n. sp.**
— Tegmen moderately sinuate, postclaval sutural margin shallowly convex (Fig 123); vertex anterior margin not

sharply truncated, dorsum flat, length much shorter than pronotum (genitalia ♂, fig. 71) ..... **conspersa**

3. Tegmen with fuscous bar or single black spot ..... 4
— Tegmen without fuscous bar or single black spot ..... 5
4. Tegmen with elongate fuscous S-shaped bar connecting cell M basal spot and discal cell crossvein spot (genitalia ♂, fig. 155) ..... **zipenda, n. sp.**
— Tegmen with single dark fuscous or black spot in cell Cu (genitalia ♂, fig. 109) ..... **yumata, n. sp.**
5. Tegmen with medium size fuscous spots, discal cell with apicad second spot that is positioned in oblique alignment with preapical spots; apical margin vein terminations fuscous (Fig. 125) (genitalia ♂, fig. 154) ..... **fuscara, n. sp.**
— Tegmen without fuscous spots as described ..... 6
6. Frontal carinae strongly horseshoe-shaped, convex dorsal margin without indication of connection to frons lateral margins; tegmen membrane stramineous, spots red ..... 7
— Frontal carina dorsal margin truncated, anterior margin of vertex delimited for most of width; tegmen usually infuscated, fuscous black or dark red spots of variable size ..... 8
7. Tegmen cell S1 with round red spot, cell Cu with 3–4 red spots (genitalia ♂, fig. 99) ..... **stigmatica**
— Tegmen cell S1 without red spot, cell Cu with one red spot ..... **sancta, n. sp.**
8. Tegmen spots red (genitalia ♂, fig. 98) ..... **rustena, n. sp.**
— Tegmen spots dark fuscous ..... 9
9. Tegmen spots red, larger spots with very dark red centers that give halo appearance; apical crossveins not dark brown (genitalia ♂, fig. 90) ..... **parasa, n. sp.**
— Tegmen spots and veins dark fuscous or black; strong rectangular pattern of apical cells due to heavily infuscated crossveins (Fig. 150) (genitalia ♂, fig. 80) ..... **infumata**

KEY TO SPECIES IN *ALBESCENS* COMPLEX

1. Tegmen sutural angle nearly a right angle; M cell with one medium red spot on each side of M-Cu oblique vein (genitalia ♂, fig. 95) ..... **ramana, n. sp.**
— Tegmen sutural angle convex oval, M cell with or without red spots of variable sizes ..... 2
2. Tegmen without discernible red spots ..... 3
— Tegmen with distinct spots. If material is faded, then faint indication of red spots in Cu cell may remain .. 4
3. Tegmen dusted with white wax, veins and membrane concolorous white; rarely red crossveins in precostal margin (genitalia ♂, fig. 64; ♀ fig. 112) ..... **albescens**
— Tegmen uniformly light stramineous (genitalia ♂, fig. 88) ..... **nadira, n. sp.**
4. Tegmen margins without red color, red spot in M cell apicad of Cu-M oblique crossvein (Fig. 119) (genitalia ♂, fig. 63) ..... **abcina, n. sp.**
— Tegmen costal, apical and sutural margins red or fuscous ..... 5
5. Apical and postclaval sutural margins dark fuscous, red spot on discal cell crossvein, M cell with 2 large red spots, one on each side of Cu-M oblique crossvein (Fig. 126) (genitalia ♂, fig. 78). ..... **guttifera**
— Tegmen margins not fuscous as described, no spot in M cell apicad of Cu-M oblique crossvein ..... 6
6. Tegmen costal, apical and sutural margins strongly red (genitalia ♂, fig. 89) ..... **opara, n. sp.**
— Tegmen margins with fuscous-red coloration (genitalia ♂, fig. Fig. 107) ..... **wista, n. sp.**

KEY TO SPECIES IN *SCUTELLATA* COMPLEX

1. Tegmen Cu cell noticeably wider than M cell, red spots in Cu cell very large, oval, numerous small red spots in apical area of tegmen ..... 2
— Cu cell as wide as M cell, round red spots in C cell medium size, apical area of tegmen without small red spots or dashes ..... 3
2. Tegmen with apical and sutural margins meeting at sharply pointed angle (Fig. 131) (genitalia ♂, fig. 96; ♀, fig. 115) ..... **rosata, n. sp.**
— Tegmen sutural angle convexly or obtusely rounded (Fig. 128) (genitalia ♂, fig. 82) ..... **intexa, n. sp.**
3. Red spots in clavus adjacent to suture; postclaval sutural margin slightly convex, meeting apical margin at obtuse angle ..... 4
— Without red spots in clavus adjacent to suture; postclaval sutural margin convexly rounded to meet apical mar-

gin ..... 5

4. Cu cell with 4 round red spots, the middle pair larger than basad and apicad spots; M cell with red spot on basal crossvein (genitalia ♂, fig. 100) ..... **scutellata**

— Cu cell with 2–3 round red spots; M cell with red spot on both basal and oblique Cu-M crossveins (genitalia ♂, fig. 77) ..... **gatula, n. sp.**

5. Discal cell crossvein spot not as strongly developed as 2 large red spots in Cu cell (genitalia ♂, fig. 83) . ..... **ketena, n. sp.**

— Discal cell crossvein spot same size as 3 medium size spots in Cu cell (genitalia ♂, fig. 84) . . **kuloma, n. sp.**

KEY TO SPECIES IN *PUNCTULA* COMPLEX

1. Metatibial spines formula 1: 5; tegmen sutural angle variable ..... 2
— Metatibial spines formula 1: 6; tegmen sutural angle convex ..... 13
2. Tegmina uniformly sky blue; head red orange. Java ..... **tricolor**
— Tegmina and head not as described ..... 3
3. Claval sutural margin narrowly black. Australia ..... 4
— Claval sutural margin not narrowly black. New Guinea ..... 5
4. Tegmen margins narrowly red (genitalia ♂, fig. 94) ..... **quintena, n. sp.**
— Tegmen margins not red (genitalia ♂, fig. 67; ♀, fig. 113) ..... **ausena, n. sp.**
5. Cell Cu very wide, with or without red spots ..... 6
— Cell Cu narrow, without red spots, cell M wider than cell Cu, Cu-M oblique vein strongly developed .... 9
6. Tegmen testaceous, not suffused with red; longitudinal veins not red; costal margin red; cell C widened medially, without red spot; female anal segment small, oval (genitalia ♂, fig. 92) ..... **polara, n. sp.**
— Cu cell with 1–2 large red spots ..... 7
7. Tegmen apical margin sinuate at sutural angle; 2 large red spots in Cu cell. Normanby Is (genitalia ♂, fig. 91a-b) ..... **parena, n. sp.**
— Tegmen apical margin not sinuate ..... 8
8. Head peppered with minute red dots, tegmen stramineous, sutural angle obtusely angulate; cell Cu with 2 red spots, largest spot positioned basad of M-Cu oblique vein; (genitalia ♂, fig. 105) ..... **waxa, n. sp.**
— Head not peppered with red dots; tegmen membrane often red, sutural angle convex; cell Cu with large red spot centered opposite M-Cu oblique vein (Fig. 129). (genitalia ♂, fig. 93) ..... **punctula**
9. Tegmen stramineous, suffused with red, with or without red longitudinal veins; cell Cu narrow, elongated, female anal segment enlarged, twice longer than wide (genitalia ♂, fig. 97a, ♀, fig. 116). . . **rubrovenosa**
— Tegmen not suffused with red; longitudinal veins not red; female anal segment small, oval ..... 10
10. Tegmen membrane translucent, stramineous, discal cell narrow, Cu cell long, narrow, M cell twice wider. Overall length 5.5 to 6.0 mm (genitalia ♂, fig. 72) ..... **corata, n. sp.**
— Tegmen not translucent, discal cell not narrow. Overall length 7.0 mm or longer ..... 11
11. Vertex not defined. Frons as wide as, or wider than long; Precostal margin strongly red, or with faded indication of red margin; Cu cell relatively narrow, elongated, M cell twice wider. Fakfak (genitalia ♂, fig. 73). ..... **digita, n. sp.**
— Not as described, precostal margin not red ..... 12
12. Tegmen pale, without spots, apical margin rather widely convex, angles rounded alike, M cell much wider than Cu cell, widest as it turns to meet clavus apex. Mysol ..... **nivosa**
— Costal margin not strongly red, colored not more than burnished copper, Cu and M cells about same width. Herzog Mts (genitalia ♂, fig. 85) ..... **linirosa, n. sp.**
13. Dorsum of head with concave depression. Tegmen membrane without spots, opaque, calcareous, dusted with white waxy powder; cell M wider than cell C apically (Fig. 121) (genitalia ♂, fig. 68) ..... **besula, n. sp.**
— Dorsum of head convexly rounded. Tegmen usually with red, faded red, or orange spots ..... 14
14. Tegmen with medium or small red or orange spots at 3 specified spots, (1) discal cell (2) cell M basal crossvein (3) Cu cell; sometimes discal spot or red spot on cell M basal crossvein may be faded remnant ..... 15
— Tegmen without basic pattern of recognizable spots at 3 specified sites; ..... 16

15. Tegmen stramineous or faded pale; spots orange, often faded and difficult to see (genitalia ♂, fig. 66) ..... **astigma, n. sp.**
— Head and thorax orange, tegmen green or faded green; apical margin lightly infuscated, vein terminals red but margin not red; 2–3 small red spots in Cu cell, spot in discal cell faint and may be lost (genitalia ♂, fig. 103) ..... **tagosa, n. sp.**
16. Tegmen pale testaceous, apex of sutural margin obtusely angulate, spots faded orange and difficult to see (genitalia ♂, fig. 87) ..... **medova, n. sp.**
— Tegmen green, red spots in cell Cu, postclaval sutural margin slightly convex ..... **17**
17. Tegmen with few if any spots and dashes in apical area, apical margin narrowly red, cell Cu with 2 small faded red spots, discal cell spot present or absent (genitalia ♂, fig. 101) ..... **signa, n. sp.**
— Tegmen light green, line of small red spots along clavus margin, discal cell cross-vein with small red spot, apical margin not red; red spots in cell Cu (genitalia ♂, fig. 104) ..... **vexora, n. sp.**

1. **Sephena abcina** Medler, **new species** Figs. 63, 119

*Diagnosis*: Tegmen of female illustrated (Fig. 119) to show discal cell cross vein with red spot; cell M twice wider than cell Cu, with red spot apicad of oblique crossvein; cell Cu narrow, without spots. Holotype genitalia illustrated (Fig. 63). Aedeagus elongate, apex uniformly rounded; dorsal surface with triangular extension; apical lateral processes fingerlike, blunt; pygofer pointed at posterior-dorsal margin.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.25, 9.50; v 0.17, 0.33; f 1.00, 1.08; p 0.37, 0.50; m 1.49, 2.16; t 7.30, 7.80; pcl 2.32, 2.99. Width: v 0.75, 0.83; f 1.00, 1.08; t 4.32, 4.98. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,094), Allotype, ♀, Paratype, ♀, **IRIAN JAYA**: Vogelkop, Fakfak, S coast of Bomberai, 100–700 m, 4–5.vi.1959, T.C. Maa; BPBM. Paratype, ♂, same label as holotype, except Bomberi [sic], 700–900 m, 7.vi.1959, T.C. Maa, BPBM. ♀, Wasian, 15.ix.1939, R. G. Wind, NCSU. ♀, Bernhard Camp, mountain slope above, 150 m, 13.iv.1939; ♀, Araucaria Camp, 800 m, 8.iii.1939, L.J. Toxopeus, Archbold Exped III, RMNH.

2. **Sephena albescens** (Walker) Fig. 64, 112

*Nephesa albescens* Walker, 1870: 177 (n. sp., #235); Medler, 1990a: 132, fig. 10 (lectotype).
Lectotype, ♂, Mysol, Pascoe, BMNH.
*Nephesa obtusa* Walker, 1870: 177 (n. sp., #237); Medler, 1990a: 152, fig. 17 (holotype). Holotype, ♂, New Guinea, Wallace, BMNH.
*Sephena albescens*, Distant, 1910b: 335 (comb); Metcalf, 1957: 366 (cat); Medler, 1986f: 208 (paralectotype, Mysol).
*Sephena obtusa*, Distant, 1910b: 335 (comb); Medler, junior synonym of *Sephena albescens*, here designated, **NEW SYNONYMY**.

*Diagnosis*: Frons length and width equal or slightly longer than wide. Tegmen broad, uniformly white, apical margin evenly rounded, M cell twice wider than Cu cell.
Male genitalia of specimen ex Fakfak illustrated (Fig 64); pygofer pointed at posterior-dorsal margin; style with lateral spine; aedeagus ventral curved process not extending full length of aedeagus. Female genitalia of specimen ex Fakfak illustrated (Fig. 112).

*Measurements*: ♂, ♀, ex Fakfak. Length: overall 9.5, 9.5; v 0.33, 0.37; f 1.16, 1.16; p 0.42, 0.50; m 1.66, 1.74; t 7.80, 8.80; pcl 2.66, 2.99. Width: v 0.83, 0.87; f 1.04, 1.16; t 4.98, 5. 15. Hind leg spine formula: 1: 6: 6, 1: 6: 6.

*Specimens examined*: **MYSOL**: type material, BMNH. **IRIAN JAYA**: Vogelkop, Fakfak, 10–100 m, 8–11.vi.1959, 3♂, 3♀, T.C. Maa; Vogelkop, Kebar Val. W of Manokwari, 550 m, Malaise trap, 4–31.i.1962, ♂, ♀, S. & L. Quate; Vogelkop, Jef Leo I, Sele Straits, 1–5 m, 15.viii.1957, ♂, D.E. Hardy; Nabire, 5–50 m, 25.viii–2.ix.1962, ♂, ♀, H. Holtmann; Nabire, S. Geelvink Bay, 0–90 m, 2–9.vii.1962, ♀, J.L. Gressitt; BPBM. Lower Mist Camp, 1600 m, 27.i.1939, ♀, L.J. Toxopeus; Sigi Camp, 1500 m, 24–27.ii.1939, ♂, ♀, L.J.

Toxopeus, Archbold Exped III, RMNH. New Guinea, Mom, 2.xii. 1875, ♂, ♀, Beccari, *Sephena punctula*, det. Melichar, MCSN.

*Taxonomic note*: *Nephesa obtusa* Walker was erroneously assigned to *Colgar chlorospilum* (Walker) by Melichar, 1902: 61 and *Colgar obtusum* (Walker) by Metcalf, 1957: 263.

3. **Sephena archula** Medler, **new species** Figs. 65, 120

*Diagnosis*: Frons U-carina delimiting flattened vertex, convex laterally without anterior margin; transverse intergenal carina at base of vertex next to margin of pronotum; postocular eminence parabolic, margin well defined; mesonotum laterally orange red. Tegmen with 2 longitudinal veins, R+S and M arising from basal stem, postclaval sutural margin convex, rounded evenly with oblique apical margin, costal angle narrowly convex (Fig. 120). Red spots on discal cell crossvein, in Cu cell and along claval suture; fuscous patches in precostal margin, discal cell and across Cu-M oblique vein. Holotype genitalia illustrated (Fig. 65).

*Measurements*: Holotype ♂. Length: overall 6.50; v 0.17; f 0.91; p 0.33; m 1.33; t 5.48; pcl 1.49. Width: v 0.83; f 1.08; t 5.48. Hind leg spine formula: 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,095), **BISMARCK ARCH**, Rossum, 6 km SE of Lorengau, 180 m, 23.xii.1959, T.C. Maa, BPBM.

4. **Sephena astigma** Medler, **new species** Fig. 66

*Diagnosis*: Tegmen apical margin oval, cell Cu slightly wider medially than cell M, with row of small orange or red spots on cross veins; clavus with similar small spots along suture. Orange color apparently derived from fading of red pigment. Holotype genitalia illustrated (Fig. 66) shows aedeagus clublike apically, processes arising laterally from apex; thick dorsal process arising from apical coil, basal median dorsal spine elongate.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.50, 8.25; v 0.25, 0.33; f 1.00, 1.00; p 0.33, 0.33; m 1.49, 1.49; t 6.31, 6.47; pcl 1.83, 1.83. Width: v 0.83, 0.91; f 1.08, 1.16; t 3.49, 3.49. Hind leg spine formula: 1: 6: 7/8, 1: 6: 8.

*Types*: Holotype ♂ (BPBM 16,096), Allotype, ♀, Paratypes, 23♂, 23♀, **IRIAN JAYA**: Genjem, 40 km W of Hollandia, 100–200 m, 1–10.iii.1960, T.C. Maa, BPBM; 4♂, 12♀, Hollandia, 250 ft, rain forest, xii.1944—v.1945, H. Hoogstraal; ♂, ♀, Hollandia, v.1945, S. G. Jewett, NCSU; ♀, Hollandia, 11.vii.1938, L.J. Toxopeus, Archbold Exped III; ♂, Ifar, 300 m, 10.ix.1959, C.v. Heijningen; ♂, Joka on Lake Sentani, 23.ix.1954, L.D. Brongersma; RMNH. **PAPUA NEW GUINEA**: ♂, Torricelli Mts, Mobitei, 750 m, 16–22.iv.1959, W.W. Brandt, BPBM.

5. **Sephena ausena** Medler, **new species** Figs. 67, 113

*Diagnosis*: Frons U-carina weakly developed, no vertex, frons convex dorsally, extending to transverse intergenal carina at margin of pronotum. Tegmen apical margin parabolic, R, S, and M longitudinal veins arising from basal stem, origin of vein S obscured by pustules. Color dull straminеous, veins dull ivory, sutural margin of clavus narrowly fuscous, postclaval sutural and apical margins fuscous between vein terminations. Holotype genitalia illustrated (Fig 67). Female genitalia of paratype from Queensland illustrated (Fig. 113).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 5.00, 6.00; v 0.08, 0.13; f 0.83, 0.87; p 0.33, 0.33; m 1.16, 1.16; t 4.98, 4.98; pcl 1.16, 1.33. Width: v 0.75, 0.75; f 0.91, 0.83; t 2.66, 2.66. Hind leg spine formula: 1: 5: 7, 1: 5: 7.

*Types*: Holotype, ♂, Allotype, ♀, Paratypes, 5♂, **AUSTRALIA**: N. Queensland, Yam Is, at light, 22.iii.1985, J. W. Turner; Paratypes, 2♀, North Possession Is, nr Badu Is, 30.iii. 185, J. W. Turner; 2♂, ♀, Travers Is, 6.iv.1984, J. W. Turner; ♂, Thursday Is, 10.x.1975; DPI-QLD. ♂, Townsville, 2 m, 24.iv.1961, J.L. Gressitt; 2♀, Cape York, Rocky Rd, NE of Coen, 150–500 m, 30.iv–2.v.1961, L. & M. Gressitt; ♀, Betw. Cairns & Kuranda, 250 m, edge of rain forest, 28.iv.1961, L. & M. Gressitt; BPBM.

6. **Sephena besula** Medler, **new species** Figs. 68, 121

*Diagnosis*: Tegmen of female illustrated (Fig. 121) shows Cu cell with 2–3 medium size faint red spots on crossveins. Holotype genitalia illustrated (Fig. 68). Aedeagus dorsal surface smoothly convex; elongate ventral process arising from apical coil; lateral carinate line without spine.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.00, 7.50; v 0.25, 0.33; f 0.83, 0.83; p 0.33, 0.33; m 1.33, 1.33; t 5.64, 6. 14; pcl 1.83, 1.83. Width: v 0.87, 0.91; f 1.08, 1.00; t 2.82, 2.99. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,097), Allotype, ♀, **PAPUA NEW GUINEA**: Madang Prov, Finistere Range, Saidor, Kiambavi Vill, 22–29.vii.1958, W.W. Brandt, BPBM. Paratypes, ♂, Finisterre Range, Sibog Vill, 27.v–5.vi.1958, ♀, 6–16.vi.1968, W.W. Brandt; ♂, ♀, Wanuma, 600–720 m, viii.1968, N.L.H. Krauss; Madang Prov, 19♂, 9♀, Ohu Village, vii-x.1995, on *Ficus dammaropsis, nodosa, phaeosyce, pungens, variegata*, V. Novotny; Morobe Prov, ♂, Lambaeb, Salawaket Range, 900 m, 16–19.ix.1956, E.J. Ford, Jr.; ♀, Ulap, 800–1100 m, ix.1968, N.L.H. Krauss; **IRIAN JAYA**: ♂, Waris, S of Hollandia, 450–500 m, 24–31.viii.1959, T.C. Maa; BPBM. ♀, Rattan Camp, 1200 m, 5.ii.1939, L.J. Toxopeus, Archbold Exped III, RMNH.

### 7. **Sephena bifidex** Medler, new species Figs. 69, 114

*Sephena spargula*, Melichar, 1902: 124 (comb, in part); Metcalf 1957: 370 (cat, in part).

*Diagnosis*: Tegmen sutural/apical margin rounded, Cu cell crossveins with small red spots. Holotype genitalia illustrated (Fig. 69); ventral process of aedeagus with bifid apex; pygofer posterior-dorsal margin without extended point. Genitalia of allotype female illustrated (Fig. 114).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.00, 8.50; v 0.17, 0.17; f 1.00, 1.16; p 0.33, 0.42; m 1.66, 1.83; t 6.64, 7.64; pcl 1.83, 2.32. —Width: v 1.04, 1.25; f 1.45, 1.54; t 3.40, 3.49. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,098), Allotype ♀, Paratypes, 2♂, **IRIAN JAYA**: Waris, S of Hollandia, 450–500 m, 1–15.viii.1959, T.C. Maa; Paratypes, Irian Jaya: ♂, Bodem, 100 m, 11 km SE of Oeberfaren, 7–17.vii.1959, T.C. Maa, ♂, Guega, W of Swart Valley, 1200 m, 15.xi.1958, J.L. Gressitt, ♀, Ifar, 300–600 m, 20.vi.1959, J.L. Gressitt, 2♀, Kebar Valley, W of Manokwari, 550 m, 4–31.i.1962, S. & L. Quate, ♀, Oransbari, S of Manokwari, sea level, 10.ii.1963, R. Straatman; BPBM. ♂, Bernhard Camp, 50 m, 4.viii.1938, J. Olthof, Archbold Exped III, ♀, Manokwari, 1.ii.1957, G. F. Mees, RMNH. **PAPUA NEW GUINEA**, East Sepik Prov, ♂, Amok, 165 m, 6.i.1960, T.C. Maa, ♀, Angoram, 10–20m, 14.viii.1969, J.L. Gressitt, ♀, Bainyik, 150 m, S of Maprik, 12.i.1960, T.C. Maa, ♀, Maprik, 160 m, 29.xii.1959–17.i.1960, T.C. Maa, ♂, Wewak, 2–20 m, 11.x.1959, J.L. Gressitt, BPBM. West Sepik Prov, 4♀, Star Range, Katem, 200 m, 13.v.1959, C. B. Nicolas; RMNH. East Sepik Prov, 2♂, Mabarisit Pltn, nr Dagua, 7.iv.1964, on *Theobroma cacao*, 2♂, ♀, Megafin Vill. Pltn, nr. Dagua, 8.iv.1964, on cacao pods, 2♀ Kimbangain Pltn, Maprik subdiv, 29.ii.1960, on *Coffea robusta*, J.J.H. Szent-Ivany, Morobe Prov, ♀, Gurakor Pltn, 9.xii.1966, on *Coffea arabica*, T. L. Fenner, BPBM ex TPNG; ♂, ♀, Nov. Guinea (no other data), NHRS (det. Sephena spargula, Melichar 1902, p. 124).

### 8. **Sephena conforma** Medler Figs. 70, 122

*Sephena conforma* Medler, 1989: 34 (n. sp., fig. 8, 11, (46 sic!). Holotype, ♂, Papua New Guinea, Popondetta, BPBM.

*Diagnosis*: See Medler (1989: 34) for diagnosis, and measurements. Tegmen of holotype female (Fig. 122) is redrawn to show spot pattern. Also, original figure of holotype genitalia is reproduced (Fig. 70). Aedeagus apical coil elongated, with dorsal projection and minute projection along lateral ledge.

*Specimens examined*: Prior records (Medler, 1989: 34). **PAPUA NEW GUINEA**: Mt Lamington, Popondetta, and following plantations: Arehe, Bisi, Carberry, Dimark, Hahota, Jumburu, Mamoo, Sangara.

*New records*: **PAPUA NEW GUINEA**: MORŌBE PROV, Wau, 1200 m, at light, 20.ii.1983, ♂, W.C. Gagné; Wau, 1100 m, 20.x.1961, ♀, J. Sedlacek; Wau Valley, Biangi Estate, 3400 ft (1036 m), 2.viii.1963, ♀, Szent-Ivany and B. J. Kebby; Wau Valley, Clark & Fay's coffee estate, 3400 ft (1036 m), on *Coffea arabica*, 23.vii.1963, ♂, Szent-Ivany & B. J. Kebby; Wau Valley, Kaisenik Vill Pltn, 3400 ft (1036 m), on *Coffea arabica*, 2.viii.1964, 2♂, ♀, Szent-Ivany & B. J. Kebby; BPBM. Buso, ix-xi.1979, 2♂, J. H. Martin; Wau,

25–25.xi.1979, ♀, J. H. Martin; BMNH. Wau Ecol. Inst., 1200 m, Malaise trap, 1–10.viii.1983, ♀, S. E. & M. Miller, USNM. NORTHERN PROV, Kokoda-Pitoki, 400 m, 23–24.iii.1956, ♂, ♀, J.L. Gressitt; Mamba, cocoa, 2.iii.1983, ♀, J.W. Ismay; Dinner Is, mangrove swamps, vii. 1887, ♀, Kowald; BPBM. Kokoda, 1200 ft., (366 m), iv-viii.1933, ♂, 2♀, L.E. Cheesman; BMNH. **IRIAN JAYA**: Vogelkop, Manokwari, 75 m, 20.vii.1957, ♀, D.E. Hardy, BPBM.

*Taxonomic note*: Medler (1989: 34) erroneously switched captions for genitalia figs. 45 and 46. The holotype genitalia shown in fig. 46 is correctly *S. conforma*, not *S. infumata* as captioned.

9. **Sephena conspersa** Melichar Figs. 71, 123

*Sephena conspersa* Melichar, 1902: 125 (n. sp., pl. IV, fig. 8); Metcalf, 1957: 368 (cat); Medler, 1986c: 111 (fig. 9, lectotype); Medler, 1989: 35 (fig. 47, genitalia). Lectotype, ♂, Solomon Arch, Shortland Is, Ribbe, HNHM.

*Sephena punctulosa* Distant, 1911: 384 (n. sp.); Metcalf, 1957: 369 (cat); Medler 1989: 35 (syn); Medler, 1990a: 178 (lectotype). Lectotype ♂, Solomon Is, Froggatt, BMNH.

*Diagnosis*: See diagnosis given by Medler (1989: 35). Tegmen is illustrated (Fig. 123); 2 longitudinal veins (R+S, M) arising from basal stem; sutural angle sharp, apical margin slightly concave as it meets sutural angle, many small spots, especially on apical cross veins, vein terminations at apical margin usually red. Genitalia of male from Bougainville illustrated (Fig. 71); aedeagus apical coil with small curved process; no tooth on lateral ledge; ventral curved process arising apically reaching pygofer. *S. conspersa* is widespread in the Solomon Islands and adjacent parts of New Guinea. The taxon is closely related to the *spargula* complex of species. As considerable variability in color patterns exists, male genitalia should be used for positive identifications.

*Measurements*: ♂, ♀, ex Bougainville, Buin. Length: overall 8.00, 9.00; v 0.17, 0.21; f 1.08, 1.16; p 0.42, 0.42; m 1.49, 1.74; t 6.81, 7.64; pcl 2.16, 2.49. —Width: v 0.95, 1.08; f 1.75, 1.33; t 3.98, 4.48. Hind leg spine formula: 1: 5: 7, 1: 6: 7.

*Specimens examined*: Previous records: Medler (1989: 35): Australia, Queensland: Cairns. Papua New Guinea: Aroa Estate, Bougainville, Brown River, Port Moresby. Solomon Is: Florida, Guadalcanal, Honiara; Kolombangara; Malaita, Auki, Mono, Munda, Russell, San Cristobal, Santa Ysabel, Shortland, Treasury, Vella Lavella.

*New Records*: **BOUGAINVILLE**: Boku, 4–6.vi.1956, 2♂, 5♀, E. J. Ford, Jr; Boku, 50 m, 4–6.vi.1956, ♂, 2♀, J.L. Gressitt; Buin, i.vi.1956, 3♂, 4♀; i.vi.1958, ♂, J.L. Gressitt; Buin (Kangu), 1–50 m, 31.vi.1956, ♀, J.L. Gressitt; Buka, 40 m, 15–16.vi.1956, ♂, 5♀, J.L. Gressitt; Buka Agri. Sta., 6–10.xii.1959, 6♂, ♀, T.C. Maa; Buka Rd N of Arawa, 12 m, *Freycinetia*, 22–23.iv.1980, ♂, J.L. Gressitt; Guaba, 730 m, 19–21.vi.1956, ♀, E. J. Ford, Jr; Kieta, 26.xi.1959, ♀, T.C. Maa; Kihili, nr Buin, 1 m, 31.v–4.vi.1956, 2♂, ♀, E. J. Ford, Jr; Kokura, 690 m, 10–18.vi.1956, 5♂, ♀, E. J. Ford, Jr; Kokura, nr Crown Prince Ra, 900 m, 8–11.vi.1956, ♂, 5♀, J.L. Gressitt; Kukugai Vill, 150 m, xii.1960, ♀, W.W. Brandt; Mt Balbi, 2000–2400 m; 1–7.iii.1968, ♀, Tawai; Mosigata, 25 m, 3.vi.1956,♂, J.L. Gressitt; Mutahi, 18 km SE Tinputz, 700 m, 1–7.iii.1968, ♂, Tawai; Tokinoitu, 20 m, 2.vi.1956, 2♀, J.L. Gressitt; Waitabuna, *Pipturus*, 6.vi.1956, ♀, E. J. Ford, Jr. **SOLOMON IS**: Guadalcanal, Sol Is, i.1921, 3♀, J. A. Kusche; Guadalcanal, light trap, i-xii.1944, 2♂, 2♀, V. R. Knapp; Lunga River mouth, v-viii.1944, 2♂, ♀; Metanikam River mouth, 21–26.v.1944, 2♂, 2♀, H. E. Milliron; Betikama R, viii.1960, 2♂, 5♀, W.W. Brandt; Tadtumboko, 0–100 m, x.1970, 2♂, 3♀, N.L.H. Krauss; Tenaru Creek, 10–50 m, 7.v.1964, ♂, R. Straatman; Guadalcanal, Gold Ridge, 500–800 m, 22–23.vi.1956, 2♂, ♀; Kukum, 10 m, 20.vi.1956, ♂, 3♀; Kukum, 15 m, ix-x.1957, 2♀; Ilu Farm, nr Nalimbu R, 5 m, i.vii.1956, ♀; Poha R, 5 m, 20.vi.1956, ♂, 4♀; Suta, 500–1200 m, 27.vi.1956, 2♂, 4♀, J.L. Gressitt; Tenamba, palm, 2–15 m, 7.x.1957, ♂; Tenaru R., 25 m, 15.ix.1957, ♂, J.L. Gressitt. **SOLOMON IS**: Guadalcanal, Honiara, 0–100 m, x.1970, 8♂, 9♀; 0–200 m, xii.1972, ♂, ♀; 0–200 m, xii.1975, 3♂, 2♀; 0–100 m, xii.1976. 8♂, 5♀; 0–200 m, xii.1980, 5♂; 0–200 m, i.1981, ♀; 0–200, i.1984, ♂; 0–100 m, i.1985, ♂, 2♀; 0–200, i.1987, ♂; 0–200, on aerial roots of *Ficus* sp., 1.1987, 10♂, 16♀, N.L.H. Krauss; Honiara, 22–30.iv.1964, 6♂, 2♀, R. Straatman; Roroni, 35 km E of Honiara, 10 m, light trap, 8.v.1964. ♂, ♀; Tambalia, 30 km W of Honiara, 24.v.1964, 2♀, R. W. Straatman, BPBM. Honiara, i.xi.1974, ♂, N. L. Krauss. **FLORIDA IS**, Tulagi, 13.ix.1944, ♀, H. E. Milliron, BPBM.

Florida Is, 1.iii.1945, 3♂, 2♀, J. R. Stuntz; 15.iv.1944, 2♂, H. P. Chandler; Piva, iii.1945, ♂, ♀, A. J. Walz, CASC. **SOLOMON IS**: Mono Is, 3 m, legume, ♂; 100 m, *Wedelia*, 2♂; 150–250 m, *Pipturus*, 6–11.xi.1980, ♂, 3♀, J.L. Gressitt. **SOLOMON IS**: New Georgia, Kolombangara Is, Gizo, 0–140 m, xii.1980, ♀, N.L.H. Krauss; Iriri, 100 m, 3.vii.1964, ♀, J. & M. Sedlacek; Kukundu, 10 m, 8–10.vii.1959, ♀, J.L. Gressitt; Papele, 30 m, Malaise trap, 7–13.ii.1964, 6♂, 13♀, P. Shanahan; Poitete, 0–60 m, 29.xii.1976, 2♂, N.L.H. Krauss; **MUNDA IS**, 15–30 m, 14–15.vii.1959, ♂; 1–30 m, *Glochodion*, 20.vii.1959, ♂, J.L. Gressitt; 0–200 m, xi.1975, 5♂, 4♀; 0–100 m, xi.1980, 6♂, ♀; 0–100, ii.1984, 4♂, /2/, N.L.H. Krauss; 1–30 m, 21.vii.1959, ♂, T.C. Maa; New Georgia, Viru Harbour, 0–100 m, ii.1984, ♂, N.L.H. Krauss. **RENDOVA IS**, Egolo, 1–10 m, 16.vii.1959, 2♀, J.L. Gressitt. **SAN CRISTOBAL**, Kirakira, 0–200, xi.1970, ♂; xii.1975, 2♀; i.1976, ♂ 2♀; 3–4.xi.1980, 2♀, N.L.H. Krauss; Kirakira, light trap, 21.viii.1960, ♀, C. W. O'Brien; Kirakira, 0–50 m, 10.xi.1984, ♂, 2♀, R. Straatman; Napagiwae, 19.viii.1960, ♂, C. W. O'Brien; Wairahu River, 100–400 m, 9–15.v.1964, ♂, J. Sedlacek. Santa Isabel Is, Buala, 20–30 m, *Glochidion*, 28–31.x.1980, 2♂, 2♀, J.L. Gressitt; Malao, light trap, 29.vi.1960, ♂; Tamatahi, 450 m, light trap, ♀, 2.viii.1960,KV C. W. O'Brien. Sule Is, Mboromole, 2–10 m, 29–30. .x.1981, ♂, V. Pule. Vella Lavella, Barakoma, 0–100 m, xi.1972, ♂, N.L.H. Krauss; Kow, 30 m, 28.xi.1963, ♂, ♀, J.L. Gressitt; Kundurumbangara, 60 m, Malaise trap, 19.xi.1963, ♂, P. Shanahan; Mt Arewana, 10–400 m, 16.xi.1963, ♀, J.L. Gressitt; Ulo Crater, 10 m, Malaise trap, 17.xiii.1963, ♀; 60 m, light trap, 21.xii.1963, ♀, P. Shanahan; BPBM. **PAPUA NEW GUINEA**: Bougainville, Kurwina Pltn, ex citrus, 27.ix.1983, ♂, ♀, E. J. Broush, CIE A 15570; Central Prov, Brown River, *Coffea canephora*, 4♂, 6♀, J.J.H. Szent-Ivany, det. *Sephena punctulosa*, M. S. K. Ghauri, CIE Coll No. A101; NORTHERN PROV, Kokoda, 1200 ft (366 m), viii.1933, ♀, L.E. Cheesman; BMNH.

**10. Sephena corata** Medler, new species Fig. 72

*Diagnosis*: Frons length: width about equal, without strong U-carina, delimited on dorsum of head by transverse intergenal carina adjacent to anterior margin of pronotum, vertex reduced to small triangular interspace at each eye margin. Tegmen light stramineous without red markings; sinuate transverse crease in membrane arising from claval apex, faint submarginal alignment of crossveins; cell Cu narrow, elongate, not widened at Cu-M oblique vein, cell M about twice wider than cell Cu; sutural margin convex. Female anal plate elongate oval. Holotype genitalia are illustrated (Fig. 72); aedeagus tapered to uniformly rounded apex. This species is similar to *S. rubrovenosa* in morphology of female anal plate but differs in male genitalia characters. Both species have similar shape of Cu cell and 1: 5 hind leg spine formula.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 6.50, 7.50; v 0.17, 0.21; f 0.83, 1.00; p 0.33, 0.33; m 1.25, 1.49; t 5.31, 6.47; pcl 1.49, 1.83. Width: v 0.79, 0.91; f 1.00, 1.00; t 2.99, 3.49. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,099), **IRIAN JAYA** Vogelkop, Fakfak, S coast of Bomberai, 100–700 m, 4.vi.1959, T.C. Maa, Allotype, ♀, Vogelkop; Bombarai, 700–900 m, 8.vi.1959, T.C. Maa, Paratypes, ♂, 3♀, same label as holotype, 4–8.vi.1959, T.C. Maa; ♂, ♀, Vogelkop, Kebar Valley, W of Manokwari, 550 m, 4–31.i.1962, L. W. Quate. BPBM.

**11. Sephena digita** Medler, new species Fig. 73

*Diagnosis*: Resembling *S. corata* closely in stramineous coloration, shape of frons, pattern of Cu and M veins, and hind leg spine formula. Distinguished by slightly larger size and differences in characters of male genitalia. Anterior margin of head without transverse carina, frons convex dorsally, extending to intergenal carina, vertex reduced to triangular remnants adjacent to eyes. Cell M of tegmen slightly wider than Cu cell, closed at apex of clavus. Cu cell narrow elongate, not widened at Cu-M oblique vein. Holotype genitalia illustrated (Fig. 73); sharp spine arising from base of aedeagus. This spine is absent in *S. corata*. Apical margin of anal segment convex. Female unknown.

*Measurements*: Paratype ♂. Length: overall 7.00; v 0.17; f 1.00; p 0.37; m 1.33; t 6.47; pcl

1.49. Width: v 0.87; f 1.16; t 3.65. Hind leg spine formula: 1: 5: 7.

*Types*: Holotype, ♂, Paratype ♂, **IRIAN JAYA**: Fakfak, 12.vi.1939, R. G. Wind, NCSU.

12. **Sephena dulena** Medler, **new species** Fig. 74

*Diagnosis*: Tegmen sutural angle obtusely rounded; discal cell crossvein without red spot; cell M and cell Cu same width medially, row of round spots in cell C. Holotype genitalia illustrated (Fig. 74); aedeagus apical coil with long rodlike process arising dorsally.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.50, 9.00; v 0.17, 0.17; f 1.00, 1.04; p 0.29, 0.33; m 1.66, 1.66; t 6.81, 6.97; pcl 1.99, 1.99. —Width: v 1.16, 1.16; f 1.45, 1.41; t 3.49, 3.57. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,100), Allotype, ♀, **IRIAN JAYA**: Genjem, 40 km W of Hollandia, 100–200 m, 1–10.iii.1960, T.C. Maa, BPBM. Paratypes, **IRIAN JAYA**: ♀, Eramboe, 80 km from Merauke, 29.i.1960, T.C. Maa; ♂, 3♀, Sentana, 90+ m, 16.vi.1959, T.C. Maa; ♂, nr. Lake Sentani, behind Kotanika, 80 m, 17.x.1957, J.L. Gressitt; ♂, Ifar, 300–600 m, 20.vi.1959, T.C. Maa; ♀, Ifar, Cyclops Mts, 300–500 m, 23–25.vi.1962; ♀ Ifar, 400–550 m, 23.vi.1959, T.C. Maa; ♂, ♀, mouth of River Tor, 4 km E of Hol Maffen, 2.vii.1959, at light, T.C. Maa; ♂, Hollandia, 100 m, 23.viii.1955, J.L. Gressitt; ♀, Hollandia, 13.iii.1960, T.C. Maa; 5♂, 5♀, Waris, S of Hollandia, 450–500 m, 1–31.viii.1959, T.C. Maa; 5♂, 2♀, Genjem, 40 km W of Hollandia, 100–200 m, 1–10.iii.1960, T.C. Maa; BPBM. 3♂, 2♀, Cyclops Mts, Sabron, 930 ft (283 m), vi.1936, L.E. Cheesman, B. M.1936–71, BMNH. 4♂, 4♀, Maffin Bay, E. S. Ross; ♀, (no locality) 10.xi.1944, T. Aarons, CASC. ♂, Hollandia, 1800 ft. (549 m), edge of Kunar grass and forest, 15.iii.1945; 4♂ ★ 6♀, 250 ft, (76 m), rain forest, i-v.1945, H. Hoogstraal; ♀, Hollandia, v.1945, S. G. Jewett, Jr, NCSU. ♂, ♀, Hollandia, 11.vii.1938, L.J. Toxopeus; ♂, ♀, Bernhard Camp, 50 m, 4.xi.1938, J. Olthof, Archbold Exped III; ♂, 5♀, Ifar, 300 m, 12.ix.1959, C. V. Heijningen, Neth. NG Exped; RMNH. 7♂, 8♀, Hollandia, i-v.1945, B. Malkin, USNM. 2♂, Res Hollandia, KotaNica, 75m, 18.ix.1960, on coffee; ♂, 7.x.1960. on *T. cacao*; ♂, Genjem Blit, 8.x.1961, on *T. cacao*, R. T. Simon Thomas, ZMAN.

13. **Sephena errena** Medler, **new species** Fig. 75

*Diagnosis*: Frontal U-shaped carina not well developed, dorsal margin blunt, weakly delimiting vertex. Tegmen dull white, postclaval sutural margin and apical margin strongly convexly rounded at sutural angle, R + S stem arising basally; distinctive overall pattern of medium and small red spots, with larger spots at discal cell crossvein, M cell basal crossvein and in Cu cell; Cu cell slightly wider than M cell, M cell with red spots each side of Cu-M oblique vein; red spots in base of clavus; The heavy spot pattern has similarity to that seen in well marked specimens of *conspersa*, but the configuration of sutural angles differs distinctly. Holotype genitalia illustrated (Fig. 75) has characters similar to *scutellata*.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 6.0, 7.0; v 0.13, 0.17; f 0.87, 1.00; p 0.33, 0.37; m 1.33, 1.49; t 5.48, 6. 14; pcl 1.66, 1.66. Width: v 0.83, 0.95; f 1.00, 1.16; t 2.99, 3.65. Hind leg spine formula: 1: 6: 7, 1: 6: 6.

*Types*: Holotype ♂ (BPBM 16,101), Allotype, ♀, Paratypes, 2♂, 2♀, **SOLOMON ISLANDS**: New Georgia I, Munda, 0–100 m, ii.1984, N.L.H. Krauss; ♂, Munda, 15–30 m, 14–15.vii.1959; 2♂, 2♀, Munda, *Acalypha*, 1–30 m, 15.viii.1959; J.L. Gressitt; 2♂, 4♀, Munda, 0–200 m, xi.1975, 2♀, 0–150 m, xi.1976, 2♂, 8♀, 0–100 m, xi.1980; N.L.H. Krauss; BPBM. ♀, Munda, 7589, 14.viii.1963, M. McQuillan; ♀, Munda, i.1974, ♂, 3♀, xi.1976; N.L.H. Krauss; ♂, ♀, New Georgia, 1 mi upstream Bareki C., 30.viii.1965, Royal Soc. Exped., BM 1966–1, BMNH.

14. **Sephena extensa** Medler, **new species** Figs. 76, 124

*Diagnosis*: Tegmen (Fig. 124) with 2 longitudinal veins (R+S, M) arising from basal stem, apical margin obtusely rounded; discal cell crossvein without red spot, cell Cu wider than cell M, with red dots. Holotype genitalia illustrated (Fig. 75); aedeagus apical coil simple, without rodlike

process; ventral process spinelike.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.50, 8.50; v 0.17, 0.17; f 0.91, 1.00; p 0.33, 0.33; m 1.49, 1.66; t 6.64, 7.30; pcl 1.99, 2.16. Width: v 1.00, 1.04; f 1.37, 1.41; t 2.99, 3. 15. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,102), Allotype, ♀, Paratypes, 2♂, ♀, **PAPUA NEW GUINEA**: Northern Prov, ♀, Higaturu Nursery, 24.xii.1976, oil palm, R. N. T. Prior; Kokoda—Pitoki, 450 m, 23–24.iii.1956, J.L. Gressitt; ♀, Kokoda, 28–29.iii.1956, J.L. Gressitt; ♀, Mamba, 2.iii.1983, cacao, J.W. Ismay (#34414); BPBM. 4♀, Kokoda, 1200 ft (366 m), iv-viii.1933, L.E. Cheesman, BM 1933–427; ♂, Awala Pltn, 29.ii.1961, on *Arilea*, J.J.H. Szent-Ivany; ♂, Jumburu Pltn, 1.xii.1961, on *Theobroma cacao*, J.J.H. Szent-Ivany & R. J. Cheetham, (C.I.E. No. 18054); BMNH. ♂, Madang Prov, Saidor: Kiambavi Vill, Finisterre Range, 22–29.vii.1958, W.W. Brandt; BPBM. ♂, Morobe Prov, Kaisenik Vill Pltn, Wau Valley, 3400 ft (1036 m), 2.viii.1964, J.J.H. Szent-Ivany & B. J. Kebby; BPBM. ♂, ♀, Morobe Prov, Buso, ix-xi.1979, J. Martin; ♀, Wau, 24–25.xi.1979, at light, J. N. Martin, BM 1980–150, BMNH; ♂, BGL Distr. nr. Kurwina, 27.ix.1983, ex Citrus, E. J. Broush (C. I. E. A 15570); BMNH.

15. **Sephena fuscara** Medler, **new species** Figs. 125, 154

*Diagnosis*: Frons median and U-carinae weak, dorsal margin transverse, delimiting median anterior margin of flat narrow ledgelike vertex, which has posterior margin defined by intergenal transverse carina adjacent to anterior margin of pronotum. Head and pronotum dull green, mesothorax stramineous, tegmen membrane olivaceous green, veins green, apical and postclaval sutural margins red, sutural margin narrowly fuscous from base to claval apex. Dark red brown spots on tegmen distributed as illustrated (Fig. 125). This spot pattern is stable in faded specimens that are colored orange testaceous. Holotype genitalia illustrated (Fig. 154).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.00, 7.50; v 0.21, 0.25; f 0.91, 1.00; p 0.37, 0.37; m 1.25, 1.49; t 5.96, 6.47; pcl 1.83, 1.83. Width: v 0.91, 0.83; f 1.08, 1.16; t 2.82, 3. 15. Hind leg spine formula: 1: 6: 6, 1: 6: 6.

*Types*: Holotype ♂ (BPBM 16,103), Allotype ♀, **PAPUA NEW GUINEA**: Northern Prov, Kokoda-Pitoki, 400 m, 23.iii.1956, J.L. Gressitt, BPBM. Paratypes, ♀, Popondetta, 25 m, light trap, vi.1966, Shanahan-Lippert, BPBM; ♂, 2♀, Kokoda, 1200 ft (366 m), vii. -viii.1933, L.E. Cheesman, BM 1933–427, BMNH.

16. **Sephena gatula** Medler, **new species** Fig. 77

*Diagnosis*: Tegmen sutural angle obtusely convex, Cu cell widened, slightly wider than M cell, red spots in Cu cell large, M cell also with large red spots, discal cell crossvein with red spot, row of smaller red spots in sutural cell of clavus. Holotype genitalia illustrated (Fig. 77).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.00, 8.00; v 0.17, 0.25; f 1.00, 1.00; p 0.33, 0.37; m 1.49, 1.66; t 6.81, 6.97; pcl 1.66, 1.83. Width: v 0.91, 1.00; f 1.20, 1.33; t 3.49, 3.82. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,104), Allotype, ♀, **IRIAN JAYA**: Nabire, S. Geelvink Bay, 0–30 m, light trap, 2–9.vii.1962, J.L. Gressitt, BPBM.

17. **Sephena guttifera** Melichar Figs. 78, 126

*Sephena guttifera* Melichar, 1902: 126 (n. sp., pl.iv, fig. 5); Metcalf, 1957: 368 (cat); Medler 1986c: 114 (fig. 10, holotype). Holotype ♀, Irian Jaya: Roon Is, Fruhstorfer, HNHM.

*Diagnosis*: Tegmen figured by Melichar (1902, fig. 5) shows spot pattern, but redrawn illustration of tegmen (Fig. 126) provides better details of cell and vein morphology. Tegmen discal cell crossvein with red spot, apical margin uniformly rounded, usually with wide fuscous border, postclaval sutural margin strongly convex, cell Cu slightly widened, cell M noticeably wider than Cu cell (about 3: 1), cell M with 2 large red spots, one on each side of Cu-M oblique vein. Genitalia of specimen from Nabire are illustrated (Fig. 78). Pygofer pointed at posterior-dorsal margin; aedea-

gus ventral process arising apically, not reaching posterior margin of pygofer.

*Measurements*: ♂, ♀, specimens from Nabire. Length: overall 9.0, 9.0; v 0.33, 0.3.7 f 1.08, 1.08; p 0.42, 0.33; m 1.66, 1.66; t 7.47, 8. 13; pcl 2.49, 2.49. Width: v 0.79, 0.83; f 1.12, 1.16; t 4.65, 4.98. Hind leg spine formula: 1: 6: 6, 1: 6: 6.

*Specimens examined*: **IRIAN JAYA**: Nabire, S. Geelvink Bay, 0–30 m, 2–9.vi–25.viii.1962, 2♂, 4♀, J.L. Gressitt; Nabire, S. Geelvink Bay, 2–9.vi-, 25.vii-, 1–4.ix.1962, 3♂, 2♀, J. Sedlacek; Vogelkop, Sucumi Camp nr head of Ransiki Riv, 300 m, 6.viii.1957, ♀, D.E. Hardy; BPBM.

*Taxonomic note*: *S. guttifera* and *S. albescens* have closely related characters of tegmina and male genitalia. The presence or absence of large red spots distinguish the species.

Melichar's collection MMBC has a ♂ and ♀ with exactly the same labels as holotype deposited in HNHM. Melichar's original description undoubtedly was based on more specimens than the single ♀ in HNHM, as the original description gives variability "5 to 6 large red spots" on tegmen, and "2 to 3 spots in subcostal cell." As the specimens are part of the original material determined by Melichar, they are here designated as paralectotypes.

### 18. **Sephena hijeka** Medler, **new species** Figs. 79, 127

*Diagnosis*: Tegmen illustrated (Fig. 127), apical margin straight, with slight sinuate indent at sutural angle. Discal cell crossvein with red spot; Cell M basal cross vein with red spot; Cell Cu approximately same width as cell M, with red spots. Holotype genitalia illustrated (Fig. 79). Pair of processes of unequal length arising dorsally from aedeagus apical coil, curving basad.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.50, 8.50; v 0.17, 0.21; f 1.00, 1.00; p 0.33, 0.33; m 1.49, 1.49; t 6.31, 6.47; pcl 1.99, 1.99. Width: v 1.12, 1.08; f 1.33, 1.33; t 2.82, 2.99. Hind leg spine formula: 1: 6: 8, 1: 6: 10.

*Types*: Holotype ♂ (BPBM 16,105), Allotype, ♀, Paratypes, 9♂, 11♀, **PAPUA NEW GUINEA**: Eastern Highlands Prov, Kassam, 45 km E of Kainantu, 1350 m, 7.xi.1959, T.C. Maa, BPBM.

### 19. **Sephena infumata** Medler Figs. 80, 150

*Sephena infumata* Medler, 1989: 36 (n. sp., fig. 5, (45 sic)). Holotype, ♂, Papua New Guinea, Laloki, BPBM.

*Diagnosis*: See original diagnosis (Medler, 1989: 36). The tegmen of allotype female is illustrated (Fig. 150) to show distribution of dark fuscous spots and concentration of dark crossveins in apical area that accentuate rectangular cell pattern; apical margin fuscous without traces of red. The species is separated from other members of the *conspersa* complex that may have strong fuscous spots by pair of dorsal processes arising basally from the aedeagus (Fig. 80).

*Specimens examined*: Prior records: (Medler, 1989: 36): **PAPUA NEW GUINEA**: Aieme River, Daradae, Dilo, Kapagere, Kapakapa, Kokebagu, Laloki, Musgrove River, Poligolo, Port Moresby, Rigo, Sirinumu.

*Taxonomic note*: Medler (1989: 36) erroneously switched captions of Figures 46 and 45. The genitalia shown in Fig. 45 is *S. infumata*, not *S. conforma* as captioned. The redrawn holotype (Fig. 80) correctly shows genitalia characters of *infumata*. Also, in measurements given for tegmen width at claval apex, a typographical error of 3.32, 3.82 is corrected to read 2.82, 3.32. The tegmen is illustrated (Fig. 150).

### 20. **Sephena interstincta** Melichar Fig. 81

*Sephena interstincta* Melichar, 1902: 126 (n. sp.); Metcalf, 1957: 368 (cat); Medler, 1968c: 144 (fig. 8, lectotype). Lectotype ♂, Papua New Guinea, Seleo, Berlinhafen, Biró, HNHM.

*Sephena antica* Melichar, 1902: 127, nec *Nephesa antica* Walker, 1870: 178, (misidentified).

*Diagnosis*: Tegmen light green, margins red, membrane without distinct red spots; sometimes with red flecks on crossveins. Male genitalia redrawn (Fig. 81). Pygofer margin rounded, not pointed on posterior-dorsal margin. Aedeagus medially with ventrally directed thumb-like process.

*Measurements*: ♂ ex Bainyik, ♀ ex Angoram. Length: overall 7.5, 8.0; v 0.13, 0.17; f 0.91, 1.00; p 0.33, 0.33; m 1.49, 1.66; t 6.64, 6.81; pcl 1.66, 1.66. Width: v 1.16 1.16; f 1.33, 1.37; t 3. 15, 3. 15. Hind leg spine formula: 1: 6: 7, 1: 6: 8.

*Specimens examined*: 49♂, 34♀. **PAPUA NEW GUINEA**: West Sepik Province, Seleo Island, HNHM, MMBC; East Sepik Province, Angoram, Bainyik, Kinbangwa, Maprik, Wewak; Madang Province, Karkar Island, Madang; Western Highlands Province, Wum, Upper Jimi Valley, BPBM; Maprik, BMNH; Madang Province, Sapi Forest Reserve, CASC; Madang Province, Awar, Boroi, Boisa volc., Condor Point, Sta. 066, Laing Island, Manae volc., Podbielsky Point, Sepen vill. #2, Sta. 059. Talia Point; Morobe Province, Lae, Sta. 057, ISNB.

*Taxonomic Note*: Melichar's collection in MMBC contains a ♂ and 2♀ with exactly the same labels as specimens in HNHM that were designated lectotype and paralectotype by Medler (1986c: 114). As the specimens undoubtedly are part of the original material determined by Melichar, they are here designated as paralectotypes.

21. **Sephena intexa** Medler, new species Figs. 82, 128

*Diagnosis*: Anterior margin of head without transverse ledge. Tegmen of allotype ♀ illustrated (Fig. 128) shows sutural margin obtusely rounded. Holotype genitalia illustrated (Fig. 82); aedeagus widened clublike apically, narrow ventral process arising laterally from apical coil, lateral carinae of aedeagus without toothlike spine.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.0, 8.5; v 0.33, 0.33; f 1.04, 1.08; p 0.42, 0.42; m 1.49, 1.49; t 6.97, 7.30; pcl 2.49, 1.99. Width: v 1.08 1.04; f 1.33, 1.33; t 3.65, 3.82. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,106), **PAPUA NEW GUINEA**: Morobe Prov, Lae, sea level, 4.vii.1961, J. and J. H. Sedlacek; Allotype, ♀, Busa R. E of Lae, 100 m, 14.ix.1955, J.L. Gressitt; BPBM. Paratypes, 2♂, Lae, sea level, 4.vii.1961, J. and J. H. Sedlacek; ♂, 6 mi N. W. Lae, Rainforest, 15 m, 9.vii.1957, D.E. Hardy; 2♂, Bubia, Markham V, 50 m, 19.ix.1955, J.L. Gressitt; 2♀, Busa R. E of Lae, 100 m, 14.ix.1955, J.L. Gressitt; ♀, Huon Peninsula, Finschhafen, 10 m, 16.iv.1963, J. Sedlacek; ♂, Muming, 600 m, 9–10.iii.1962, J. Sedlacek. Eastern Highlands Prov, ♀, Kassam, 1350 m, 48 km E of Kainantu, 30.x.1959, T.C. Maa. Madang Prov, 2♀, Baitabag Village, ix.1995, on *Ficus nodosa*, 4♀, viii.1995, on *Ficus septica*, 3♀, 20–30.vi.1995, on *Ficus variegata*, 2♂, Ohu Village, vi, viii.1995, on *Ficus botryocarpa*, 6♂, 7♀, i.1995, on *Ficus phaeosyce*, 8♂, viii, xii.1995, on *Ficus pungens*, V. Novotny, BPBM. ♂, Sapi Forest Reserve, 30 km W Madang, 10.ii.1987, N. D. Penny, CASC; Morobe Prov, ♀, Lae, 6.iv.1945, E. L. Troughton, AMSA. **IRIAN JAYA**: 10♂, 20 ♀, Bodem, 11 km SE of Oerberfaren, 100 m, 7–17, July, 1959, T.C. Maa; 2♀, Bodem, Sarmi Ara, 10.vii.1959, T.C. Maa; 4♂, 2♀, Genjam, 40 km of Hollandia, 100–200 m, 1–10.iii.1960, T.C. Maa; 3♂, 3♀, Hollandia, W. Sentani, Cyclops Mts, 150–250 m, 18–24.vi.1959, T.C. Maa; BPBM. ♀, Araucaria Camp, 800 m, 29.iii.1939; ♀, Bernhard Camp, mountain slope above, 750 m, 19.iii.1939, L.J. Toxopeus, Archbold Exped III, RMNH.

22. **Sephena ketena** Medler, new species Fig. 83

*Diagnosis*: Frons U-carinae with slight indication of triangular projection at dorsal margin, vertex not defined by convex extension of frons on dorsum of head. Tegmen apex nearly parabolic, sutural angle broadly convex, costal angle narrowly rounded; 3 longitudinal veins arising from basal stem, origin of S vein obscured by pustules. Color of tegmen stramineous with indication of green at apex; few red spots scattered in basal half of tegmen, along with strong expression of red spots at 3 sites: namely, discal cell crossvein, M+Cu basal crossvein, 2 large spots in Cu cell. Holotype genitalia illustrated (Fig. 83); aedeagus clublike apically, apical process arising from coil short and shallowly curved, small spine on dorsal margin of aedeagus.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.25, 8.50; v 0.42, 0.42; f 0.91, 1.00; p 0.37, 0.42; m 1.66, 1.83; t 6.64, 6.97; pcl 1.83, 1.66. Width: v 1.00, 1.08; f 1.33, 1.33; t 3.49, 3.65. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,107), Allotype, ♀, Paratypes ♂, ♀, **PAPUA NEW GUINEA**: Sepik Prov, Dreikikir, 350–400 m, 22–23.vi.1961, J. L. & M. Gressitt, BPBM. Paratypes, 2♂, ♀, East Sepik Prov, Amok, 165 m, 6.i.1960, T.C. Maa; ♂, Bainyik, S of Maprik, 150 m, 12.i.1960, T.C. Maa, 4♂, 4♀, **IRIAN JAYA**: Genjem, 40 km W of Hollandia, 100–200 m, 1–10.iii.1960, T.C. Maa; ♀, Hollandia, 13.iii.1960, T.C. Maa, BPBM.

23. **Sephena kuloma** Medler, new species Fig. 84

*Diagnosis*: Frons dorsal margin without ledge, vertex not developed. Tegmen with oval apical margin; cell C widened medially, slightly wider than cell M. Holotype genitalia illustrated (Fig. 84); apical coil of aedeagus with sinuate slender lateral process oriented dorsally,

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.50, 8.00; v 0.29, 0.33; f 0.83, 0.91; p 0.33, 0.33; m 1.33, 1.41; t 6.31, 6.64; pcl 1.66, 1.49. —Width: v 0.91, 0.91; f 1.16, 1.25; t 3.49, 3.32. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,108), Allotype, ♀, Paratypes, 7♂, 7♀, **PAPUA NEW GUINEA**: East Sepik Prov, Maprik, 160 m, 29.xii.1959–17. 1.1960, T.C. Maa; Paratypes, ♂, 3♀, Angoram, 10–30 m, palms, 14–16.viii.1969, J.L. Gressitt; 2♂, 6♀, Bainyik, S of Maprik, 150 m, 12.i.1960, T.C. Maa; ♀, Maprik area, 160m, 26.viii.1957, D.E. Hardy; ♂, Maprik, 150 m, 29.xii.1959–16.i.1960, T.C. Maa; **IRIAN JAYA**: ♂, Waris, S of Hollandia, 450–500 m, 1–7.viii.1959, T.C. Maa; ♀, Kuala Kencana, lowland rainforest, 100 m, 10–17.iii.1997, S.E. Miller *et al.*, Freeport Biodiversity Survey; BPBM. ♂, Araucaria Camp, 800 m, 18.iii.1939, ♀, Rattan Camp, 1200 m, 13.ii.1939, L.J. Toxopeus, Archbold Exped III, RMNH.

24. **Sephena linirosa** Medler, new species Fig. 85

*Diagnosis*: Frons convex, terminating on dorsum of head at intergenal transverse carina adjacent to anterior margin of pronotum; vertex reduced to small triangular interspace between pronotum and eye margin. Color of body and tegmen dark stramineous; tegmen precostal margin strongly red; membrane without transverse crease or submarginal alignment of crossveins; Cu cell triangular, about same width as M cell. Female anal plate small, circular. Holotype genitalia illustrated (Fig. 85). Pygofer margin with posterior dorsal margin strongly pointed. This taxon is closely related to complex of species with 1: 5 hind leg spine formula, and distinguished by different characters of male and female genitalia.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 6.00, 6.50; v 0.17, 0.17; f 0.83, 1.00; p 0.29, 0.33; m 1.16, 1.16; t 5.48, 5.81; pcl 1.49, 1.66. Width: v 0.62, 0.71; f 0.83, 0.91; t 2.82, 2.99. Hind leg spine formula: 1: 5: 7, 1: 5: 6.

*Types*: Holotype, ♂, Allotype, ♀, **PAPUA NEW GUINEA**: Morobe Prov, Herzog Mts, Vagau, 4000 ft (1219 m), 4–17.i.1965, M. E. Bachus, BMNH.

25. **Sephena marena** Medler, new species Fig. 86

*Diagnosis*: Frons U-carina weakly developed, dorsal margin with weak indication of separation from remnant vertex; strong intergenal transverse carina adjacent to anterior margin of pronotum. Tegmen with R+S basal stem; sordid white apically, stramineous basally, conforming with color of head and thorax; faint traces of red on a few scattered crossveins, without discernible pattern of spots. Holotype genitalia illustrated (Fig. 86); aedeagus ventral process spine-like: dorsal margin of aedeagus with triangular bump, base of lateral coil large, foot like. The genitalia characters differ from other species reported in Madang Province.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.50, 8.00; v 0.17, 0.17; f 1.00, 1.08; p 0.33, 0.42; m 1.66, 1.66; t 6.81, 7.30; pcl 0.16, 2.66. Width: v 1.16, 1.16; f 1.49, 1.33; t 3.49, 3.82. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,109), **PAPUA NEW GUINEA**: Madang, 0–100 m, viii.1968, N.L.H.

Krauss; Allotype, ♀, Karkar Is, Kurum, 0–100 m, viii.1968, N.L.H. Krauss; Paratypes, Madang Prov, 3♂, ♀, Baitabag Village, vii-ix.1995, on *Ficus conocephalifolia, copiosa, septica*; 3♂, 2♀, Ohu Village, viii-ix.1995, on *Ficus dammaropsis, variegata*, V. Novotny; BPBM.

26. **Sephena medova** Medler, **new species** Fig. 87

*Diagnosis*: This taxon has superficial appearance of *S. astigma*, but differs in obtuse shape of apical margin of tegmen and male genitalia characters. Frons median carina short, without indication of U-carina or ledge on anterior margin of head, no vertex. Tegmen Cu cell widened medially, cross veins with orange spots; clavus with similar orange spots along sutural margin. Holotype genitalia illustrated (Fig. 87); aedeagus clublike apically, processes arising laterally from apical coil; at midlength a toothlike spine above the lateral ledge.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.50, 8.00; v 0.25, 0.21; f 1.00, 0.91; p 0.33, 0.33; m 1.45, 1.49; t 6.31, 6.31; pcl 1.83, 1.83. Width: v 0.87, 1.00; f 1.08, 1.16; t 3.32, 3.49. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,110), Allotype, ♀, **IRIAN JAYA**: Waris, S. of Hollandia, 450–500 m, 24–31.viii.1959, T.C. Maa, BPBM. Paratypes, 15♂, 13♀, Same label as the holotype, except dated 1–7.viii (♂, ♀), 8–15.viii (2♂, 4♀), 16–23.viii. (2♂), 24–31.vii.1959 (10♂, 8♀); BPBM.

27. **Sephena nadira** Medler, **new species** Fig. 88

*Diagnosis*: Frons as long as wide, convex dorsally, replacing vertex. Mesonotum with strong median and lateral longitudinal carinae. Tegmen light testaceous, without red markings, basal origin of S vein obscured by pustules. Cu cell at widest part not as wide as M cell. Holotype genitalia illustrated (Fig. 88); aedeagus clublike apically, processes arising laterally from apex; without elongate ventral process.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.50, 9.00; v 0.17, 0.17; f 0.83, 1.16; p 0.33, 0.42; m 1.33, 1.66; t 5.48, 8.96; pcl 1.83, 2.99. Width: v 0.66, 0.91; f 0.83, 1.08; t 2.99, 3.98. Hind leg spine formula: 1: 6: 6; 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,111), **IRIAN JAYA**: Kulima, 1400 m.19–22.ii.1960, T.C. Maa. Allotype, ♀, Swart Valley, Karubaka, 1300 m, 7.xi.1958, J.L. Gressitt, BPBM.

28. **Sephena nivosa** (Walker)

*Nephesa nivosa* Walker, 1870: 178 (n. sp.); Medler, 1990a, 152 (fig. 13, holotype). Holotype ♂, [New Guinea] Mysol, Wallace, BMNH.

*Ricania consentanea* Walker, 1870: 161 (n. sp.); Medler, 1990a: 138 (lectotype); Medler, junior synonym of *Nephesa nivosaa* (Walker), here designated, **NEW SYNONYMY**. Lectotype, ♀, Mysol, Wallace, BMNH.

*Sephena consentanea*, Distant, 1910b: 335 (comb); Metcalf, 1957: 367 (cat).

*Sephena nivosa*, Medler, 1989: 64 (comb).

*Diagnosis*: Tegmen pale colored, without spots; 3 longitudinal veins, R,S,M, arising from basal stem. Unique characters of male genitalia figured by Medler, (1990a: fig. 13); aedeagus broad basally, narrowing apically, irregular on dorsal surface; devoid of dorsal process or ventral process arising from apex.

*Measurements*: Holotype ♂. Length: overall 7.0; v 0.17; f 0.87; p 0.33; m 1.38; t 5.96; pcl 2.32. Width: v 0.83; f 0.79; t 3.65. Hind leg spine formula: 1: 5: 6.

*Specimens examined*: Known only from type material, Mysol.

*Taxonomic note*: Melichar's (1902: 119) record of *Paratella nivosa* was based on a ♀ specimen from Rockhampton, Australia, in the Stockholm Museum. This specimen resembles *Taparella minima* Medler from New Guinea, but differs in tegmina having the sutural angle acute, not obtuse. The Metcalf catalog entry of *P. nivosa* (1957: 377) is not correct.

29. **Sephena opara** Medler, **new species** Fig. 89

*Diagnosis*: Tegmen margins bold red; red spot on discal cell crossvein; M cell twice wider than Cu cell, with large red spot basad of M-Cu oblique vein, no spots apicad of crossvein. Holotype genitalia illustrated (Fig. 89); pygofer posterior-dorsal margin pointed.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.50, 10.00; v 0.29, 0.29; f 0.95, 1.08; p 0.37, 0.50; m 1.49, 1.83; t 6.81, 8.96; pcl 2.49, 2.99. Width: v 0.87, 0.91; f 1.04, 1.08; t 3.49, 4.65. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,112), Allotype, ♀, Paratype, ♀, **IRIAN JAYA**: Kutsime, W of Swart Valley, 1500 m, 14.xi.1958, J.L. Gressitt, BPBM.

30. **Sephena parasa** Medler, **new species** Fig. 90

*Diagnosis*: Vertex narrow transverse ledge, anterior margin formed by dorsal margin of U-shaped frontal carinae. Fuscous coloration and spot pattern strongly resembles *S. infumata*, but larger black spots may have red halo; veins in apical area of tegmen not forming distinctive network of rectangular cells. Apex of clavus strongly infuscate; large round white wax pustular spots along suture. Holotype genitalia illustrated (Fig. 90); aedeagus apical coil with large dorsal process; curved ventral process reaching pygofer; lateral carinate ledge extending from apical coil without tooth.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.00, 8.00; v 0.17, 0.17; f 1.00, 1.00; p 0.33, 0.33; m 1.49, 1.49; t 6.47, 6.31; pcl 1.99, 1.99. Width: v 1.08, 1.00; f 1.37, 1.29; t 2.99, 2.82. Hind leg spine formula: (hidden), 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,113), Allotype, ♀, Paratype, ♀, **PAPUA NEW GUINEA**: Central Prov, Tapini, 800–1000 m, xi.1968, N.L.H. Krauss; ♀, Gulf Prov, Murua River (S side), 10 m, 20.xii.1964, J. Sedlacek, BPBM.

31. **Sephena parena** Medler, **new species** Figs. 91a, 91b

*Diagnosis*: Large dark red spots in Cu cell of tegmen have close superficial resemblance to red spots of *S. punctula*. Tegmen apical margin meeting sutural margin at angle; Cu cell twice wider than M cell; with 1 large, 1 small red spot; no spot on discal cell crossvein; no trace of red on vestigial vertex next eyes, red vein terminals in precostal and apical margins. Holotype genitalia illustrated (Fig. 91a, 91b); Aedeagus clublike apically, short curved dorsal and ventral processes arising laterally from apex. Pygofer posterior-dorsal margin angulate.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.50, 7.50; v 0.21, 0.25; f 0.95, 1.00; p 0.33, 0.33; m 1.33, 1.49; t 6.47, 7.30; pcl 1.83, 2.32. Width: v 0.79, 0.95; f 1.00, 1.12; t 3.32, 4. 15. Hind leg spine formula: 1: 5: 6, 1: 5: 7.

*Types*: Holotype ♂ (BPBM 16,114), **PAPUA NEW GUINEA**: Northern Prov, Kokoda, 28–29.iii.1956, J.L. Gressitt, BPBM; Allotype, ♀, Morobe Prov, Buso, hillside forest, 15.x.1979, J. H. Martin, BMNH; Paratypes, ♀, Central Prov, tent trap, 15.ix.1971, E. Kasaiwabu, BPBM; ♂, ♀, Morobe Prov, Buso, ix-x.1979, J.H. Martin, BMNH.

32. **Sephena polara** Medler, **new species** Fig. 92

*Diagnosis*: Frons length and width equal or nearly so; precostal margins red or faded red; Cu cell widened noticeably at Cu-M oblique vein, no red spots in Cu cell; veins may be outlined in red; smaller size and greenish, otherwise difficult to distinguish from *rubrovenosa*, except by spine formula 1: 5, morphology of Cu cell and differences in ♀ anal segment which is small and oval. Holotype genitalia illustrated (Fig. 92); apical processes of aedeagus are distinctive.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.0, 8.0; v 0.29, 0.21; f 0.83, 0.87; p 0.29, 0.29; m 1.00, 1.16; t 5.64, 6.47; pcl 1.83, 1.83. Width: v 0.62, 0.71; f 0.83, 0.91; t 2.99, 3.32. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype ♂ (BPBM 16,115), **PAPUA NEW GUINEA**: Morobe Prov, Wau, 1750 m, Malaise trap, 30.viii.1965, J. & M. Sedlacek; Allotype, ♀, Wau, 15.i.1969, J. Sedlacek, BPBM. Paratypes: Morobe Prov, ♂, Bulolo, 850 m, 24.viii.1965, J. & M. Sedlacek; 2♀. Mt Missim, 1400–1600 m, 25.xii.1964, L. & M. Gressitt; ♂, Mt. Missim, 1600 m, 17.iii.1966, J.L. Gressitt; ♀, Mt. Missim, 1300 m, Malaise trap, 7–21.xii.1966, G. A. Samuelson; ♀, Wau, Edie Creek, 1600–200 m, i.1966, J. Sedlacek; ♀, Wau, 1200–1500 m, vii.1968, N.L.H. Krauss; 3♀, Wau, 1400 m, 20.xii.1961, L. W. Quate; ♀, Wau, 1700 m, 13.xi.1966, G. A. Samuelson; ♂, ♀, Wau, 1250–1750 m, Malaise trap, 11–20.viii.1965, J. & M. Sedlacek; ♂, Wau, 15.3.1969, J. Sedlacek; BPBM. ♂, Namie Creek, Station 1097, 23.v.1982, P. Grootaert, ISNB.

### 33. Sephena punctula Melichar — Figs. 93, 129

*Sephena punctula* Melichar, 1902: 124 (n. sp.); Metcalf, 1957: 369 (cat); Medler, 1986b: 303 (fig. 5, lectotype). Lectotype ♂, Papua New Guinea, Moroka, Loria, MCSN. *Sephena obtusa*, Medler, 1986b: 303 (syn, error).

*Diagnosis*: Tegmen illustrated (Fig. 129); single large red spot in Cu cell, centered on same plane as M-Cu crossvein; variants have additional smaller spot apicad of large spot; no spot on discal cell crossvein; membrane may be suffused with red, and heavily concentrated in veins along costal margin. Male genitalia is redrawn (Fig. 93); to show detail of elongated ventral process arising from apical coil; dorsal surface with flap.

*Specimens examined* (all new records): **PAPUA NEW GUINEA**: CENTRAL PROV, Daradae Pltn, 500 m, 80 km N to Port Moresby, 4–7.ix.1959, 7♂, 5♀, T.C. Maa; Daradae, nr Javarere, Musgrove Riv, 100 m, 4.x.1958, ♂, J.L. Gressitt; SE, Mamai Pltn, nr Port Glasgow, 100–150 m, 27.i–4.ii.1965, 5♂, ♀, R. Straatman; Port Moresby, 25 mi radius, vi.1928, ♂, 3♀, Pemberton; Otomato Pltn, 1 mi E of Moresby, Malaise trap, 2.xi.1960, ♂, J.L. Gressitt; Owen Stanley Range, Goilala, Tapini, 975 m, 16–25.xi.1957, ♀, W.W. Brandt; NORTHERN PROV, Keparra-Sengi, nr Kokoda, 500 m, 26.iii.1956, ♂, 2♀, J.L. Gressitt; Normanby Is, Wakaiuna, Sewa Bay, 1–30.xi–1–20.xii.1956, 2♂, 8♀, W.W. Brandt; Woodlark Is (Murua), Kalumadau Hill, 4–9.iii.1957, 2♀, W.W. Brandt; BPBM. CENTRAL PROV, Mamai Est, on 16 yr old cacao tree, 18.ii.1963, ♂, E. Kanjiri; Aieme Riv, 400 m, 7.vii.1985, 2♂, J.W. Ismay; Milne Bay Prov, K. B. Pltn, ix.1959, ♀, on *Theobroma cacao*, ♂, on *Coffea liberica*, Waema, ♀, Bemari, ♀, on *Coffea canephora*, K. S. Cole; BPBM ex PNGDPI; NORTHERN PROV, Mt. Lamington, 4.vii.1927, ♀, C. T. McNamara, AMSA.

### 34. Sephena quintena Medler, new species — Fig. 94

*Diagnosis*: Frons U-carinae merged with intergenal transverse carina to form anterior margin of head, no vertex. Tegmen elongate parabolic, strong crease in membrane curving from claval apex to costal margin, very faint indication of submarginal line; 3 longitudinal veins arising from basal stem, no R+S stem. Tegmen tinged light green, margins strongly red, no red spots, thin fuscous line on sutural margin of clavus, pair of wide light fuscous longitudinal bands on mesonotum.
Holotype genitalia illustrated (Fig. 94).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.00, 7.00; v 0.17, 0.13; f 1.00, 1.00; p 0.37, 0.33; m 1.16, 1.33; t 6. 14, 6. 14; pcl 1.83, 1.66. Width: v 0.79, 0.79; f 1.04, 1.00; t 2.99, 2.99. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Types*: Holotype, ♂, **AUSTRALIA**: Queensland: Kuranda, iv.1904, F. P. Dodd, BMNH; Allotype, ♀, Hambledon, xi.1921, Pemberton, BPBM; Paratype, ♀, **SOLOMON ISLANDS**: Guadalcanal, Gold Ridge, 800 m, 23.vi.1956, J.L. Gressitt, BPBM.

### 35. Sephena ramana Medler, new species — Figs. 95, 130

*Diagnosis*: Tegmen illustration (Fig. 130) shows postclaval sutural and apical margins meeting at sharp right angle, apex slightly pointed; discal cell crossvein with red spot; Cu cell not widened medially, without spots; M cell twice wider than Cu cell, with 2 large round red spots.
Holotype genitalia illustrated (Fig. 95); pygofer pointed at posterior-dorsal margin; elongate ventral

process arising from apical coil, apical margin uniformly rounded.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.00, 9.00; v 0.25, 0.42; f 0.91, 1.16; p 0.37, 0.50; m 1.16, 1.66; t 6.47, 7.97; pcl 2.16, 2.66. Width: v 0.66, 0.83; f 0.83, 1.08; t 4.32, 5. 15. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,116), Paratypes, 5♂, **PAPUA NEW GUINEA**: East Sepik Prov, Maprik, 160 m, 29.xii.1959– 17.i.1960, T.C. Maa, BPBM. Allotype, ♀, Paratypes, ♂, ♀, **IRIAN JAYA**: Waris, S of Hollandia, 450–500 m, 7–23.viii.1959, T.C. Maa, BPBM.

36. **Sephena rosata** Medler, **new species** Figs. 96, 115, 131

*Diagnosis*: Anterior margin of head without ledge, transverse intergenal carina adjacent to anterior margin of pronotum; remnant of vertex between pronotum and margin of eye; tegmen (Fig. 131) with scattered prominent red spots, apical margin slightly sinuate at sutural angle, sutural angle pointed; Cu cell widened medially, with large red spots fitted to varying widths of cell. Holotype genitalia illustrated (Fig. 96); aedeagus clublike apically, processes arising laterally from apex; toothlike spine on carinate lateral ledge. Genitalia of allotype female illustrated (Fig. 115). Metatibial 6 apical spines are not typical, having penultimate spine much smaller and off line of 5 larger spines of uniform size.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.00, 7.25; v 0.29, 0.25; f 0.91, 1.00; p 0.33, 0.33; m 1.49, 1.49; t 6. 14, 6.31; pcl 1.99, 1.99. Width: v 0.83, 0.87; f 1.16, 1.16; t 3.32, 3.49. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,117), Allotype, ♀, Paratypes, 9♂, 10♀, **PAPUA NEW GUINEA**: East Sepik Prov, Ambunti, Sepik Riv, light trap, 50–200 m, 7–9.v.1963, R. Straatman; BPBM. ♂, 2♀, Angoram, Sepik Riv, 19–20.iv.1965, R. Straatman; Madang Prov: 2♂, Ohu Village, 20–30.vi.1995, on *Ficus botryocarpa*, 2♂, viii, ix.1995, on *Ficus pungens*, V. Novotny; ♂, 2♀, Wanuma, 600–720 m, viii.1968, N.L.H. Krauss; BPBM. Madang Prov, 6♂, 7♀, Sepen Village No. 2, iv-vi.1988, Stations 001, 007, 012, 014, 063, 064, 068; 3♂, ♀, Mt. Hanseman, 14.vi.1988, Station 071, J. Van Stålle, Acc. No. 27363; ISNB. Morobe Prov, ♀, Bubia Lae, 4.vii.1957, on *F. pungens*, J. H. Ardley; ♀, Ulap, 800–1100 m, ix.1968, N.L.H. Krauss, BPBM. 3♂, ♀, Finschhafen, 14.iv.1944, E. S. Ross, CASC. **IRIAN JAYA**: ♀, Hollandia, 17.vii.1938, L.J. Toxopeus, Archbold Exped III, RMNH.

37. **Sephena rubrovenosa** Melichar Figs. 97a, 97b, 116

*Sephena rubrovenosa* Melichar, 1902: 126 (n. sp.); Metcalf, 1957: 370 (cat); Medler, 1986a: 112 (fig. 14, holotype); Medler, 1989: 38 (fig. 48, rev.). Holotype ♂, Papua New Guinea, New Britain, Gazelle Peninsula, SMTD.

*Sephena pulchra* Melichar, 1902: 128 (n. sp.); Metcalf, 1957: 369 (cat); Medler, 1986e: 50 (fig. 12, holotype); Medler, junior synonym of *Sephena rubrovenosa*, here designated, **NEW SYNONYMY**. Holotype ♂, Papua New Guinea, Kaiser Wilhelmland, Stephansort, Rohde, ZMHB.

*Diagnosis*: Tegmen without spots in Cu cell; Cu cell not widened medially at Cu-M oblique vein. Female anal segment of specimen from Finschhafen illustrated (Fig. 116); large, elongate oval. Male genitalia of specimen ex Bodem illustrated (Fig. 97a, b); aedeagus bladelike, broad basally, strongly narrowed apically, dorsal process arising basally, uniquely downturned; anal segment bifid apically.

*Measurements*: ♂, ♀, ex Bodem. Length: overall 7.0, 7.5; v 0.25, 0.29; f 0.91, 1.00; p 0.33, 0.37; m 1.33, 1.49; t 5.96, 6.64; pcl 1.66, 1.66. Width: v 0.79, 0.83; f 1.08, 1.12; t 3.49, 3.82. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Specimens examined*: Old records (Medler, 1989): Bubia, Finschaffen, Lae, Madang.

*New records*: **PAPUA NEW GUINEA**: EASTERN HIGHLANDS PROV, Karimui, S of Goroka, 1000 m, 3.vi.1961, ♀, Gressitt; BPBM. EAST SEPIK PROV, Amok, 165 m, 6.i.1960, 3♀, T.C. Maa; BPBM. MADANG PROV, Baitabag Village, on *Ficus bernaysii, pungens, septica*, viii-ix.1995, 4♂, ♀; Ohu Village, on *Ficus*

*copiosa, nodosa, trachypison*, ix.1995, ii.1996, 5♂, 5♀, V. Novotny, BPBM; Nagada Harbor, 8 km N of Madang, 6–8.ii.1987, 6♂, 12♀, N. Penny; Sapi Forest Reserve, 30 km W of Madang, 10.ii.1987, ♀, N. Penny; CASC. Brahman Miss, Sta 015, 017, 5–6.v.1988, ♂, 3♀, J. Van Ståhle; Gogol Riv, Sta 072, 15.vi.1988, ♂, J. Van Ståhle; ISNB. MOROBE PROV, Bubia, Markham Vall, 50 m, 17.ix.1955, ♂, Gressitt; Busa Riv, E of Lae, 100 m, 14.ix.1955, 2♀, Gressitt; BPBM. Buso, 13.xi–5.xi.1979, 4♂, 4♀, J. N. Martin, BMNH. Finschhafen, viii-ix.1944, 2♂, DeLancy, AMNH; Finschhafen, iv.1944, 3♂, 7♀, F. E. Skinner, ex Purdue Univ Coll; Huon Peninsula, Finschhafen, 80–200 m, 10–16.iv.1963, ♂, 2♀, J. Sedlacek; Lae, Huon Riv, 24.v.1968, ♂, J. Sedlacek; BPBM. Finschhafen, 12.iv–15.v.1944, 26♂, 25♀, E. S. Ross; Huon Peninsula, 1 mi N of Finschhafen, 18.xi.1969, 2♂, ♀, J. E. Tobler; CASC. Finschaffen, Wareo, (no date), ♂, L. Wagner; Lae, 23.vii.1968, ♀, R. Fisher; SAMA. Wasu, 0–100 m, ix.1968, 3♀, Krauss; BPBM. WESTERN PROV, Fly Riv, Kiunga, 35 m, 1.viii.1969, ♀, Sedlacek; BPBM. **IRIAN JAYA**: Bodem, 11 km SE of Oeberfaren, 100 m, 7–17.vii.1959, 4♂, 3♀, T.C. Maa; Bodem, Sarmi Area, 10.vii.1959, 2♀, T.C. Maa; Hollandia, 24.i.1960, ♂, 4♀, T.C. Maa; Waris, S of Hollandia, 450–500 m, 16–23.viii.1959, ♀, T.C. Maa, BPBM.

*Taxonomic note*: This species was grouped by Melichar with *cyanea, rufomarginata* and *despecta* —all of which are in *Papuanella*.

38. **Sephena rustena** Medler, new species Fig. 98

*Diagnosis*: Frons U-carinae dorsally forming sharp anterior margin of narrow ledgelike vertex, which is bordered posteriorly by transverse intergenal carina. Tegmen postclaval sutural and apical margins meeting at right angle, not sinuate; tegmen with numerous small to medium light red round spots, largest spots at 3 sites: discal cell and M cell crossvein and in Cu cell; apical margin thinly red, vein terminations along margin red, pustules in precostal margin red, minute dots on pronotum red; apex of clavus with large white wax pustules bordered by fuscous.
Holotype genitalia are illustrated (Fig. 98)

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.00, 7.00; v 0.17, 0.17; f 0.91, 1.00; p 0.33, 0.37; m 1.41, 1.49; t 6. 14, 6.31; pcl 1.83, 1.83. Width: v 0.95, 1.00; f 1.20, 1.20; t 2.99, 3. 15. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,118), Allotype, ♀, **PAPUA NEW GUINEA**: Central Prov, Brown Riv, 5 m, 23.x.1962, J.L. Gressitt; Paratypes, ♂, ♀, Brown Riv, 10 m, nr. Port Moresby, on Palm, 5.x.1958, J.L. Gressitt; ♂, ♀, 30.viii.1959, T.C. Maa; ♂, ♀, 5 m, 23.x.1960, J.L. Gressitt; ♂, 22.x.1960, Teak, J.L. Gressitt; ♂, 23.x.1960, Malaise trap, J.L. Gressitt; ♀, 5.xi.1960, Rain Forest, J.L. Gressitt; ♀, betw. Brown Riv. & Vanapa Riv, 16.xii.1964, L. & M. Gressitt; 2♂, Aroa Estate, W. of Redscar Bay, 1 m, 30.ix.1958, J.L. Gressitt; BPBM. 4♂, 6♀, Brown Riv, D. A. S. F. Block 3, on foliage of *Coffea canephora*, 10.ii.1965, J.J.H. Szent-Ivany, H. Kanjiri, & J. Bart, det. *Sephena punctulosa* Dist., M. S. K. Ghauri, 1965, ex TPNG, C. I. E. Coll. No. A101, BMNH.

39. **Sephena sancta** Medler new species Fig. 99

*Diagnosis*: Frons strongly tricarinate, broadly U-shaped, truncate dorsally to form anterior margin of head, portion of frons between U-carinae and lateral margins convexly rounded to dorsum of head. Configuration of frons along with pattern of red spots at 2 sites in tegmen closely resemble *stigmatica*, but absence of round red spot in S1 cell, and loss of red spots in apical area helps in separation of species. Holotype genitalia illustrated (Fig. 99); aedeagus without median dorsal process arising basally; long basally directed spine arising from middle of lateral ledge.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.00, 9.00; v 0.25, 0.17; f 1.00, 1.12; p 0.33, 0.33; m 1.49, 1.66; t 6.64, 7. 14; pcl 1.99, 2.49. Width: v 0.91, 1.00; f 1.16, 1.33; t 2.99, 3.32. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,119), Allotype, ♀, Paratype, ♀, **PAPUA NEW GUINEA**: Mt St. Mary, 1900 m, 22–31.vii.1968, MA, B. Mirza, BPBM. Paratypes, 4♂, 5♀, Mt St. Mary, 900–3000 m, 8–31.vii.1968, Mena, BPBM.

**40. Sephena scutellata** Melichar Fig. 100

*Sephena scutellata* Melichar, 1902: 125, pl. IV, fig. 6 (n. sp.); Medler, 1986c: 115, fig. 12 (Lectotype). Lectotype ♀, New Guinea: Tamara, Berlinhafen, Bireo (Biró), HNHM.

*Diagnosis*: Tegmen postclaval sutural margin rounded apically; large spots in Cu cell, as shown by habitus illustration of Melichar (1902, fig. 6). Genitalia of specimen from Madang illustrated (fig. 100) shows same characters as paralectotype illustrated by Medler (1986c, fig. 12). Aedeagus somewhat clublike apically, processes arising laterally from small apical coil; prominent tooth on or near carinate lateral line of aedeagus is helpful recognition character.

*Measurements*: ♂, ♀, Saidor. Length: overall 9.00, 8.50; v 0.25, 0.33; f 1.08, 1.00; p 0.42, 0.37; m 1.66, 1.49; t 7.47, 6.97; pcl 2.16, 2.16. Width: v 1.08, 1.00; f 1.33, 1.25; t 3.65, 3.49. Hind leg spine formula: 1: 6: 7/8, 1: 6: 7.

*Specimens examined*: **PAPUA NEW GUINEA**: Central Prov, Bisianumu, E. of Port Moresby, primary forest, 500 m, 27.vi.1955, ♀, J.L. Gressitt; BPBM. Madang Prov, Adelbert Mts, Wanuma, 800–1000 m, ♂, 3♀, J.L. Gressitt; Karkar Is, Namau, 0–200 m, 9.viii.1968, 2♂, 3♀, N.L.H. Krauss; Karkar Is, Kurum, 0–100 m, viii.1968, ♂, ♀, N.L.H. Krauss; Madang, 5 m, 22.x.1958, 2♂, ♀, J.L. Gressitt; Finisterre Range, Saidor, Kiambavi Vill, 1–28.viii.1958, 2♂, 2♀, W.W. Brandt; BPBM. Nobonob Hill, 7 km NW Madang, 9–11.ii–2.iii.1987, 7♂, 5♀, N. D. Penny; Naru Riv, 31 km SW Madang, 3.iii.1987, ♀, N. D. Penny; CASC. West Sepik Prov, Aitape, x-xi.1936, 3♂, L.E. Cheesman, BMNH. **IRIAN JAYA**: Waris, S of Hollandia, 450–500 m, 24–31.viii.1959, ♂, T.C. Maa, BPBM. **PHILIPPINE ISLANDS**: Mindanao, Agusan, S. Francisco, 10 km SE, 13-xi.1959, L. W. Quate, BPBM.

**41. Sephena signa** Medler, **new species** Fig. 101

*Diagnosis*: Holotype tegmen green, thin red margin; other syntypes have stramineous tegmina; Cu-M oblique vein joins M at M3/M4 fork; 2 small red spots in Cu cell. Holotype genitalia illustrated (Fig. 101); aedeagus usually clublike apically, dorsal surface without spine, processes arising from apical coil; apical process crescent shaped. This species resembles *spargula*, but differs in genitalia characters.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.25, 8.00; v 0.17, 0.29; f 0.91, 1.00; p 0.33, 0.37; m 1.49, 1.49; t 5.96, 6.81; pcl 1.83, 1.99. Width: v 0.91, 0.95; f 1.16, 1.20; t 3. 15, 3.49. Hind leg spine formula: 1: 6: 7, 1: 6: 8.

*Types*: Holotype ♂ (BPBM 16,120), **PAPUA NEW GUINEA**: West Sepik Prov, Feramin, 120–150 m, 15–18.vi.1959, W.W. Brandt; Allotype, ♀, Paratype ♀, same label except 23–31.v.1959, W.W. Brandt. Paratype, ♂, Feramin, 1450 m, 26.viii.1963, R Straatman, BPBM.

**42. Sephena spargula** (Walker) TYPE SPECIES Fig. 102

*Nephesa spargula* Walker, 1870: 173 (n. sp.); Medler, 1990a: 160 (fig. 20, lectotype). Lectotype, ♂, Papua New Guinea, Wallace, BMNH.

*Nephesa roseosparsa* Walker, 1870: 174 (n. sp.); Medler, 1990a: 158 (fig. 32, lectotype, syn.). Lectotype ♂, Mysol, Wallace, BMNH.

*Sephena spargula*, Melichar, 1902: 124 (comb); Metcalf 1957: 370 (cat); Medler, 1990a: 160 (fig. 20).

*Sephena roseosparsa*, Melichar, 1902: 126 (comb); Metcalf, 1957: 369 (cat); Medler 1990a: 158 (syn).

*Diagnosis*: Tegmen with 2 longitudinal veins, arising from basal stem, short but distinct R+S stem; apical margin rounded, costal and sutural angles about equally convex; cell Cu with 3–5 small round spots on crossveins. Paralectotype genitalia illustrated by Medler (1990a, fig. 20) was redrawn to provide Fig. 102. Pygofer posterior-dorsal margin angular, ventral process of aedeagus reaching posterior margin of pygofer, apex pointed. This taxon is closely related to *bifidex*, and separated by genitalia characters.

*Measurements*: Paralectotype ♂. Length: overall 8.50; v 0.13; f 1.16; p 0.33; m 1.83; t 7.30; pcl 1.66. Width: v 1.08; f 1.37; t 3.98. Hind leg spine formula: 1: 6: 7.

*Specimens examined*: **IRIAN JAYA**: Biak Is, xi.1945, ♂, ♀, H. Blakemore, CASC. Manokwari, 1.ii.1957,

♀, Mees; Star Range, Katem, 200 m, 13.v.1959, 4♀, Nicolas, Neth NG Exped; Bernhard Camp, 50 m, 4.viii.1938, ♂, Olthof, Archbold Exped III; RMNH. **PAPUA NEW GUINEA**: Finschhafen, 4–44, ♂, ♀, F. E. Skinner, Purdue Univ. Coll, NCSU. **SOLOMON IS**: San Cristobal Is, 3,vii.1933, ♀, M. Williams Jr, Templeton Crocker Exped, CASC.

### 43. **Sephena stigmatica** Medler

*Sephena stigmatica* Medler, 1989: 38, fig. 44 (n. sp.). Holotype, ♂, Papua New Guinea, Wau, BPBM.

*Diagnosis*: See original diagnosis and genitalia figure (Medler, 1989: 38, fig. 34). Red spot patterns at 2 sites in tegmen of *stigmatica* and *sancta* are similar, but *stigmatica* may be separated by presence of red spot in S1 cell and crescent line of red spots in apical area. This relatively common taxon in Morobe Province usually may be recognized by external key characters, but identification is done best by study of male genitalia. Ventral process of aedeagus slender, not more than half length of aedeagus.

*Specimens examined*: Prior records: (Medler, 1989: 38): **PAPUA NEW GUINEA**: Bome, Bulldog Road, Edie Creek, Goilala, Guar Is, Kainantu, Kabebe, Kassam, Mt Kaindi, Mendi, Mondo, Okapa, Mt Otto, Wau.

*New Records*: **PAPUA NEW GUINEA**: MOROBE PROV, Bundi, Sta. 022, 1300 m, 9.v.1988, ♂, J. Van Stålle; Bulolo, Manki Ridge, Sta. 037, 18.v.1988, ♂, J. Van Stålle; Namie Creek, Sta. 1097, 25.v.1982, ♂, P. Grootaert; Wau, Sta. 1092, Sta. 1112, 2.v.1982, 2♀, P. Grootaert; ISNB.

### 44. **Sephena tagosa** Medler, **new species** Fig. 103

*Diagnosis*: Tegmen colored green, or faded green, apical margin rounded; discal cell cross-vein present; cell Cu slightly wider than M cell, with row of 3 red spots, 2 of which straddle a line projected from oblique Cu-M cross vein. Holotype genitalia illustrated (Fig. 103); aedeagus clublike, rounded at apex, processes arising from apical coil, lateral process straight, ventral process slender reaching margin of pygofer.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.00, 8.00; v 0.25, 0.25; f 1.00, 0.95; p 0.33, 0.33; m 1.49, 1.49; t 5.96, 6.81; pcl 1.83, 1.99. Width: v 0.91, 0.91; f 1.16, 1.16; t 3.32, 3.32. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,121), **IRIAN JAYA**: Waris, S. of Hollandia, 450–500 m, 1–7.viii.1959, T.C. Maa; Allotype, ♀, same label as holotype, 24–31.viii.1959; Paratypes, 4♂, 7♀, same label as holotype, 8–31.viii.1959, BPBM. **PAPUA NEW GUINEA**: 2♂, 4♀, W. Sepik Prov., Torecella Mts. (sic!) [Torricelli], between Afua & Chinapelli, Akimbo R., Sea Falls, 1700' (518 m), G. P. Moore; 2♂, 3♀, Torecella Mts. 3000' (914 m), 30.i.1939, G. P. Moore; 1 immature ♀, Afua Village, 16.iii–3.iv.1939, G. P. Moore; BM 1939–479, BMNH. Eastern Highlands Prov, ♀, Chuave, 2000 m, 8–14.iv.1968, J.L. Gressitt; ♀, Okapa, Purosa, 1700–2000 m. 18.i.1966, J. Sedlacek; Morobe Prov, ♀, Kuper Ra, 25 km SE Salamau, 1–80 m, 25–28. 1.1939, J. H. Sedlacek; ♀, Mindik, 1200–1600 m, ix.1968, N.L.H. Krauss; ♀, Tsanga, Upper Jimmi V., 1200 m, 15.vii.1955, J.L. Gressitt; BMNH.

*Taxonomic note*: Specimens from Torricelli Mts lack the red spots that characterize specimens from Irian Jaya, but tegmen shape and genital characters are same as *tagosa* holotype. There is noticeable smaller size of specimens collected at 914 m, with overall length of ♀ 6.5 mm and ♂ 6.0 mm.

### 45. **Sephena tricolor** Schmidt

*Sephena tricolor* Schmidt, 1904b: 372 (n sp), Metcalf, 1957: 371 (cat); Medler, 1996b: 148 (Holotype ♀). Holotype ♀, Java, Mons Gede, 4000', Fruhstorfer, ZMPA.

*Diagnosis*: Frons median longitudinal carina and wide horseshoelike lateral carinae about half length of frons; vertex broadly triangular, flat, anterior margin carinate, consisting of intergenal transverse carina merged with dorsal margin of frontal carinae; pronotum postocular eminence triangular, pro- and mesonotum dorsum without median longitudinal carina. Tegmen with 3 longitu-

dinal veins (R,S,M) arising from basal stem, dense array of terminal veins along apical margin, Cu cell narrow, not widened, M cell much widened, Cu-M oblique vein missing.
Female anal plate large, parabolic, slightly longer than wide, valvulae III small, fingerlike. Vertex and frons red orange, abdomen and legs yellow orange, pronotum green, mesonotum greenish with red undertone, tegmina sky blue, with costal margin very narrow red orange. Length 13.0 mm overall. Hind leg spine formula 1: 5: 6.

*Specimens examined*: Holotype ♀, **JAVA**, Mons Gede, ZMPA; ♀, Java, G. Malang, iii.1938, M. E. Walsh, MZLU; ♀, Staudgr, Collect. Haglund, det. Melichar, *Ormenis coerulescens* (misidentified), NHRS.

*Taxonomic Note*: The 3 known specimens of *tricolor* are females. The species is retained provisionally in *Sephena* as tegmina venation, female genitalia and hind leg spine formula resemble characters found in *Sephena rubrovenosa*. However, geographical distribution in Java and morphological characters of head and tegmina are not typical for New Guinea *Sephena*. The flat triangular vertex resembles *Sanurus*; and shape of frontal carinae is similar to *Neomelichara*. Examination of male genitalia when available may enable disposition of this colorful species in a natural taxon near *Sephena*.

46. **Sephena vexora** Medler, **new species** Fig. 104

*Diagnosis*: Tegmen with line of small spots along clavus margin. Holotype genitalia illustrated (Fig. 104); aedeagus narrowed apically; processes arising from apical coil, ventral process thick. Female not known.

*Measurements*: Holotype ♂. Length: overall 7.50; v 0.29; f 0.85; p 0.33; m 1.33; t 6. 14; pcl [broken off and lost]. Width: v 0.83; f 1.08; t 3. 15. Hind leg spine formula: 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,122), PAPUA NEW GUINEA, Samoro, 10.v.1975, on *Rubus*, J.L. Gressitt, BPBM.

47. **Sephena waxa** Medler, **new species** Fig. 105

*Diagnosis*: Resembles *parena* with 2 red spots in widened Cu cell, larger spot positioned basad of plane of M-Cu oblique vein; very small red spots at vein terminals on costal and apical margins; frons with minute red stippling. Holotype genitalia illustrated (Fig. 105); Female unknown.

*Measurements*: Holotype ♂. Length: overall 8.00; v 0.33; f 1.08; p 0.33; m 1.49; t 6.47; pcl 1.99. Width: v 0.91; f 1.16; t 3.65. Hind leg spine formula: 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,123), **PAPUA NEW GUINEA**: Central Prov, Daradae Pltn, 80 km N to Port Moresby, 500 m, 4.ix.1959, T.C. Maa, BPBM.

48. **Sephena widena** Medler, **new species** Fig. 106

*Diagnosis*: Frons U-carinae dorsal margin incorporated in anterior margin of narrow ledgelike vertex, posterior margin of vertex delimited by intergenal transverse carina adjacent to pronotum. Tegmen clear stramineous, margins red, vein terminations at apical margin red, Cu cell of male with 2 round red spots, female with 4; small red dots on frons and pronotum; mesonotum longitudinal lateral carinae covered by vague orange stripes. Holotype genitalia illustrated (Fig. 106); aedeagus has well defined apical coil with ventral process directed basally.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.50, 8.50; v 0.17, 0.17; f 1.00, 1.00; p 0.37, 0.33; m 1.66, 1.66; t 7. 14, 7.30; pcl 1.99, 1.83. Width: v 1.16, 1.12; f 1.49, 1.33; t 3.49, 3.32. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,124), Allotype, ♀, **PAPUA NEW GUINEA**: Junction Green Riv and Sepik Riv, 200 m, 23.vi.1963, R. Straatman; Paratypes, ♀, 4 km W of Green Riv Post, 200 m, 29.vi.1963, R. Straatman; ♂, same label as holotype, 110 m, 24.vi.1963, R. Straatman; ♂, **IRIAN JAYA**: Vogelkop, Kebar Val., W of Manokwari, 550 m, 4–31.i.1962, L. W. Quate, BPBM.

49. **Sephena wista** Medler, **new species** Fig. 107

*Diagnosis*: Head and pronotum green, mesonotum and legs light yellow; frons U-carinae weak, lateral arms short, less than half length of frons, intergenal carina well developed. Tegmen light green, sutural and apical margins fuscous, costal vein and bulla fuscous; tegmen with 2 medium bright red spots, one on discal cell crossvein, another in M cell near Cu-M oblique crossvein; smaller red spots basally in M cell. Holotype genitalia illustrated (Fig. 107); aedeagus unusual in lack of ventral process arising from apical coil; posterior-dorsal margin of pygofer sharply pointed. Female unknown.

*Measurements*: Holotype ♂. Length: overall 8.00; v 0.21; f 1.00; p 0.37; m 1.49; t 7. 14; pcl 2.13. Width: v 0.79; f 1.00; t 3.32. Hind leg spine formula: 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,125), **IRIAN JAYA**: Wisselmeren, Kamo-Debei div., 1700 m, 13.viii.1955, J.L. Gressitt, BPBM.

50. **Sephena xenena** Medler, **new species** Fig. 108

*Diagnosis*: Tegmen sutural angle obtusely convex; males with black spots at crossveins of discal cell, cell M basally, and cell Cu. In some males an apical spot in discal cell may be present also. All females and occasional male without black spots. Holotype genitalia illustrated (fig. 108). Pygofer posterior-dorsal margin knoblike, aedeagus with teardrop apical process arising dorsally from apical coil.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.00, 10.00; v 0.17, 0.17; f 1.00, 1.25; p 0.33, 0.33; m 1.83, 1.99; t 6.97, 8.96; pcl 2.16, 2.66. Width: v 1.16, 1.33; f 1.33, 1.49; t 3.82, 4.65. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,126), Allotype, ♀, **SOLOMON ISLANDS**: Malaita, Dala, 50 m, MV light trap, 6–11.vi.1964, J. & M. Sedlacek, BPBM; Paratypes, 11♂, 7♀, Malaita, Dala, 30–50 m, 6–22.vi.1964, J. & M. Sedlacek; 4♂, Malaita, Auki, 0–200 m, xii.1975, N.L.H. Krauss; ♂, Auki, 20 m, 3–5.vi.1964, M. V. light trap, J. & M. Sedlacek; BPBM.

51. **Sephena yumata** Medler, **new species** Fig. 109

*Diagnosis*: This species is distinguished by presence of round dark fuscous spot in center of Cu cell, and widely variable patterns of tegmen infuscation, especially in costal and apical areas. Apex of antennal segment II red; pronotum speckled with small red dots, lateral margin with red spot adjacent to tegula. Tegmen postclaval sutural margin merging with apical margin in a continuous convex curve. Holotype genitalia illustrated (Fig. 109).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.0, 8.0; v 0.17, 0.17; f 1.00, 1.08; p 0.33, 0.37; m 1.58, 1.66; t 6.31, 7. 14; pcl 1.66, 1.99. Width: v 1.00, 1.16; f 1.25, 1.33; t 3.49, 3.65. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,127), **SOLOMON ISLANDS**: Guadalcanal, Lunga River (Mth), 10.viii.1944, H. E. Milliron; Allotype, ♀, Paratypes, 2♀, Guadalcanal, Kukum, 10 m, 21.vi.1958, J.L. Gressitt, BPBM. Paratypes, **SOLOMON ISLANDS**: ♀, Guadalcanal, Lunga, 12.xii.1933, *Durio* sp., H. T. Pagden; ♂, Vella Lavella, Lambu Lambu, 31.v.1933, mangrove swamp, H. T. Pagden; ♀, Solomon Is (only label), ii.1933, R. A. Lever, Com. Inst. Ent., BM 1948–536; ♂, Ysabela, Fatua, R. A. Lever; no abdomen (?♂), Isabel, Allardyce Hbr, swamp, 24.vii.1963, M. McQuillan, BM 1966–477; ♀, New Georgia, 1 ml upstream Bareki R., low vegetation, 30.viii.1965, Roy. Soc. Exped., BM 1966–1; BMNH. **PAPUA NEW GUINEA**: ♂, 3♀, Bougainville, Roviana, ix.1922, E. O. Pockley, #K54374, BMNH.

52. **Sephena zipenda** Medler, **new species** Fig. 155

*Diagnosis*: Closely related to *S. conspersa*, with tegmen apical margin sinuate and sutural angle pointed. The male genitalia differs in fingerlike shape of process arising from apical coil of

aedeagus, as shown in illustration of holotype genitalia (fig. 155).

*Measurements*: Holotype ♂. Length: overall 6.50; v 0.17; f 0.91; p 0.37; m 1.33; t 5.48; pcl 1.66. Width: v 0.91; f 1.16; t 2.82. Hind leg spine formula: 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,128), Paratypes, ♂, New Britain, Gazelle Peninsula, Bainings, St. Paul's, 350 m, 7.ix.1955, J.L. Gressitt, BPBM. ♂, New Ireland, Namatanai, 2.viii.1935, G. F. Gee, *Sephenea* near *punctulosa* Dist., det. W. E. China, 1942, BMNH.

53. **Sephena zolexa** Medler, **new species** Figs. 110, 132

*Diagnosis*: Frons U-carinae dorsal margin combined with intergenal transverse carina to form anterior margin of wide, ledgelike vertex. Gena dorsally with 2 dark fuscous bands. Pronotum with red dotlike spots. Sinuate shape of tegmen apical margin (Fig. 132) similar to that seen in closely related species of *Acrophaea*. Tegmen color light fuscous, 2 dark patches at precostal margin, numerous small red spots and some medium red brown spots, R+S basal stem, vein terminations fuscous at apical margin; clavus slightly raised basally, strongly pustulate. Holotype genitalia illustrated (Fig. 110) shows two curved processes arising from apical coil, with dorsal process about half as long as ventral process that extends to margin of pygofer with pointed margin. Characters in general support assignment of this taxon to *Sephena*.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 7.00, 7.50; v 0.33, 0.33; f 1.08, 1.16; p 0.50, 0.54; m 1.49, 1.49; t 6.31, 6.64; pcl 1.66, 1.83. Width: v 0.87, 0.91; f 1.08, 1.16; t 3.49, 3.57. Hind leg spine formula: 1: 6: 6, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,129), Allotype, ♀, Paratypes, 2♂, 4♀, **PAPUA NEW GUINEA**: Bougainville (S.), Kieta, 26–30.xi.1959, T.C. Maa, BPBM; Paratypes, **NEW IRELAND**: ♀, Bismarck Arch., Kavieng, 2.vii.1959, J.L. Gressitt; ♀, Sobu Plantation, 16.ii.1966, D.F.O'Sullivan & D. August; **SOLOMON ISLANDS**: ♂, Vella Lavella, Kow, 30 m, 28.xi.1963, P. Shanahan, BPBM. **SOLOMON ISLANDS**: Guadalcanal, 3♂, ♀, Gallego camp 2, 12.vii.1965, lichen covered banyan tree and aerial roots, Roy. Soc. Exped.; ♀, Tapenanje, c. 1100 ft. (335 m), 16–20.xii.1953, J.D. Bradley, Rennell Is. Exped., BMNH.

Dispositions of species transferred from *Sephena* and *Paratella*, sensu Metcalf, 1957

*amata* Walker—See *Taparella amata*.
*antica* Walker, not Signoret—Syn of *Paratella iodipennis* (G-M).
*antica* Melichar, not Walker—Syn of *Sephena interstincta* Melichar.
*argus* Kirkaldy 1906—See *Dworena argus*.
*cinerea* Kirkaldy 1906—See *Anzora cinerea*.
*concolor* Walker (unpublished name)—Syn of *Papuanella rufilinea* (Walker).
*consentanea* Walker—Syn of *Sephena nivosa* (Walker).
*cyanea* Melichar—See *Papuanella cyanea*.
*decolor* Walker—See *Taparella decolor*.
*despecta* Melichar—See *Papuanella despecta*.
*hyacintha* Kirkaldy—See *Dworena hyacintha*.
*intracta* Walker—See *Unnata intracta*.
*lurida* Melichar—See *Lecopia lurida*.
*maculata* Melichar—See *Miniscia maculata*.
*nigrifrons* Schmidt—See *Dworana nigrifrons*.
*nivosa* Walker—See *Sephena nivosa*
*obtusa* Walker—Syn of *Sephena albescens* (Walker).
*pulchra* Melichar—Syn of *Sephena rubrovenosa* Melichar.
*punctulosa* Distant—Syn of *Sephena conspersa* Melichar.
*rubida* Kirkaldy—See *Dworena rubida*.
*rufomarginata* Melichar—See *Papuanella rufomarginata*.
*subjecta* Walker—See *Idume subjecta*.
*tripars* Walker—See *Melicharia tripars*.

## 18. Genus ACROPHAEA Melichar

*Acrophaea* Melichar 1902: 8 (n. gen.); Metcalf, 1957: 282 (cat). Type species, *Acrophaea fasciata* Melichar, monobasic.

*Diagnosis*: Wide U-shaped carinae of frons does not connect dorsally with transverse intergenal carina, but forms anterior margin of short, ledgelike vertex. The intergenal carina at posterior margin borders triangular areas adjacent to eyes. Tegmen 3 longitudinal veins arising from basal stem; usually 2 large fuscous spots, one in discal cell, second in cell formed by forking of vein M1. Habitus figure of Melichar (1902, fig. 4) shows position of fuscous black fasciae on costal margin and angle of postclaval sutural margin at claval apex. Color and size of spots and fasciae variable.

*Distribution*: Papua New Guinea, Astrolabe Bay, New Ireland.

### KEY TO SPECIES OF *ACROPHAEA*

1. Precostal margin with two fuscous black bands (genitalia ♂, fig. 157) ..... **fasciata**
— Precostal margin without fuscous black bands, or faint remnants of black bands (genitalia ♂, fig. 156) .. ..... **dianata, n. sp.**

### 1. Acrophaea fasciata Melichar — Fig. 157

*Acrophaea fasciata* Melichar, 1902: 8, pl. V, fig. 4 (n. sp.); Metcalf, 1957: 282 (cat); Medler, 1986c: 113 (lectotype); Medler, 1989: 62 (PNG, listed). Lectotype, ♀, Papua New Guinea, Stephansort, Astrolabe Bay, Biró, HNHM. Plesiotype, ♂, Northern Prov, Mamoo Plantation, 1000 ft [305 m], at light, 7.xii.1955, J.J.H. Szent-Ivany; BPBM.

*Diagnosis*: Conforms with generic diagnosis. Frons wider than long; U-shaped carinae forming dorsal margin, ledge behind bordered posteriorly by transverse intergenal carina, frons, and vertex with median carina; pronotum without median carina; sutural angle obtusely convex; apical margin obliquely truncate, rounded. Genitalia of plesiotype ♂ from Mamoo Plantation illustrated (Fig. 157).

*Measurements*: Plesiotype ♂. Length: overall 7.5; v 0.17; f 1.00; p 0.50; m 1.66; t 6.64; pcl 1.83. Width: v 1.25; f 1.49; t 2.82. Hind leg spine formula: 1: 6: 6.

*Specimens examined*: **PAPUA NEW GUINEA**: Rabaul, 11.xii.1929, ♀, J. L. Froggatt, BM 1948–548, BMNH. MADANG PROV, Awar Bush, 9–18.xi.1982, ♀, P. Grootaert; Laing I., 30.vi—8.ix.1982, 5♂, 4♀, P. Grootaert; Laing I., Sta. 29, 167, 341, 350, 386, 1978–1981, u.v. light, 2♂, 3♀, J. van Goethen; Sepen Vill. #2, Sta.001, 26.iv.1988, ♀, J. Van Ståle; MOROBE PROV, nr. Bulolo, Sta. 039, 18.v.1988, ♀, J. Van Ståle; ISNB. **IRIAN JAYA**: Hollandia, rain forest, 250 ft [76 m], v.1945, 3♂, 5♀, H. Hoogstraal, NCSU; Hollandia, 10.i.1957, ♂, G. F. Mees, RMNH.

### 2. Acrophaea dianata Medler, new species — Fig. 156

*Diagnosis*: Closely similar in appearance to *A. fasciata* but distinguished by basal origin of coiled process of aedeagus as shown in illustration of holotype (fig. 156). The black fasciae in precostal margin are variable, and when present, may be confused with similar markings in *fasciata*.

*Measurements*: holotype ♂, allotype ♀. Length: overall 7.0, 9.0; v 0.17, 0.17; f 0.95, 1.08; p 0.50, 0.50; m 1.49, 1.74; t 6.64, 7. 14; pcl 1.83, 2.32. Width: v 1.16, 1.33; f 1.49, 1.49; t 2.99, 3.49. Hind leg spine formula: 1: 6: 8, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,130), **PAPUA NEW GUINEA**: Gurakor, village garden, 9.xi.19, ex *Coffea arabica*, T. L. Fenner; Allotype ♀, Wau, 1200 m, 17.iii.1967, P. Colman; BPBM. Paratypes, Central Prov., ♀, Koitaki, 1500 ft [457 m], x-xi.1928, Pemberton. Morobe Prov., ♀, Bulolo, 1000 m, 29.viii.1956, E. J. Ford; ♂, Ulap, 800–1100 m, ix.1968, N.L.H. Krauss; ♀, Wau, 1100 m, 22.vii.1961, J. &. M. Sedlacek; BPBM. 3♂, 2♀, Finschhafen, iv-v.1944, E. S. Ross, CASC. Northern Prov., ♀, Popondetta, on oil palm, Higatoru Nursery, 25.xi.1976, R. N. B. Prior; Madang Province, 2♂, ♀, Ohu Village, on *Ficus conocephalifolia, phaeosyce*,

xi.1995-i.1996, ♂, Riwo Village, on *Ficus microcarpa*, xi.1995, V. Novotny, BPBM; ♀, Laing I., Sta. 64, viii.1987, P. Grootaert; 5♂, Baiteta Village, insecticide fogging in primary forest, 30.iii, 22.iv, 2.vi.1993, 14.vi.1994, 24.vii.1996, O. Missa, ISNB. **IRIAN JAYA**: Jayapura, ♀, 13–14.v.1991, H. V. Mastrigt, ZMAN.

### 19. Genus **BRYSORA** Medler, new genus

*Diagnosis*: Anterior margin of head strongly convex, lateral carinae on dorsal edges of frons are remnant of wide horseshoelike carinae. Dorsum of head flat, sharp transverse intergenal carina delimiting margin between frons and well-defined vertex. Tegmen with very short R+S stem, sutural margin right angled (fig. 133). The genus is closely related to *Sephena* but differs in morphology of head and linear red markings on head, pronotum and mesonotum.

Type species, *Brysora lineola* Medler, n. sp., monobasic.

*Distribution*: Irian Jaya.

**1. Brysora lineola** Medler, new species Figs. 117, 133, 134

*Diagnosis*: Conforms with generic diagnosis; distinctive 3 red stripes on dorsum extending from head to thorax, conspicuous red spots on tegmen, including spot on discal cell crossvein. Tegmen of allotype female illustrated (Fig. 133). Holotype male genitalia (Fig. 134) shows pointed pygofer margin, elongate ventral process extending nearly to pygofer margin, apical coil process with 2 small projecting points basad. Genitalia of paratype female from Brown River illustrated (Fig. 117)

*Measurements*: holotype ♂, allotype ♀. Length: overall 7.0, 7.5; v 0.37, 0.33; f 1.16, 1.20; p 0.42, 0.46; m 1.49, 1.49; t 6. 14, 6.47; pcl 2.16, 2.16. Width: v 1.00, 1.00; f 1.33, 1.29; t 3.32, 3.49. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,131), Allotype, ♀, **PAPUA NEW GUINEA**: Central Prov, Brown River, 30.viii.1959, T.C. Maa, BPBM. Paratypes, Central Prov: ♀, Bisianumu, E of Port Moresby, 500 m, 3.ix.1959, T.C. Maa; ♀, Blaney's garden, forest, 27.ii.1988, J.W. Ismay; 3♀, Brown R. E of Port Moresby, 100 m, 8.vi.1955, J.L. Gressitt; ♀, Brown River, 22.v.1956, E. J. Ford, Jr.; 11♂, 10♀, Brown River, 20–30.viii.1959, T.C. Maa; 13♂, 8♀, Brown River, 5 m, 23.ix.1960, J.L. Gressitt; 4♂, 2♀, Brown River, Rain Forest, 5.xi.1960, J.L. Gressitt; 2♂, 5 km NW Brown River bridge, forest, 5.x.1985, J.W. Ismay; ♂, Crystal Rapids nr. Sogeri, forest, 25.vii.1985, J.W. Ismay; ♀, Doa Estate, 50 mi W of Port Moresby, 27.x.1962, R. W. Strandtman; ♂, E. Kawaiwabu, tent trap, ix.1971; 5♂, 3♀, Laloki, 1909, F. Muir; 6♂, 7♀, Laloki nr Port Moresby, 30.vii–2.ix.1959, T.C. Maa; ♀, Port Moresby, 30 m, 27.ii.1964, J. Sedlacek; ♀, SE Port Moresby to Brown River, 30 m, 29.x–1.xi.1965, J. Sedlacek; ♂, Rouna, 300–500 m, x.1968, N.L.H. Krauss; ♂, Tapini, 1200 m, 17.v.1961, J.L. Gressitt; ♂, 3♀, Tapini, 800–1000 m, xi.1968, N.H.L. Krauss; BPBM.

*Taxonomic note*: Two males deposited in the MCSN are here designated paratypes. The specimens were collected by L. Loria at Tapolo, New Guinea, vii. 1890. They were mislabeled *Sephena conspersa* Melichar by Schmidt, 1911. Specimens collected at higher altitude (Tapini) are noticeably longer, 8–8.5 mm, and more robust than specimens from coastal areas. Slight variation in the apical process of the aedeagus also occurred in males from higher elevation.

### 20. Genus **DEMINA** Medler, new genus

*Diagnosis*: Vertex flat, broadly triangular with median carina, anterior margin delimited by intergenal transverse carina; frons wide, median longitudinal carina half length, wide horseshoelike carina contiguous to anterior margin of vertex; pronotum with postocular eminence, mesonotum tricarinate, the lateral carinae thickened posteriorly, terminating in prominent wax gland at posterior

margin. Tegmen fuscous, dusted with scattering of white wax particles, 2 longitudinal veins arising from basal stem (R, S+M), veins multibranched, about 24 terminals at apical margin.

Type species, *Demina anigis* Medler, n. sp., monobasic.

*Distribution*: Irian Jaya.

1. **Demina anigis** Medler, new species Figs. 136, 148

*Diagnosis*: Conforms with characters given in generic diagnosis. Tegmen illustrated (Fig. 148) shows development of multibranched veins at apical margin. Holotype genitalia illustrated (Fig. 136); female genitalia unique, segment IX elongated with lateral margins tightly rolled.

*Measurements*: holotype ♂, allotype ♀. Length: overall 6.5, 6.5; v 0.25, 0.33; f 0.75, 0.83; p 0.29, 0.29; m 1.16, 1.33; t 4.98, 4.98; pcl 1.33, 1.49. Width: v 0.75, 0.83; f 1.00, 1.04; t 2.49, 2.66. Hind leg spine formula: 1: 5: 5, 1: 5: 6.

*Types*: Holotype, ♂, **IRIAN JAYA**: Jaya Pura [Hollandia], edge of kunar grass and forest, 1800 ft (549 m), 15.iii.1945, H. Hoogstraal; Allotype, ♀, Jaya Pura [Hollandia], rain forest, 250 ft (76 m), v.1945, H. Hoogstraal; NCSU. *Paratype*, ♂, same labels as allotype; ex NCSU, BPBM.

## 21. Genus DWORENA Medler

*Dworena* Medler, 1986g: 207 (n. gen.). Type species, *Sephena hyacintha* Kirkaldy, 1906: 457.

*Diagnosis*: See original description, Medler, 1986g: 207.

*Distribution*: Australia, New Guinea (rare).

1. **Dworena repleta** (Walker) Fig. 152

*Poeciloptera repleta* Walker, 1858c: 334 (n. sp.); Metcalf, 1957: 378 (*Paratella*, cat); Medler, 1990a: 157 (fig. 22, lectotype, *Dworena repleta*, comb). Lectotype ♂, Australia, BMNH.

*Paratella fumaria* Melichar, 1902: 122 (n. sp.); Medler, 1986c: 114 (fig. 7, lectotype, *modesta*, syn.); Medler, 1986g: 207 (*Dworena modesta*, comb). Lectotype ♂, New South Wales, Paramatta, Biró, HNHM.

*Paratella fusconigra* Melichar, 1902: 121 (n. sp., ? *repleta* Walker); Medler, 1986h: 328 (holotype, *Sephena* s. lat., comb); Medler, 1986g: 207 (*Dworena modesta*, syn, comb). Holotype ♀, Australia Borealis, Thorey, NHRS.

*Paratella modesta* Melichar, 1902: 122 (n. sp.); Medler, 1986h: 331 (lectotype, *Sephena* s. lat., comb); Medler 1986g: 207 (rev., *Dworena modesta*, comb); Medler,junior synonym of *Dworena repleta*, here designated, **NEW SYNONYMY**. Lectotype ♂, Australia Borealis, Thorey, NHRS.

*Sephena nigrifrons* Schmidt, 1905: 378 (n. sp.); Wiedner & Wagner, 1968: 154 (lectotype); Medler, 1992b: 181 (*Dworena modesta*, syn, comb); Medler, 1996b: 145 (syn, type ♀ lost). Lectotype ♀, Australia, Schrader, ZMUH.

*Sephena rubida* Kirkaldy, 1906: 457 (n. sp.); Medler, 1986g: 207 (*Dworena modesta*, comb); Medler, 1987a: 122 (lectotype ♀, *Paratella modesta*, syn.). Lectotype ♀, New South Wales, Sydney, Koebele, BPBM.

*Diagnosis*: Morphological characters conform with diagnosis of genus; Overall length 9.5 mm; frons length: width ratio 1: 41 mm; hind leg spine formula 1: 7: 8. Color dark brown, tegmen dusted with traces of white wax, otherwise wax lost by abrasion. Tegmen illustrated (Fig. 152)

*Specimen examined*: **PAPUA NEW GUINEA**: CENTRAL PROV., Pt. Moresby, Boroko, on *Cassia alata*, 23. 10.1958, ♀, J.J.H. Szent-Ivany (New Record).

## 22. Genus NEOSEPHENA Medler, new genus

*Diagnosis*: Anterior margin of head slightly produced, angulate, about 2/3 length of pronotum. Frons lateral margins not raised, with strong median carina, truncate U-carinae. The frontal U-carinae forming anterior margin of vertex, transverse intergenal carina weak, evanescent laterally, dorsal median carina continuous on vertex, pro-, and mesonotum. In profile, head produced, acutely angled at margin of frons/vertex. Antennal segment I shorter than II, pronotum with postocular ridge. Tegmen apical margin oblique, costal and sutural angles convex, veins R, S, M or short R+S, M arising from basal stem, vein S forked basally, submarginal apical line of crossveins weak, irregular, Cu cell narrow, slightly widened medially.

Type species, *Neosephena novara* Medler, n sp., monobasic.

*Distribution*: Papua New Guinea, Irian Jaya.

### 1. Neosephena novara Medler, new species — Figs. 118, 137

*Diagnosis*: Morphological characters conform with generic diagnosis; frons strongly tricarinate, vertex slightly convex transversely; dorsum of head and thorax green or faded to varying extent, usually well marked with 3 orange red stripes crossing vertex, pro- and mesonotum lengthwise. Holotype genitalia illustrated (Fig. 137), pygofer posterior-dorsal margin pointed, aedeagus without paired ventral processes arising from apical coil, apex of anal plate broad, truncated; genitalia of paratype female from Bainyik illustrated (Fig. 118), valvulae not fitted for piercing.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 8.50, 9.00; v 0.29, 0.33; f 1.25, 1.25; p 0.42, 0.50; m 1.49, 1.66; t 6.64, 7.30; pcl 2.16, 2.49. Width: v 0.79, 0.83; f 1.04, 1.16; t 3.65, 3.82. Hind leg spine formula: 1: 6: 6, 1: 6: 7.

*Types*: Holotype ♂ (BPBM 16,132), Allotype, ♀, Paratypes, ♂, ♀, **PAPUA NEW GUINEA**: East Sepik Prov, Wewak, 0–100 m, viii.1968, N.L.H. Krauss, BPBM. *Paratypes*, 2♀, East Sepik Prov, Maprik, Bainyik Agri. Sta, on *Citrus*, 2.iii.1960, J.J.H. Szent-Ivany; Madang Prov, 2♂, 2♀, Ohu Village, xi.1995, on *Ficus trachypison, wassa*, V. Novotny; BPBM; ♀, Laing Is, Sta. 182, J. Bouillon & J. Van. Goethem; 2♂, Sisimangum Vill, nr. bridge, Sta. 338, 15.vi.1979, J. Van. Goethem & M. Magap; 2♂, 3♀, Awar, U. V., Sta 374, 26.vi.1981, ♂, ♀, Awar Vill, Sta. 1029, 3.v.1982; ♂, Awar Pltn, Sta. 120, 31.viii.1987, P. Grootaert; 4♂, Baiteta Village, fogging in primary forest, 4.v.1994, O. Missa; ISNB. Sepik Dist, ♂, ♀, Maprik, 28.x.1957, J. Smart, BM1957–693, BMNH. **IRIAN JAYA**: 3♂, Jayapura, 13–14.v.1991, M.v. Mastrigt, ZMAN; ♀, no locality, jungle, 10.xiii.1944, T. Aarons, CASC; 4♂, 3♀, Jayapura [Hollandia], rain forest, 250 ft. (76 m), 19.iii-v.1945, H. Hoogstraal, NCSU; 2♀, Jayapura, 0–10 m, 20.iv.1954, L.D. Brongersma & L.B. Holthuis; ♀, Araucaria Camp, 800 m, 19.iii.1939, L.J. Toxopeus, Archbold Exped III, RMNH. **INDONESIA**: ♀, Sulawesi Tengah, Hangahanga, NW of Luwuk, 0°56'S 122°47'E, 100 m, waterfall, severely disturbed vegetation, at light, 9.x.1989, J. P. Duffels, ZMAN.

## 23. Genus PARATELLA Melichar

*Paratella* Melichar 1902: 117 (n. gen.); Medler 1991b: 107 (rev). Type Species, *Ricania iodipennis* Guérin-Méneville.

*Okenana* Distant 1912: 600 (n. gen.); Medler, 1990a: 173 (syn). Type species, *Okenana lycaena* Distant.

*Diagnosis*: Dorsum of head formed by convex extension of frons; 1/2 as long as pronotum; U-shaped carina of frons forming indistinct dorsal margin; longitudinal median carina on dorsum of head; pronotum with distinct postocular eminence; tegmen apex broadly rounded, both angles convex; M-Cu oblique vein reaching discal cell.

*Distribution*: Irian Jaya, Papua New Guinea.

KEY TO SPECIES OF *PARATELLA*

1. Hind leg spine formula 1: 5: 6; Tegmen usually red purple, hind wing purple. Length less than 10 mm. Irian Jaya ..... **iodipennis**
— Hind leg spine formula 1: 5: 7; Tegmen usually iodine brown or grayish, hind wing not purple (Fig. 151). Length more than 10.5 mm. Papua New Guinea ..... **dipura**

1. **Paratella iodipennis** (Guérin-Méneville) Fig. 151

*Ricania iodipennis* Guérin-Méneville 1838: 191 (n. sp.); Medler, 1988a: 15 (holotype, plesiotype ♂); Medler, 1991b: 108, plesiotype ♀). Holotype (fragmented), Irian Jaya, Dory (Manokwari), MZUN). Plesiotypes ♂, ♀, Irian Jaya, Manokwari, BPBM

*Paratella iodipennis* Melichar, 1902: 121 (comb); Metcalf, 1957: 373 (cat); Medler, 1991b: 108 (rev, figs. 25–29)

*Diagnosis*: Tegmen is illustrated (Fig. 151) to show broadly oval shape and 3 longitudinal veins (R, S, M) arising from basal stem.

*Specimens examined*: Previous records (See Medler, 1991b: 108): Irian Jaya: Hollandia, Kebar Valley, Manokwari, Oransbari.

*New Records*: **IRIAN JAYA**: Araucaria Camp, 3♀, Archbold Exped III, RMNH.

2. **Paratella dipura** Medler

*Paratella dipura* Medler, 1991b: 110 (n. sp., fig. 21). Holotype ♂, Papua New Guinea, Torecella Mts, BPBM

*Diagnosis*: Separated from *iodipennis* by larger size, smoky color of tegmina, clear underwing, spine formula 1: 6: 7, and different characters of the male genitalia.

*Specimens examined*: Known only from the type material.

## 24. Genus SOSEPHENA Medler

*Sosephena* Medler, 1990b: 206 (n. gen.). Type species, *Sosephena rinkela* Medler.

*Distribution*: Papua New Guinea.

KEY TO SPECIES OF *SOSEPHENA*

1. Anterior margin of vertex produced obtusely; median longitudinal suture not developed ..... **binoba**
— Anterior margin of vertex produced acutely; median longitudinal suture strongly impressed, usually with narrow border ..... **rinkela**

1. **Sosephena binoba** Medler

*Sosephena binoba* Medler, 1990b: 208 (n. sp., figs. 4–6). Holotype, ♂, Papua New Guinea, Madang Prov, Nobnob Hill, CASC.

*Diagnosis*: See Medler (1990b: 208) for description and measurements. Male genitalia illustrated, Medler (1990b: fig. 6).

*Specimens examined*: Prior records: **PAPUA NEW GUINEA**: Madang Prov: Naru River, Nobonob Hill.

*New records*: **PAPUA NEW GUINEA**: MADANG PROV, Baitabag Village, on *Ficus variegata*, 20–30.vi.1995, ♂, Mis Village, on *Ficus wassa*, ix.1995, ♀, Ohu Village, on *Ficus pungens, wassa*, vii, ix-x.1995, 3♂, 2♂, V. Novotny; BPBM.

2. **Sosephena rinkela** Medler TYPE SPECIES

*Sosephena rinkela* Medler, 1990b: 206 (n. sp., figs. 1–3, 37–38). Holotype, ♂, Papua New Guinea, Morobe Prov, Lae, BPBM.

*Diagnosis*: See Medler (1990b: 208) for description, and measurements. Holotype genitalia illustrated by Medler (1990b: fig. 3).

*Specimens examined*: Prior records: Widespread in Papua New Guinea. Adelbert Mts, Amingwiwa Mt, Arau, Bubia, Bulem Riv, Bulolo, Busa Riv, Daradae, Dundi, Finschhafen, Goilala, Kalolo, Kassam, Lae, Pindiu, Saidor, Sirasira, Tapini, Tapo Cr, Tuwep, Ulap, Wanuma, Wau.

## 25. Genus TAPARELLA Medler

*Taparella* Medler 1989: 29 (n. gen.); Medler 1991b: 111 (rev.). Type species, *Nephesa amata* (Walker).

*Diagnosis*: See original description in review of the genus, Medler (1991b).

*Distribution*: Irian Jaya and Papua New Guinea.

KEY TO SPECIES OF *TAPARELLA*

1. Tegmen apical margin truncate, sutural angle acute or nearly so ..... 2
— Tegmen apical margin shallowly convex, sutural angle rounded ..... 4
2. Tegmen chalky white ..... **extola**
— Tegmen tinged with pink or orange, apical margin narrowly pink ..... 3
3. Ventral process of aedeagus extending nearly to pygofer (usually Papua New Guinea) ..... **outacta**
— Ventral process of aedeagus extending less than half distance to pygofer (usually Irian Jaya) .... **intacta**
4. Tegmina predominantly stramineous, light green or opaque white ..... 5
— Tegmina variously colored—red, pink, orange, dark fuscous or black ..... 8
5. Head and thorax red-orange, tegmina translucent white or pale green when not obscured by white waxy deposits ..... **delicata**
— Head, thorax, and tegmina otherwise ..... 6
6. Head and thorax ochraceous, tegmina mostly white, sometimes apex tinged with pink. Length 15 mm or longer ..... **doryca**
— Tegmina uniformly stramineous, concolorous with head and thorax. Length less than 15 mm ..... 7
7. Length 12.5–13.5 mm (SE Papua New Guinea) ..... **minima**
— Length 13.5–15 mm (genitalia ♂, fig. 138) (Irian Jaya) ..... **ambigua**
8. Tegmen with costal margin white, bordered by black band along R and S veins. ..... **invasa**
— Costal margin not as described ..... 9
9. Tegmina with varying patterns of black or dark fuscous crossbands ..... 10
— Tegmina devoid of black markings, or if black present, then not forming crossbands as described; usually length 15 mm or longer ..... 11
10. Background color of tegmen smoky pink, usually with oblique crossband from apex of clavus to costal angle ..... **mendica**
— Tegmen with discal area white, oblique fuscous crossband from claval apex to black basal margins of tegmen ..... **bellata**
11. Tegmina color uniformly pink, rarely tinged with fuscous along costal margin; aedeagus without dorsal crenulate flange ..... **kripta, n. sp.**
— Tegmina color variable, uniformly red, pink or orange, sometimes discal area white, with strong infusion of black on tegmina, head and thorax. Crenulate flange along dorsum of aedeagus is reliable character for proper identification of color variants ..... **amata**

### 1. **Taparella amata** (Walker) TYPE SPECIES

*Nephesa amata* Walker, 1870a: 175 (n. sp.); Medler, 1986f: 208 (paralectotype); Medler, 1989: 29 (plesiotype); Medler, 1990a: 133 (lectotype). Lectotype ♀, Irian Jaya, Waigeo Is, BMNH. Plesiotype ♂, Irian Jaya, Hollandia-Kotanica. BPBM

*Paratella discoidalis* Melichar, 1902: 120 (n. sp.); Medler, 1986a: 112 (syn); Medler, 1996a: 32 (Borneo). Lectotype ♀, Borneo, SMTD.

*Paratella miniata* Melichar, 1902: 120 (n. sp.); Medler, 1986a: 112 (syn); Medler, 1996a: 32 (Borneo). Lectotype ♀, Borneo, SMTD.

*Paratella amata*: Metcalf, 1957: 374 (cat).

*Taparella amata*: Medler, 1989: 29 (comb, figs. 16, 21); Medler 1991b: 113 (rev, figs. 1, 20, 22–24); Medler, 1996a: 32, figs. 14, 68, syn).

*Diagnosis*: Male genitalia aedeagus with distinctive crenulate dorsal ridge, as shown by Medler (1991b, fig. 20). Because of extremely wide range of color variation in this common species, identifications should be verified by study of male genitalia. This applies especially to variants with uniformly red tegmina which might be confused with similar appearing *T. kripta* Medler.

*Specimens examined*: Prior records (Medler 1991b: 113). **PAPUA NEW GUINEA:** Aitape, Amele, Astrolabe Bay, Awar, Bainyik, Benap, Bewani, Boana Mission, Dreikikir, Dylup, Eliptamin Valley, Gabumi, Karkar Is, Karubaka, Madang, Maprik, Megafin, Nubia Mission, Sugoitei, Torricelli Mts, Ulap, Wau, Wewak. **IRIAN JAYA:** Binnen, Bodem, Bonga, Cyclops Mts, Genjem, Hollandia, Ifar, Japen Is, Kotanica, Maffin Bay, Nabire, Seroei, Sumberbapa, Toem, Waigou, Waris.

*New Records*: **PAPUA NEW GUINEA:** Madang Province, Baitabag Village, on *Ficus botryocarpa, phaeosyce, trachypison, wassa*, vii-ix.1995, 6♂, 3♀; Riwo Village, on *Ficus microcarpa*, vii.1995, ii.1996, 2♂, ♀, V. Novotny, BPBM. Awar Vill., Sta. 130, I.ix.1987, ♂, P. Grootaert; Makarup Road, Sta. 046, 6.viii.1987, ♂, P. Grootaert, I.G. No. 27285; Condor Point, Sta. 065, 6.vi.1988, 7♂, 8♀, J. Van Stålle, I. G. No. 27363, ISNB.

IRIAN JAYA: Japen Is, SSE Sumberbaba, Dawai R, jungle, 2.xi.1962, ♀, H. Holtmann; BPBM. Araucaria Camp, 16.iii–6.iv.1939, 3♂, Toxopeus; Bernhard Camp, 5.x–23.xii.1938, ♂, 3♀, Olthof; Cyclops Mts, 26.vi.1938, ♂, Toxopeus; Hollandia, 18.iv–27.vii.1938, 4♀, Toxopeus; Rattan Camp, ♂, Toxopeus; Archbold Exped III; Seoei JApen, 3.v.1952, ♂, W. J. Roosdorp; RMNH.

### 2. **Taparella ambigua** Medler Fig. 138

*Taparella ambigua* Medler, 1991b: 113 (n. sp., fig. 11). Holotype ♂, Irian Jaya, Nabire, BPBM.

*Diagnosis*: Male genitalia of specimen from Manokwari is illustrated (Fig. 138) to show detail of paired dorsal projections arising basally from aedeagus. The projections were not shown clearly in Medler's illustration (1991b: fig. 11) of holotype ♂ from Nabire.

*Specimens examined*: Prior records (Medler 1991b: 113). **PAPUA NEW GUINEA:** Madang, May River Village. **IRIAN JAYA:** Biak I, Hollandia, Nabire, Waris.

*New records*: **PAPUA NEW GUINEA:** Madang Prov, Baiteta Village, light trap, 1.v.1996, ♀, O. Missa, ISNB. **IRIAN JAYA:** Manokwari, garden, 31.x.1993, 11♂, 2♀, A. J. de Boer, A. L. M. Rutten & R. de Vos, ZMAN.

### 3. **Taparella bellata** Medler

*Taparella bellata* Medler, 1991b: 115 (n. sp., figs. 4, 13). Holotype ♂, Papua New Guinea, Popondetta, BPBM.

*Diagnosis*: See original description and illustration of holotype genitalia, Medler (1991b: fig. 13).

*Specimens examined*: Known only from type material: Buso, Popondetta, .

### 4. **Taparella delicata** Medler

*Taparella delicata* Medler 1991b: 115 (n. sp., figs. 8, 12). Holotype ♂, Irian Jaya, Utakwa River, BMNH.

*Diagnosis*: See original description and illustration of holotype genitalia, Medler (1991b: fig. 12).

*Specimens examined*: Known only from type material: Utakwa River.

### 5. **Taparella doryca** (Boisduval)

*Flata doryca* Boisduval, 1835: 621 (n. sp.); Medler, 1986d: 167 (type). Holotype ♀, Irian Jaya, Manokwari, MNHN.

*Paratella roseoalba* Melichar, 1902: 119 (n. sp.); Medler 1986d: 167 (syn).

*Taparella doryca*: Medler, 1989: 33 (comb); Medler, 1991b: 116 (rev., figs. 18, 30).

*Diagnosis*: Male genitalia illustrated by Medler (1991b: fig. 18). The ventral process arising from apex of aedeagus is noticeably shorter than dorsal process. Externally distinguished from closely related *ambigua* by more extensive red coloration of tegmen and larger size.

*Specimens examined*: Prior records (Medler, 1991b: 116). **PAPUA NEW GUINEA**: Condor Point, Finschhafen, Jais Aben, Karimui, Madang. **IRIAN JAYA**: Ambon, Dorey, Manokwari, Mysol, Roon I, Utakwa Riv, Waigeo.

*New Records*: **IRIAN JAYA**: Hollandia, 18.vii.1938, ♀, Toxopeus; Bernhard Camp, viii-xi.1938, 2♀, Olthof, Archbold Exped III; Ifar, 300 m, 10.ix.1959, ♀, C.v. Heijnigen; Katem Star Mts, 200 m, 26.vi.1959, ♀, Brongersma; RMNH; Z. Nieuw Guinea, Kloofbin, Versteeg, 24.x.1912–13.iii.1913, ♂, 3♀; Irian Jaya (no other data), 3♂, 3♀, MacGillavry; Manokwari, garden, 31.x.1993, ♂, ♀, A. J. de Boer, A. L. M. Rutten & R. de Vos, ZMAN.

### 6. **Taparella extola** Medler

*Taparella extola* Medler, 1991b: 117 (n. sp., figs. 7, 17). Holotype ♂, Papua New Guinea, Misima Is, SAM.

*Diagnosis*: Characters of male genitalia, (Medler, 1991b: fig. 17) are similar to *ambigua*, but shape of tegmen and overall light coloration give different appearance.

*Specimens examined*: Known only from type material: Kei Island, Misima Island.

### 7. **Taparella intacta** (Walker)

*Nephesa intacta* Walker, 1870: 171 (n. sp.); Medler, 1990: 148. Lectotype ♀, Aru Is, BMNH. Plesiotype ♂, Eramboe, BPBM

*Taparella intacta*: Medler, 1989: 33 (comb); Medler, 1991b: 118 (rev., figs. 5, 16).

*Diagnosis*: Plesiotype male genitalia illustrated, Medler (1991b: fig. 16).

*Specimens examined*: Prior records (Medler 1991b: 118). **PAPUA NEW GUINEA**: Karimui, Normanby Island, Oriomo. Irian Jaya: Aru Island, Eramboe.

### 8. **Taparella invasa** (Walker)

*Nephesa invasa* Walker, 1870: 178 (n. sp.); Medler, 1990: 148 (lectotype). Lectotype ♂, Irian Jaya, Waigeo Is, BMNH

*Taparella invasa*: Medler, 1991b: 118 (rev., figs. 6, 15)

*Diagnosis*: Recognized by distinctive color pattern of tegmen, as shown by Medler, 1991b: fig. 6). Lectotype male genitalia illustrated, Medler (1991b: fig. 15).

*Specimens examined*: Prior records (Medler 1991b: 118). **IRIAN JAYA**: Aimae, Majado, Sorong, Waigeo, Wasian.

### 9. **Taparella kripta** Medler, new species Fig. 158

*Diagnosis*: Tegmina with uniformly red coloration. This gives external appearance similar to variants of *T. amata* that have uniformly red coloration also. Holotype genitalia illustrated (Fig. 158); aedeagus without crenulate dorsal ridge.

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 15.0, 16.0; v 0.50, 0.50; f 1.66, 1.99; p 0.66, 0.66; m 2.99, 3. 32; t 13.28, 14.94; pcl 4.48, 4.81. Width: v 1.41, 1.49; f 1.66, 1.83; t 6.64, 7. 14. Hind leg spine formula: 1: 6: 7, 1: 6: 7.

*Types*: Holotype ♂, Allotype ♀, Paratypes 7♂, 6♀, **PAPUA NEW GUINEA**: Morobe Province, Bulolo, McAdam Nature Res., 850 m, Sta. 046, 20-v–1988, J. Van Ståle; ♀, Wau Ecology Institute, Sta. 053, J. Van Ståle, I.G. No. 27363, ISNB.

### 10. **Taparella mendica** Medler

*Taparella mendica* Medler, 1991b: 119 (n. sp., figs. 2, 14, 31). Holotype ♂, Papua New Guinea, Central Prov, Aieme River, BPBM

*Diagnosis*: See original description and illustration of male genitalia by Medler (1991b: fig. 14).

*Specimens examined*: Known only from type material: Aieme River.

### 11. **Taparella minima** Medler

*Taparella minima* Medler, 1989: 31 (n. sp., figs. 7, 23); Medler, 1991b: 119 (rev., figs. 9–10). Holotype ♂, Papua New Guinea, Central Prov, Aroa Estate, BPBM.

*Diagnosis*: The relatively small size along with convex costal and sutural angles help recognition of this species. Male genitalia illustrated by Medler (1991b: fig. 10)

*Specimens examined*: Prior records (Medler, 1991b: 119): **PAPUA NEW GUINEA**: Bisianumu, Brown River, Laloki, Mabaduan Village, Madang, Moian, Port Moresby, Redscar Bay, Ruka, Samarai, Sisimangum, Sogeri. **IRIAN JAYA**: Binnen, Digoel, Dojo, Enarotadi, Hollandia, Japen Island, Sorong Valley, Tanah Merah.

### 12. **Taparella outacta** Medler

*Taparella outacta* Medler, 1991b: 120 (n. sp., figs. 3, 19). Holotype ♂, Papua New Guinea, Popondetta, BPBM.

*Diagnosis*: Head and thorax dusted with white wax to varying extent. Tegmen with 2 longitudinal veins (R+S and M) arising from basal stem, branches of vein S parallel, apical margin truncate, slightly sinuate at junction with acute sutural angle. Holotype genitalia illustrated by Medler (1991b: fig.19).

*Specimens examined*: Known only from type material: Buso, Popondetta.

## 26. Genus **TRISEPHENA** Medler

*Trisephena* Medler, 1990b: 209 (n. gen.). Type species, *Trisephena rubeola* Medler.

*Diagnosis*: See Medler 1990b: 209.

*Distribution*: Irian Jaya, Papua New Guinea.

KEY TO SPECIES OF *TRISEPHENA*

1. Tegmen with 2 longitudinal veins (R+S, M) arising from basal stem ..... 2
— Tegmen with 3 longitudinal veins (R, S, M) arising from basal stem ..... 3
2. Tegmen postclaval sutural margin angled at claval apex, apical margin oblique, sutural angle obtuse ... ..... **zestreya**
— Tegmen postclaval sutural margin not angled at claval apex, apical margin parabolic, sutural angle convex ..... **anomala**
3. Dorsum of head with straight intergenal carina delimiting anterior margin of vertex; frontal U-shaped carinae wide, shallowly raised, bordering narrow convex ledge anterior of vertex ..... 4
— Intergenal carina on dorsum of head sinuate or notched medially; frontal U-shaped carinae strongly raised, more or less truncated at border of narrow ledge anterior to vertex ..... 5
4. Vertex without median longitudinal suture; tegmen opaque white; length 7.5 mm ..... **estrias**
— Median longitudinal suture of vertex present; tegmen green or faded green; length 9.0 mm ..... **metrior**
5. Median concave depression in ledge between frontal carinae and transverse intergenal carina ... **lonessa**
— Ledge between frontal carinae and transverse intergenal carinate margin of vertex smoothly convex without median depression ..... 6
6. Pronotum and frons not marked with small red dots; tegmen with sparse pattern of red crossveins . **imposita**
— Pronotum and frons laterally with numerous small red dots; tegmen heavily marked with red crossveins .. 7
7. In dorsal view, head appearing truncate; frontal U-carinae flattened dorsally ..... **rubeola**
— In dorsal view, head obtusely produced; frontal V-carinae bluntly pointed dorsally ..... **trientor**

### 1. **Trisephena anomala** Medler

*Trisephena anomala* Medler, 1990b: 215 (n. sp., figs. 28–32). Holotype ♂, Papua New Guinea, East New Britain Prov, Mt Sinewit, BPBM.

*Diagnosis*: The holotype male genitalia described from aedeagus only. Male genitalia redescribed from specimens collected in Madang Prov, Baiteta Vill. Pygofer posterio-dorsal angle projecting as large thick spine, style clublike with dorsal projection arising about one third distance

from base to apex; aedeagus with long and slender ventral process arising from apical coil, dorsal process short, thickened, terminating in spinelike point.

*Measurements*: ♂, Baiteta Vill. Length: overall 8.0; v 0.17; f 1.00; p 0.42; m 1.33; t 6.64; pcl 1.66. Width: v 0.75; f 0.91; t 2.82. Hind leg spine formula: 1: 6: 7.

*Specimens examined*: Type material: Kassam, Mt Sinewit, Wanuma.

*New record*: **PAPUA NEW GUINEA**: Madang Prov, Baiteta Vill, insecticide fogging in primary forest, 6.v.1993, 2♂, O. Missa, ISNB.

### 2. **Trisephena estrias** Medler

*Trisephena estrias* Medler, 1990b: 213 (n. sp., figs.19–21). Holotype ♂, Papua New Guinea, Madang Prov, Wanuma, BPBM.

*Specimens examined*: Known only from type material: Lake Murray, Wanuma. The ♀ is unknown.

### 3. **Trisephena imposita** Medler

*Trisephena imposita* Medler, 1990b: 212 (n. sp., figs. 13–15). Holotype ♂, Papua New Guinea, East New Britain Prov, Mt Sinewit, BPBM.

*Specimens examined*: Known only from type material: Buso, St. Pauls, Mt Sinewit, Sio, Umboi Island.

### 4. **Trisephena lonessa** Medler

*Trisephena lonessa* Medler, 1990b: 212 (n. sp., figs. 16–18). Holotype ♂, Papua New Guinea, West Sepik Prov, Eliptamin Valley, BPBM.

*Specimens examined*: Known from holotype: Eliptamin Valley. The ♀ is unknown.

### 5. **Trisephena metrior** Medler

*Trisephena metrior* Medler, 1990b: 214 (n. sp., figs. 22–24). Holotype ♂, Papua New Guinea, East Sepik Prov, Bainyik, BPBM.

*Specimens examined*: Known only from type material: **PAPUA NEW GUINEA**: Bainyik, Baiyer River, Kumur, Tsenga, Wagu, Wum. **IRIAN JAYA**: Sabron.

### 6. **Trisephena rubeola** Medler TYPE SPECIES

*Trisephena rubeola* Medler, 1990b: 210 (n. sp., figs. 7–9, 35–36). Holotype ♂, Papua New Guinea, Eastern Highlands Prov, Kassam, BPBM.

*Specimens examined*: Prior records from type material: **PAPUA NEW GUINEA**: Arau, Bainyik, Bubia, Bundi, Busa River, Fergusson Is, Gaulim, Kassan, Korop, Kurum, Lae, Mt Sinewit, Naru River, Noboonob Hill, Saidor, St. Pauls, Tapo Creek, Tsenga, Umi River, Wanuma, Wum. **IRIAN JAYA**: Bodem.

*New records*: Papua New Guinea, Madang Prov, Ohu Village, on *Ficus conocephalifolia, dammaropsis, nodosa, phaeosyce, septica*, ii-xii.1995, 6♂, ♀, V. Novotny, BPBM.

### 7. **Trisephena trientor** Medler

*Trisephena trientor* Medler, 1990b: 212 (n. sp., figs. 10–12). Holotype ♂, Papua New Guinea, East New Britain Prov, Mt Sinewit, BPBM.

*Specimens examined*: Known only from type material: Angoram, Maprik, Mobitei, Mokai Village.

### 8. **Trisephena zestreya** Medler

*Trisephena zestreya* Medler, 1990b: 215 (n. sp., figs. 25–26, 33–34). Holotype ♂, Papua New Guinea, Morobe Prov, Wau, BPBM.

*Specimens examined*: Known only from type material: **PAPUA NEW GUINEA**: Bainyik, Boana Mission, Mobitei, Nobonob Hill, Wanuma, Wau. **IRIAN JAYA**: Araucaria Camp, Bernhard Camp, Genjem, Hollandia, Ifar, Mt Lina, Rattan Camp, Sabron, W. Sentani, Waris.

## 27. Genus NEOCROMNA Distant

*Neocromna* Distant 1910b: 329 (n. gen.); Metcalf, 1957: 187 (cat); Medler, 1989: 24 (review). Type species, *Nephesa bistriguttata* Stål, original designation.

*Phymoides* Distant, 1910b: 326 (n. gen.); Metcalf, 1957: 214 (cat); Medler, 1989: 24 (syn). Type species, *Phymoides rubromaculatus* Distant, original designation.

*Diagnosis*: Head conical, upturned, as long as or longer than pronotum; frons with median longitudinal carina and discernible U-shaped carinae, weak at apex; pronotum and mesonotum without longitudinal carina along dorsal midline; tegmen with 3 longitudinal veins (R,S,M) arising from basal stem, no submarginal line of crossveins, sutural margin angulate and pointed; 1 metatibial lateral spine.

*Taxonomic note*: Distant (1910) considered *Neocromna* allied to *Phyllyphanta* Amyot & Serville, differing by structure of the frons, which is obliquely narrowed to the clypeus and strongly carinate in *Neocromna*. This concept was erroneous, as in addition to head characters, the tegmina and male genitalia are greatly different. No significance was attached to differences in character states of R, S, and M longitudinal veins, which basally arise together in *Neocromna*, but occur as two main longitudinals, R+S, M, in *Phyllyphanta*. With respect to *Phymoides*, Distant considered this genus allied to *Lawana* Distant, differing in the shape and structure of the vertex and frons and in the venation of the tegmina. Any resemblance to *Lawana* is superficial, and reliable separation of the genera can be done readily on basis of the respective 1- or 2-spined character state of the posttibiae.

*Distribution*: Papua New Guinea, Irian Jaya.

### Key to Species of *Neocromna*

1. Tegmen with 3 longitudinally aligned red round spots (genitalia ♂, fig. 139) ..... **bistriguttata**
— Tegmen with 2 fuscous red spots or dashlike bars (genitalia ♂, fig. 140) ..... **hastifera**

### 1. Neocromna bistriguttata (Stål) Fig. 139

*Nephesa bistriguttata* Stål, 1863: 591 (n. sp.); Medler, 1986h: 325 (holotype note); Medler, 1989: 24, figs. 1, 12, 22 (review, lectotype ♀, in error). Holotype ♂, Aru Is, Coll. W. W. Saunders, not found at NHRS. Neotype, ♂, Aru Is, Maluku, Dobbo, BPBM, plesiotype specimen recorded by Medler, 1989: 24.

*Colgar bistriguttata*: Melichar, 1902: 115 (pl. III, fig. 18).

*Colgar similata* Melichar, 1902: 116 (n. sp.); Medler, 1986c: 115 (holotype data, syn.). Holotype, ♀, New Guinea, Erima, Astrolabe Bay, HNHM.

*Colgar tripunctata* Melichar, 1902: 116 (n. sp.); Medler, 1987c: 39 (syn, type data); Medler, 1992b: 182 (lectotype, syn). Lectotype, ♀, Irian Jaya, Takar, Hollandia, Fruhstorfer, ZMUH.

*Phymoides rubromaculata* Distant, 1910b: 326 pl. XXII, fig. 2, 2a (n. sp.); Metcalf, 1957: 214 (cat); Medler, 1989c: 24 (syn); Medler, 1990a: 179 (holotype data). Holotype: ♀, Aru Is, BMNH.

*Neocromna bistriguttata*: Distant, 1910b: 330 (pl. XXII, fig. 4, comb); Metcalf, 1957: 187 (cat); Medler, 1989: 24 (fig. 1, 12, 22, review, plesiotype ♂, syn).

*Neomelicharia marginalis*: Metcalf, 1957: 400 (error, not *marginalis* Walker, 1870: 175).

*Neomelicharia similata*: Metcalf, 1957: 400 (syn, in error).

*Neomelicharia tripunctata*: Metcalf, 1957: 403 (cat).

*Neocromna rubromaculata*: Medler, 1989c: 24 (syn).

*Neocromna similata*: Medler, 1989c: 24 (syn).

*Neocromna tripunctata*: Medler, 1992: 182 (syn).

*Diagnosis*: Normal pattern of tegmen 3 round red dots (1) basally in cell M near Cu-M oblique crossvein, (2) medially on discal cell crossvein, (3) apically in discal cell about half distance between crossvein spot and apical margin. Spots may be with or without white halo ring. Rarely, specimens may have small red spot offset apicad from spot (3), or spot (3) may be absent.

Male genitalia, Fig. 139, redrawn from plesiotype ♂, Maluku, Aru I, Dobbo, that was figured by Medler, 1989, fig. 22.

*Specimens examined*: Prior records (Medler, 1989: 24). **PAPUA NEW GUINEA**: Bainyik, Buambi, Bubia, Bulolo, Eliptamin Valley, Feramin, Kiunga, Kumun, Lae, Maprik, Nengian, Nubia Vill, Pitoki, Torricelli Mts, Wagu, Wanuma, Wau. **IRIAN JAYA**: Bodem, Cyclops Mts, Duroto, Enerotali, Genjem, Guega, Itouda, Karubaka, Kebar Val, Kulima, Kutsima, Manokwari, Nabire, Oeberfaren, Tage Lake, Utakwa R, Waris, Wasian. Maluku Dobbo, Elyner.

*New Records*: **PAPUA NEW GUINEA**: Madang Prov: Finisterre Mts, Damanti, 3550 ft (1082 m), 2–11.x.1964, ♀, M. E. Bacchus; Njau-limon, S. of Mt Bougainville, ♂, 2♀, L.E. Cheesman; BMNH. Madang Prov: Marangis I, 24.vi.1988, 6♂, 9♀, J.-M. Ouin; Sepen Vill. No. 2, St. 068, 10.vi.1988, ♂, J. V. Ståhle, I. G. No. 27363, ISNB. Ohu Village, on *Ficus conocephalifolia, septica, wassa*, ix-xi.1995, 3♂, 3♀, V. Novotny, BPBM. **IRIAN JAYA**: Utakwa Riv, iii.1913, 2♂, A.F.R. Wollaston; BMNH. Paniai, 7.ix–11.xi.1939, 3♂, 6♀, K. N. A. G; Bainyik, S. of Maprik, Baliem Camp, 1700 m, 17–27.xii.1938, ♀, L.J. Toxopeus; Bernhard Camp, 50 m, vii.1938, ♀, J. Olthof; Archbold Exped III; RMNH. Mappi Res, Kepi, 17.x.1957, ♀, R. T. Simon Thomas; Hollandia Res, Genjem, 7.ix.1961, ♂, ♀, R. T. Simon Thomas; Z. Nieuw Guinea, Kloofbin, Versteeg 4.iii.1913, ♀; ZMAN.

*Taxonomic note*: Stål's type of *bistriguttata* was not found in NHRS, and probably was not seen by Melichar. However, specimens in SMTD and MNHN cited by Melichar (1902) were determined correctly. Melichar's illustration (1902, pl. III, fig. 18) represents a pale form of the species. *N. rubromaculatus* is a color variation that was misunderstood by Distant.

### 2. Neocromna hastifera (Walker) Fig. 140

*Colobesthes hastifera* Walker, 1870: 180 (n. sp.); Medler, 1986f: 210 (type data); Medler, 1990a: 145 (syntype not in BMNH). Lectotype ♀, Indonesia, Mysol, MVMA. Plesiotype ♂, Irian Jaya, Waris, S of Hollandia, 450–500 m, 8–31.viii.1959, T.C. Maa, BPBM, here designated.

*Colgar hastifera*: Melichar, 1902: 116 (comb).

*Phymoides atromaculatus* Distant, 1910b: 327 (n. sp.); Metcalf, 1957: 214 (cat); Medler, 1990a: 165, fig. 67 (holotype); Medler, here designated, junior synonym of *Neocromna hastifera*, **NEW SYNONYMY**. Holotype, ♂, Irian Jaya, Manokwari (Dorey), BMNH.

*Colgar quadriguttata* Melichar, 1902: 115 (misidentified, not *Flata quadriguttata* Walker, 1870); Metcalf, 1957: 214 (cat); Medler, 1989: 39, fig. 63 (type data); Medler, 1990a: 165, fig. 67 (type data). Holotype, ♂, Irian Jaya, Dorre Is, BMNH.

*Neomelicharia hastifera*: Melichar, 1923: 81 (comb); Metcalf, 1957: 399 (cat).

*Neocromna hastifera*: Medler, 1989: 63 (comb).

*Colgar furtiva*: Medler, 1986d: 164 (misidentified, syntype ♀).

*Neocromna atromaculata*: Medler, 1989: 63 (comb).

*Neodaksha atromaculatus*: Medler, 1990a: 165, fig. 67 (holotype, comb in error, not *Neodaksha*). Holotype, ♂, Dorre I, BMNH.

*Diagnosis*: Head shape similar to *bistriguttata*, frons foliate margins flared broadly; head along middorsal line distinctly longer than pronotum. Tegmen with 2 conspicuous red-fuscous or black round spots or dashlike bars of variable lengths. Male genitalia (fig. 140) redrawn from plesiotype male ex Waris; pygofer posterior-dorsal point more exaggerated than in *bistriguttata*; aedeagus with narrow straplike dorsal and ventral processes about equally elongate arising from apical coil, strongly curved and twisted apically.

*Measurements*: Plesiotype ♂, Lectotype ♀. Length: overall 12.0, 16.0; v 0.79, 0.83; f 1.66, 1.66; p 0.66, 0.75; m 1.99, 2.49; t 8.63, 14.5; pcl 2.99, 4.00. Width: v 0.91, 1.12; f 1.25, 1.41; t 5.64, 9.00. Hind leg spine formula: 1: 6: 7, 1: 6. 7.

*Specimens examined*: **PAPUA NEW GUINEA**: Central Prov, Brown River, rain forest, 5.xi.1960, ♀, J.L. Gressitt; Finisterre Range, Saidor, Gabumi, 24–30.vi.1958, ♀, W.W. Brandt; Brown River, 13.x. 68, ♀, T.L. Fenner; Bubia Lae, Native Gardens, 13.vii.1956, ♀; 25.ix.1957, ♀, J.H. Ardley; TPNG. Madang Prov, Baiteta Village, fogging in primary forest, 18–19.v.1993, 29.vi.1994, 4♂, O. Missa; ISNB. Morobe Prov: Wau,

1100–1300 m, 2.i.1966, ♂, L. & M. Gressitt. BPBM; Wau Valley, 3400 ft (1036 m), *Coffea arabica*, 22.vii.1962, ♀, Szent-Ivany & P.J. Kebby, ex Dept Agr, Pt Moresby, No. 9470. BMNH. Madang Prov: Baiteta Village, insecticide fogging in primary forest, 18–19.v.1993, 3♂, 29.vi.1964, ♂, O. Missa, ISNB; Sepi Forest Reserve, 30 km W of Madang, light trap, 20.iii.1987, 2♂, ♀, N. D. Penny; CASC. Astrolabe Bay, Erima, ♀; Astrolabe Bay, Stephensort, ♀, Biró, HNHM; Awar Bush, St. 1406, 21-vi. 182, ♂, P. Grootaert, ISNB. Northern Prov: Oro Bay, Cape Sudest, 8–16.xii.1944, 4♀, B. Struck, USNM. Oro Bay, 2♀, ZMAN. West Sepik Prov, Kamberatoro, *Codiaeum variegatum*, 15.xi.1985, ♀, J.W. Ismay; Nondugl, 1600 m, 9.vii.1955, ♂, J.L. Gressitt; BPBM. **NEW GUINEA**: (no data), ♂, Collect. Haglund, *furtiva*, det. Melichar, NHRS. **IRIAN JAYA**: SE Biak Is, light trap, 1.vii.1962, ♀, J.L. Gressitt & J. Sedlacek; Genjam, 4 km W of Hollandia, 100–200 m, ♀, 1–10.iii.1960, ♀, T.C. Maa; Hollandia, 100 m, 24.viii.1955, ♀, J.L. Gressitt; Nabire, S Geelvink Bay, 0–30 m, 2–9.vii.1962, 2♀, J.L. Gressitt; Waris, S of Hollandia, 450–500 m, 8–31.viii.1959, 4♂, 4♀, T.C. Maa; Wasian, 15.ix.1939, ♂, R. G. Wind; BPBM. Hollandia, 250 ft (76 m), rain forest clearing, 12.xii.1944, ♂, H. Hoogstraal, NCSU. Hollandia, 5.vii.1938, ♂, ♀, L.J. Toxopeus; RMNH. Arfak Mts, Warmare Dua, 300 m, at light, primary forest/cultiv. area, 27.ii.1996, ♂, ZMA Exp.1996; Ifar, xii.1957, ♀, G. den Hoed, *Neomelicharia furtiva*, det Gravenstein; Humboldt Bay Dist, 1937, ♀, W. Stüber; ZMAN.

## 28. Genus **NEODAKSHA** Distant

*Neodaksha* Distant, 1910b: 328 (n. gen.); Metcalf, 1957: 153 (cat); Medler, 1989: 25 (rev, key); Medler, 1996a: 31, Borneo). Type species: *Flata quadriguttata* Walker, original designation.

*Diagnosis*: Head not broadly conical, slightly obtusely protruding, dorsum flattened, not angled at posterior margin; frons convex, lateral margins raised, carinate, slightly wider at clypeal margin than at dorsal posterior margin that is delimited by transverse intergenal carina, frons with faint trace of horseshoelike carinae at dorsal margin, median longitudinal carina about half length of frons; pronotum anterior margin carinate, lateral margin of disc carinate half distance to mesonotum, then curving ventrally on side of prothorax nearly to postocular eminence, which is shallow and broadly triangular. Mesonotum with thin median and lateral longitudinal carinae. Tegmen shape variable, in female broadly convex apically, in male sutural angle may be acute but only slightly extended; strong pattern of terminal cross veins, submarginal line; usually veins R, S, M arising from basal stem, rarely R+S, M or R, S+M stems, bulla shallow, S and M forks approximately same distance from basal stem, Cu without fork. Precostal margin: costal cell ratio 3: 1 at bulla; cell M: Cu ratio 3: 1 at M2 fork. Tegmen color variable, white, green, stramineous or black; without spots or with black spots or margins. Ovipositor modified, pair of triangular processes with basal spheroids replacing normal valvulae I and III; segment X hinged to large platelike interface with strongly raised median carina. One metatibial lateral spine, metatarsal apical spines associated with pad of minute spines.

*Distribution*: Irian Jaya, Papua New Guinea.

### Key to Species of *Neodaksha*

1. Tegmen stramineous or light green, without contrasting spots or black color (genitalia ♂, fig. 142) ..... **agrossa**
— Tegmen heavily suffused with black, or with contrasting black margins or spots ..... 2
2. Tegmen partially or entirely suffused with dark black or smoky black color (genitalia ♂, fig. 147) ..... **sordida, n. sp.**
— Tegmen devoid of extensive black coloration, black margins or black spots ..... 3
3. Head, pro- and mesonotum predominantly white; tegmen white with black sutural and apical margins (genitalia ♂, fig. 144) ..... **marginata**
— Color of head and thorax variable; tegmen stramineous, apical and sutural margins not black ..... 4
4. Head and thorax strongly black; tegmen with single black spot in discal cell (genitalia ♂, fig. 143 ..... **carbona, n. sp.**

— Head and thorax not strongly black; tegmen with two or more black spots. ..... 5

5. Tegmen with two barlike black spots: one spot basally in M cell, other spot on discal cell crossvein (genitalia ♂, fig. 146) ..... **quadriguttata**

— Tegmen with at least 4 black spots, 3 of which are aligned lengthwise along middle axis of tegmen (genitalia ♂, fig. 145) ..... **mirana, n. sp.**

1. **Neodaksha agrossa** Medler Fig. 142

*Neodaksha agrossa* Medler, 1996a: 31 (n. sp., fig. 42, 66). Holotype ♀, S. Borneo, SMTD. Plesiotype ♂, Irian Jaya, Araucaria Camp, Archbold Exped III, RMNH, here designated.

*Diagnosis*: Morphology conforms with description of the genus. Color uniformly tawny, except brown apex of pro- and mesotibiae. The complete absence of tegmina markings distinguishes this species from congeners in New Guinea that have spots or bars. Illustration of holotype tegmen (Medler, 1996a, fig. 66) shows broad shape, 3 longitudinal veins arising from basal stem, branching of terminal veins near apical margin, and wide separation of vein Cu from claval suture. Overall length of females: 22.0 mm. Holotype genitalia (Medler, 1996a, fig. 42) are not fitted for piercing plant tissue for oviposition. This modification, which is found in most New Guinea genera, may be associated with a large abdominal plate against which the anal segment articulates. Male genitalia illustrated from plesiotype (fig. 142);

*Measurements*: Plesiotype ♂, holotype ♀. Length: overall 16.5, 22.0; v 0.66, 0.83; f 1.49, 1.83; p 0.83, 0.91; m 2.32, 2.82; t 13.28, 18.59; pcl 1.49, 3.32. Width: v 1.08, 1.25; f 1.33, 1.66; t 8.63, 11.29. Hind leg spine formula: 1: 7: 6, 1: 7: 4, each with pad of minute spines.

*Specimens examined*: Prior records: type material, S. Kalimantan; **IRIAN JAYA**: Etnabaai, Ifar, Maffin Bay.

*New Records*: **PAPUA NEW GUINEA**: East Sepik Prov, Torricelli Mts, 750 m, 1–15.iv.1959, ♀, W.W. Brandt, BPBM. Central Prov, Goilala, 4000 ft (1219 m), on *Coffea arabica*, vi.1960, ♀, J.J.H. Szent-Ivany; Madang Prov, Baiteta Village, light trap, 25.iv.1996, ♀, O. Missa, ISNB. **IRIAN JAYA**: Utakwa Riv, ix.1912-iii.1913, ♀, A.F.R. Wollaston; BMNH. Araucaria Camp, 800 m, 31.iii.1939, ♂, L.J. Toxopeus, Archbold Exped III, RMNH.

2. **Neodaksha carbona** Medler, **new species** Fig. 143

*Diagnosis*: Conforms with generic characters. This species is easily recognized by distinctive color pattern of dark head, light stramineous tegmina, and single black spot on discal cell crossvein. Male genitalia are illustrated, (Fig. 143).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 14.0, 17.0; v 0.50, 0.66; f 1.58, 1.91; p 0.75, 0.83; m 2.49, 2.82; t 12.28, 14.28; pcl 3.98, 4. 15. Width: v 1.00, 1.16; f 1.41, 1.58; t 7. 14, 8.30. Hind leg spine formula: 1: 6: 8/pad, 1: 6: 8.

*Types*: Holotype, ♂, 14.ix.1939; Allotype, ♀, 26.ix.1939, Paratypes, 7♂, 3♀, viii-ix.1939, **IRIAN JAYA**: Paniai, K.N.A.G., RMNH.

3. **Neodaksha marginata** Medler Fig. 144

*Neodaksha marginata* Medler, 1989: 28, fig.19 (n. sp.). Holotype, ♂, Papua New Guinea, Mendi, Barrett, BPBM.

*Diagnosis*: Color of head, thorax and tegmen chalky white, contrasting sharply with black sutural and apical margins. Rarely longitudinal veins widely black. Male genitalia are illustrated, (fig. 144).

*Specimens examined*: Prior record: type material, **PAPUA NEW GUINEA**, Mendi. (Medler, 1989: 28).

*New records*: **PAPUA NEW GUINEA**: Southern Highlands Prov, Aiyurop, 1530 m, 7.x.1958, ♀, J.L. Gressitt, BPBM. **IRIAN JAYA**: NG (only label), ♂, RMNH. Ambon Z, 1960, ♀, ZMAN.

3. **Neodaksha mirana** Medler, **new species** Fig. 145

*Diagnosis*: Closely related to *N. quadriguttata*, but tegmina more extensively marked with black barlike spots. The pattern of basal spot in cell M in alignment lengthwise with 2 spots in discal cells was consistent in material examined. Number and position of additional black spots variable. Male genitalia are illustrated, (Fig. 145).

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 14.5, 17.0; v 0.58, 0.71; f 1.74, 1.91; p 0.83, 0.83; m 2.32, 2.49; t 12.79, 14.94; pcl 3.15, 3.32. Width: v 1.08, 1.16; f 1.3., 1.49; t 7.80, 9.63. Hind leg spine formula: 1: 6: 7, 1: 7: 7.

*Types*: Holotype, ♂, Allotype, ♀, Paratypes, 5♀, **IRIAN JAYA**: Djidmaoe, 13.vi.1952, L.D. Brongersma & W. J. Roosdorp; ♀, Bernhard Camp, 16.ix.1938, J. Olthof, Archbold Exped III; RMNH; ♀, Baho, 20.xi.1935, G. W. Heid, CASC ♀, Fak Fak, 1907, P.v. d. Broek, ZMAN; ♀, Vogelkop, Kebar Valley, W of Manokwari, 550 m, 4–31.i.1962, L. W. Quate; BPBM; ♀, **PAPUA NEW GUINEA**: West Sepik Prov, Kamberaboro, 16.xi.1985, on Laulau, *Eugenia* sp, J.W. Ismay; Western Province, ♀, Olsobip, Fly R., 400 m, 26.viii.1969, J. & M. Sedlacek; Milne Bay Prov, ♀, Normanby Is, Wakaiuna, Sewa, 11–20.xii.1956, W.W. Brandt, BPBM;

4. **Neodaksha quadriguttata** (Walker) TYPE SPECIES Fig. 146

*Flata quadriguttata* Walker, 1870: 179 (n. sp.); Medler, 1986f: 210 (paralectotype data); Medler, 1990a: 157 (lectotype). Lectotype, (no abdomen), New Guinea, Wallace, BMNH. Plesiotype ♂, (no locality), 256/91, HNHM, here designated.

*Neodaksha quadriguttata*: Distant, 1910b: 328, pl.xxii, fig. 9 (comb); Metcalf, 1957: 154 (cat).

*Diagnosis*: Differs from congeners in presence of short S+M vein arising from basal stem, and consistent presence of two black spots on each tegmen. Male genitalia known from plesiotype (Fig. 146).

*Measurements*: Paralectotype ♀, MVMA. Length: overall 21.0; v 0.66; f 2.08; p 1.00 ; m 2.99; t 18.50; pcl 7.50. Width: v 1.25; f 1.83; t 11.5. Hind leg spine formula: 1: 6: 7.

*Specimens examined*: **IRIAN JAYA**: Utakwa Riv, ix.1912-iii.1913, ♀, A.F.R. Wollaston, BMNH; Kapaur, ♀, Fruhstorfer, HNHM; Djidmaoe, 13.vi.1952, ♂, L.D. Brongersma; Araucaria Camp, ♂, Hollandia, 23.vi.1938, ♀, L.J. Toxopeus, Archbold Exped III; RMNH.

5. **Neodaksha sordida** Medler, **new species** Fig. 147

*Diagnosis*: Predominant smoky black color of tegmina is unique in the genus. Head broad obtuse cone, dorsum slightly flattened, margins rugulose striate, median longitudinal carina; head color black, thorax color variable, either solid black or orange disc with irregular black margins. Holotype genitalia illustrated (Fig. 147);

*Measurements*: Holotype ♂, Allotype ♀. Length: overall 14.0, 16.5; v 0.50, 0.50; f 1.58, 1.74; p 0.71, 0.83; m 2.49, 2.99; t 11.92, 14.61; pcl 3. 15, 3.49. Width: v 1.00, 1.16; f 1.33, 1.54; t 6.97, 8.30. Hind leg spine formula: 1: 6: 7/pad; 1: 6: 8/pad.

*Types*: Holotype ♂ (BPBM 16,133), **PAPUA NEW GUINEA**: NE, Simbai, Bismarck Range, 1850 m, 27.v.1966, J.L. Gressitt; Allotype, ♀, Eastern Highland Prov, Daulo Pass, 2400 m, 15.v.1963, J. Sedlacek, BPBM; Paratypes, **IRIAN JAYA**: ♀, Vogelkop, Lake Anggi Giji, 2000–2100 m, 1–3.iii.1963, R. Straatman; ♀, Wisselmeren, Waghete, Tigi L. 1700 m, 17.vii.1955, J.L. Gressitt, ♀, Lake Siranka, 2800–2900 m, 15.vi.1963, J. Sedlacek BPBM. ♂, 7♀, Paniai, K.N.A.G., viii-ix.1939, RMNH. Paratypes, **PAPUA NEW GUINEA**: Central Prov, 2♀, Owen Stanley Range, Goilala, Bome, 1950 m, 24.ii–15.iii.1958, W.W. Brandt; Morobe Prov, ♀, Kaisenite Rd, 1900 m, 26.iii.1978, W.C. Gagné; ♀, above Korowagi, 2300 m, 6.viii.1955, J.L. Gressitt; ♀, NE, Kepilam, 2420–2540 m, 21.v.1963, J. Sedlacek; ♀, NE, Mt Kaindi, 26.v.1967, J.L. Gressitt; Southern Highlands Prov, ♀, Mt Giluwe, 2500 m, 1.v.1963, J. Sedlacek; Western Highlands Prov, ♀, Tomba, slopes of Mt. Hagen, 2450 m, 23.v.1963, J. Sedlacek; BPBM. Eastern Bismarck Range, Karamuki, 2600 m, 3.ix.1973, Straatman, BMNH; ♀, Namie Creek, 1600 m, Sta. 1096, 23.v.1982, P. Grootaert, ISNB.

## 29. Genus PARADAKSHA Distant

*Paradaksha* Distant, 1910b: 327 (n. gen.); Metcalf, 1957: 148 (cat); Fletcher, 1988: 14 (diagnosis). Type species, *Paradaksha meeki* Distant, original designation.

*Diagnosis*: Vertex shorter than pronotum. Frons 3 carinae not strongly developed, stronger in upper half, laterals may be less prominent than median. Pronotum post ocular eminence a shallow ridge extending lengthwise to near ventral margin of pleural segment. Tegmen sutural/apical apex extended, sometimes acute but not drawn out much, angle sharp or narrowly rounded; without markings, or with variable black round or dashlike spots.

*Distribution*: New Guinea, Australia, Solomon Islands.

### KEY TO SPECIES OF *PARADAKSHA*

1. Legs and body unicolorous; tegmen apical margin nearly truncate; sutural angle less than 90 degrees, extended acutely or narrowly rounded . . . . . **2**
— Legs black or dark brown; tegmen apical margin convex, postclaval margin convex, sutural angle not less than 90 degrees . . . . . **composita**
2. Vertex as long as or longer than pronotum; tegmen usually without markings, or with two small black spots; length 15 mm or longer . . . . . **furtiva**
— Vertex not longer than pronotum; tegmen with two large black oval or elongated spots; length usually 12 mm or less (genitalia ♂, fig. 141) . . . . . **meeki**

### 1. **Paradaksha composita** (Melichar)

*Colgar composita* Melichar, 1902: 114, pl. III, fig. 17 (n. sp.); Medler, 1986b: 300 (type). Holotype, ♀, SE New Guinea, Moroka, Loria, MCSN. Plesiotype, ♂, Papua New Guinea, Korofeigu, BPBM.

*Neomelicharia composita*: Metcalf, 1957: 395 (cat).

*Neodaksha composita*: Medler, 1986b: 300 (comb); Medler, 1989: 26, fig. 18 (plesiotype).

*Paradaksha composita*: Medler, **NEW COMBINATION**, here designated.

*Diagnosis*: See Medler (1989: 26) for description, measurements and figure of plesiotype male genitalia.

*Specimens examined*: Prior records: (Medler, 1989: 26). **PAPUA NEW GUINEA**: Aiyura, Arau, Hohola, Kainantu, Kiambavi, Korofeigu, Kup, Matoko, Mondo, Nami Creek, Nondugl, Purosa, Samazing, Yaningya, Waitape, Wewak.

*New Records*: **PAPUA NEW GUINEA**: Morobe Prov, Finisterre Range, Saidor, Kiambavi Vill, 22.vii.–28.viii.1958, 5♂, 3♀, W.W. Brandt; Saidor, Matoko, 29.viii–5.ix.1958, ♂, W.W. Brandt; Salawaket Range, Gewak, 1530 m, light trap, 7.ix.1956, ♀, E.J. Ford, Jr.; Lae, Melambi R, Samazing Vill, 7000 ft (2134 m), ♀, J.H. Ardley; BPBM. Central Highlands, Kup, 5000–7000 ft (1524–2134 m), vii.1952, ♀, L.J. Sanford, AMNH. Eastern Highlands Prov, Mondo, 5000 ft (1524 m), i.1934, ♀, L.E. Cheesman, BMNH. **IRIAN JAYA**: (no locality): 9.iii.1936, ♀, J.v. Groenendael, ZMAN.

### 2. **Paradaksha furtiva** (Melichar)

*Colgar furtiva* Melichar, 1902: 115 (n. sp.); Medler, 1986b: 300 (lectotype). Lectotype, ♀, Irian Jaya, Bujakori, Loria, MCSN. Paralectotypes, 2♂, 5♀, Irian Jaya [Dtsch N-Guinea], Melichar collection, MMBC, Here designated.

*Neomelicharia furtiva*: Metcalf, 1957: 398 (cat); Fletcher, 1988: 16 (listed)

*Neodaksha furtiva*: Medler, 1986b: 300 (comb); Medler, 1989: 27, fig. 2, 15, 20 (plesiotype, review).

*Paradaksha furtiva*: Medler, **NEW COMBINATION**, here designated.

*Diagnosis*: See Medler (1989: 27) for description, measurements and illustration of plesiotype male genitalia.

*Specimens examined*: Prior records; (Medler, 1989: 27). Papua New Guinea: Awawota, Javunie, Kiunga, Koitaki, Kokoda, Komiatum, Kui, Maprik, Oro Bay, Popondetta, Sumvarapa, Torricelli Mts, Waigani, Zenag-Lae. Irian Jaya: Waris.

*New Records*: **PAPUA NEW GUINEA**: East Sepik Prov, Maprik area, 160 m, 23.viii.1957, ♀, D.E. Hardy; West Sepik Prov, Torricelli Mts, Mobitei, 750 m, 28.ii–4.iii.1959, ♀, W.W. Brandt; BPBM. Morobe Prov, Oomsis, 32 mi W Lae on Lae-Bulolo Rd, 100 m, 28.iv.1959, ♀, L.J. Brass, Archbold Exped VI, AMNH. Northern Prov, Mt. Lamington, vii.1927, 4♀, C.T. McNamara, with label, *Phymoides ? atromaculatus* Dist., det A. Musgrave, AMSA. **IRIAN JAYA**: Waris, S of Hollandia, 450–500 m, 24–31.viii.1959, 15♀, T.C. Maa; BPBM. S. of Mt Bougainville, Njau-limon, 330 ft (100 m), ii.1936, ♀, L.E. Cheesman, BMNH. **IRIAN JAYA**: Ambon, Res. Manokwari, 110 m, cacao twig, 22.xii.1960, ♀, J. Schneurs. Irian Jaya (no locality), 9.iii.1936, ♀, J.v Groenendael, ZMAN.

### 3. **Paradaksha meeki** Distant Fig. 141

*Paradaksha meeki* Distant, 1910b: 327, pl. XXII, fig. 3 (n. sp.); Metcalf, 1957: 148 (cat); Fletcher, 1988: 14, fig. 21–22 (note); Medler, 1990a: 173, fig. 50 (holotype, plesiotype). Holotype, ♀, Australia, Queensland, Cedar Bay, S of Cooktown, BMNH. Plesiotype ♂, N. Queensland, Hann River, MVMA.

*Neomelicharia furtiva*: Kirkaldy, 1906: 452 (misidentified, not *Colgar furtiva* Melichar, 2♀, Queensland, Cairns, 1904, Koebele, BPBM).

*Diagnosis*: Vertex not longer than pronotum; upper 1/2 of frons with 3 carinae; lateral carinae may be less prominent than median carina. Postocular eminence elongated carinate ridge; tegmen sutural angle acute, postclaval sutural margin raised above plane of claval sutural margin; 2 black oblong spots, one in R cell basad of Cu-M oblique vein, the other on discal cell crossvein. Male genitalia (Fig. 141), redrawn from plesiotype.

*Specimens examined*: **PAPUA NEW GUINEA**: Kura, 9 m, light trap, 12.viii.1964, ♀, H. Clissold; SSE. Ruka, 9 m, light trap, 12.viii.1964, ♂, H. Clissold; Wando, citrus, 9.v.1992, ♂, J.F. Grimshaw; Herbert R., 14.xi.1922, ♀, A.R. McCulloch; near Mibu Is, mouth of Fly River, 6.xi.1922, no abdomen, A. R. McCulloch; BMNH. Madang Prov, Ohu Village, on *Ficus conocephalifolia, nodosa, septica*, xi.1995, iv.1996, ♂, 2♀, V. Novotny, BPBM. **SOLOMON IS**: Guadalcanal I, i–1921, J.A. Kusche; BPBM. **IRIAN JAYA**: SE Biak I, light trap, 1.vii.1962, ♀, J.L. Gressitt & J. Sedlacek; BPBM. Hollandia, 250 ft (76 m), rain forest clearing, 12.xii.1944, ♂, H. Hoogstraal, NCSU. Merauke, sea level, 24.iii.1955, ♀, L.D. Brongersma, RMNH. **AUSTRALIA**: N. Queensland, Redlynch, 27.ix.1939, ♂, ♀, R. G. Wind.

*Taxonomic note*: The Irian Jaya and Papua New Guinea records are based on specimens that have male genitalia characters similar to specimens distributed in N. Queensland. Tegmina of *P. meeki* have same pattern of black oblong spots that is found in tegmina of *Neodaksha quadriguttata* and in variants of *Neocromna hastifera* that have black spots instead of red spots typical of the species. . The taxa are not congeneric and can be distinguished by difference in head characters, shape of sutural angle, and characters of male genitalia.

## 30. Genus **SHADAKA** Medler, **new genus**

*Diagnosis*: Head very short, frons convex from clypeal suture to anterior margin of pronotum, very short weak median longitudinal carina in middle part; lateral margins extending parallel from pronotum about half length of frons, then flared slightly outward and upwards at plane of antennal insertions; ocelli absent; rostrum elongate, nearly as long as front femur; in profile view, frons obtusely angled about midway between clypeus and anterior margin of pronotum, not protruding beyond lateral margins, slightly raised above dorsal margins; pronotum without postocular eminence. Tegmen broad, relatively short, widely oval, sutural and costal angles equally rounded with apical margin. Veins C and R emitting strongly developed cross veins, precostal and costal cells much widened; Cu cell slightly widened at middle, with strong M-Cu oblique vein; short R+S basal stem. Female abdominal segment IX oval, 1.5 mm diameter; segment VIII oblong oval, approximately 1 mm long, 2 mm wide, with flat posterior surface shaped to receive segment IX when

adpressed; ovipositor non-sclerotized pair of fingerlike processes extending from base of segment VII. One metatibial lateral spine.

*Taxonomic note*: The new genus is closely related to *Paradaksha* complex of species but differs in characters of head, tegmina and genitalia. Known only from female sex at present. Discovery of male sex and study of male genitalia needed for better knowledge of this distinctive taxon.

Type species, *Shadaka petita* Medler, n. sp., monobasic.

*Distribution*: Irian Jaya

1. **Shadaka petita** Medler, new species Fig. 160

*Diagnosis*: Morphological characters as given for genus. Head and dorsum of thorax stramineous, rostrum and abdomen red, legs mostly pink except fuscous pro-and meso tibiae/tarsi; body heavily coated with white waxy deposit. Tegmen uniformly chalky white, heavily dusted with white wax particles, margins very narrowly ochraceous; underwings clear white. Broad, oval shape of holotype tegmen shown in Fig. 160.

*Measurements*: Holotype ♀. Length: overall 13.0; v 0.50; f 1.49; p 0.75; m 2.16; t 12.28; pcl 3.32. Width: v 1.16; f 1.16; t 7.47. Hind leg spine formula: 1: 5/6: 5.

*Types*: Holotype, ♀, Z. Nieuw Guinea [= **IRIAN JAYA**]: , Versteeg, 13.v.1912, Weelsk, ZMAN. Paratype, ♀, Utakwa Riv, ix.1912-iii.1913, A.F.R. Wollaston, BMNH.

## Tribe Selizini Melichar, 1923

### 31. Genus **ANIDORA** Melichar

*Anidora* Melichar, 1902: 158 (n. gen.); Metcalf, 1957: 438 (cat. .). Type species, *Anidora fusca* Melichar, monobasic.

*Diagnosis*: Frons not widened medially, line of red dots outlining ancestral position of U-shaped carina. Vertex narrow ledgelike, slightly depressed medially, anterior margin truncate, sharply carinate, in profile meeting frons at right angle. Pronotum lateral carina oblique, not reaching posterior margin, postocular eminence conelike. Tegmen apical margin strongly sinuate, sutural angle drawn out apicad into a point; clavus strongly raised basally, vein C terminated at junction with vein R, without extension of submarginal line of crossveins, vein S forked apicad of C + R junction, discal cell crossvein lacking medial pigment spot.

*Distribution*: Eastern Papua New Guinea, New Britain, New Ireland.

1. **Anidora fusca** Melichar Figs. 149, 153

*Anidora fusca* Melichar, 1902: 159 (n. sp.); Metcalf, 1957: 439 (cat). Holotype, stylopized ♂, Neu-Pommern, Kinigunang [Kinigunan], MMBC. Plesiotype ♂, New Ireland (SW), Ridge above "Camp Bishop", 5 km up Kait R., 250–750 m, 13.vii. '56, J.L. Gressitt. BPBM. Plesiotype ♀, New Britain, Gazelle Peninsula, Burit #2, 350 m, 17.xi. '79, W.C. Gagné, BPBM.

*Diagnosis*: Illustration of tegmen by Melichar (1902, pl. VII, fig. 20) shows distinctive sinuation of sutural angle and pustulation of cells, but does not show distinctly the R + S basal stem, and alignment of apical submarginal crossveins is inaccurate. The tegmen of plesiotype ♀ illustrated (Fig. 149) shows irregularity of apical crossveins. Specimens uniformly light to dark brown, or almost black, with strong red undertones, especially in the veins. Genitalia of plesiotype male are illustrated (Fig. 153).

*Measurements*: plesiotypes ♂, New Ireland, and ♀, New Britain. Length overall, 8.00, 8.50; v 0.21, 0.21; f 1.16, 1.25; p 0.50, 0.50; m 1.66, 1.83; t 6.81, 7.47; pcl 2.49, 2.66. Width, v 0.91, 0.95;

f 1.16, 1.33; t 4.65, 4.81. Hind leg spine formula 1: 7: 8, 1: 7: 7.

*Specimens examined*: **PAPUA NEW GUINEA**: Central Prov, Bisianumu, E. of Port Moresby, 500 m, 24.ix.1955, ♀, Gressitt, BPBM. Madang Prov, Baitabag Village, ♀ feeding on *Endospermum labios*, 30.vii.1996, V. Novotny, BPBM. Morobe Prov, Kapakapa, Mag. Giugno, 1891, ♂, L. Loria, MCSN. Northern Prov, Kokoda, Deniki Biage Valley, 1400 ft (428 m), 21.v.1956, ♂, J. Healy, BPBM ex TPNG. Kokoda, 1200 ft (366 m), vi.1933, ix.1933, 2♂, L.E. Cheesman, B.M. 1933–427, 1934–321, BMNH. New Britain, Gazelle Penin., Burit No. 2, 17.xi.1979, ♀, W.C. Gagné; New Ireland, 15 km up Kait R, 13.vii.1956, 2♂, Gressitt; BPBM.

*Taxonomic note*: Any resemblance of *A. fusca* to *Seliza ferruginea* (Walker) seen by Melichar was superficial. The two taxa are easily distinguished by one metatibial spine in *fusca* and two spines in *ferruginea*.

## 32. Genus **DASCANGA** Medler, new genus

*Diagnosis*: Vertex broadly triangular, lateral margins formed by sharp intergenal transverse carina that separates frons from vertex. Frons slightly longer than wide, disc depressed by strong transverse crease, median longitudinal carina not extending ventrad of crease; in profile view, no ocelli, pronotum postocular eminence small knoblike triangle, mesonotum raised stepwise above pronotum, scutellum strongly raised. Tegmen with veins R+S basal stem, R crossing strong bulla, postclaval sutural margin sharply angled from clavus apex, claval vein A2 raised basally, claval Y-stem sharply carinate, delimiting elongate slightly raised flat area that borders sutural margin.

Type species, *Dascanga enigma* Medler, n. sp., monobasic.

*Distribution*: Irian Jaya, Papua New Guinea.

### KEY TO SPECIES OF *DASCANGA*

1. Tegmina yellow with black markings. Star Mts ..... **enigma, n. sp.**
— Tegmina fuscous with red veins. Madang Prov ..... **novotnyi, n. sp.**

### 1. **Dascanga enigma** Medler, new species Fig. 135

*Diagnosis*: Morphological characters conform with generic diagnosis. Tegmen with distinctive variegated color pattern of yellow and black. Male genitalia illustrated (Fig. 135).

*Measurements*: Holotype ♂. Length: overall 9.0 mm; v 0.33; f 1.16; p 0.54; m 1.66; t 8.63; pcl 1.99. Width: v 0.75; f 1.08; t 2.66. Hind leg spine formula: 1: 6: 8.

*Types*: Holotype, ♂, **IRIAN JAYA**: Star Range, 1500 m, Bivak 39A, 10.vii.1959, RMNH.

*Taxonomic note*: Probably collected by C. Van Heijningen with light trap at Camp 39A on Antares Mountain along with specimens of Tortricidae studied by Diakonoff (1972).

### 2. **Dascanga novotnyi** Medler, new species Figs. 161–165

*Diagnosis*: Head characters and color patterns differ from *D. enigma*. Vertex flat, anterior margin obtusely rounded (fig. 165) with thick rim formed by transverse intergenal carina united with dorsal margin of U-carinae of frons (fig. 164). Illustration of tegmen (fig. 161) shows broad basal width, strong median constriction, and concavity of apical margin that is characteristic of the genus; bulla strongly pustulate, bisected by vein R; claval vein A2 with large wax pustules along inner margin, wartlike cluster of about 8 pustules on outer margin, large wax pustules also dispersed in cells along precostal margin. Tegmina black or dark fuscous, interspersed with red dots and short lines; fuscous spot apicad of bulla, postclaval sutural margin fuscous. Holotype and allotype genitalia are illustrated (Figs. 163, 162).

*Measurements*: Holotype ♂, Allotype ♀. Length overall, 9.5, 10.0; v 0.66, 0.66; f 1.33, 1.41; p 0.58, 0.58; m 1.66, 1.83; t 7.80, 8.39; pcl 1.99, 2.16. Width, v 0.95, 0.95; f 1.16, 1.33; t 2.16, 2.66. Hind leg spine formula 1: 7: 8, 1: 7: 8.

*Types*: Holotype, ♂, Allotype ♀, **PAPUA NEW GUINEA**: Madang Prov, Baiteta Village, insecticide fogging in primary forest, 15.iii.1995, O. Missa, ISNB; Paratype, ♂, same data as holotype, except 4.v.1996, BPBM, ex ISNB.

## 33. Genus **TALOPSUS** Medler

*Talopsus* Medler, 1989: 55 (n. gen.). Type species, *Talopsus albastum* Medler, original designation.

*Diagnosis*: Head truncate, vertex a narrow flat ledge, anterior margin carinate, the carina extending transversely to genal margins apparently without interruption; frons slightly broader than long, median longitudinal carina short, not raised strongly. In profile, vertex and frons meeting at almost a right angle, pronotum lateral carina extending basad nearly to postocular eminence, which is elevated ridgelike. Tegmen apical margin almost straight, postclaval sutural margin raised, obtusely convex; 2 longitudinal veins (R+S, M) arising from basal stem, vein S forked apicad of the R+C junction, precostal marginal cell closed by vein R, discal cell crossvein weak, vein Cu forked, Cu1 branch oblique, joining vein M2; clavus with a smooth area medially, claval veins with well developed Y-stem, claval vein 2 slightly elevated basally. Metatibial spine formula 1: 6.

The genus differs from *Anidora* Melichar in smaller size, claval vein A1 not strongly elevated basally, sutural angle convexly rounded, not pointed, and apical margin nearly straight, not sinuate.

*Distribution*: Papua New Guinea, Irian Jaya.

### KEY TO SPECIES OF *TALOPSUS*

1. Head, pronotum and mesonotum dark fuscous; overall length 7–8 mm ..... **variabilis**
— Head, pronotum and anterior half of mesonotum stramineous, overall length 5.50–6 mm .... **albastum**

### 1. **Talopsus albastum** Medler

*Talopsus albastum* Medler, 1989: 56, fig. 3, 13, 42 (n. sp.). Holotype, ♂, Papua New Guinea, Central Prov., Boroko [BPBM].

*Diagnosis*: Overall appearance fuscous; sides and posterior half of mesonotum dark brown; tegmen brown with a ivory oblique band extending from costal angle across disc; small brown or red brown wax spots scattered in cells or on crossveinlets; vein terminations at the apical margin red; clavus medially with a smooth shiny brown area. Hind leg spine formula 1: 6: 11. Length 5.5—6.0 mm. Holotype genitalia illustrated by Medler (1989, fig. 42).

*Specimens examined*: Prior records (Medler, 1989: 56): **PAPUA NEW GUINEA**: Central, Morobe, East New Britain Provinces.

*New records*: **PAPUA NEW GUINEA**: Morobe Prov, Bulolo, St. 036, 300 m, 17.v.1988, ♂, ♀; Bulolo, St. 037, Manki Ridge, 18.v.1988, 6♂, 5♀; Bulolo, St. 038, 18.v.1988, ♂; Bulolo, St. 039, 18.v.1988, 4♂, 5♀; Bulolo, Mt Susu (950 m), St. 040, 19.v.1988, 24♂, 21♀; Wau Ecology Institute, St. 053, 22.v.1988, 4♂, 4♀; J. Van Stâlle, I.G. No: 27363, ISNB.

### 2. **Talopsus variabilis** Medler

*Talopsus variabilis* Medler.1989: 57, fig. 43 (n. sp.). Holotype, ♂, Irian Jaya, Ifar [BPBM].

*Diagnosis*: Head and thorax dark brown; tegmen lighter brown, much lighter basally in a diagonal area from tip of clavus, brown smooth area medially in clavus, base of clavus densely pustulate, scattered pustules on disc of tegmen, most pustules white, rimmed with red; cell apicad of discal cell with central round brown spot, this spot aligned with 5 preapical brown spots, similar spots

in clavus along suture. Bulla not strongly elevated, not displacing distinct R + S stem. Hind leg spine formula 1: 6: 6. Length: 7.00 –8.00 mm. Male genitalia illustrated by Medler (1989, fig. 43).

*Specimens examined*: Prior records: type material from Ifar and Ambon Is.

*New records*: **PAPUA NEW GUINEA**: Madang Prov, Baiteta Village, fogging in primary forest, *Macaranga* sp, 1.v.1996, 24.vii.1996, 2♂, O. Missa, ISNB.

## Subfamily Flatoidinae Melichar, 1910

### 34. Genus ATRACIS Stål

*Atracis* Stål, 1866: 250 (n. gen.); Medler, 1988a: 18 (rev. status); Medler, 1991a: 24 (key, Sulawesi); Medler, 1996a: 71 (Borneo). Type species, *Flata pyralis* Guérin-Méneville.

*Uxantis*, Stål, 1870: 775 (n subg); Metcalf, 1957: 466 (cat); Medler, 1988a: 18 (syn); Fletcher, 1988: 11 (key). Type species, *Atracis (Uxantis) consputa* Stål.

*Franciscus* Distant, 1910b: 337 (n. gen.); Metcalf, 1957: 513 (cat). Type species, *Flatoides fasciatus* Walker.

*Grapaldus* Distant, 1914: 355 (n. gen.); Metcalf, 1957: 455 (cat). Type species, *Grapaldus corticinus* Distant.

*Diagnosis*: Tegmen veins R+S stem elongate, clavus basally with or without large wax pustules, claval veins A1 and A2 united apically in elongate Y-stem. Genae usually with black or fuscous bar between margin of eye and anterior margin. Ovipositor derived, valvulae modified, without distinct teeth, anal segment ovate, very large. One metatibial lateral spine. Size medium to small.

*Taxonomic Note*: Specimens of *Atracis* vary widely in color patterns that are predominantly brown or reddish brown. A saddlelike fuscous band across tegmina may be well developed, reduced or absent; veins and cells have wide array of spots, lines and minute red dots. Identifications should be confirmed by study of male genitalia when possible.

*Distribution*: Widespread in SE Asia, New Guinea

#### Key to Species of *Atracis*

1. Tegmen precostal marginal cell with median longitudinal zig-zag line of crossveins ..... 2
— Tegmen precostal marginal cell without zig-zag line of crossveins ..... 3
2. Frons length and width about equal; concave notch on dorsal margin ..... **termina, n. sp.**
— Frons longer than wide, dorsal margin truncate, without notch ..... **plagiata**
3. Vertex with median longitudinal suture bordered by protruding lobes and terminated at small convex notch on anterior margin; pronotum with median longitudinal carina ..... **pyralis**
— Vertex without lobes on dorsal surface divided by median longitudinal carina; pronotum without median long carina ..... 4
4. Head anterior margin incised concavely, nearly touching transverse intergenal carina delimiting vertex .. ..... **scissa**
— Head anterior margin truncate, not incised ..... 5
5. Vertex anterior margin composed of transverse intergenal carina combined medially with U-shaped carinae of frons; tegmen usually with transverse brown band across bulla ..... **fasciata**
— Vertex anterior margin delimited by transverse intergenal carina separate from U-shaped carinae of frons; tegmen usually with numerous very small red dots ..... **subrufescens**

#### 1. Atracis fasciata (Walker)

*Flatoides fasciatus* Walker, 1870a: 141 (n. sp.); Medler, 1990a: 142 (lectotype). Lectotype ♀, Irian Jaya, Waigiou, BMNH.

*Flatoides semialbus* Walker, 1870a: 142 (n. sp.); Metcalf, 1957: 469 (cat); Medler, 1990a: 159 (lectotype). Lectotype, ♀, Maluku, Aru Is, BMNH.

*Atracis (?) fasciata*: Melichar, 1902: 200 (comb); Medler, 1989: 62 (comb).

*Franciscus fasciatus*: Distant, 1910: 337, Pl XXII, fig. 17 (comb); Metcalf, 1957: 513 (cat).
*Uxantis semialba*; Distant, 1910: 335 (comb); Metcalf, 1957: 469 (cat).
*Atracis semialba*: Medler, 1988a: 18 (comb); Medler, junior synonym of *Flatoides fasciatus* Walker, here designated, **NEW SYNONYMY**.

*Diagnosis*: Morphology conforms with generic diagnosis. Vertex anterior margin truncate, frons slightly longer than width, U-shaped carina shallow, tegmen with reddish brown saddlelike band crossing shallow bulla, as shown in habitus illustration by Distant (1910a: fig. 17). Hind leg spine formula 1: 5: 6.

*Specimens examined*: Known only from females. A male specimen not found in available material. Type material: Aru I, Mysol I, Waigeo I.

### 2. **Atracis plagiata** (Walker)

*Flatoides plagiatus* Walker, 1870: 142 (n. sp.); Medler, 1990a: 154 (lectotype). Lectotype, ♀, Irian Jaya, Wallace, BMNH.
*Uxantis plagiata*: Distant, 1910: 335 (comb); Metcalf, 1957: 468 (cat).
*Atracis plagiata*: Medler, 1988a: 18 (comb).

*Diagnosis*: Apparently closely related to *Atracis siccifolia* (Stål) from Philippine Islands. Frons much longer than broad; tegmen transverse veins in precostal cell connected by zig-zag line of crossveins; dark spot at bulla; minute red dots and pustules give red appearance to otherwise predominantly brown tegmen. Length 10 mm, hind leg spine formula 1: 5: 6. The male of this taxon has not been found in available material.

*Specimens examined*: Known only from type material.

*Taxonomic note*: *Atracis decolor* (Walker) and *Atracis innotata* (Walker) both are unpublished names attached to Irian Jaya specimens deposited in BMNH. They were disposed by Medler (1990a) as junior synonyms of *Atracis plagiata* (Walker).

### 3. **Atracis pyralis** (Guérin-Méneville)

*Flata pyralis* Guérin-Méneville, 1831, pl. X, fig. 11 (n. sp.); Medler, 1988a: 17, fig. II, 3 (holotype, plesiotype); Medler, 1990d: 996, fig. 1 (tegmen note); Medler, 1991a: 26, fig. 26 (frons note). Holotype—(no abdomen), Irian Jaya, Fakfak, Waigeo, MZUN. Plesiotype ♂, Irian Jaya, Waigeu, Cheesman, BMNH.
*Atracis pyralis*: Stål, 1866: 250 (comb); Metcalf, 1957: 493 (cat); Medler, 1991a: 264 (Sulawesi).
*Uxantis illota* Melichar, 1902: 165 (n. sp.); Metcalf, 1957: 468 (cat); Medler, 1986c: 114, fig. 14 (plesiotype ♂). Holotype ♀, New Guinea, Roon Island, Fruhstorfer, HNHM.
*Uxantis nexa* Melichar, 1902: 165 (n. sp.); Metcalf, 1957: 468 (cat). Holotype ♀, Papua New Guinea, Finschhafen, Fruhstorfer, ex Breddin Collection, MMBC.
*Uxantis patula* Melichar, 1902: 165 (n. sp.); Metcalf, 1957: 468 (cat); Medler, 1987c: 39, fig. 6 (holotype). Holotype, ♂, Irian Jaya, Roon Is, Fruhstorfer, ISNB.
*Atracis illota*: Medler, 1988a: 18 (comb); Medler, junior synonym of *Flata pyralis* Guérin-Méneville, here designated, **NEW SYNONYMY**.
*Atracis nexa*: Medler, 1988a: 18 (comb); Medler, junior synonym of *Flata pyralis* Guérin-Méneville, here designated, **NEW SYNONYMY**.
*Atracis patula*: Medler, 1988a: 18 (comb); Medler, junior synonym of *Flata pyralis* Guérin-Méneville, here designated, **NEW SYNONYMY**.

*Diagnosis*: Dorsum of head about twice longer than wide, shorter than pronotum; vertex with longitudinal median suture bordered on each side by shallow foldlike ridge; vertex notched at anterior margin, frons longer than wide. Elongate R+S stem arising from basal stem, R with strong S-curve apically. Overall appearance fuscous, with considerable variation in degree of vein infuscation. Genitalia of a plesiotype male from Waigeo Is. illustrated by Medler (1988a: fig. II, 3).

*Specimens examined*: **PAPUA NEW GUINEA**: Kiunga, Fly Riv, 14–17.viii.1957, ♂; 21–24.x.1957, ♀; NE, Torricelli Mts, Mobitei Vill, 750 m, 28.ii–4.iii.1959, ♀; Mokai Vill, 750 m, 8.xii.1958–23.i.1959, 3♂;

Sugoitei Vill, 900 m, 24.i–5.ii.1959, ♂, 2♀; Wantipi Village, 30.xi–8.xii.1958, ♂, W.W. Brandt; NE, Adelbert Mts, Wanuma, 800–1000 m, 26.x.1958, ♂; Tsanga, Upper Jimmi Valley, 1200 m, 15.vii.1955, ♀; Central Prov, Bisianumu, E of Port Moresby, 500 m, 24.ix.1955, ♂; East Sepik Prov, Swart Valley, Karubaka, 1400 m, 6.xi.1958, ♀, J.L. Gressitt; Mamai Pltn, E of Port Glasgow, 150 m, light trap, 10.ii.1965, ♂, ♀, R. Straatman; Milne Bay Prov, Normanby Is, Wakaiuna, Sewa Bay, 21–31.xii.1956, ♂, W.W. Brandt; BPBM. Sudest Is, Mt Riu, 250–350 m, 3.ix.1956, ♀, L.J. Brass, Archbold Exped V, AMNH. Madang Prov, Sepi Forest Reserve, 30 km W of Madang, 5.iii.1987, ♀, N.D. Penny, CASC. Baiteta Village, insecticide fogging in primary forest, 14.iv.1995, ♂, ♀, O. Missa, ISNB. Sakome, 20.viii.1949, ♂, S. Bergman, NHRS. **IRIAN JAYA:** Ifar, Cyclops Mts, 300–500 m, 23–30.vi.1962, ♂, ♀, J. Sedlacek; Cyclops Mts, Ifar, 300 m, 4.xi.1958, ♂; Nabire, S Geelvink Bay, 0–30 m, 2–9.vii.1962, 2♀; Ifar, 500–750 m, 23.vi.1959, ♂; 300–600 m, 20.vi.1958, ♀; Ifar, Cyclops Mts, 300–500 m, 23–25.vi.1962, Malaise trap, ♂; Vogelkop, Bomberi, 700–900 m, 6–8.vi.1959, 2♀, J.L. Gressitt; Genjem, 40 km W of Hollandia, 100–200 m, 1–10.iii.1960, ♂; Sentani, 90 m, 16.vi.1959,♂; Hollandia, 24.i.1960, ♀, Vogelkop, Fakfak, S. coast of Bomberi, 100–700 m, 2♀, 4.vi.1959; Ifar, 400–550 m, 23.vi.1959, ♀, T.C. Maa; Vogelkop, Kebar Valley, W of Manokwari, 550 m, 4–31.i.1962, 2♂, 2♀, S. & L. Quate; BPBM. Cyclops Mts, Sabron, 1200 ft (366 m), vi.1936, 2♂; Cyclops Mts, 3500 ft (1067 m), iii.1936, 2♂, L.E. Cheesman; Mt. Nomo, S of Mt Bougainville, 700 ft, ii.1936, 2♀, L.E. Cheesman, BM 1936–271; BMNH. Hollandia, 250 ft (76 m), Rain Forest, i-xi.1945, 8♂, 8♀, H. Hoogstraal; Fakfak, 12.vi.1939, ♀, R.G. Wind, NCSU. Araucaria Camp, 9♂, 5♀, *nexa* det Blote); Hollandia, ♀, Rattan Camp, 2♂, 3♀; Archbold Exped III; RMNH. **AMBON I:** ♂, 3♀, F. Muir, BPBM. ♀, Haglund coll, *illota* det Melichar, NHRS.

### 4. **Atracis scissa** (Melichar)

*Uxantis scissa* Melichar, 1902: 161 (n sp); Metcalf, 1957: 469 (cat); Medler, 1986e: 52, fig. 2 (holotype). Holotype, ♂, New Guinea, ZMHB.

*Grapaldus corticinus* Distant, 1914: 356, pl. XXXIV, fig. 11 (n sp); Metcalf, 1957: 456 (cat). Holotype, ♀, Irian Jaya, Wollaston Base Camp, 32 km from mouth of Setakwa River, BMNH.

*Atracis scissa*; Medler, 1988a: 18 (comb).

*Atracis corticina*; Medler, 1990a: 167 (comb); Medler, junior synonym of *Uxantis scissa*, here designated, **NEW SYNONYMY.**

*Diagnosis*: In dorsal view, anterior margin of vertex concave, rather deeply triangularly incised, vertex disc relatively smooth, slightly concave; frons slightly longer than wide, disc slightly concave, without median longitudinal carina; pronotum without median longitudinal carina. Habitus illustration of ♀ *corticinus* (Distant, 1914a: fig. 11), does not show zigzag line of crossveins in precostal marginal cell of tegmen. Holotype genitalia illustrated by Medler (1986e: fig. 2).

*Measurements*: Holotype ♂, specimen ♀, ex Ambuti. Length overall, 13.0, 15.0; v 0.58, 0.66; f 1.49, 1.66; p 0.66, 0.83; m 1.99, 2.16; t 12.00, 12.79; pcl 4.00, 4.48. Width, v 1.00, 1.16; f 1.16, 1.99; t 4.75, 4.48. Hind leg spine formula 1: 5: 6, 1: 5: 6.

*Specimens examined*: Type material, Irian Jaya. **PAPUA NEW GUINEA:** Sepik R, Ambunti, 150 m, light trap, 7.v.1963, ♀, R. Straatman, BPBM. MADANG Prov, Baiteta Village, insecticide fogging in primary forest, 1.v.1994, 16–18.vii.1996, 2♂, ♀, O. Missa, ISNB; Ohu Village, x-xii.1995, i.1996, on *Ficus berynaysii, phaeosyce, variegata*, ♂, 2♀, V. Novotny, BPBM. MOROBE Prov, Bulolo, on leaf *Artocarpus integrifolia*, 30.ix.1968, ♂, F.R. Wylie, det *Grapaldus corticinus*, M.S.K. Ghauri, 1969, BPBM 1971–1.

### 5. **Atracis subrufescens** (Walker)

*Flatoides subrufescens* Walker, 1870: 141 (n. sp.); Medler, 1986f: 210, fig. 4 (paralectotypes, Morty, Mysol); Medler, 1986h: 334, fig. 17 (lectotype); Medler, 1990a: 161 (paralectotype, New Guinea). Lectotype ♂, Mysol, Wallace, Stevens, NHRS.

*Uxantis subrufescens*: Melichar, 1902: 161 (comb); Metcalf, 1957: 469 (cat).

*Uxantis bipunctata* Schmidt, 1928: 139 (n. sp.); Metcalf, 1957: 467 (cat); Medler, 1996b: 138, fig. 10 (holotype). Holotype ♂, Irian Jaya, Key I, Siebers, ZMPA.

*Atracis bipunctata*: Medler, 1988a: 18 (comb); Medler, junior synonym of *Atracis subrufescens* Walker, here designated, **NEW SYNONYMY.**

*Diagnosis*: Transverse intergenal carina delimiting anterior margin of vertex, merged with frontal carinae medially. Usually tegmen and prothorax heavily peppered with small red dots. Holotype genitalia illustrated by Medler (1986h, fig. 17). The IX segment is oval, relatively small.

*Measurements*: Lectotype ♂, Paralectotype ♀, Mysol. Length: overall 10.0, 10.0; v 0.33, 0.33; f 1.08, 1.25; p 0.54, 0.50; m 1.66, 1.49; t 8.30, 8.47; pcl 1.99, 2.16. Width: v 0.79, 0.79; f 1.04, 1.08; t 3. 15, 3.49. Hind leg spine formula: 1: 5: 6, 1: 5: 6.

*Specimens examined*: Type material: **IRIAN JAYA**: Key I, Morty, Mysol I, New Guinea (Wallace).

*New records*: **ARU I**: Dobbo, 5.v.1939, ♂, R. G. Wind, NCSU. **CERAM**: Piroe, 1.1909, ♀, F. Muir, BPBM. **IRIAN JAYA**: Fakfak, S. coast of Bomberai, 100–700 m, 5.vi.1959, ♀, T.C. Maa, BPBM; Waigeu, Camp Nok, 2500 ft (762 m), iv-v.1938, 8♂, 3♀, L.E. Cheesman, BM 1938–593, BMNH; Maffin Bay, xi.1945, ♀, E.S. Ross, CASC. **MYSOL Is**: ♀, ISNB.

6. **Atracis termina** Medler, **new species**

*Diagnosis*: Recognized by 4.65 mm widest expanse of flattened tegmina. Wide precostal marginal cell with strong zig-zag line of crossveins connecting rather widely spaced transverse veins. Anterior margin of head with wide v-shaped notch apex touching poorly developed transverse intergenal carina. Vertex disc with concave circular depression, pronotum without median carina, postocular eminence shallow, nipplelike. Tegmina colored white, basal area light fuscous, saddle shaped, anterior transverse border crossing bullae, narrowly black or dark fuscous, lateral border defined by curved black S vein. Scattering of black or red pustules, lines, or dots, with strong aggregation of pustules in base of clavus. Male unknown.

*Measurements*: Holotype ♀. Length: overall 15.5; v 0.83; f 1.74; p 1.00; m 2.49; t 13.45; pcl 3.32. Width: v 0.83; f 1.66; t 5.81. Hind leg spine formula: 1: 5: 6.

*Types*: Holotype ♀, **PAPUA NEW GUINEA**: Morobe Prov, Wau, Big Wau Creek, 1200 m, 4-ix.1972, T. W. Davies, CASC. Paratype ♀, N. Guinea (no other data), ZMAN.

*Taxonomic note*: *A. tegmina* is closely allied to *A. consputa* Stål from Philippine Islands, that has similar size, habitus, and zig-zag line of crossveins connecting narrowly spaced transverse veins in precostal marginal cell. In Philippine specimens the vertex protrudes convexly without anterior notch, and the basal saddlelike band may be poorly developed or missing, except for black vein S.

## 35. Genus **JAMELLA** Kirkaldy

*Jamella* Kirkaldy 1906: 460 (n. gen.); Metcalf, 1957: 445 (cat); Medler, 1990d: 996 (rev.). Type species, *Jamella australiae* Kirkaldy.

*Diagnosis*: Vertex ledgelike, more or less flattened, without median longitudinal suture or carina, entire anterior margin carinate sharply or bluntly. Frons with strong median carina terminating at vertex margin. Two longitudinal veins (R+S, M) arising from basal stem; claval veins A1 and A2 united in relatively elongate Y-stem. Tegmen membrane normally ivory, with varying shades of brown due to heavy infuscation of veins and cells. Metatibial spine formula normally 1: 6: 7.

*Distribution*: Australia and New Guinea.

### Key to New Guinea Species of *Jamella*

1. Tegmen broad basally, noticeably constricted apically; claval vein A2 raised basally ..... **rubella**
— Tegmen margins nearly parallel full length without apical constriction; claval vein A2 not raised basally . . 2
2. Tegmen usually with irregular saddlelike fuscous band crossing bulla; smoky apical crossveins arranged in irregular submarginal line; length 11–13 mm ..... **eurans**
— Tegmen saddlelike fuscous band reduced or absent; apical crossveins not arranged in submarginal line; length 10–11 mm ..... 3

3. Tegmen cells infused to varying extent with small red brown spots and lines (Papua New Guinea, Central Province) ..... **vexans**
— Tegmen cells infused with strong pattern of fuscous or red spots and dashes variable extent with small brown spots or lines (Irian Jaya, Papua New Guinea) ..... **mimica**

### 1. **Jamella eurans** Medler

*Jamella eurans* Medler, 1990d: 1000, figs. 15–16 (n. sp.). Holotype, ♂, Papua New Guinea, Morobe Prov, Wau, BPBM.

*Diagnosis*: See Medler (1990d: 1000) for description, measurements and illustration of holotype genitalia. Posterior-dorsal margin of pygofer acute; apex of anal segment narrowed to blunt point.

*Specimens examined*: Known only from type material: **PAPUA NEW GUINEA**: Bulolo, Buso, Lae, Mt Missim, Nadzab, Sisimangum Vill, Wau. **IRIAN JAYA**: Star Mts, Sibil.

### 2. **Jamella mimica** Medler

*Jamella mimica* Medler, 1990d: 999, figs. 9–10 (n. sp.). Holotype, ♂, Irian Jaya, Waris, BPBM.

*Diagnosis*: See Medler (1990d: 999) for description, measurements and illustration of holotype genitalia. Posterior-dorsal margin of pygofer convex; apex of anal segment not pointed, lateral margins strongly concave; recurved apical dorsal process of aedeagus short, at most 1/2 length of aedeagus.

*Specimens examined*: Prior records: Type material (Medler, 1990d: 999): **PAPUA NEW GUINEA**: Ambunti, Awar, Buso, Goilala, Koitaki, Wau. **IRIAN JAYA**: Araucaria Camp, Hollandia, Ifar, Katem, Sibil, Waris.

*New Records*: **PAPUA NEW GUINEA**: Bulolo, Sta. 038, 18.v.1988, ♀, J.van Stålle, ISNB; Nieuw Guinea, Bivak eiland, 7.vii.1907, ♀, Lorentz, SMTD; N. Guinea Mer., Hula, Gennaio 1891, ♀, L. Loria, MCSN.

### 3. **Jamella rubella** Medler

*Jamella rubella* Medler, 1990d: 1003, fig. 8 (n. sp.). Holotype, ♀, Papua New Guinea, Port Moresby, BMNH.

*Diagnosis*: See Medler (1990d: 1003) for description and measurements. Male genitalia not known.

*Specimens examined*: Known only from the holotype.

### 4. **Jamella vexans** Medler

*Jamella vexans* Medler, 1990d: 1000, figs. 11–12 (n. sp.). Holotype, ♂, Papua New Guinea, Mafulu, BMNH.

*Diagnosis*: See Medler (1990d: 1000) for description, measurements and illustration of holotype genitalia. Posterior-dorsal margin of pygofer convex; apex of anal segment not pointed; recurved apical dorsal process of aedeagus extending to base of aedeagus; lateral margins of anal segment slightly concave.

*Specimens examined*: Prior records: Known only from type material: **PAPUA NEW GUINEA**: Mailu, Mafulu.

## 36. Genus **MALLEJA** Medler

*Malleja* Medler, 1990d: 1003 (n. gen.). Type species, *Malleja distincta* Medler, monobasic.

*Distribution*: Irian Jaya, Papua New Guinea.

### **Malleja distincta** Medler

*Malleja distincta* Medler, 1990d: 1003, figs. 3, 17–18 (n. sp.). Holotype, ♂, Irian Jaya, Star Range, Bivak 39A, RMNH.

*Diagnosis*: See Medler (1990d: 1003) for description, measurements and illustration of holotype genitalia.

*Specimens examined*: Known only from type material: **PAPUA NEW GUINEA**: Mt Missim, Simbai. **IRIAN JAYA**: Star Mts, Antares, Temna Sigin.

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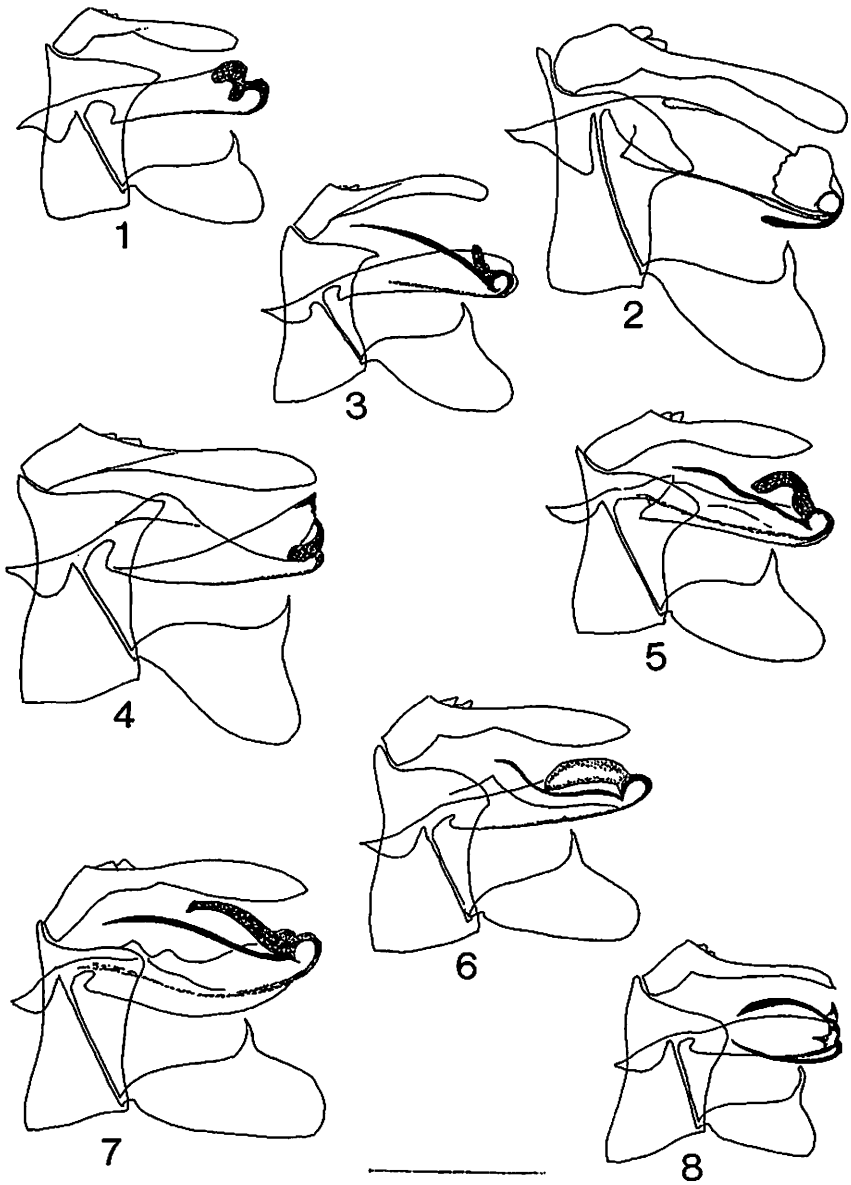
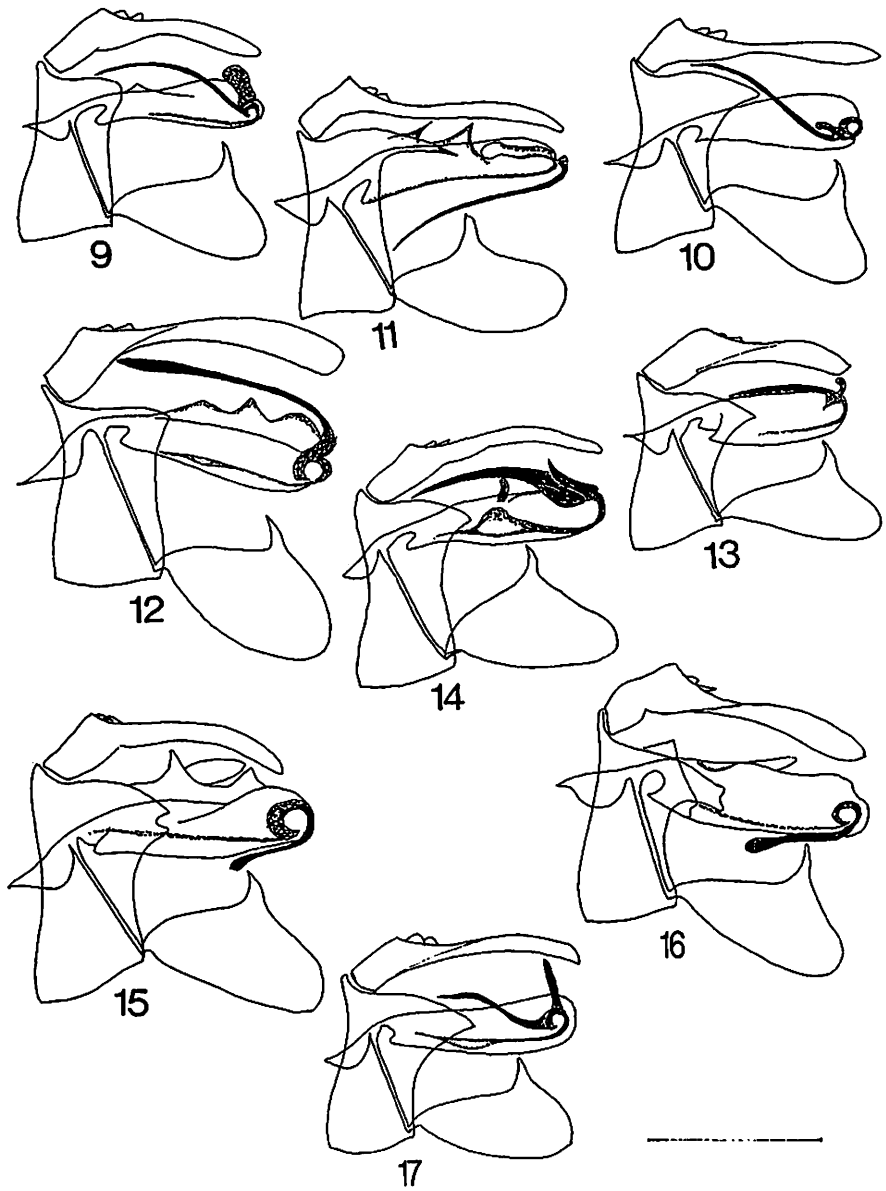
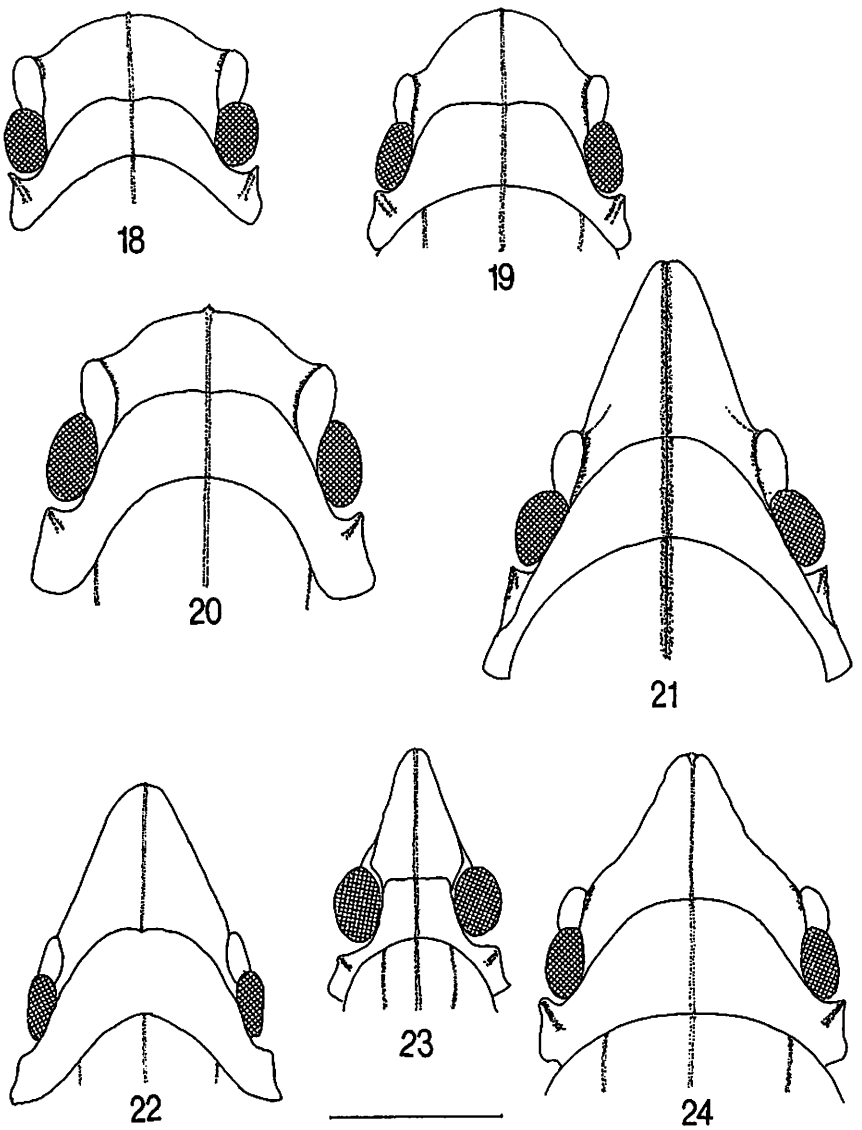


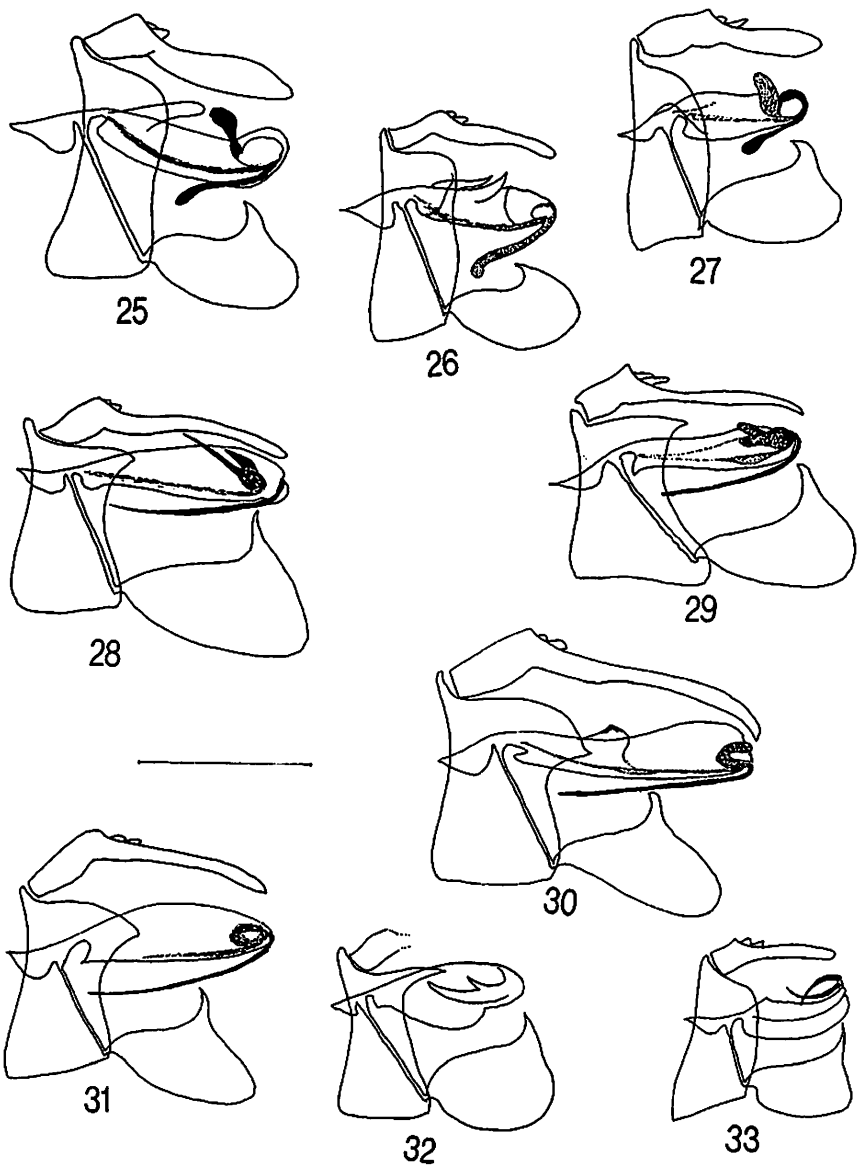

**Figures 1–8.** *Colgar* spp., left lateral view of male genitalia. **1**, *Colgar arizum*. **2**, *Colgar asperum*. **3**, *Colgar britor*. **4**, *Colgar calcum*. **5**, *Colgar chlorospilum*. **6**, *Colgar duxor*. **7**, *Colgar elatum*. **8**, *Colgar harum*. Scale bar = 1 mm.




**Figures 9–17.** *Colgar* spp., left lateral view of male genitalia. **9**, *Colgar laraticum*. **10**, *Colgar manor*. **11**, *Colgar peracutum*. **12**, *Colgar rakum*. **13**, *Colgar rostratum*. **14**, *Colgar satum*. **15**, *Colgar surrectum*. **16**, *Colgar surrectum* var. **17**, *Colgar wadum*. Scale bar = 1 mm.




**Figures 18–24.** Dorsal view of female head and pronotum. **18,** *Colgar arizum.* **19,** *Colgar chlorospilum.* **20,** *Colgar duxor.* **21,** *Colgar eirlor.* **22,** *Colgar peracutum.* **23,** *Desanta flexa* ♂. **24,** *Humgar insulum.* Scale bar = 1 mm.

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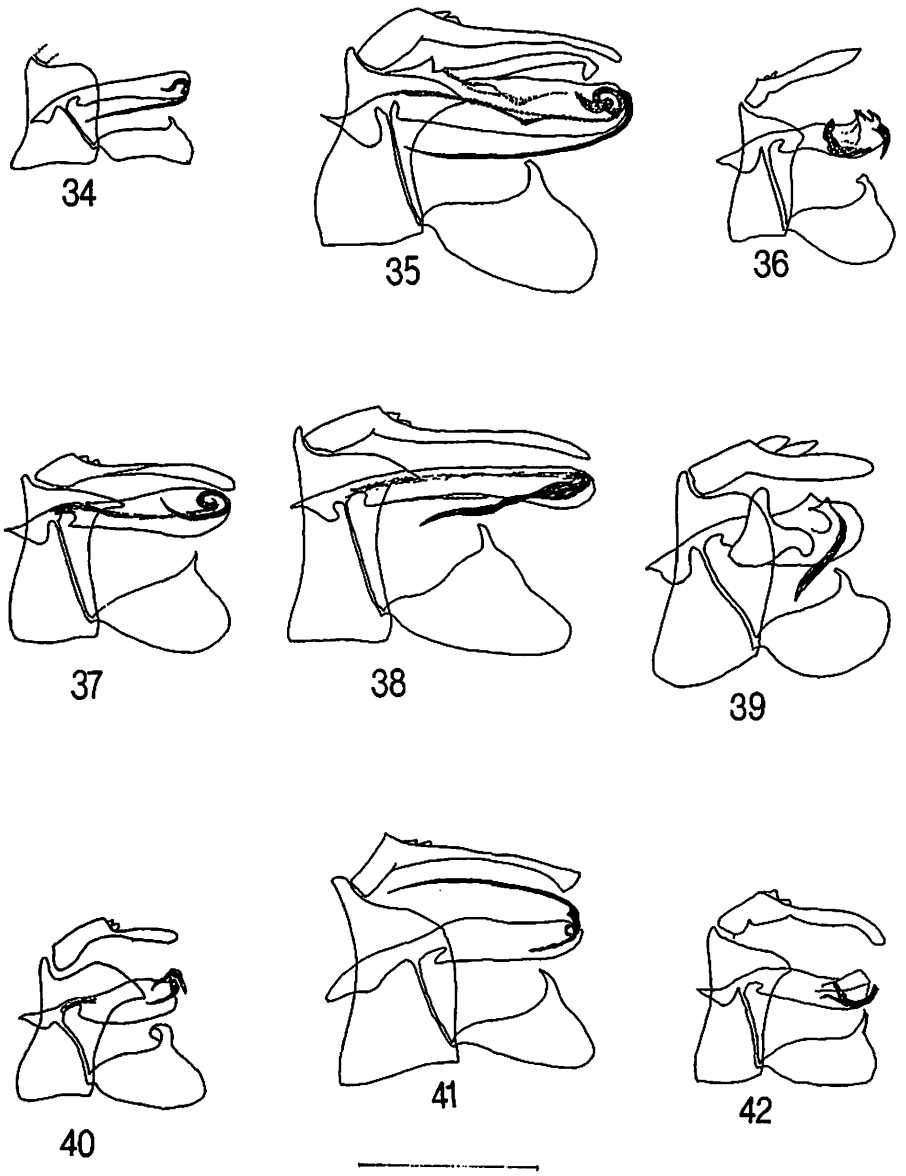


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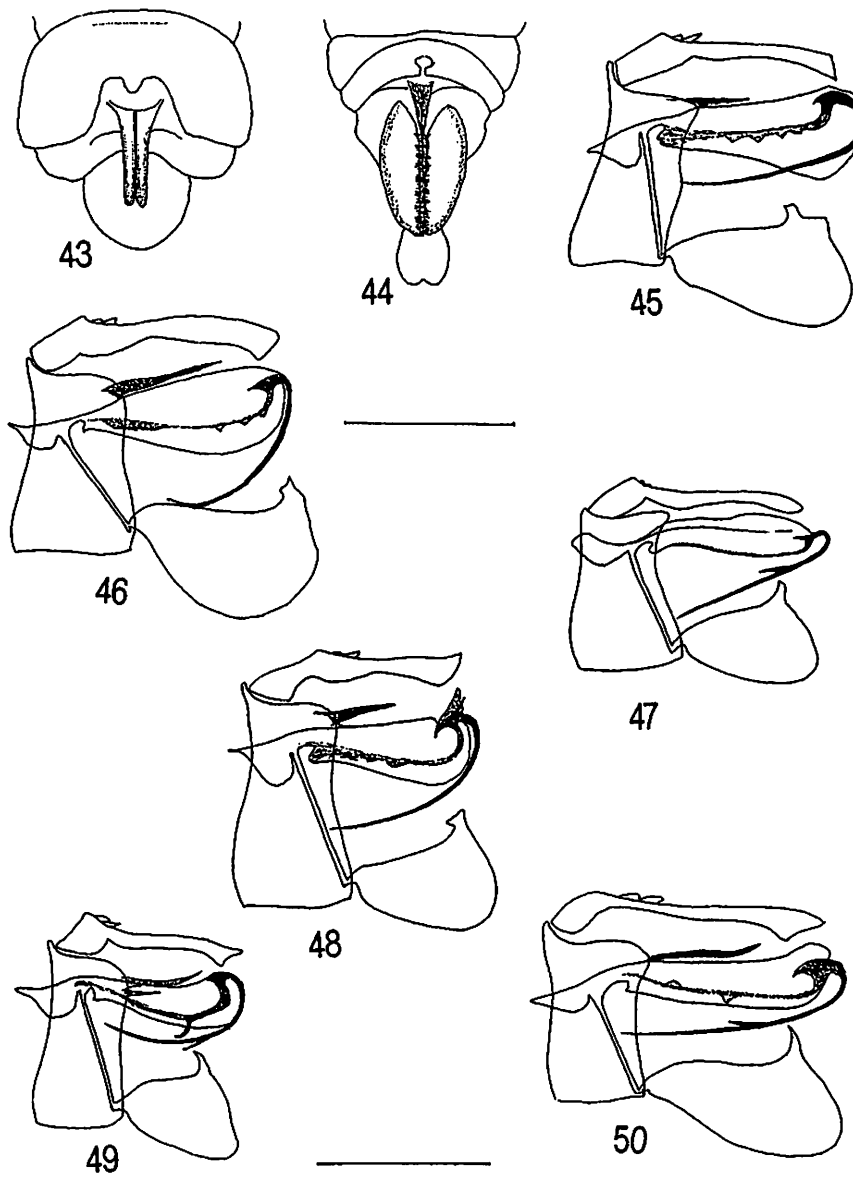


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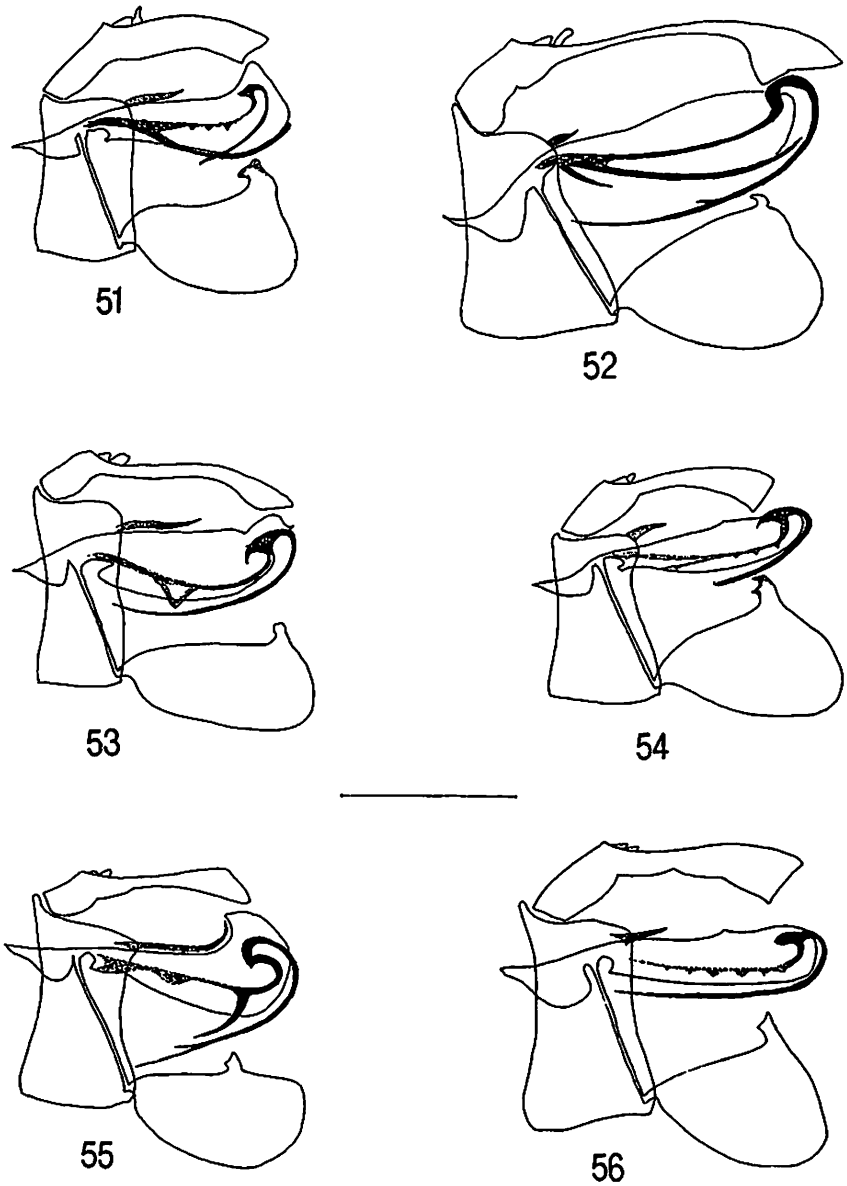


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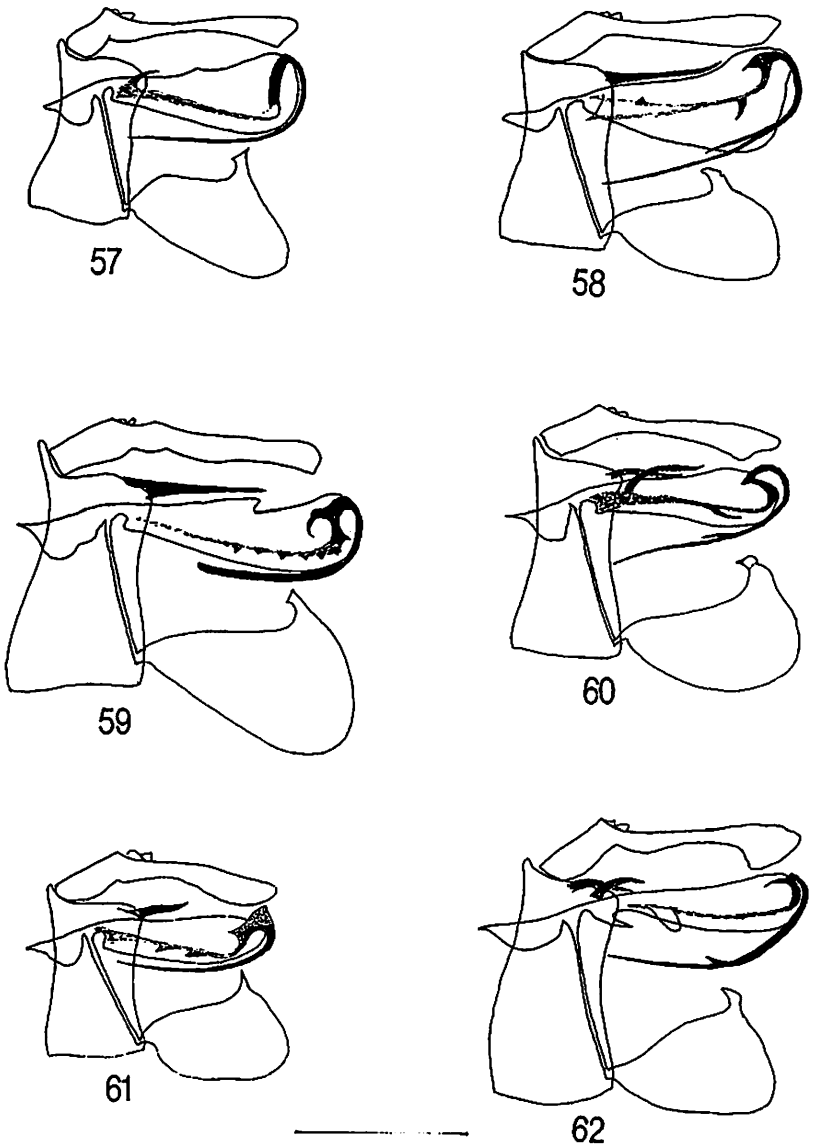


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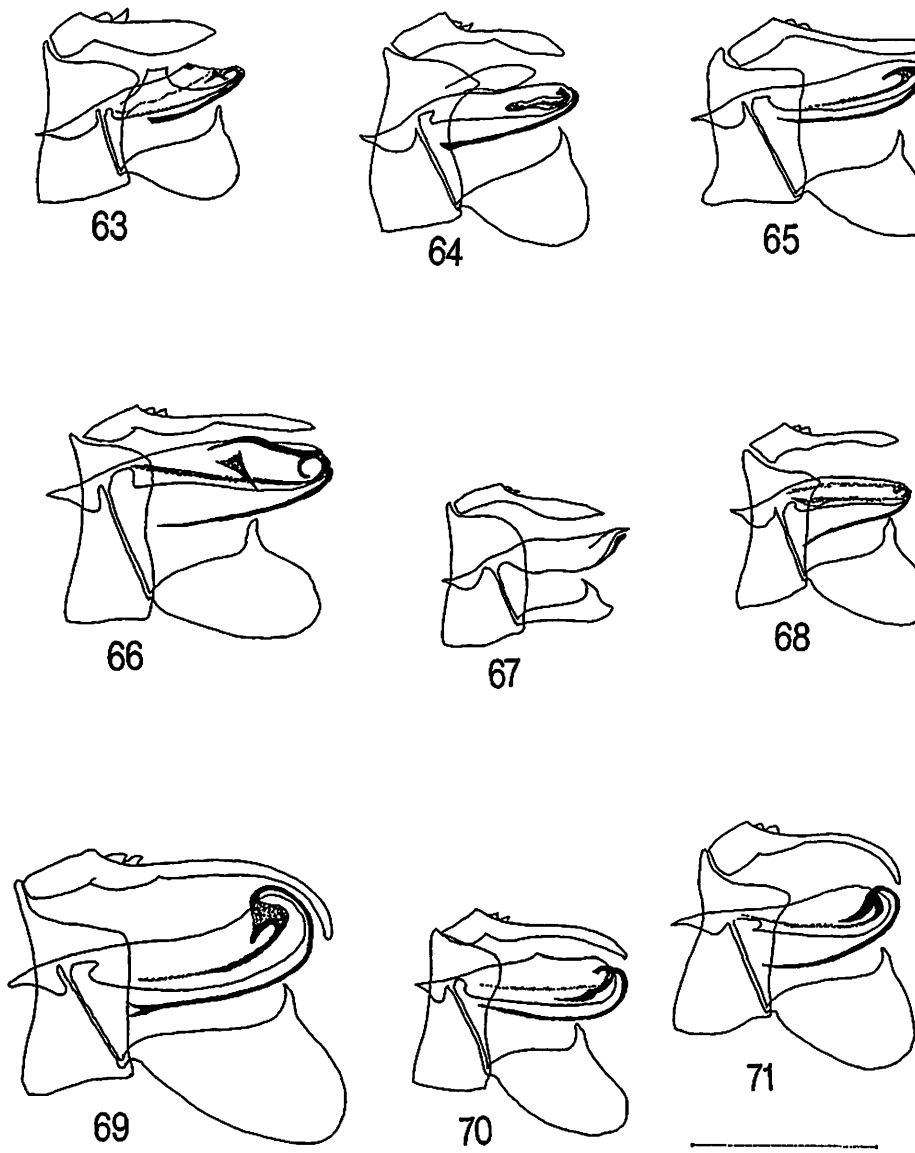


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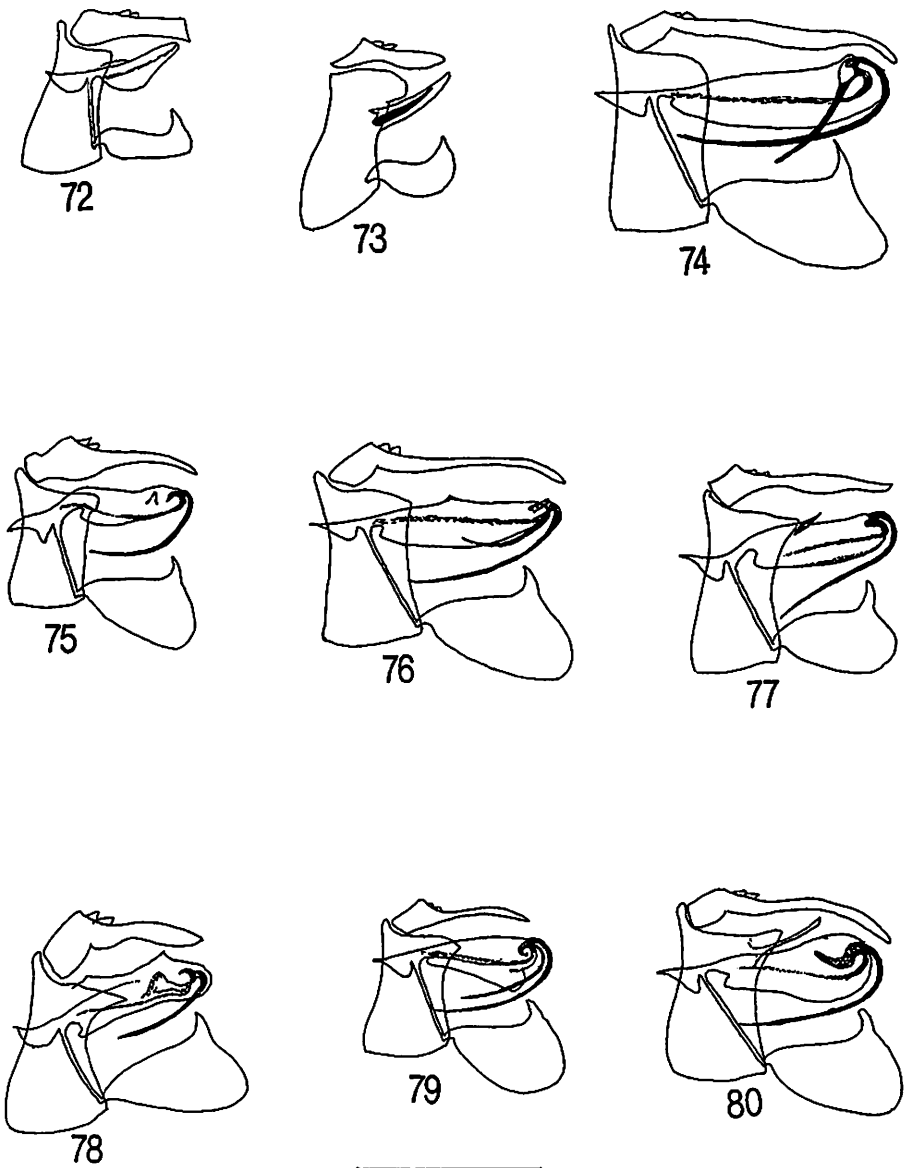


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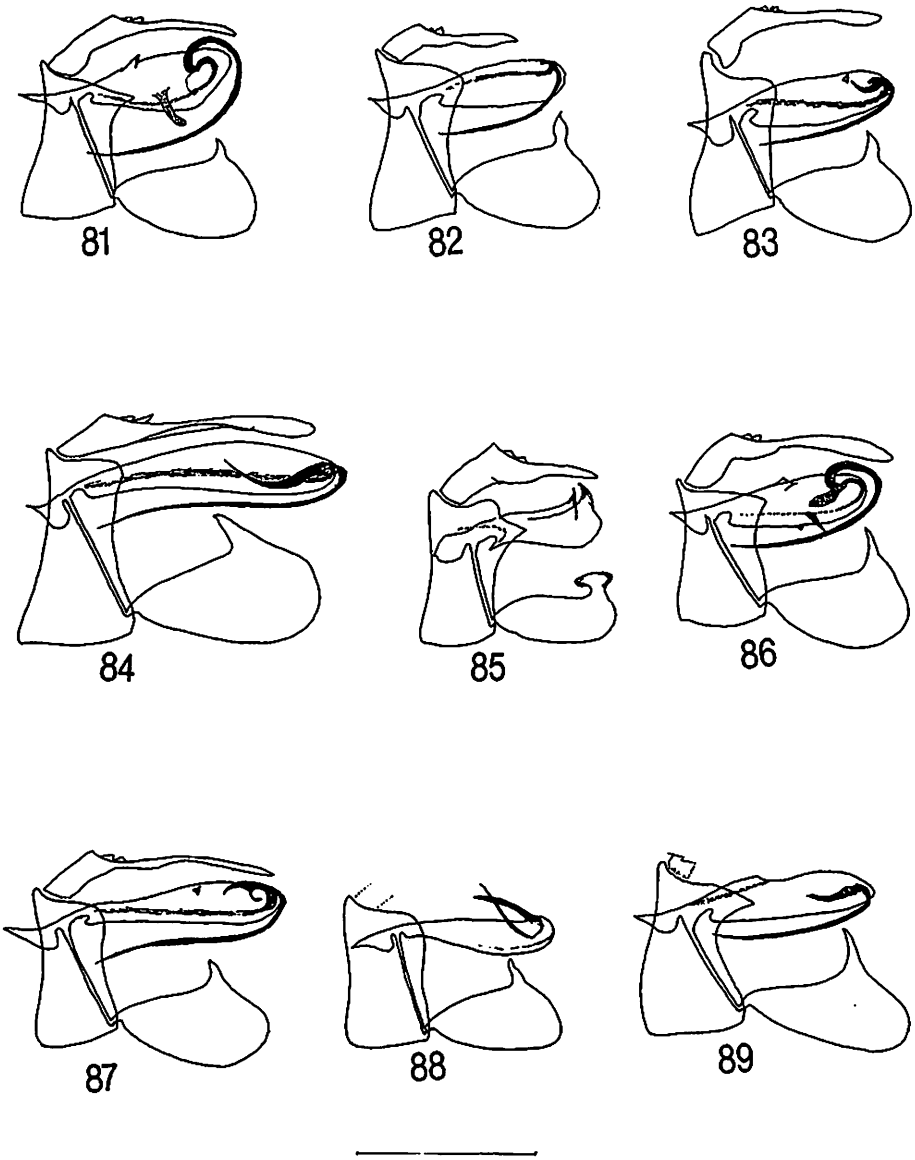


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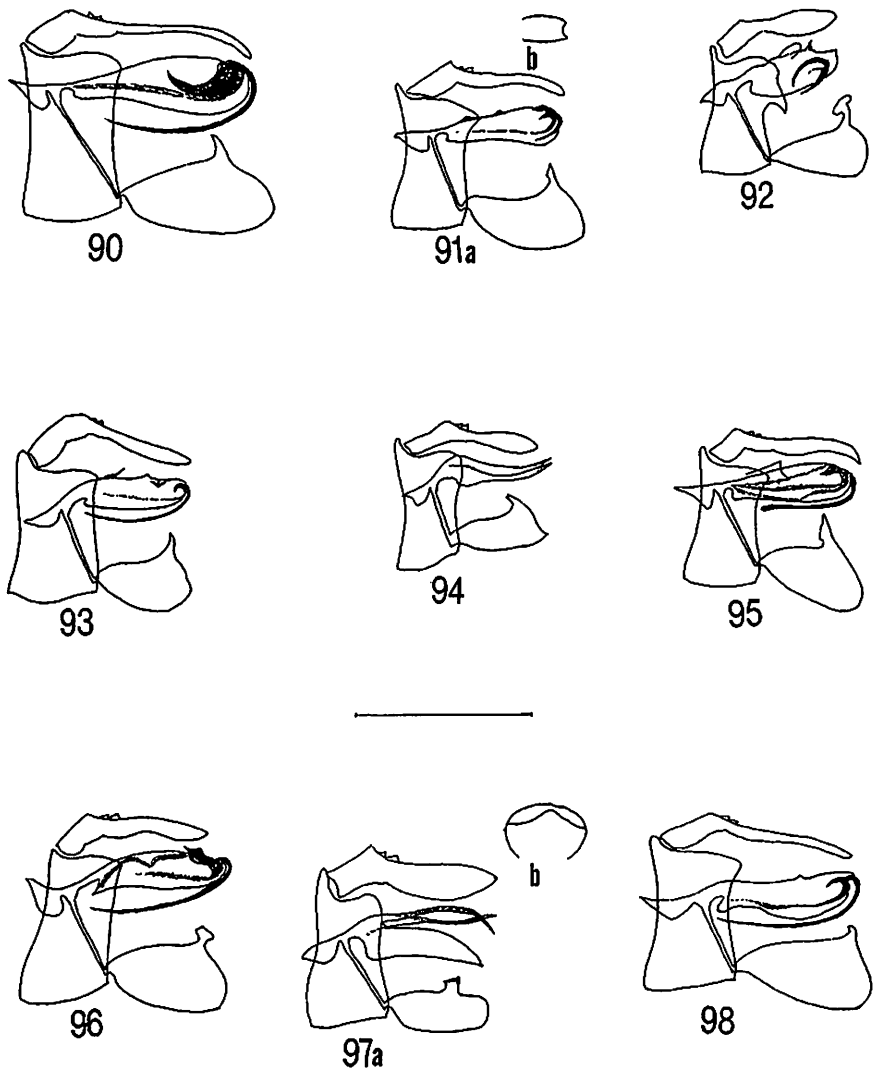


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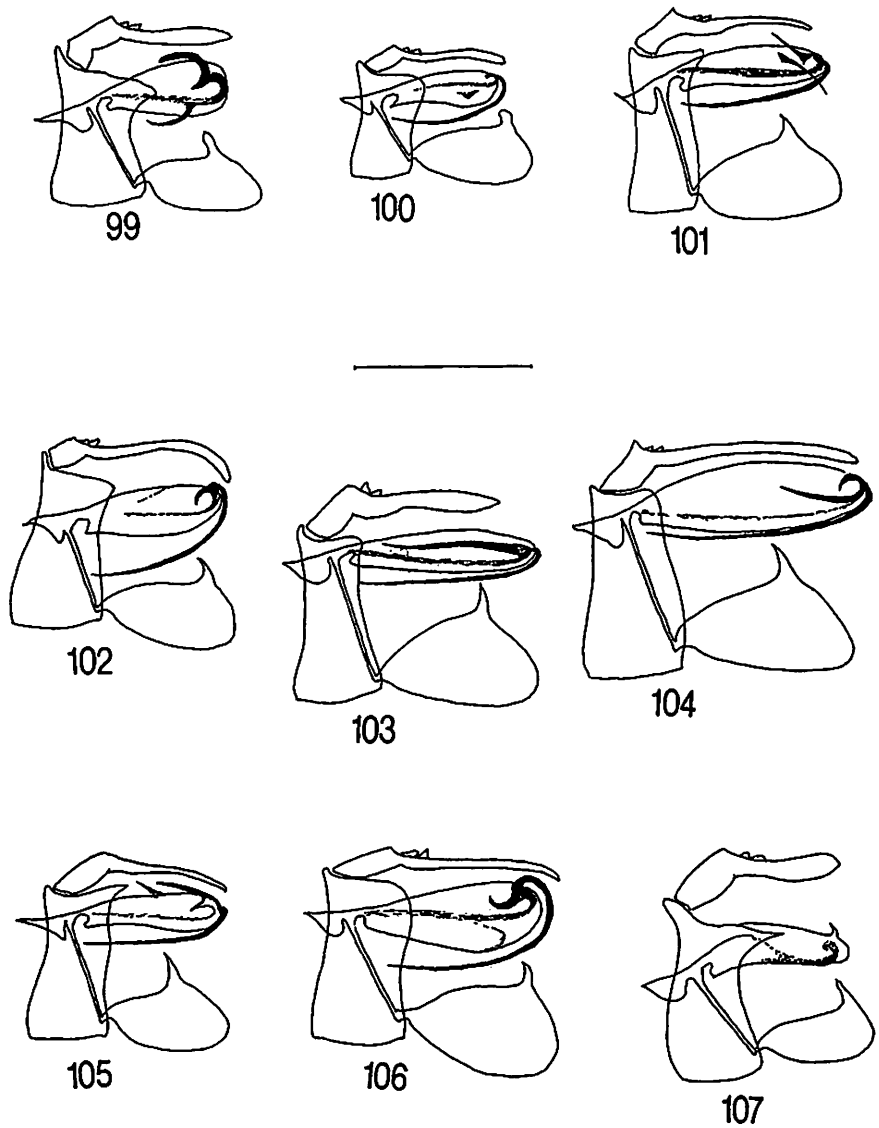


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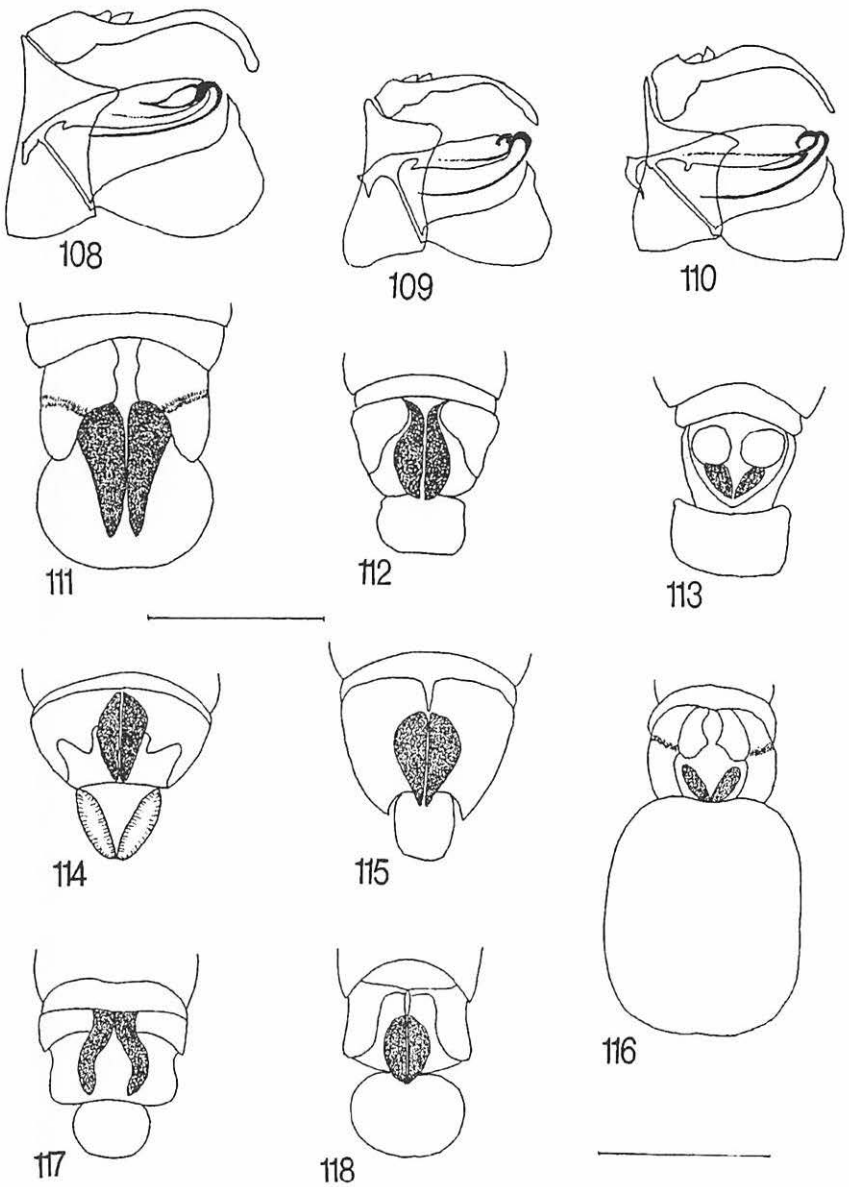


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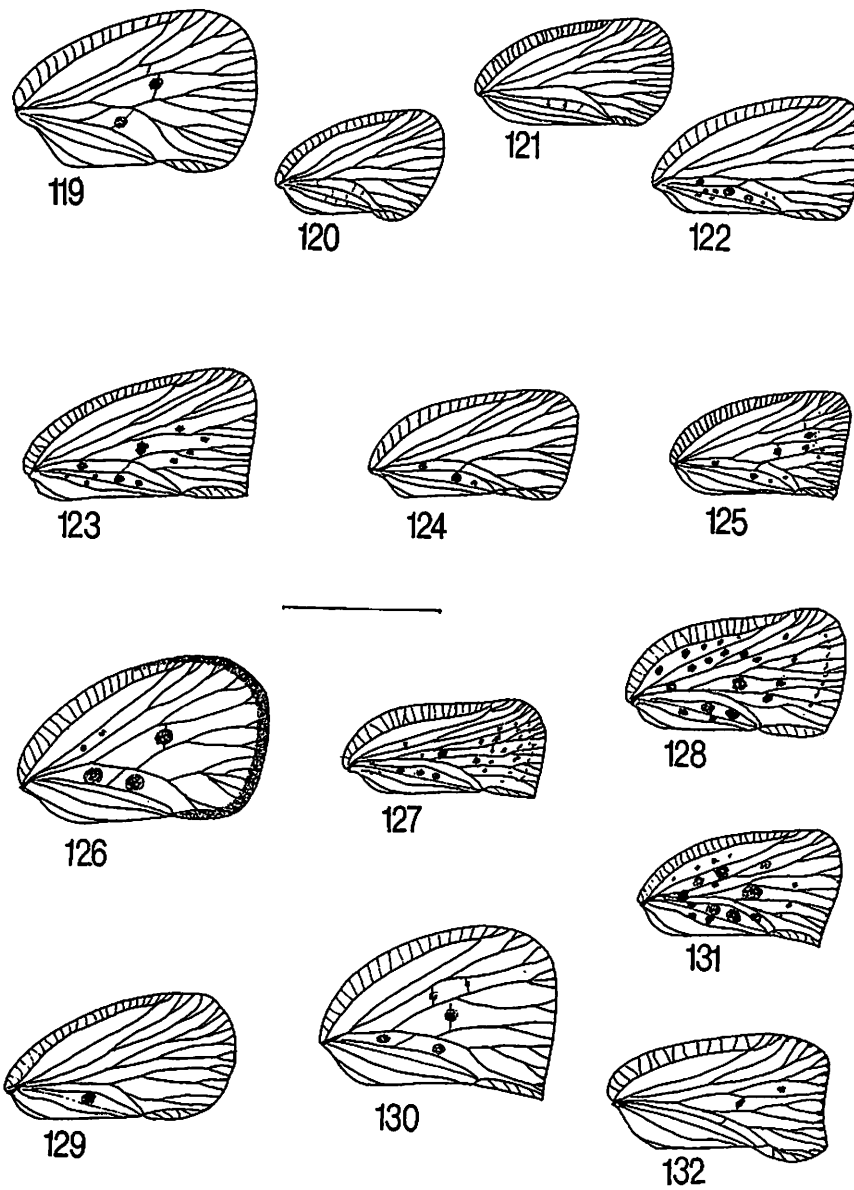
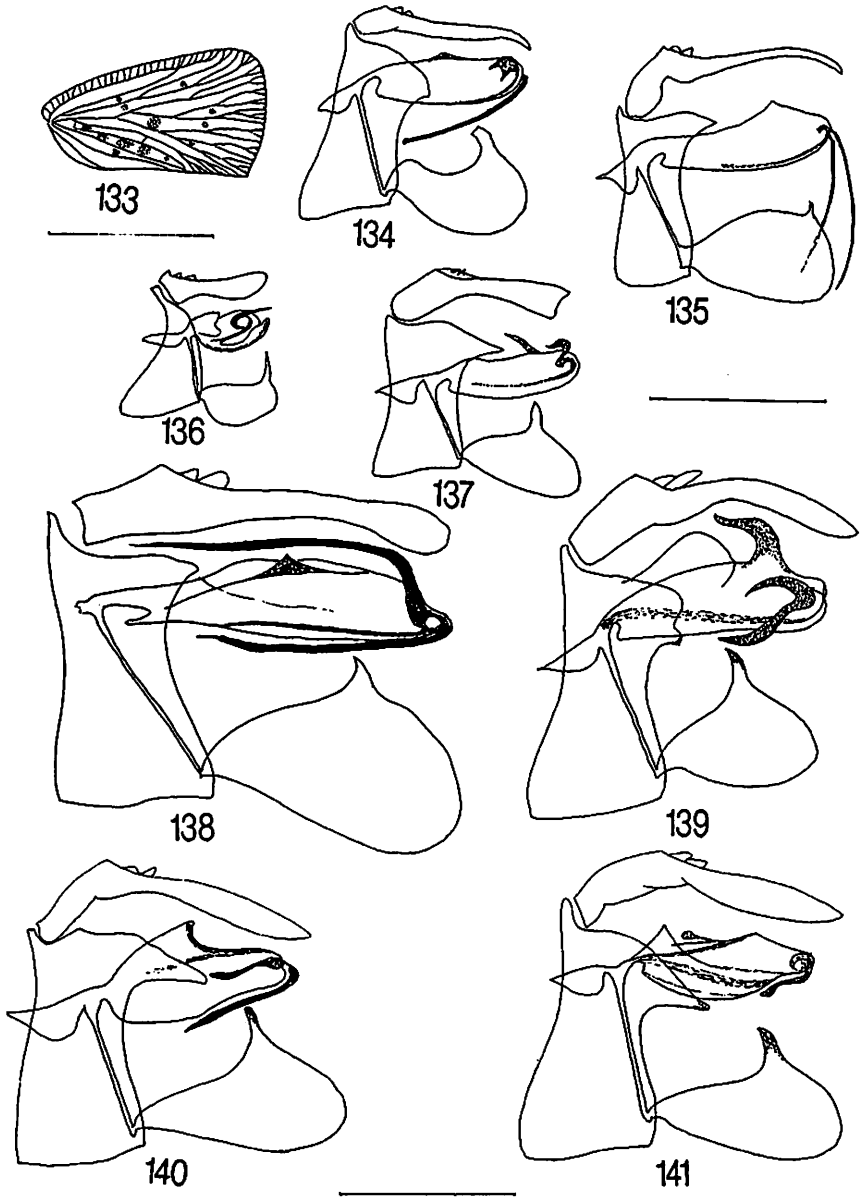



**Figures 119–32.** Diagrammatic view of right tegmen. **119**, *Sephena abcina*, allotype ♀. **120**, *Sephena archula*, holotype ♂. **121**, *Sephena besula*, holotype ♀. **122**, *Sephena conforma*, redrawn ♀. **123**, *Sephena conspersa*, ♀ ex Bougainville. **124**, *Sephena extensa*, allotype ♀. **125**, *Sephena fuscara*, holotype, ♀. **126**, *Sephena guttifera*, ♀ ex Nabire. **127**, *Sephena hijeka*, allotype ♀. **128**, *Sephena intexa*, allotype ♀. **129**, *Sephena punctula*, ♀ ex Normanby Island. **130**, *Sephena ramana*, allotype ♀. **131**, *Sephena rosata*, allotype ♀. **132**, *Sephena zolexa*, allotype ♀. Scale bar = 5 mm.

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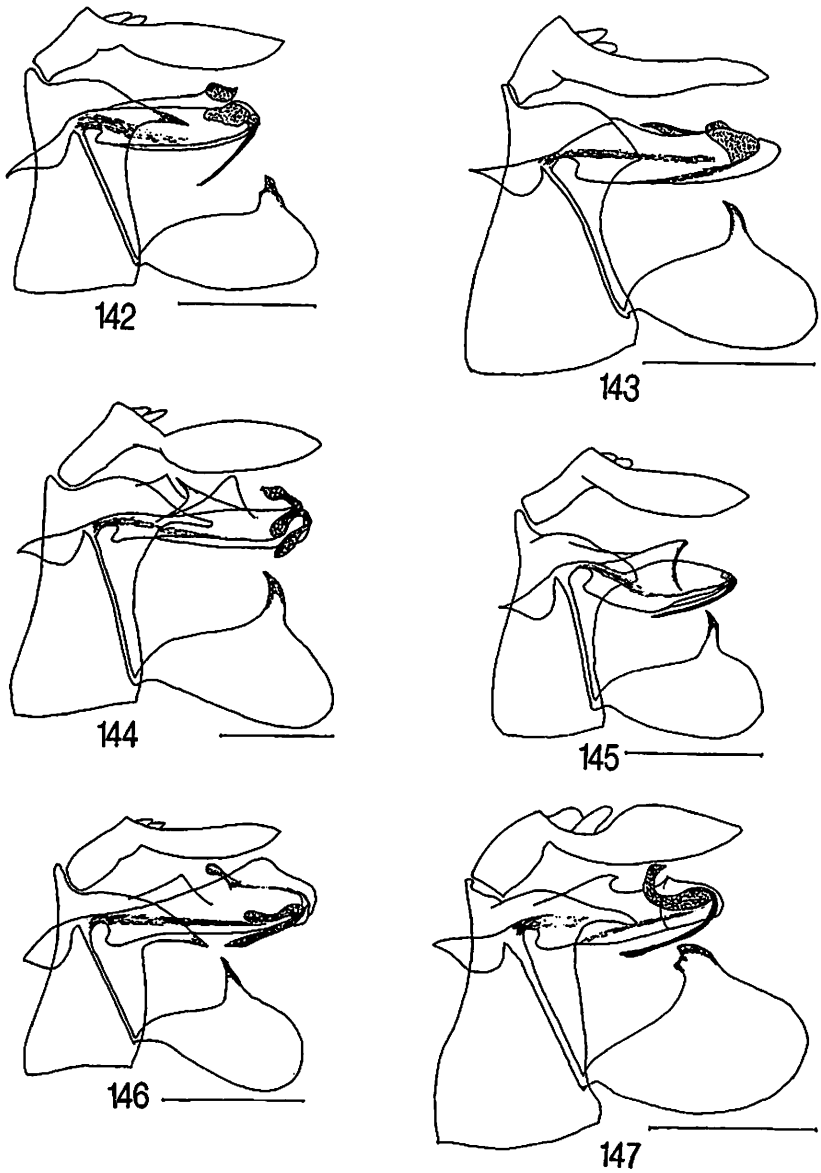


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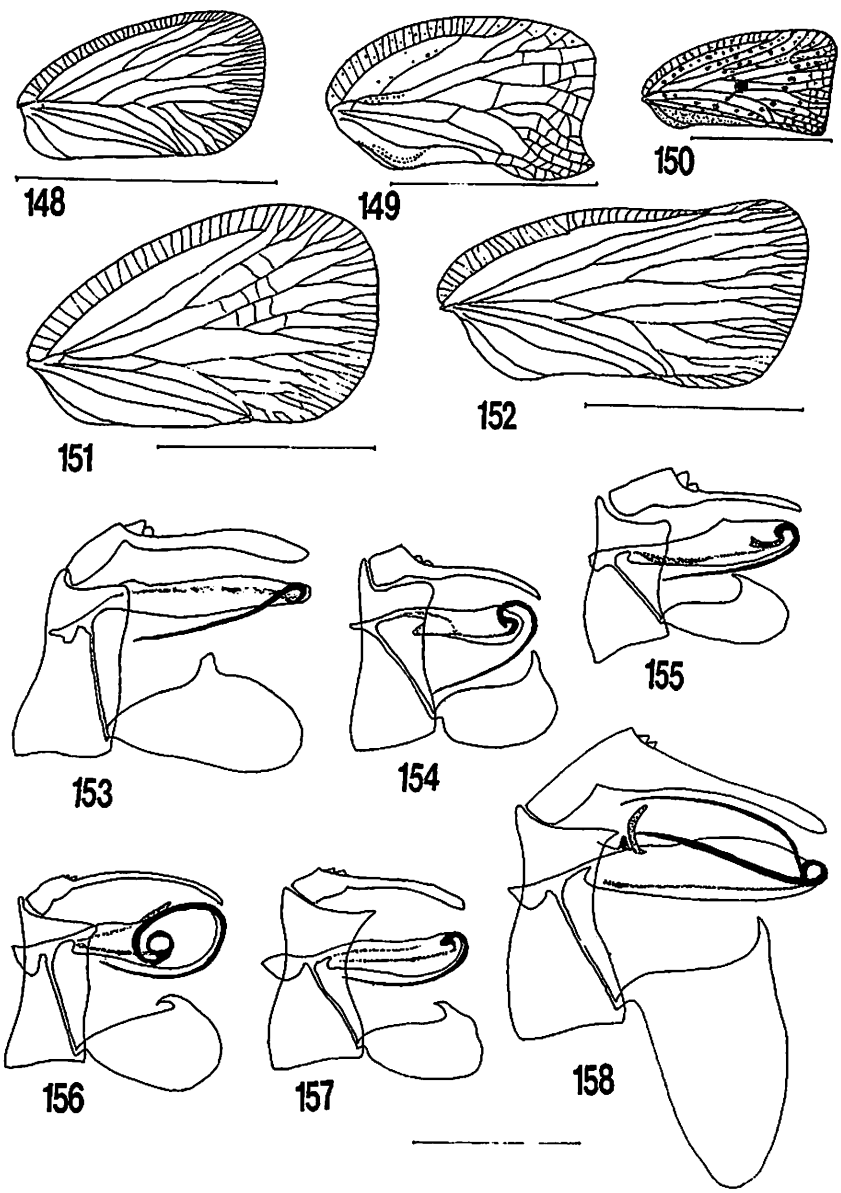


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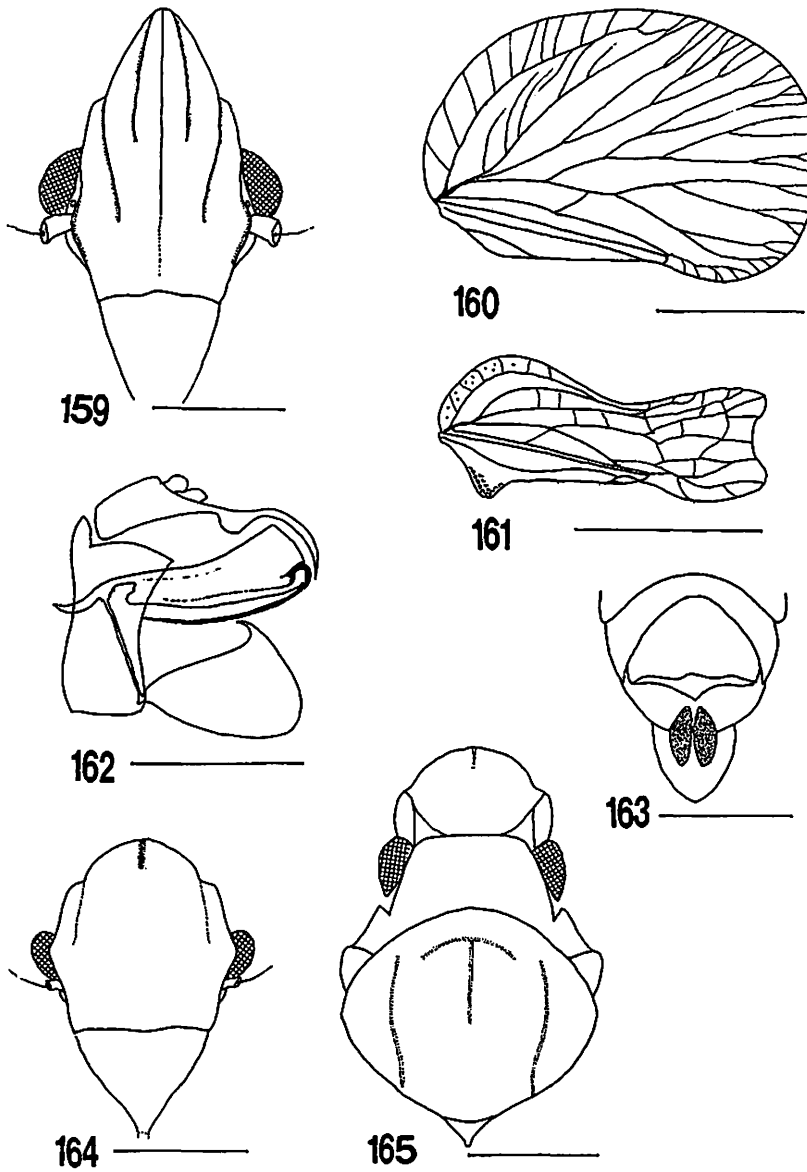


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