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Types of Flatidae (*Homoptera*) V. Lectotype designations and taxonomic notes on species in the Brussels Museum.

By John T. MEDLER.

Abstract

The following designations result from my research on type specimens in the Brussels Museum. Lectotypes of *Bythopsyrna illocata* Melichar, ♂, *Colgar destituta* Melichar, ♀, *Paratella errudita* Melichar, ♂, *Paratella subflava* Melichar, ♀, *Sephena lurida* Melichar, ♂.

Paralectotypes of *Atracis variegata* Lallemand, ♀, *Bythopsyrna dohrni* Schmidt, ♀, *Cerynia nigropustulata* Schmidt, ♀, *Colgar punctata* Lallemand 3 ♂♂, 2 ♀♀, *Croma frontalis* Melichar, ♂, *Cryptoflata demota* Melichar, 2 ♀♀, *Euphanta insignis* Lallemand, ♂♀, *Neomelicharia albida* Lallemand, ♀, *Neomelicharia citrinella* Lallemand, ♀, *Nephesa albopunctulata* Melichar, ♀, *Paratella roseoalba* Melichar, 2 ♀♀, *Phyma unipunctata* Schmidt, 2 ♀♀, *Salurnis dulitana* Lallemand, ♂, *Salurnis minuta* Lallemand, ♀, *Siphanta maculata* Lallemand, ♂.

New combinations are *Poeciloflata lurida* (Melichar), from *Sephena*, and *Sabaethis subflava* (Melichar) from *Paratella*. New status is given to *Salurnis minuta* Lallemand, which is a good species, not a form of *Salurnis dulitana* Lallemand.

New synonymies are *Bythopsyrna illocata* Melichar, a junior synonym of *Poeciloptera circulata* Guérin, *Colgar destituta* Melichar, a junior synonym of *Nephesa guttulata* Stål, and *Paratella errudita* Melichar, a junior synonym of *Nephesa decolor* Walker.

The type specimens of Flatidae in the Brussels Museum were catalogued by Synave, 1980. Many of these types were examined in connection with my research on this family in Southeast Asia. I studied all available syntypes of the species described by Melichar, 1901, 1902, and also examined a few Schmidt and Lallemand types. The authenticity of the syntypes was verified by reference to data recorded in the original publications.

A uniform system of labeling specimens has been adopted by the Brussels Museum. The original locality labels have been glued to yellow or orange rectangles with the printed heading "Coll. R. I. Sc. N. B." In addition, the specimens seen by Melichar carry hand written determination labels and also small printed labels entitled "Determ. Melichar." The Melichar types were examined at a later date by Ed. Schmidt, who many have been responsible for a superfluous label "Determ. E. Schmidt." To preserve the historical context of the specimens, the label data

associated with each specimen were recorded precisely by the following format: (1), (2), (3), etc., indicate the sequence of original labels on the pin from top to bottom. A slash (/) shows the separation of the printed or written lines on each label. Lastly, a red label with my hand printed lectotype or paralectotype designation is attached to each specimen.

Many species of Flatidae can be identified accurately only by using diagnostic characters of the male genitalia. Therefore, male specimens were dissected and the genitalia illustrated wherever possible. The dissected male was designated as the lectotype when syntypes existed.

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albida Lallemand, 1935, p. 665, (*Neopelicharia*)
Paralectotype ♀ - (1) Coll. R. I. Sc. N. B./Endeh,-/Florés/Dez. 1931/Handschin (2) *Neomelicharia/albida* Lallem./V. Lallemand det. (3) Para-/type (red label).

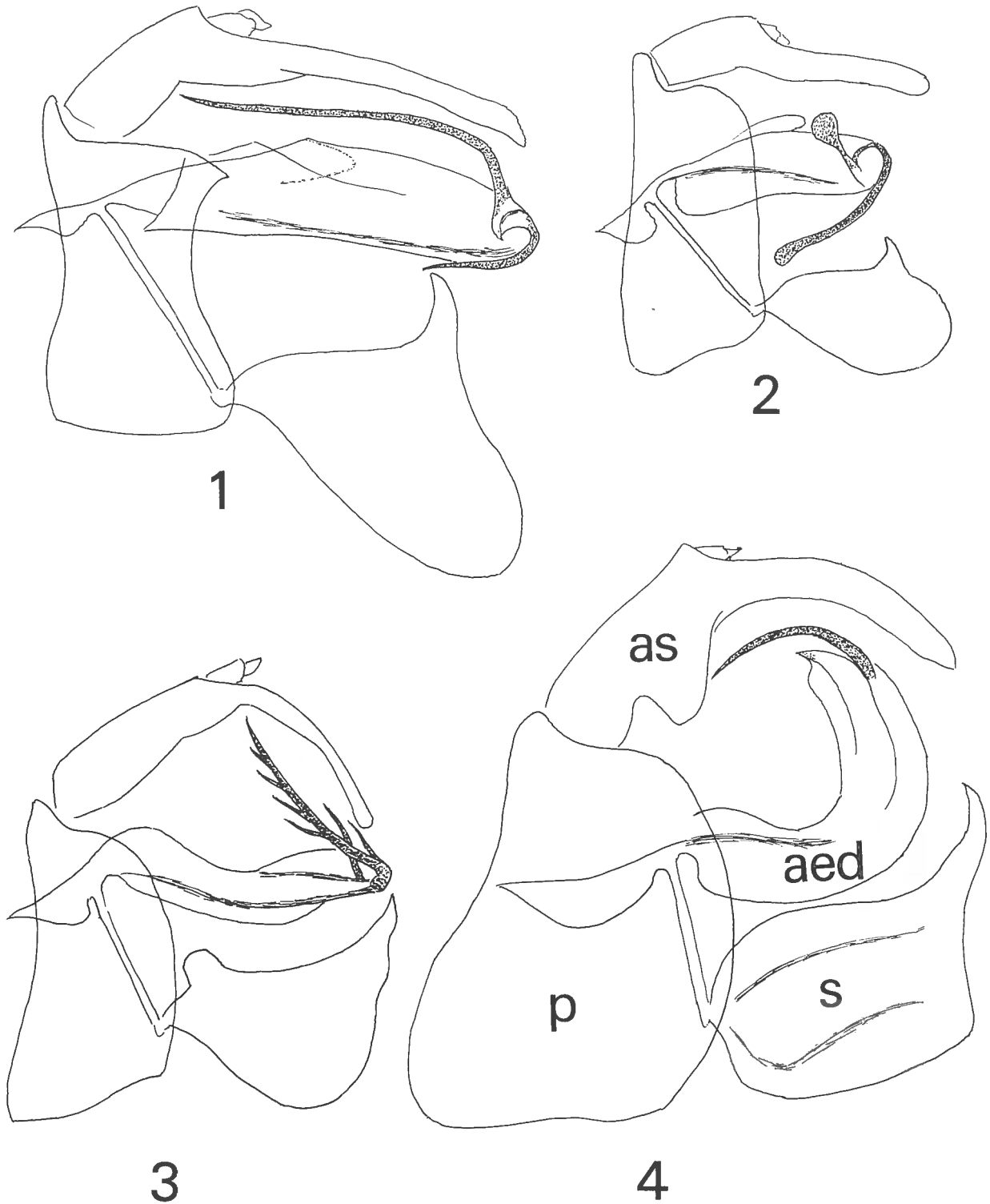
The lectotype male is in the Basel Museum. Lallemand's illustrations of the head accompanying his original description (fig. 3) lack sufficient accurate detail for identification of the species, but the major venation and shape of the tegmen (fig. 4) are shown correctly. The syntypes are bleached examples of *Sanurus dubius* Melichar.

(= SANURUS)

albopunctulata Melichar, 1902, p. 104 (*Nephesa*)
Paralectotype ♀ - (1) Coll. R. I. Sc. N. B./Java (2) Determ./Melichar (3) *Nephesa/alobopunctulata* (4) Determ./E. Schmidt (5) Para-/type (orange label).

This paralectotype and paralectotype females in the Copenhagen Museum are the same species as the lectotype male in the Vienna Museum.

citrinella Lallemand, 1935, p. 666 (*Neomelicharia*)
Paralectotype ♀ - (1) Coll. R. I. Sc. N. B./Endeh,-/Dez. 1931/Handschin (2) *Neomelicharia/citrinella*



Figures 1-4. Left lateral view of male genitalia. 1, *Paratella errudita* Melichar. 2, *Cromna frontalis* Melichar. 3, *Salurnis dulitana* Lallemand. 4, *Bythopsyrna illocata* Melichar. aed=aedeagus, as=anal segment, p=pygofer, s=style.

Lallem./V. Lallemand det. (3) Para-/type (red label). The lectotype male is in the Basel Museum. The syntypes have the same characters of the head and lemon-yellow color of the tegmina as *Sanurus dubius* Melichar.

(= SANURUS)

demota Melichar, 1902, p. 22 (*Cryptoflata*)
 Paralectotype ♀ - (1) Coll. R. I. Sc. N. B./Congo
 belge/Beni-Bendi/Sankuru/L. Cloetens 1/95 (2) De-
 term./Melichar (3) *Cryptoflata/demota/n. sp./* (4)
 Type (5) Holotype (red label).
 Paralectotype ♀ - (1) and (2) same labels as the

paralectotype above (3) Type (4) Para-/type (red label).

The paralectotypes belong to a complex of African species having unicolorous tegmina excepting a small black pigment spot at the apex of the clavus. The lectotype male in the Humboldt University Museum, Berlin, has the same genitalia as that illustrated by Fennah, 1957, fig. 98.

destituta Melichar, 1902, p. 112 (*Colgar*)

Lectotype ♀ - (1) Coll. R. I. Sc. N. B./Obi/Doherty/ex. coll: H. Fruhstorfer (2) Determ./Melichar (3) Atella/*destituta* (4) Holotype (5) Determ./E. Schmidt (6) *Colgar/destituta*/Melichar.

The precise configuration of the tegmina cannot be determined, as the apical margins are tattered. A paralectotype female in the Paris Museum is the same species, although the red pigmentation of the lectotype is somewhat more intense. The species is a junior synonym of *Nephesa guttulata* Stål.

NEW SYNONYMY (= NEOMELICHARIA)

dohrni Schmidt, 1904, p. 188 (*Bythopsyryna*)

Paralectotype ♀ - (1) Coll. R. I. Sc. N. B./Dohrn-/Sumatra/Sinabong (2) Type (red label) (3) *Bythopsyryna/Dohrni/Schmidt* (4) Para-/type (orange label).

I cannot differentiate the paralectotype morphologically from *Poeciloptera circulata* Guérin. However, I have not seen syntypes of the male sex that would enable me to confirm the suspected synonymy.

(= BYTHOPSYRYNA)

dulitana Lallemand, 1939, p. 72 (*Salurnis*)

Paralectotype ♂ - (1) Coll. R. I. Sc. N. B./Borneo Sarawak :/Mt. Dulit./R. Koyan 2,500 ft./Primary Forest/16.XI.1932./Sweeping ferns. Wet rocks/Primitive Forest. (2) Oxford Univ. Exp./B. M. Hobby &/A. W. Moore./B.M. 1933-254. (3) *Salurnis/dulitana*/Lall./Paratype (4) Para-/type (yellow ringed round label) (5) R. I. Sc. N. B./I. G. 18.380 (6) Para-/type (orange label). (Dissected).

The genitalia are illustrated (Fig. 3). The characters of the genitalia show that the species is closely related to *Salurnis granulosa* Stål from the Philippine Islands. The head of *granulosa* is noticeably longer and more pointed than *dulitana*. Both species have a 1 : 6 posttibial spine formula. The lectotype and paralectotype in the British Museum are each female.

errudita Melichar, 1902, p. 118 (*Paratella*)

Lectotype ♂ - (1) Coll. R. I. Sc. N. B./Neu-Guinea/Finschhafen 1891/Coll. Fruhstorfer (2) Determ./Melichar (3) *Paratella/errudita* (sic!) n. sp. (4) Para-/type (pink label). (Dissected).

The genitalia are illustrated (Fig. 1). No differences were found between characters of the lectotype genitalia and those of *Nephesa decolor* Walker, which is the senior synonym. A paralectotype female is in the Hamburg Museum.

NEW SYNONYMY (= PARATELLA)

frontalis Melichar, 1902, p. 59 (*Cromna*)

Paralectotype ♂ - (1) Coll. R. I. Sc. N. B./Palmerston/Australia (2) Determ./Melichar (3) *Cromna/frontalis* (4) Determ./E. Schmidt (5) Para-/type (orange label) (6) *Colgaroides/acuminata*/Walker. (Dissected).

The genitalia of the paralectotype are illustrated (Fig. 2). The genital characters are the same as those of the lectotype in the Stockholm Museum. This study confirmed that *frontalis* Melichar is a junior synonym of *Poeciloptera acuminata* Walker, which was proposed by Distant, 1910.

(= COLGAROIDES)

illocata Melichar, 1901, p. 226 (*Bythopsyryna*)

Lectotype ♂ - (1) Coll. R. I. Sc. N. B./Sumatra (W.)/Higgins 69/Coll. Camille/van Volxem (2) *Bythopsyryna/illocata* (3) Determ./Melichar (4) Holotype (dull red label). (Dissected).

The lectotype genitalia are illustrated (Fig. 4). A paralectotype (without abdomen) is in the Paris Museum. I found no difference between the genitalia of this species and that of *Poeciloptera circulata* Guérin, which is the senior synonym.

NEW SYNONYMY (= BYTHOPSYRYNA)

indicata Melichar, 1902, p. 113 (*Colgar*)

The syntype recorded by Melichar in the Brussels Museum was not found. A female syntype in the Budapest Museum has been designated as the lectotype. Jacobi, 1915, transferred *indicata* to *Flata cruentata* Fabricius, as he could not distinguish between the two species. However, my research showed that *indicata* is a junior synonym of *Nephesa guttulata* Stål.

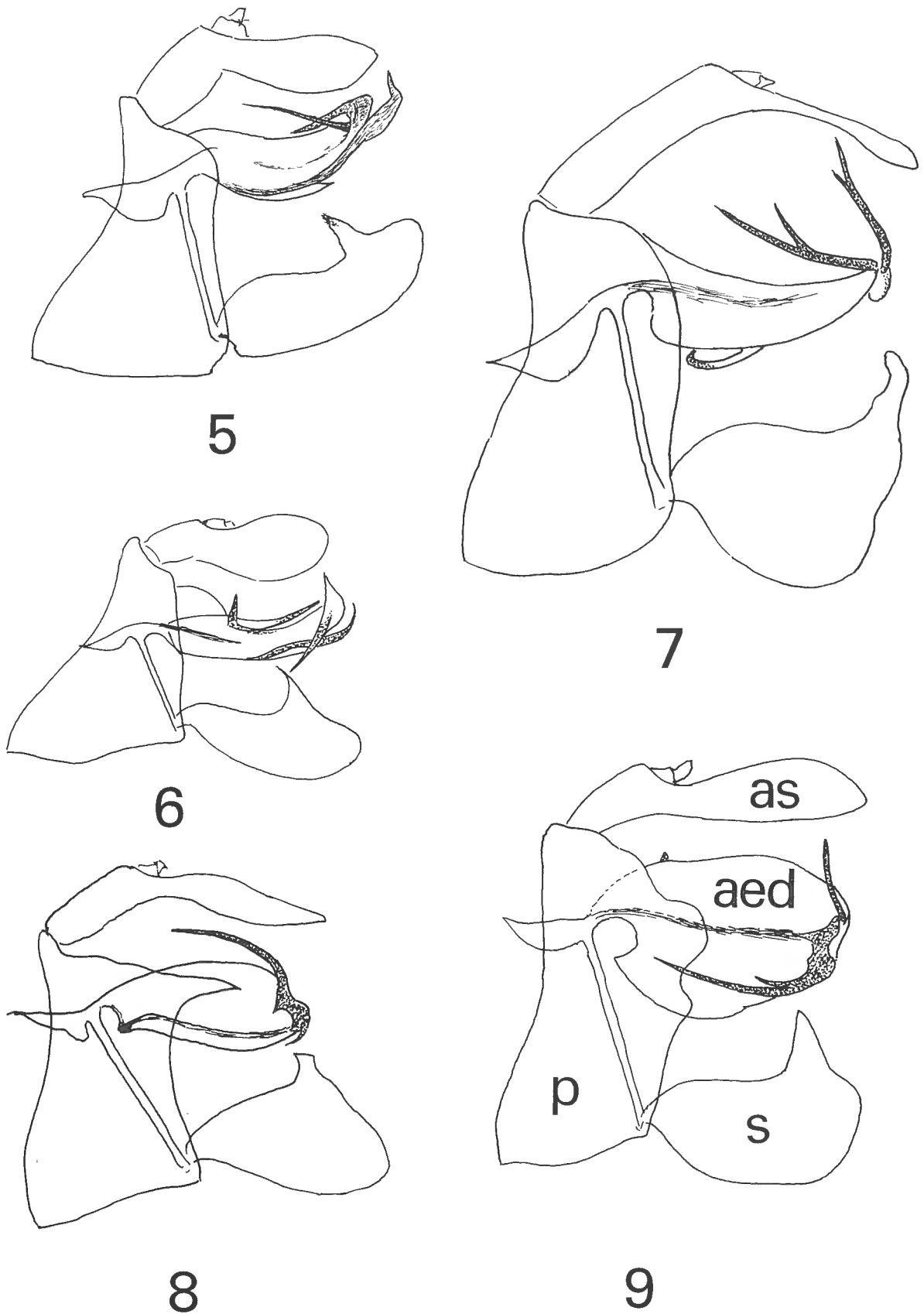
(= NEOMELICHARIA)

insignis Lallemand, 1935, p. 663 (*Euphanta*)

Paralectotype ♂ - (1) Coll. R. I. Sc. N. B./Australie Burnside/N. T./26.4.32 (2) R. I. Sc. N. B./I. G. 18.380 (3) Para-/type (red label). (Dissected).

Paralectotype ♀ - (1) Coll. R. I. Sc. N. B./Australie Burnside/N. T./26.4.32 (2) R. I. Sc. N. B./I. G. 18-380 (3) *Euphanta/insignis* Lalle./V. Lallemand det. (4) Para-/type (red label).

The genitalia are illustrated (Fig. 9). The lectotype male in the Basel Museum has the same genitalia. This species belongs to an undescribed new genus that is close to both *Euphanta* Melichar and *Euryphantia* Kirkaldy. The resemblance of its tegmina to *Siphanta toga* Kirkaldy, as stated by Lallemand, is superficial. Tegmina in the genus *Siphanta* have a R + S stem apicad of the R+S+M basal stem. The tegmina of *insignis* have the R, S, and M veins arising together from the basal stem, as found also in *Euphanta* and *Euryphantia*. The pattern of the carinae on the front differs from *Euryphantia*, and the heavily pustulate margins and darkly pigmented vein terminals are not found in *Euphanta*.



Figures 5-9. Left lateral view of male genitalia. 5, *Sephena lurida* Melichar. 6, *Uxantis patula* Melichar. 7, *Salurnis minuta* Lallemand. 8, *Colgar punctata* Lallemand. 9, *Euphanta insignis* Lallemand. aed=aedeagus, as=anal segment, p=pygofer, s=style.

lurida Melichar, 1902, p. 128 (*Sephena*)

Lectotype ♂ - (1) Coll. R. I. Sc. N. B./Iles Moluques :/S. Celebes/Bua-Kraeng/5000' Febr. 1896 (2) Determ./Melichar (3) *Sephena/lurida* (4) Determ./E. Schmidt (5) Para-/type (orange label). (Dissected). The lectotype genitalia are illustrated (Fig. 5). The syntypes recorded by Melichar in the Budapest Museum were not found. As the specimen found in the Brussels Museum fits the original description and bears label data exactly as given in the original publication, my lectotype designation is considered valid. The presence of two posttibial spines excludes this species from *Sephena*. It appears to belong to the generic complex that includes *Poeciloflata uniformis* Melichar.

NEW COMBINATION (= POECILOFLATA)

maculata Lallemand, 1935, p. 662 (*Siphanta toga* var.)

Paralectotype ♂ (headless) - (1) Coll. R. I. Sc. N. B./Australie Burnside/N. T./V. 1932. (2) R. I. Sc. N. B./I. G. 18.380 (3) *Siphanta/toga* Kirk./var. *maculata* Lall./V. Lallemand det. : (4) Para-/type (red label).

The lectotype male from Marrakai is in the Basel Museum. The Burnside locality was not cited in the original publication, but the labels indicate a valid syntype. The pattern of markings on the tegmina is distinctive, though not common. Study of the male genitalia showed no morphological differences from *Siphanta patruelis* Stål.

(= SIPHANTA)

minuta Lallemand, 1939, p. 73 (*Salurnis dulitana* f.)

Paralectotype ♀ - (1) Coll. R. I. Sc. N. B./Borneo Sarawak :/Foot of Mt. Dulit./Junction of Rivers-/Tinjara & Lejok./28 IX. 1932/Light trap 5 (2) Oxford Univ. Exp./B. M. Hobby &/A. W. Moore. B.M. 1933-254 (3) Para-/type (yellow rimmed round label) (4) *Salurnis/dulitana/minuta*/Lall. (5) R. I. Sc. N. B./I. G. 18.380 (6) Para-/type (orange label).

The paralectotype female is superficially similar to *dulitana*, but can be distinguished by its longer, more pointed head, and a much sharper dorsal longitudinal carina on the pro- and mesonotum. The lectotype and a paralectotype in the British Museum are each female. As all the syntypes are females, I have selected a male that represents the species, as follows : - (1) North Borneo/Liawan/14-17. 1959 (2) T. C. Maa/Collector/Bishop. The genitalia of this plesiotype are illustrated (Fig. 7).

NEW STATUS

nigropustulata Schmidt, 1904, p. 184 (*Cerynia*)

Paralectotype ♀ - (1) Coll. R. I. Sc. N. B./Dohrn-/Sumatra/Soekaranda (2) Type (red label) (3) *Cerynia/nigropustulata*/Schmidt (4) Para-/type (orange label).

Paralectotypes at the Dresden and Genoa Museums are females also. I am unable to determine the status of this species until a male syntype is available for study of the genitalia.

patula Melichar, 1902, p. 165 (*Uxantis*)

Holotype ♂ - (1) Coll. R. I. Sc. N. B./Roon/ex coll. Fruhstorfer (2) Determ./Melichar (3) Holotype (red label). (Dissected).

The genitalia of the holotype are illustrated (Fig. 6). This specimen is unquestionably the holotype, although it was received from Brussels bearing a typed label "Paratella tripunctata Melichar". Synave, 1980, did not include *patula* in his list of types.

punctata Lallemand, 1935, p. 664 (*Colgar laraticus* var.)

Paralectotypes 3 ♂ ♂ 2 ♀ ♀ - (1) Coll. R. I. Sc. N. B./Australie/Marrakai, N. T./May, 1931/Handschin (2) *Colgar/laraticus* Kirk./V. Lallemand det. (on one male only, dissected) and (2) *Colgar/peracuta* Walk./V. Lallemand det. (on one female only). The five specimens are undoubtedly syntypes of the variety proposed by Lallemand, although not labeled properly as such. The genitalia of the paratype are illustrated (Fig. 8). The syntypes are not *Colgar laraticus* Kirkaldy, but represent an undescribed genus.

roseoalba Melichar, 1902, p. 119 (*Paratella*)

Paralectotypes 2 ♀ ♀ - (1) Coll. R. I. Sc. N. B./Roon/ex coll. Fruhstorfer (2) Determ./Melichar (3) Determ./E. Schmidt (4) *Paratella/roseoalba* (5) Para-/type (orange label).

The lectotype male is in the Budapest Museum. Paralectotypes are in the Genova and Vienna Museums. This species is a junior synonym of *Nephesa decolor* Walker.

(= PARATELLA)

subflava Melichar, 1902, p. 119 (*Paratella*)

Lectotype ♀ - (1) Coll. R. I. Sc. N. B./Iles de la Sonde/Flores/Fruhstorfer (2) Determ./Melichar (3) Determ./E. Schmidt (4) *Paratella/subflava* (5) Holotype (red label).

The lectotype female appears to be the specimen illustrated by Melichar, pl. III, fig. 8. A paralectotype female is in the Hamburg Museum, but the male syntype cited by Melichar was not found. The anal segment (wax plate) is about twice longer than broad. This elongate character state excludes the species from *Paratella*, which has the anal segment oval.

NEW COMBINATION (= SABAETHIS)

tripunctata Melichar, 1902, p. 116 (*Colgar*)

The syntype from Roon cited by Melichar in the original description was not found in the Brussels Museum. However, the holotype of *Uxantis patula*

Melichar was received bearing a typewritten label "Paratella tripunctata Melichar." Metcalf, 1957, catalogued *Colgar tripunctata* under the genus *Neomelicharia*.

unipunctata Schmidt, 1904, p. 196 (*Phyma*)

Paralectotype ♀ - (1) Coll. R. I. Sc. N. B./Sumatra Soekaranda/Junuar 1894/Dohrn (2) Type (red label) (3) Para-/type (red label).

Paralectotype ♂ - (1) Coll. R. I. Sc. N. B./Dohrn-/Sumatra/Soekaranda (2) Type (red label) (3) *Phyma/unipunctata*/Schmidt (orange label) (4) Para-/type (red label).

The paralectotype females cannot be distinguished morphologically from *Phyma partita* Melichar, which is the senior synonym. (= LAWANA)

variegata Lallemand, 1939, p. 76 (*Atracis*)

Paralectotype ♀ - (1) Coll. R. I. Sc. N. B./Sarawak : Mt. Dulit,/4000 ft./Moss forest./21. X. 1932. (2) Light traps. (3) H./528 (4) Oxford Univ. Exp./B. M. Hobby &/A. W. Moore./B. M. 1933-254. (5) R. I. Sc. N. B./I. G. 18.380 (6) Para-/type (yellow margined round label) (7) *Atracis/variegata*/det. Lallemand (8) Para-/type (red label).

The pygofer of the paralectotype female has three large curved spines apically, and basad to these on the ventral margin are three small triangular teeth. The lectotype and paralectotype in the British Museum are each female.

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