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# REVUE FRANÇAISE D'ENTOMOLOGIE

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**FLATIDAE FROM THE TAÏ FOREST, CÔTE D'IVOIRE,  
AND TAXONOMIC NOTES ON THE FAMILY IN WEST AFRICA  
[HOMOPTERA, AUCHENORRHYNCHA, FULGOROIDEA]**

BY

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RÉSUMÉ

*Seize genres et vingt-quatre espèces de Flatidae, récoltés dans quatorze biotopes du Parc national de Taï en Côte d'Ivoire sont étudiés ici. D'autres Flatidae ouest-africains sont également incorporés dans cette étude. Les nouveaux genres décrits ainsi que leurs espèces-type sont les suivants : Betracis n. gen., espèce-type B. rugosa Medler ; Comnar n. gen., espèce-type Poeciloptera fimbriata Walker ; Decipha n. gen., espèce-type Cryptoflata zielensis Synave ; Lemaria n. gen., espèce-type L. enigma Medler. Les nouvelles espèces de Taï sont : Afrodascalia trifurca n. sp. ; Betracis rugosa n. sp. ; Decipha trifidius n. sp. ; Ityraea couturieri n. sp. ; Lemaria enigma n. sp. ; Uysanus bistigmus n. sp. ; U. quadratus n. sp.*

*Uysanus daxans n. sp. est décrit de Ferkessedougou, Côte d'Ivoire. Mistaria n. gen. est créé pour Flata crassivenosa (Karsch), extrait du genre Eumelicharia Kirkaldi, et nouvellement récolté à Touba, Côte d'Ivoire. Afrocyarda royi n. sp. est décrite sur des spécimens récoltés au Nigeria et au Sénégal.*

*Phalaenomorpha castaneiceps Jacobi, Atracis costalis Melichar et Atracis gibbosus Melichar appartient à un genre inédit de Madagascar.*

*De nouvelles synonymies sont proposées et de nouvelles combinaisons établies. Une clé des genres ouest-africains est proposée.*

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**Key-words :** Homoptera, Fulgoroidea, Flatidae, new genera, new species, taxonomic notes, Côte d'Ivoire, Taï forest.

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INTRODUCTION

The history, general background and literature on the ecological research conducted on insects in the Taï region of Côte d'Ivoire was presented by COUTURIER and GUILLAUMET (1986). Also in 1986, articles by 13 specialists reporting on species of insects in the collections were published in Volume 7, No. 5, of the *Revue Française d'Entomologie*.

Dr. G. Couturier requested my assistance in identifying the specimens of Flatidae collected at Taï during 1978-1985. I was pleased to help with the determinations, as there is still much to be learned about the taxonomy and distribution of the West African species. Also, no specialist has been working on the African Flatidae since the untimely death of my esteemed colleague, Dr. Henri Synave, in whose memory I dedicate this work.

The 186 specimens in the Taï collection represented 24 species in 16 genera, of which 4 genera and 8 species are newly described.

In addition to the Taï records, all available Côte d'Ivoire records in the literature have been cited in this report. In nearly all cases the published records have been verified by an examination of type specimens and/or voucher specimens preserved in museums. A few Côte d'Ivoire records in the literature that were not supported by the Taï collections or not verified by my personal examination of voucher specimens may need confirmation.

Brief notes are given on West African genera not yet known from Côte d'Ivoire, but likely to occur; namely, *Afrocyarda* Fennah, *Afrophantia* Fennah, *Anatracis* Fennah, and *Ulundia* Distant.

Several new records are added, which are based on specimens found in museum collections kindly made available for my study.

Acronyms used for the depository Museums are as follows:

BMNH, London: British Museum (Natural History), London, England.

BPBM, Honolulu: Bernice P. Bishop Museum, Honolulu, Hawaii.

IFAN, Dakar: Institut Fondamental d'Afrique Noire, Dakar, Sénégal.

IRSN, Brussel: Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussel, Belgium.

MNHN, Paris: Museum national d'Histoire naturelle, Paris, France.

MNHU, Berlin: Museum für Naturkunde der Humboldt-Universität, Berlin, East Germany.

MRAC, Tervuren: Musée Royal de l'Afrique Centrale, Tervuren, Belgium.

NR, Stockholm: Naturhistoriska Riksmuseet, Stockholm, Sweden.

In regard to the Taï collection, type specimens and most determined material have been deposited in the Museum national Histoire naturelle, Paris (MNHN). Voucher specimens also are deposited in the entomological laboratory of Centre ORSTOM d'Adiopodoume, Côte d'Ivoire (ORSTOM), and the Bishop Museum, Honolulu (BPBM).

## METHODS

The Taï specimens were obtained by sweeping in the following biotopes (B):

1: abandoned coffee plantation. — 2: rice field in rain forest, with other vegetation. — 3: rice field in rain forest, with other vegetation. — 4: track in evergreen primary rain forest. — 7: understorey in evergreen primary rain forest. — 9: track in evergreen primary rain forest. — 10: track in evergreen primary rain forest. — 12: rice field in forest, with other vegetation. — 16: canopy of fallen trees in evergreen primary rain forest. — 21: secondary forest of 17 years. — 23: evergreen primary rain forest, vicinity of Tropical Ecology Laboratory. — 24: fallow field of six years, vicinity of Gouleako Village. — 25: evergreen primary rain forest. — 26: evergreen primary rain forest.

Data on the numbers of specimens of each species collected in the various biotopes are summarized in Table I (p. 146).

The data show that 43 and 19 percent of the specimens and 63 and 29 percent of the species were collected in Biotope 16 and 21, respectively. It would be expected that favorable habitats for flatids are provided in biotopes of evergreen rain forest canopy thinned by fallen trees, 16, or secondary forest, 21, because such habitats usually have a considerable diversity of host plants in various stages of growth.

Collection data are recorded under the Taï heading, followed by the biotope number, sex, date, and collector.

Measurements are given in mm. Except for the overall length (done with a ruler) the measurements were made at  $3 \times$  with a binocular microscope fitted with a  $20 \times 20$  grid in a  $15 \times$  eyepiece. Grid units were then converted to mm. Normally, the right tegmen was used for measurements. Data apply to the following characters:

**Length**—Overall in side view along the midline from anterior margin of the head to posterior margin of the tegmen. Vertex (**v**) along the dorsal midline from the transverse posterior carina to anterior margin, including projection of the frontal carina, if present. Pronotum (**p**) and mesonotum (**m**) along the dorsal midline. Frons (**f**) along the midline from dorsal apex to the frontoclypeal suture. Tegmen (**t**) from origin of the basal stem to maximal apical margin midway between the costal and sutural margins. Postclaval sutural margin (**pcl**) from apex of the clavus to apex of the sutural angle, or in case of a convexity, the intersection of the posterior margin of the arc by a chord projected from the claval suture through the apex of the clavus. **Width**—Vertex (**v**) transversely along the posterior point, usually, but not always on a plane near antennal insertions. Front (**f**) at the maximal apex of the clavus and the costal margin.

The number of spines on the hind leg are indicated by formula. For example, 1 : 6 : 8 denotes the metatibial preapical lateral spine, metatibial apical spines, and metatarsal basal segment apical spines, respectively.

The plesiotype is a male specimen with attached blue label selected by the writer for dissection and illustration of the genitalia, used especially when the available type is a female. [The term is descriptive, and has no status under taxonomic rules.]

In the following report most genera are listed in a sequence according to the catalog of METCALF (1957).

#### KEY TO GENERA IN WEST AFRICA

- |  |                   |
|--|-------------------|
| 1 — Antennal segment I short, not passing, or only slightly passing, lateral margin of frons .....   | 5                 |
| — Antennal segment I long, distinctly passing lateral margin of frons .....  | 2                 |
| 2 — Tegmen with a submarginal line .....   | 3                 |
| — Tegmen without a submarginal line ; costal margin semicircular ; veins R + S arising from the basal stem ; lateral margins of frons sinuate .....                          | <i>Flatidissa</i> |
| 3 — Apical and pcl margins of tegmen strongly convex .....   | 4                 |
| — Apical and pcl margins of tegmen weakly convex, sutural angle convex .....   | <i>Flatina</i>    |
| 4 — Antennal segment II cylindrical, about twice longer than segment I and normally inserted at a sharp angle .....  | <i>Flatida</i>    |
| — Antennal segment II compressed laterally, about 4 times longer than segment I and inserted at no more than a slight angle .....  | <i>Ityraea</i>    |
| 5 — Latero-ventral margin of frons ledgeline, strongly convex, much wider next antennae than eyes ; tegmen heavily reticulated, without submarginal line of crossveins ..... | 6                 |
| — Lateral margins of frons not conspicuously ledgeline or convex adjacent to antennae ..   | 7                 |
| 6 — Vertex with very small conical projection ; postclaval black spot large ; pro- and mesotibiae and tarsi black ; 2 metatibial lateral spines .....                        | <i>Gyarina</i>    |
| — Head strongly conical ; postclaval black spot small ; legs not black, metatibial lateral spines variable .....   | <i>Gyaria</i>     |
| 7 — One black tipped metatibial lateral spine .....  | 8                 |
| — Two black tipped metatibial lateral spines .....   | 16                |
| 8 — Tegmina held horizontally or nearly so, surface rugose or tuberculate, precostal membrane very wide .....  | 9                 |

- Tegmina held vertically, tectiform (typical flatids) ..... 13
- 9 — Apex of tegmen without submarginal line, apical cells irregularly reticulated; postocular eminence present on pronotum ..... *Betracis*
- Tegmen with submarginal line, submarginal cells elongate, about 4:1; pronotum usually without postocular eminence ..... 10
- 10 — Tegmen with 2 longitudinal veins (R + S, M) arising at the node of the basal stem, bulla often strongly elevated and pustulate ..... *Catracis*
- Tegmen with 3 longitudinal veins (R, S, M) arising together at node of the basal stem; sometimes veins S displaced by bulla and obscured ..... 11
- 11 — Tegmen elongate, costal and sutural margins parallel, precostal area narrow, width uniform from base to apex, not closed apically by R and S terminals; 1 or 2 submarginal veins ..... *Anatraxis*
- Tegmen broad, costal margin undulate, precostal area wide, closed apically by R and S terminals ..... 12
- 12 — Vertex longer than the pronotum ..... *Uysanus*
- Vertex short, not longer than the pronotum ..... *Diastraxis*
- 13 — Head produced acutely or subconically; 3 longitudinal veins (R, S, M) arising from node of basal stem ..... 14
- Head truncate, vertex depressed medially; pronotum with conical postocular eminence; tegmen with 2 longitudinal veins (R, S + M) arising from node of basal stem; brown species ..... *Afroseliza*
- 14 — Head acute or subacute; apex of clavus with or without a black spot. Usually bright green or stramineous species ..... 15
- Head bluntly conical, with median longitudinal furrow; postclaval sutural margin shallowly convex, rounding evenly to elliptical apical margin; brown or sordid green species ..... *Afrodascalia*
- 15 — Vertex conical, ocelli weak; postclaval and apical margins meeting at right angle; black spot at apex of clavus. Size more than 8 mm ..... *Cameruniola*
- Vertex flat, triangular, convex laterally to frons; ocelli strong; costal and sutural angles obtusely convex, similar configuration. Size less than 6 mm ..... *Caesonia*
- 16 — Head conical or produced obtusely ..... 16
- Head truncate or not more than slightly convex ..... 21
- 17 — Brown species 5-6 mm in length. Ocelli absent. Impressed fuscous sulcus extending from apex of vertex to tip of scutellum; tegmen wide medially, constricted apically. 18
- Green or white species more than 8 mm long. Ocelli present ..... 19
- 18 — Apical margin of tegmen convex elliptical, not prolonged acutely ..... *Neocalauria*
- Apical margin of tegmen oblique, prolonged acutely to join postclaval sutural margin ..... *Paroxychara*
- 19 — Postclaval sutural margin of tegmen uplifted, acutely pointed or convex; clavus with crossveins between suture and vein A1 ..... 20
- Apex of postclaval sutural margin nearly right angled; clavus without crossveins; sharp median carina extending from apex of vertex to tip of mesonotum ..... *Comnar*
- 20 — Pronotum without median carina; tegmen with dense network of fuscous-outlined crossveins ..... *Mistaria*

- Pronotum with median longitudinal carina; tegmen network of crossveins and membrane unicolorous ..... *Lawana*
- 21 — Tegmina very wide basally, then abruptly narrowed and elongated apically; R vein strongly uplifted by prominent bulla; frons elliptical, dorsal margin delimited by U-shaped carina ..... *Afrocyarda*
- Tegmen not as described. Frons with or without U-shaped carina ..... 22
- 22 — Dorsum of head produced, convex laterally, anterior margin carinate foliaceous, frons concave; pro- and mesotarsal I flattened ..... *Phleboterum*
- Species not as described ..... 23
- 23 — Lateral margins of vertex and frons nearly parallel, vertex shelflike, uniformly convex along its entire width; postocular eminence of pronotum extended ventrad as a strongly carinate ridge; postclaval sutural margin uplifted angularly ..... *Scarpanta*
- Species not as described ..... 24
- 24 — Tegmina predominantly black or brown ..... 25
- Tegmina predominantly green or ochraceous ..... 27
- 25 — Length more than 15 mm; tegmina black, heavily reticulated with numerous crossveins ..... *Lemaria*
- Length less than 10 mm; tegmina black or brown, without heavy reticulation of crossveins ..... 26
- 26 — Vertex ledgelike, anterior margin angulate with frons; tegmen relatively short, elliptical, one submarginal line. Size less than 5 mm ..... *Afrophantia*
- Vertex narrow, rounded to frons; tegmen relatively elongate, two submarginal lines. Size more than 6 mm ..... *Ulundia*
- 27 — Pronotum without raised median carina. Two dorsal red stripes extending from front of head to apex of clavus; vein S unbranched, merged with R near apex of tegmen ..... *Paranotus*
- Pronotum with sharply raised crestlike median carina, anterior margin of pronotum narrowly convex, often covering posterior margin of head; veins A1 and A2 not united in Y-vein at clavus apex; when present, large black spot distad of clavus apex not touching postclaval sutural margin ..... 28
- 28 — Tegmen with 3 longitudinal veins (R, S, M) arising from node of basal stem ..... *Decipha*
- Tegmen with 2 longitudinal veins (R, S + M) arising from node of basal stem ..... *Cryptoflata*

## I. GENERA AND SPECIES OF FLATIDS COLLECTED IN THE TAÏ FOREST, IVORY COAST

### Genus *Ityraea* Stål

*Ityraea* Stål, 1866 : 235. — Type-species : *Flata nigrocincta* Walker, 1858b : 108. (Type examined).

#### 1. *Ityraea couturieri*, sp. n. (fig. 21)

**Holotype female** : Côte d'Ivoire, reg. de Taï, 29-I-1985, forêt dense, humide sempervirente, biotope no. 23 (*G. Couturier* & *V. van Zeijst*). — **Paratypes** : female, Côte d'Ivoire, Taï, II-1979) bloc Gilbert, biotope no. 16 (*G. Couturier*) (MNHN, Paris); female, Sierra Leone, Mission ENS-IFAN aux Monts Loma, Forêt Camp, 1070 m, 18-V-1963 (IFAN, Dakar).

The new species is congeneric with *nigrocincta* Walker, type-species of the genus. It is larger in size, has different color and markings, and is narrower across the posterior margin of the head.

Head, thorax and abdomen stramineous; antennae black; pro- and mesotibiae and tarsi mostly black, exterior slightly concave surface of tibiae green; pronotum without postocular

eminence, dorsal lateral margins thick and upraised anteriorly; antero-ventral lobes foliaceous; mesonotum bright red on median 1 mm width of dorsal disc, no lateral carinae except posterior remnants. Tegmen appearing green, veins bright green, contrasting strongly with translucent membrane; sutural, apical and costal angle margins narrowly black, remainder of costal margin green, postclaval sutural margin with 1 mm width of bright red; about two thirds of vein terminals forked apical of submarginal line. Hind leg spine formula 2 : 14 : 5.

The holotype genitalia are illustrated (fig. 21). The median protuberance of segment VII is narrowed apically, the apex bluntly conelike. The apices of valvulae III are padlike, densely covered with minute spines.

Measurements on the holotype. — Length: overall 21.00; v .66; f 1.66; p .91; m 3.49; t 18.50; pcl 5.00. — Width: v .58; f .33; t 10.50.

### Genus *Flatida* White

*Flatida* White, 1846 : 26. — Type-species: *Poeciloptera (Flatida) tricolor* White, 1846 : 26.

#### KEY TO SPECIES

Black spots in clavus close to, but not touching vein A1 ..... *superba*  
 Black spots in clavus removed from vein A1, touching vein A2 ..... *pallida* and *pallida limbata*

#### 2. *Flatida pallida* (Olivier)

*Fulgora pallida* Olivier, 1791 : 575.

*Phromnia pallida*, SYNAVE, 1963 : 458. (Côte d'Ivoire : Gopoupleu, Ziela).

Côte d'Ivoire : Taï — B 16, 1 ♀, XI-1979; 3 ♀, 16-XII-1980.

#### *Flatida pallida limbata* (Fabricius)

*Cicada limbata* Fabricius, 1781 : 322.

*Phromnia pallida* ab. *limbata*, SYNAVE, 1954 : 34, fig. 6, aedeagus.

*Phromnia pallida* f. *limbata*, SYNAVE, 1963 : 459. (Côte d'Ivoire : Keoulenta).

Côte d'Ivoire : Taï — B 16, 1 ♀, 12-II-1985.

The green tegmen of this specimen has a distinctive red margin. As it is not distinguishable on the basis of male genitalia, it is considered to be a color variant of the typical form which has the apical margin narrowly black.

#### 3. *Flatida superba* (Melichar) (fig. 7)

*Flata superba* Melichar 1901 : 206.

*Phromnia superba*, SYNAVE, 1954 : 33, fig. 1, aedeagus.

*Phromnia superba*, SYNAVE, 1968 : 457. (Côte d'Ivoire : Man).

Côte d'Ivoire : Taï — B 9, 1 ♀, 10-IV-1978; B 16, 1 ♂, II-1979.

The male genitalia are illustrated (fig. 7). The characters of the aedeagus are the same as those shown by Synave.

Measurements on the above male (BPBM, Honolulu). — Length: overall 20.00; v .58; f 1.66; p 1.00; m 3.49; t 16.43; pcl 4.15. — Width: v .83; f .75; t 9.96.

### Genus *Flatina* Melichar

*Flatina* Melichar, 1901 : 214.

Type-species: *Phromnia rubrotincta* Haglund, 1899 : 69. (Type examined).

*Flatina* is a West African genus containing taxa that show considerable color variation. A revision of the genus will be necessary for proper recognition and disposition of species and variants proposed by MELICHAR (1901), but not yet seen by the writer, as follows: *binotata*, *chloris*, *circellis*, *flavescens*, *inornata*, and *ochreatea*.



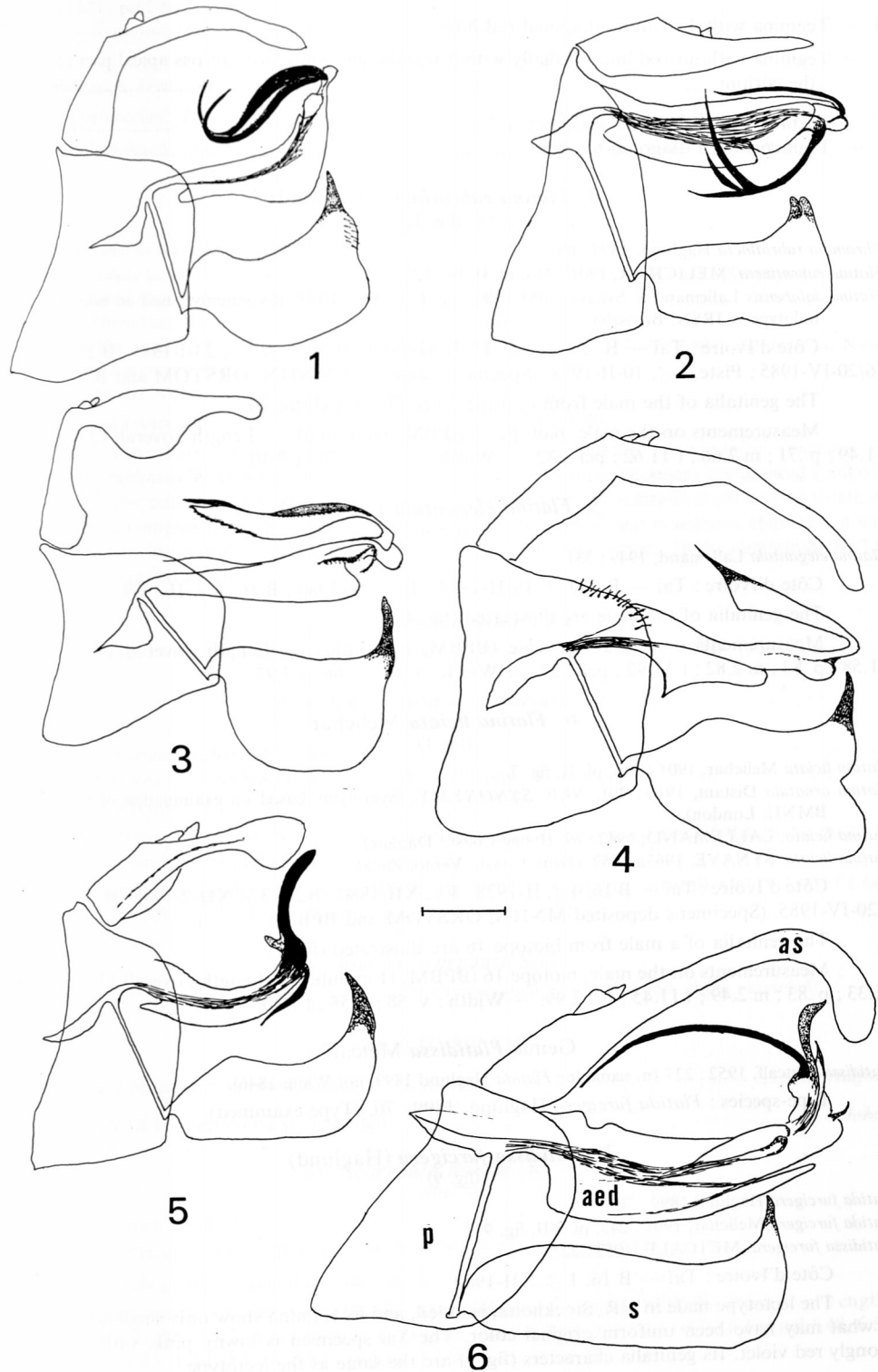


Fig. 1-6, Left lateral view of male genitalia. — 1, *Flatina liciata* Melichar. — 2, *Afrodascalía trifurca* Medler. — 3, *Flatina rubrotincta* (Haglund). — 4, *Flatina elegantula* Lallemand. — 5, *Anatraxis impura* (Stål). — 6, *Catraxis faecaria* (Stål). — aed = aedeagus, as = anal segment, p = pygofer, s = style. — Scale = 0.5 mm.

## KEY TO SPECIES

- 1 — Tegmina with 4 or more diagonal red lines ..... 2  
 — Tegmina without red lines ; usually with 3 translucent white dots across apical part of the corium ..... *rubrotincta*
- 2 — Tegmen with 6 diagonal red lines ..... *elegantula*  
 — Tegmen with 4 diagonal red lines ..... *licata*

4. *Flatina rubrotincta* (Haglund)

(fig. 3)

*Phrommia rubrotincta* Haglund, 1899 : 69.*Flatina rubrotincta*, MELICHAR, 1901 : 216, pl. II, fig. 12.*Flatina dalabensis* Lallemand & Synave, 1954 : 906, *NEW SYNONYMY*. (Synonymy based on examination of holotype ♀, IRSN, Brussels).

Côte d'Ivoire : Taï — B 7, 1 ♂, 1 ♀, 15/22-II-1980 ; B 21, 1 ♂, 1 ♀, 23-I-1985 ; B 25, 1 ♂, 1 ♀, 16/20-IV-1985 ; Piste, 1 ♂, 10-II-1978. (Specimens deposited MNHN, ORSTOM and BPBM).

The genitalia of the male from biotope 7 are illustrated (fig. 3).

Measurements on the male, biotope 7 (BPBM, Honolulu). — Length : overall 13.00 ; v .66 ; f 1.49 ; p .71 ; m 2.66 ; t 11.62 ; pcl 3.32. — Width : v .58 ; f .50 ; t 7.30.

5. *Flatina elegantula* Lallemand

(fig. 4)

*Flatina elegantula* Lallemand, 1949 : 331.

Côte d'Ivoire : Taï — B 7, 1 ♂, 19-II-1980 ; 1 ♀, 5-V-1980 ; B 16, 1 ♀, II-1979.

The genitalia of the male are illustrated (fig. 4).

Measurements on the above male (BPBM, Honolulu). — Length : overall 14.50 ; v .87 ; f 1.58 ; p .83 ; m 2.82 ; t 11.92 ; pcl 3.32. — Width : v .62 ; f .66 ; t 7.97.

6. *Flatina licata* Melichar

(fig. 1)

*Flatina licata* Melichar, 1901 : 215, pl. II, fig. 7.*Flatina ornatula* Distant, 1910 : 301, *NEW SYNONYMY*. (Synonymy based on examination of holotype ♀, BMNH, London).*Flatina licata*, LALLEMAND, 1942 : 69. (Ivory Coast : Danane).*Flatina licata*, SYNAVE, 1963a : 459. (Ivory Coast : Veblo, Ziela).

Côte d'Ivoire : Taï — B 16, 4 ♂, II-1978 ; 1 ♀, XII-1980 ; B 21, 3 ♀, XII-2-1985 ; B 25, 3 ♂, 3 ♀ 9/20-IV-1985. (Specimens deposited MNHN, ORSTOM and BPBM).

The genitalia of a male from biotope 16 are illustrated (fig. 1).

Measurements on the male, biotope 16 (BPBM, Honolulu). — Length : overall 13.00 ; v .75 ; f 1.33 ; p .83 ; m 2.49 ; t 11.45 ; pcl 2.99. — Width : v .58 ; f .58 ; t 7.30.

Genus *Flatidissa* Metcalf*Flatidissa* Metcalf, 1952 : 227 (n. name for *Flatida* Haglund 1899, not White 1846).Type-species : *Flatida furcigera* Haglund, 1899 : 70. (Type examined).7. *Flatidissa furcigera* (Haglund)

(fig. 9)

*Flatida furcigera* Haglund 1899 : 70.*Flatida furcigera* Melichar, 1901 : 247, pl. VII, fig. 9.*Flatidissa furcigera*, METCALF, 1952 : 227.

Côte d'Ivoire : Taï — B 16, 1 ♂, XII-1980.

The lectotype male in NR, Stockholm, is faded, and its tegmina show only small green flecks of what may have been uniform original color. The Taï specimen is tawny pink, with the veins strongly red violet. Its genitalia characters (fig. 9) are the same as the lectotype.

Measurements on the above male (MNHN, Paris). — Length : overall 16.00 ; v .54 ; f 1.49 ; p .75 ; m 2.99 ; t 14.21 ; pcl 2.66. — Width : v .66 ; f .66 ; t 8.63.

### Genus *Paranotus* Karsch

*Paranotus* Karsch, 1890 : 66.

Type-species : *Paranotus trivirgatus* Karsch, 1890 : 66. (Type examined).

*Chopardana* Lallemand, 1942 : 70. *NEW SYNONYMY*. — Type-species : *Chopardana lineata* Lallemand, 1942 : 70.

### 8. *Paranotus trivirgatus* Karsch

*Paranotus trivirgatus* Karsch, 1890 : 66.

*Chopardana lineata* Lallemand, 1942 : 70. (Côte d'Ivoire : Kouibly). *NEW SYNONYMY*. (Synonymy based on examination of holotype ♀ (MNHN, Paris).

*Paranotus rufilinea* (sic), SYNAVE, 1954 : 37, fig. 12-13, aedeagus.

*Paranotus rufilinea* (sic), SYNAVE, 1963 : 459. (Côte d'Ivoire : Keoulenta, Mont Nimba, Neiomouya, Nion, Ziela, Zouguepo, Zouguepo-Serengbara).

*Paranotus rufilineus*, SYNAVE, 1968 : 457. (Côte d'Ivoire : Bingerville).

Côte d'Ivoire : Taï — Gagnoa, Kakahakro, 1 ♀, 7-VIII-1980.

Recent workers have considered *P. trivirgatus* from Senegal as a junior synonym of *Poeciloptera rufilineus* WALKER (1858b : 116) from Natal. The type specimens are marked similarly with a distinctive pattern of red stripes. A preliminary study of male genitalia from several localities suggests that a complex of species may exist. As the holotype of *rufilineus* is without abdomen, it will be necessary to select a male from the type locality to represent that species. In the meantime, the Taï specimen is recorded as above.

### Genus *Phlebopterum* Stål

*Phlebopterum* Stål, 1854 : 248. — Type-species : *Phlebopterum praemorsum* Stål, 1854 : 248. (Type examined).

### 9. *Phlebopterum praemorsum* Stål

(fig. 13)

*Phlebopterum praemorsum* Stål, 1854 : 248.

*Phlebopterum praemorsum*, SYNAVE, 1968 : 458. (Côte d'Ivoire : Bingerville).

Côte d'Ivoire : Taï — B 16, 2 ♂, 1 ♀, 11/28-II-1980.

Stål's holotype in NR, Stockholm, is a female. I have designated one of the above males as the plesiotype, and illustrated the genitalia (fig. 13).

Measurements on the plesiotype (BPBM, Honolulu). — Length : overall 9.00 ; v 1.00 ; f 1.66 ; p 58 ; m 1.66 ; t 6.81 ; pcl 2.32. — Width : v 1.58 ; f 1.49 ; t 3.32.

### Genus *Scarpanta* Stål

*Scarpanta* Stål, 1862 : 69. — Type-species : *Poeciloptera mortuifolia* Stål, 1861 : 150. (Type examined).

### KEY TO SPECIES

- Sutural angle of tegmen pointed acutely ..... *mortuifolia*  
 Sutural angle of tegmen convexly rounded ..... *dohrni*

### 10. *Scarpanta dohrni* (Karsch)

(fig. 8)

*Flata dohrni* Karsch, 1894 : 116.

Côte d'Ivoire : Taï — B 3, 1 ♂, 26-II-1978 ; B 21, 1 ♀, 14-II-1985.

The male genitalia are illustrated (fig. 8).

Measurements on the male (BPBM, Honolulu) and female (MNHN, Paris). — Length : overall 20.00, 21.00 ; v .42, .50 ; f 1.66, 1.70 ; p 1.16, 1.16 ; m 3.98, 3.98 ; t 17.43, 18.43 ; pcl 5.48, 6.31. — Width : v 1.45, 1.49 ; f 1.74, 1.83 ; t 11.62, 12.62.

11. *Scarpanta mortuifolia* (Stål)

*Poeciloptera mortuifolia* Stål, 1861 : 150.

*Scarpanta mortuifolia*, MELICHAR, 1901 : 241, pl. I, fig. 17.

*Scarpanta* sp. apud *mortuifolia*, SYNAVE, 1963 : 459. (Côte d'Ivoire : Ziela).

Côte d'Ivoire : Taï — B 24, 1 ♀, 26-II-1985.

Measurements on the female (MNHN, Paris). — Length : overall 17.00 ; v .50 ; f 1.49 ; p 1.08 ; m 3.32 ; t 14.94 ; pcl 5.15. — Width : v 1.25 ; f 1.41 ; t 10.62.

The specimen determined « sp. apud *mortuifolia* » by Synave has not been seen ; hence, that record is unconfirmed.

Genus *Lawana* Distant

*Lawana* Distant, 1906 : 420. — Type-species : *Flata candida* Fabricius, 1798 : 518.

12. *Lawana exsoleta* (Melichar)

(fig. 10)

*Flata adscendens*, STÅL, 1866 : 242. (Misidentified, not *adscendens* Fabricius).

*Phyma adscendens*, MELICHAR, 1902 : 45. (Misidentified, in part).

*Phyma exsoleta* Melichar, 1902 : 45.

*Lawana exsoleta*, METCALF, 1957 : 210. (Catalog).

*Lawana adscendens*, METCALF, 1957 : 203. (Misidentified, not *adscendens* Fabricius).

*Lawana adscendens*, FENNAH, 1957 : 1306. (Misidentified).

*Lawana adscendens*, FENNAH, 1958a : 152. (Misidentified).

*Lawana exsoleta*, SYNAVE, 1968 : 458. (Côte d'Ivoire : Bingerville).

Côte d'Ivoire : Taï — B 3, 1 ♂, 1 ♀, 28-II-1983 ; 1 ♀, 3-III-1983. — B 12, 2 ♂, 1 ♀, II/III-1983. — B 16, 2 ♂, II-1978 ; 2 ♂, 2 ♀, 2-II-1978 ; 1 ♂, II-1979 ; 2 ♂, 1 ♀, II-1980 ; 2 ♀, XII-1980 ; B 21, 1 ♂, 18-II-1985. — B 23, 3 ♂, 5/12-II-1985 ; B 26, 1 ♂, 12-II-1985. (Specimens deposited MNHN, ORSTOM and BPBM).

The tegmina of all specimens listed above bear a prominent black spot on the corium. The male genitalia (fig. 10) of a specimen from biotope 26 appear to be the same as those of a specimen from the Belgian Congo illustrated by FENNAH (1958, fig. 92).

Measurements (male, biotope 26, female, biotope 3 (BPBM, Honolulu). — Length : overall 18.00, 20.00 ; v .54, .58 ; f 1.83, 1.99 ; p .75, 1.00 ; m 3.24, 3.49 ; t 15.94 ; 17.26 ; pcl 5.48, 7.64. — Width : v 1.29, 1.29 ; f 1.49, 1.74 ; t 9.30, 9.96.

MELICHAR (1902) treated 2 species of *Lawana* from Africa. The information he presented on *adscendens* was erroneous, and may have caused misidentifications that are cited above. Melichar did not mention a black spot on the corium in his description of *adscendens*, but he described *exsoleta* as having a black spot. In his key, this character state was reversed to separate the two species — *adscendens* with spot, *exsoleta* without spot.

*Flata adscendens* was described by FABRICIUS (1803 : 46) from a Java specimen having a black spot on the corium. In a revision of *Lawana* (MEDLER, in manuscript), I present evidence that *adscendens* is a senior synonym of *Lawana partita* Melichar. There is no valid record of the species in African material known to me.

Genus *Comnar* n. gen.

Type-species : *Poeciloptera fimbriata* Walker, here designated.

Head moderately conical, vertex with strong median dorsal carina, which posteriorly extends across pro- and mesonotum, and anteriorly joins median longitudinal carina extending more than half length of frons. Ocelli small and obscure. Pronotum postocular eminence obtusely conical, extending ventrad as a shallow ridge on latero-ventral lobe. Postclaval sutural margin of tegmen meeting truncate apical margin at sharp right angle, costal angle evenly convex. Three longitudinal veins (R, S, and M) arising from basal stem node, R elevated slightly by bulla, S forked apicad of M fork, Cu with poorly defined oblique vein, forked distally, A1 and A2 not forming Y-stem at apex of clavus. Oblique submarginal line of cross veins originating at apex of clavus, oblique crease across tegmen basad of the submarginal line. Black dashes on margin of tegmen from claval apex to point of R + C junction on costal margin. Metatibial spines 2 : 7.

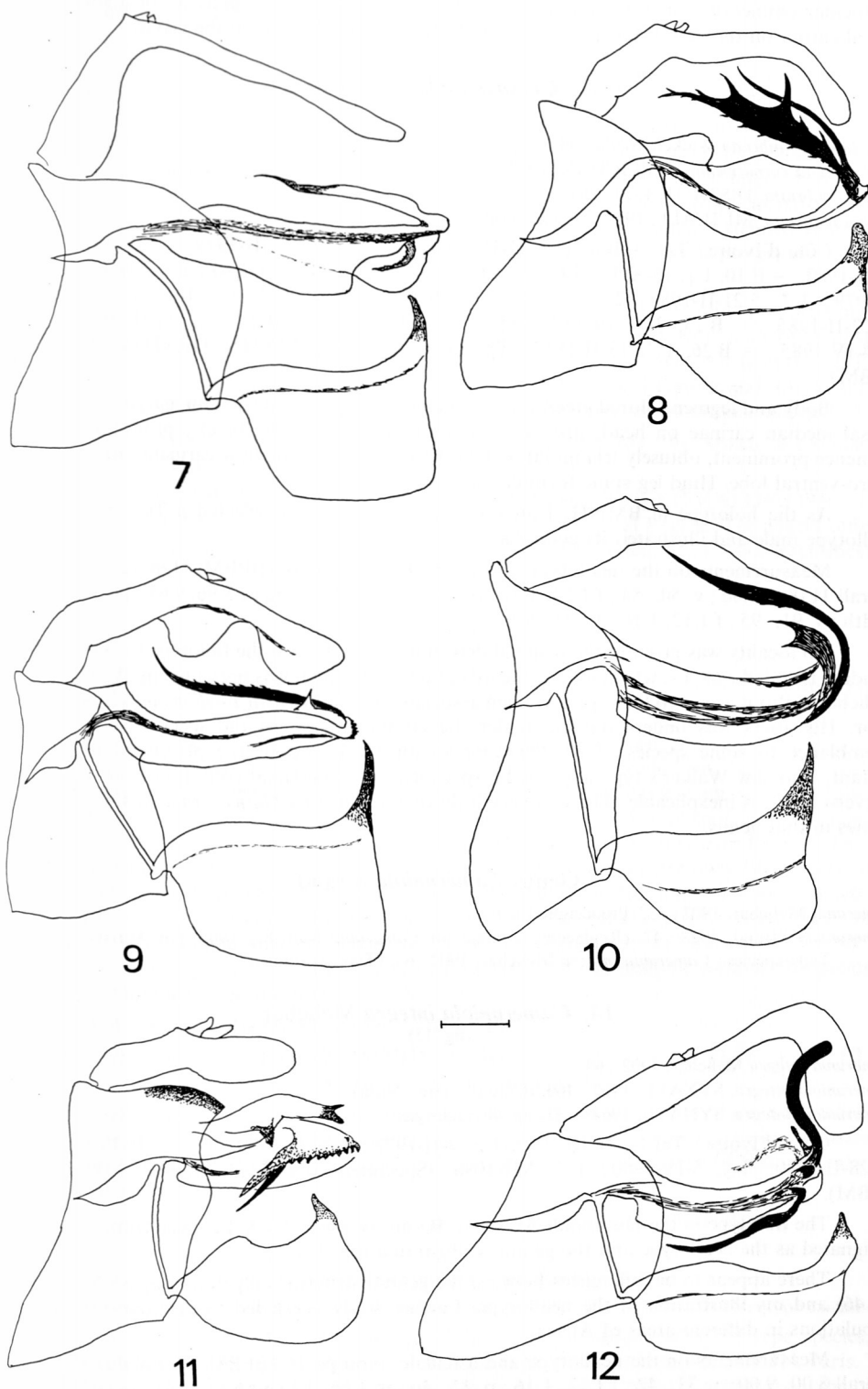


Fig. 7-12. Left lateral view of male genitalia. — 7, *Flatida superba* (Melichar). — 8, *Scarpanta dohrni* (Karsch). — 9, *Flatidissa furcigera* (Haglund). — 10, *Lawana exsoleta* (Melichar). — 11, *Betracis rugosa* (Medler). — 12, *Uysanus bistignus* Medler. — Scale = 0.5 mm.

The new genus has close affinity to *Phylliana* Metcalf in structure of the head, shape of postocular eminence and submarginal line, but is recognized by the presence of a strong median dorsal carina on the vertex and pronotum, and the lack of a Y-stem in the clavus.

### 13. *Comnar fimbriata* (Walker) (fig. 17)

*Poeciloptera fimbriata* Walker, 1858a: 54.

*Phyllyphanta cornutipennis*, MELICHAR, 1902: 55. (Error).

*Flatina fimbriata*, DISTANT, 1910: 301.

*Flatina fimbriata*, METCALF, 1957: 56. (Catalog).

Côte d'Ivoire: Taï — B 4, 1 ♀, 23-IV-1979. — B 7, 2 ♂, 1-III-1979; 1 ♂, 28-VI-1979; 1 ♂, 19-II-1980. — B 10, 1 ♀, 16-XII-1979; 1 ♀, 29-I-1980. — B 16, 1 ♂, II-1978; 1 ♀, 2-II-1978; 1 ♂, 1 ♀, II-1979; 3 ♂, 5/21-II-1980; 2 ♂, 3 ♀, 8/25-IV-1980. — B 21, 3 ♂, 3 ♀, 16/26-I-1985; 3 ♂, 5 ♀, 13/22-II-1985. — B 23, 3 ♂, 19/30-I-1985; 1 ♂, 4-II-1985. — B 25, 1 ♀, 11-II-1985; 1 ♂, 2 ♀, 9/24-IV-1985. — B 26, 1 ♂, 13-II-1985. (Specimens deposited MNHN, ORSTOM, BMNH, and BPBM).

Body and tegmen colored green; strongly contrasting black dashes on margin of the tegmen; dorsal median carinae on head, pro- and mesonotum outlined by black; pronotum postocular eminence prominent, obtusely triangular, extending ventrad as a shallow carinate ridge medially on latero-ventral lobe. Hind leg spine formula: 2:7:6-7.

As the holotype in BMNH, London, is a female, I have selected a Taï specimen as the neallotype male and illustrated its genitalia (fig. 17).

Measurements on the neallotype and a female, biotope 16 (BPBM, Honolulu). — Length: overall 11.00, 12.00; v .50, .54; f 1.54, 1.78; p .66, .71; m 1.83, 2.32; t 8.96, 9.63; pcl 2.66, 3.15. — Width: v .91, .95; f 1.12, 1.16; t 5.15, 5.64.

No locality was given in the original description. A label on the holotype female in BMNH, London, is coded « 68.4 », which merely records that the specimen was presented by W. W. Saunders. Melichar without access to the type specimen associated the name with *Phyllyphanta cornutipennis* in error. His guess was understandable under the circumstances, as the species has a superficial resemblance to some species of *Phyllyphanta* auctorum. However, the placement in *Flatina* by Distant, who saw Walker's type and cited a specimen in his personal collection from Sierra Leone (Stevens Sale), is inexplicable. There is very little resemblance to *Flatina ornatula* Distant or other species in that genus.

### Genus *Cameruniola* Strand

*Camerunia* Melichar, 1902: 63. (Preoccupied name).

*Cameruniola* Strand, 1928: 47. (Replacement name for *Camerunia* Melichar 1902, not Aurivillius 1893). —

Type-species: *Camerunia integra* Melichar, 1902: 63. (Type examined).

### 14. *Cameruniola integra* Melichar (fig. 15)

*Camerunia integra* Melichar, 1902: 63.

*Cameruniola integra*, SYNAVE, 1963: 460. (Côte d'Ivoire: Nion).

*Cameruniola integra*, SYNAVE, 1964b: 31, fig. 46, aedeagus.

Côte d'Ivoire: Taï — B 16, 1 ♂, 1 ♀, 2-II-1978; 1 ♂, II-1979; 1 ♀, 28-II-1979; 7 ♂, 4 ♀, 11/28-II-1980; 1 ♂, 5-IV-1980; 1 ♂, XII-1980. (Specimens deposited MNHN, ORSTOM and BPBM).

The holotype in the Humboldt Museum, Berlin, is a female. A Taï male from biotope 16 is designated as the neallotype and the genitalia illustrated (fig. 15).

There appear to be differences between the genital structures illustrated by SYNAVE (1964, fig. 46) and my illustration of the neallotype. Further study is needed to determine the status of populations in different areas of Africa.

Measurements on the neallotype and a female, biotope 16 (BPBM, Honolulu). — Length: overall 8.00, 9.00; v .33, .42; f 1.12, 1.16; p .42, .46; m 1.66, 1.83; t 6.81, 7.47; pcl 2.82, 2.82. — Width: v .79, .79; f 1.00, 1.00; t 3.32, 3.49.

### Genus *Lemaria* n. gen.

Type-species : *Lemaria enigma* Medler, here designated.

Head in dorsal view shorter than pronotum, dorsal area about three times wider than long, wider anteriorly than posteriorly, convexly rounded from posterior transverse carina to frontal area, margin between vertex and frons not defined. Pronotum pustulate, shallow dorsal median longitudinal carina extending length of mesonotum, and lateral carina on each side. Frontal area slightly longer than wide, lateral margins slightly convex, sharply carinate, median longitudinal carina reduced to shallow remnant. In lateral view, frons scarcely projecting apicad of lateral margin, eye set well below dorsum of head, ocelli distinct ; pronotum lateral margin sharply carinate, directed ventrad to middle level of eye, postocular eminence raised, bluntly triangular, extended ventrad on latero-ventral lobe as thick raised ridge ; mesonotum elevated abruptly from posterior margin of pronotum, scutellum triangular, raised convexly.

Costal cell of tegmen heavily reticulated by crossveins arising from R vein ; precostal margin not as wide as costal cell ; three longitudinal veins (R, S, M) arising together from node of basal stem, each with numerous apical branches, reticulate network of crossveins over nearly entire surface ; submarginal line of crossveins arising from apex of clavus, but weak, irregular and lost in area of costal angle, submarginal area with broken irregular lines of crossveins. Metatibial spines 2 : 7.

The ventral view of the female genital segment is illustrated (fig. 19). Apices of valvulae III padlike, covered by dense array of minute spines.

The new genus belongs in a generic complex with *Eumelicharia* KIRKALDY (1906 : 156), which is known by its type species *Flata radiata* Distant in the Oriental Region. The genera differ in texture of the tegmina, the multiplicity of the crossveins, size of cells, and black color intensification of the veins.

#### 15. *Lemaria enigma*, n. sp.

(fig. 19)

**Holotype female** : Côte d'Ivoire, Taï, II-1979, *G. Couturier*, bloc Gilbert, biotope no. 16 (MNHN, Paris).

Body mostly orange, only pronotum and sides of mesonotum tawny, mesonotum disc orange, enclosed by lateral carinae ; tegmina with black membrane and coarsely reticulate black veins in sharp contrast to scattered opaque white spots formed by cells of irregular size and shape, as follows : 6 large spots arranged serially in cells between veins M and Cu, and 4 large spots in cells obliquely across disc, about a dozen smaller white spots in cells scattered haphazardly over tegmen. There is slight variation in spots between right and left tegmen. Costal margin narrowly brown, crossvein reticulations covering entire area of tegmen. Submarginal crossveins forming fairly well defined line from point of origin at clavus apex, but this line becoming weak and irregular at costal angle ; other crossveins apicad of submarginal line irregular and not aligned. Apices of tegmina broken off, but assumed to be convexly rounded from apical to postclaval sutural margin, without elongation of sutural angle. Hind leg spine formula : 2 : 7 : 8.

The holotype genitalia are illustrated in figure 19.

Measurements on the holotype (MNHN, Paris). — Length : overall 21.00 ; v .46 ; f 2.16 ; p .91 ; m 3.98 ; t 18.00 ; pcl 5.00. — Width : v 1.49 ; f 2.08 ; t 10.50.

The shallowly convex anterior margin of the head of *enigma* projects less than in *Eumelicharia radiata*. The precise configuration of the sutural angle and apical margin cannot be known because of the tattered condition of the holotype tegmina, but otherwise the venation and female genitalia are similar to that found in *Eumelicharia*.

A full knowledge of *enigma* requires future examination of the male genitalia.

### Genus *Cryptoflata* Melichar

*Cryptoflata* Melichar, 1902 : 19. — Type-species : *Fulgora unipunctata* Olivier, 1791 : 576. (Neotype examined).

This genus is restricted to African species that are congeneric with the type species, as represented by a *NEOTYPE* here designated — Sénégal, coll. Guérin-Méneville, MNHN, Paris. The genus is easily recognized by tegminal venation, which displays a S + M stem arising from the basal stem node.

16. *Cryptoflata nimbaensis* Synave

*Cryptoflata nimbaensis* Synave, 1963a : 463, fig. 13, aedeagus. (Côte d'Ivoire : Ziela).

*Cryptoflata nimbaensis*, SYNAVE, 1968 : 458. (Côte d'Ivoire : Bingerville).

Côte d'Ivoire : Taï — B 1, 1 ♂, 23-IV-1979 ; 1 ♂, 21-V-1979. — B 2, 1 ♂, 28-VI-1979 ; Gagnoa, Kakahakro, 1 ♀, 7-VIII-1980.

My identification of this species was confirmed by a comparison of the Taï specimens with a paratype from Ziela, IRSN, Brussels. Also, dissection of males from biotopes 1 and 2 revealed genital characters that were the same as those illustrated in the original description.

Measurements on male, biotope 1 (BPBM, Honolulu), and female, Gagnoa (MNHN, Paris). — Length : overall 12.00, 13.00 ; v .08, .17 ; f 1.58, 1.66 ; p .83, 1.00 ; m 2.99, 3.15 ; t 9.96, 10.79 ; pcl 2.99, 3.49. — Width : v 1.00, 1.12 ; f 1.45, 1.49 ; t 5.81, 6.49.

Genus *Decipha* n. gen.

Type-species : *Cryptoflata zielensis* Synave, here designated.

The new genus is erected to hold African species of *Cryptoflata* auctorum that are not congeneric with *Fulgora unipunctata* Olivier, type species of *Cryptoflata* Melichar. Specimens of *Decipha* are recognized by 3 longitudinal veins (R, S, M) that arise together at the node of the basal stem. Usually specimens are large in size, and most have the sutural and apical margins meeting at a right angle. The green color shown by *Decipha* is not as labile as in *Cryptoflata*, which frequently displays tawny or stramineous coloration.

A knowledge of the distinctive characters of the male genitalia is essential for positive determination of species in this genus.

Dorsum of head exceptionally short, usually overlapped medially by pronotum, leaving exposed only small triangular areas above eyes ; posterior transverse carina angulate, of nearly same configuration as anterior margin of pronotum. Frons longer than wide, strong median longitudinal carina extending nearly full length, lateral margins raised and strongly carinate, evenly convex from posterior margin of head to frontoclypeal suture. Ocelli distinct.

Tegmen with R, S, and M veins arising together at node of basal stem, costal cell wider than precostal margin, heavily reticulated by crossveins arising from R ; most of tegmen covered by dense network of vein branches and crossveins ; clavus heavily pustulate, veins A1 and A2 not joined in apical Y-stem, apex with conspicuous black spot, primary submarginal line of crossveins extending from apex obliquely to area of costal angle, one or two secondary lines of crossveins in the submarginal area, mostly irregular, sometimes fairly straight at 1 mm distance from apical margin. Metatibial spines 2 : 7.

In ventral view, female segment VII shallowly V-shaped ; bases of valvulae I angled ventrad about 90 degrees then extended caudad, antero-ventral margins of valvulae III fingerlike, extended cephalad along sides of valvulae I ; postero-ventral margins of valvulae III internally with narrow mat of very small spines ; edges lined with elongated hairs ; anal segment about same width as valvulae III, closely appressed to sides and apices, with similar configuration.

17. *Decipha zielensis* (Synave)

*Cryptoflata zielensis* Synave, 1963a : 460, fig. 7, aedeagus. (Côte d'Ivoire : Ziela).

*Cryptoflata zielensis*, SYNAVE, 1968 : 458. (Côte d'Ivoire : Bingerville).

Côte d'Ivoire : Taï — B 12, 2 ♀, II/III-1983. — B 16, 1 ♂, 1 ♀, II-1978 ; 2 ♂, 3 ♀, 2-II-1978 ; 1 ♂, II-1979 ; 1 ♂, II-1980 ; 2 ♂, 1 ♀, 11/26-II-1980 ; 3 ♀, XII-1980 ; 1 ♀, 14-XI-1980. — B 21, 2 ♂, 12/14-II-1985. — B 23, 1 ♂, 1 ♀, 5-II-1985. — B 24, 1 ♂, 2 ♀, 26-II-1985 ; 2 ♂, 2 ♀, 22-III-1985. — B 25, 1 ♀, 9/12-IV-1985 ; 1 ♀, 13-II-1985. (Specimens deposited MNHN, ORSTOM, and BPBM).

The genital structures of the Taï males are the same as those illustrated by SYNAVE (1963, fig. 7).

Measurements on male, biotope 21, and female, biotope 12 (BPBM). — Length : overall 16.00, 18.50 ; v .17, .17 ; f 1.91, 2.24 ; p 1.16, 1.33 ; m 3.49, 4.15 ; t 12.95, 15.60 ; pcl 4.32, 5.48. — Width : v 1.25, 1.49 ; f 1.66, 1.83 ; t 7.80, 9.63.



18. *Decipha trifidius*, sp. n.

(fig. 14)

**Holotype male** : Côte d'Ivoire, Taï, 27-II-1980, *G. Couturier*, biotope no. 16 (MNHN, Paris).  
**Allotype female** : Same label data, except 12-II-1985, biotope no. 21 (MNHN, Paris). — **Paratypes**,  
 Côte d'Ivoire : Taï — B 12, 1 ♀, II/III-1983. — B 21, 3 ♂, 5 ♀, 12/22-II-1985. — B 23, 1 ♂, 1 ♀,  
 29-I-1985; 3 ♂, 1 ♀, 5-II-1985 (MNHN, Paris, and ORSTOM, Ivory Coast). — B 16, 1 ♂, 5-II-1980.  
 — B 21, 1 ♀, 22-II-1985 (BPBM, Honolulu); 1 ♂, Forêt de Taï, Troya, 12-XII-1972, forêt primaire,  
 chasse à la lumière, *M. Condamin* (IFAN, Dakar).

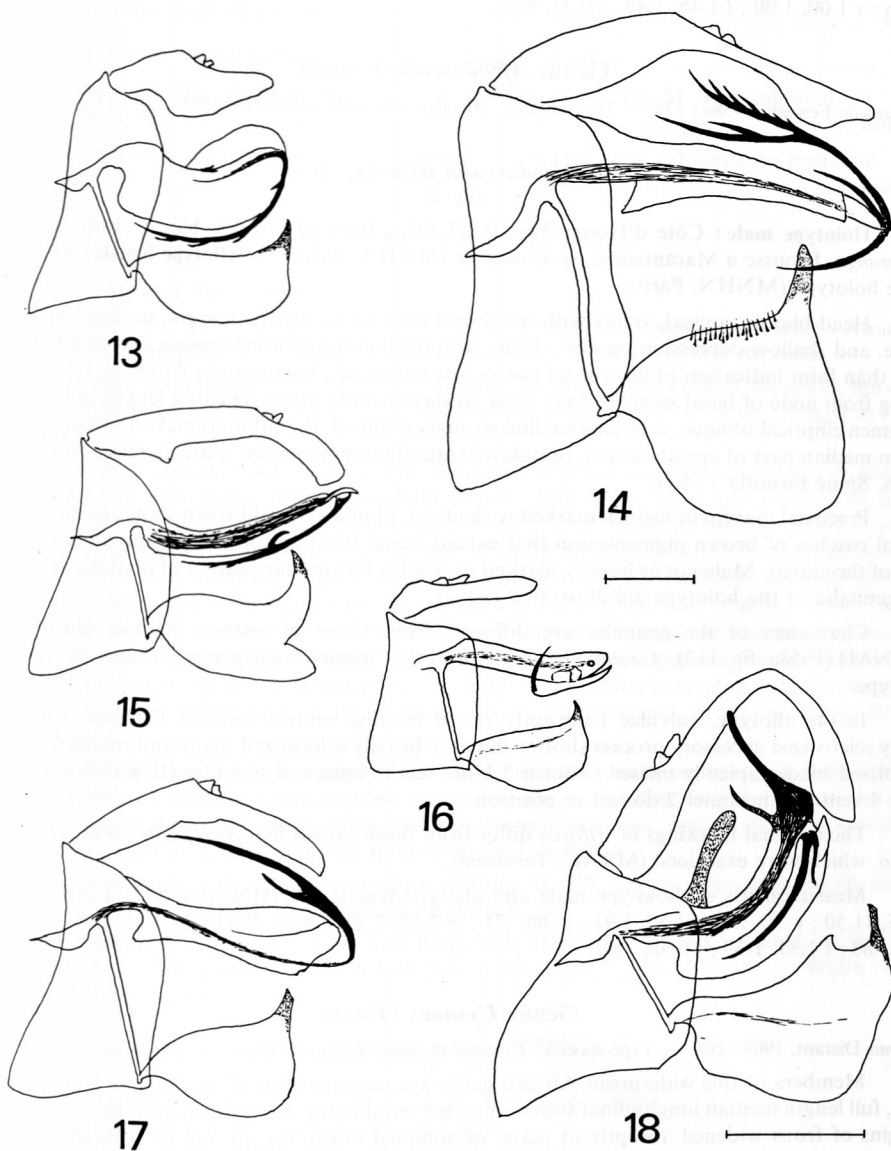


Fig. 13-17, Left lateral view of male genitalia. — 13, *Phleboterum praemorsum* Stål. — 14, *Decipha trifidius* Medler. — 15, *Cameruniola integra* (Melichar). — 16, *Afrocyarda royí* Medler. — 17, *Comnar fimbriata* (Walker). — 18, *Uysanus mendax* (Melichar). — Scale = 0.5 mm.

Overall color light green, color enhanced on veins and crossveins; black spot at apex of clavus. Morphological characters as given for the genus. Veins S and Cu forking at about same distance apicad of M fork, inner branches of Cu approaching closely but not touching apex of clavus, continuing apicad along postclaval margin nearly to apical margin; primary submarginal line of crossveins oblique from claval apex to costal angle; irregular secondary line of crossveins nearly parallel with apical margin, interval between about 1 mm; scattered broken lines of crossveins between primary and secondary submarginals. Hind leg spine formula 2 : 6 : 7.

The genitalia of the holotype are illustrated (fig. 14).

Measurements on holotype male and allotype female (MNHN, Paris). — Length : overall 18.50, 19.00; v .13, .17, f 1.74, 1.99; p 1.04, 1.12; m 3.15, 3.15; t 11.29, 11.62; pcl 3.98, 3.98. — Width : v 1.00, 1.00; f 1.45, 1.45; t 6.31, 6.81.

### Genus *Afrodascalía* Fennah

*Afrodascalía* Fennah, 1958a : 174. — Type-species : *Afrodascalía mithras* Fennah, 1958a : 174. (Type examined).

#### 19. *Afrodascalía trifurca*, sp. n.

(fig. 2)

**Holotype male** : Côte d'Ivoire, Taï, II/III-1983, Biotope No. 12, bloc Cavally, Brousse à Macaranga, Brousse à Marantaceae, G. Couturier (MNHN, Paris). — **Allotype female** : Same labels as the holotype (MNHN, Paris).

Head bluntly conical, vertex with transverse carina on anterior margin, median longitudinal suture, and shallow depression on disc; frons with median longitudinal carina; pronotum with no more than faint indication of horizontal postocular eminence; tegmina not flattened, veins R, S, M arising from node of basal stem, Cu very close to claval suture along its entire length, apical margin of tegmen elliptical oblique, submarginal line strongly outlined, the submarginal cells elongate, about 6 : 1 in median part of apical margin, postclaval sutural margin convex, scarcely raised from apex of clavus. Spine formula 1 : 5 : 6.

Precostal margin of tegmen marked with about 10 small round brown spots; membrane with several patches of brown pigmentation that extend basad from apical margin and more or less fill apex of the clavus. Male not as heavily marked as female, but similar pattern of marking discernible. The genitalia of the holotype are illustrated (fig. 2).

Characters of the genitalia are different from those of *mithras* Fennah illustrated by FENNAH (1958a, fig. 112). *A. sannio* Fennah, only other species in the genus, is known by the female holotype.

In the allotype, valvulae I abruptly raised basally, ventral surfaces flattened, covered by lightly sclerotized accessory process shorter than the heavily sclerotized blade and rounded apically; sclerotized blades apically incised to form 3 blunt teeth; apices of valvulae III with 6 sharp teeth, outer 4 ventrad and inner 2 dorsad in position.

The external markings of *trifurca* differ from those shown by type specimens of *mithras* and *sannio*, which were examined (MRAC, Tervuren).

Measurements on holotype male and allotype female (MNHN, Paris). — Length : overall 10.75, 11.50; v .50, .50; f 1.83, 1.91; p .66, .71; m 2.32, 2.49; t 8.63, 9.63; pcl 1.66, 1.66. — Width : v .91, .83; f 1.33, 1.37; t 3.32, 3.49.

### Genus *Uysanus* Distant

*Uysanus* Distant, 1908 : 205. — Type-species : *Uysanus fluctuans* Distant, 1908 : 205. (Type examined).

Members of this widespread African genus are recognized by their elongate bluntly conical head, full length median longitudinal suture of vertex terminating at small anterior depression, lateral margins of frons widened abruptly at plane of antennal insertions, pronotum without postocular eminence, lateral dorsal margin of pronotum strongly carinate, longitudinal veins, R, S and M, arising from node of basal stem, costal margin undulate opposite claval apex, precostal margin twice wider than costal cell. Reliable identification of species requires examination of male genitalia.

## KEY TO WEST AFRICAN SPECIES

- 1 — Dark brown median longitudinal stripe extending from apex of vertex to scutellum . *vagans*  
 — Dorsum without continuous median longitudinal stripe ..... 2
- 2 — Overall length more than 18 mm ..... 3  
 — Overall length less than 15 mm ..... 4
- 3 — Clavus with brown black linear spots along suture. Length about 20 mm ..... *mendax*  
 — Clavus without brown black markings along suture. Length about 22 mm ..... *stali*
- 4 — Median suture on vertex extending nearly to apical margin ..... *daxans*  
 — Median suture extending no more than half length of vertex ..... 5
- 5 — Tegmina with large black round spot near basal fork of vein M and adjacent to pustulate bulla ..... *bistigmus*  
 — Dark markings of tegmina not forming large round spot adjacent to pustulate bulla ..... *quadratus*

20. *Uysanus mendax* (Melichar)

(fig. 18, 22)

*Atracis mendax* Melichar 1901 : 194 (Cameroon)

Côte d'Ivoire : Taï — B 16, 1 ♂, II-1979. (This specimen was received with label « *Atracis* ap. *vagans* Mel. »). Bingerville, 1 ♀, I-1962, *J. Decelle* (MRAC, Tervuren). (New Records).

This species is congeneric with *Uysanus fluctuans* Distant, type species of the genus, but differs in pattern of markings and male female genital characters. It appears to be closely related to *U. stali* (Haglund).

Coloration predominantly tawny, with remnants of white waxy powder, apex of head and veins in precostal area green, mesonotum light brown, dark brown lines and patches on tegmen basally and apically, pustules in bullae and clavus brown. Dark spots or lines arranged in pattern shared with other species of the genus, namely, pair of round spots on latero-dorsal margins of frons, vertex with small black marking basally on lateral carina above eyes, small dark spots in punctures on pronotum disc equidistant from anterior margin and each other, pair of short brown lines on latero-anterior margins of mesonotum, and round brown spots near posterior margin. Tegmina with transverse brown line extending between R and Cu veins apicad of punctations on shallow basal bullae, longitudinal brown black dashes in clavus along claval suture, heavy irregular concentrations of black in corium membrane medially and laterally at plane of apex of clavus. Hind leg spine formula 1 : 6 : 8.

Female with same pattern of markings as male, but more heavily pigmented with dark brown. Body and tegmina colored fuscous, tegmina covered to some extent by white waxy powder. Head, pro- and mesonotum without conspicuous markings, frons ochraceous. Apical margin of valvulae III with 3-4 strong teeth in a row. Hind leg spine formula 1 : 6-7 : 7-9.

The male and female genitalia are illustrated (fig. 18, 22). The male genitalia are the same as that of the holotype in MRAC, Tervuren (examined).

Measurements on the Taï male and Bingerville female. — Length : overall 19.50, 20.00 ; v 1.54, 1.66 ; f 3.15, 3.49 ; p 1.20, 1.16 ; m 3.65, 3.49 ; t 14.94, 16.27 ; pcl 4.15, 5.31. — Width : v 1.12, 1.12 ; f 1.83, 1.83 ; t 7.14, 7.30.

21. *Uysanus vagans* (Melichar)

(fig. 20)

*Atracis vagans* Melichar, 1902 : 184, pl. IV, fig. 11, pl. IX, fig. 5. (Congo Belge).*Uysanus vagans*, SYNAVE, 1963 : 464. (Côte d'Ivoire : Ziela).*Uysanus* sp. apud *vagans* : SYNAVE, 1963 : 464. (Côte d'Ivoire : Ziela).

Côte d'Ivoire : Taï — B 16, 1 ♀, 2-II-1978.

The dorsal brown/black median stripe on head and thorax helps recognition of this species. Black markings on tegmina extending along vein R, terminating on costal margin at point of R + C

junction. Apical margin of valvulae III with 6-7 strong teeth aligned in inner row, 1 small additional tooth outside of alignment. Hind leg spine formula 1 : 7 : 7.

The female genitalia are illustrated (fig. 20).

Measurements on the female (MNHN). — Length : overall 20.00 ; v 1.16 ; f 2.74 ; p .91 ; m 3.82 ; t 16.60 ; pcl 4.32. — Width : v 1.00 ; f 1.74 ; t 8.13.

The specimen determined « sp. apud *vagans* » by Synave has not been examined ; hence, this record is unconfirmed.

## 22. *Uysanus bistigmus*, sp. n.

(fig. 12)

**Holotype male** : Côte d'Ivoire, Taï, 2-II-1978, biotope no. 16, frondaison, forêt dense sempervirente, G. Couturier (MNHN, Paris).

This species is noticeably smaller than the 2 preceding species.

Yellow green in color, with dark brown and black markings forming a well-defined pattern on the tegmina. Dorsal apex of frons brown, small black spots laterally ; small black spot on lateral carina at base of vertex ; mesonotum flattened, 2 black dots on anterior and posterior margins in parallel alignment ; tegmina basally with conspicuous black spot adjacent to punctulate bulla, reaching fork in vein Cu ; narrowly black from junction of R + C to costal margin ; cells along postclaval suture brown, triangular cell apicad of claval apex black. Hind leg spine formula 1 : 6 : 6.

The rather large round black spot near the bulla enables recognition of this relatively small species.

The genitalia are illustrated (fig. 12).

Measurements on the holotype : — Length : overall 14.00 ; v .87 ; f 1.70 ; p .75 ; m 2.24 ; t 11.29 ; pcl 3.32. — Width : v .83 ; f 1.16 ; t 4.32.

## 23. *Uysanus quadratus*, sp. n.

(fig. 23)

**Holotype female** — Côte d'Ivoire, Taï, II/III-1983, biotope no. 12, bloc Cavally, brousse à *Macaranga*, brousse à Marantaceae, G. Couturier (MNHN, Paris). — **Paratype** : ♀, Forêt de Taï, Troya, 9-XII-1972, forêt primaire, chasse à la lumière, M. Condamin (IFAN, Dakar).

*U. quadratus* is distinguished from the preceding species by dark lines and spots on the dorsum of the head and thorax along with lack of a large round tegminal spot. The holotype clavus each have a large medial brown patch which together form a diamondlike pattern.

The paratype lacks development of claval marking, but shows the same pattern of dark lines and spots on the dorsum of head and thorax as on the holotype.

Frons marked with pair of round spots latero-dorsally ; median sutural line on vertex brown, extending from base halfway to apex, terminating at triangular depression ; pairs of small and very small black spots on each side of sutural line terminus, small black spot on each lateral carina basally above eye ; mesonotum with short black median line on anterior declivity, remnants of black crescents on latero-anterior margin, posterior margin with pair of triangular black spots laterally and pair of small round spots medially. Basal pustulate area of clavus outlined in black along suture and vein A1 from tip of scutellum halfway to claval apex. Tegmen apically with black curved marking from R + C junction across precostal margin, and irregular patch between M branches basad of submarginal line. Secondary pseudo submarginal line basad of primary submarginal line delimiting elongate cells similar to those between submarginal line and apical margin. Female genitalia illustrated (fig. 23). Apical margin of Valvulae III with outer row of 6, inner row of 10 strong teeth ; valvulae I with well developed wishbone process basally. Hind leg spine formula 1 : 6 : 6.

Measurements on the holotype : — Length : overall 15.00 ; v 1.00 ; f 1.99 ; p .75 ; m 2.82 ; t 12.12 ; pcl 4.15. — Width : v .87 ; f 1.41 ; t 4.98.

## Genus *Betracis*, gen. n.

Type species : *Betracis rugosa* Medler, here designated.

In dorsal view, anterior margin of vertex convex, carinate, latero-basal margins between genae and vertex parallel, sharply upraised so that disc of vertex appears depressed, median longitudinal suture extending full length of vertex. Anterior margin of pronotum truncate, lateral

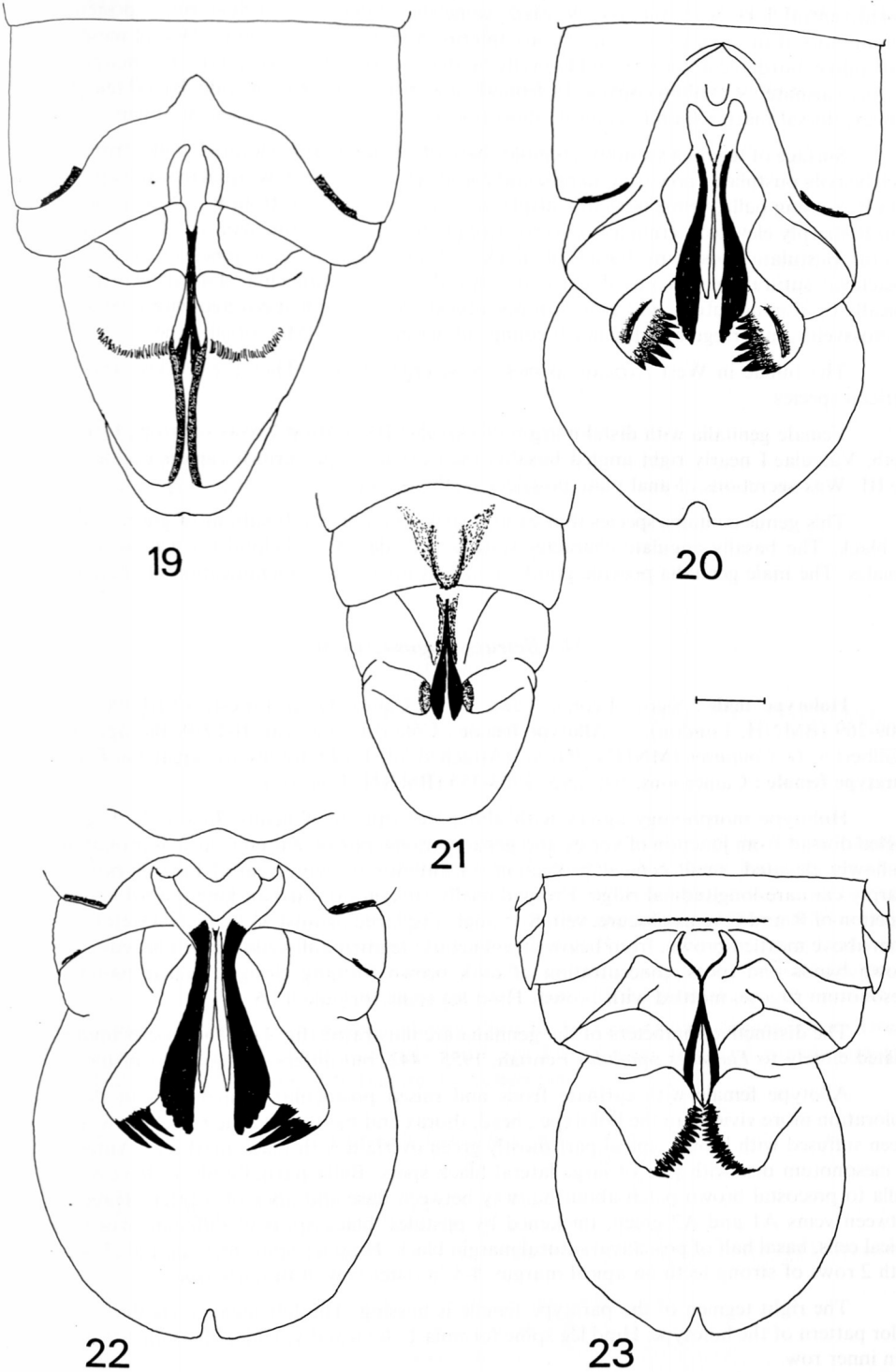


Fig. 18-22, Ventral view of female genitalia. — 19, *Lemaria enigma* Medler. — 20, *Uysanus vagans* (Melichar). — 21, *Ityraea couturieri* Medler. — 22, *Uysanus mendax* (Melichar). — 23, *Uysanus quadratus* Medler. Scale = 0.5 mm.

margins strongly carinate, upraised, the disc depressed, postocular eminence present or absent, ventral lobe with sharply elevated, somewhat foliaceous median ridge, posterior margin sloping dorsad in same plane as declivous anterior margin of mesonotum. Disc of mesonotum flat, plateaulike, bordered anteriorly and laterally by shallow irregular carina, posterior margin V-shaped, sharply carinate; scutellum convex. In frontal view, frons longer than wide, lateral margins slightly convex, dorsal margin bluntly conical, short dorsal median carina present or absent.

Surface of tegmina strongly irregular, base of clavus sharply elevated, bulla strongly elevated, each heavily pustulate; precostal margin and costal cell approximately equal in width apicad of bulla, vein R crossing bulla, vein S normally displaced, arising on bulla or from R + S stem basad of bulla, vein R sharply elevated, terminally curved strongly to costal margin, veins A1 and A2 connected by several pustulate crossveins basad of thickened pustulate Y-stem junction, Y-stem elongate; postclaval sutural margin raised convexly, apical margin somewhat elongate convex, narrowed apically by sloping sutural and costal angles, apical area of tegmen covered with reticulate network of crossveins and irregular cells, not forming submarginal line. Metatibial spines 1 : 6.

The bullae in West African species are strongly raised. They are weakly elevated in East African species.

Female genitalia with distal margin of valvulae III bearing 2 rows of strong black or brown teeth. Valvulae I nearly right angled basally, then extended posteriorly, apices enclosed by valvulae III. Wax secretions of anal plate powdery or threadlike.

This genus contains species that exhibit striking color combinations of green, yellow, brown or black. The basally angulate character state of valvulae III is helpful for generic assignment of females. The male genitalia provide good characters for positive identification of species.

#### 24. *Betraxis rugosa*, sp. n.

(fig. 11)

**Holotype male**: Sierra Leone, Tewa River Camp, Gola Forest, 10-III-1909, A. Pearse, 1909-269 (BMNH, London). — **Allotype female**: Côte d'Ivoire, Taï, II-1979, Biotope no. 16, bloc « Gilbert », G. Couturier (MNHN, Paris). (Attached label « *Flatoides* sp. *squalidus* Fennah »). — **Paratype female**: Cameroons, Escalera, 1903-355 (BMNH, London).

Holotype morphology agrees with above description of genus. In profile, apex of vertex angled dorsad from junction of vertex and genal margins, postocular eminence of pronotum convex, shallowly elevated, small conical projection on anterior margin, ventral lobe of pronotum with sharply carinate longitudinal ridge. Frons dorsally subconical, median longitudinal carina present. Junction of R and C veins obscure, vein S strongly displaced against M by bulla. Overall appearance from above mottled brown, from below stramineous; tegmen dull yellow green heavily infused with brown bands and spots, concentration of dark brown forming elongate zigzag pattern; disc of mesonotum rugose, mottled with brown. Hind leg spine formula 1 : 6 : 7.

The distinctive characters of the genitalia are illustrated (fig. 11). The species undoubtedly is related closely to *Flatoides squalidus* Fennah, 1955 : 442, but differs in characters of the aedeagus.

Allotype female with carinate frons and raised postocular eminence as in the holotype. Coloration more vivid than the holotype; head, thorax and basal part of tegmen yellow, middle part green suffused with brown, apical part mostly green overlaid with black markings. Anterior margin of mesonotum disc with pair of large lateral black spots. Bulla partially black, R vein black from bulla to precostal brown patch about halfway between base and apex of tegmen. Three crossveins between veins A1 and A2 green, thickened by pustules, black spots of different sizes scattered in apical cells, basal half of postclaval sutural margin black. Hind leg spine formula 1 : 6 : 7. Valvulae III with 2 rows of strong teeth on apical margin, 4-5 in outer row, 8 in inner row.

The right tegmen of the paratype female is missing. The left tegmen has the brown zigzag color pattern of the holotype. Hind leg spine formula 1 : 6 : 6 and valvulae III teeth 4-5 in outer row, 7 in inner row.

Measurements on the holotype and allotype: — Length: overall 14.00, 16.00; v 1.00, 1.08; f 1.99, 2.66; p. 75, .83; m 2.99, 3.32; t 9.96, 11.92; pcl 1.83, 3.32. — Width: v 1.12, 1.04; f 1.58, 1.83; t 4.15, 4.48.

## II. TAXONOMIC NOTES ON GENERA AND SPECIES RECORDED FROM IVORY COAST NOT PRESENT IN THE TAÏ COLLECTIONS, INCLUDING NEW RECORDS

The genera listed below are included in my key to West African Genera.

### Genus *Afroseliza* Fennah

*Afroseliza* Fennah, 1961 : 318. — Type-species : *Afroseliza cithaeron* Fennah.

### *Afroseliza cithaeron* Fennah

*Afroseliza cithaeron* Fennah, 1961 : 318. (Nigeria).

*Afroseliza cithaeron*, SYNAVE, 1968 : 459. (Côte d'Ivoire : Bingerville).

### Genus *Betracis* Medler

### *Betracis miranda* (Fennah), comb. n.

*Atracis miranda* Fennah, 1958a : 181, fig. 119, aedeagus. (Congo Belge).

*Atracis miranda*, SYNAVE, 1968 : 459. (Côte d'Ivoire : Bingerville).

### Genus *Caesonia* Stål

*Caesonia* Stål, 1866 : 244. — Type-species : *Colobesthes bellula* Stål, 1855 : 94.

### *Caesonia pinax* Fennah

*Caesonia pinax* Fennah, 1958b : 534, fig. 29, genitalia. (Dahomey, Senegal).

New Record. — Côte d'Ivoire : ♀, Bouake, 20-III-1975, *P. M. Elsen*, MRAC, Tervuren.

### Genus *Catracis*, n. gen.

Type-species : *Atracis faecaria* Stål, here designated.

Head shorter than pronotum, shallowly conical anteriorly, vertex more or less rectangular, bisected by transverse V-carina joined with carinate lateral margins above eyes, basal segment with median longitudinal suture. Lateral margins of frons slightly convex, without notch or projection. Veins R + S arising as united stem from node of basal stem, forking distad of bulla, vein R strongly elevated distally, extending in close proximity to C, junction of R + C strongly defined, at which point R angled obliquely inward and initiating submarginal line of crossveins. Apical margin of female valvulae III with 2 rows of very strong teeth, each row with no more than 2 or 3 teeth.

The new genus superficially appears closely allied to *Bochara* Distant (Ceylon) and *Atracis* Stål (New Guinea) with respect to the strongly developed R + S stem, but head morphology and characters of the male and female genitalia are not congeneric.

### *Catracis faecaria* (Stål)

(fig. 6)

*Atracis faecaria* Stål, 1866 : 251. (Sierra Leone).

*Atracis faecaria*, MELICHAR, 1902 : 186, pl. IX, fig. 12.

*Atracis inquinata* Melichar, 1902 : 184, pl. IX, fig. 2. (Congo Belge, Beni-Bendi). *NEW SYNONYMY* (Synonymy based on the holotype ♀, IRSN, Brussels).

*Atracis inquinata*, FENNAH, 1958a : 180, fig. 117, aedeagus. (Congo Belge).

*Atracis faecaria*, FENNAH, 1958a : 179, fig. 115, aedeagus. (Congo Belge).

*Atracis nebulosa*, FENNAH, 1958a : 179, fig. 116, aedeagus. (Congo Belge). Misidentified.

New Record. — Ivory Coast : ♀, Bingerville, III-1963, *J. Decelle*, MRAC, Tervuren ; 2 ♂, Oumé, Capit. Posth. 1912, MNHN, Paris.

The genital characters of the holotype ♂ (NR, Stockholm) are illustrated (fig. 6). The pattern

of characters shown by FENNAH (1958, figs 115, 116 and 117) conforms to that found in the holotype.

Measurements on the holotype (NR, Stockholm): — Length: overall est. 14.50; v .50; f 1.49; p .87; m 2.99; t 12.12; pcl 3.82. — Width: v .91; f 1.16; t 5.81.

### Genus *Cryptoflata* Melichar

#### *Cryptoflata vuattouxi* Synave

*Cryptoflata vuattouxi* Synave, 1964: 1315, fig. 6, aedeagus. (Côte d'Ivoire, Lamto (Toumodi)).

My generic assignment of this species was confirmed by examination of paratypes, IRSN, Brussels.

### Genus *Decipha* Medler

#### *Decipha vanderplaetseni* (Synave), comb. n.

*Cryptoflata vanderplaetseni* Synave, 1963 a: 461, fig. 10, aedeagus. (Côte d'Ivoire: Ziela).

This new combination was confirmed by examination of a paratype ♂, IRSN, Brussels.

#### *Decipha angulata* (Jacobi), comb. n.

*Cryptoflata angulata* Jacobi, 1915: 169. (Usambara).

*Cryptoflata angulata*, SYNAVE, 1968: 458. (Côte d'Ivoire: Bingerville).

The specimen determined by Synave has not been seen.

#### *Decipha berenice* (Fennah), comb. n.

*Cryptoflata berenice* Fennah, 1958a: 161. (Congo Belge).

*Cryptoflata berenice*, SYNAVE, 1963 a: 460. (Côte d'Ivoire: Ziela).

The specimen determined by Synave has not been seen.

#### *Decipha demota* (Melichar), comb. n.

*Cryptoflata demota* Melichar, 1902: 22. (Cameroon).

*Cryptoflata demota*, SYNAVE, 1968: 458. (Côte d'Ivoire: Bingerville).

Holotype ♂ examined, IRSN, Brussels.

#### *Decipha nigrolimbata* (Melichar), comb. n.

*Cryptoflata nigrolimbata* Melichar, 1902: 20. (Cameroon).

*Cryptoflata nigrolimbata*, LALLEMAND, 1942: 69. (Côte d'Ivoire: Danane).

The Côte d'Ivoire record has not been confirmed by my examination of the specimen.

### Genus *Diastracis*, gen. n.

Type-species: *Atracis nebulosa* Melichar, here designated.

Head short, in profile slightly declivous anteriorly, with curvature approximately same as lateral margin of gena; vertex basally with short median suture terminating at slightly depressed area on disc. Frons elongate, narrow, the lateral margins slightly convex, no lateral expansions medially. Pronotum without postocular projection or elevated ridge on ventral lobe. Tegmen with 3 longitudinal veins (R, S, M) arising from the basal stem, bulla strongly pustulate, not elevated, pustules obscuring basal fork of vein M, vein R carinalike, displaced laterad by bulla, precostal margin much wider basally than cell C (4:1), veins C, R and S extending parallel to R + C junction, at which point submarginal cell is strongly constricted and the costal margin incurved. At junction



of C + R, crossveins appear to terminate C, displace S mesad, and originate the apical submarginal line among terminals of veins R and S. A distinctive translucent spot apicad of the basal bulla boldly outlines veins R, S, M1, M2 and Cu. Metatibial spines 1 : 6-7.

*Diastracis* is closely related to *Catracis* in head shape, but can be distinguished by veins R, S, and M arising at the node of the basal stem. The configuration of male and female genitalia differs in the two genera.

### *Diastracis nebulosa* (Melichar)

*Atracis nebulosa* Melichar, 1902 : 180, pl. IX, fig. 11. (Cameroon).

*Atracis elpenor* Fennah, 1957 : 1307, fig. 15, aedeagus. (French Cameroons : Case du Nyong). *NEW SYNONYMY*.

*Uysanus nebulosus*, SYNAVE, 1963 : 464. (Côte d'Ivoire : Gopoupleu, Niomouya, Ziela).

The fuscous coloration of the tegmina is variable, with the membrane ranging from transparent to opaque appearance depending on intensity of infuscation of cells and crossveins. The basal brown band apicad of the bulla in each tegmen extending from claval suture to costal margin appears to be a dependable marking character, as also the presence of a brown spot at the strong indentation of the costal margin and junction of veins R + C. In some specimens the terminals at this junction are well marked by brown/black pigment in the cells between.

### Genus *Flatina* Melichar

#### *Flatina liciata intransita* Lallemand

*Flatina liciata* var. *intransita* Lallemand, 1942 : 70. (Côte d'Ivoire : Danane).

Type ♀ examined, MNHN, Paris.

### Genus *Gyaria* Stål

*Gyaria* Stål, 1862 : 69. — Type-species : *Colobesthes walkeri* Stål, 1855 : 94. (Type examined).

#### *Gyaria limbipunctata* (Karsch)

*Conoprosthius limbipunctata* Karsch, 1890 : 69.

*Gyaria limbipunctata*, SYNAVE, 1963 : 460. (Côte d'Ivoire : Gopoupleu, nr. Danane).

### Genus *Gyarina* Melichar

*Gyarina* Melichar, 1901 : 253. Type-species : *Flata nigratarsis* Karsch. (Type examined).

#### *Gyarina nigratarsis* (Karsch)

*Flata nigratarsis* Karsch, 1890 : 65.

*Gyarina nigratarsis*, SYNAVE, 1963 : 460. (Côte d'Ivoire : Ziela).

### Genus *Ityraea* Stål

#### *Ityraea ignota* Jacobi

*Ityraea ignota* Jacobi, 1943 : 8.

*Ityraea ignota*, SYNAVE, 1954 : 30, fig. 8, aedeagus.

*Ityraea ignota*, SYNAVE, 1963 a : 458. (Côte d'Ivoire : Keoulenta).

I have not examined the specimen from Keoulenta determined by Synave.

### Genus *Mistaria*, gen. n.

Type-species : *Flata crassivenosa* Karsch, here designated.

Head obtusely conical, half length of pronotum, smoothly convex from frons to posterior margin of head. Pronotum without median carina, mesonotum with three longitudinal carinae,

postocular eminence raised, bluntly triangular, extended ventrad on ventral lobe as a thickened ridge. Tegmen with three longitudinal veins (R, S, M), dense network of crossveins over nearly the entire surface, submarginal line weakly developed, obscured by additional irregular lines of crossveins on either side, clavus with crossveins between suture and vein A1, the Y-stem very short. Costal angle convex, apical margin slightly convex, postclaval sutural margin convex, costal angle bluntly pointed or angulately convex. Metatibial spines 2 : 7-8.

The new genus is separated from *Eumelicharia* by its development of a strong uniform network of crossveins.

### *Mistaria crassivenosa* (Karsch)

*Flata crassivenosa* Karsch, 1890 : 65, fig. 7.

*Walkeria crassivenosa*, MELICHAR, 1901 : 250. (Congo).

*Eumelicharia crassivenosa*, MELICHAR, 1912 : 130. (Cataloged).

*Eumelicharia crassivenosa*, FENNAH, 1958a : 153, fig. 93, aedeagus. (Congo Belge).

New Record. — Côte d'Ivoire : ♀, 10 mi SE of Touba, 420 m, 20-VIII-1986, E. S. Ross & K. Lorenzen (Calif. Acad. Sci.)

### Genus *Neocalauria* Synave

*Neocalauria* Synave, 1957 : 2. — Type-species : *Paroxychara phrixus* Fennah. (Type examined).

### *Neocalauria phrixus* (Fennah)

*Paroxychara phrixus* Fennah, 1958a : 150.

*Neocalauria phrixus*, SYNAVE, 1963 a : 465. (Côte d'Ivoire : Mont Richard-Molard, Mont To, Zouguepo).

### Genus *Paroxychara* Lallemand and Synave

*Paroxychara* Lallemand and Synave, 1951 : 24. — Type-species : *Paroxychara capeneri* Lallemand & Synave.

### *Paroxychara capeneri* Lallemand and Synave

*Paroxychara capeneri* Lallemand and Synave, 1951 : 27.

*Paroxychara capeneri*, SYNAVE, 1963 a : 464. (Côte d'Ivoire : Gouela, Niomouya, Zouguepo).

### Genus *Uysanus* Distant

### *Uysanus daxans*, sp. n.

(fig. 24)

**Holotype male, allotype female, paratype male** : Côte d'Ivoire, Ferkessedougou, 10/20-V-1964, J. Decelle. (MRAC, Tervuren); **Paratype male** : Sénégal, Dakar, 2-V-1961, lumière, M. Condamin. (IFAN, Dakar).

This species is distinguished from other species of *Uysanus* collected at Taï by the impressed median line extending nearly full length of the vertex, dark brown color pattern, and diagnostic structures of the male genitalia.

Frons marked latero-dorsally with pair of small round black spots on each side of ridgelike elevation of median carina. Median impressed line of vertex meeting carinate anterior margin in small depression, lateral margins sharply carinate, elevated, brown pigmentation adjacent to carinae contrasting sharply with stramineous disc; edge of lateral carina adjacent to eye black, as normal for most species in *Uysanus*. Pronotum largely unmarked, lateral margins carinate, black, small round fuscous spot on anterior margin above each eye. Mesonotum convex anteriorly, pair of brown spots on anterior margin, laterally suffused or heavily mottled with brown, disc unmarked except for pair of round black spots on each side of shallow median carination near posterior margin. In lateral view, heavily fuscous band extending along dorsal margin of gena and lateral carina of pronotum, terminating on side of mesonotum above tegula; pronotum band partly black, mesonotum band entirely black.

Veins of tegmina brown or very dark brown, areas of cells deeply pigmented along precostal margin, at R + C terminals and inside of postclaval suture. Wide brown band between A1 and A2 extending from basal zone of unpigmented pustules to patch of 6-8 pustules about half distance to apex of clavus; dark brown spot adjacent to apex of clavus. Veins R, S, M arising together from basal stem; S, M1 and M2 crossing smooth area distad of shallow pustulate bulla, with smooth area not as well defined posteriorly as in most species of the genus. Submarginal line well defined from R + C to apex of clavus, secondary line of crossveins in apex of tegmen between margin and submarginal line; about 18 elongated cells between the lines, only 1-3 forks in terminal veins between secondary submarginal line and apical margin. Hind leg spine formula 1:7:10, variation 1:6:8:10-12.

Genitalia of the holotype are shown (fig. 24). The genitalia pattern overall is similar to most *Uysanus* I have examined, but differs in the deeply incised anal segment and slender elongate median process of the aedeagus that extends between the pair of thick, curved apico-dorsal shafts. The median process is visible without dissection and serves to distinguish *daxans* from a closely related undescribed new species known to me from Nigeria.

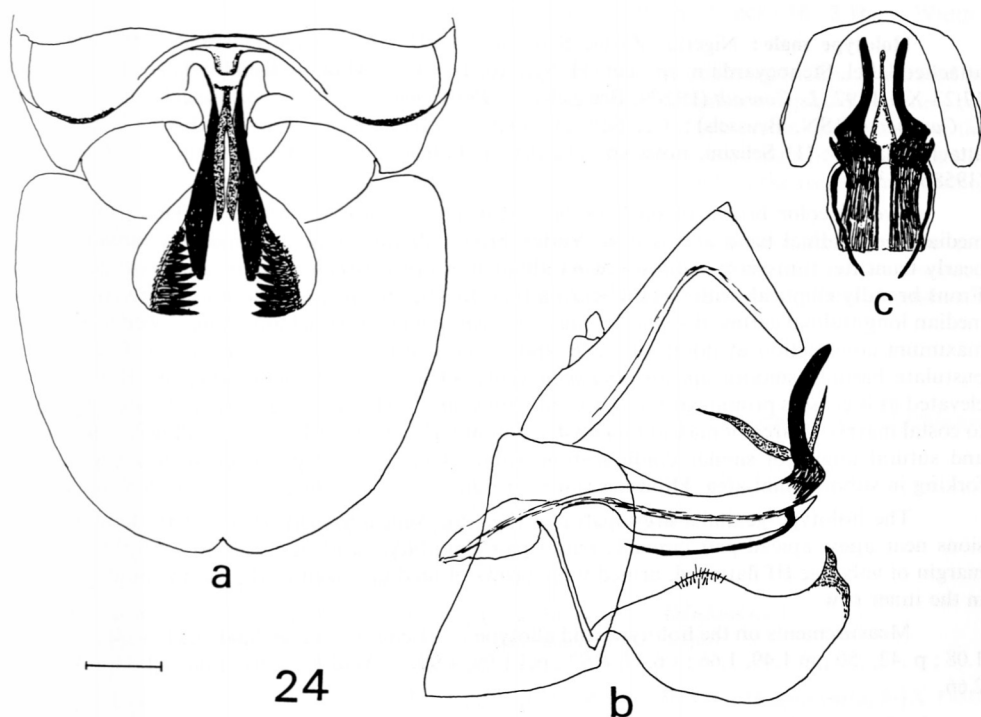


Fig. 24, *Uysanus daxans* Medler. — a, Ventral view of female genitalia. — b, Left lateral view of male genitalia. — c, Ventral view of male genitalia. Scale = 0.5 mm.

Genitalia of the allotype are shown (fig. 24). Apical margins of valvulae III with 3:8 and 4:9 large black teeth, anal plate wide, rounded elliptically, slightly notched on posterior margin; posterior margin of segment VII with median projection that extends between basal arms of valvulae I wishbone.

Measurements on holotype and allotype. — Length: overall 14.00, 15.50; v .83, .91; f 2.24, 2.32; p .66, .83; m 2.99, 3.32; t 10.79, 12.12; pcl 3.32, 3.82. — Width: v .91, 1.00; f 1.54, 1.54; t 4.32, 5.31.

*Uysanus stali* (Haglund), n. comb.*Flatoides stali* Haglund, 1899 : 71. [Cameroon].New Record. — Côte d'Ivoire : 2 ♀, Bingerville, VI-1962 and 1/14-II-1964, *J. Decelle* (MRAC, Tervuren).

Holotype ♀, NR, Stockholm. (Examined).

**III. TAXONOMIC NOTE ON *AFROCYARDA* FENNAH, *AFROPHANTIA* FENNAH, *ANATRACIS* FENNAH AND *ULUNDIA* DISTANT IN WEST AFRICA**

New records of the above genera in West Africa are presented. None have been recorded yet in Côte d'Ivoire, but it is predictable that they should be found. These genera have been included in my key to West African Genera.

**Genus *Afrocyarda* Fennah***Afrocyarda* Fennah, 1965 : 119. — Type-species : *Cyarda truncata* Hesse, 1925 : 168.***Afrocyarda royi*, sp. n.**

(fig. 16)

**Holotype male** : Nigeria, Zaria, Samaru, 15-VII-1966, *Deeming* (IRSN, Brussels). (With attached label, *Stenocyarda* n. sp., det. H. Synave, 1978). — **Allotype female** : Togo, Bismarckburg, 17/23-XII-1892, *L. Conradt* (IRSN, Brussels). — **Paratypes**, 1 ♀, Togo, Bismarckburg, 9/11-V-1893, *L. Conradt* (IRSN, Brussels); 1 ♀, Sénégal, Dakar, VIII-1940, *A. Villiers* (IFAN, Dakar). (With attached labels : (1) *Selizini*, nova species, det. V. Lallemand; (2) *Cyarda* sp., det. R. G. Fennah (1958b : 537)).

Overall color brown to dark brown, with darker color on pronotum lateral margins and median longitudinal band across disc. Vertex broad, slightly depressed medially, anterior margin nearly truncate, transverse shallow carina about halfway between anterior and posterior margins. Frons broadly elliptical, with thick U-carina that dorsally forms anterior margin of vertex, without median longitudinal carina, disc moderately concave. Tegmina wide basally, narrowed apically, with maximum constriction at point where R and S veins terminate at costal margin. Clavus heavily pustulate basally, smooth apically between veins A1 and A2, Y-stem elongate; R vein sharply elevated as it crosses prominent bulla, joined with vein C to form elongate terminal stem that curves to costal margin in area of maximum constriction of tegmen; apical margin shallowly convex, costal and sutural angles of similar configuration, submarginal line irregular, crossveins few, terminals forking in submarginal area. Hind leg spine formula : 2 : 7 : 7 in male, 2 : 8 : 9 in female.

The holotype genitalia are illustrated (fig. 16). Aedeagus with small lateral knobby protrusions near apex, apical pair circular, basad pair thumblike, and best seen in ventral view. Apical margin of valvulae III flattened, armed with 2 rows of medium sized teeth, 8 in the outer row and 12 in the inner row.

Measurements on the holotype and allotype : — Length : overall 8.00, 8.50; v .46, .50; f 1.00, 1.08; p .42, .50; m 1.49, 1.66; t 6.47, 6.97; pcl 1.99, 1.99. — Width : v .91, 1.00; f 1.33, 1.41; t 1.33, 2.66.

**Genus *Afrophantia* Fennah***Afrophantia* Fennah, 1958b : 535. — Type-species : *Afrophantia mycenis* Fennah. (Type examined).***Afrophantia mycenis* Fennah***Afrophantia mycenis* Fennah, 1958b : 536, fig. 30. (Senegal).

New Records. — Nigeria : 1 ♂, 1 ♀, Zaria, Samaru, IX-1979, *J. C. Deeming*, Nat. Mus. Wales, Cardiff; Swaziland : 1 ♂, 4 ♀, Eranchi, XII-1954/I-1955, *A. L. Capener*, MRAC, Tervuren.

The specimens from Nigeria and Swaziland were compared with paratypes from Dakar, Senegal (IFAN), including a study of characters of the male genitalia. The known distribution pattern suggests that a Sahelian Steppe Zone environment is an ecological requirement of this species. A collection record in forested areas would be unexpected, but the species may be found in northern dry areas of the Côte d'Ivoire.

Genus *Anatraxis* Fennah

*Anatraxis* Fennah, 1958a : 177. — Type-species : *Atraxis impura* Stål, 1866 : 251. (Type examined).

*Anatraxis impura* (Stål)  
(fig. 5)

*Atraxis impura* Stål, 1866 : 251. (Sierra Leone).

*Atraxis impura*, MELICHAR, 1902 : 185, pl. IV, fig. 5.

*Anatraxis impura*, FENNAH, 1958a : 177, fig. 114, aedeagus. (Senegal).

The holotype female from Sierra Leone (NR, Stockholm), and specimens from Senegal determined by Fennah (MRAC, Tervuren, and IFAN, Dakar) are conspecific. Consequently, *impura* is confirmed as the type species of *Anatraxis*.

The genitalia of the male specimen illustrated by Fennah deteriorated in the microvial used for storage, and consisted of fragments unsuitable for study when received. Therefore, the second available male from M'Bambey (MRAC, Tervuren) is designated as the plesiotype and its genitalia are illustrated (fig. 5).

In the female, apices of valvulae III with 2-3 outer teeth and 8 inner teeth.

Measurements on the plesiotype and a female from M. Bambey (MRAC). — Length : overall 9.00, 10.50 ; v .83, .87 ; f 1.66, 1.78 ; p .66, .66 ; m 2.32, 2.49 ; t 6.97, 8.13 ; pcl 2.16 ; 2.16. — Width : v .91, 1.00 ; f 1.08, 1.29 ; t 2.82, 3.15.

FENNAH (1958) commented on the discrepancy between one submarginal line illustrated by Melichar and two lines observed in Senegal specimens. The holotype was not depicted in detail, but actually has venation similar to the Senegal specimens. If the line of crossveins terminating at the apex of the clavus is considered as the primary submarginal, then the second indistinct and irregular line found in *impura* is a secondary pseudoline. Because of their variability, the pseudolines cannot be relied on for defining generic taxa.

*Anatraxis* is easily recognized in West Africa because specimens have slender shape and relatively small size. However, larger specimens from Central and East Africa that key to *Anatraxis* are difficult to distinguish otherwise from some species of *Uysanus*. Characters of the female and male genitalia in the two genera have a similar pattern.

Genus *Ulundia* Distant

*Ulundia* Distant, 1910 : 250. — Type-species : *Ulundia decisa* Distant, 1910 : 250. (A junior synonym of *Elidiptera madagascariensis* Signoret, 1860).

*Chaetormenis* Melichar, 1923 : 73. — Type-species : *Elidiptera madagascariensis* Signoret, 1960.

*Ulundia madagascariensis* (Signoret)

*Elidiptera madagascariensis* Signoret, 1860 : 199. (Madagascar).

*Ormenis madagascariensis*, MELICHAR, 1902 : 76, pl. V, fig. 19.

*Chaetormenis madagascariensis*, SYNAVE, 1956 : 214, fig. 12-13, genitalia. (Madagascar).

*Ulundia madagascariensis*, Fennah, 1958a : 168, fig. 108, aedeagus. (sp. n., lapsus).

*Ulundia madagascariensis*, Fennah, 1958b : 533. (Liberia).

New Records. — Nigeria : Ile-Ife, 3-III-1975, *J. T. Medler* (IRSN) ; Ogbomosho, 9-IX-1986, *E. S. Ross & K. Lorenzen* (Calif. Acad. Sci.) ; Ibadan, 6-I-1956, citrus, *G. H. Caswell* ; Lagos, VI-1953, *H. O. Brown* (BMNH).

I have seen labels that give collections from both citrus and coffee ; hence, distribution can be expected where such plants occur in West Africa.

IV. TAXONOMIC NOTE ON THE STATUS OF *ATRACIS* AUCTORUM, NOT STÅL, IN AFRICA

*Atraxis* Stål (1866 : 250), type species *Flata pyralis* Guérin-Ménéville, is the senior synonym of the taxon segregated as *Uxantis* Stål (1870 : 775), according to MEDLER (1988). Distribution of *Atraxis* Stål is restricted to New Guinea and the Indo-Malaysian Region. The species of *Atraxis* Auctorum in Africa and the New World belong to several evolutionary lines having character states that differ from *Atraxis sens. strict.* The African

species that are listed in the METCALF (1957) Catalog, or described by authors subsequent to the catalog, are disposed in *NEW GENERIC COMBINATIONS*, as follows :

#### *Betracis* Medler

- Betracis bokariana* (Melichar, 1912 : 131) (*Atracis*), Cameroon.  
*Betracis dentata* (Schmidt, 1904 : 376) (*Atracis*), Nigeria.  
*Betracis echo* (Fennah, 1958a : 183) (*Atracis*), Congo Belge.  
*Betracis finita* (Melichar, 1902 : 196) (*Atracis*), E. Africa.  
*Betracis miranda* (Fennah, 1958a : 181) (*Atracis*), Congo Belge.

#### *Catracis* Medler

- Catracis faecaria* (Stål, 1866 : 251) (*Atracis*), Sierra Leone.  
*Catracis inquinata* (Melichar, 1902 : 184) (*Atracis*), Congo Belge.

#### *Diastracis* Medler

- Diastracis elpenor* (Fennah, 1957 : 1307) (*Atracis*), Cameroon.  
*Diastracis nebulosa* (Melichar, 1902 : 180) (*Atracis*), Cameroon.

#### *Uysanus* Distant

- Uysanus errans* (Fennah, 1958a : 185) (*Atracis*), Congo Belge.  
*Uysanus eumaeus* (Fennah, 1958a : 186) (*Atracis*), Congo Belge.  
*Uysanus mendax* (Melichar, 1902 : 194) (*Atracis*), Cameroon.  
*Uysanus mira* (Stål, 1866 : 250) (*Atracis*), S. Africa.  
*Uysanus vagans* (Melichar, 1902 : 184) (*Atracis*), Congo Belge.

#### Other new combinations

- Betracis cameroni* (Distant, 1910 : 251) (from *Uysanus*), S. Africa.  
*Betracis squalidus* (Fennah, 1955 : 442) (from *Flatoides*), Ruanda.  
*Uysanus stali* (Haglund, 1899 : 71) (from *Flatoides*), Cameroon.

#### Undescribed New Genus nr. *Porophloeus* Melichar

- Phalaenomorpha castaneiceps* (Jacobi, 1917 : 538) (*Atracis*), Madagascar.  
*Atracis costalis* Melichar, 1902 : 185, Madagascar.  
*Atracis gibbosus* Melichar, 1902 : 186, Madagascar.

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Table I

Matrix of 24 species and 14 biotopes at Tai, showing number of specimens collected during 1978-1985.

Species	Biotopes														Total	
	1	2	3	4	7	9	10	12	16	21	23	24	25	26		X
1. <i>Ityraea couturieri</i>									1		1					2
2. <i>Flatida pallida</i>									5							5
3. <i>F. superba</i>						1			1							2
4. <i>Flatina rubrotincta</i>					2					2			3			7
5. <i>F. elegantula</i>					2				1							3
6. <i>F. liciata</i>									5	3			6			14
7. <i>Flatidissa furcigera</i>									1							1
8. <i>Paranotus trivirgatus</i>															1	1
9. <i>Phleboterum praemorsum</i>									3							3
10. <i>Scarpanta dohrni</i>			1	:												2
11. <i>S. mortuifolia</i>										1						1
12. <i>Lawana exsoleta</i>			3									1				1
13. <i>Comnar fimbriata</i>							3	12	1	3					1	23
14. <i>Cameruniola integra</i>				1	4		2	12	14	4			4	1		42
15. <i>Lemaria enigma</i>								17								17
16. <i>Crypto. nimbaensis</i>								1								1
17. <i>Decipha zielensis</i>	2	1													1	4
18. <i>D. trifidius</i>							2	16	2	2	7	1	1			31
19. <i>Afrodascalia trifurca</i>							1	2	11	6						20
20. <i>Uysanus mendax</i>								2								2
21. <i>U. vagans</i>								1								1
22. <i>U. bistigmus</i>								1								1
23. <i>U. quadratus</i>								1								1
24. <i>Betracis rugosa</i>							1									1
Total	2	1	4	1	8	1	2	9	81	34	16	8	14	3	2	186



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