

**DELPHACIDAE FROM CÔTE D'IVOIRE  
[HOMOPTERA, FULGOROIDEA]**

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RÉSUMÉ

*Soixante-deux espèces de Delphacides ont été récoltées en Côte d'Ivoire, la plupart provient de la Forêt de Taï, cinquante huit sont de nouvelles récoltes. Onze nouveaux genres sont créés : Afrocoronacella n. gen., Afrosellana n. gen., Aneuidellana n. gen., Asiracemus n. gen., Harmalianodes n. gen., Horcomana n. gen., Numathriambus n. gen., Partoya n. gen., Spinidelphacella n. gen., Thymodelphax n. gen., Toyalana n. gen. Vingt et une espèces nouvelles pour la Science sont décrites : Afrosellana bispina n. sp., A. ventrospina n. sp.; Aneuidellana couturieri n. sp., A. demophostyla n. sp.; Asiracemus linnavuorii n. sp.; Dogodelphax maculatus n. sp.; Garaga trifida n. sp.; Harmalianodes furcatus n. sp.; Horcomana brevispina n. sp.; Malaxodes parapaniscus n. sp.; Matutinus occiomphe n. sp.; Numata mani n. sp.; Numathriambus biflagellatus n. sp.; Nycheuma afroco-gnata n. sp., N. coronata n. sp., Orcaenas ivoiri n. sp.; Sogatodes neomphalus n. sp.; Thriambus taiensis n. sp.; Thymodelphax acutus n. sp.; Toyalana spinosa n. sp. Deux genres et huit espèces sont placés en synonymie : Corbulo Fennah avec Opiconsiva Distant; Maculidelphax Asche avec Rhombotoya Fennah; Eripison illex Fennah avec Kelisia snelli Muir; Euidopsis palaemon Fennah avec E. truncata Ribaut; Dicranotropis capensis Muir, D. ibadanensis Muir et D. idas Fennah avec D. dimorpha Matsumura; D. stramineus Muir avec D. pondolandensis Muir; D. tortuosa Lindberg et D. orodes Fennah avec D. obscurella Lallemand; Sogata rhodesi Muir avec S. albofimbriata Muir; Toya hispijimenae Asche avec Liburnia tuberculosa Distant. Une sous-espèce est élevée au rang d'espèce et dix sept nouvelles combinaisons sont établies.*

**Key-words :** Homoptera, Fulgoroidea, Delphacidae, new genera, new species, taxonomy, Ethiopian Region, Côte d'Ivoire, Tai forest.

INTRODUCTION

The Delphacidae is one of the largest planthopper (*Fulgoroidea*) families with some 2,000 described species represented in nearly all parts of the world. Despite the recent publications of FENNAH (1969, 1972), LINNAVUORI (1973) and VAN STALLE (1984), the African delphacid fauna must still be considered to be inadequately known. Most of the species are comparatively small in size, many of them are associated with one or only few host plants (mainly Monocotyledones), and often display a cryptic way of life, for example deep in tussocks of grasses close to the soil.

From the whole of the Ethiopian Region including Madagascar little more than 200 delphacid species have been reported so far (i.e. only about 1/10 of the known delphacid species in the world), and some of these are only doubtfully identified.

From West Africa some 90 species have been recorded mainly by MUIR (1920, 1926, 1929), LINDBERG (1956, 1958), FENNAH (1958a, 1963a, b, 1969, 1972, in press), LINNAVUORI (1973), MEDLER (1980) and VAN STALLE (1984). Within this region

the largest number of species is known from Nigeria (54, according to MEDLER's check list (1980) based on identifications by R. G. Fennah), followed by Senegal (22) and Cameroon (20).

From Côte d'Ivoire only four species have been reported so far (FENNAH (1958)) : the two common and widespread crop pests *Peregrinus maidis* (Ashmead) and *Sogatodes cubanus* (Crawford) (= *Chloriona (Sogatella) panda* Fennah, described from Yapo), *Delphacodes epimelas* Fennah, from Yapo, and *Dicranotropis idas* Fennah, described from N'Zida, the latter now in the genus *Nycheuma* Fennah.

This study concerning the *Delphacidae* of Côte d'Ivoire is mainly based on a large collection comprising about 5,000 specimens taken at light in the Tai Forest National Park during 1978-1980 by G. Couturier. Additionally, collections made by R. Linnavuori in 1973 and by R. Desmier de Chenon during 1975-1976, as well as several specimens from the accessions of the Agricultural University Wageningen, The Netherlands, were included in the study. This report deals with 62 species, 21 of which are newly described.

Eleven new genera have been erected, mostly defined by special characters of the male genitalia here interpreted as syn- or autapomorphy.

The increase of Côte d'Ivoire number of delphacid species from 4 to 62 reflects the richness of the African fauna, but this total may be expected to rise still higher in future. The apparently high level of endemism will probably fall as the West African fauna becomes better known. Many of the 21 species presently known only from Côte d'Ivoire are likely to lose their endemic status.

This contribution to the delphacid fauna of Côte d'Ivoire is intended to be the first of a series of publications on delphacids of Africa that are presently under preparation by the author. Only a more comprehensive knowledge of the whole of the African delphacids may provide clues to a better understanding of their phylogenetic relationships and their patterns of geographic distribution.

The higher subgroups of *Delphacidae* used in this paper follow the phylogenetic system of ASCHE (1985). Within tribes, the sequence of genera and species is alphabetic.

#### Depositories of material :

- AUW : Agricultural University of Wageningen, The Netherlands  
 BMNH : British Museum (Natural History), London  
 LV : R. Linnavuori, Raisio, Somersoja, Finland, private collection  
 MA : M. Asche, FB Biologie-Zoologie, Philipps University Marburg, Fed. Rep. of Germany, private collection  
 MNHN : Muséum national d'Histoire naturelle à Paris  
 MRAC : Musée royal de l'Afrique centrale Tervuren, Belgium  
 ORSTOM: Institut Français de Recherche pour le Développement en Coopération, Entomologie Agricole, Centre de Bondy, France

#### Further abbreviations :

- BPBM : Bernice P. Bishop Museum, Honolulu  
 NR : Naturhistoriska Riksmuseet, Stockholm  
 ZMU : Zoological Museum, Helsinki

Remarks on the ecological data of the Tai forest delphacids : the material has been collected exclusively at light in evergreen rainforest : 1, in underwood of undisturbed primary forest, referred to below as « I » for the sake of brevity ; 2, rice field in clearing, referred to as « II ».

Explanatory comments on figures : Scale bars represent 0.1 mm for genital structures, 0.5 mm for head, thorax and tegmen.

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## MATERIAL STUDIED AND TAXONOMIC REMARKS

DELPHACINAE Leach, 1815

TROPIDOCEPHALINI Muir, 1915

Genus *Tropidocephala* Stål

*Tropidocephala* Stål, 1853, Öfvers. K. Vetensk. Akad. Förh. Stockh., 10: 266. — Type-species (by monotypy):  
*Tropidocephala flaviceps* Stål, 1855, *ibid.* 12: 93, South Africa: Natal.

*Tropidocephala tuberipennis* (Mulsant & Rey, 1855)  
(fig. 1-4)

*Fulgura (sic) elegans* O. Costa, 1834, *Cenni Zool. Napoli*: 82, Italy, primary homonym.  
*Delphax tuberipennis* Mulsant & Rey, 1855, *Annls Soc. linn. Lyon* (2) 2: 199, France.

1 ♀, Côte d'Ivoire, Adiopodoumé, 1964, AUW. — 3 ♂, 3 ♀, Côte d'Ivoire, Gouméré, 19-IX-1973; 2 ♂, 3 ♀, Foro Foro, 25/28-IX-1973; 2 ♀, Korhogo-Ferkessedougou, 25-X-1973; 1 ♂, Maraoue, 12/13-X-1973; all: R. Linnavuori leg., LV.

Distribution: Widespread in the Southwest Palearctic and Africa; in Africa recorded from Sudan: Equatoria (LINNAVUORI, 1973); South Africa (sec. LINNAVUORI, 1973); Egypt (LINNAVUORI, 1964); Nigeria, Sierra Leone and Uganda (all: FENNAH, in press); Côte d'Ivoire.

Remarks: *Tropidocephala tuberipennis* is frequently confused in literature with the similar and apparently closely related *Tropidocephala brunnipennis* Signoret, 1860 (see fig. 5). Old records of *T. brunnipennis* from Africa (e.g. from South Africa by STÅL (1866) and from Nigeria by MUIR (1920)) should be reconsidered.

*Tropidocephala zelus* Fennah (in press)  
(fig. 6-8)

Fennah (in press), *J. afric. Zool. South Africa*: Zululand

1 ♀, Côte d'Ivoire, Gouméré, 19-IX-1973; 1 ♂, Fetekro, 40 km E of Bouaké, 11-X-1973; 1 ♂, 1 ♀, Maraoue, 12/13-X-1973; all: R. Linnavuori leg., LV.

Distribution: South Africa: Zululand (FENNAH, in press); Côte d'Ivoire.

Remarks: *Tropidocephala zelus* Fennah belongs to the *Tropidocephala flaviceps*-group and seems within this group closely related to the recently described species *Tropidocephala tyro* Fennah from W-Africa, Zaire and Uganda and *Tropidocephala zeno* Fennah from Zanzibar (FENNAH, in press). More collections from other parts of Africa are necessary to get more detailed information about the range of intraspecific and geographic variation (polymorphic species?, geographical cline?).

DELPHACINI Muir, 1915 (sensu ASCHE, 1985)

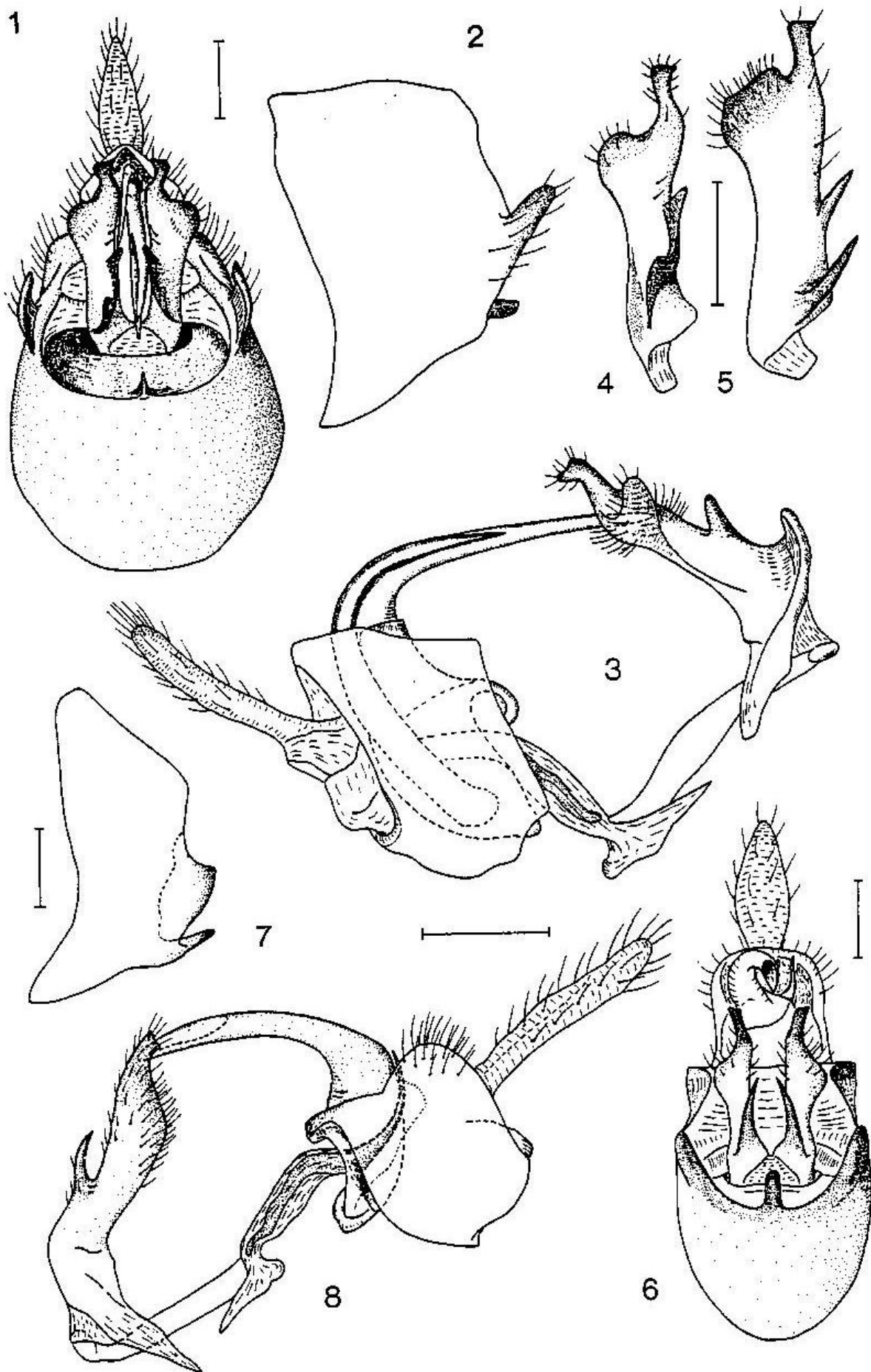
Genus *Afrocoronacella*, n. gen.

In size and coloration resembling the oriental and pacific genus *Coronacella* Metcalf, 1950, but differing from this and all other genera in the configuration of the male genitalia.

Vertex in middle line slightly longer than broad at base, laterally shallowly concave; posterior cells 1.6 times longer than anterior compartment, area of compartments distinctly concave; carinae of vertex, frons and clypeus distinct and sharp, lateral and median carinae of frons produced, median carina branched on vertex embracing the anterior cell. Frons nearly 3 times as high as broad, narrowing to vertex, lateral margins between the eyes shallowly concave, then almost parallel. Postclypeus about 1/3 the length of frons, middle carina produced. Rostrum attaining the hind-trochanters. Genae with sharp, oblique carinae. Ocelli and blemmata well developed; inferior margin of compound eyes with deep incision for the antenna base in the posterior third. Antennae: scape and pedicel subcylindrical, distally slightly expanded; first joint about 2.6 times longer than broad, second segment 1.6 times longer than first.

Pronotum distinctly broader than head (1.2:1), in middle line about as long as vertex, posterior margin deeply concave; with three sharply produced carinae, lateral carinae slightly convex; area between lateral and median carina concave. Mesonotum about as broad as pronotum,

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- Fig. 1-4, *Tropidocephala tuberipennis* (Mulsant & Rey). — 1, genital capsule, ventrocaudal. — 2, genital segment, left lateral. — 3, male genitalia, left lateral. — 4, left paramere, ventral.  
Fig. 5, *Tropidocephala brunnipennis* Signoret. — Left paramere, ventral.  
Fig. 6-8, *Tropidocephala zelus* Fennah (in press). — 6, genital capsule, ventrocaudal. — 7, genital segment, left lateral. — 8, male genitalia, right lateral.



medially about 3 times longer than pronotum; tricarinate, median carina distally extinct; lateral carinae almost parallel to median, posteriad slightly diverging, shortly before reaching the posterior margin weakly developed. Posttibial spur foliate, about 17-25 minute teeth on the inner margin. Postbasitarsus ca. 1.8 times longer than 2nd and 3rd hindtarsal segment together; apical spinulation of basitarsus: 7 (5 + 2), of the 2nd segment: 4. Tegmina of macropterous form about 3.3 times longer than broad. Sc + R-fork slightly distad of Cu<sub>1</sub>-fork, both shortly basad of junction of the common stem of the anal veins with the inner margin; RSc + M-stalk short, not surpassing the basal cell; granulation of veins weakly developed.

Coloration of head, thorax and abdomen brown, posterior portion of pronotum contrasting white; tegmina and wings hyaline; in the type species with intensive brown diagonal stripe in the basal half and a semicircular band in the distal portion.

Male genitalia: Genital segment caudally rather narrow, about twice as high as broad; in lateral view almost rectangular; medioventrally produced into a short triangular process; dorsolateral angles broadly rounded, not produced; diaphragm rather expanded covering about half of the caudal area, dorsal margin deeply w-shaped, medially a tongue-like projection. Anal segment with two flat processes originating with their bases well separated laterally from the ventrocaudal angles, processes directed ventrad, apically rounded. Parameres stout, distally converging. Aedeagus tubular, slightly bent dorsad, with a long tipped process arising from the ventral margin of its base, phallotreme subapical on dorsal side. Connective straight or slightly bent cephalad. Suspensorium rectangular, its ventral margin laterally embracing the base of the aedeagus. Female genitalia: valvifers 8 about half as long as the ovipositor, mediobasally lobe-like expanded. Median gonapophyses 9 curved dorsad, dorsal margin in apical third with 50-60 minute teeth.

Type-species: *Delphacodes turneri* Muir, 1926.

Remarks: *Afrocoronacella* n. gen. can externally be recognized by its high and narrow frons, by its distinct and sharply produced carinae of vertex, frons and pronotum, by the white crossband over the posterior portion of the pronotum which contrasts strongly with the brown coloration of vertex and mesonotum, and possibly by the combination of an oblique brown stripe in the basal and a semicircular brown band in the distal half of the tegmina (at least valid for the type-species). Constitutive characters separating this genus from others seem to be found in the proportions of the head (very high and narrow frons) and in the male genitalia, namely the caudally narrow and high, parallel sided genital segment with its extended diaphragm which bears a ventrocaudally erected, tongue-like projection at its dorsal margin. The anal segment with its flat and well separated ventral processes, and the long and slender dorsally bent aedeagus providing a long, similarly bent process at its base may possibly not be used as constitutive characters as a similar configuration is also present in two new species of another new African genus, *Afrosellana* n. gen., described below. Significant differences in many other characters, however, support the establishment of two separate taxa of generic rank (see discussion below following the description of the two new *Afrosellana*-species). Within the African Delphacidae *Afrocoronacella* n. g. (possibly together with *Afrosellana* n. gen. which might be related) represents a rather isolated group. Closer relationship to the genus *Coronacella* Metcalf cannot be assessed, similarities in coloration and body shape, which presumably have led LINNAVUORI (1973) to include *Delphacodes turneri* in this genus, are interpreted as convergence or symplesiomorphy.

### *Afrocoronacella turneri* (Muir, 1926) n. comb.

(fig. 9-12)

*Delphacodes turneri* Muir, 1926. *Ann. Mag. nat. Hist.* (9) 17: 35, South Africa: Cape Province.

*Coronacella turneri*: Linnavuori, 1973. *Notul. ent.* 53: 107.

Tai: 7 ♀, II, 17-V-1978; 3 ♂, 5 ♀, I, 19-V-1978; 7 ♂, 42 ♀, II, 12-VII-1978; 3 ♀, I, 41 ♂, 144 ♀, II, 17-VII-1978; 1 ♂, 1 ♀, I, 11-VIII-1978; 4 ♂, 19 ♀, II, 15-VIII-1978; 5 ♂, 31 ♀, II, 24/25-VIII-1978; 1 ♂, 2 ♀, I, 11/12-IX-1978; 17 ♂, 37 ♀, II, 14/15-IX-1978; 2 ♂, II, 25/26-IX-1978; 9 ♂, 26 ♀, I, 22 ♂, 23 ♀, II, 12/13-X-1978; 1 ♀, I, 19/20-X-1978; 69 ♂, 97 ♀, I, 29 ♂, 24 ♀, II, 9/10-XI-1978; 40 ♂, 27 ♀, I, 55 ♂, 44 ♀, 1 ex. without abdomen, II, 23/24-XI-1978; 4 ♂, 5 ♀, I, 9 ♂, 17 ♀, II, 11/12-XII-1978; 1 ♀, II, 21/22-XII-1978; 3 ♂, 3 ♀, I, 2 ♀, II, 8/9-I-1979; 1 ♀, II, 18/19-I-1979; 2 ♂, 3 ♀, I, 1 ♂, II, 22/23-II-1979; 1 ♂, II, 1/2-III-1979; 4 ♀, II, 14/15-V-1979; 1 ♂, I, 24/25-V-1979; 2 ♂, 8 ♀, I, 31-V-1979; 3 ♂, 9 ♀, II, 11/12-VI-1979; 2 ♂, 5 ♀, I, 21/22-VI-1979; 3 ♀, I, 4 ♂, 13 ♀, II, 25/26-VI-1979; 3 ♂, 7 ♀, I, 15 ♂, 17 ♀, II, 9/10-VII-1979; 1 ♂, 13 ♀, I, 1 ♂, II, 19/20-VII-1979; 1 ♀, I, 2 ♂, 13 ♀, II, 28/29-VIII-1979; 2 ♂, 3 ♀, I, 14 ♂, 53 ♀, II, 18-VIII-1979; 1 ♀, I, 18-IX-1979; 5 ♀, I,

27/28-IX-1979; 1 ♂, I, 1/2-X-1979; 1 ♂, 1 ♀, I, 25/26-VI-1980; 1 ♂, 1 ♀, I, 24/25-VII-1980; all: *G. Couturier leg.*, MNHN, ORSTOM, MA, BMNH.

1 ♂, 1 ♀, Ivory Coast, Lamto, 8/9-X-1973; 1 ♀, Foro Foro, 25/28-IX-1973; 3 ♂, 3 ♀, Man, 14/21-X-1973; 1 ♀, Ferekéssédougou, 25-X-1973; 1 ♂, Madinani-Boundiali, 24-X-1973; all: *R. Linnavouri leg.*, LV.

Distribution: South Africa: Cape Province (MUIR, 1926), Natal (MUIR, 1929); Mali, Guinea (FENNAH, 1958a); Sudan: Blue Nile, Darfur, Bahr el Ghazal, Equatoria (LINNAVUORI, 1973); Nigeria (MEDLER, 1980); Côte d'Ivoire.

Remarks: *Afrocoronacella turneri* seems to be widely distributed all over tropical Africa. It represents one of the most common species in light traps taken in Tai forest, equally frequent in primary forest and in cultivated areas.

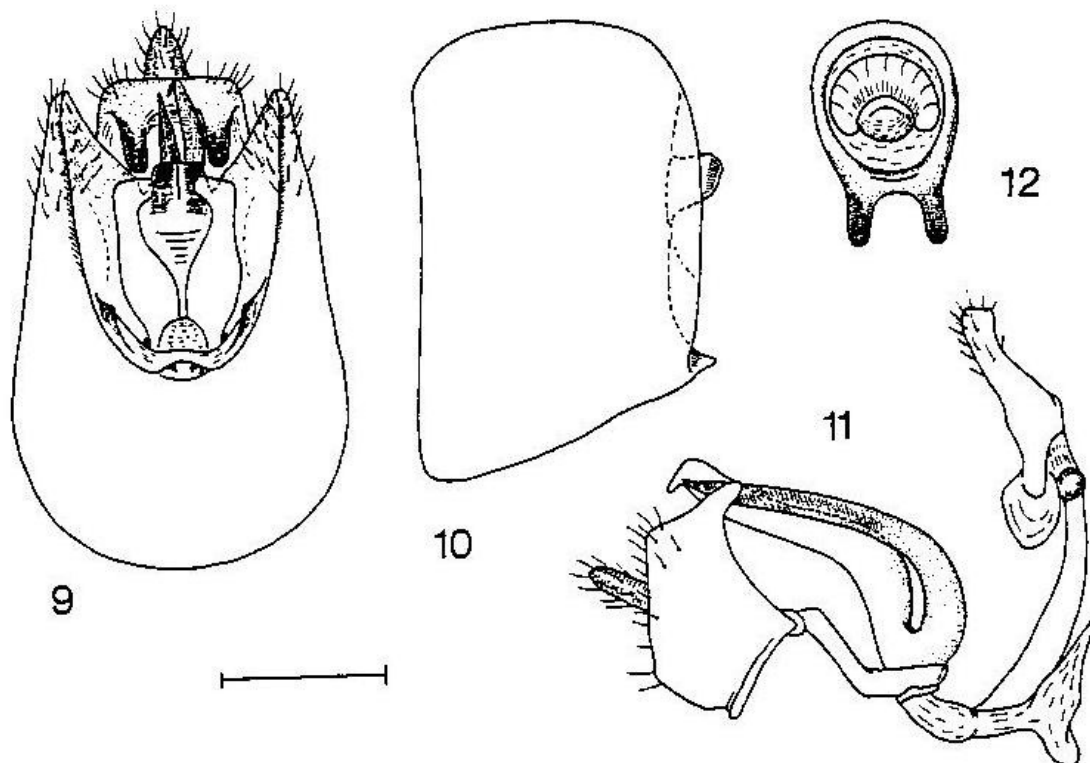


Fig. 9-12, *Afrocoronacella turneri* (Muir). — 9, genital capsule, ventrocaudal. — 10, male genital segment, left lateral. — 11, male genitalia, left lateral. — 12, anal segment, caudal.

#### Genus *Afrosellana*, n. gen.

Small sized delphacids without any colour patterns on tegmina, in general appearance resembling slender, pale brownish *Toya* Distant-species.

Vertex medially as long as or little longer than the width at base; posterior compartments about as long as the anterior cell (1.1:1); area of compartments deeply concave; median carina separating the basal cells weakly developed; lateral carinae of vertex, carinae of frons, post- and anteclypeus, genae and pronotum sharply ridged. Frons twice as high as broad, slightly concave between the eyes, lateral margins below the eyes slightly convex. Postclypeus about half the length of frons. Rostrum almost reaching the anterior margin of the hindcoxae. Ocelli and blemmata present. Antennae: segments subcylindrical; 2nd joint distally expanded, 1.5-1.7 times longer than the 1st segment, 16 sensory fields arranged in 7 groups or rows.

Pronotum medially about as long as or little shorter than vertex (0.8-1:1), distinctly broader than head (1.25-1.3:1); lateral carinae almost straight, slightly diverging caudad, extinct before

reaching the hindmargin; disc shallowly concave. Mesonotum as broad as pronotum, medially 2.4-2.6 times longer than pronotum; carinae weak, lateral carinae slightly diverging caudad, median carina extinct in posterior half of mesonotum. Posttibial spur foliaceous, about 2/3 the length of basitarsus, with 13-19 well developed teeth. Postbasitarsus 1.5-1.6 times longer than 2nd and 3rd posttarsal segment together. Spinulation of postbasitarsus: 6 (2 + 4) or 7 — 8 (2 + 5/6), 2nd posttarsus: 4. Tegmina about 3.3-3.5 times longer than broad; position of the Sc + R - fork slightly distad or basad of Cu<sub>1</sub>-fork. RSc + M-stalk branching not distad of basal cell; veins with indistinct granulation.

Coloration: pale stramineous to dirty light brown, tegmina pale brownish, slightly translucent, no patterns.

Male genitalia: genital segment ventrally produced, in lateral view irregularly trapezoid to triangular, ventral margin with median excavation which on each side is flanked by a short conical projection; caudal area oval, about 1.3 times higher than broad. Diaphragm covering about the ventral half of the caudal area, dorsal margin v-shaped, medially with a dorsoventral ridge. Anal segment short and stout; with two flat processes originating far apart from each other at the ventrocaudal margin. Parameres distally converging, both together forming a clamp. Aedeagus tubular, slightly bent ventrad, armed with at least one caudally directed process arising from the basal half of its shaft; phallosome apical, ventrally exposed. Connective straight or slightly bent caudad. Suspensorium forms a rectangular tongue.

Type-species: *Afrosellana ventrospina*, n. sp.

Remarks: *Afrosellana* n. gen. is externally hardly distinguishable from many other similarly shaped and pale brownish coloured delphacids, but it can be separated by the configuration of the male genitalia: the ventrally produced genital segment with an emargination on its ventral margin flanked by cone-shaped processes, the dorsoventrally ridged diaphragm, and possibly the division of the vertex in almost equally sized cells are considered as constitutive characters. With the genus *Afrocoronacella* n. gen. it shares the general features of anal segment and parameres, but differs in the bending of the aedeagus and the position of the phallosome as well as in proportions of the head. For phylogenetic considerations see discussion below.

### *Afrosellana bispina*, n. sp.

(fig. 13-17)

Holotype male macropterous, Côte d'Ivoire, Tai forest, I, 25/26-VII-1978, G. Couturier leg., MNHN.

Vertex medially longer than broad at base (1.3:1), other features of head and thorax as in genus description. Antennae: 2nd joint about 1.7 times longer than 1st. Posttibial spur in the holotype with irregular teeth: left 16, right 19. Basitarsus 1.5 times longer than 2nd and 3rd posttarsal segment together. Spinulation of posttarsi: basitarsus: in type-specimen varying, left 7 (2 + 5), right 8 (2 + 6); 2nd segment: 4. Tegmina: inner subapical cell distinctly smaller than the outer, Sc + R-fork basad of Cu<sub>1</sub>-fork.

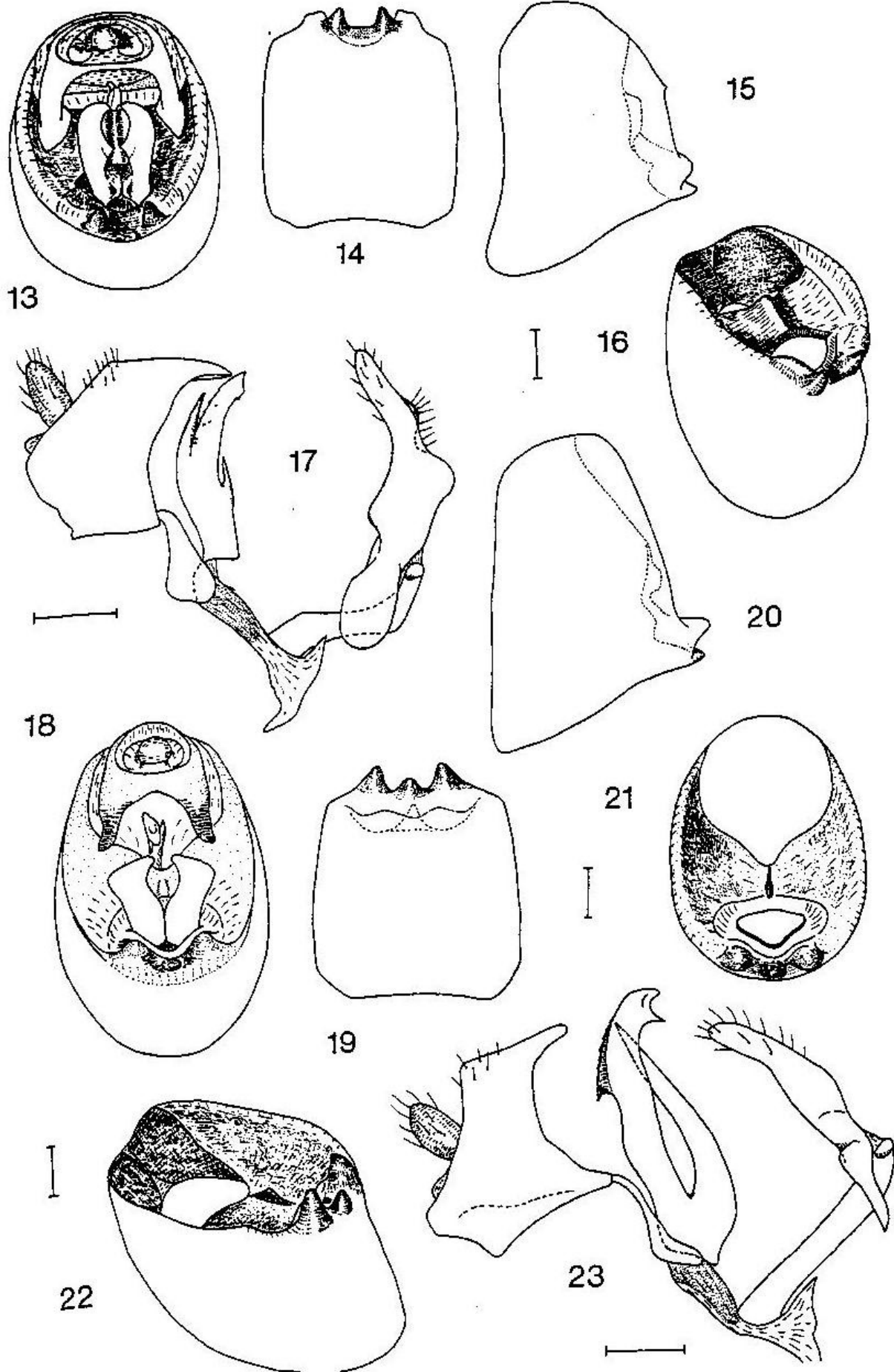
Coloration: lateral parts of pronotum, the mesonotum, post- and anteclypeus, abdomen, legs and tegmina pale brownish; mediobasal part of pronotum and posterior part of vertex dirty light yellowish to whitish; anterior part of vertex, frons and genae, 1st and anterior base of 2nd antennal segment chestnut-brown. Cu<sub>1</sub>-branch distad of nodal line brown; hindwings hyaline, veins brown.

Male genitalia: genital segment (fig. 13-16) in lateral view almost triangular, ventral side about 2.5 times longer than dorsal side, ventral margin with two short and stout processes flanking a broadly rounded median incision, dorsad of these processes a swelling of the margin. Median dorsoventral ridge of diaphragm rounded. Anal segment (fig. 13 & 17): paired processes distally expanding to a stout, blade-like structure. Parameres (fig. 13 & 17) slender, its rounded tips distally converging; shortly distad the middle of their length the ventral margin is produced to a short,

→  
Fig. 13-17, *Afrosellana bispina* n. sp., holotype. — 13, genital capsule, ventrocaudal. — 14, genital segment, ventral. — 15, genital segment, left lateral. — 16, genital segment, laterocaudal. — 17, male genitalia, left lateral.

Fig. 18-23, *Afrosellana ventrospina* n. sp., holotype. — 18, genital capsule, ventrocaudal. — 19, genital segment, ventral. — 20, genital segment, left lateral. — 21, genital segment, caudal. — 22, genital segment, laterocaudal. — 23, male genitalia, left lateral.





pointed, mediad directed edge. Aedeagus (fig. 17) with two caudad directed processes, the shorter one arising from the ventral side shortly distad the basal third of the shaft, the longer one from about the middle of the dorsal side; aedeagus in distal portion with several irregularly arranged, minute teeth.

Length (incl. tegmen) : 3.5 mm.

Distribution : Côte d'Ivoire.

*Afrosellana ventrospina*, n. sp.  
(fig. 18-23)

**Holotype male** macropterous, Côte d'Ivoire. Tai forest, I, 12/13-X-1978, G. Couturier leg., MNHN.

Proportions of head and thorax mainly as in genus description, vertex medially as long as broad at base. Antennae : 2nd joint conical, 1.5 times longer than 1st. Posttibial spur with 13 well separated teeth. Basitarsus 1.6 times longer than 2nd and 3rd posttarsal segment together, apically 6 spines (2 + 4); 2nd posttarsal segment with 4 apical spines (1 inner, 1 minute median, 2 outer). Tegmina : subapical cells rather long, little less than half the length of clavus, Sc + R-fork slightly distad of Cu<sub>1</sub>-fork.

Coloration : head, thorax, abdomen, legs and tegmina uniformly pale brownish, veins in tegmina of the same colour, Cu<sub>1</sub>-branch distal of nodal line darker brown, 1st antennal joint distally darkened.

Male genitalia : genital segment (fig. 18-21) in lateral view irregularly trapezoid, ventral side little more than twice as long as dorsal side, ventral margin caudally produced into two cone-shaped projections which inclose a shallow valley, from its bottom arising a short, conical process. Diaphragm medially with a sharp dorsoventral ridge (fig. 22). Ventrocaudal processes of the anal segment distally rounded (fig. 18). Parameres (fig. 18) distally slightly diverging and widening, then narrowing and converging mediodorsad. Aedeagus (fig. 23) : dorsal side with a thorn-like velum which is slightly bent to the left side and on its dorsal margin armed with 7 minute teeth; ventrally from the aedeagus-base arising a long, slightly dorsad bent process which runs apically to the right side of the aedeagus; tip of aedeagus distad and basad of the phallosome bill-like produced.

Length (incl. tegmen) : 3.5 mm.

Distribution : Côte d'Ivoire.

**DISCUSSION** : As mentioned above, the species *Afrocoronacella turneri*, *Afrosella ventrospina* n. sp. and *Afrosella bispina* n. sp. resemble each other in some characters of the male genitalia, i.e. in the anal segment bearing flat processes with their bases far apart from each other, in the distally converging parameres, and in the possession of caudad directed processes of the aedeagus. *A. turneri* differs considerably from the two *Afrosellana*-species in head proportions (especially in the height of the frons and in the shape of the compartments of the vertex), in the length of the rostrum, in coloration and colour patterns of head, thorax and tegmina, in the dentation of the posttibial spur, in the proportions and structures of the genital segment (ventral margin) and of the diaphragm, in the direction of the aedeagus and in the position of the phallosome.

If valuing the flat processes of the anal segment and the armament of the aedeagus with at least one caudad directed process as synapomorphies for the three species compared, the establishment of only one monophyletic genus could be considered. As the differences between *A. turneri* and the two new species in other characters are striking, there would be the possibilities 1. to erect two subgenera (which I consider the less desirable option), or 2. in regard to the obvious distance to each other to establish two separate genera, each of which displaying its own autapomorphies. The latter choice does not necessarily exclude any closer relationship between the two genera provided the genital characters in question prove to be indeed uniquely derived. On the other hand I cannot exclude that some or all similarities between *Afrocoronacella* and *Afrosellana* are due to

convergence, or are symplesiomorphies. Therefore the second option treating *Afrocoronacella* and *Afrosellana* as separate genera which could be related, but for the moment are not yet convincingly proved to form a monophylum, seems favorable.

### Genus *Amblycotis* Stål

*Amblycotis* Stål, 1853, *Öfvers. K. VetenskAkad. Förh. Stockh.*, 10: 265. — Type-species (by monotypy): *Amblycotis laticeps* Stål, 1855, *ibid.* 12: 93, South Africa: Natal.

### *Amblycotis alpinus* Linnavuori, 1973 (fig. 24-30)

*Notul. ent.* 53: 104-105, Sudan: Equatoria.

2 ♂, 1 ♀, Côte d'Ivoire, Lamto, 8/9-X-1973, R. Linnavuori leg., LV.

Distribution: Sudan: Equatoria (LINNAVUORI, 1973); Côte d'Ivoire.

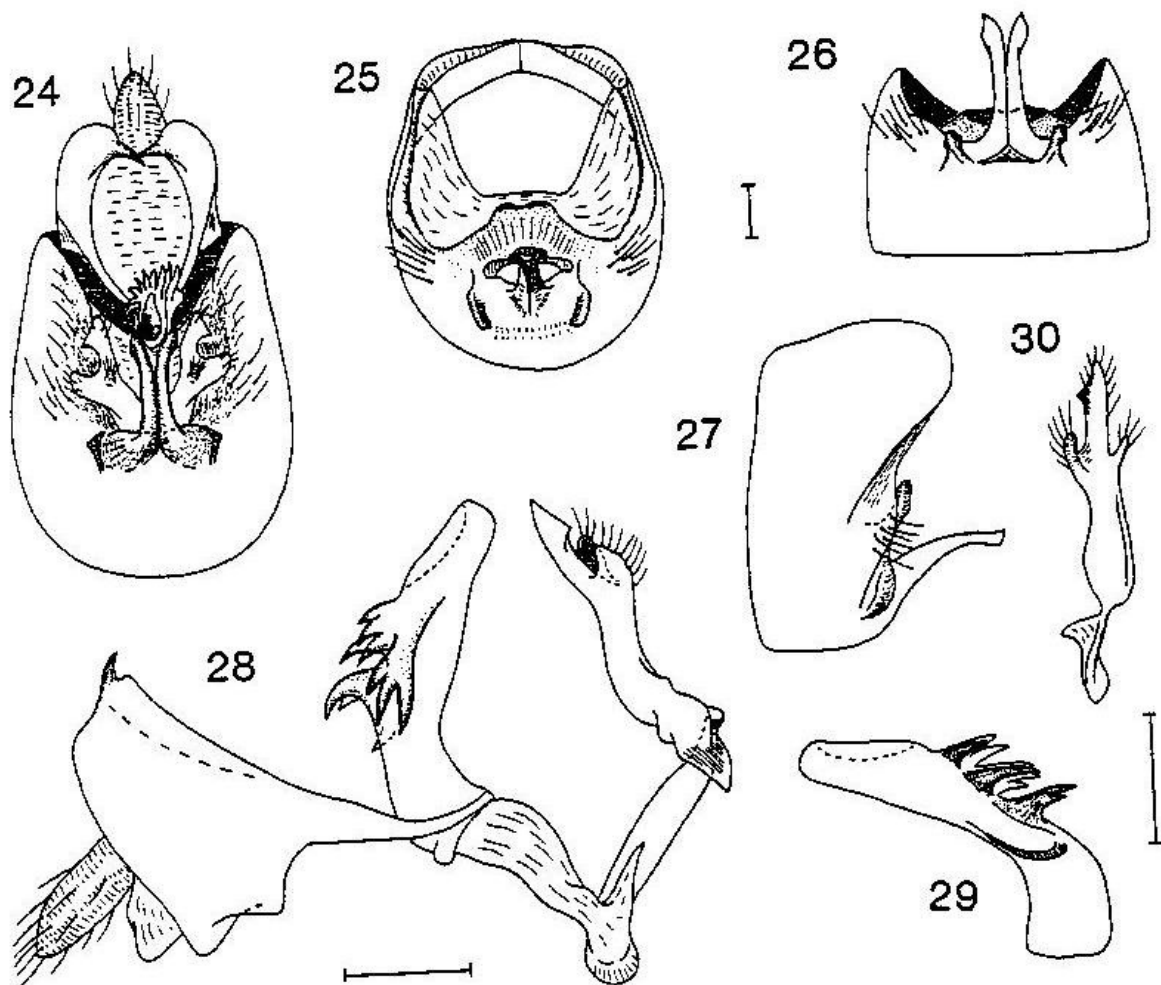


Fig. 24-30. *Amblycotis alpinus* Linnavuori. — 24, genital capsule, ventrocaudal. — 25, genital segment, caudal. — 26, genital segment, ventral. — 27, genital segment, left lateral. — 28, male genitalia, left lateral. — 29, aedeagus, right lateral. — 30, left paramere.

### Genus *Aneuidellana*, n. gen.

Small, slender, pale brownish delphacids, externally resembling *Afrosellana* n. gen., but differing from this genus and all others in the structures of the male genitalia.

Vertex medially longer than broad (1.1-1.2:1), lateral margins almost straight; posterior compartments 1.3 times longer than the anterior cell, area of compartments shallowly concave; carinae of head and pronotum distinct, sharp-edged; median frontal carina slightly produced, branching on the vertex forming the anterior cell. Frons little more than twice as high as broad (2.1-2.2:1), lateral margins slightly convex. Postclypeus half as long as frons. Rostrum attaining the anterior margin of the postcoxae. Antennal segments subcylindrical, 2nd joint 1.7 times longer than the 1st, arrangement of sensory fields on pedicel: 16/7. Ocelli and blemmata present.

Pronotum wider than head (1.2:1), medially slightly shorter than vertex; lateral carinae almost straight, diverging caudad, extinct before reaching the hindmargin, area between carinae shallowly concave, almost plain. Mesonotum as broad as pronotum, vaulted with thin carinae, the lateral ones straight, slightly diverging caudad and reaching the hindmargin, the median carina extinct before the tip of the scutellum. Posttibial spur foliaceous with about 13-15 teeth. Basitarsus 1.9 times longer than 2nd and 3rd posttarsal segment together, apically 7 (2 + 5) spines; 2nd posttarsal segment apically with 4 spines. Tegmina slightly translucent, 3.6 times longer than broad; subapical cells similarly large, Sc + R- and Cu<sub>1</sub>-fork branching almost at the same level, i.e. shortly distad of the basal third of the tegmen; RScM-stalk not exceeding the basal cell; wings hyaline with brown veins.

Coloration of body and forewings uniformly pale brownish without any patterns.

Male genitalia: genital segment ventrally about 3 times longer than dorsally, in lateral view irregularly trapezoid, in dorsal view oval, higher than broad (1.2:1), caudal margin in ventral third distinctly produced caudad, projection in lateral view almost rectangular, margin here broadly rounded; caudal margin ventromedially concave, incision flanked by one or two short subconical projections; diaphragm ventrally deeply sunk cephalad, dorsal margin v-shaped, central phragma forming a narrow bridge without special structures. Anal segment ring-like, ventrocaudally closed by a small chitinized bridge, ventrolateral flanks expanded ventrad, mediocaudally originating with broad base two distally pointed, slightly diverging processes which are far apart from each other and in ventral view form an inverse v. Parameres distally diverging, outer side of tip bill-shaped and directed laterad, inner margin distally projected into a short mediad directed edge. Aedeagus long, tubular with a single spine-like, caudad directed process which is parallel to the shaft. Phallosoma subapical. Connective in dorsal half slightly bent caudad. Suspensorium solid, embracing the base of the aedeagus on its dorsal side.

Type-species: *Aneuidellana couturieri*, n. sp.

Remarks: Externally *Aneuidellana* n. gen. resembles *Afrosellana* n. gen., but it differs significantly in the proportions of the posttarsal joints (length of basitarsus to 2nd and 3rd segments together 1.9:1, in *Afrosellana* 1.5:1). *Aneuidellana* n. gen. is mainly characterized by its unique configuration of the male genitalia: abrupt projection of the ventrocaudal margin of the genital segment in its ventral third, the special arrangement of the ventrocaudal margin with at least on pair of subconical projections flanking the median incision, distally diverging, terminally bill-shaped parameres, long and slender aedeagus armed with a caudad directed spine. In the strong ventral projection of the genital segment the new genus resembles the oriental and pacific genus *Euidellana* Metcalf, 1950; however, differences in bodily proportions and other characters (converging parameres, anal segment without processes, different shaped aedeagus) suggest convergence.

### *Aneuidellana couturieri*, n. sp.

(fig. 31-35)

Holotype male macropterous, Côte d'Ivoire, Tai forest, I, 14/15-IX-1978, G. Couturier leg., MNHN.

Shape and proportions of head, antennae, rostrum, thorax, tegmina and hindlegs as in genus description. Posttibial spur with 13 teeth.

Male genitalia: genital segment (fig. 31-33): ventrocaudal margin in middle rectangularly excavated, incision narrow (longer than broad), margin lateral of incision slightly produced caudad and rounded, at the dorsolateral edges of the protruded part of the ventral margin a short subconical projection. Diaphragm covering little more than the ventral half of the caudal area, dorsal margin shallowly v-shaped. Anal segment (fig. 31 & 34) with two comparatively long, pointed processes. Parameres (fig. 35) distally stretched with pointed bill-like tip resembling *Sogatella* Fennah-species. Aedeagus (fig. 34) slightly curved ventrad with a long, pointed process arising at about half the length

of the shaft on the dorsal side ; ventrally in the distal third about 4 minute saw-like teeth. Phallotreme subapical on the right side.

Length (incl. tegmen) : 3.7 mm.

Distribution : Côte d'Ivoire.

**Remarks :** *Aneidellana couturieri* n. sp. is in all external features hardly distinguishable from the closely related species *Aneidellana demophostyla* n. sp. described below, from which it differs only in shape of the male genital structures.

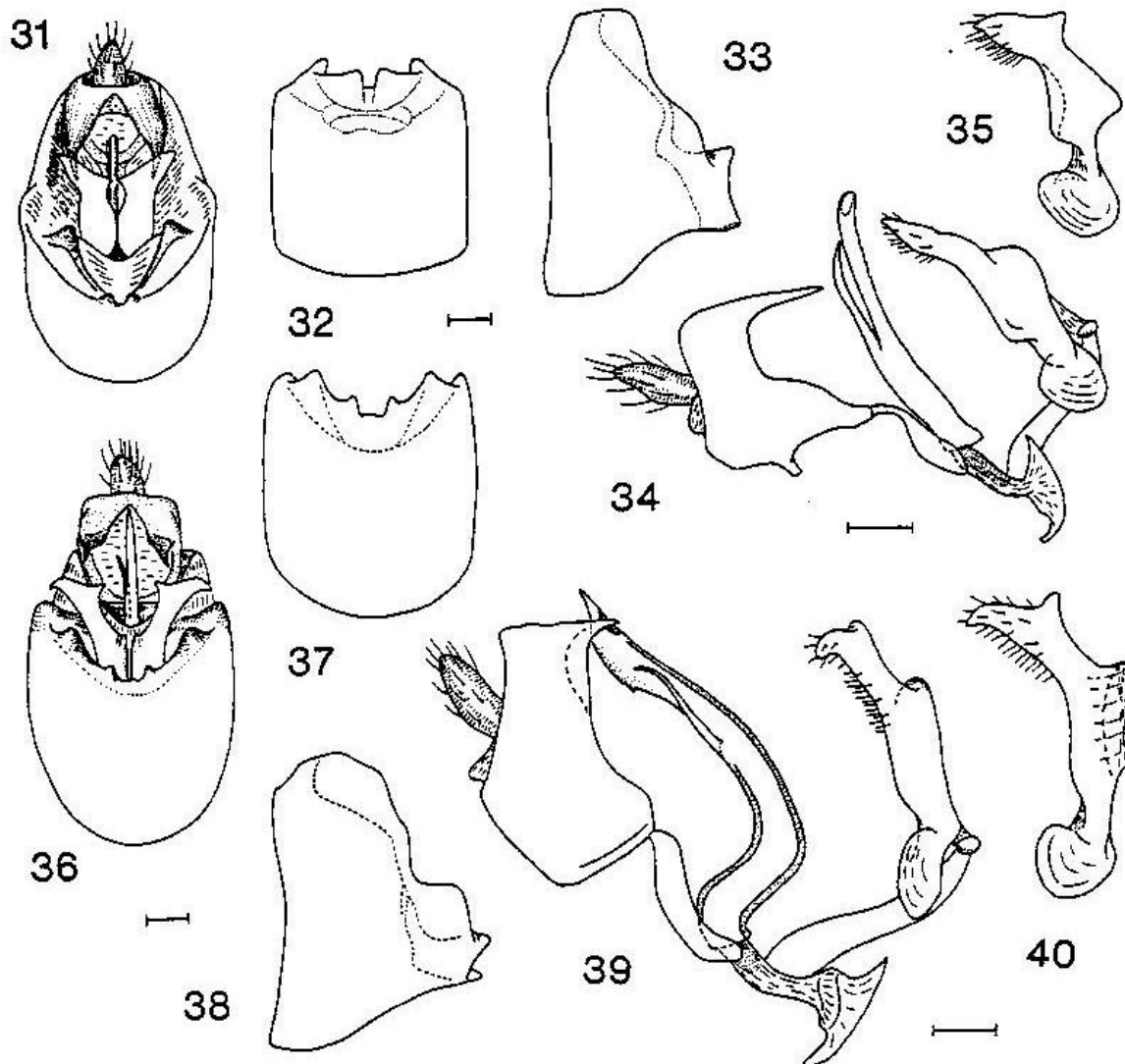


Fig. 31-35, *Aneidellana couturieri* n. sp., holotype. — 31, genital capsule, ventrocaudal. — 32, genital segment, ventral. — 33, genital segment, left lateral. — 34, male genitalia, left lateral. — 35, left paramere.  
 Fig. 36-40, *Aneidellana demophostyla* n. sp., holotype. — 36, genital capsule, ventrocaudal. — 37, genital segment, ventral. — 38, genital segment, left lateral. — 39, male genitalia, left lateral. — 40, left paramere.

*Aneidellana demophostyla*, n. sp.  
 (fig. 36-40)

**Holotype male macropterous**, Côte d'Ivoire, Tai forest, I, 19/20-X-1978, G. Couturier leg., MNHN.

External characters as in genus description.

**Male genitalia :** genital segment (fig. 36-38) : median incision of the ventrocaudal margin broader than long, flanked by minute cones which laterodorsad extend on each side to a stout subconical projection in about the middle of the caudally protruded part. Diaphragm medially very

narrow, dorsal margin deeply v-shaped. Parameres (fig. 40) very similar to those of *A. couturieri* n. sp., but distally more slender. Anal segment (fig. 36 & 39): paired processes short and pointed. Aedeagus (fig. 39) in its basal third in almost a right angle bent dorsad, armed with a sinuate spine arising mediodorsad on the left side; distal third of the aedeagus first dilated, then narrowing to a pointed tip, dorsal margin of distal third sharp-edged with two minute saw-like teeth. Phallotrema subapical on the ventral side.

Length (incl. tegmen): 3.8 mm.

Distribution: Côte d'Ivoire.

#### Genus *Asiracemus*, n. gen.

Externally resembling the genus *Cemus* Fennah, 1964.

Vertex short, at base about twice as broad as medially long, slightly narrower at apex than at base, obtusely rounding into frons, lateral margins shallowly concave; the two basal compartments of vertex together 3.2-3.3 times broader at base as in middle line, median carina separating the basal compartment weak, the other carinae of vertex and frontal carinae slightly prominent; area of basal cells shallowly concave; anterior cell elongate, bending from vertex down to the frons, its lateral margins forming the median y-carina branching at the level of the inferior margin of the compound eyes. Frons about twice as long as broad, lateral margins between the eyes shallowly concave, then slightly convex; frontal areas between the carinae shallowly concave. Postclypeus in middle line 0.4 times shorter than frons, at base little broader than frons at frontoclypeal suture; post- and anteclypeus together slightly shorter than frons (0.85:1); lateral margins of postclypeus as well as median carina of post- and anteclypeus distinctly prominent; clypeus in profile slightly convex. Rostrum attaining postcoxae. Genae with a sharp oblique carina. Antennal segments subcylindrical, 2nd segment about 1.7-1.9 times longer than the 1st; number and arrangement of sensory fields on pedicel: 16-18/7.

Pronotum slightly broader than head (1.05:1), in middle line about as long as vertex; carinae prominent, lateral carinae slightly concave and diverging caudad, not reaching the hindmargin; area of disc almost plain, centrally on each side of the median carina a small pit. Mesonotum broadly rounded, surface smooth, medially about 3 times longer than the pronotum; carinae fine, the lateral ones slightly diverging caudad, almost extinct, median carina attaining the caudal tip. Femora and tibiae of fore- and middle legs « normal », not dilated. Posttibial spur with about 30 minute teeth, 0.6 times shorter than hind-basitarsus. Hind-basitarsus about 1.6 times longer than 2nd and 3rd posttarsal segment together; spinulation of basitarsus 7 (2 + 5), of the 2nd posttarsus 4. Tegmina about 3.2 times longer than broad, hyaline, in posterior half with brown semicircular band reaching from the outer subapical cell over the nodal line submarginally to the apical branches of R and M. Outer subapical cell longer than the inner (1.2:1), ScR-fork distinctly basad of Cu<sub>1</sub>-fork. Veins with small granules.

Drumming organ of the male: apodemes of the 2nd abdominal sternite secondarily reduced in length, shell-like.

Coloration: body chestnut-brown to blackish brown, mesonotum and hindmargin of pronotum lighter; frons with about 16 pale yellowish pustules arranged in pairs indicating the position of the former larval sensory pits.

Male genitalia: genital segment in lateral view trapezoid with straight caudal margin, ventrally about 1.3 times longer than dorsally; dorsolateral angles distinctly produced caudad; in caudal view oval, slightly higher than broad (1.1:1), ventrocaudal margin medially produced into a elongate acute or obtuse process. Diaphragm covering more than half of the caudal area, dorsal margin w-shaped, medially displaying a bilobed process; opening for the parameres almost broad rectangular; diaphragm along the lateral margins deeply sunk cephalad. Anal segment short, ring-like, ventrocaudally closed by narrow bridge, laterodistal angles produced into two spinose processes which are well separated from each other. Parameres simple, rather long and slender, distally diverging, tips bent laterad. Aedeagus stout, dorsoventrally flattened, two spinose processes arising from the apex. Phallotrema subapical on the left side. Connective strongly compressed, dorsally dilated, broadly fused with the membranous chamber of the basal part of the aedeagus. Suspensorium stout, y-shaped, dorsal arms very short.

Type-species: *Asiracemus linnavuorii*, n. sp.

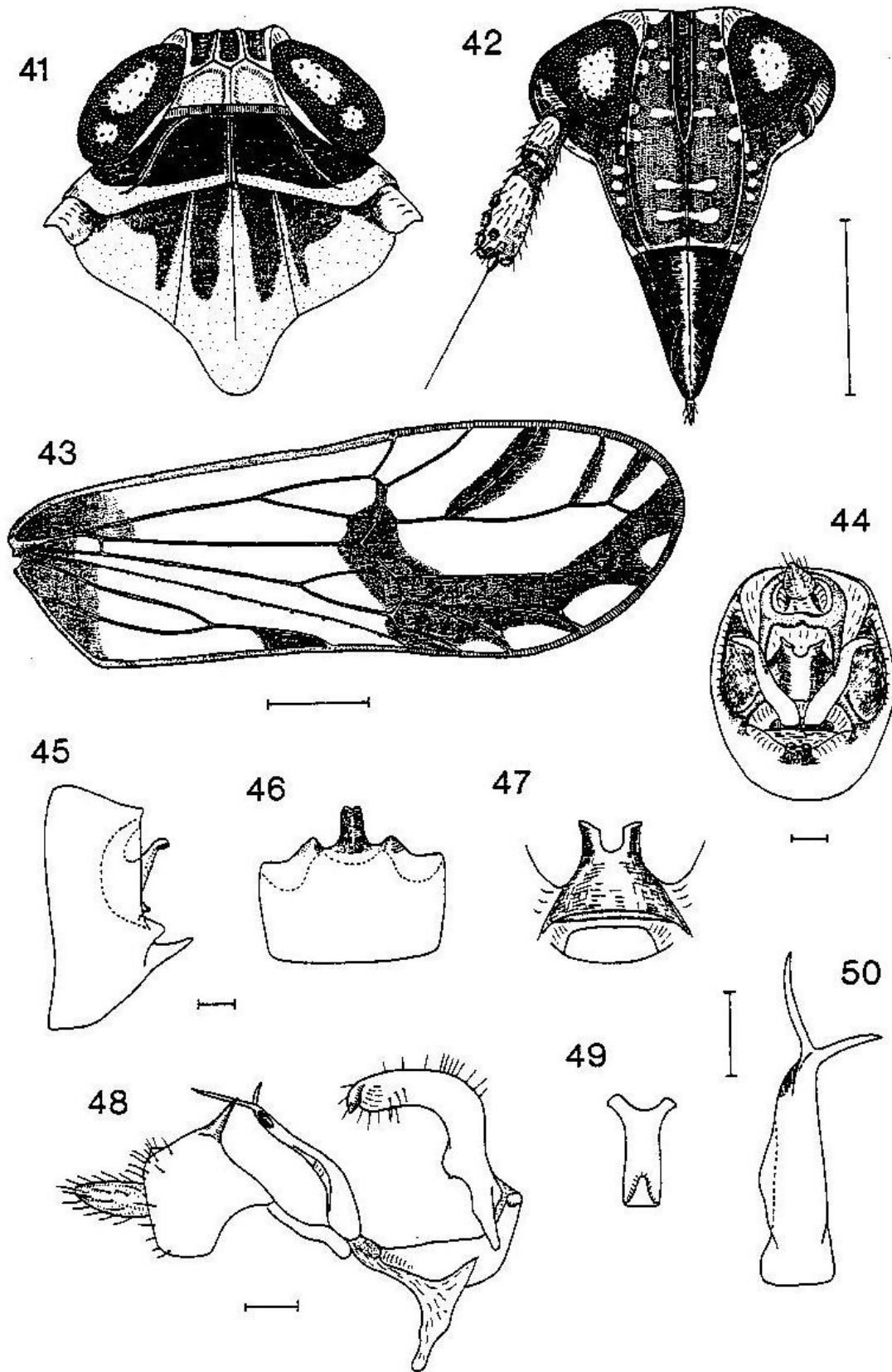


Fig. 41-50, *Asiracemus linnavuorui* n. sp., holotype. — 41, head and thorax, dorsal. — 42, head frontal. — 43, tegmen. — 44, genital capsule, caudal. — 45, genital segment, left lateral. — 46, genital segment, ventral. — 47, process of diaphragm. — 48, male genitalia, left lateral. — 49, suspensorium. — 50, aedeagus, ventral.

**Remarks:** *Asiracemus* n. gen. belongs to the large group of taxa around *Asiracina* Melichar, *Cemus* Fennah, *Cemopsis* Fennah, *Nycheuma* Fennah, *Thriambus* Fennah, *Perkinsiella* Kirkaldy, *Tarophagus* Zimmerman and many more, all characterised by a relatively short and broad vertex, by a deeply forked median carina of the frons, by a y-shaped suspensorium and by shell-like, secondarily reduced apodemes of the 2nd abdominal sternites of the male sound producing organ. This group most likely forms a monophylum within the large group of the most highly derived « modern » Delphacidae in which the females have developed special oviduct-glands producing a fluid which is spread over the eggs after oviposition. The relationships within this monophylum still have to be clarified. *Asiracemus* n. gen. does not possess a recurrent, elongate, flaglike distal part (« flagellum » sensu Fennah) of the aedeagus which is present in most of the genera concerned, e.g. in *Thriambus*-species. It cannot be decided, whether this absence is due to a secondary reduction of such a « flag », or whether a corresponding recurrent part has never been evolved. A similar, but not identical configuration of the aedeagus as in *Asiracemus* n. gen. is developed in the oriental genus *Cemopsis* Fennah, 1978, however, the two genera differ in proportions of the body and in other characters of the male genitalia, especially in the shape of the diaphragm, therefore convergent evolution seems likely. The special diaphragm with two rather long diverging blade-like processes of the mediodorsal margin in combination with a dorsoventrally flattened aedeagus armed with two terminal spines is considered constitutive for *Asiracemus* n. gen.. Transferred into this genus must be *Cemus hipponax* Fennah, 1969, described from Sudan (Equatoria). It is closely related to the type-species.

*Asiracemus hipponax* (Fennah, 1969), n. comb.

*Asiracemus linnavuorii*, n. sp.  
(fig. 41-50)

**Holotype** male macropterous, Côte d'Ivoire. Lamto, 8/9-X-1973, R. Linnavuori leg., paratype ♀ macropterous, *ibid.* LV.

External structures and proportions as in genus description.

**Coloration:** vertex apically pale yellowish, basal compartments brown; frons and genae chestnut-brown with cream yellowish pustules; post- and anteclypeus blackish brown; antennae brown, scape anteriorly with yellowish patch, pedicel anteriorly with oblique yellow stripe; pronotum dark brown with pale yellow hindmargin; mesonotum stramineous with brown longitudinal stripes between and lateral of the carinae; femora of legs brown, distally pale yellow, fore- and middletibiae stramineous with a brown ring near the base, hindtibia brown in its basal half, then turning into stramineous; fore- and middletarsi darkened, hindtarsi stramineous. Tegmina hyaline, basally brownish, apex of clavus brown, semicircular submarginal band in distal half brown, a suffusion overlaying the anterior branch of M in the distal part, veins brown, papillate; hindwings hyaline, veins brown.

**Male genitalia:** genital segment (fig. 44-46): laterodorsal angles with a small subconical projection, ventrocaudal margin medially strongly produced into a subrectangular, dorsocaudad directed process, flanked on each side by a smaller projection of the margin. Mediodorsal process of diaphragm (fig. 47) directed dorsocaudad, projected into two slightly diverging, blade-like lobes. Anal segment (fig. 44 & 48) with two moderately long spines. Aedeagus (fig. 48-49) terminally with two caudad or laterocaudad directed spines, the longer one slightly pointing to the left, the shorter one strongly bent to the right side. Suspensorium (fig. 50) y-shaped with short dorsal arms.

Length (incl. tegmen): male: 3.7 mm, female: 3.8 mm.

Distribution: Côte d'Ivoire.

**Remarks:** In all characters very similar with *Asiracemus hipponax* (Fennah, 1969), but differing in the male genitalia (e.g. shape of the ventrocaudal process of the genital segment, process of diaphragm).

Genus *Asiracina* Melichar

*Asiracina* Melichar, 1912, *Ergebn. Zw. dt. zent. Afr. Exped.*, 1910-1911: 132. — Type-species (by original designation): *Asiracina punctovenosa* Melichar, 1912, *ibid.*: 133, Belgisch Congo.

*Asiracina badia* (Muir, 1920)  
(fig. 51-57)

*Phyllocladus badius* Muir, 1920, *Bull. ent. Res.*, 10: 144, Nigeria.



1 ♀, Tai, II, 18-VII-1979, G. Couturier leg., ORSTOM. — 1 ♀, Adiopodoumé, 1964; AUW. — 1 ♂, 1 ♀, Foro Foro, 23/28-IX-1973; 1 ♂, 1 ♀, Gouméré, 19-IX-1973; 1 ♀, Lamto, 8/9-X-1973; all.: R. Linnavuori leg., LV.

Distribution: Nigeria (MUIR, 1920, 1929; MEDLER, 1980); Sudan: Equatoria (FENNAH, 1969; LINNAVUORI, 1973).

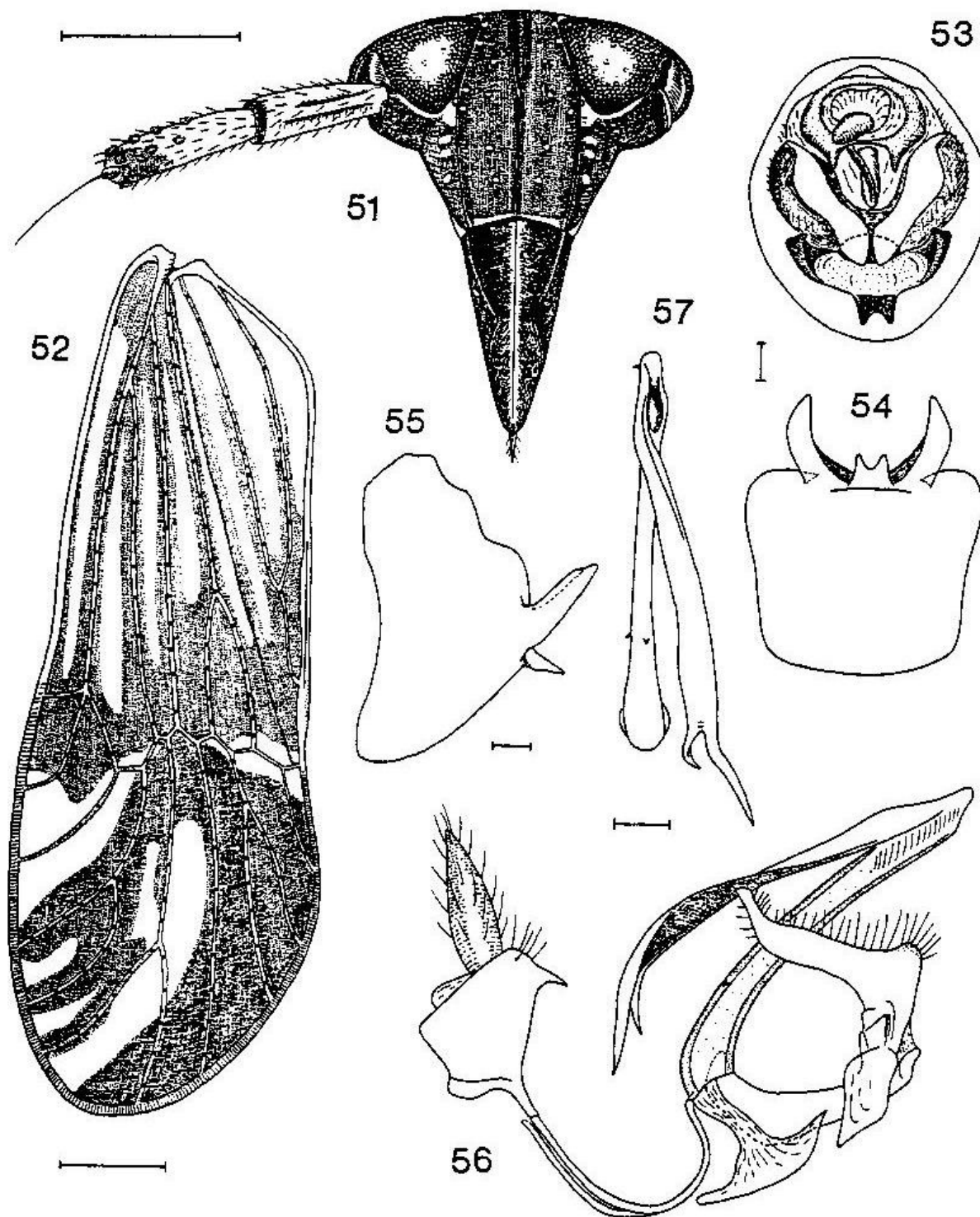


Fig. 51-57, *Asiracina badia* (Muir). — 51, head frontal. — 52, tegmen. — 53, genital capsule, ventrocaudal. — 54, genital segment, ventral. — 55, genital segment, left lateral. — 56, male genitalia, left lateral. — 57, aedeagus, dorsal.

*Asiracina evansi* (Muir, 1929), n. comb.  
(fig. 58-65)

*Phyllocladus evansi* Muir, 1929, *Ann. Mag. nat. Hist.* (10) 4: 194, Gold Coast.

Tai: 1 ♀, II, 17-V-1978; 1 ♂, 1 ♀, II, 12/13-X-1978; 1 ♀, I, 19/20-X-1978; 1 ♀, I, 9/10-XI-1978; 1 ♀, II, 23/24-XI-1978; 1 ♀ brachypterous, II, 8/9-I-1979; 2 ♂, I, 31-V-1979; 1 ♂, I, 19/20-VII-1979; 1 ♀, I, 27/28-IX-1979; all.: G. Couturier leg., MNHN, ORSTOM, MA, BMNH.

Distribution: Ghana: Gold Coast (MUIR, 1929); Nigeria (MEDLER, 1980); Côte d'Ivoire.

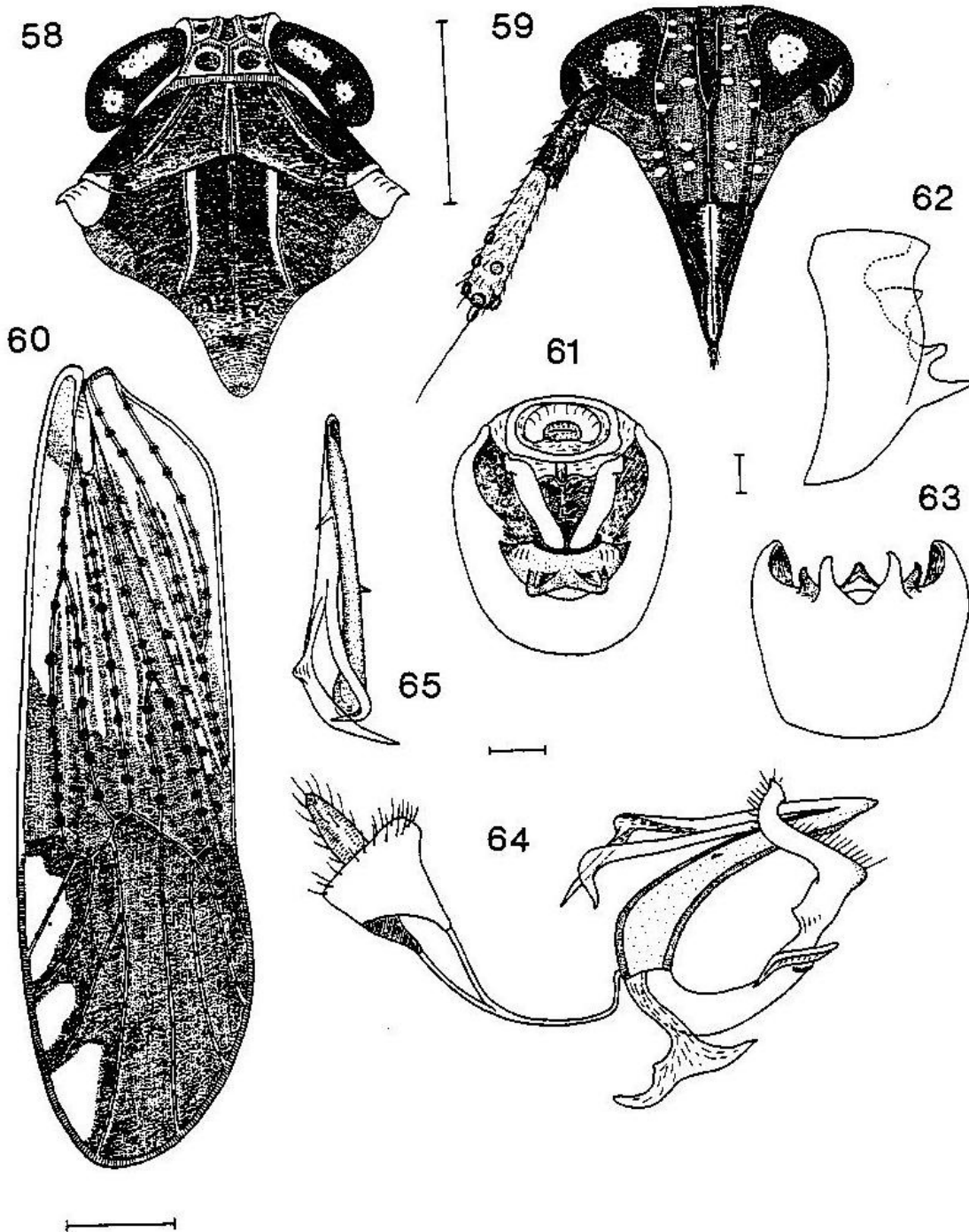


Fig. 58-65, *Asiracina evansi* (Muir). — 58, head and thorax, dorsal. — 59, frons, ventral. — 60, tegmen. — 61, genital capsule, ventrocaudal. — 62, genital segment, left lateral. — 63, genital segment, ventral. — 64, male genitalia, left lateral. — 65, aedeagus, dorsal.

**Remarks:** The genus *Asiracina* is externally very similar to the genus *Phyllodinus* Van Duzee, 1879, by means of foliately expanded femora and tibiae of the fore- and middlelegs. The African species which formerly have been placed in *Phyllodinus* and now are accommodated in *Asiracina* differ considerably from the nearctic type-species *Phyllodinus nervatus* Van Duzee, 1897, in characters of the male genitalia: genital segment with paired subcylindrical processes at the ventrocaudal margin (missing in *P. nervatus*), parameres distally diverging (in *P. nervatus* converging), aedeagus with a long recurrent, flag-like distal part (in *P. nervatus* without recurrent « flag »), suspensorium y-shaped (in *P. nervatus* rectangular). These differences do not support the assumption of a closer relationship between these taxa. Therefore the African *Asiracina*-species which are likely to be monophyletic should be kept separate from the North American genus *Phyllodinus*. *Asiracina* contains the species *Asiracina badia*, *Asiracina evansi* and *Asiracina punctovenosa*, the latter has not yet been re-examined and could even be identical either with *A. evansi*, or with *A. badia*. Also here belongs *Phyllodinus albofasciata* Muir, 1929 from South Africa, Natal.

*Asiracina albofasciata* (Muir, 1929), n. comb.

The generic position of *Asiracina micraulax* Fennah, 1963, from Cameroon, which does not possess dilated legs and which differs in the male genitalia, is uncertain, provisionally it is kept here. The relationships between *Asiracina* and the oriental taxa with foliated legs which are still placed in *Phyllodinus* V.D. has to be clarified.

Genus *Dogodelphax* Lindberg

*Dogodelphax* Lindberg, 1956, *Bull. Inst. fr. Afr. noire, sér. A*, 18 (4): 1201-1202. — Type-species (by original designation): *Dogodelphax nigropunctatus* Lindberg, 1956, *ibid.*: 1202-1203, Niger.

Since the original description of the genus *Dogodelphax* Ld. is not very detailed, the following re-description includes several characters which have not been mentioned by Lindberg.

Additional description of the genus *Dogodelphax* based on paratypes of *Dogodelphax nigropunctatus* (see fig. 75-81):

Vertex broader at base than long in middle line (1.2:1), lateral margins shallowly concave; basal compartments about half as long as vertex, area shallowly concave, almost plain; apical compartment extending down to frons; carinae of head and pronotum slightly prominent, median frontal carina branching at level of ocelli. Frons twice as long as its maximum width, broadest shortly above the ocelli; lateral margins slightly convex, frontal area almost plain. Postclypeus less than half as long as frons (0.4:1), post- and anteclypeus together 0.8 times shorter than frons. Rostrum attaining postcoxae. Antennae: 1st segment slightly compressed, distally expanded, about 0.6 times wider than at base, inferiorly carinate; 2nd segment slightly compressed at base, then cylindrical, 1.7 times longer than 1st joint.

Pronotum medially shorter than vertex (0.8:1), less broad than head (0.9:1); disc almost plain; lateral carinae curved laterad, not attaining the hindmargin. Mesonotum dorsally plain, laterally vaulted, at middle about 3.5 times longer than pronotum, lateral carinae straight, almost parallel to median carina, the latter not reaching the apex. Posttibial spur foliate, with 20-22 minute teeth. Postbasitarsus about 1.4 times longer than 2nd and 3rd posttarsal joint together, distally with 7 (2 = 5) spines; 2nd posttarsal joint 4 spines. Tegmina hyaline, veins distinctly granulate. Sc + R and Cu<sub>1</sub> branching at the same level shortly before fusion of common anal veins with the inner margin; subapical cell about the same size.

Male drumming organ with secondarily reduced, shell-shaped apodemes of the 2nd abdominal sternite.

Coloration: vertex, pro- and mesonotum yellowish white; frons, clypeus, genae and abdomen brown; frons and genae with yellowish markings; genae basad of eyes whitish; antennae yellowish brown with ring-like brown marking at the apex of scape and the base of pedicel, the latter diffusely brown at apex; legs with ring-like brown markings; these especially pronounced at the fore- and middletibiae (3 rings each). Tegmina: pustules on veins marked by brown patches; apex between common anal vein and inner margin brown; in the distal part a quartercircular band leading from the upper angle of the outer subapical cell over the nodal line submarginally to the apex; subapical branch of R overlaid by a brown suffusion.

Male genitalia : genital segment about triangular in lateral view, caudally higher than broad (1.1-1.2:1); ventrocaudal margin strongly produced into a flat, distally trilobed process; dorsal margin of diaphragm u- or v-shaped. Parameres slender, distally diverging. Anal segment with two spinose processes originating at the ventrolateral bases, ventral side membranous. Aedeagus with a slender ventrocaudad directed process arising from the ventral base; dorsally in distal quarter of the shaft originating a solid spine; distal part of the aedeagus turned dorsobasad, short, phallosome apical in membranous tube. Connective compressed, broadly fused with basal chamber of aedeagus. Suspensorium deeply y-shaped.

*Dogodelphax maculatus*, n. sp.

(fig. 66-74)

Holotype male macropterous, Côte d'Ivoire, Tai forest, I, 9/10-XI-1978, G. Couturier leg., MNHN. Paratypes : Tai : 2 ♀, II, 12/13-X-1978; 1 ♂, 2 ♀, I, 1 ♂, 3 ♂, II, 9/10-XI-1978; 2 ♂, I, 1 ♀, II, 23/24-XI-1978; 1 ♂, II, 1/2-III-1979; 1 ♂, I, 21/22-VI-1979, all. : G. Couturier leg., MNHN, ORSTOM, MA, BMNH. — 2 ♂, 2 ♀, Abengourou, s/pp Cocos, Nov. 1975, R. Desmier de Chenon leg., MRAC.

In external features (coloration, body-shape, size, proportions) similar to *D. nigromaculatus*, but differing in structures of the male genitalia.

Male genitalia : genital segment (fig. 69-71) : laterodorsal angles rounded, without any projections; ventrocaudal projection distally trilobed, median lobe rather slender. Parameres (fig. 73) distally strongly bent laterad, pointed. Anal segment (fig. 72 & 74) : laterodorsal angles of the ventral margin strongly produced into lobe-like processes; ventrobasal spines almost equally long, slightly bent mediad. Aedeagus (fig. 72) ventrobasal process about half a long as the shaft; dorsodistal spine strongly bent basad.

Length (incl. tegmen) : Male : 3.4-3.9 mm. Female : 3.4-3.7 mm.

Distribution : Côte d'Ivoire.

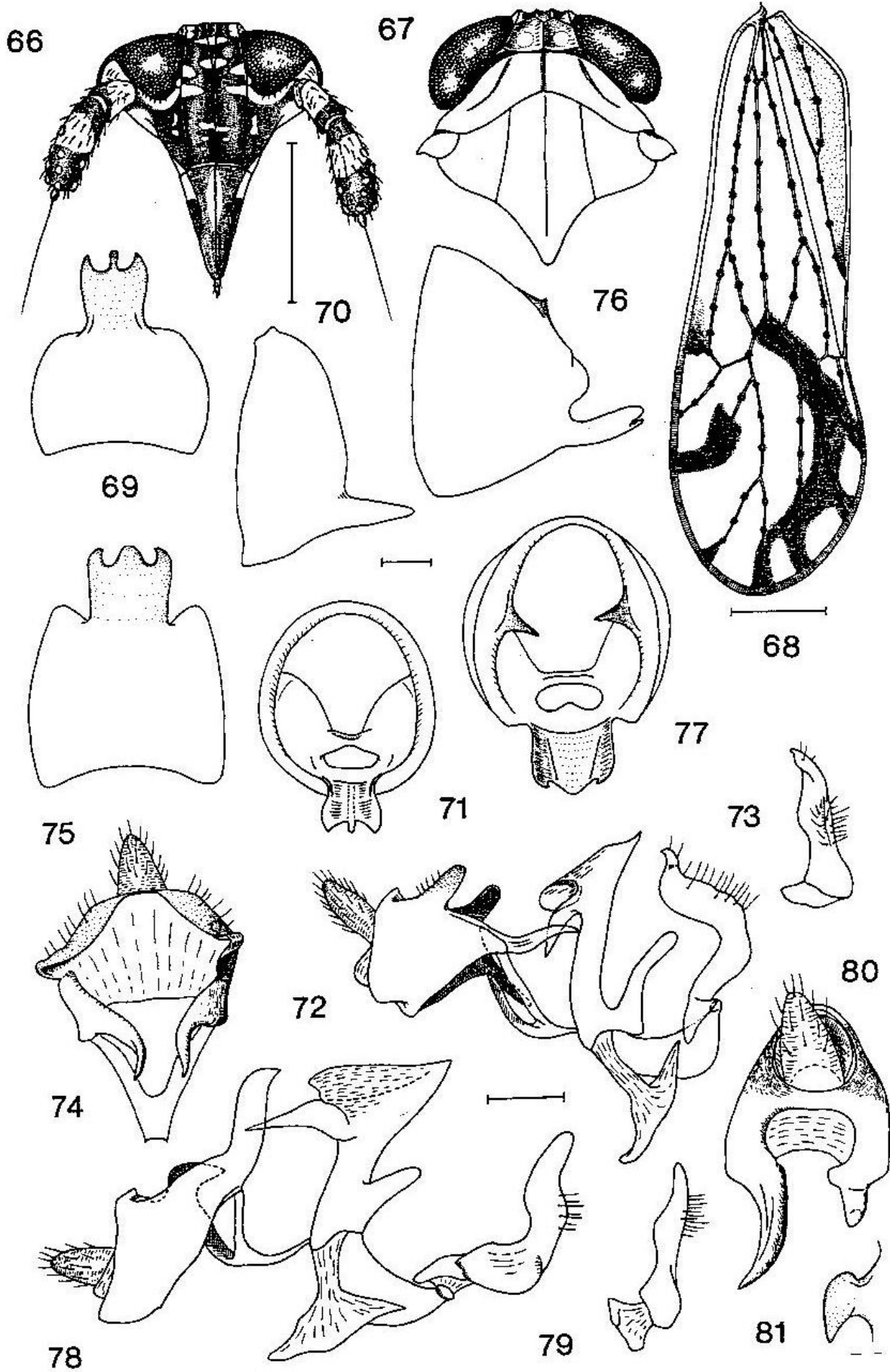
Remarks : The genus *Dogodelphax* belongs to the *Cemus-Thriambus-Perkinsiella*-group of taxa providing a forked frontal carina, a y-shaped suspensorium, a recurrent, flag-like distal part of the aedeagus and reduced apodemes of the 2nd sternite in the male sound producing organ. Within this group it shows slight similarities with *Perkinsiella*, in the shape of the antennae and in the median projection of the ventrocaudal margin of the genital segment, however, the relationships to this or to other genera of this group may only be clarified by a cladistic analysis. The differences between *Dogodelphax maculatus* n. sp. and *Dogodelphax nigropunctatus* (drawn for comparison : fig. 75-81) are mainly found in the following structures of the male genitalia : — laterodorsal angles in *D. maculatus* rounded, in *D. nigropunctatus* produced into strong, mediad directed, spinose processes; — apex of ventrocaudal projection of genital segment in *D. maculatus* with a thin median process, in *D. nigropunctatus* with a broad median lobe; — Anal segment : in *D. maculatus* dorsolateral angles strongly produced, in *D. nigropunctatus* rounded; ventrobasal spines in *D. maculatus* equally long, in *D. nigropunctatus* the left spine considerably longer than the right; — Parameres : in *D. maculatus* apically pointed, in *D. nigropunctatus* apically rounded; — aedeagus : basoventral process in *D. maculatus* much longer and separated nearer at base than in *D. nigropunctatus*; dorsal spine in *D. maculatus* bent basad, in *D. nigropunctatus* dorsad.

Genus *Eripison* Fennah

*Eripison* Fennah, 1969, *Acta ent. fenn.*, 26 : 63. — type-species (by original designation) : *Kelisia snelli* Muir, 1925 ? *Trans. ent. Soc. London* 1924 : 467, Indian Ocean : Rodriguez I.

Fig. 66-74, *Dogodelphax maculatus* n. sp., paratype. — 66, head, frontal. — 67, head and thorax, dorsal. — 68, tegmen. — 69, genital segment, ventral. — 70, genital segment, left lateral. — 71, genital segment, caudal. — 72, male genitalia, left lateral. — 73, left paramere, ventral. — 74, anal segment, ventral.

Fig. 75-81, *Dogodelphax nigropunctatus* Lindberg. — 75, genital segment, ventral. — 76, genital segment, left lateral. — 77, genital segment, caudal. — 78, male genitalia, left lateral. — 79, left paramere, ventral. — 80, anal segment, caudal. — 81, anal segment, detail : right lateral process.



*Eripison snelli* (Muir, 1925)  
(fig. 82-88)

*Kelisia snelli* Muir, 1925, *op. cit.*

*Eripison illex* Fennah, 1969, *Acta ent. fenn.*, 26 : 63-64, Cameroon. *NEW SYNONYMY.*

Tai : 1 ♀ I, 1 ♂, 1 ♀ II, 12/13-X-1978 ; 1 ♂, I, 19/20-X-1978 ; 1 ♂, I, 9/10-XI-1978 ; 1 ♂, 3 ♀ I, 1 ♂, 2 ♀ II, 23/24-XI-1978 ; G. Couturier leg., MNHN, ORSTOM, MA, BMNH. — 1 ♂, Adiopodoumé, 29-IX/7-X-1973 ; 1 ♂, Gouméré, 19-IX-1973 ; 1 ♂, 3 ♀, Man, 14/21-X-1973, all : R. Linnavuori leg., LV.

Distribution : Indian Ocean : Rodriguez Is. (MUIR, 1925), Cameroon (FENNAH, 1969), Nigeria (MEDLER, 1980), Sudan : Bahr el Ghazal (FENNAH, 1969, LINNAVUORI, 1973)

**Remarks :** The holotype male of *Kelisia snelli* Muir, 1925, (BMNH) shows in all aspects no significant differences from the West African *Eripison illex* specimens. The characters mentioned by Fennah (1969) for the discrimination of the two taxa, e.g. length of the dorsal pair of processes of the anal segment and the relative length of the vertex, proved to be rather variable even within the same population. The genus now accommodates only one species which is widely distributed in the tropical and subtropical Africa and in the western part of the Indian Ocean. The East African species « *Liburnia* » *antennata* Jacobi, 1910 (Zool. Exp. Kilimandjaro : 112) cannot belong to *Eripison* because of its entirely different male genitalia ; its generic position still has to be clarified.

Genus *Euidopsis* Ribaut

*Euidopsis* Ribaut, 1948, *Commentat. biol.*, 10 (8) : 18. — Type-species (by original designation) : *Euidopsis truncata* Ribaut, 1948, *ibid.* : 18. Cyprus.

*Euidopsis truncata* Ribaut, 1948  
(fig. 89-94)

*Euidopsis palaemon* Fennah, 1969, *Acta ent. fenn.*, 26 : 27, Sudan : Eutoria. *NEW SYNONYMY.*

Tai : 1 ♂, II, 11/12-XII-1978, G. Couturier leg., ORSTOM.

Distribution : Widespread in the Mediterranean Region, especially in the eastern part (compiled data in ASCHE (1982a)) ; South Africa. Swaziland (*ibid.*) ; Sudan : Eutoria (FENNAH, 1969 ; LINNAVUORI, 1973) ; Côte d'Ivoire.

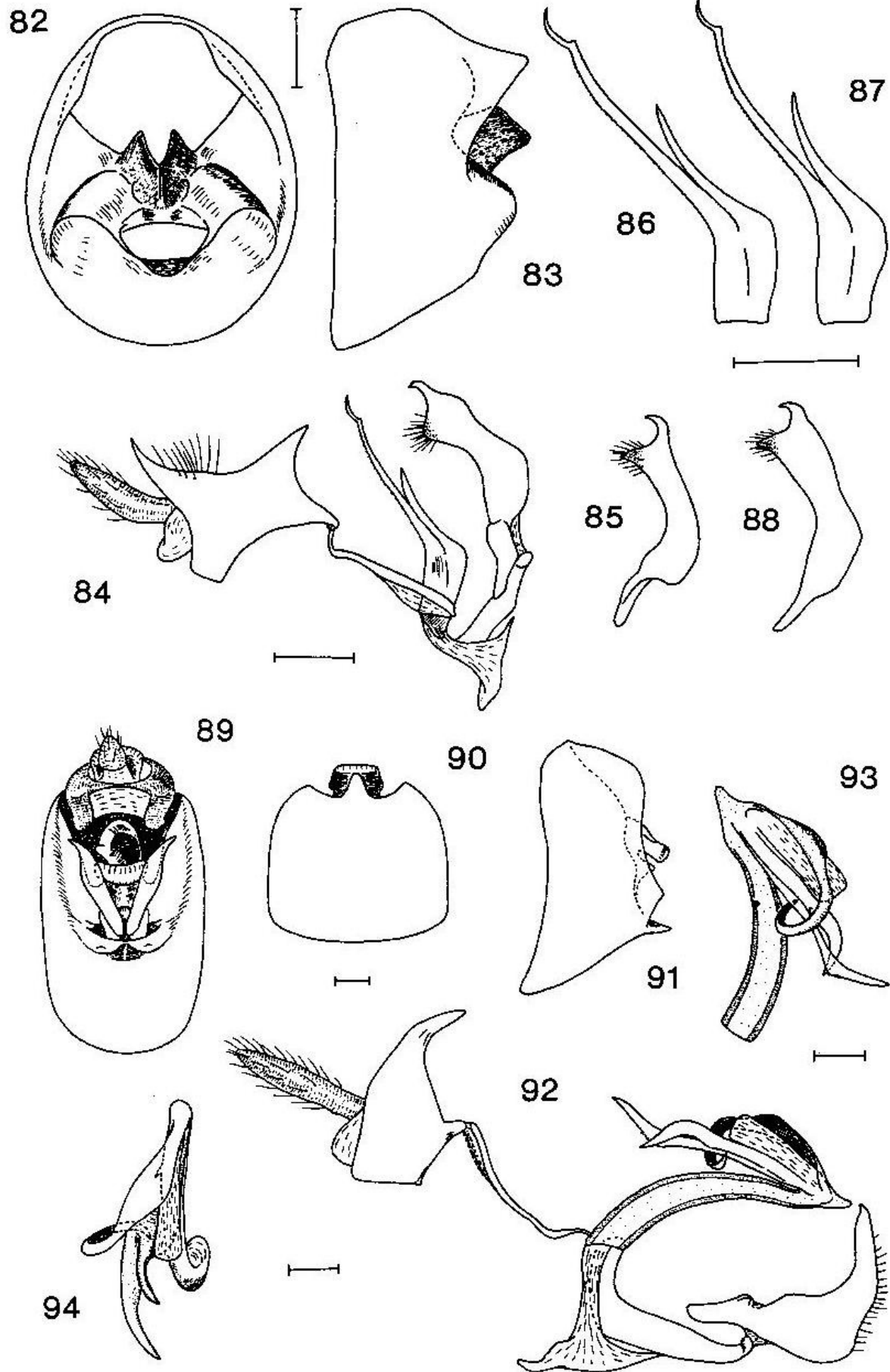
**Remarks :** The genus *Euidopsis* belongs to the *Cermes-Thriambus-Perkinsiella*-group of taxa (see above). No significant differences between *Euidopsis palaemon* and *E. truncata* could be found, the discriminating characters mentioned in the original description of *E. palaemon* (FENNAH, 1969) lie within the range of intraspecific variation of *E. truncata*. The genus remains for the time being monotypic. I have found specimens of undescribed species of this genus in the Oriental Region (Sulawesi) and in Australia (Queensland). In both cases, as in the Mediterranean Region, the insects were associated with the grass *Imperata cylindrica* which is widely distributed in the palaeotropics.

Genus *Falcotoya* Fennah

*Falcotoya* Fennah, 1969, *Pacif. Insects Monogr.*, 21 : 39. — Type-species (by original designation) : *Falcotoya aurinia* Fennah, 1969, *ibid.* : 40, New Caledonia.

Fig. 82-88, *Eripison snelli* (Muir). — 82-86, specimen from Ivory Coast ; 87, 88, holotype (Rodriguez Isl.). — 82, genital segment, caudal. — 83, genital segment, left lateral. — 84, male genitalia, left lateral. — 85, 88, left paramere. — 86, 87, aedeagus left lateral.

Fig. 89-94, *Euidopsis truncata* Ribaut. — 89, genital capsule, ventrocaudal. — 90, genital segment, ventral. — 91, genital segment, left lateral. — 92, male genitalia, left lateral. — 93, aedeagus, right lateral. — 94, aedeagus, dorsal.



*Falcotoya aglauros* (Fennah, 1958)

(fig. 95-100)

*Delphacodes aglauros* Fennah, 1958, *Bull. Inst. fr. Afr. noire*, sér. A, 20 (2) : 487-488, Sénégal.

Tai : 1 ♂, II, 12/13-X-1978 ; 3 ♂, I, 9/10-XI-1978 ; G. Couturier leg., MNHN, ORSTOM, MA. — 1 ♂, Adiopodoumé, 29-IX/7-X-1973 ; 1 ♂, Foro Foro, 25/28-IX-1973 ; 3 ♂, Gouméré, 19-IX-1973 ; 1 ♂, Man, 14/21-X-1973 ; all : R. Linnavuori leg., LV.

Distribution : Senegal (FENNAH, 1958a) ; Côte d'Ivoire.

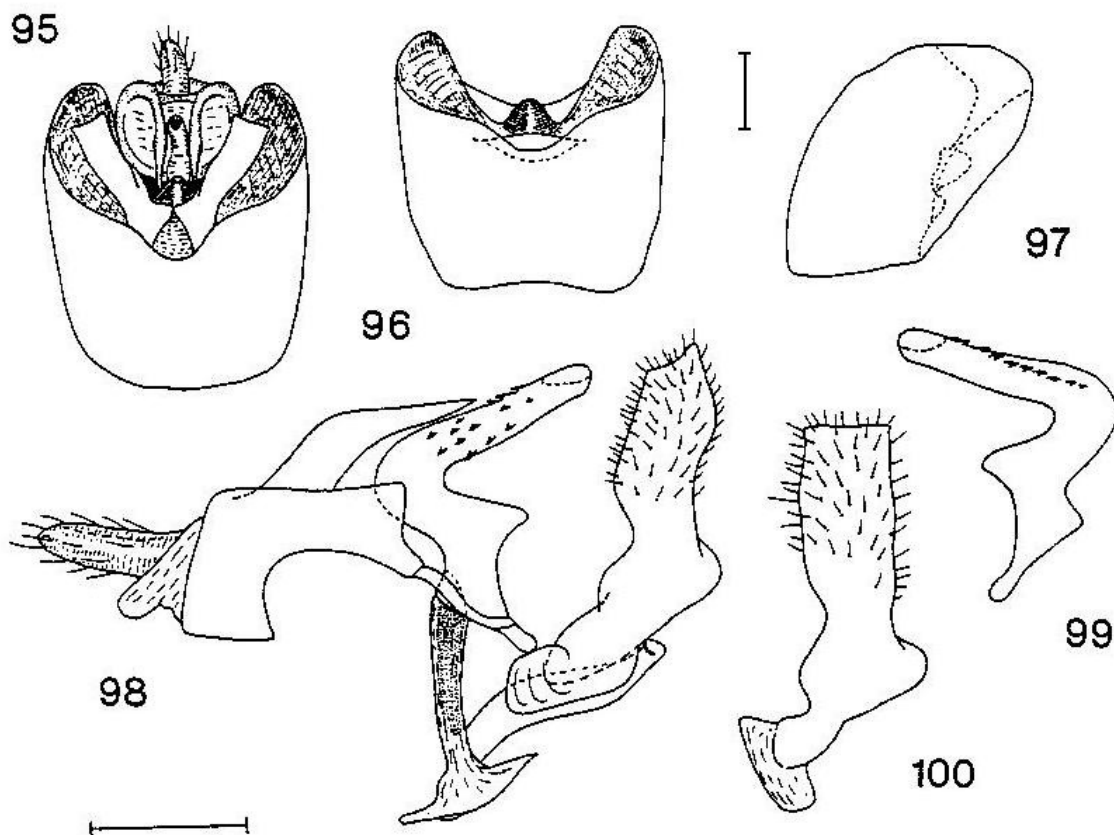
**Remarks :** In the general shape of the male genitalia *Falcotoya aglauros* is rather similar to *Delphacodes sporoboli* Lindberg, 1958, described from the Capverde Islands, but it differs considerably in the coloration : while *D. sporoboli* in both sexes is uniformly yellowish or stramineous, *D. aglauros* is much darker (mesonotum and abdomen blackish brown). *Delphacodes sporoboli* had been placed into the genus *Toya* by Linnavuori (1973 : 107), from which it here is transferred to *Falcotoya*.*Falcotoya sporoboli* (Lindberg, 1958), n. comb.*Delphacodes sporoboli* Lindberg, 1958, *Commentat. biol.*, 19 (1) : 153-154.LINNAVUORI (1964 : 208) recorded *F. sporoboli* from Egypt, and later (1973) from Sudan : Northern Province, Kassala, Blue Nile, Darfur. These records should be thoroughly checked as they possibly might concern *F. aglauros*.Genus *Garaga* Anufriev*Garaga* Anufriev, 1977, *Zool. Zh.*, 56 (6) : 867 ; as n. nom. given for*Nagara* Vilbaste, 1968, Über die Zikadenfauna des Primorje Gebietes (in Estonian), Tallin : 35-36. — Type species (by original designation) : *Liburnia nagaragawana* Matsumura, 1900, *Ent. Nachr.*, 26 : 265, Japan.

Fig. 95-100, *Falcotoya aglauros* Fennah. — 95, genital capsule, ventrocaudal. — 96, genital segment, ventral. — 97, genital segment, left lateral. — 98, male genitalia, left lateral. — 99, aedeagus, right lateral. — 100, left paramere.



*Garaga trifida*, n. sp.  
(fig. 101-107)

Holotype male macropterous, Côte d'Ivoire, Tai forest, I, 23/24-XI-1978, G. Couturier leg., MNHN. — Paratypes: *ibid.*, 2 ♂, 1 ♀, I, 2 ♂, 2 ♀, II, 23/24-XI-1978, G. Couturier leg., MNHN, ORSTOM, MA.

Slender, brownish, medium sized delphacids.

Vertex slightly longer than broad at base (1.1 : 1), lateral margins distinctly concave; single basal compartment 1.2 times longer than basally broad; apical cell leading a short distance down to frons; median frontal carina forked shortly before reaching the apex of vertex. Frons high and narrow, about 2.5 times as high as its maximum width, broadest at level of ocelli; lateral margins beneath the ocelli almost parallel; frontal area between the carinae concave. Post- and anteclypeus together as long as frons, both with a prominent median carina. Rostrum attaining the hindtrochanters. Antennal segments cylindrical, 2nd. segment 1.8 times longer than 1st; number and arrangement of sensory fields on pedicel: 16/7.

Pronotum little shorter than vertex (0.85 : 1), broader than the head (1.1 : 1); lateral carinae sinuate around the hindmargins of the eyes, caudally extinct. Mesonotum medially 3.5 times longer than pronotum, shallowly rounded; lateral carinae slightly diverging caudad, median carina extinct before reaching the apex. Posttibial spur thickly foliate with 30-35 minute teeth. Postbasitarsus about 1.8 times longer than segments 2 + 3 together; spinulation of postbasitarsus 7 (2 + 5), of the 2nd 4.

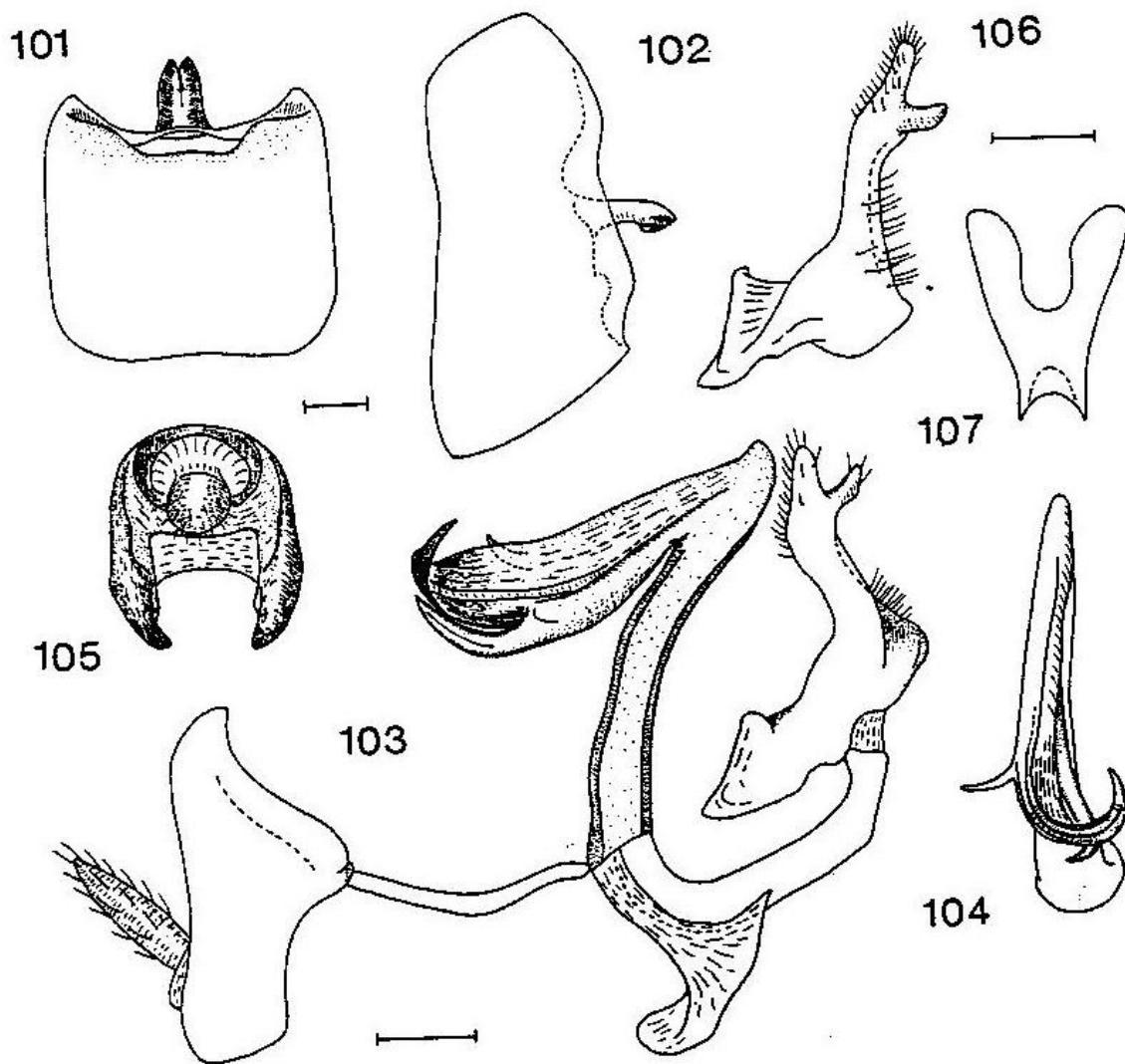


Fig. 101-107, *Garaga trifida* n. sp., paratype. — 101, genital segment, ventral. — 102, genital segment, left lateral. — 103, male genitalia, left lateral. — 104, aedeagus, dorsal. — 105, anal segment, caudal. — 106, left paramere. — 107, suspensorium.

Tegmina translucent, slightly brownish, veins with small granulation; outer subapical cell little longer than the inner one, ScR- fork shortly caudad of basal half of clavus.

Coloration: lateral parts of pronotum and mesonotum as well as the abdomen dark brown; dorsally between the lateral carinae of pro- and mesonotum a longitudinal whitish or light yellowish stripe which anteriorly extends to the vertex; frons, clypeus, genae, antennae and tegulae stramineous to pale brownish, frons with light yellowish pustules, genae below the eyes with a whitish band; 1st. antennal segment darkend at apex, 2nd at base. Inner margin of tegmina whitish, clavus diffusely light brownish; from the inner subapical cell a straight brown band overlaying the inferior  $Cu_1$ -branch until the apex.

Male genitalia: genital segment (fig. 101-102) in lateral view trapezoid, ventral side 1.6 times longer than dorsal; caudal area oval, 1.3 times higher than broad; ventrocaudal margin shallowly excavated without any projections. Dorsal margin of diaphragm shallowly concave, medially prolonged into a rather narrow, ventrocaudad directed process which is apically split into two lobes. Anal segment (fig. 105) ventrally open, membranous, lateroventral margins on each side produced into a stout, spinose, distally ventromedial directed process. Parameres (fig. 103 & 106) long, diverging, distally forked into a laterad directed tip and a mediodorsad directed subcylindrical process. Aedeagus (fig. 103-104) with a broad flag-like, recurrent distal part which is bent dorsobasad. Apex of distal part split into three spinose tips, a smaller spine on the right side bent to the right; a longer spine originating from the left side, first slightly bent to the left, then with its tip curved to the right side; mediodistal part forms a broad band bearing subapically the phallotreme, apex bent to the left. Connective straight, dorsally slightly compressed and broadly fused with the ventral side of the aedeagus-chamber. Suspensorium short, y-shaped with broad stem.

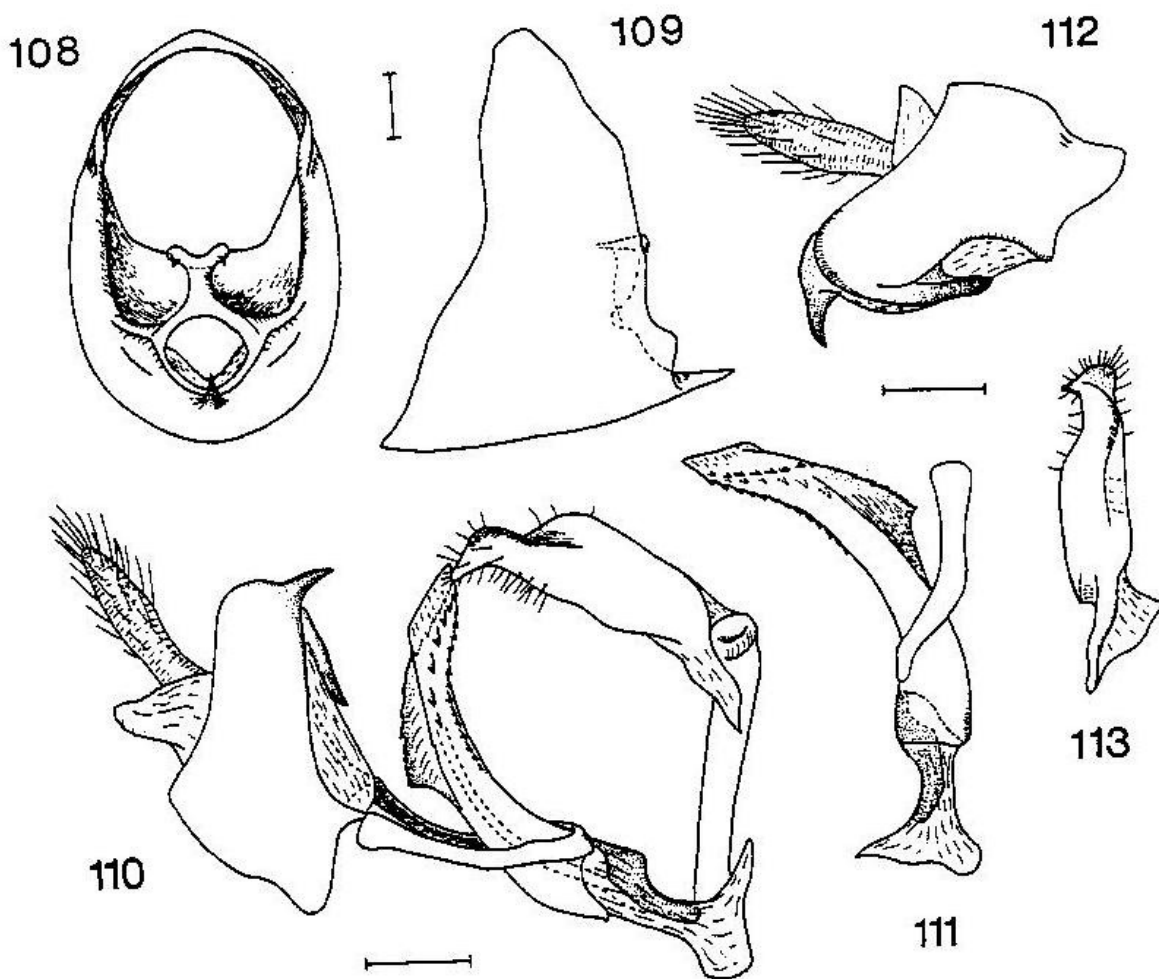


Fig. 108-113, *Hapalomelus onytes* Fennah. — 108, genital segment, caudal. — 109, genital segment, left lateral. — 110, male genitalia, left lateral. — 111, aedeagus, right lateral. — 112, anal segment, right lateral. — 113, left paramere.

Length (incl. tegmen) : males : 3.9-4.1 mm, females : 4.6 mm.

Distribution : Côte d'Ivoire.

Remarks : *Garaga trifida* n. sp. belongs to the *Cemus-Thriambus-Perkinsiella*-group of taxa (see above). It can easily be distinguished from the African members of this group by the apically branched parameres of the male genitalia.

The placement of this new species into the Oriental genus *Garaga* is still tentative because of differences from the type-species *G. nagaragawana* in the shape of the ventrocaudal margin of the genital segment and in the structures of the diaphragm. On the other hand *G. trifida* n. sp. does possess similarly shaped parameres and in general aspect a similar anal segment and aedeagus. In the possession of terminally bilobed parameres *G. trifida* n. sp. also resembles the Southern Chinese species « *Dicranotropis* » *tortilis* Kuoh, 1982, which generically is still equally unclear.

### Genus *Hapalomelus* Stål

*Hapalomelus* Stål, 1853, *Öfvers. K. Vetensk. Akad. Förh. Stockh.*, 10 : 265. — Type-species (by monotypy) : *Hapalomelus flaviceps* Stål, 1855, *ibid.* 12 : 93, South Africa : Natal.

### *Hapalomelus onytes* Fennah, 1969

(fig. 108-113)

*Acta ent. fenn.* 26 : 36-37, Sudan : Equatoria.

Tai : 1 ♂, II, 14/15-IX-1978 ; 4 ♂, 3 ♀, I, 2 ♂, 3 ♀, II, 12/13-X-1978 ; 3 ♂, I, 19/20-X-1978 ; 1 ♂, I, 3 ♂, II, 9/10-XI-1978 ; 2 ♂, I, 1 ♀, II, 23/24-XI-1978 ; 1 ♂, II, 7/8-IV-1979 ; all : *G. Couturier* leg., MNHN, ORSTOM, MA, BMNH. — 3 ♂, 6 ♀, Côte d'Ivoire, Adiopodoumé, 1964, AUW. — 71 ♂, 85 ♀, Côte d'Ivoire, Mt. Tonkui, 15/22-X-1973 ; 4 ♂, 3 ♀, Man, 14/21-X-1973 ; 4 ♂, 2 ♀, Lamto, 8/9-X-1973 ; 1 ♂, 2 ♀, Maraoué, 12/13-X-1973 ; 3 ♂, 4 ♀, Gouméré, 19-IX-1973 ; 1 ♂, Kiriao, 17-X-1973 ; 1 ♂, nr. Touba, 23-X-1973 ; all : *R. Linnavuori* leg., LV.

Distribution : Sudan : Equatoria (FENNAH, 1969 ; LINNAVUORI, 1973) ; Cameroon (VAN STALLE, 1984) ; Côte d'Ivoire.

### Genus *Harmalianodes*, n. gen.

Small, slender, yellowish-brown deiphacids with hyaline wings, externally resembling the genus *Thymobares* Fennah.

Vertex broader at base than medially long (1.2 : 1), widening to frons, broadly rounding into frons, lateral margins concave ; basal compartments about half as long as vertex, median carina separating the compartments indistinct, area shallowly concave ; apical cell prolonged to frons, lateral carinae distinct, included area concave ; frontal carina forked at level of ocelli, projected against the lateral margins of frons, frontal area convex. Frons about 1.4 times as high as its maximum width, broadest at level of the ocelli, lateral margins convex. Postclypeus in middle line 0.4 times, post- and anteclypeus together about 0.7 times shorter than frons ; postclypeus at frontoclypeal suture distinctly broader than frons ; frons and clypeus in profile convex. Rostrum attaining the hindcoxae. Antennal segments subcylindrical, distally slightly widening ; 2nd segment 2.5 times longer than the 1st. ; number and arrangement of sensory fields on pedicel : 16/7.

Pronotum shorter than vertex (1.75 : 1), slightly narrower than the head (0.95 : 1), dorsally rounded ; lateral carinae curved behind the eyes, not reaching the hindmargin. Mesonotum broadly vaulted, carinae indistinct ; lateral carinae slightly diverging caudad, median carina extinct before reaching the apex. Posttibial spur triangular in cross section with foliate inner margin, 12-14 minute teeth. Postbasitarsus short, only about 1.3 times longer than the 2nd and 3rd posttarsal segment together ; apical spinulation of basitarsus 7 (2 + 5), of 2nd segment 4 in a row. Tegmina twice as long as broad, veins with minute granulation ; subapical cells equally long, comparatively short, Sc + R and Cu<sub>1</sub> branching shortly basad of the fusion of the common stalk of the anal veins with the inner margin ; apex of clavus obtuse. Male drumming organ with two long and thin, dorsocaudad directed apodemes of the 2nd abdominal sternite.

Male genitalia : genital segment in lateral view irregularly trapezoid, ventrally about as long as dorsally ; dorsolateral angles strongly projected caudomediad forming a subglobular process ; ventrocaudal margin concave. Diaphragm dorsally w-shaped, dorsal margin medially projected into a long, dorsocaudad directed process. Anal segment ventrodistally closed by a narrow bridge, ventral area membranous ; laterocaudal angles of the ventral margin on each side produced into a spinose process. Tips of parameres converging, laterally basad of the tip a flat, ear-shaped extension. Aedeagus basally split into a sperm-conducting ventral part and a dorsal horn-shaped process. Connective about straight, fused centrally with the ventral side of the basal aedeagus chamber. Suspensorium forming a short, rectangular plate.

Type-species : *Harmalianodes furcatus*, n. sp.

Remarks : The genus *Harmalianodes* n. gen. is characterised by its short, broad and apically rounded vertex, by its broad and low frons with a distinct y-shaped median carina, by comparatively short postbasitarsi, and by the characters of the male genitalia : laterodorsal angles of the genital segment produced, large dorsocaudad directed process of the diaphragm, aedeagus with a horn-shaped process arising from its dorsal base.

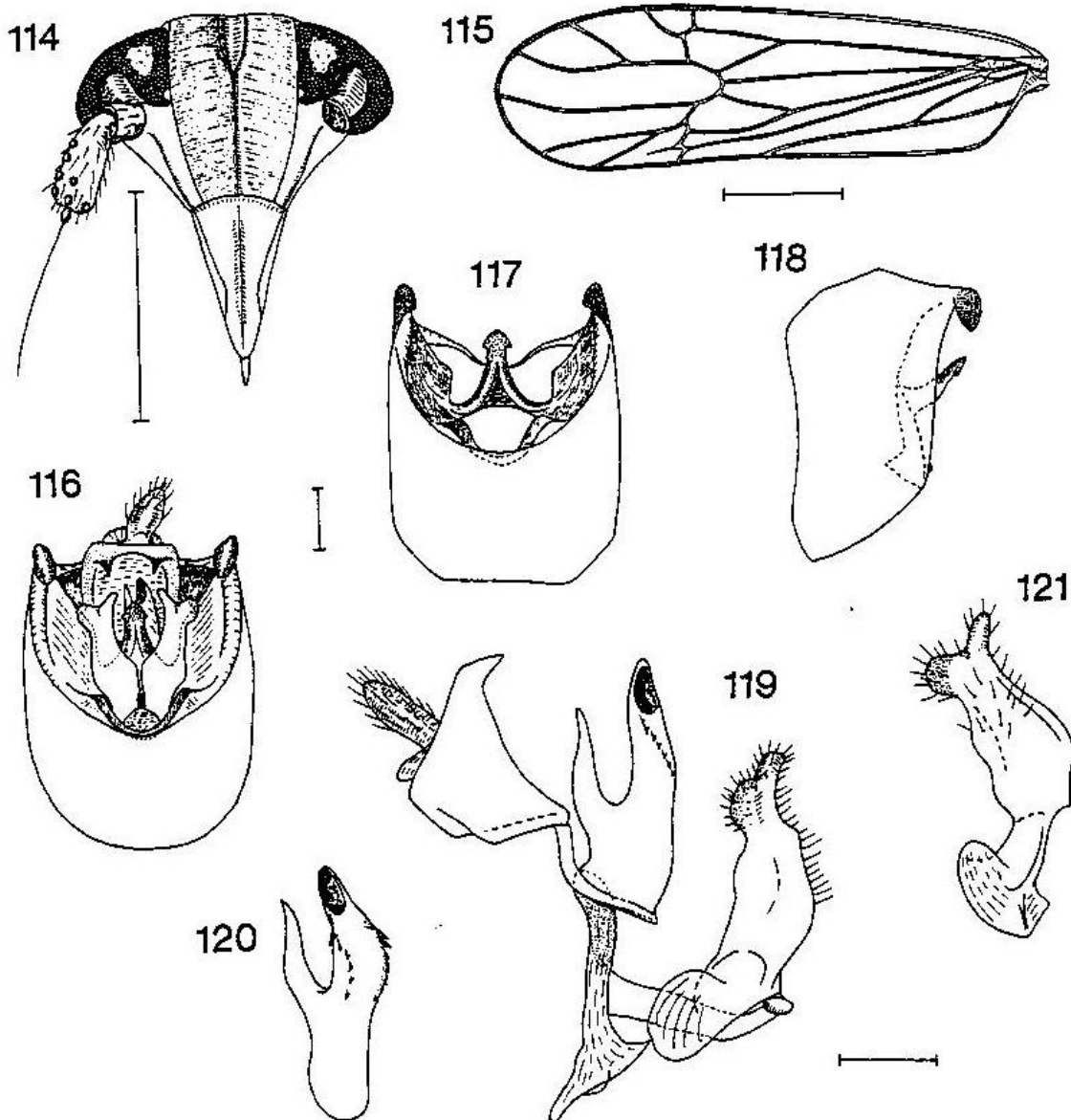


Fig. 114-121, *Harmalianodes furcatus* n. sp., paratype. — 114, head, frontal. — 115, tegmen. — 116, genital capsule, ventrocaudal. — 117, genital segment, ventral. — 118, genital segment, left lateral. — 119, male genitalia, left lateral. — 120, aedeagus, ventrolateral. — 121, left paramere.

In the shape of the genital segment and — to a certain extent — of the parameres the new genus resembles the oriental and pacific genus *Harmalia* Fennah, 1969; however, it differs distinctly in the shape, carination and proportions of frons and vertex, in the relative length of the postbasitarsus and in the male genitalia (diaphragm-process, anal segment, aedeagus). Projected laterodorsal angles are also present in some *Toya* s. str.-species, but these species differ considerably in other characters. Therefore in each case a convergent evolution of a similar genital segment is assumed. Consequently any closer relationships between these two genera and *Harmalianodes* n. gen. seems unlikely. Within the African Delphacidae the genus is rather isolated so far.

*Harmalianodes furcatus*, n. sp.  
(fig. 114-121)

**Holotype male** macropterous, Côte d'Ivoire, Tai forest, I, 9/10-XI-1978, G. Couturier leg., MNHN. — **Paratypes**: Tai: 1 ♂, II, 12:13-X-1978; 1 ♂, 9/10-XI-1978; 1 ♂, II, 18-VIII-1979; G. Couturier leg., ORSTOM, MA. — 1 ♀, Foro Foro, 25/28-IX-1973; 1 ♂, 2 ♀, Gouméré, 19-IX-1973; 1 ♂, Lamto, 8/9-X-1973; all: R. Linnavuori leg., LV.

Body-shape and proportions as in genus description.

Coloration: Mesonotum, vertex and frons brown, postclypeus darker; pronotum, antennae and legs yellowish brown, abdomen dark brown. Tegmina hyaline with brownish veins, in distal part diffusely light brownish; hindwings hyaline with light brown veins.

Male genitalia: genital segment (fig. 116-118) projected laterodorsal angles in lateral view ventrally pointed. Process of diaphragm (fig. 117) shaped like an arrow arising from a broad base, tip of arrow granulate. Anal segment (fig. 116 & 119) with two short, spinose processes originating with its bases far apart from each other. Aedeagus (fig. 119-120) in ventral view slightly curved like an inverted s, in the distal half two oblique rows of teeth, the shorter one with 6 teeth on the left, the longer one with 10 teeth on the right side; dorsal horn-shaped process about half as long as the aedeagus; phallotreme subapical on the left side.

Length (incl. tegmen): males: 2.9-3 mm, females: 3.2-3.3 mm.

Distribution: Côte d'Ivoire.

Genus *Horcomana*, n. gen.

Small, dark brownish delphacids, externally resembling slender *Toya*-species.

Vertex slightly longer in middle line than broad at base (1.1:1), lateral margins almost parallel; basal compartments about as long as apical cell, area deeply concave, median carina between basal cells extinct; carinae of frons, clypeus and genae prominent; median carina of frons forked at apex of vertex. Frons twice as high as broad, broadest shortly before reaching the frontoclypeal suture; lateral margins slightly convex. Post- and anteclypeus together shorter than frons (0.8:1), postclypeus half as long as frons. Rostrum attaining the hindcoxae. Antennal segments subcylindrical, distally widened, 2nd segment about 1.7 times longer than 1st; number and arrangement of sensory fields on pedicel normal (16/7). Ocelli and blemmata distinct.

Pronotum medially shorter than vertex (0.8:1), broader than head (1.2:1); hindmargin very little concave, almost straight; lateral carinae straight, diverging caudad, not reaching the hindmargin. Mesonotum medially 2.5 times longer than pronotum, surface smooth, carinae indistinct. Posttibial spur foliate, little shorter than postbasitarsus, about 20 teeth. Postbasitarsus 1.5 times longer than 2nd and 3rd posttarsal joint together, apically 7 spines (2 + 5), 2nd segment with 4 spines in row. Tegmina hyaline, about 3.6 times longer than broad, veins with small granulation; subapical cells rather short, outer cell broader than the inner; Sc + R-fork slightly caudad of Cu<sub>1</sub>-fork, both branching in about the middle of the total length of tegmen; apex of clavus obtuse. Male drumming organ: apodemes of the 2nd abdominal sternite long and spinose, erected dorsad.

Male genitalia: genital segment in lateral view trapezoid, lateral margins almost straight, ventrocaudal margin slightly concave; caudal area almost circular. Dorsal margin of diaphragm u-shaped, centrally a semicone-shaped, caudad directed projection. Anal segment ring-like, ventrocaudal margin projected, ventral side distally chitinised, basally membranous; armed with a pair of compressed, pointed processes arising from the middle of the chitinised ventral area and directed laterad, almost touching the ventral wall of the anal segment. Lateral margins of the parameres

distally almost half circularly dilated, tips rounded, converging. Aedeagus tubular with dorsobasal extension; phallosome apical. Connective slightly curved cephalad. Suspensorium short, plate-like, laterally embracing the base of aedeagus.

Type-species: *Horcomana brevispina*, n. sp.

Remarks: In external features the genus *Horcomana* n. gen. is very similar to several other genera accommodating small brownish delphacids like *Toya* or *Harmalia*. It can be distinguished from these and others by the configuration of the male genitalia, especially by the uniquely shaped anal segment which is considered constitutive. The parameres with their dilated laterodistal part resemble those of species of the oriental and pacific genus *Horcoma* Fennah; however, the type-species of this genus, *Horcoma lacteipennis* (Muir), differs in other genital characters as well as in the proportions of the head (much broader frons) and in the dentation of the posttibial spur. These differences neither allow the placement of the new African taxon in *Horcoma*, nor do they suggest a relationship with any other externally similar genera. The phylogenetic relationships of *Horcomana* n. gen. to other delphacids are still unclear.

*Horcomana brevispina*, n. sp.

(fig. 122-126)

Holotype male macropterous, Côte d'Ivoire, Tai forest, II, 18-VIII-1979, G. Couturier leg., MNHN. — Paratypes: 1 ♀, *ibid.*, ORSTOM. — 1 ♂ (handwritten locality name not readable), 6-IX-1962, J. v. Dinther (sic?) leg., AUW.

External characters as in genus description.

Coloration: vertex, genae, pro-, mesonotum and abdomen middle brown, carinae whitish, frons and postclypeus dark brown, anteclypeus and lorae yellowish brown; legs diffusely stramineous, hindtibiae shortly before distal end brown; tegmina between M and inner margin from base till apex diffusely brownish, veins brown; angle between common stem of anal veins and inner margin brown.

Male genitalia: genital segment (fig. 122-124) ventrally longer than dorsally (1.3:1), laterodorsal angles slightly produced caudad; process of diaphragm in ventral view triangular. Anal segment (fig. 122 & 125): laterad directed processes rather short and stout. Parameres (fig. 122 & 125)

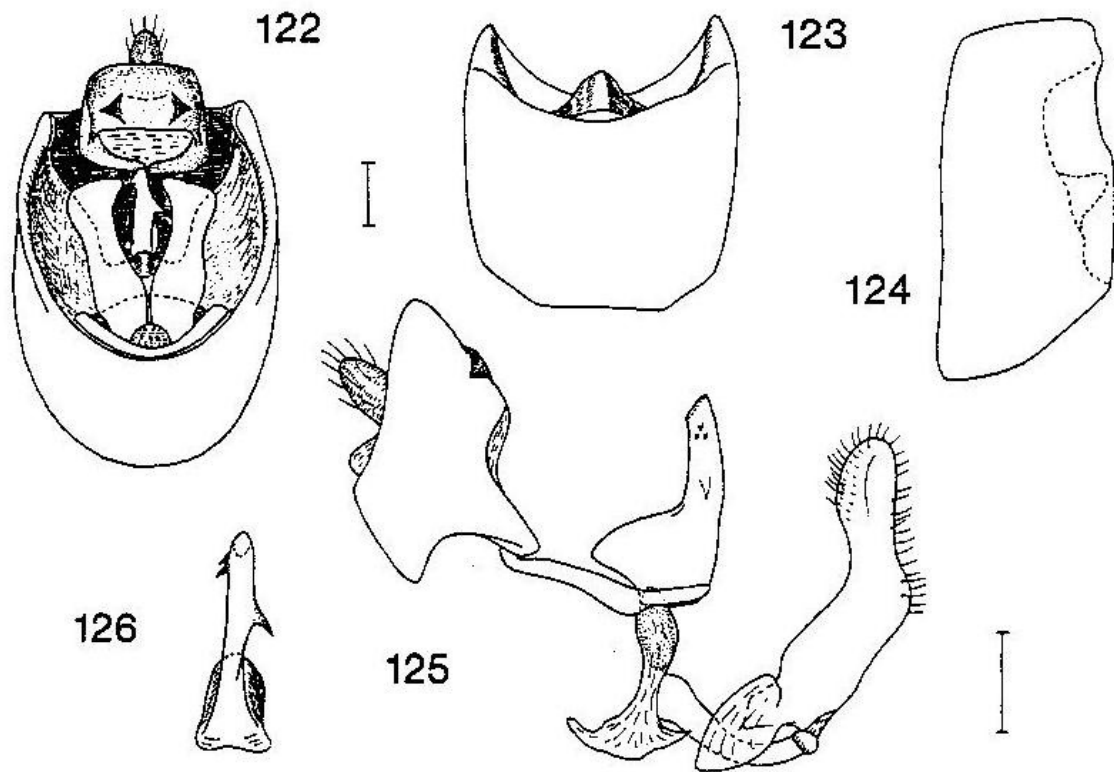


Fig. 122-126. *Horcomana brevispina* n. sp., holotype. — 122, genital capsule, ventrocaudal. — 123, genital segment, ventral. — 124, genital segment, left lateral. — 125, male genitalia, left lateral. — 126, aedeagus, ventral.

little longer than ventral side of anal segment. Aedeagus (fig. 125-126) shortly distad of base projected dorsad into a compressed, lobe-like extension, then narrowing to a slightly dorsad bent tube which on the right side is armed with a strong tooth, distally on the left side with 3 minute teeth.

Length (incl. tegmen) : males : 3.3 mm, female : 3.4 mm.

Distribution : Côte d'Ivoire.

### Genus *Leptodelphax* Haupt

*Leptodelphax* Haupt, 1927, Homopt. Palestine 1 : 10. — Type-species (by original designation) : *Leptodelphax cyclops* Haupt, 1927, *ibid.*, Israel.

#### *Leptodelphax dymas* Fennah, 1961

(fig. 127-132)

*Mém. Inst. fr. Afr. noire*, 62 : 310-311, Senegal.

4 ♂, Foro Foro, 25/28-IX-1973 ; *R. Linnavuori leg.*, LV.

Distribution : Senegal (FENNAH, 1961) ; Nigeria (MEDLER, 1980) ; Côte d'Ivoire.

#### *Leptodelphax maculigera* (Stål, 1859)

(fig. 133-138)

*Delphax maculigera* Stål, 1859, Hemiptera. In *Eugenies Resa* 4 : 276, Mauritius.

11 ♂, Foro Foro, 25/28-IX-1973 ; 3 ♂, Gouméré, 19-IX-1973 ; 1 ♂, near Kawara, 26-X-1973 ; 4 ♂, Man, 14/21-X-1973 ; 1 ♂, Maraoué, 12/13-X-1973 ; 2 ♂, Odienne-Madinani, 24-X-1973 ; all : *R. Linnavuori leg.*, LV.

Distribution : Mauritius (STÅL, 1859 ; FENNAH, 1964) ; Madagascar (NAST, 1958) ; Côte d'Ivoire. Apparently widely distributed in Africa.

#### *Leptodelphax* sp. - females

The females of the two *Leptodelphax*-species in question for the moment can not be distinguished, therefore are listed here separately :

Tai : 1 ♀, II, 11/12-XII-1978, *G. Couturier leg.*, ORSTOM. — 19 ♀, Foro Foro, 25/28-IX-1973 ; 6 ♀, Gouméré, 19-IX-1973 ; 1 ♀, Kiriao, 17-X-1973 ; 2 ♀, Man, 14/21-X-1973, 1 ♀, Mt. Niangbo, 20-IX-1973 ; 3 ♀, Odienne-Madinani, 24-X-1973 ; 1 ♀, near Toba, 23-X-1973 ; all : *R. Linnavuori leg.*, LV.

### Genus *Malaxodes* Fennah

*Malaxodes* Fennah, 1967, *Bull. ent. Res.*, 57 : 353-354. — Type-species (by original designation) : *Malaxodes farinosus* Fennah, 1967, *ibid.* : 355-356, Kenya.

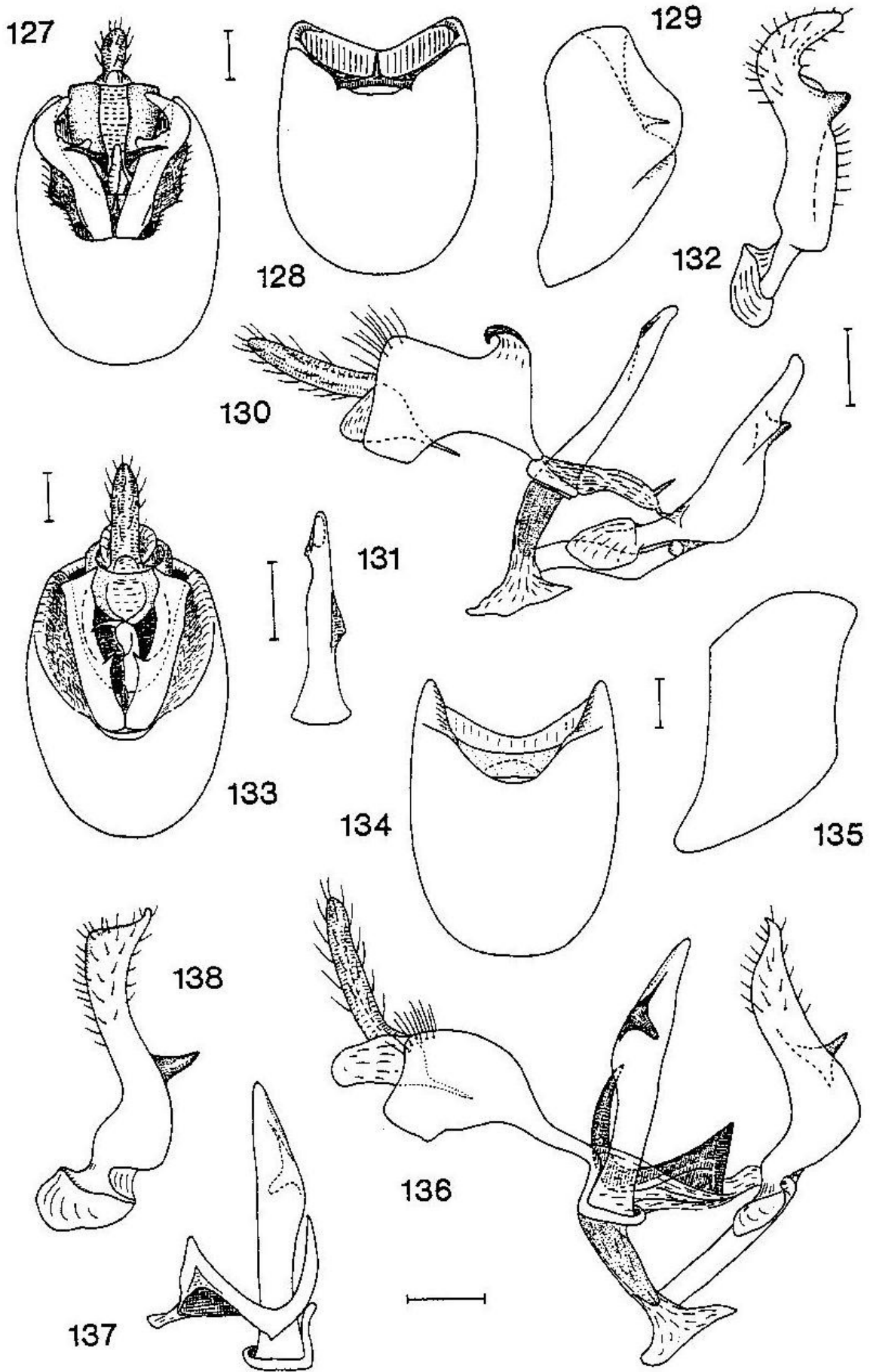
#### *Malaxodes parapaniscus*, n. sp.

(fig. 139-146)

Holotype male brachypterous. Côte d'Ivoire, Mt. Tonkouï, 15/22-X-1973, *R. Linnavuori leg.*, LV. — Paratypes : 2 ♂, 4 ♀ brachypterous, 1 ♀ macropterous, *ibid.*, LV.

In all external features (body-shape and proportions, antennae, posttibial spur) and in the general configuration of the male genitalia very similar to *M. farinosus* Fennah. Posttibial spur subulate without any lateral teeth, very small : less than 1/3 the length of the postbasitarsus.

Coloration : vertex, pro- and mesonotum pale yellowish, on each side of the middle line an indistinct longitudinal pale orange stripe ; frons, clypeus and genae brown, frons and genae with feeble yellowish pustules ; antennal segments tawny, both joints apically darkened ; femora brown, tibiae stramineous, tarsi, especially the last joint dark brown ; abdomen in males reddish brown, in





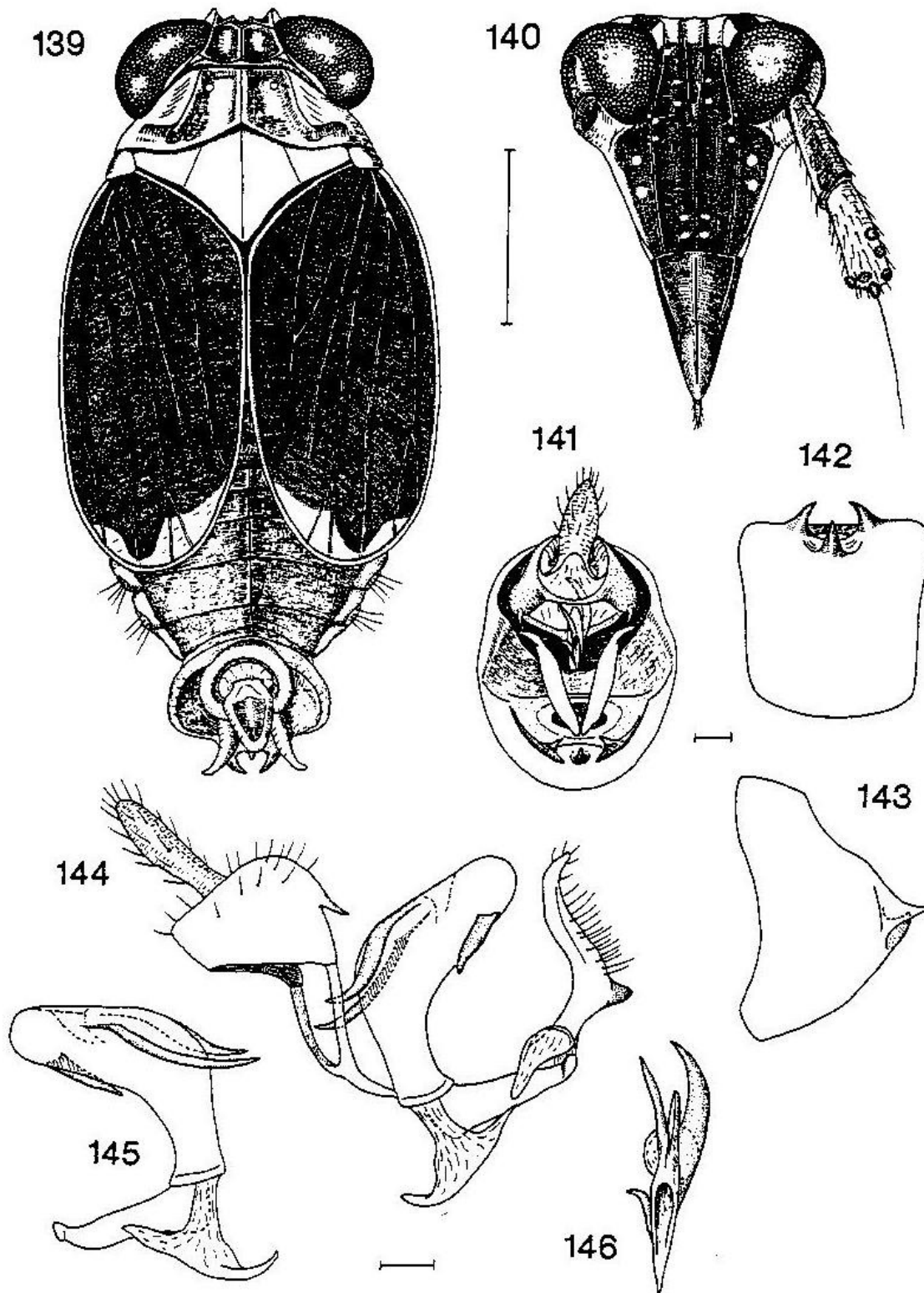


Fig. 139-146, *Malaxodes parapaniscus* n. sp., paratype. — 139, habitus male. — 140, head frontal. — 141, genital capsule, ventrocaudal. — 142, genital segment, ventral. — 143, genital segment, left lateral. — 144, male genitalia, left lateral. — 145, aedeagus, right lateral. — 146, apex of aedeagus, caudal.

Fig. 127-132, *Leptodelphax dymas* Fennah. — 127, genital capsule, ventrocaudal. — 128, genital segment, ventral. — 129, genital segment, left lateral. — 130, male genitalia, left lateral. — 131, aedeagus, ventral. — 132, left paramere.

Fig. 133-138, *Leptodelphax maculigera* (Stål). — 133, genital capsule, ventrocaudal. — 134, genital segment, ventral. — 135, genital segment, left lateral. — 136, male genitalia, left lateral. — 137, aedeagus, right lateral. — 138, left paramere.

females orange to stramineous; tegmina of macropterous form hyaline with brown veins, clavus and apex pale brownish, veins distal of nodal line overlaid by a brown suffusion; tegmina of brachypterous form shiny chestnut-brown with creamy white margin and two pale yellowish compound spots in apex.

Male genitalia: genital segment (fig. 141-143): ventrocaudal margin with three spinose processes as in *M. farinosus*; parameres (fig. 141 & 144) apically pointed and bent laterad. Anal segment (fig. 141 & 144) ventrally open, membranous, lateral margin on each side produced into a short, spinose process. Aedeagus (fig. 144-146) with three distally acuminate processes: a shorter one arising distally on the left side near the ventral margin pointing basolaterad; a longer process arising almost dorsally shortly basad of the phallotreme, twisted to the left side, in lateral view slightly s-shaped with its apex pointing dorsocaudad, in caudal view curved to the left side; a rather long process originating on the right side basad of the phallotreme, similar to the longer of the two left spines, but thicker at base, curved to the left side.

Length: — males (brachypterous): 2.5-2.6 mm, — females (brachypterous): 2.7 mm, — females (macropterous): 4.3 mm.

Distribution: Côte d'Ivoire.

Remarks: The new species is very similar to *Malaxodes farinosus*, but differs in the following characters: posttibial spur distinctly shorter (in *M. farinosus* less than half, in *M. parapaniscus* less than one third as long as postbasitarsus); spinose processes of the anal segment distinctly shorter; left apical process of aedeagus shorter and closer to the ventral margin, left dorsal process considerably longer and distally bent dorsocaudad (in *M. farinosus* the process is rather short and bent ventrobasad). *M. farinosus* was reported as a pest of the Molasses grass (*Melinis multiflora*) from Kenya (FENNAH, 1967). In West Africa it might be replaced by *M. parapaniscus* n. sp., for which a similar ecology is to be expected.

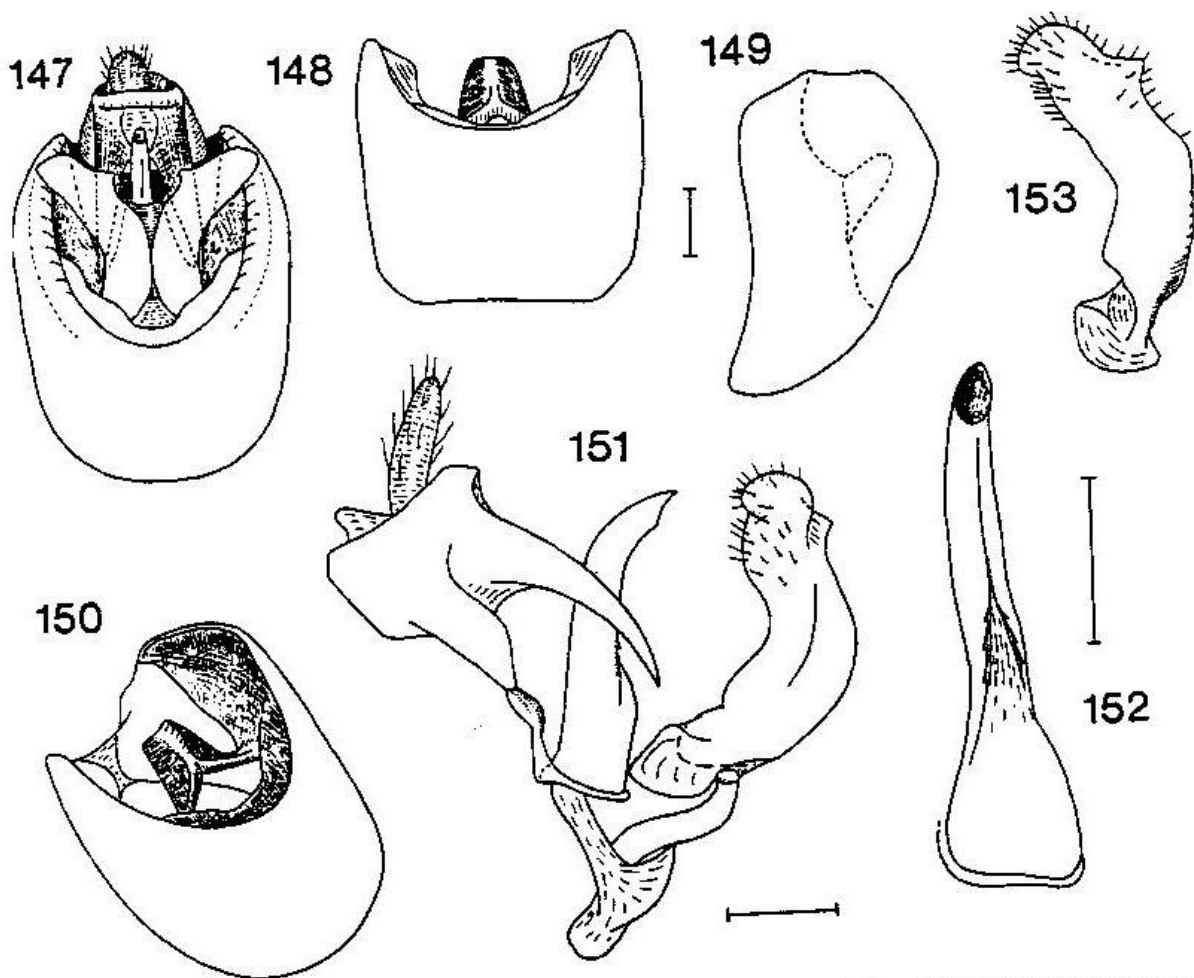


Fig. 147-153, *Matutinus amyctas* Fennah. — 147, genital capsule, ventrocaudal. — 148, genital segment, ventral. — 149, genital segment, left lateral. — 150, genital segment, laterocaudal. — 151, male genitalia, left lateral. — 152, aedeagus, ventral. — 153, left paramere.

Because of the characters of the posttibial spur FENNAH (1967) placed the genus *Malaxodes* in the tribe Tropidocephalini, however, according to the phylogenetic system of ASCHE (1985) it belongs to the highly derived Delphacini, the spine-shaped toothless posttibial spur is supposed to be secondarily changed from a dentated spur. Within the Delphacini *Malaxodes* does possess the most likely synapomorphic characters of the *Cemus-Thriambus-Perkinsiella*-group (see above), within the latter group it is possibly closely related to the genus *Nycheuma* Fennah, 1964.

### Genus *Matutinus* Distant

*Matutinus* Distant, 1917, *Trans. Linn. Soc. Lond. Zool.*, 17: 278. — Type-species (by monotypy): *Matutinus opulentus* Distant, 1917, *ibid.*: 278, Seychelles Is.

#### *Matutinus amyelas* Fennah, 1972 (fig. 147-153)

*Bull. ent. Res.*, 61: 431-432, Congo.

Tai: 1 ♂, 4 ♀, II, 17-VII-1978; 1 ♂, 4 ♀, I, 11-VIII-1978; 1 ♀, II, 15-VIII-1978; 5 ♂, 10 ♀, II, 14/15-IX-1978; 3 ♀, II, 12/13-X-1978; 1 ♂, I, 9/10-XI-1978; 1 ♂, 1 ♀, I, 11/12-XII-1978; 1 ♂, II, 23/24-IX-1978; 1 ♀, I, 25/26-VI-1979; 1 ♀, I, 9/10-VII-1979; 1 ♂, I, 19/20-VII-1979; 1 ♀, II, 28/29-VIII-1979; 1 ♀, I, 12-X-1979; 2 ♀, I, 24/25-VII-1980; G. Couturier leg., MNHN, ORSTOM, MA, BMNH.

Distribution: Zaire (FENNAH, 1972); Côte d'Ivoire.

#### *Matutinus occiophale*, n. sp. (fig. 154-160)

Holotype male macropterous, Côte d'Ivoire, Tai forest, II, 23/24-XI-1978, G. Couturier leg., MNHN.

Size, body-shape, proportions and coloration as in *Matutinus omphale* Fennah, 1972, but differing in the male genitalia: genital segment (fig. 154-156) ventrally slightly longer than dorsally (1.3:1), laterocaudal margins in lateral view distinctly convex, ventrocaudal margin concave; caudal area circular; dorsal margin of diaphragm w-shaped, medially a helmet-shaped, dorsad directed, distally rounded projection which in ventral view is 1.6 times longer than broad; projection in ventral half laterally excavated. Anal segment (fig. 154 & 158) ring-like; ventral base produced, ventrally closed by narrow chitin-bridge; ventral side membranous, on each side of the ventrolateral margin arising a ventrobasal curved spine which in ventral view are almost parallel to each other, the right one slightly shorter than the left. Parameres (fig. 160) in ventral view directed almost straight dorsad, distally truncate and slightly projected mediadorsad into a rounded tip; moderately long, dorsally just exceeding the dorsal end of the diaphragm-process. Aedeagus (fig. 158-159) in its basal third broad, slightly compressed, then tubular and slender, in left lateral view s-curved; supra base on the dorsal margin a row of about 11 teeth ascending slightly to the right side; on the ventral margin shortly supra base another ascending row of about 7 teeth; distally on the left side 2-3 irregular teeth; phallosoma apical. Connective straight, medially with a slight caudad projection. Suspensorium feeble, ring-shaped.

Length (incl. tegmen): male: 3.7 mm.

Distribution: Côte d'Ivoire.

Remarks: In external features and in the configuration of the male genitalia *M. occiophale* n. sp. is very similar to *M. omphale* which has been described from Ethiopia (the genital structures of the holotype are figured here for comparison: fig. 161-165). It shares with this species the relatively short parameres with a slightly mediadorsad produced tip and the curved aedeagus with its broad base and its slender distal two thirds armed with two rows of teeth, and by this they seem closely related, if the similarities are not due to convergence or symplesiomorphy, which in this case seems unlikely. Both species seem to replace each other geographically, for the moment there is no evidence for the existence of only a single polymorphic species with geographic subspecies, e.g. a cline.

*M. occiophale* n. sp. can be distinguished from *M. omphale* by the following characters: 1. process of diaphragm in *M. occiophale* distinctly longer than broad, in *M. omphale* almost quadrate; 2. in *M. occiophale* aedeagus armed with considerably more teeth in each of the two rows than in *M. omphale*; in *M. occiophale* one

row of teeth on ventral, another row on dorsal margin (fig. 159). — in *M. omphale* one row of only three widely spaced teeth on the ventral margin, the other row obliquely ascending over the left side (fig. 161-162).

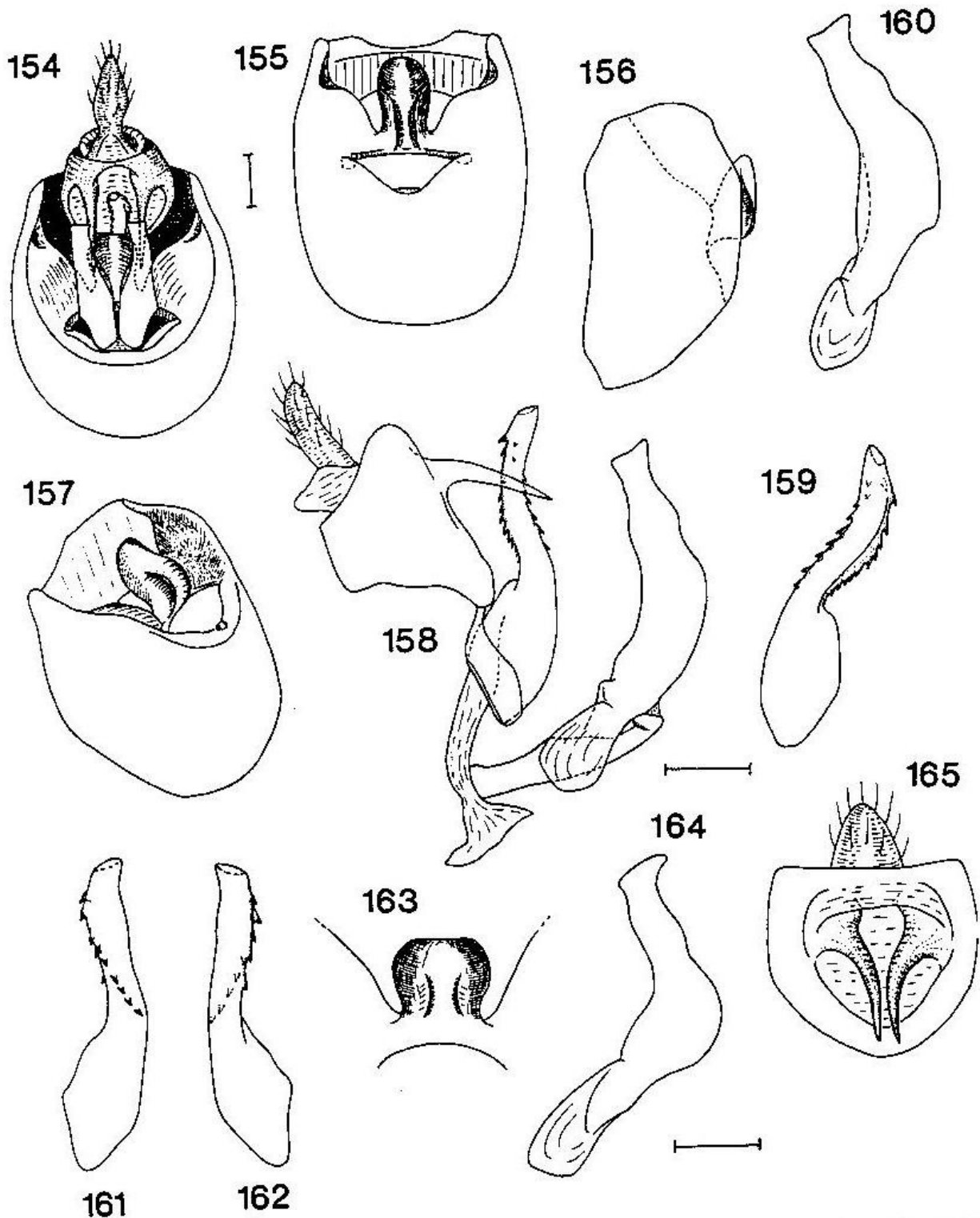


Fig. 154-160, *Matutinus occiomphe* n. sp., holotype. — 154, genital capsule, ventrocaudal. — 155, genital segment, ventral. — 156, genital segment, left lateral. — 157, genital segment, laterocaudal. — 158, male genitalia, left lateral. — 159, aedeagus, right lateral. — 160, left paramere.  
 Fig. 161-165, *Matutinus omphale* Fennah, holotype. — 161, aedeagus, left lateral. — 162, aedeagus, right lateral. — 163, process of diaphragma, ventral. — 164, left paramere. — 165, anal segment, ventral.

*Matutinus pomonus* (Fennah, 1958)  
(fig. 166-170)

*Chloriona (Sogatella) pomona* Fennah, 1958, *Bull. Inst. fr. Afr. noire*, sér. A, 20, (2): 492-493, Guinea.

Tai: 3 ♂, 1 ♀, I, 11/12-XII-1978; 1 ♀, I, 9/10-XI-1978; G. Couturier leg., MNHN, ORSTOM, MA.

Distribution: Guinea (FENNAH, 1958a); Congo (?), Tanzania, Uganda (FENNAH, 1972); Côte d'Ivoire.

Remarks: The holotype male of this species was erroneously indicated by FENNAH (1972: 450) as originating from Congo, in fact it was collected in the former French Guinea: Kindia.

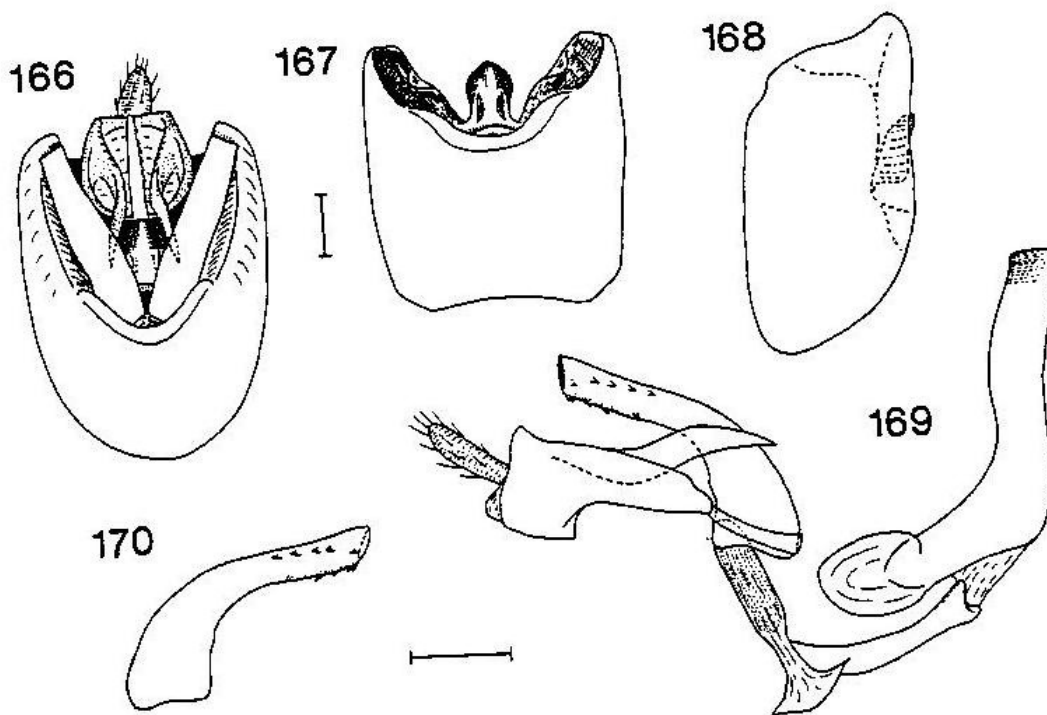


Fig. 166-170, *Matutinus pomonus* (Fennah). — 166, genital capsule, ventrocaudal. — 167, genital segment, ventral. — 168, genital segment, left lateral. — 169, male genitalia, left lateral. — 170, aedeagus, right lateral.

Genus *Neogadora* Fennah  
(fig. 171-177)

*Neogadora* Fennah, 1969, *Acta ent. fenn.*, 26: 37-38. — Type-species (by original designation): *Neogadora nitens* Fennah, 1969, *ibid.*: 38-39, Sudan: Equatoria.

Tai: 6 ♂, 6 ♀, I, 3 ♂, 5 ♀, II, 23/24-XI-1978; 1 ♂, 1 ♀, II, 11/12-XII-1978; G. Couturier leg., MNHN, ORSTOM, MA. — 2 ♀ brach., Foro Foro, 25/28-IX-1973; 1 ♂, 1 ♀ brach., 1 ♀ macr., near Touba, 23-X-1973; R. Linnavuori leg., LV.

Distribution: Sudan: Equatoria (FENNAH, 1969; LINNAVUORI, 1973); Côte d'Ivoire.

Genus *Nilaparvata* Distant

*Nilaparvata* Distant, 1906, *Fauna Br. India*, 3: 473. — Type-species (by original designation): *Delphax lugens* Stål, 1854, *Öfvers. K. Vetensk.Akad. Förh. Stockh.*, 11: 246, Java.

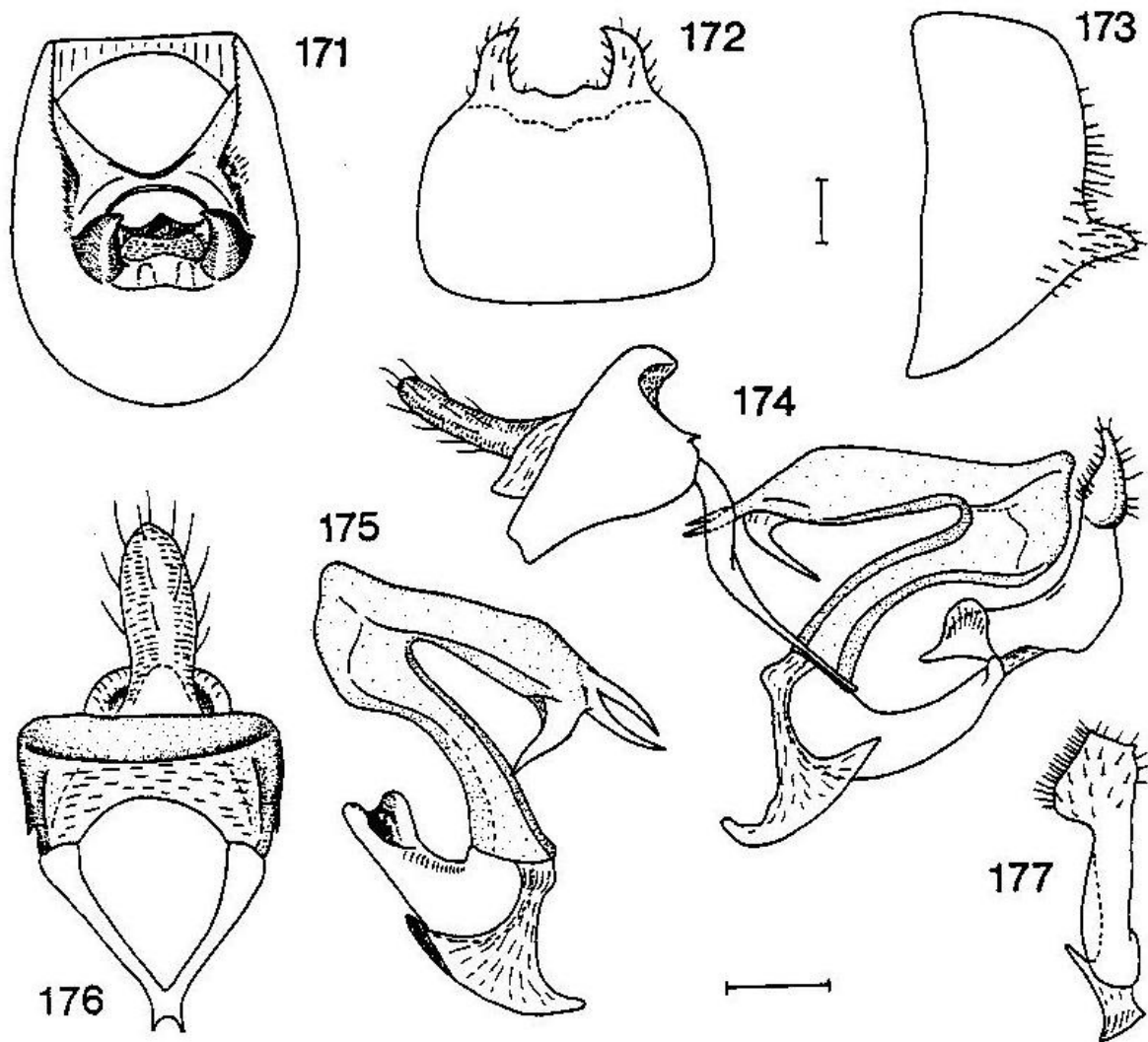


Fig. 171-177, *Neogadora nitens* Fennah. — 171, genital capsule, ventrocaudal. — 172, genital segment, ventral. — 173, genital segment, left lateral. — 174, male genitalia, left lateral. — 175, left paramere. — 176, aedeagus, right lateral. — 177, anal segment, ventral.

*Nilaparvata maeander* Fennah, 1958

(fig. 178-184)

*Bull. Inst. fr. Afr. noire, sér. A, 20, (2): 476, Guinea.*

Tai: 1 ♂, I, 17-VII-1978; 1 ♀, II, 24/25-VIII-1978; 4 ♂, 4 ♀, II, 14/15-IX-1978; 5 ♂, 7 ♀, I, 7 ♂, 6 ♀, II, 12/13-X-1978; 3 ♂, I, 19/20-X-1978; 2 ♀, I, 3 ♂, 4 ♀, II, 9/10-XI-1978; 4 ♂, II, 23/24-XI-1978; 3 ♂, I, 2 ♂, 3 ♀, II, 11/12-XII-1978; 3 ♂, II, 21/22-XII-1978; 1 ♂, 1 ♀, I, 8/9-I-1979; 4 ♂, 1 ♀, II, 1/2-III-1979; 1 ♂, 1 ♀, II, 9/10-VII-1979; 2 ♂, 1 ♀, II, 18-VIII-1979; 2 ♂, II, 28/29-VII-1979; all: *G. Couturier leg.*, MNHN, ORSTOM, MA, BMNH. — 2 ♀, Adiopodoumé, 1964; 1 ♀, Foro Foro, at light, 28-X-1971, *O. Bruinsma & A. v. Huis leg.*; AUW.

Distribution: Guinea (FENNAH (1958a), Senegal (FENNAH, 1961), Sudan: Equatoria, Blue Nile, Darfur, Bahr el Ghazal (LINNAVUORI, 1973), Côte d'Ivoire.

Remarks: During the ecological investigations in the Tai forest the majority of *Nilaparvata maeander* has been collected on clearings in the primary forest which have been cultivated with rice. It seems therefore likely that *Nilaparvata maeander* Fennah is similarly associated with rice and probably also infesting rice like the well known pest *Nilaparvata lugens* (Stål) in the Oriental Region.

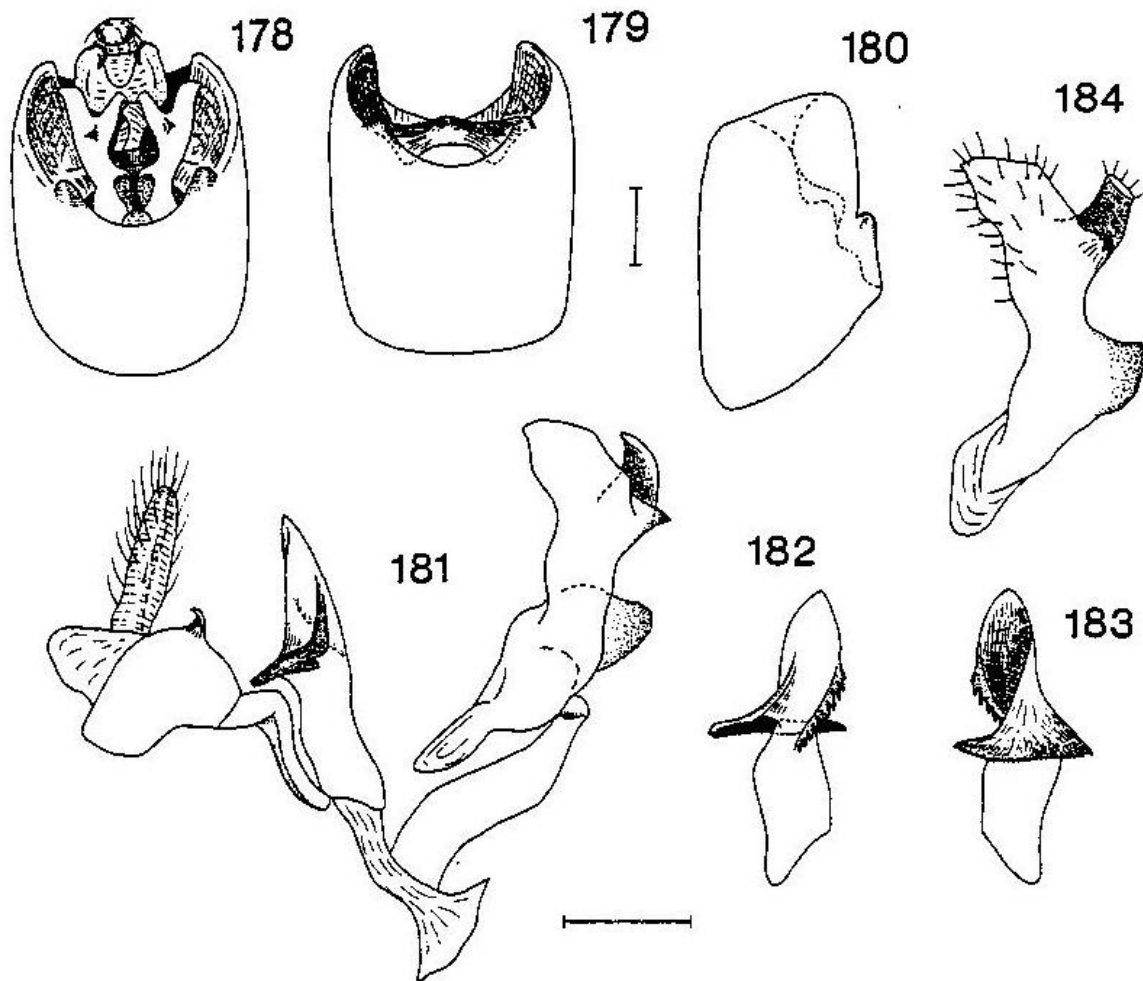


Fig. 178-184, *Nilaparvata maeander* Fennah. — 178, genital capsule, ventrocaudal. — 179, genital segment, ventral. — 180, genital segment, left lateral. — 181, male genitalia, left lateral. — 182, aedeagus, ventral. — 183, aedeagus, dorsal. — 184, left paramere.

### Genus *Numata* Matsumura

*Numata* Matsumura, 1935, Ins. Matsumurana 9: 139. — Type-species (by original designation): *Stenocranus sacchari* Matsumura, 1910, Die schädlichen und nützlichen Ins. Formosas: 16, Taiwan.

#### *Numata mani*, n. sp. (fig. 185-192)

Holotype male macropterous, Côte d'Ivoire, Man, 14/21-X-1973, *R. Linnavuori leg.*, LV.

Size, body-shape, proportions and coloration very similar to the oriental species *Numata corporaali* (Muir, 1923), but distinguished from this and the other species of the genus by the configuration of the male genitalia: genital segment (fig. 185-187) in lateral view almost triangular, ventral margin about 3.5 times longer than dorsal, laterocaudal margin broadly rounded, ventrocaudal margin medially projected into two short, subconical processes which include a deep u-shaped incision; diaphragm (fig. 185) covering the ventral half of the circular caudal area, dorsal margin almost straight transverse, shallowly sinuate and medially notched, median lobes of the margin slightly projected caudad. Anal segment (fig. 188 & 192): ventral side entirely membranous, not closed by chitin-bridges; laterodistal margin on each side produced to a short, ventromedial directed spine. Parameres (fig. 190-192): ventral side in distal third triangularly produced medially, inner margin basad of the inferior leg of the triangle deeply excavated; tips of the parameres slender, slightly curved laterad. Aedeagus (fig. 188-189): basal part tubular, curved ventrad; distal part flag-like reflected dorsobasally, about as long as the shaft, distally slightly curved to the right side;

apically flanked by two spinose processes, the upper one curved to the right, the inferior one first bent basad, then forming a caudad directed loop. Phallotreme apical in a membranous tube between the two spines. Connective compressed, dorsally broadly fused with the ventral side of the membranous basal aedeagus-chamber. Suspensorium broadly y-shaped, common stem very short, attached to the dorsal base of the aedeagus.

Length (incl. tegmen): male: 3.5 mm.

Distribution: Côte d'Ivoire.

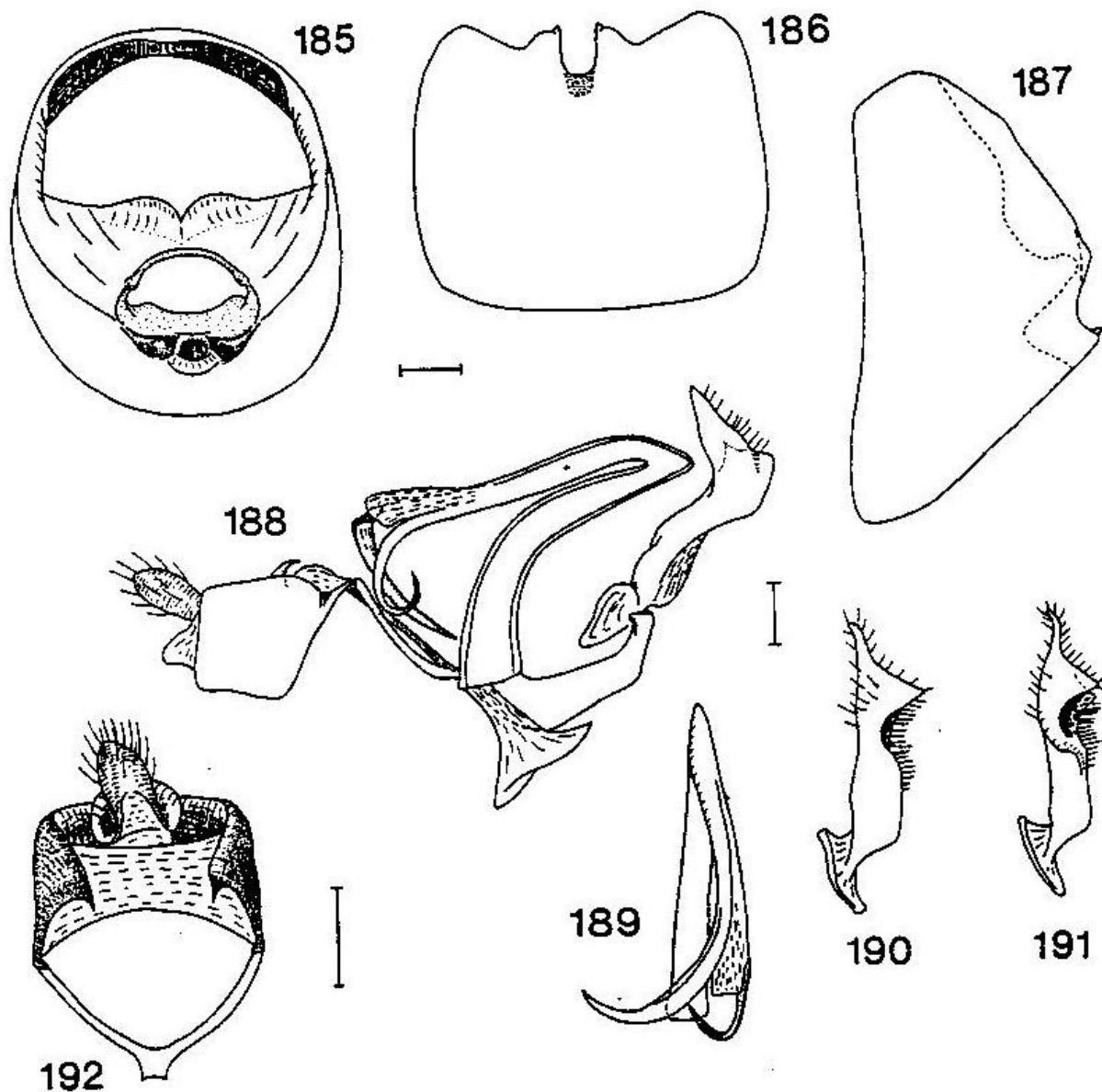


Fig. 185-192, *Numata mani* n. sp., holotype. — 185, genital segment, caudal. — 186, genital segment, ventral. — 187, genital segment, left lateral. — 188, male genitalia, left lateral. — 189, aedeagus, dorsal. — 190, left paramere, ventrolateral, maximal view. — 191, left paramere, ventral. — 192, anal segment, ventral.

**Remarks:** *Numata mani* n. sp. can be distinguished from all other species of the genus by the presence of paired subconical processes on the ventrocaudal margin of the genital segment and by the comparatively very short tips of the parameres it resembles most *Numata corporali* (Muir), to which it might be closer related than to the other *Numata*-species. *Numata mani* n. sp. represents the second true member of this genus s. str. in Africa, of which in the Oriental Region the species *N. sacchari* (Mats.) and *Numata muiri* (Kirk.) are known as a pest on sugar cane. Previously *Numata sacchari* (Mats.) has been reported from



Sudan : Equatoria by LINNAVUORI (1973), however, the correctness of the identification needs confirmation. Two other African species have been described in this genus, *N. parmenio* Fennah, 1969, from Sudan : Upper Nile and *N. curvistylis* Van Stalle, 1984, from Cameroon. According to considerable differences in the structures of the male genitalia both probably belong to different phylogenetic groups ; however, provisionally they are kept here.

### Genus *Numathriambus*, n. gen.

Small brownish to stramineous delphacids, in the proportions of head and pronotum resembling *Nycheuma*-species.

Vertex slightly broader at base than long in middle line (1.1 : 1), lateral margins slightly narrowing to frons, vertex rounding into frons, carinae of vertex and frons rounded (not sharp-edged) ; basal compartment about half as long as vertex, area shallowly concave ; apical cell reaching down to frons : median carina of frons branching shortly above the level of the ocelli. Frons 2.25 times as high as its maximum width, broadest at ocelli ; lateral margins between the eyes shallowly concave, then straight and almost parallel to each other to frontoclypeal suture ; area of frons almost plain. Postclypeus as well as post- and anteclypeus together shorter than frons (0.4 : 1 ; 0.7 : 1). Rostrum attaining hind trochanters. Antennal segments cylindrical, 2nd joint 1.8 times longer than 1st. Ocelli and blennmata well developed. Head as broad as pronotum or slightly broader.

Pronotum in middle line about as long as vertex, hindmargin shallowly concave ; lateral carinae curved around the posterior margin of the eyes, not reaching the hindmargin. Mesonotum rather short, medially about 1.6 times longer than pronotum : Posttibial spur thickly foliate with about 35-40 minute teeth. Postbasitarsus about 1.6 times longer than the 2nd and 3rd posttarsal joint, apical spines : 7 (2 + 5) ; 2nd joint apically with 4 spines. Tegmina of brachypterous form (macrop-terous form unknown so far) coreaceous, reaching the 6th abdominal tergite, apex rounded, in basal part slightly translucent, apically with a shiny blackbrown signal-like patch. Drumming organ of the male : apodemes of the 2nd abdominal sternite secondarily reduced to shallow shells.

Male genitalia : genital segment dorsally about as long as ventrally ; laterocaudal margins broadly rounded, notched above the opening for the parameres ; laterodorsal angles slightly produced ; ventrocaudal margin sinuate, medially a small projection ; caudal area circular. Diaphragm strongly chitinized, medially uplifted against the margins, dorsal margin in middle v-shaped. Anal segment small, ring-like, ventrocaudally closed by a very thin chitinized bridge, ventral side membranous, without spinose processes. Parameres diverging, with voluminous base, distally narrowing to a laterad directed, finger-shaped tip resembling *Ribautodelphax* Wagner-species, basad of the tip on the mediodorsal side originating another finger-shaped process which is directed laterad. Aedeagus : basal part tubular, slender, directed ventrad ; distal part with two very long flag-like appendages which are already separated at base and bent dorsobasad ; one of them bearing subapically the phallotrema. Connective dorsally compressed, broadly fused with the ventral side of the basal aedeagus-chamber. Suspensorium y-shaped with long stem, dorsally attached to the aedeagus base.

Type-species : *Numathriambus biflagellatus*, n. sp.

Remarks : *Numathriambus* n. gen. belongs to the large, apparently monophyletic group of taxa around *Cemus*, *Thriambus*, *Perkinsiella* etc. (see above). The new genus can be distinguished from others by the following characters of the male genitalia which are considered constitutive : shape of the genital segment with its slightly notched laterocaudal margins and the projected diaphragm, parameres with double finger-shaped tip, aedeagus with two long recurrent, well separated processes, one of them subapically bearing the phallotrema. Externally it can be recognized by a wide vertex apically rounding into the frons, by a distinct y-shaped median carina of the frons, by a rather broad head (broader than or as broad as pronotum) and by a solid posttibial spur with numerous (> 35) minute teeth.

### *Numathriambus biflagellatus*, n. sp.

(fig. 193-199)

Holotype male brachypterous, Côte d'Ivoire, Foro Foro, 25/28-IX-1973, *R. Linnavuori* leg., LV. — Paratypes : 3 ♀ brachypterous, Fetekro, 40 km E of Bouaké, 11-X-1973 ; 1 ♀ brachypterous, Maraoue, 12/13-X-1973 ; *R. Linnavuori* leg., LV.

External features and general configuration of the male genitalia as in genus description.

Coloration : head, pro- and mesonotum, antennae and legs pale brownish, along the middle line from vertex to tip of mesonotum a whitish stripe, dorsal carinae of pro- and mesonotum whitish ; laterocaudal parts of pronotum dark brown with yellowish spots ; frons with indistinct yellowish markings ; 1st antennal segment at apex, 2nd at base dark brown ; lateral parts of mesonotum redish brown ; tegmina in males diffusely brownish, pale brownish in females ; apex caudad of the nodal line with shiny blackish ; nodal line and veins forming the basal cell whitish, others concolorous. Male genitalia : genital segment (fig. 193-196) : laterodorsal angles with a small subconical projection. Aedeagus (fig. 197-198) : basal process of the distal part long, slender, terete, apically pointed almost reaching the base, originating on the left side, in dorsal view forming an inverse with its tip directed to the left ; 2nd process about equally long, in dorsal view slightly curved to the left, terminally spinose, bearing the phallosome in about 4/5 of its total length, at the phallosome originating a slender, straight spine.

Length : male : 2.2 mm ; female : 2.3-2.6 mm.

Distribution : Côte d'Ivoire.

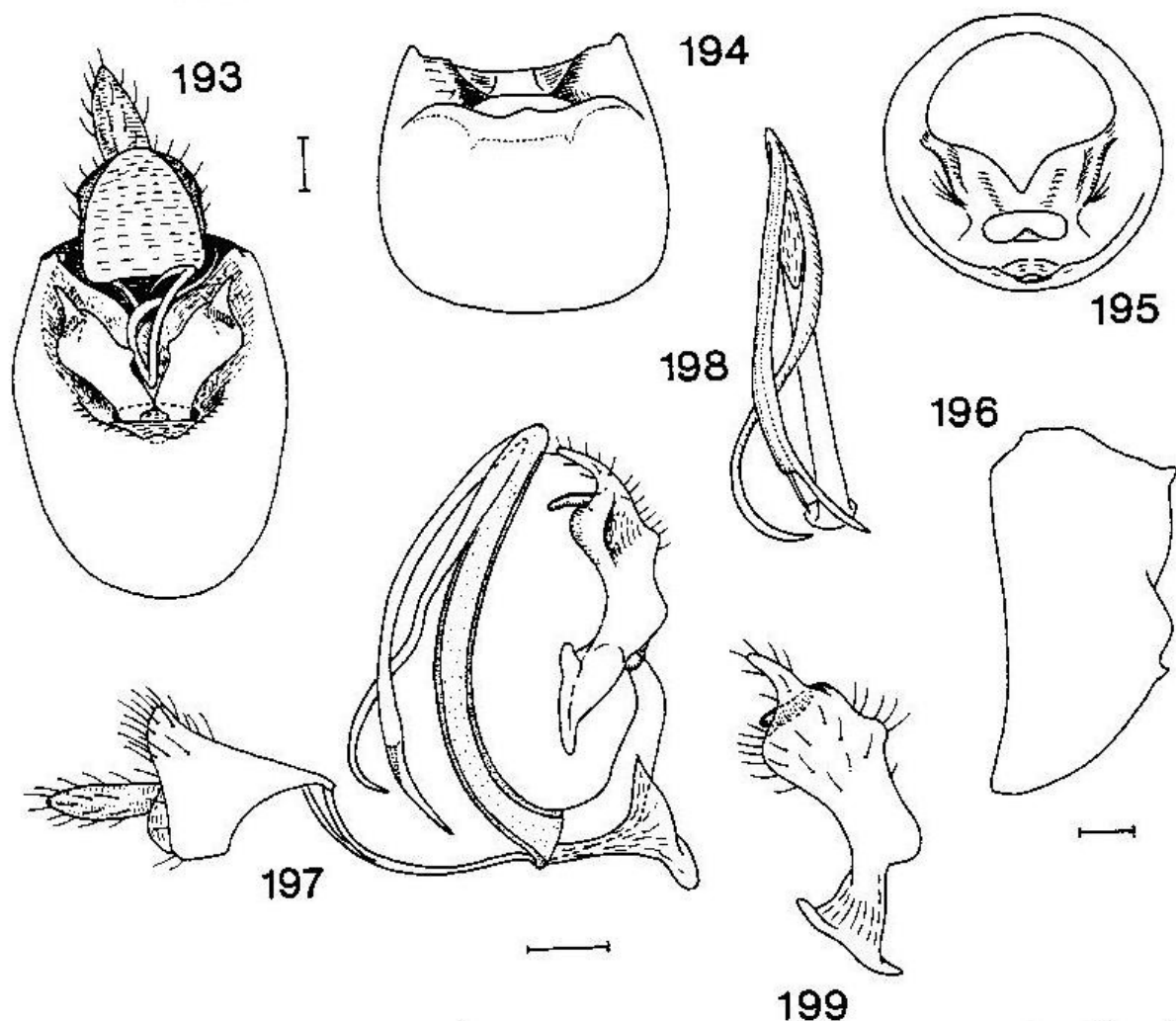
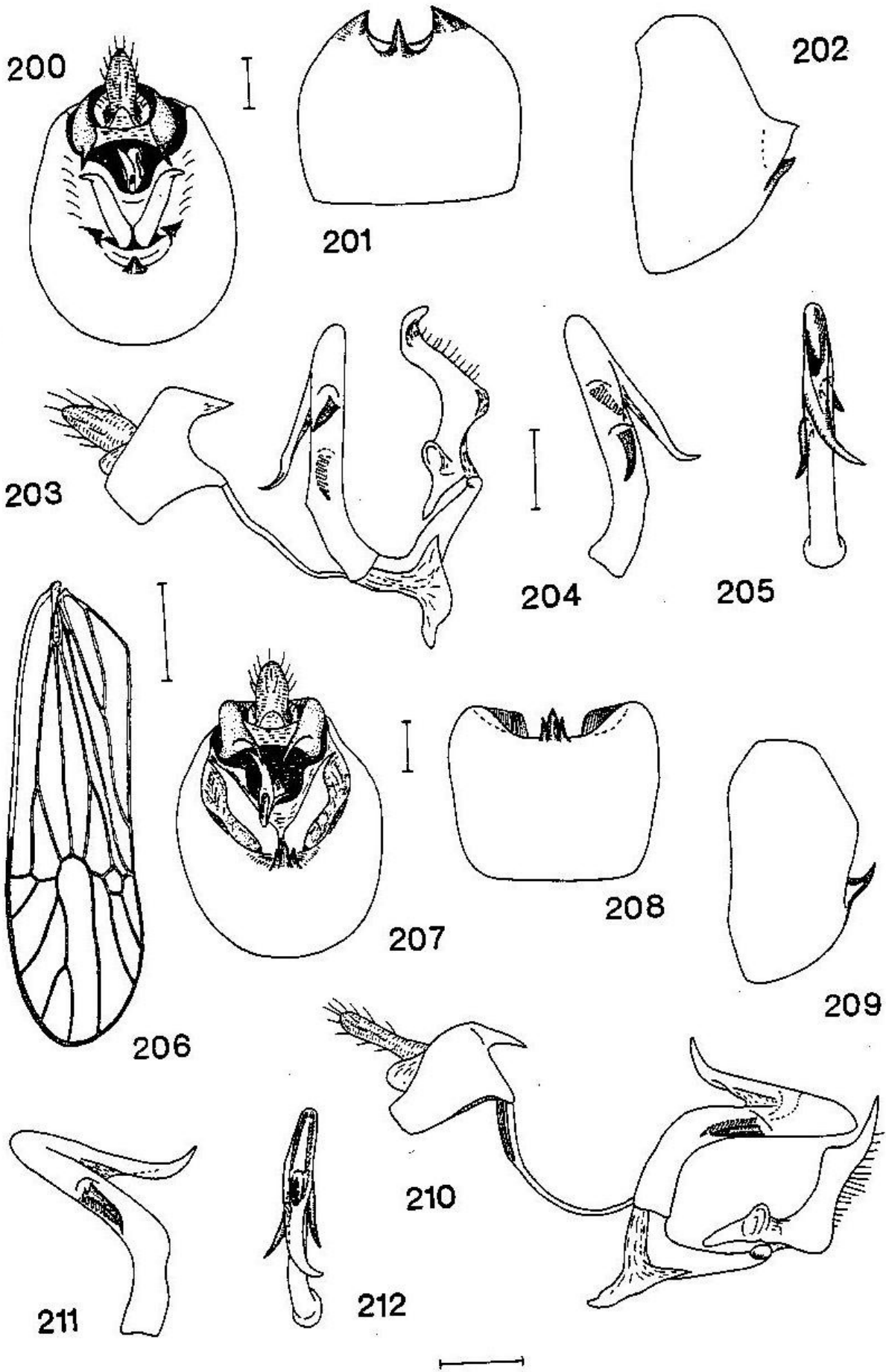


Fig. 193-199, *Numathriambus biflagellatus* n. sp., holotype. — 193, genital capsule, ventrocaudal. — 194, genital segment, ventral. — 195, genital segment, caudal. — 196, genital segment, left lateral. — 197, male genitalia, left lateral. — 198, aedeagus, dorsal. — 199, left paramere.

Fig. 200-205, *Nycheuma afrocognata* n. sp., holotype. — 200, genital capsule, ventrocaudal. — 201, genital segment, ventral. — 202, genital segment, left lateral. — 203, male genitalia, left lateral. — 204, aedeagus, right lateral. — 205, aedeagus, dorsal.

Fig. 206-212, *Nycheuma coronata* n. sp., paratype. — 206, tegmen. — 207, genital capsule, ventrocaudal. — 208, genital segment, ventral. — 209, genital segment, left lateral. — 210, male genitalia, left lateral. — 211, aedeagus, right lateral. — 212, aedeagus, dorsal.



Genus *Nycheuma* Fennah

*Nycheuma* Fennah, 1964, *Trans. R. ent. Soc. Lond.*, 116: 145. — Type-species (by original designation): *Dicranotropis capensis* Muir, 1926, *Ann. Mag. nat. Hist.*, (9) 17: 28, South Africa: Cape Province.

*Nycheuma afrognata*, n. sp.

(fig. 200-205)

**Holotype male** macropterous, Côte d'Ivoire, Adiopodoumé, 29-IX/7-X-1973, R. Linnavuori leg., LV.

In general aspect slightly larger and darker than the type-species.

Vertex as long in middle as broad at base; head as broad as pronotum. Posttibial spur rather solid, with about 12 strongly developed teeth on inner margin.

Coloration: head and antennae, pro- and mesonotum, abdomen and legs brown, carinae on pro- and mesonotum tawny; 1st antennal joint apically dark brown; frons without any lighter markings; tegmina translucent, clavus brownish; angle between common stem of anal veins and inner margin dark brown; veins brown, in distal part each of them overlaid by a brown suffusion; hindwings hyaline, veins brown.

Male genitalia: genital segment (fig. 200-202) in caudal view slightly broader than high (1.1:1), ventral side 2.5 times longer than dorsal; laterocaudal margins broadly rounded; ventrocaudal margin semicircularly excavated, margin prolonged on each side of the median incision to a tooth-like process directed mediocaudad; medially from the bottom arising a single spine not reaching to the tips of the lateral processes; dorsal margin of the diaphragm centrally u-shaped. Anal segment (fig. 200 & 203) ventrally open membranous, laterodistal sides produced to a short, stout, ventrad bent, spinose process. Parameres (fig. 200 & 203) diverging, slender, distally pointed, shortly before tip bent laterad; at ventromedian base lobe-like dilated. Aedeagus (fig. 203-205) in general configuration as in the type-species; basal part tubular, distad of its slightly curved basal third bent ventrad and straight; at the distal third of the tubular basal part a short, compressed process arising in a notch, pointing dorsobasad; on the right side at middle a longer, slightly curved, acuminate process pointing ventrobasad; dorsodistal flag-like part rather short and slender, apically pointed, slightly curved to the left side. Phallosome as in all other *Nycheuma*-species subapical on the dorsal side at base of the « flag ».

Length (incl. tegmen): male: 3.75 mm.

Distribution: Côte d'Ivoire.

**Remarks:** *N. afrognata* n. sp. differs from the other *Nycheuma*-species in the arrangement of the spinose processes of the aedeagus and in the shape of the ventrocaudal margin of the genital segment. In the latter character it resembles *Malaxodes*-species, but it does not share the synapomorphies of this genus (e.g. minute posttibial spur without lateral teeth, 1st antennal segment compressed). On the other hand *N. afrognata* n. sp. might well be « on the way » to *Malaxodes* as its posttibial spur is rather solid and furnished with only about 12 teeth, far less in number than in the other *Nycheuma*-species (25-35). If this is assumed, the genus *Nycheuma* could be interpreted as the plesiomorphic group from which *Malaxodes* has been derived. If this were the case, and if no synapomorphies for *Nycheuma* itself can be found in the future, the genus would become paraphyletic.

*Nycheuma coronata*, n. sp.

(fig. 206-212)

**Holotype male** macropterous, Côte d'Ivoire, Tai forest, II, 12/13-X-1978, G. Couturier leg., MNHN. — **Paratypes:** Tai: 1 ♂, 1 ♀, II, 17-V-1978; 1 ♂, 1 ♀, I, 19-V-1978; 4 ♀, II, 12-VII-1978; 1 ♂, 11 ♀, II, 17-VII-1978; 4 ♀, II, 15-VIII-1978; 1 ♂, 6 ♀, II, 24/25-VIII-1978; 1 ♂, 1 ♀, I, 11/12-IX-1978; 5 ♂, 53 ♀, II, 14/15-IX-1978; 1 ♂, 19 ♀, I, 1 ♂, 6 ♀, II, 12/13-X-1978; 1 ♂, 2 ♀, I, 19/20-X-1978; 1 ♀, I, 2 ♀, II, 9/10-XI-1978; 1 ♀, I, 2 ♀, II, 11/12-XII-1978; 1 ♀, I, 21/22-XII-1978; 1 ♀, I, 8/9-I-1978; 1 ♂, II, 14/15-V-1979; 4 ♀, I, 31-V-1979; 1 ♀, II, 11/12-VI-1979; 1 ♂, I, 21/22-VI-1979; 4 ♀, I, 4 ♀, II, 25/26-VI-1979; 2 ♀, I, 9/10-VII-1979; 1 ♀, I, 1 ♂, 9 ♀, II, 18-VII-1979; 2 ♀, II, 28/29-VIII-1979; 1 ♀, I, 27/28-IX-1979; all: G. Couturier leg., MNHN, ORSTOM, MA, BMNH.

Externally resembling the type-species of the genus, but lighter, apex of tegmina without brown, curved, submarginal band.

Coloration : head, pro-, mesonotum, legs and antennae pale yellowish to stramineous ; over pro- and mesonotum on each side of the middle line a longitudinal orange-brownish stripe ; abdomen brown, genital segment dark brown ; frons without distinct markings ; apex of 1st and base of 2nd antennal segment brown ; tegmina hyaline, distal part caudad of nodal line diffusely brownish, veins basally whitish or pale yellow, in distal part brown ; hindwings hyaline, veins brown.

Male genitalia : genital segment (fig. 207-209) : ventrocaudal margin shallowly concave, in middle 3 spinose processes arising at the same level, touching each other ; lateral processes shorter than median, all 3 together forming a crown-shaped structure (fig. 208). Parameres (fig. 207 & 210) long and slender, distally finger-like narrowed, pointing laterodorsad. Anal segment (fig. 207 & 210) ventrally membranous, spinose processes slender, slightly curved ventrobasad. Aedeagus (fig. 210-212) : basal part at middle bent ventrad ; on the left and right side at about the same level shortly distad of the bending originating an acuminate process, parallel to the shaft : the shorter on the left, straight ; the longer on the right side, distally slightly curved ventrobasad ; flagellum rather short, about half the length of the basal part, distally pointed and curved left laterad.

Length (incl. tegmen) : male : 3.0-3.3 mm ; female : 3.2-3.5 mm.

Distribution : Côte d'Ivoire.

Remarks : In the configuration of the male genitalia *N. coronata* n. sp. is very similar to the type-species of the genus, but differs in following characters : distal part of tegmen diffusely brownish without any patterns (semicircular submarginal band missing) ; the 3 spines medially at the ventrocaudal margin of the genital segment narrowly grouped together forming a « crown », the median of these processes longest ; flag-like process of aedeagus comparatively short ; lateral spinose processes of the basal part originating at about the same level ; bases of parameres in lateral view lobe-like dilated without horn-shaped projection.

*Nycheuma dimorpha* (Matsumura, 1910) n. comb.  
(fig. 213-217)

*Dicranotropis dimorpha* Matsumura. *J. Coll. Sci. imp. Univ. Tokyo*, 27 : 37, Italy : Sicily.

*Cemus dimorpha* : Nast, 1984, *Annisizool. Warsz.*, 37 (15).

*Dicranotropis capensis* Muir, 1926, *Ann. Mag. nat. Hist.*, (9) 17 : 28, South Africa : Cape Province. *NEW SYNONYMY.*

*Dicranotropis ibadanensis* Murir, 1920, *Bull. ent. Res.*, 10 : 141, Nigeria. *NEW SYNONYMY.*

*Dacranotropis idas* Fennah, 1958, *Bull. Inst. fr. Afr. noire, sér. A*, 20 (2) : 479-480, Côte d'Ivoire. *NEW SYNONYMY.*

Tai : 1 ♂, 1 ♀, II, 17-V-1978 ; 1 ♀, I, 19-V-1978 ; 1 ♀, I, 1 ♂, II, 17-VII-1978 ; 1 ♂, II, 12-VIII-1978 ; 3 ♂, 1 ♀, II, 14/15-IX-1978 ; 16 ♂, 15 ♀, I, 26 ♂, 27 ♀, II, 12/13-X-1978 ; 1 ♂, 1 ♀, I, 19/20-X-1978 ; 9 ♂, 13 ♀, I, 49 ♂, 43 ♀, II, 9/10-XI-1978 ; 8 ♂, 12 ♀, I, 13 ♂, 12 ♀, II, 23/24-XI-1978 ; 6 ♂, 4 ♀, I, 12 ♂, 9 ♀, II, 11/12-XII-1978 ; 4 ♂, 3 ♀, II, 21/22-XII-1978 ; 1 ♀, I, 1 ♀, II, 8/9-I-1979 ; 1 ♀, II, 15/16-II-1979 ; 1 ♀, II, 22/23-II-1979 ; 1 ♀, II, 14/15-V-1979 ; 8 ♂, 4 ♀, I, 31-V-1979 ; 1 ♀, I, 21/22-VI-1979 ; 1 ♀, I, 18-IX-1979 ; 1 ♂, I, 27/28-IX-1979 ; 1 ♀, 14-IV-1980 ; all : *G. Couturier leg.*, MNHN, ORSTOM, MA, BMNH. 1 ♂, 2 ♀, brachypterous, Adiopodoumé, 6-VII-1967, *H. Gruis leg.* ; 1 ♂, at light, 1967, *P. J. Hummelen leg.* ; 1 ♀, at light, 8-II-1972, *O. Bruinsma & A. v. Huis leg.* ; AUW. 2 ♂, Adiopodoumé, 29-IX/7-X-1973 ; 2 ♂, Foro Foro, 25/28-IX-1973 ; 10 ♂, 3 ♀, Gouméré, 19-IX-1973 ; 1 ♂, Kiriao, 17-X-1973 ; 9 ♂, 6 ♀, Man, 14/21-X-1973 ; 1 ♂, Mt. Tonkoui, 15/22-X-1973 ; all : *R. Linnavuori leg.* ; LV.

Distribution : Italy : Sicily (MATSUMURA, 1910) ; South Africa : Cape Province (MUIR, 1926, 1929) ; Capverde Is. (LINDBERG, 1958) ; Mauritius (FENNAH, 1964) ; Côte d'Ivoire (FENNAH, 1958a) ; Sudan : Equatoria, Bahr el Ghazal (LINNAVUORI, 1973) ; Nigeria (MEDLER, 1980).

Remarks : The examination of the holotype males of *Dicranotropis capensis*, *D. ibadanensis* (both in BMNH) and of *D. idas* (MNHN) suggested that they were entirely within the range of intraspecific variation of only one widely distributed species. This assumption could be confirmed by a comparative study of numerous specimens from different parts of Africa and Mauritius.

According to the figures and re-description of *Dicranotropis dimorpha* by NAST (1984) (based on the re-examination of the holotype) the same species is concerned providing the oldest available name. The name

« *dimorpha* » refers to the sexual dimorphic coloration of the brachypterous form : in males the reduced tegmina are shiny chestnut-brown, in females yellowish.

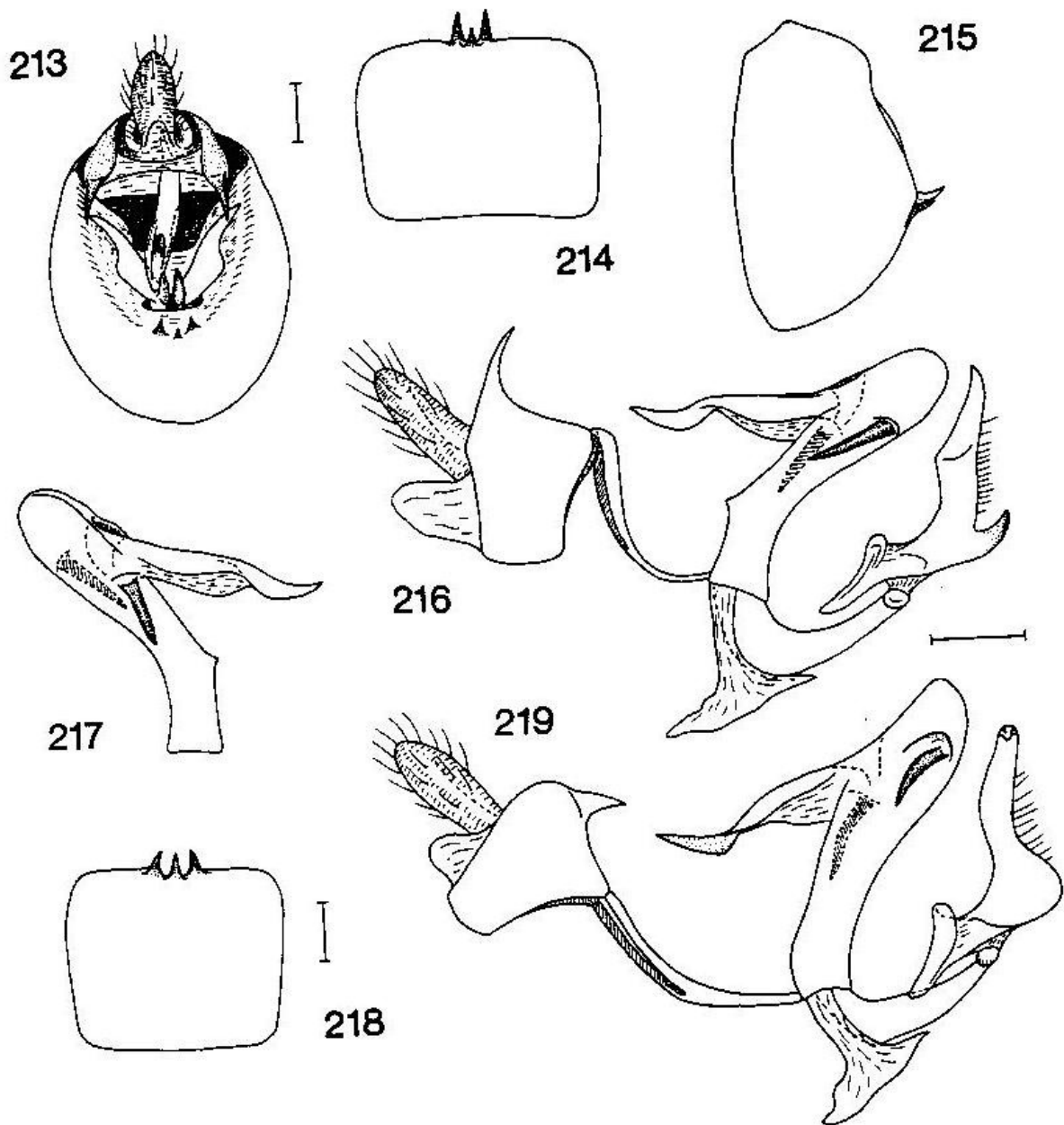


Fig. 213-217, *Nycheuma dimorpha* (Matsumura). — 213, genital capsule, ventrocaudal. — 214, genital segment, ventral. — 215, genital segment, left lateral. — 216, male genitalia, left lateral. — 217, aedeagus, right lateral.  
 Fig. 218-219, *Nycheuma nilotica* Linnavuori. — 218, genital segment, ventral. — 219, male genitalia, left lateral.

LINNAVUORI (1973) described a subspecies of *Nycheuma idas*: *Nycheuma idas nilotica* from Sudan: Blue Nile and Kassala (here figured for comparison: fig. 218-219). However, it differs from *N. dimorpha* (= *N. idas*) significantly in structures of the male genitalia: medioventral processes of the genital segment equally long (fig. 218); different length, shape and position of the lateral spinose processes of the aedeagus (fig. 219); lobe-like instead of horn-like ventral base of the parameres (fig. 219); considerably shorter and broader processes of the anal segment (fig. 219). As this taxon occurs sympatrically with *N. dimorpha* in the Sudan (specimens from the same locality have been studied by the

author), for the moment there is no evidence for the existence of geographical races or a cline, therefore *N. idas nilotica* here is considered a species of its own which until now could only be found in the Sudan.

*Nycheuma nilotica* Linnavuori, 1973, n. stat.

*Nycheuma (Dicranotropis) idas nilotica* Linnavuori, 1973, *Notul. ent.* 53 : 105.

The genus *Nycheuma* now accommodates 8 species, 7 from the Ethiopian Region : the widespread *N. dimorpha*, *N. nilotica* from Sudan, *N. endymion* Fennah from Senegal and Sudan, *N. menius* Fennah from Sudan, *N. sectator* Fennah from Cameroon and Sudan, *N. afrocognata* n. sp. from Côte d'Ivoire and *N. coronata* n. sp. from Côte d'Ivoire ; *N. cognata* (Muir) is widely distributed in the Oriental Region, Australia and in the Western Pacific.

#### Genus *Opiconsiva* Distant

*Opiconsiva* Distant, 1917, *Trans. Linn. Soc. Lond. Zool.*, 17 : 301. — Type-species (by original designation) : *Opiconsiva fuscovaria* Distant, 1917, *ibid.* : 301, Seychelles Is.

*Corbulo* Fennah, 1965, *Bull. Brit. Mus.*, 17 : 48. — Type species (by original designation) : *Delphax dilpa* Kirkaldy, 1907, *Bull. Hawaiian Sug. Plrs' Ass. Exp. Sta.*, 3 : 162, Australia : New South Wales. **NEW SYNONYMY.**

#### *Opiconsiva tangira* (Matsumura, 1910), n. comb. (fig. 220-225)

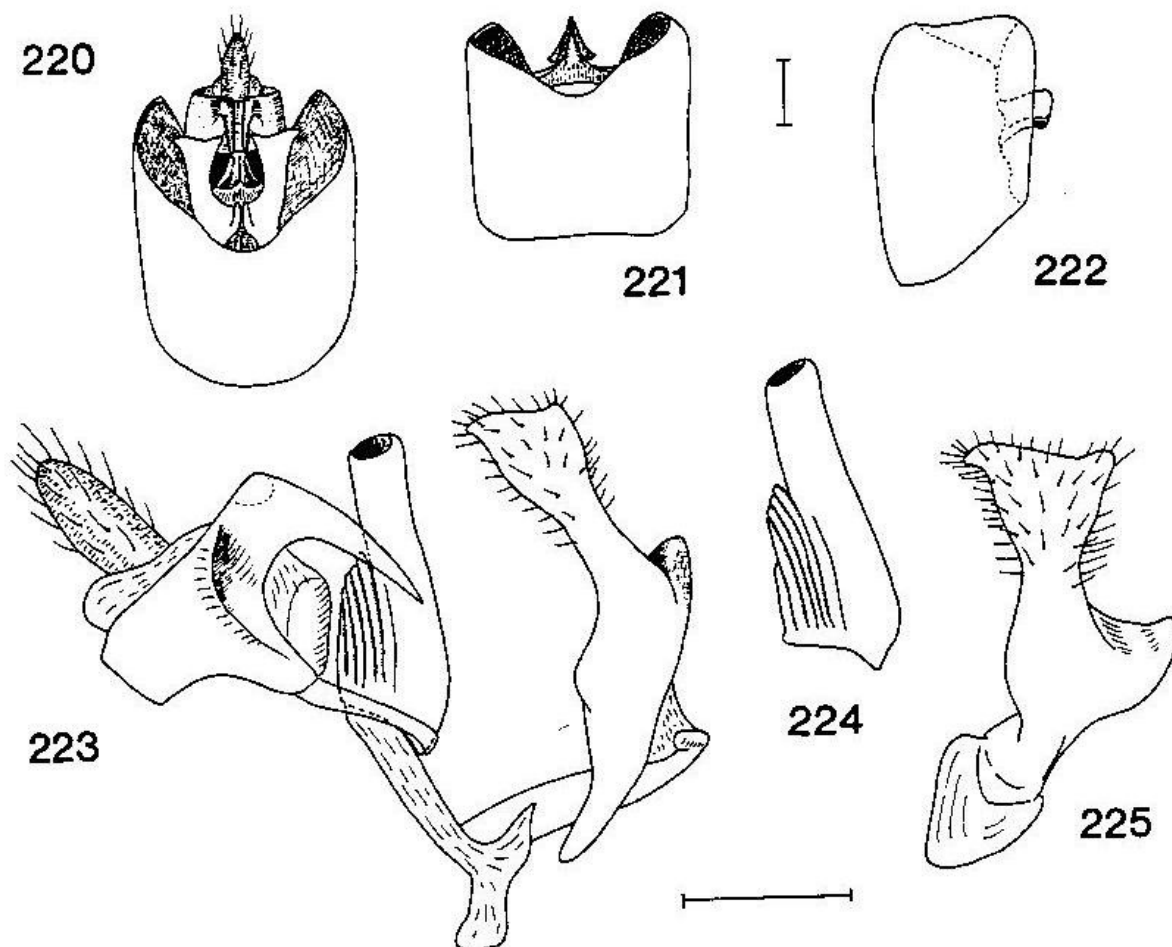


Fig. 220-225, *Opiconsiva tangira* (Matsumura). — 220, genital capsule, ventrocaudal. — 221, genital segment, ventral. — 222, genital segment, left lateral. — 223, male genitalia, left lateral. — 224, aedeagus, left lateral, other specimen. — 225, left paramere.

- Delphax tangira* Matsumura, 1910, *J. Coll. Sci. imp. Univ. Tokyo*, 27 (18): 30, Morocco.  
*Chloriona (Sogatella) paludum* (Kirkaldy, 1910): FENNAH, 1958a, *Bull. Inst. fr. Afr. noire*, sér. A 20, (2): 490-489, Guinea.  
*Toya tangira*: NAST, 1975, *Annls zool. Warsz.*, 33 (1): 6-8.  
*Corbulo tangira*: KWON, 1982, *Korean J. Ent.*, 12 (1): 7.  
*Corbulo dodona* of authors.

Tai: 1 ♂, II, 12/13-X-1978; 1 ♂, II, 11/12-XII-1978; 1 ♂, I, 16/17-VI-1980; 1 ♂, 1 ♀, I, 24/25-VII-1980; all: G. Couturier leg., MNHN, ORSTOM, MA. — 1 ♂, Adiopodoumé, 1964; 1 ♀, Foro Foro, 29-X-1971, at light, O. Bruinsma & A. v. Huis leg., AUW. — 1 ♂, Mt. Niangbo, 28-IX-1973, R. Linnavuori leg., LV.

Distribution: N-Africa: Morocco (MATSUMURA, 1910); Guinea (FENNAH, 1958a); Nigeria (MEDLER, 1980), Sudan: Equatoria, Blue Nile (FENNAH, 1969; LINNAVUORI, 1973).

Remarks: Examination of the holotype male of *Opiconsiva fuscovaria* Distant, 1917 (BMNH) revealed generic identity of *Opiconsiva* and *Corbulo*. Fennah (1975) was already aware of this, and consequently transferred *Corbulo dodona* Fennah, 1965, described from Australia, and *Delphax albicollis* Motschulsky, 1863, described from Ceylon, to this genus, although he did not express the generic synonymy. Accordingly, the taxonomic changes are as follows.

- Opiconsiva dilpa* (Kirkaldy, 1907), n. comb.  
*Delphax dilpa* Kirkaldy, 1907, *Bull. Hawaiian Sug. Pls' Ass. Exp. Stn.*, 3: 162, Australia: New South Wales.  
*Opiconsiva guamensis* (Metcalf, 1946), n. comb.  
*Delphacodes guamensis* Metcalf, 1946, *Bull. Bernice P. Bishop Mus.*, 189: 111, Micronesia, Mariana Is.: Guam.  
*Opiconsiva brontes* (Fennah, 1971) n. comb.  
*Corbulo brontes* Fennah, 1971, *Insects Micronesia*, 6 (8): 576-578, Micronesia, Gilbert Is.  
*Opiconsiva messalina* (Fennah, 1971), n. comb.  
*Corbulo messalina* Fennah, 1971, *Insects Micronesia*, 6 (8): 578-579, Central Pacific, Wake Atoll.  
*Opiconsiva paludum* (Kirkaldy, 1910), n. comb.  
*Kelisia paludum* Kirkaldy, 1910, *Fauna hawai.*, Suppl.: 579, Hawaiian Is.: Hawaii.  
*Opiconsiva koreacola* (Kwon, 1982), n. comb.  
*Corbulo koreacola* Kwon, 1982, *Korean J. Ent.*, 12 (1): 7-8, Korea.

The limits between these species (if there are any) are not very clearly expressed in literature and should be newly defined. Currently placed in *Opiconsiva* have been the species *Opiconsiva nigra* Ding & Tian, 1980, from South China, *Opiconsiva anufrievi* Kwon, 1982 from USSR: Maritime Territory and *Opiconsiva gayasana* Kwon, 1982, from Korea, — their generic position still has to be re-considered.

*Kelisia kirkaldyi* Muir, 1917 (= *Delphax puella* Kirkaldy, 1907, from Australia: Queensland; = *Coronacella bella* Metcalf, 1950, from the Caroline Is.: Truk) was probably erroneously transferred to *Corbulo* by KWON (1982: 7); however, FENNAH (1975: 108) considered this species as a synonym of *Delphacodes sirthalanus* Kirkaldy, 1906 (= *Liburnia frontalis* Melichar, 1903, from Ceylon) which represents the genus *Coronacella* Metcalf, 1950.

#### Genus *Orcaenas* Fennah

*Orcaenas* Fennah, 1969, *Acta ent. fenn.*, 26: 72. — Type-species (by original designation): *Orcaenas juterna* Fennah, 1969, *ibid.*: 73-74, Sudan: Equatoria.

#### *Orcaenas ivoiri*, n. sp. (fig. 226-232)

Holotype male brachypterous, Côte d'Ivoire, Forêt d'Auguédedou, 10 km nw Adiopodoumé, 24-V-1950, H. Gruis leg., AUW. — Paratypes: 1 ♂, 1 ♀ brachypterous, *ibid.*, AUW.  
 Tai: 1 ♀ macropterous, I, 9/10-IX-1978; 2 ♀ macropterous, I, 7/8-IV-1979; G. Couturier leg.: MNHN, ORSTOM, MA.



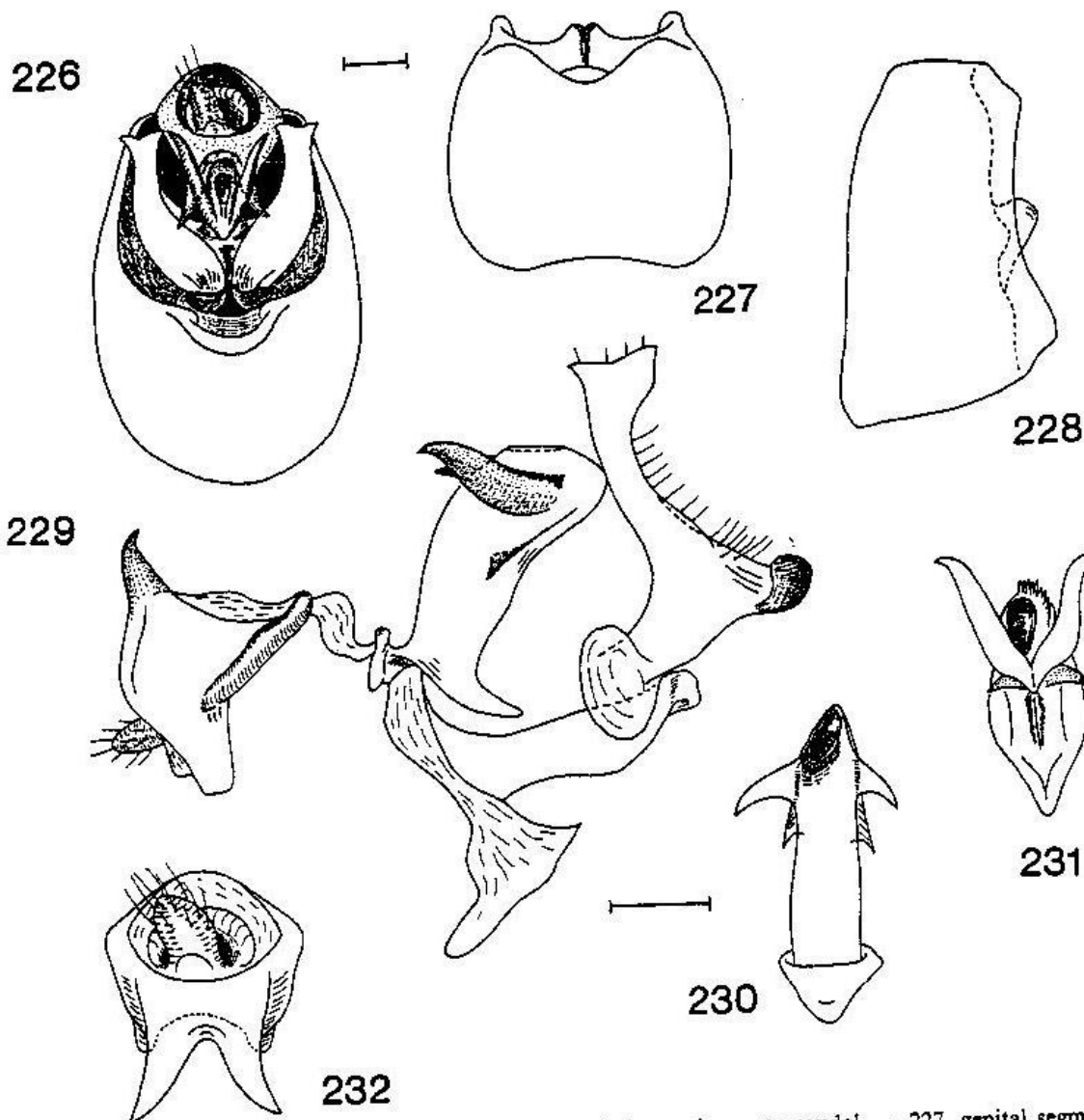


Fig. 226-232. *Orcaenas ivoiri* n. sp., paratype. — 226, genital capsule, ventrocaudal. — 227, genital segment, ventral. — 228, genital segment, left lateral. — 229, male genitalia, left lateral. — 230, aedeagus, dorsal. — 231, apex of aedeagus, ventrocaudal. — 232, anal segment, caudal.

In size, body-shape, proportions, wing-venation and patterns of coloration very similar to *Orcaenas juterna*.

Coloration: vertex and the apical two thirds of frons and genae shiny dark brown (in brachypterous females lighter), basal third of frons and genae pale yellowish; pronotum anteriorly brown, posterior half whitish; mesonotum chestnut-brown, tegulae pale yellow or whitish; antennal segments, rostrum and legs stramineous; tegmina of macropterous females translucent, diffusely brownish between Sc + R and Cu, a brownish longitudinal stripe overlaying the outer branch of the Cu<sub>1</sub>-fork till apex; tegmina of brachypterous form light brownish at base, middle apical cell darker brown.

Male drumming organ: apodemes of the 2nd abdominal sternite long, spinose, erected dorsad.

Male genitalia: genital segment (fig. 226-228) in lateral view trapezoid, ventrally 2.2 times longer than dorsally, latero- and ventrocaudal margins shallowly concave, lateral margins broadly rounding into diaphragm; diaphragm covering more than the ventral half of the caudal area, dorsal margin deeply u-shaped, medially notched and produced into two rounded lobes. Anal segment (fig. 229 & 232) short, ring-like, ventrocaudally closed by a broad chitinized bridge; basal part of

ventral side membranous; laterodistal angles produced into two solid, acuminate, diverging processes. Parameres (fig. 226 & 229) long, curved: from base first diverging dorsad, then with distal half slightly converging; reaching almost to the laterodorsal angles of the genital segment; distally dilated, apical margin truncate, inner angle pointing dorsomedial; ventromedian base produced ventrad into a long process which distally is curved laterad. Aedeagus (fig. 229-231) robust and stout, slightly compressed, slightly curved ventrad; ventral base prolonged into a (in caudal view) triangular, ventrad directed projection; distal part infra the apical phallotrema symmetrically armed with two pairs of processes: the apical pair long, solid, slightly curved, pointing dorsolaterad; the inferior pair short, tooth-like, arising with broad base near to the ventral margin of the shaft, directed laterobasad; dorsal margin infra phallotrema furnished with an irregular row of about 8-10 minute spines. Connective strongly developed, straight. Suspensorium virtually not present, possibly integrated into the basal margin of the aedeagus; connection between ventral base of anal segment and dorsal base of aedeagus membranous.

Length (incl. tegmen): — male brachypterous: 2.25 mm, — female brachypterous: 2.3 mm, — female macropterous: 3.1-3.3 mm.

Distribution: Côte d'Ivoire.

Remarks: *O. ivoiri* n. sp. differs from the other two *Orcaenas*-species described so far especially in the arrangement and shape of the processes of the aedeagus and the less strongly produced laterodorsal angles of the genital segment. On genital characters it seems to be more closely related to the type-species *O. juterna* from Sudan than to the South African *Orcaenas juno* (Fennah, 1958b). Within the Delphacidae the genus is rather isolated.

#### Genus *Partoya*, n. gen.

Small, uniformly brownish delphacids resembling slender *Toya*-species.

Vertex in middle line as long as broad at base, apex slightly narrower than base, lateral margins shallowly concave, anteriorly almost parallel; basal compartments concave, median carina extinct, medially about as long as apical cell; apical cell slightly inclined to frons; carinae of vertex, frons, clypeus and genae fine, sharp; median carina of frons prominent, branching at apex of vertex. Frons 2.2-2.3 times as high as its maximum width, broadest shortly before reaching the frontoclypeal suture; lateral margins slightly concave, area between the carinae concave; frons twice as long as postclypeus, 1.4 times longer than post- and anteclypeus together; frons and postclypeus in profile slightly convex. Rostrum attaining posttrochanters. Antennal segments cylindrical, 2nd segment about 1.4-1.6 times longer than 1st, normal number and arrangement of sensory fields (16/7).

Pronotum 1.2 times wider than head, medially shorter than vertex (0.8:1), lateral carinae strongly elevated, slightly curved or straight, diverging caudad, not reaching the hindmargin; mesonotum in middle line 3.5 times longer than pronotum, carinae feeble, lateral carinae straight, slightly diverging caudad; surface smooth. Posttibial spur foliate, 22-35 minute teeth. Postbasitarsus 1.3 times longer than posttibial spur, 1.4 times longer than 2nd and 3rd posttarsal segment together, apically with 7 spines (2 + 5); 2nd posttarsal joint distally with 4 spines in row. Tegmina translucent, brownish, veins with small granulation; outer subapical cell about double as long as inner, the inner subapical cell branching at level of fusion of the common stalk of anal veins with the inner margin; hindwings hyaline, veins brown. Male drumming organ: apodemes of the 2nd abdominal sternite erected dorsocaudad, filiform.

Coloration uniformly brownish, in the type-species the tip of the mesonotum white.

Male genitalia: genital segment in lateral view irregularly trapezoid, in caudal view oval, slightly higher than wide; laterocaudal margins broadly rounding into diaphragm; ventrocaudal margin in middle abruptly semicircularly excavate, margins laterad of incision lobe-like dilated, caudally sharply carinate. Diaphragm covering about the ventral two thirds of the caudal area, only little sunk cephalad; dorsal margin concave, medially with a semicone-shaped projection. Anal segment ring-like, ventrodistally closed by a narrow chitin-bridge, ventral area membranous; laterodistal angles triangularly produced caudad; lateroventral margin on each side produced into a feeble spinose process. Parameres simple, short and stout, distally dilated, apically truncate, tips narrowing and pointing mediodorsad; inner margin concave. Aedeagus slender, s-shaped, at least in distal portion armed with several minute teeth, these partly in row; distally bent ventrad, phallotrema apical. Connective in dorsal third slightly bent caudad. Suspensorium rectangularly, plate-like, attached to the dorsal base of the aedeagus.

Type-species: *Toya camena* Fennah, 1969.

**Remarks:** The genus *Partoya* n. gen. externally resembles a large group of taxa around *Toya*, *Harmalia* and *Falcotoya*, but it differs in the bodily proportions. It can be distinguished from other taxa by the configuration of the male genitalia: ventral margin of genital segment medially deeply excavate, the incision flanked by sharply carinate lobe-like projections of the ventrocaudal margin; anal segment distally triangularly produced with weak spines at each ventrolateral margin; aedeagus very slender and s-shaped with apical phallotrema, armed with several minute teeth. Externally at least the type-species can be recognized by its uniformly brown coloration and its whitish tip of the mesonotum. At present the genus is monotypic. It can not be considered closely related to *Toya* s. str. because of the different carination of the head and different male genitalia.

*Partoya camena* (Fennah, 1969), n. comb.  
(fig. 233-239)

*Toya camena* Fennah, 1969, *Acta ent. fenn.*, 26: 47-48, Sudan: Equatoria.

Tai: 1 ♂, I, 9/10-XI-1978; 1 ♂, 1 ♀, I, 23/24-XI-1978; 1 ♂, I, 9/10-VII-1979; 1 ♂, 2 ♀, I, 25/26-VI-1980; G. Couturier leg.; MNHN, ORSTOM, MA.

Distribution: Sudan: Equatoria (FENNAH, 1969; LINNAVUORI, 1973); Côte d'Ivoire.

**Remarks:** Compared with the original description of *P. camena* the specimens from Tai forest differ slightly in the dentation of the aedeagus, however, it cannot be decided yet, whether these differences are significant enough to establish a separate species, or whether the Tai-specimens are within the range of variation of a single, widely distributed species.

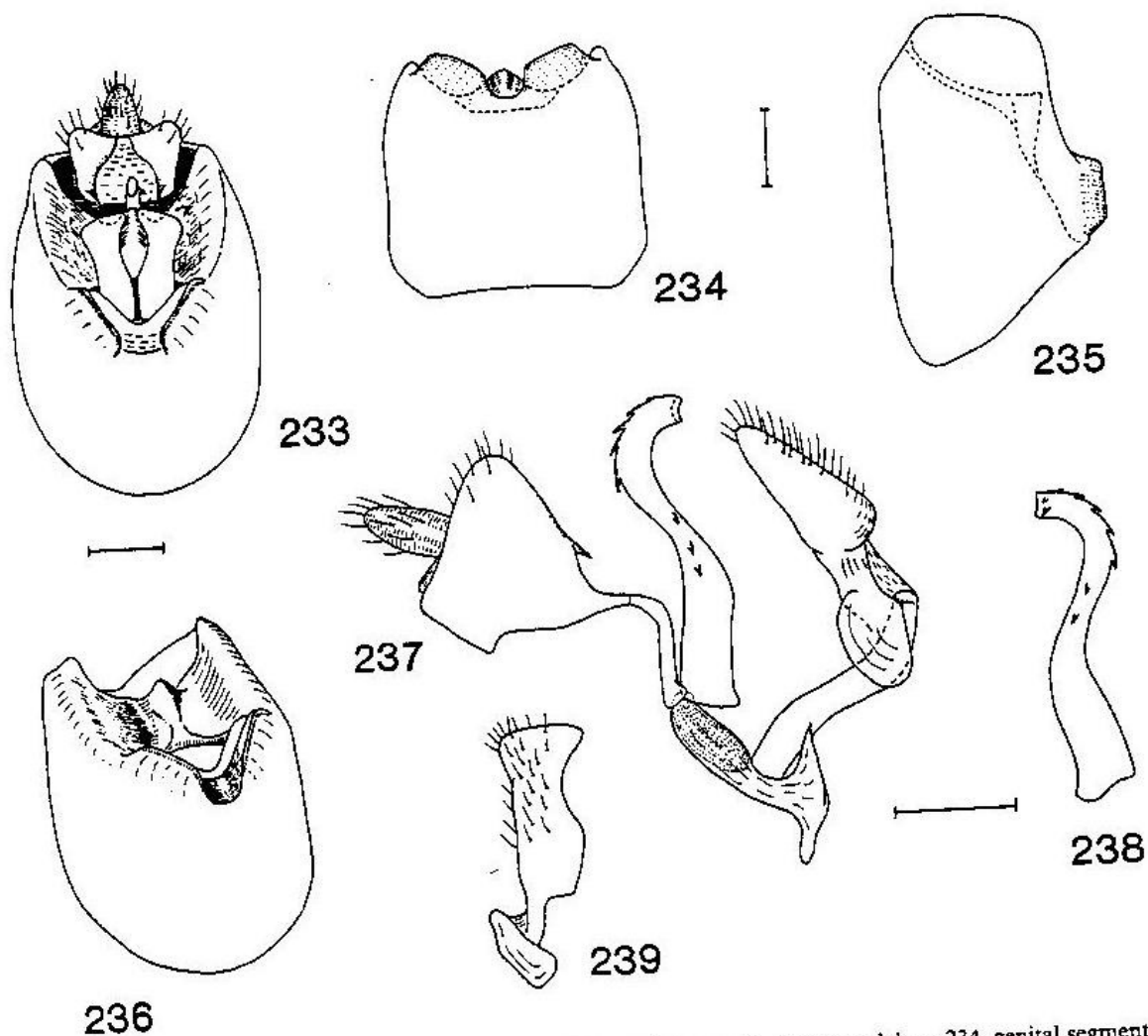


Fig. 233-239, *Partoya taicamena* n. sp., paratype. — 233, genital capsule, ventrocaudal. — 234, genital segment, ventral. — 235, genital segment, left lateral. — 236, genital segment, ventral. — 237, male genitalia. — 238, aedeagus, right lateral. — 239, left paramere.

Genus *Perkinsiella* Kirkaldy

*Perkinsiella* Kirkaldy, 1903, *Entomologist*, 36: 179. — Type-species (by original designation): *Perkinsiella saccharicida* Kirkaldy, 1903, *ibid.*, Hawaiian Is.: Oahu.

*Perkinsiella dorsata* (Melichar, 1905)  
(fig. 240-250)

*Delphax dorsata* Melichar, 1905, *Wien. ent. Ztg.*, 24: 285, Tanganyika.

*Pundaluoysa insignis* Distant, 1912, *Ann. Mag. nat. Hist.*, (8) 9: 190, India.

*Araeopides picta* Ribaut, 1948, *Commentat. biol.*, 10: 13, Cyprus.

Tai: 1 ♂, I, 17-VII-1978; 2 ♀, I, 12/13-X-1978; 1 ♂, 1 ♀, II, 9/10-XI-1978; 32 ♂, 33 ♀, I, 39 ♂, 25 ♀, II, 23/24-XI-1978; 3 ♂, 2 ♀, I, 2 ♂, 4 ♀, II, 11/12-XII-1978; 1 ♂, 1 ♀, I, 1 ♂, II, 8/9-I-1979; *G. Couturier leg.*; MNHN, ORSTOM, MA, BMNH.

1 ♂, Adiopodoumé, 1964, AUW.

1 ♂, Adiopodoumé, 29-IX/27-X-1973; 1 ♀, Ferkéssédougou, 25-X-1973; 1 ♂, Fetekro, 40 km E of Bouaké, 11-X-1973; 14 ♂, 13 ♀, Foro Foro, 15/28-IX-1973; 3 ♂, 10 ♀, Gouméré, 19-IX-1973; 1 ♂, 1 ♀, Lamto, 8/9-X-1973; 7 ♂, 6 ♀, Man, 14/21-X-1973; 2 ♂, Medinani Boundiali, 24-X-1973; 1 ♀, Mt. Niangbo, 28-IX-1973; 1 ♂, Odiénne-Medinani, 24-X-1973; all: *R. Linnavuori leg.*, LV.

Distribution: Widely distributed in Africa, the eastern mediterranean countries and — if the conspecificity with *P. insignis* proves correct — in the Oriental Region. In Africa recorded from: Tanzania (MELICHAR, 1905: Tanganyika); Ethiopia (FENNAH, 1969); Sudan: Blue Nile, Upper Nile, Kordofan, Ecuatoria (LINNAVUORI, 1973); Nigeria (MEDLER, 1980); Côte d'Ivoire.

Remarks: According to LINNAVUORI (1973: 106) who followed the advice of R. G. Fennah the taxa *P. insignis* and *P. picta* are considered conspecific with *P. dorsata*. However, Linnavuori describes slight differences in the shape of the parameres between *P. insignis* and *P. dorsata* and discusses the possibility of *P. insignis* being a separate geographical race. Examination of the holotype of *P. insignis* and of further Indian material has revealed additional differences in the length and shape of the two spinose processes of the aedeagus (see fig. 246-250). Since populations both from India and Africa look rather uniform in the shape of the male genitalia, more material especially from geographically intermediate localities has to be studied. I cannot exclude the existence of a wide cline extending from Africa to India, and perhaps even far more to the east including species like the Philippine *Perkinsiella bakeri* Muir, 1916, which in all genital characters is very similar.

In the East-Mediterranean region *P. dorsata* has been collected by the author on *Saccharum aegyptiacum*.

Genus *Peregrinus* Kirkaldy

*Peregrinus* Kirkaldy, 1904, *Entomologist*, 36: 175. Type-species (by original designation): *Delphax maidis* Ashmead, 1890, *Psyche*, 5: 323, USA: Florida.

*Peregrinus iocastus* (Fennah, 1958)

*Hagamiella iocasta* Fennah, 1958, *Bull. Inst. fr. Afr. noire, sér. A*, 20, (2): 489, Guinea.

Tai: 4 ♀, II, 17-V-1978; 9 ♀, I, 19-V-1978; 4 ♀, I, 13 ♀, II, 17-VII-1978; 7 ♀, II, 24/25-VIII-1978; 1 ♀, I, 11/12-IX-1978; 29 ♀, II, 14/15-IX-1978; 1 ♀, I, 1 ♀, II, 25/26-IX-1978; 10 ♀, I, 12 ♀, II, 12/13-X-1978; 7 ♀, I, 19/20-X-1978; 2 ♀, I, 11 ♀, II, 9/10-XI-1978; 22 ♀, I, 1 ♂, 27 ♀, II, 23/24-XI-1978; 8 ♀, I, 14 ♀, II, 11/12-XII-1978; 10 ♀, I, 24 ♀, II, 21/22-XII-1978; 15 ♀, I, 4 ♀, II, 8/9-I-1979; 1 ♀, I, 3 ♀, II, 18/19-I-1979; 3 ♀, I, 4 ♀, II, 15/16-II-1979; 3 ♀, I, 8 ♀, II, 22/23-II-1978; 2 ♀, I, 18 ♀, II, 1/2-III-1979; 1 ♀, I, 28/29-III-1979; 7 ♀, I, 7/8-IV-1979; 2 ♀, I, 9/10-IV-1979; 9 ♀, II, 14/15-V-1979; 1 ♀, 24/25-V-1979; 2 ♀, I, 31-V-1979; 4 ♀, II, 11/12-VI-1979; 4 ♀, I, 21/22-VI-1979; 2 ♀, I, 2 ♀, II, 25/26-VI-1979; 2 ♀, II, 9/10-VII-1979; 1 ♀, I, 9 ♀, II, 18-VIII-1979; 4 ♀, II, 28/29-VIII-1979; 1 ♀, I, 27/28-IX-1979; 5 ♀, I, 19/20-V-1980; 1 ♀, I, 25/26-VI-1980; all: *G. Couturier leg.*, MNHN, ORSTOM, MA, BMNH.

1 ♀, Adiopodoumé, 8-II-1972, *O. Bruinsma & A. v. Huis leg.*, AUW.

5 ♀, Ferkéssédougou, 25-X-1973; 3 ♀, Foro Foro, 25/28-IX-1973; 6 ♀, Gouméré, 19-IX-1973; 1 ♀, Lamto, 8/9-X-1973; 6 ♀, Man, 14/21-X-1973; all: *R. Linnavuori leg.*, LV.

Distribution: Guinea (FENNAH, 1958a); Guinea Bissau (FENNAH, 1958a); Senegal (FENNAH, 1961); Uganda (FENNAH, 1969); Sudan: Bahr el Ghazal, Ecuatoria (LINNAVUORI, 1973); Nigeria (MEDLER, 1980); Cameroon (VAN STALLE, 1984); Côte d'Ivoire.

Remarks: It seems worth mentioning that the large sample taken at light in the Tai forest in a period of more than two years including all seasons contained in total 322 females, but only one single male.

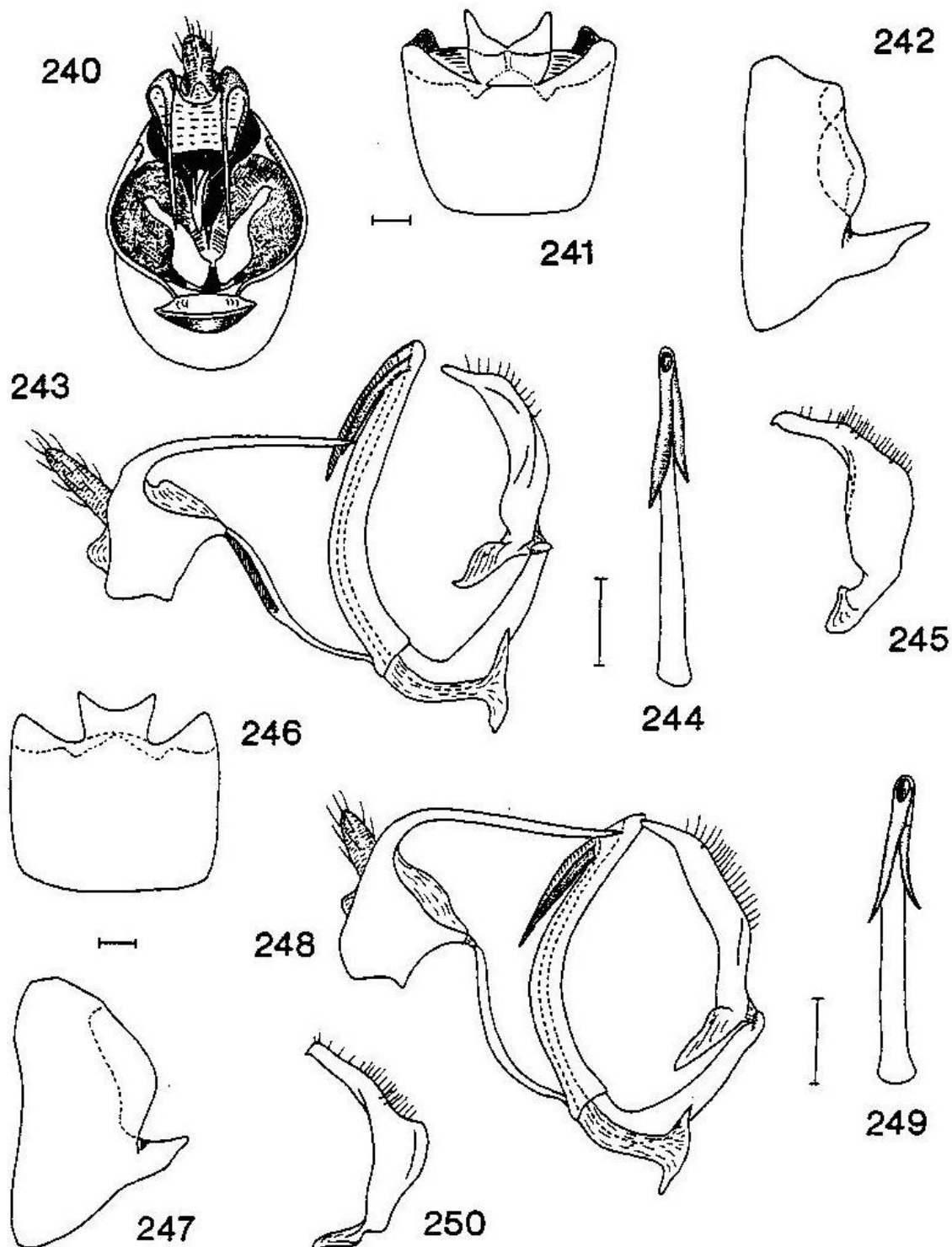


Fig. 240-250, *Perkinsiella dorsata* (Melichar). — 240-245, specimen from Côte d'Ivoire; 246-250, specimen from India, topotypic with holotype of *P. insignis* (Distant). — 240, genital capsule, ventrocaudal. — 241, 246, genital segment ventral. — 242, 247, genital segment, left lateral. — 243, 248, male genitalia, left lateral. — 244, 249, aedeagus, dorsal. — 245, 250, left paramere.

*Peregrinus maidis* (Ashmead, 1890)

- Delphax maidis* Ashmead, 1890, *Psyche*, 5: 323, USA: Florida.  
*Delphax psylloides* Lethierry, 1894, *Indian Mus. Notes*, 3: 105, Ceylon.  
*Pundaluoya simplicia* Distant, 1906, *Fauna Br. India*, 3: 468, Ceylon.

Tai : in total 335 ♂ (159 ♂ : I, 176 ♂ : II), 603 ♀ (224 ♀ : I, 379 ♀ : II). 1 ♂, II, 17-VII-1978 ; 1 ♀, I, 24/25-VIII-1978 ; 4 ♂, 2 ♀, II, 14/15-IX-1978 ; 15 ♂, 19 ♀, I, 12 ♂, 24 ♀, II, 12/13-X-1978 ; 9 ♂, 1 ♀, I, 19/20-X-1978 ; 37 ♂, 59 ♀, I, 85 ♂, 168 ♀, II, 9/10-XI-1978 ; 19 ♂, 28 ♀, I, 35 ♂, 44 ♀, II, 23/24-XI-1978 ; 11 ♂, 34 ♀, I, 16 ♂, 48 ♀, II, 11/12-XII-1978 ; 20 ♂, 22 ♀, I, 21 ♂, 44 ♀, II, 21/22-XII-1978 ; 11 ♂, 20 ♀, I, 5 ♂, 9 ♀, II, 8/9-I-1979 ; 2 ♂, 1 ♀, I, 7 ♀, II, 18/19-I-1979 ; 1 ♂, 1 ♀, I, 1 ♂, 1 ♀, II, 15/16-II-1979 ; 1 ♀, II, 22/23-II-1979 ; 3 ♀, I, 2 ♂, 2 ♀, II, 1/2-III-1979 ; 1 ♀, I, 9/10-IV-1978 ; 2 ♂, 5 ♀, II, 14/15-V-1979 ; 6 ♂, 7 ♀, I, 24/25-V-1979 ; 2 ♂, 9 ♀, I, 31-V-1979 ; 2 ♀, II, 11/12-VI-1979 ; 6 ♂, 10 ♀, I, 21/22-VI-1979 ; 1 ♂, 9 ♀, I, 10 ♂, 11 ♀, II, 25/26-VI-1979 ; 3 ♀, II, 9/10-VII-1979 ; 1 ♀, II, 18-VIII-1979 ; 1 ♀, I, 28/29-VIII-1979 ; 2 ♂, 3 ♀, I, 27/28-IX-1979 ; 1 ♀, 14/15-VII-1980 ; all : G. Couturier leg., MNHN, ORSTOM, MA, BMNH.

2 ♂, 4 ♀, Adiopodoumé, at light, 8-II-1972, O. Bruinsma & A. v. Huis leg. ; 1 ♀, *ibid.*, 1964 ; AUW. 6 ♂, 2 ♀, Adiopodoumé, 29-IX/7-X-1973 ; 2 ♂, 1 ♀, Gouméré, 19-IX-1973 ; 1 ♀, Kiriao, 17-X-1973 ; 1 ♀, Lamto, 8/9-X-1973 ; 1 ♂, 2 ♀, Man, 14/21-X-1973 ; all : R. Linnavuori leg., LV.

Distribution : Widespread in the tropics of the Old and New World ; common in Africa.

Remarks : *Peregrinus maidis* is known as a serious pest of maize and sorghum.

### Genus *Rhombotoya* Fennah

*Rhombotoya* Fennah, 1975, *Entomologica scand.*, Suppl. 4, 1973-1975 : 124. — Type-species (by original designation) : *Delphacodes pseudonigripennis* Muir, 1918, *Proc. Hawaii. ent. Soc.*, 3 : 427, Taiwan.

*Maculidelphax* Asche, 1982, *Marburger ent. Publ.*, 1 (6) : 191-210. — Type-species (by original designation) : *Calligypona maculipennis* Linnavuori, 1962, *Annls zool. fenn.* « Vanamon », 24 (3) : 26, Israel. *NEW SYNONYMY*.

#### *Rhombotoya epimelas* (Fennah, 1958), n. comb. (fig. 251-256)

*Delphacodes epimelas* Fennah, 1958, *Bull. Inst. fr. Afr. noire. sér., A.*, 20, (2) : 485-486, Côte d'Ivoire.

Tai : 1 ♀, II, 17-VII-1978 ; 1 ♂, I, 1 ♂, 3 ♀, II, 12/13-X-1978 ; 2 ♂, 8 ♀, I, 9/10-XI-1978 ; 9 ♂, 5 ♀, I, 6 ♂, 11 ♀, II, 23/24-XI-1978 ; 1 ♀, I, 2 ♂, II, 11/12-XII-1978 ; 1 ♂, I, 8/9-I-1979 ; G. Couturier leg. ; MNHN, ORSTOM, MA, BMNH.

2 ♀, Adiopodoumé, IV-V-1964, R. H. Cobben leg. : 1 ♂, 6 ♀, *ibid.*, 1964 ; AUW.

Distribution : Côte d'Ivoire, Senegal (FENNAH, 1958a) ; Sudan : Bahr el Ghazal, Blue Nile, Equatoria (LINNAVUORI, 1973) ; Nigeria (MEDLER, 1980).

Remarks : The genus *Maculidelphax* Asche, 1982 has proved identical with the oriental genus *Rhombotoya* Fennah, 1975. Consequently *C. maculipennis* is newly combined :

*Rhombotoya maculipennis* (Linnavuori, 1962), n. comb.

*Calligypona maculipennis* Linnavuori, 1962, *op. cit.* : 26.

The genus *Rhombotoya* now accommodates 4 species : *R. pseudonigripennis* Muir from Taiwan with the subspecies *R. pseudonigripennis calitas* Fennah, 1975, from Ceylon, *R. nigriella* (Ishihara, 1954) from Japan, the eastmediterranean *R. maculipennis* and the African *R. epimelas*.

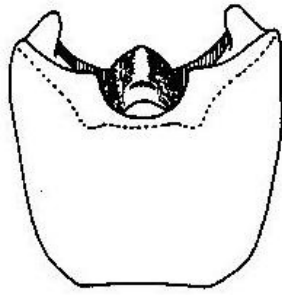
*R. maculipennis* has been collected in Greece on the widespread tropical grass *Imperata cylindrica* close to the soil syntopically with *Euidopsis truncata* and *Tropidocephala tuberipennis* (ASCHE, 1982b). A similar ecology can also be assumed for the other species of this genus.

Fig. 251-256, *Rhombotoya epimelas* (Fennah). — 251, genital capsule ventrocaudal. — 252, genital segment ventral. — 253, genital segment, left lateral. — 254, male genitalia, left lateral. — 255, aedeagus, right dorsal. — 256, left paramere.

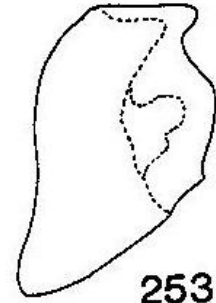
Fig. 257-262, *Sardia vindex* Fennah. — 257, genital capsule, ventrocaudal. — 258, genital segment, ventral. — 259, genital segment, left lateral. — 260, male genitalia, left lateral. — 261, aedeagus, right lateral. — 262, left paramere.



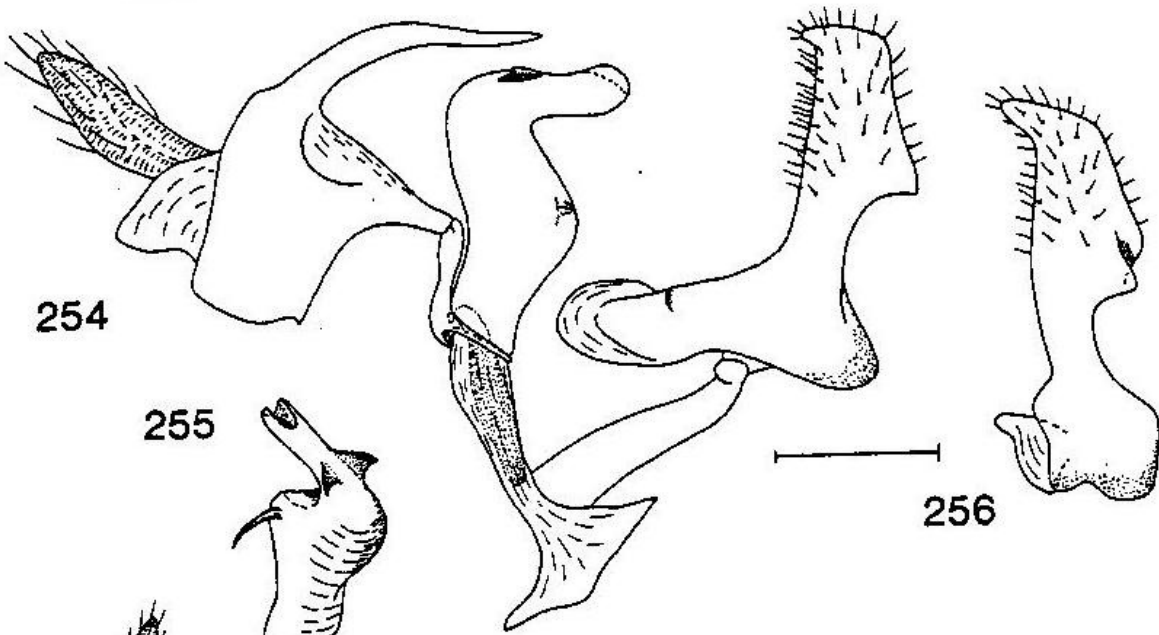
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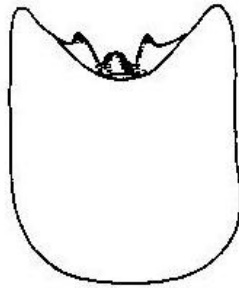
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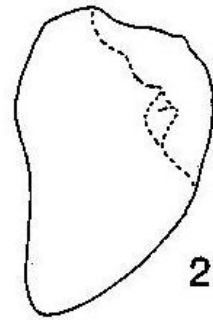
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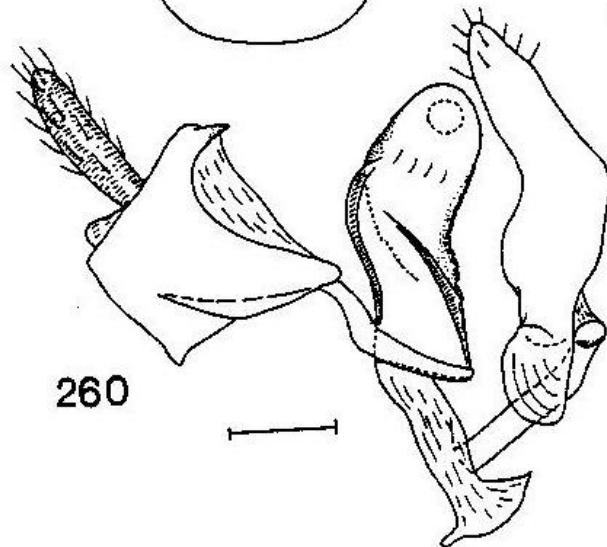
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Genus *Sardia* Melichar

*Sardia* Melichar, 1903, Homopt. — Fauna von Ceylon : 96. — Type-species (by monotypy) : *Sardia rostrata* Melichar, 1903, *ibid.* : 96, Ceylon.

*Sardia vindex* Fennah, 1969  
(fig. 257-262)

*Acta ent. fenn.*, 26 : 59-61, Sudan : Equatoria.

Tai : 1 ♂, II, 23/24-XI-1978 ; 1 ♂, II, 11/12-XII-1978 ; 1 ♂, I, 18/19-I-1979 ; G. Couturier leg., MNHN, ORSTOM, MA.

Distribution : Sudan : Bahr el Ghazal, Equatoria (FENNAH, 1969 ; LINNAVUORI, 1973) ; Côte d'Ivoire.

Genus *Sogatella* Fennah

*Sogatella* Fennah, 1956, *Proc. Calif. Acad. Sci.*, 28 : 471. — Type-species (by original designation) : *Delphax furcifera* Horvath, 1899, *Termeszetr. Füz.*, 22 : 372, Japan.

*Sogatella albofimbriata* (Muir, 1926)  
(fig. 263-268)

*Sogata albofimbriata* Muir, 1926, *Ann. Mag. nat. Hist.*, (9) 17 : 33, South Africa : Cape Province.

*Sogata rhodesi* Muir, 1929, *Ann. Mag. nat. Hist.*, (10) 4 : 108, South Africa : Natal. NEW SYNONYMY.

Tai : 1 ♂, I, 1 ♂, II, 17-VII-1978 ; 5 ♂, II, 14/15-IX-1978 ; 2 ♂, I, 5 ♂, II, 12/13-X-1978 ; 1 ♂, II, 9/10-XI-1978 ; 2 ♂, I, 11/12-XII-1978 ; G. Couturier leg. ; MNHN, ORSTOM, MA, BMNH.

Distribution : South Africa : Cape Province (MUIR, 1926 & 1927), Natal (MUIR, 1929), Zululand (FENNAH, 1958b) ; Mauritius (FENNAH, 1964) ; Senegal (FENNAH, 1958a) ; Nigeria (MEDLER, 1980) ; Côte d'Ivoire.

**Remarks :** The holotype males of *S. albofimbriata* and *S. rhodesi* (both in BMNH) have been examined and proved identical. The parameres of *S. albofimbriata* possess distally only a very short mediadorsad directed edge instead of a spinose process as present in most other *Sogatella*-species forming the characteristic apical fork. The other genital characters correspond with those of the type-species of the genus : u-shaped process at the dorsal margin of the diaphragm, dorsad curved aedeagus with two oblique rows of teeth, anal segment on each side with a long spinose process originating at the ventrodorsal angle. The parameres of *S. albofimbriata* could be interpreted either as derived from a forked type, or as the beginning for forked parameres. As some species currently placed in the genus *Toya* possess similar parameres as *S. albofimbriata* their relationships to the genus *Sogatella* has to be studied.

*Sogatella kolophon* Kirkaldy, 1907  
(fig. 269-274)

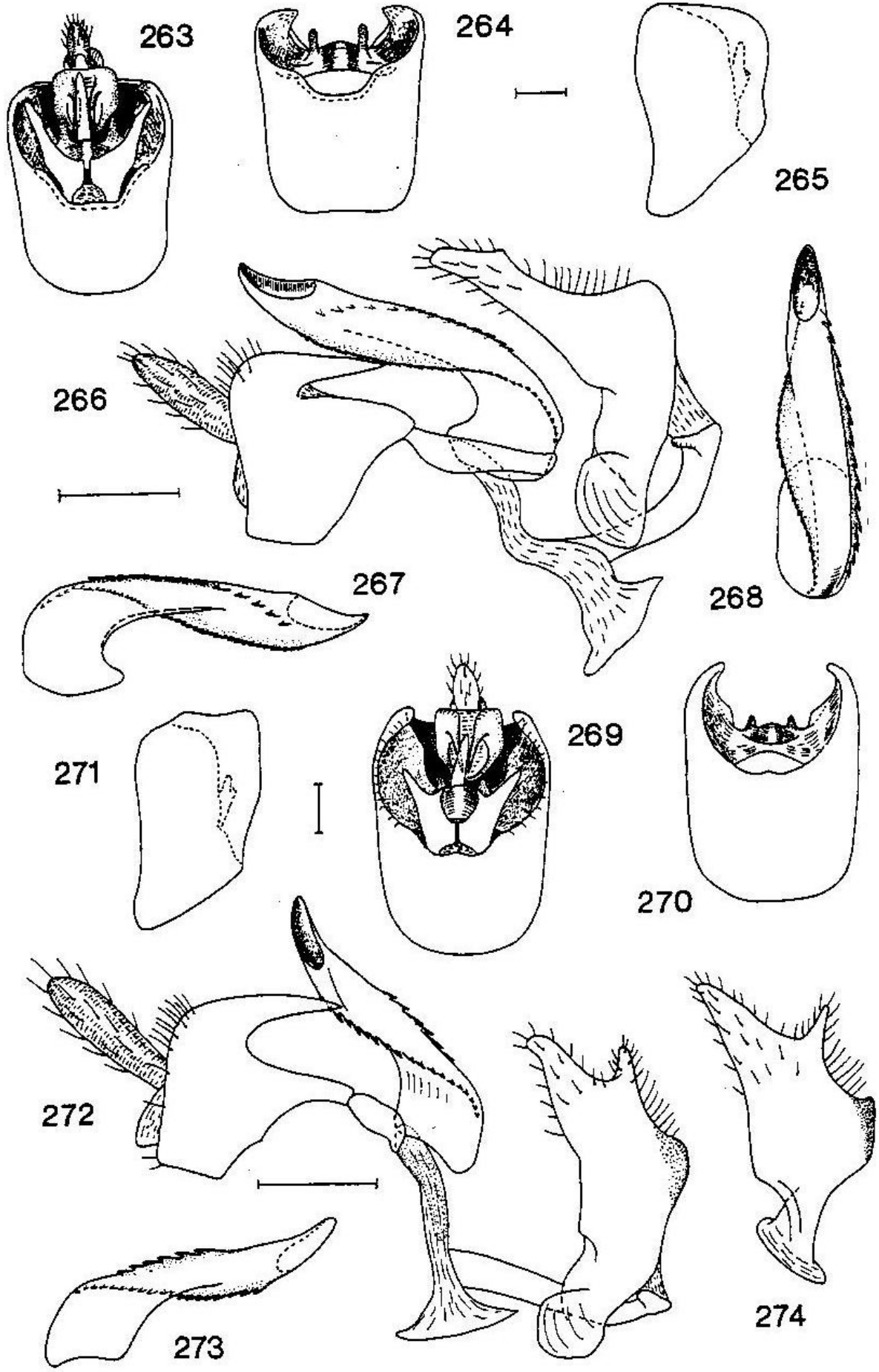
*Bull. Hawaiian Sug. Plrs' Ass. Exp. Sta.*, ent. Ser., 3 : 157, Australia : Queensland.

Tai : 5 ♂, 4 ♀, II, 14/15-IX-1978 ; 9 ♂, I, 19 ♂, 16 ♀, II, 12/13-X-1978 ; 4 ♀, I, 5 ♂, 5 ♀, II, 9/10-XI-1978 ; 1 ♀, I, 23/24-XI-1978 ; 2 ♂, 3 ♀, II, 11/12-XII-1978 ; 1 ♂, I, 9/10-VII-1979 ; 1 ♂, 2 ♀, II, 18-VIII-1979 ; G. Couturier leg., MNHN, ORSTOM, MA, BMNH.  
15 ♂, Adiopodoumé, 29-IX/7-X-1973 ; 4 ♂, Foro Foro, 25/28-IX-1973 ; 8 ♂, Gouméré, 19-IX-1973 ; 1 ♂, Lamto, 8/9-X-1973 ; 3 ♂, Man, 14/21-X-1973 ; 1 ♂, Maraoue, 12/13-X-1973 ; 1 ♂, Mt. Niangbo, 28-IX-1973 ; 1 ♂, Mt. Tonkowi, 13/22-X-1973 ; all : R. Linnavuori leg., LV.

Fig. 263-268, *Sogatella albofimbriata* (Muir). — 263, genital capsule, ventrocaudal. — 264, genital segment, ventral. — 265, genital segment, left lateral. — 266, male genitalia, left lateral. — 267, aedeagus, right lateral. — 268, aedeagus, caudal.

Fig. 269-274, *Sogatella kolophon atlantica* Fennah. — 269, genital capsule, ventrocaudal. — 270, genital segment, ventral. — 271, genital segment, left lateral. — 272, male genitalia, left lateral. — 273, aedeagus, right lateral. — 274, left paramere.





Distribution : Pantropical. In Africa recorded from : Capeverde Is. (as subspecies *S. kolophon atlantica* : FENNAH, 1963a) ; Nigeria (as *S. kolophon* : MEDLER, 1980) ; Côte d'Ivoire.

Remarks : At present the species *S. kolophon* with its 3 subspecies *S. kolophon atlantica* Fennah, 1963, described from St. Helena, *S. kolophon meridiana* (Beamer, 1952) from the New World and *S. kolophon insularis* (Distant, 1917) from the Seychelles seems to be not sufficiently defined. For this work type-material of *S. kolophon* (BPBM) and of its Old World subspecies (BMNH) has been examined. The African specimens resemble the subspecies *S. kolophon atlantica* rather than any of the other subspecies, however, the limits seem not very clear. Some other species described from Africa are very similar — if not identical — with *S. kolophon*, e. g. *S. parakolophon* Linnavuori, 1973, from Sudan, and *S. nebris* Fennah, 1963, from South Africa. A comprehensive revision of the whole *Sogatella*-group is urgently needed.

*Sogatella nigeriensis* (Muir, 1920)  
(fig. 275-280)

*Megamelus furcifer* (sic) *nigeriensis* Muir, 1920, *Bull. ent. Res.*, 10 : 143, Nigeria.

Tai : 1 ♂, II, 17-VII-1978 ; G. Couturier leg., MNHN.  
1 ♂, Adiopodoumé, 29-IX/7-X-1973, R. Linnavuori leg., LV.

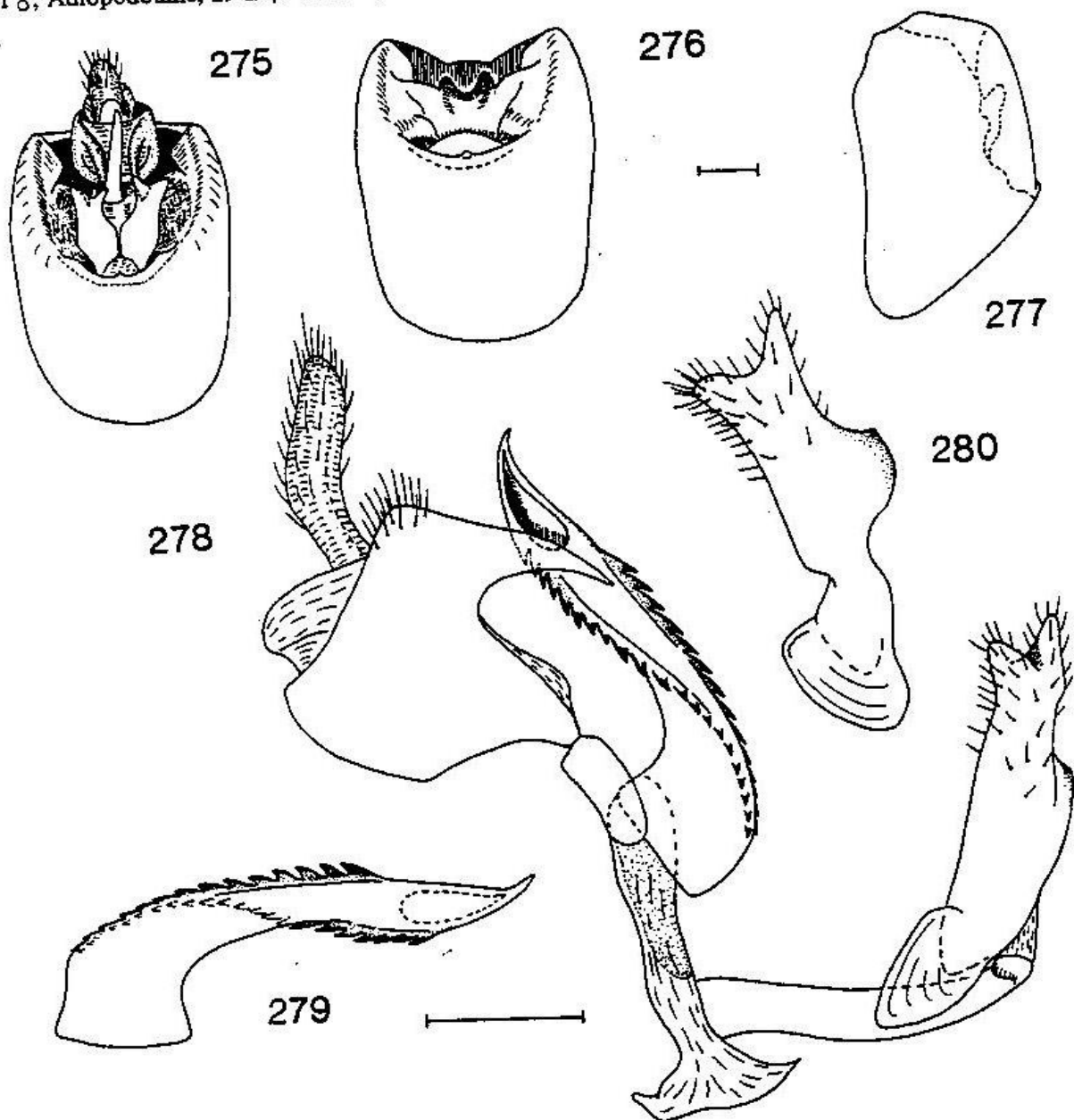


Fig. 275-280, *Sogatella nigeriensis* (Muir). — 275, genital capsule, ventrocaudal. — 276, genital segment, ventrocaudal. — 277, genital segment, left lateral. — 278, male genitalia, left lateral. — 279, aedeagus, ventrocaudal. — 280, left paramere.

Distribution : Nigeria (MUIR, 1920 ; MEDLER, 1980) ; Niger, Egypt, Uganda (FENNAH, 1963a) ; Ethiopia (FENNAH, 1969) ; Sudan : Blue Nile, Upper Nile, Equatoria, Kordofan, Darfur (LINNAVUORI, 1973) ; Senegal (FENNAH, 1961) ; Guinea, Mali (FENNAH, 1958a) ; apparently also N-Africa and Canary Is. (sec LINNAVUORI, 1973).

Remarks : Because of certain similarities of the parameres *S. nigeriensis* has apparently often been misidentified as *S. furcifera*. Therefore records of *S. furcifera* from Africa need confirmation.

### Genus *Sogatodes* Fennah

*Sogatodes* Fennah, 1963, *Ann. Mag. nat. Hist.*, 13 : 71. — Type-species (by original designation) : *Sogatodes molinus* Fennah, 1963, *ibid.* : 72, Mexico.

#### *Sogatodes cubanus* (Crawford, 1914) (fig. 281-287)

*Dicranotropis cubanus* Crawford, 1914, *Proc. U.S. natn. Mus.*, 46 : 595, Cuba.

*Meganelus flavolineatus* Muir, 1920, *Bull. ent. Res.*, 10 : 143, Nigeria.

*Chloriona (Sogatella) panda* Fennah, 1958, *Bull. Inst. fr. Afr. noire, sér. A*, 20, (2) : 491, Côte d'Ivoire.

Tai : 1 ♀, I, 11/12-IX-1978 ; 2 ♂, II, 14/15-IX-1978 ; 26 ♂, 25 ♀, I, 49 ♂, 39 ♀, II, 12/13-X-1978 ; 19 ♂, 25 ♀, I, 19/20-X-1978 ; 26 ♂, 19 ♀, I, 9/10-XI-1978 ; 1 ♂, I, 1 ♂, 3 ♀, II, 23/24-XI-1978 ; 3 ♂, 4 ♀, I, 5 ♂, 6 ♀, II, 11/12-XII-1978 ; 2 ♀, II, 21/22-XII-1978 ; 2 ♀, I, 21/22-VI-1979 ; *G. Couturier leg.* ; MNHN, ORSTOM, MA, BMNH.

Distribution : New World. Africa : Nigeria (MUIR, 1920 ; MEDLER, 1980) ; Côte d'Ivoire (FENNAH, 1958a) ; Sudan : Bahr el Ghazal, Blue Nile (FENNAH, 1969 ; LINNAVUORI, 1973).

Remarks : *Sogatodes cubanus* has possibly been introduced from Africa to America. It is known as pest on rice.

#### *Sogatodes neomphalus*, n. sp. (fig. 288-296)

Holotype male macropterous, Côte d'Ivoire, Tai forest, I, 31-V-1979, *G. Couturier leg.*, MNHN. — Paratypes : Tai : 1 ♂, 2 ♀, I, 12-VII-1978 ; 4 ♂, 1 ♀, II, 17-VII-1978 ; 2 ♂, 2 ♀, I, 11-VIII-1978 ; 2 ♂, 1 ♀, II, 15-VII-1978 ; 2 ♂, 4 ♀, II, 24/25-VIII-1978 ; 1 ♀, I, 11/12-IX-1978 ; 52 ♂, 45 ♀, II, 14/15-IX-1978 ; 8 ♂, 5 ♀, I, 7 ♂, 3 ♀, II, 12/13-X-1978 ; 1 ♂, I, 19/20-X-1978 ; 1 ♂, I, 9/10-XI-1978 ; 1 ♂, I, 1 ♂, II, 11/12-XII-1978 ; 1 ♂, I, 21/22-XII-1978 ; 1 ♀, II, 14/15-V-1979 ; 1 ♂, II, 24/25-V-1979 ; 1 ♀, I, 31-V-1979 ; 5 ♂, 5 ♀, I, 18 ♂, 12 ♀, II, 9/10-VII-1979 ; 7 ♂, 1 ♀, I, 19/20-VII-1979 ; 3 ♂, II, 18-VIII-1979 ; 1 ♂, I, 27/28-IX-1979 ; 2 ♂, 1 ♀, I, 24/25-VII-1980 ; all : *G. Couturier leg.* ; MNHN, ORSTOM, MA, BMNH.

In size and body-shape similar to *S. cubanus*, slightly darker.

Vertex in middle considerably longer than broad at base (1.7 : 1), rounding into frons ; lateral margins almost parallel ; basal and apical compartment deeply concave, separated from each other by very weak carinae ; frons medially more than twice as high as its maximum width (2.15 : 1), narrow at apex, widening to frontoclypeal suture, lateral carinae slightly convex ; median carina prominent, branching at apex of vertex. Postclypeus at frontoclypeal suture as broad as frons. Antennal segments subcylindrical, 2nd joint 1.7 times longer than 1st, pedicel with normal number and arrangement of sensory fields (16/7).

Pronotum wider than head (1.25 : 1), medially shorter than vertex (0.4 : 1), lateral carinae almost straight, diverging caudad, not reaching the hindmargin ; carinae of mesonotum weak, lateral carinae slightly diverging caudad, dorsal area almost plain. Posttibial spur foliate, 15-18 teeth. Postbasitarsus 1.5 times longer than 2nd and 3rd posttarsal joint together, apically 7 spines (2 + 5) ; 2nd posttarsus : 4 spines in row. Tegmina hyaline, outer subapical cell longer than the inner (1.2-1.3 : 1), clavus vein at apex obtuse-angled into the inner margin.

Male drumming organ : 2nd abdominal sternite with 2 long, vertically erected, spinose apodemes.

Coloration : Frons, postclypeus, genae, abdomen, lateral parts of pronotum behind the eyes, lateral parts of mesonotum dark brown ; compartments of vertex, hindmargin, sides and disc of pronotum, tip of mesonotum, antennae and legs creamy-white or pale yellow ; disc of mesonotum at margins diffusely brownish. Tegmina in basal half and distal of nodal line diffusely brown, but

translucent; veins tawny, with minute granulation; angle between common stem of anal veins and inner margin dark brown; hindwings hyaline, veins brownish.

Male genitalia: genital segment (fig. 288-291) ventrally about 3 times longer than dorsally, laterocaudal margin in lateral view convex, broadly rounding into the diaphragm; ventrocaudal margin shallowly concave, in middle a rather small triangular projection. Diaphragm dorsomedially with a broad, helmet-shaped projection resembling *Matutinus*-species (fig. 291). Anal segment (fig. 288 & 292) ring-like, caudoventrally closed by membranous bridge, ventral area membranous; laterocaudal angles on each side produced ventrad into a strong, spinose process which is slightly bent ventrobasad, both processes with their bases far apart from each other. Parameres (fig. 296) moderately long, almost straight, diverging dorsocaudad; apex truncate with a short acuminate tip pointing mediad. Aedeagus (fig. 292-295) tubular, slightly compressed, shortly distad of its base slightly bent dorsad; phallosome apical; on the left side in middle a straight row of about 5 teeth, the row continuing in the dorsodistal portion with 2-3 further teeth; on the right side another straight row of 5 well developed teeth. Connective in middle slightly bent caudad. Suspensorium plate-like, dorsally attached to the base of the aedeagus.

Length (incl. tegmen): males: 2.7-3.1 mm, females: 2.9-3.3 mm.

Distribution: Côte d'Ivoire.

Remarks: *S. neomphalus* n. sp. can be distinguished from the externally similar species *S. cubanus* by following characters: postclypeus brown instead of yellowish; median longitudinal stripe over the mesonotum laterally not sharply limited by the lateral carinae, but margins diffusely overlaid by brownish coloration; median frontal carina branching at apex of vertex, — in *S. cubanus* on frons at level of ocelli. In the shape of the parameres *S. neomphalus* n. sp. resembles *Matutinus omphale*, however, it differs from *Matutinus*-species by the different processes of the anal segment.

The genus *Sogatodes* needs to be newly defined as the type-species *S. molinus* resembles in many aspects (especially in the male genitalia) *Sogatella* s. str. Therefore the placement of the new species in *Sogatodes* is very tentative.

#### Genus *Spinidelfacella*, n. gen.

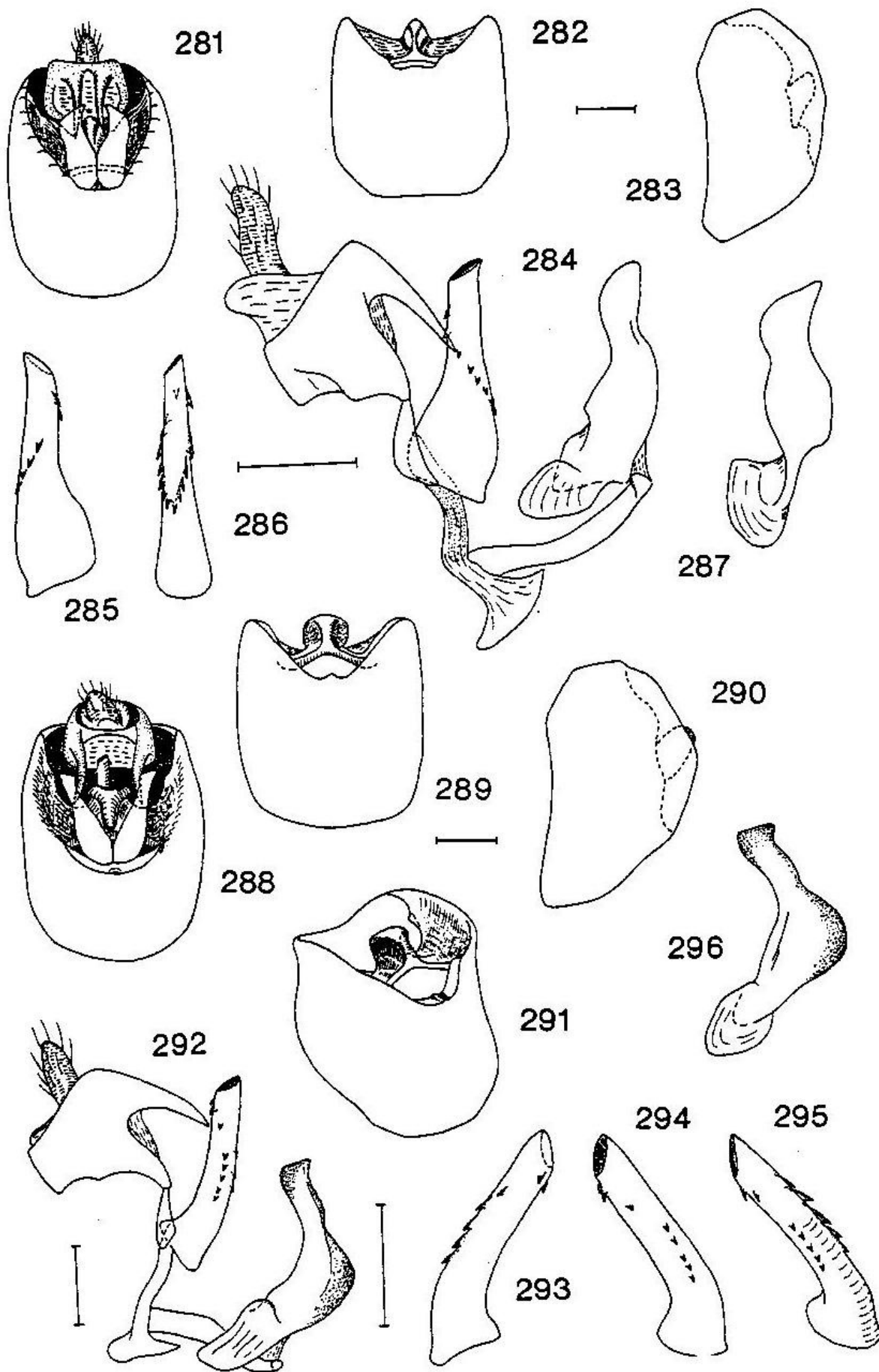
Very small, shiny brown delphacids, externally resembling *Delphacodes* Fieber-species.

Vertex very short, about 2.2 times wider at base than long in middle line, broadly rounding into frons; single basal compartment of vertex 1.6 times broader than medially long; apical cell narrow, about as long as basal compartments; area of compartments slightly concave; lateral margins of vertex concave; carinae of vertex, frons and genae very fine. Frons in profile distinctly convex, 1.8 times longer than wide; lateral margins slightly convex, median carina prominent, branching on vertex; area of frons plain or slightly concave, surface smooth; frons about 1.4 times longer than post- and anteclypeus together. Postclypeus at frontoclypeal suture distinctly broader than frons (1.3:1), in upper half convex without median carina, in lower portion of postclypeus and on anteclypeus a feeble median carina. Rostrum exceeding the hindtrochanters. Ocelli and blemmata present. Antennal segments subcylindrical, 2nd joint 1.7 times longer than 1st; number and arrangement of sensory fields on pedicel 16/7.

Pronotum 1.3 times wider than head, medially as long as vertex, hindmargin concave; lateral carinae strongly elevated, curved behind the eyes, not reaching the hindmargin. Mesonotum strongly rounded, about 4.5 times longer than the pronotum, carinae indistinct, traces of lateral carinae straight, almost parallel. Posttibial spur foliate, 10-14 teeth on inner margin. Postbasitarsus 1.6 times longer than the 2nd and 3rd posttarsal joints together, apically with 6 teeth (2 + 4); 2nd posttarsal segment apically with 4 unequal teeth (1 + 2 + 1). Tegmina translucent, brownish; veins with indistinct granulation; subapical cells about equally long, clavus vein leading obtusely into the inner margin.

Fig. 281-287, *Sogatodes cubanus* (Crawford). — 281, genital capsule, ventrocaudal. — 282, genital capsule, ventral. — 283, left lateral. — 284, male genitalia, left lateral. — 285, aedeagus, right lateral. — 286, aedeagus, ventral. — 287, left paramere.

Fig. 288-296, *Sogatodes neomphalus* n. sp., paratype. — 288, genital capsule, ventrocaudal. — 289, genital segment, ventral. — 290, genital segment, left lateral. — 291, genital segment, laterocaudal. — 292, male genitalia, left lateral. — 293, aedeagus, right lateral. — 294, aedeagus, left lateral. — 295, aedeagus, left lateral, slightly twisted to the ventral side. — 296, left paramere.



Male drumming organ : apodemes of the 2nd abdominal sternite weakly developed, rather short and filiform, erected dorsocaudad.

Male genitalia : genital segment flat, ventrally longer than dorsally (1.8 : 1), laterocaudal margins in lateral view convex, broadly rounding into the diaphragm ; ventrocaudal margin slightly concave without any projections ; laterodorsal angles of genital segment on each side strongly produced into a long, thin, medioventrad directed, spinose process. Diaphragm almost at the level of the lateral margins, without special structures. Anal segment short, ring-like, ventrodistally closed by chitin bridge, laterodistal angles on each side broadly produced ventrad into a blunt process. Parameres moderately long, simple, distally slightly diverging. Ventral side of aedeagus from base to apex excavate ; aedeagus bent ventrad ; phallosome apical, dorsocaudally exposed ; base of aedeagus distad of the chamber and the fusion of the connective rather complicated, with circularly twisted sclerite and a flap-like, in caudal view triangular projection to the dorsal side. Connective short and stout, caudal margin in middle slightly projected. Suspensorium short, membranous, plate-shaped.

Type-species : *Delphacodes hargreavesi* Muir, 1929.

Remarks : *Spinidelphacella* n. gen. forms a very distinct genus within the Delphacidae by means of its unique configuration of the basal parts of the aedeagus distad of the chamber which had already attracted the attention of MUIR (1929 : 214). A similarly coiled sclerite has not been found in any other delphacid taxon yet. It might be interpreted as remains of a formerly fully chitinised sperm-conducting central part and in this configuration is considered apomorphic. Also other genital characters (laterodorsal angles of the male genital segment produced into long and slender, medioventrad directed spines ; ventral side of aedeagus excavate) constitute the new genus. *Spinidelphacella* n. gen. belongs in the Delphacini, apparently within this tribe to the large group of « modern » Delphacini which have evolved lac-producing oviduct-glands in the female genitalia. The relationships of *Spinidelphacella* n. gen. to other taxa within this group are still unknown.

Externally the type-species of *Spinidelphacella* n. gen. can be recognized by its uniform shiny brown coloration, by its short and broad vertex, and by its extraordinary small size (at less than 2 mm about the smallest African delphacid).

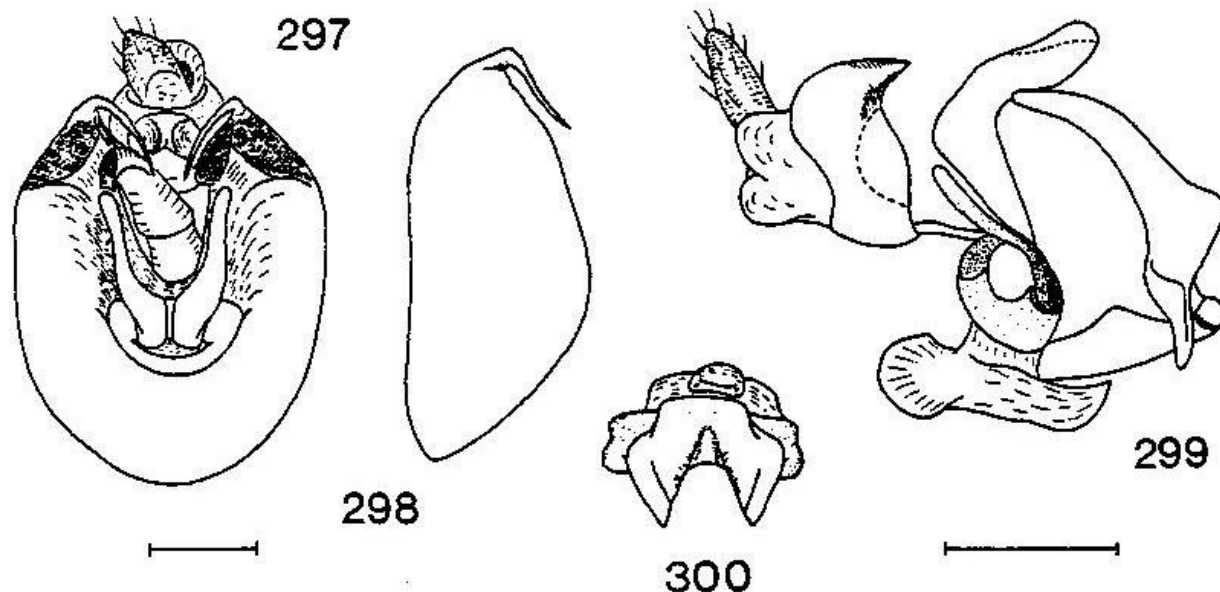


Fig. 297-300. *Spinidelphacella hargreavesi* (Muir). — 297, genital capsule, ventrocaudal. — 298, genital segment, left lateral. — 299, male genitalia, left lateral. — 300, anal segment, caudal.

*Spinidelphacella hargreavesi* (Muir, 1929), n. comb.  
(fig. 297-300)

*Delphacodes hargreavesi* Muir, 1929, *op. cit.* : 214, Sierra Leone.

Tai : 2 ♂, I, 17-VII-1978 ; 1 ♂, 3 ♀, II, 24/25-VIII-1978 ; 9 ♂, 6 ♀, II, 14/15-IX-1978 ; 1 ♀, II, 25/26-IX-1978 ; 4 ♂, 3 ♀, I, 19/20-X-1978 ; 6 ♂, 3 ♀, I, 9 ♂, 9 ♀, II, 12/13-X-1978 ; 9 ♂, 9 ♀, I, 5 ♀, II,

9/10-XI-1978; 2 ♂, 2 ♀, I, 4 ♂, 5 ♀, II, 23/24-XI-1978; 1 ♂, 1 ♀, I, 1 ♂, 11 ♀, II, 11/12-XII-1978; 2 ♂, I, 1 ♀, II, 21/22-XII-1978; 1 ♂, II, 14/15-V-1979; 1 ♀, I, 24/25-V-1979; 2 ♂, I, 31-V-1979; 2 ♀, I, 3 ♂, II, 9/10-VII-1979; 3 ♂, 1 ♀, II, 18-VIII-1979; 1 ♂, 1 ♀, 28/29-VIII-1979; all: *G. Couturier leg.*; MNHN, ORSTOM, MA, BMNH. — 3 ♂, 2 ♀, Adiopodoumé, 29-IX/7-X-1973; 1 ♀, Lamto, 8/9-X-1973; 3 ♂, 7 ♀, Man, 14/21-X-1973; 1 ♀, Mt. Tonkui, 15/22-X-1973; all: *R. Linnavuori leg.*, LV. — 1 ♂, 2 ♀, Adiopodoumé, 1964, AUW.

Distribution: Sierra Leone (MUIR, 1929); Nigeria (MEDLER, 1980); Sudan: Equatoria, Blue Nile (LINNAVUORI, 1973); Côte d'Ivoire.

### Genus *Terthron* Fennah

*Terthron* Fennah, 1965, *Bull. Br. Mus. nat. Hist.*, 17, (1): 55. — Type-species (by original designation): *Delphax anemonias* Kirkaldy, 1907, *Bull. Hawaiian Sug. Plrs' Ass. Exp. Stn.*, ent. Ser., 3: 159, Australia: Queensland.

### *Terthron africanus*, n. sp.

(fig. 301-306)

**Holotype male macropterous**, Côte d'Ivoire, Tai forest, I, 12/13-X-1978, *G. Couturier leg.*, MNHN. — **Paratypes**: Tai: 1 ♂, 3 ♀, II, 17-VII-1978; 1 ♂, 1 ♀, II, 14/15-IX-1978; 10 ♂, 7 ♀, I, 22 ♂, 4 ♀, II 12/13-X-1978; 2 ♂, 3 ♀, I, 19/20-X-1978; 11 ♂, 10 ♀, I, 38 ♂, 29 ♀, II, 9/10-XI-1978; 1 ♀, I, 21/22-VI-1979; 5 ♂, I, 9/10-VII-1979; 1 ♂, II, 18-VIII-1979; *G. Couturier leg.*; MNHN, ORSTOM, MA, BMNH. — 5 ♂, Adiopodoumé, 29-IX/7-X-1973; 1 ♂, Foro Foro, 25/28-IX-1973; 1 ♂, Gouméré, 19-IX-1973; 1 ♂, Lamto, 8/9-X-1973; 1 ♂, Man, 14/21-X-1973; all: *R. Linnavuori leg.*, LV. — 1 ♂, 1 ♀, Adiopodoumé, 1964; AUW.

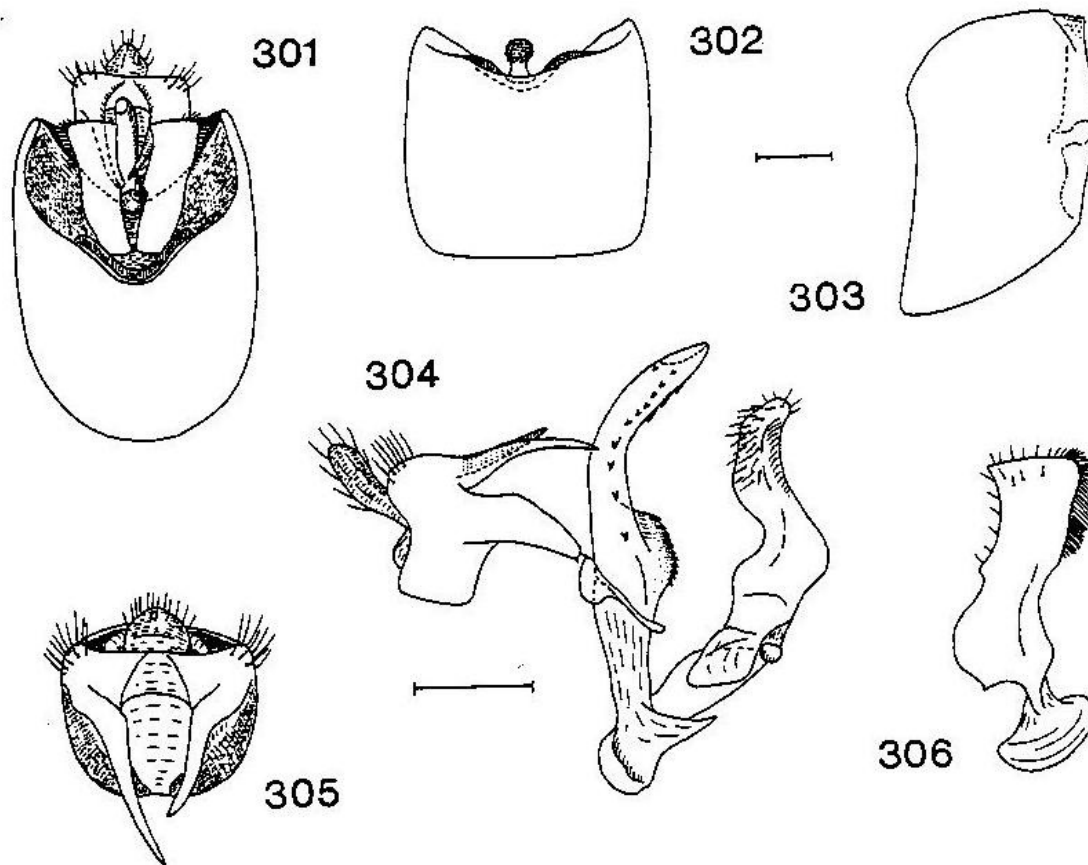


Fig. 301-306, *Terthron africanus* n. sp., paratype. — 301, genital capsule, ventrocaudal. — 302, genital segment, ventral. — 303, genital segment, left lateral. — 304, male genitalia, left lateral. — 305, anal segment, ventral. — 306, left paramere.

In size and general patterns of coloration resembling the type-species. Vertex as long in middle line as broad at base, rounding into frons, lateral margins almost parallel; compartments of vertex about equally long, area concave. Frons twice as long as broad; median carina slightly elevated, branching at apex of vertex, lateral carinae slightly convex. Antennal segments subcylindrical, apically slightly widened, 2nd segment compressed at base, 1.7 times longer than 1st; number and arrangement of sensory fields: 16/7. Head slightly wider than pronotum (1.1:1); pronotum about as long as vertex, hindmargin shallowly concave, lateral carinae straight, diverging caudad, not reaching hindmargin. Mesonotum medially about 4 times longer than pronotum, carinae weak, lateral carinae slightly diverging caudad. Posttibial spur foliate with 20-25 teeth. Postbasitarsus 1.5 times longer than 2nd and 3rd posttarsal segment together, apically 7 spines (2 + 5); 2nd segment apically with 4-5 spines in row. Tegmina hyaline, subapical cells almost equally long, veins with minute granulation.

Male drumming organ: apodemes of 2nd abdominal sternite strongly developed, erected dorsad.

Coloration: frons, genae, clypeus, antennal segments, thorax and abdomen dark brown; as in type-species a broad longitudinal creamy-white or yellowish stripe from vertex down middle of pro- and mesonotum, widening to mesoscutellum; legs stramineous or tawny, femora darker brownish; tegmina: angle between common stalk of anal veins and inner margin brownish; veins of fore- and hindwings yellowish-brown.

Male genitalia: genital segment (fig. 301-303) in lateral view trapezoid, at dorsolateral angle as long as on ventral side, laterocaudal margin almost straight; ventrocaudal margin shallowly concave; laterodorsal angles slightly produced caudad. Diaphragm only little sunk cephalad, dorsal margin deeply v-shaped, at middle arising a caudad directed, spherical process which is armed with minute teeth or granules. Anal segment (fig. 305) short, ring-like, ventrodistally closed by narrow chitin bridge; lateroventral margins produced ventromedial; laterodistal angles drawn out into two unequally long, spinose processes, both directed medioventrad, the shorter process on the right side. Parameres (fig. 306) in general aspect as in type-species, lower process of inner margin at about half the length of the parameres, distinct, pointed; laterodorsal angles rounded, laterodistally numerous hairs. Aedeagus (fig. 304) tubular, slightly curved ventrad, at its ventral base a saw-like projection bearing 10-12 teeth; on the left side from base to apex a row of widely spaced minute teeth. Phallosoma apical, dorsally exposed. Connective straight, compressed. Suspensorium virtually missing, ventral arms of anal segment connected with dorsal base of the aedeagus via membranous bridge.

Length (incl. tegmen): males: 2.7-2.9 mm, females: 3-3.2 mm.

Distribution: Côte d'Ivoire.

Remarks: Within the African Delphacidae *Terthron africanus* n. sp. can externally be recognized by its median whitish line from the head to the tip of the mesonotum. A similar coloration is present in the South African species *Delphacodoides anaxarchi* (Muir, 1926), but this species differs in the proportions of the vertex (especially of the compartments), in the coloration of the tegmina and in genital characters. From the other 3 *Terthron*-species described so far (Oriental Region, Australia, West Pacific) *T. africanus* n. sp. is discriminated by the shape of the aedeagus with its ventrobasal saw-like projection, by its spherical process of the diaphragm and by the anal segment with unequally long processes.

### Genus *Thriambus* Fennah

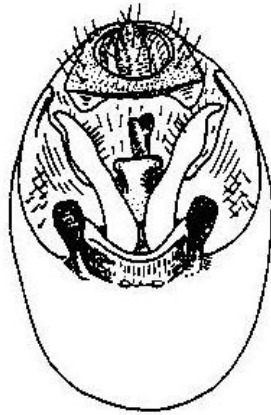
*Thriambus* Fennah, 1964, *Trans. R. ent. Soc. Lond.*, 116: 114. — Type-species (by original designation): *Dicranotropis stramineus* Muir, 1929, *Ann. Mag. nat. Hist.*, 4: 200, South Africa: Zululand.

Fig. 307-312, *Thriambus bridwelli* (Muir). — 307, genital capsule, ventrocaudal. — 308, genital segment, ventral. — 309, genital segment, left lateral. — 310, male genitalia, left lateral. — 311, aedeagus, right lateral. — 312, apex of aedeagus, caudal.

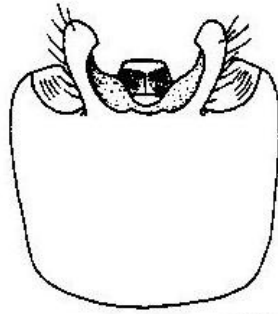
Fig. 313-318, *Thriambus levis* van Stalle. — 313, genital segment, caudal. — 314, genital segment, left lateral. — 315, genital segment, ventral. — 316, male genitalia, left lateral. — 317, aedeagus, right lateral. — 318, left paramere.



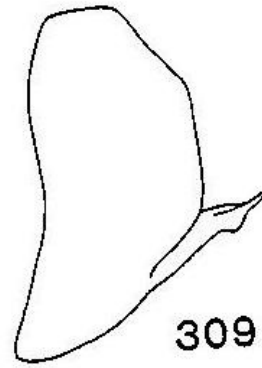
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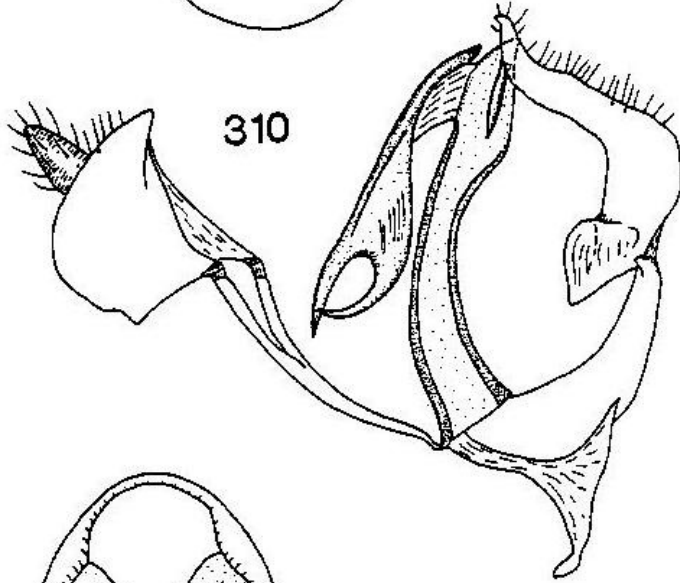
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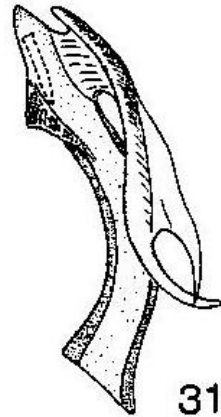


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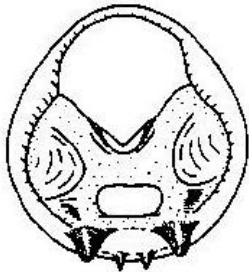


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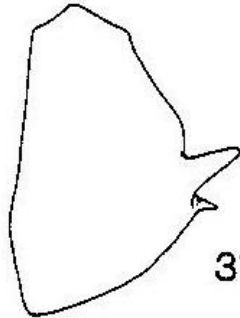
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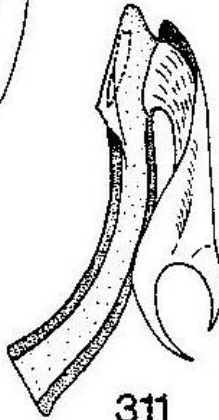
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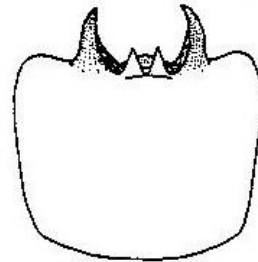


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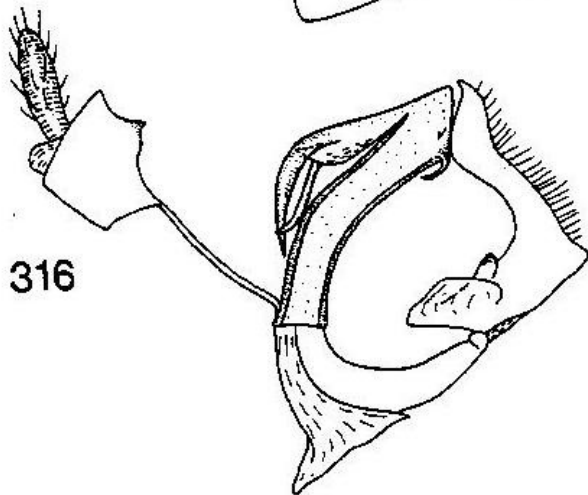


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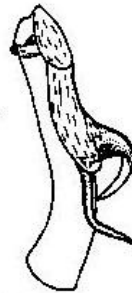


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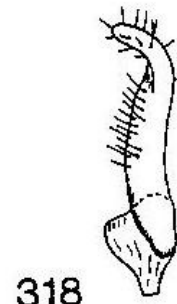


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318

*Thriambus bridwelli* (Muir, 1920)

(fig. 307-312)

*Dicranotropis bridwelli* Muir, 1920, *Bull. ent. Res.*, 10: 141, Nigeria.1 ♂, Lamto, 8/9-X-1973; *R. Linnavuori leg.*; LV.

Distribution: Nigeria (MUIR, 1920; MEDLER, 1980); West Africa (MUIR, 1929); Côte d'Ivoire.

**Remarks:** In characters of the male genitalia (ventrocaudal processes of the genital segment, general shape of anal segment and aedeagus) *T. bridwelli* resembles *T. nicias* (Fennah, 1958) from West Africa and Sudan and *T. strenuus* Van Stalle, 1984, from Cameroon, but it can be distinguished by the plate-shaped projection of the diaphragm and by the shape and position of the spinose processes of the aedeagus.*Thriambus levis* van Stalle, 1984

(fig. 313-318)

*Bull. Inst. r. Sci. nat. Belg.*, 55 (11): 9-11, Cameroon.1 ♂, Foro Foro, 25/28-IX-1973; 1 ♀, Gouméré, 19-IX-1973; 1 ♂, Lamto, 8/9-X-1973; all: *R. Linnavuori leg.*, LV. — 2 ♂ brachypterous, Adiopodoumé, lamp 67, *P. J. Hummelen leg.*, AUW.

Distribution: Cameroon (VAN STALLE, 1984); Côte d'Ivoire.

*Thriambus obscurellus* (Lallemand, 1925)

(fig. 319-326)

*Dicranotropis obscurella* Lallemand, 1925, *Ark. Zool.*, 18: 5, Central Africa.*Dicranotropis tortuosa* Lindberg, 1956, *Bull. Inst. fr. Afr. noire, sér. A*, 18 (4): 1205-1206, Niger. **NEW SYNONYMY.***Dicranotropis orodes* Fennah, 1958, *Bull. Inst. fr. Afr. noire, sér. A*, 20 (2): 478-479, Senegal. **NEW SYNONYMY.**1 ♂, Adiopodoumé, 1964; 1 ♀, *ibid.*, lamp 67, *P. J. Hummelen leg.*, AUW.

Distribution: « Central Africa » (LALLEMAND, 1925), Niger (LINDBERG, 1956); Senegal, Mali (FENNAH, 1958a); Sudan (FENNAH, 1969: « Nilen »; LINNAVUORI, 1973: « The Nile », Sudan?, Uganda?); Côte d'Ivoire.

**Remarks:** The examination of the holotype-males of *D. tortuosa* (ZMU) and *D. orodes* (MNHN) has revealed conspecificity. Moreover both are evidently identical with the holotype female of *D. obscurella* (NR) bearing the oldest name, the latter had already been transferred to *Thriambus* by FENNAH (1969). *T. obscurellus* is distinguished from other *Thriambus*-species by the extent of dark brown coloration (especially in the basal part of the tegmina) and in the male genitalia by the shape of the parameres (distal third distinctly twisted).*Thriambus strenuus* van Stalle, 1984

(fig. 327-331)

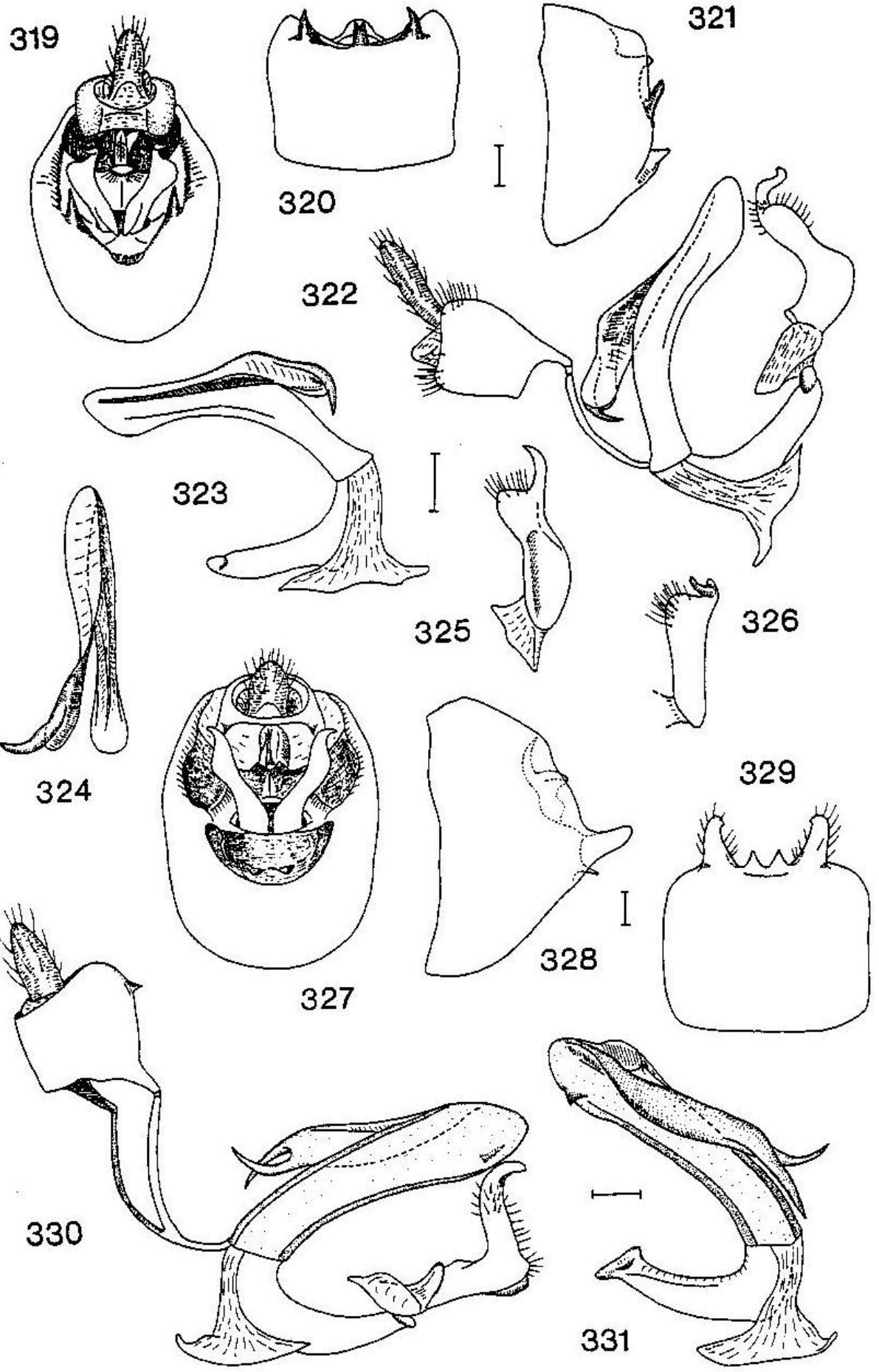
*Bull. Inst. r. Sci. nat. Belg.*, 55 (11): 7-9, Cameroon.Tai: 1 ♂, II, 23/24-XI-1978; *G. Couturier leg.*; MNHN. — 1 ♂, Foro Foro, 25/28-IX-1973; *R. Linnavuori leg.*, LV. — 2 ♂, 3 ♀, Adiopodoumé, lamp 67, *P. J. Hummelen leg.*, AUW.

Distribution: Cameroon (VAN STALLE, 1984); Côte d'Ivoire.

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Fig. 319-326, *Thriambus obscurellus* (Lallemand). — 319, genital capsule, ventrocaudal. — 320, genital segment, ventral. — 321, genital segment, left lateral. — 322, male genitalia, left lateral. — 323, aedeagus, right lateral. — 324, aedeagus, dorsal. — 325, left paramere. — 326, left paramere, ventrocaudal view of the tip.

Fig. 327-331, *Thriambus strenuus* van Stalle. — 327, genital capsule, ventrocaudal. — 328, genital segment, ventral. — 329, genital segment, left lateral. — 330, male genitalia, left lateral. — 331, aedeagus, right lateral.



*Thriambus taiensis*, n. sp.

(fig. 332-340)

**Holotype male** macropterous, Côte d'Ivoire, Tai forest, I, 23/24-XI-1978, *G. Couturier leg.*, MNHN. — **Paratypes**: Tai: 5 ♂, 31 ♀, I, 8 ♂, 34 ♀, 23/24-XI-1978; 1 ♂, II, 21/22-XII-1978; 1 ♀, II, 22/23-II-1979; 1 ♀, II, 1/2-III-1979; 1 ♀, I, 18-VIII-1979; *G. Couturier leg.*, MNHN, ORSTOM, MA, BMNH.

Uniformly stramineous or pale yellowish-brown delphacids. In external features (size, bodily proportions, coloration) resembling the type-species of the genus, *T. stramineus*, but differing in the configuration of the male genitalia: genital segment (fig. 335-337) in lateral view almost triangular, ventral side about 4 times longer than dorsal, laterocaudal margins broadly rounding into the diaphragm; ventrocaudal margin on each side strongly produced into a long, horn-shaped process, margin between these processes concave, in middle of the valley a small swelling. Dorsal margin of diaphragm shallowly u-shaped, medially against the lateral margins of the genital segment slightly elevated. Anal segment (fig. 335 & 338) short, ventrally open, ventral area concave, membranous; from each laterodorsal angle arising a moderately long spinose process, both with their bases far apart from each other. Parameres (fig. 335 & 338) diverging, in distal third strongly curved laterad; bases projected medioventrad into a stout pointed process. Aedeagus (fig. 338-340) tubular, slender, slightly curved ventrad; distal part flag-like, on dorsal side recurrent, apically drawn out to a long pointed tip, bent to the left side; flag-like distal part reaching more than 2/3 of the length of the shaft basad; subapical on the right side originating a slender, spinose process which is about 0.2 as long as the shaft of the aedeagus. Connective straight, compressed, dorsally dilated and broadly fused with the ventral side of the basal chamber of the aedeagus. Suspensorium y-shaped, common stem of y rather broad.

Length (incl. tegmina): males: 3.5-4 mm, females: 3.6-4.2 mm.

Distribution: Côte d'Ivoire.

**Remarks**: *T. taiensis* n. sp. is in all characters very similar to the South African species *T. stramineus*, but differs significantly in structures of the male genitalia: shaft of the aedeagus absolute and relative longer, flag-like distal part distinctly longer (more than 3/4 the length of the shaft, — in *T. stramineus* about 2/3); right subapical process distinctly shorter (1/5 the length of the shaft, — in *T. stramineus* about 1/3), angle between laterocaudal margin and ventral processes of the genital segment about 90°, — in *T. stramineus* about 45-50°.

The examination of the holotype-males of the two South African species *Dicranotropis stramineus* and *Dicranotropis pondolandensis* Muir, 1929, has proved their identity in all characters checked (see fig. 341 & 342), consequently the taxonomic change is as follows:

*Thriambus pondolandensis* (Muir, 1929)

*Dicranotropis pondolandensis* Muir, 1926, *Ann. Mag. nat. Hist.*, (9) 17: 28-29, South Africa: Pondoland.

*Dicranotropis stramineus* Muir, 1929, *Ann. Mag. nat. Hist.*, (10) 4: 199, South Africa: Natal. **NEW SYNONYMY.**

*Thriambus vegetatus* (Melichar, 1912)

(fig. 343-348)

*Peregrinus vegetatus* Melichar, 1912, *Ergebn. Zw. dt. zent. Afr. Exped.*, 133, Zaire.

Tai: 2 ♂, I, 12/13-X-1978; 5 ♂, 1 ♀, II, 12/13-X-1978; 2 ♂, 1 ♀, I, 4 ♂, 3 ♀, II, 9/10-XI-1978; 1 ♂, I, 2 ♂, 3 ♀, II, 23/24-XI-1978; 5 ♂, 4 ♀, I, 10 ♂, 3 ♀, II, 11/12-XII-1978; 10 ♂, 6 ♀, I, 4 ♀, II, 8/9-I-1979; 2 ♂, I, 21/22-VI-1979; 18-IX-1979; *G. Couturier leg.*, MNHN, ORSTOM, NA, BMNH. — 1 ♂, Gouméré, 19-IX-1973; 9 ♂, 6 ♀, Man, 14/21-X-1973; *R. Linnavuori leg.*, LV. — 2 ♀, Adiopodoumé, 1964; 3 ♂, *ibid.*, lamp 67, *P. J. Hummelen leg.*; 7 ♂, 3 ♀, *ibid.*, at light, 8-II-1972, *O. Bruinsma & A. v. Huys leg.*, AUW.

Distribution: Zaire (MELICHAR, 1912); Sudan: Equatoria (FENNAH, 1969; LINNAVUORI, 1973); Nigeria (MEDLER, 1980); Cameroon (VAN STALLE, 1984); Côte d'Ivoire.

Genus *Thymobares* Fennah

*Thymobares* Fennah, 1964, *Trans. R. ent. Soc. Lond.*, 116 (7): 137-138. — Type-species (by original designation): *Chloriona longispinus* Muir, 1929, *Ann. Mag. nat. Hist.*, (10) 4: 206, South Africa: Zululand.

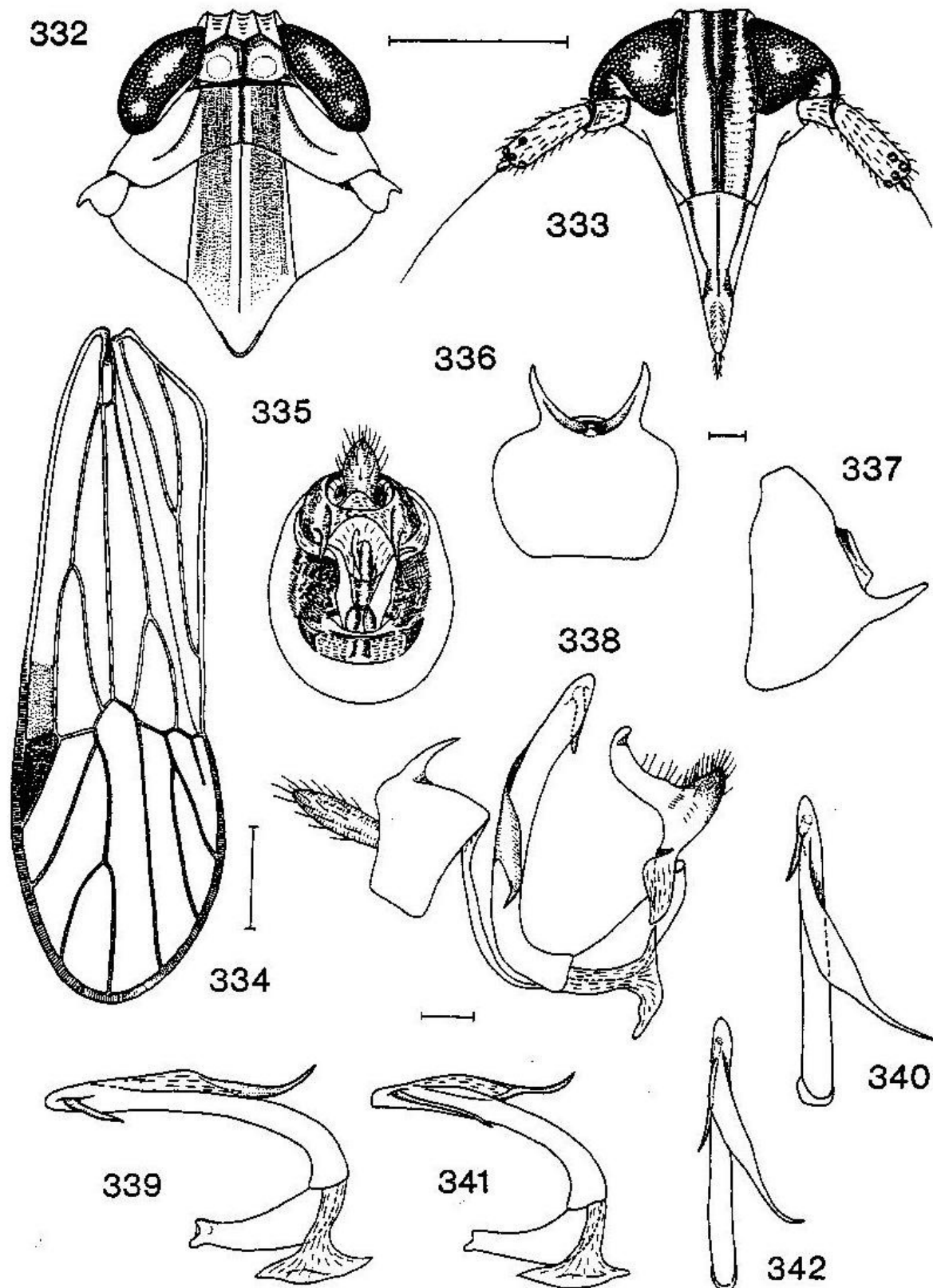


Fig. 332-340, *Thriambus taiensis* n. sp., paratype. — 332, head and thorax, dorsal. — 333, head, frontal. — 334, tegmen. — 335, genital capsule, ventrocaudal. — 336, genital segment, ventral. — 337, genital segment, left lateral. — 338, male genitalia, left lateral. — 339, aedeagus, right lateral. — 340, aedeagus, dorsal. Fig. 341, *T. stramineus* (Muir), holotype; aedeagus, right lateral. Fig. 342, *T. pondolandensis* (Muir), holotype; aedeagus, dorsal.

*Thymobares longispinus* (Muir, 1929)

(fig. 349-356)

*Chloriona longispinus* Muir, 1929, *op. cit.*

Tai: 1 ♀, I, 19-V-1978; 1 ♀, I, 2♂, 7♀, II, 17-VII-1978; 2 ♂, 1 ♀, I, 11-VIII-1978; 1♀, II, 15-VIII-1979; 4 ♀, II, 24/25-VIII-1978; 1 ♂, 3 ♀, I, 11/12-IX-1978; 35 ♂, 66 ♀, II, 14/15-IX-1978; 1 ♂, II, 25/26-IX-1978; 16 ♂, 26 ♀, I, 30 ♂, 35 ♀, II, 12/13-X-1978; 13 ♂, 8 ♀, 19/20-X-1978; 33 ♂, 58 ♀, I, 6 ♂, 11 ♀, II, 9/10-XI-1978; 9 ♂, 15 ♀, I, 11 ♂, 9 ♀, II, 23/24-XI-1978; 49 ♂, 40 ♀, II, 11/12-XII-1978; 2 ♀, II, 21/22-XII-1978; 1 ♀, I, 1 ♂, 1 ♀, II, 8/9-I-1979; 1 ♂, II, 1/2-III-1979; 1 ♂, I, 7/8-IV-1979; 1 ♂, I, 7/8-IV-1979; 1 ♂, 3 ♀, II, 14/15-V-1979; 1 ♂, 1 ♀, I, 24/25-V-1979; 1 ♂, 1 ♀, 31-V-1979; 1 ♂, 3 ♀, II, 11/12-VI-1979; 1 ♂, 5 ♀, I, 21/22-VI-1979; 1 ♂, 4 ♀, 4 ♂, 2 ♀, II, 24/26-VI-1979; 2 ♀, I, 3 ♂, 6 ♀, II, 9/10-VII-1979; 2 ♂, 3 ♀, I, 19/20-VII-1979; 6 ♂, 2 ♀, II, 18-VIII-1979; 3 ♀, II, 28/29-VIII-1979; 2 ♂, 2 ♀, I, 27/28-IX-1979; 1 ♀, I, 19/20-V-1980; 1 ♀, I, 24/25-V-1980; all: G. Couturier leg., MNHN, ORSTOM, MA, BMNH.

Distribution: South Africa: Zululand (MUIR, 1929); Mauritius (FENNAH, 1964); Sudan: Equatoria (LINNAVUORI, 1973); Nigeria (MEDLER, 1980); Côte d'Ivoire.

Remarks: *Thymobares longispinus* belongs together with *Afrocoronacella turneri*, *Peregrinus iocastus* and *Peregrinus maidis* to the most abundant species in the Tai forest-samples. Intraspecific variation could be found in following structures of the male genitalia: length and shape of the median spinose processes of the ventrocaudal margin of the genital segment; length and position of the spines of the aedeagus. This range of variation exists within the same population.

Genus *Thymodelphax*, n. gen.

Small, pale yellowish or stramineous delphacids, externally resembling small *Thriambus*-species.

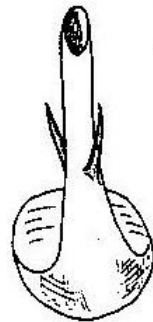
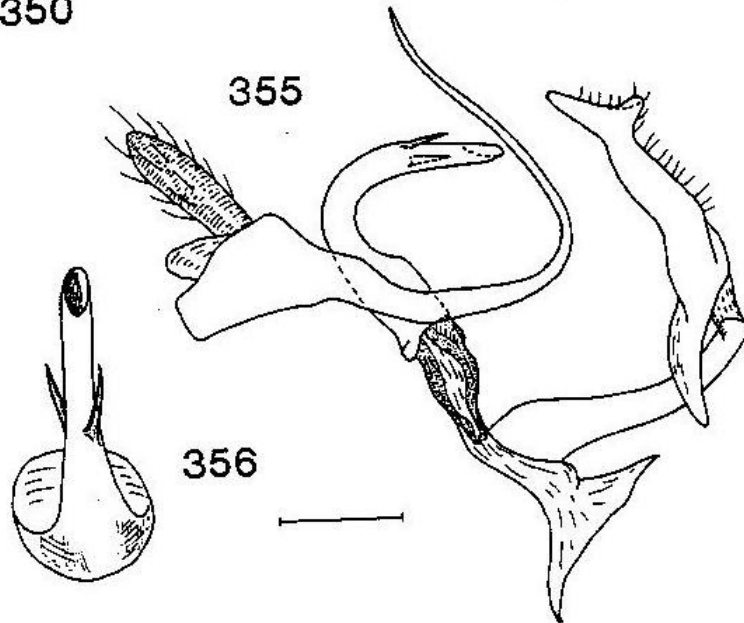
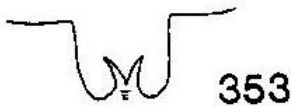
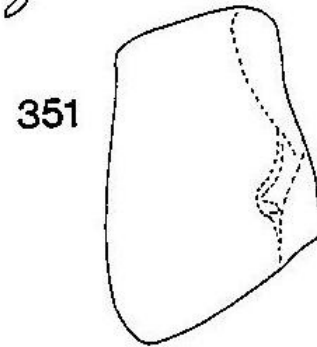
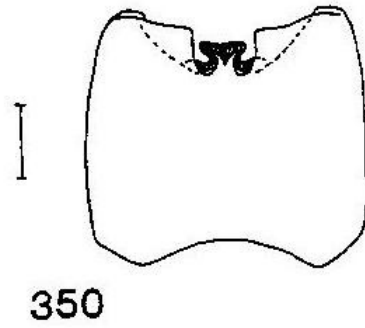
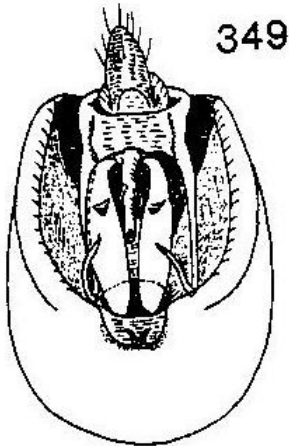
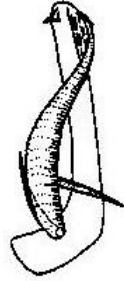
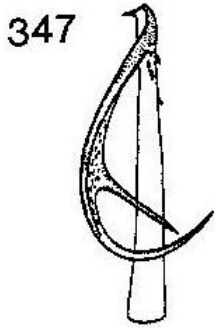
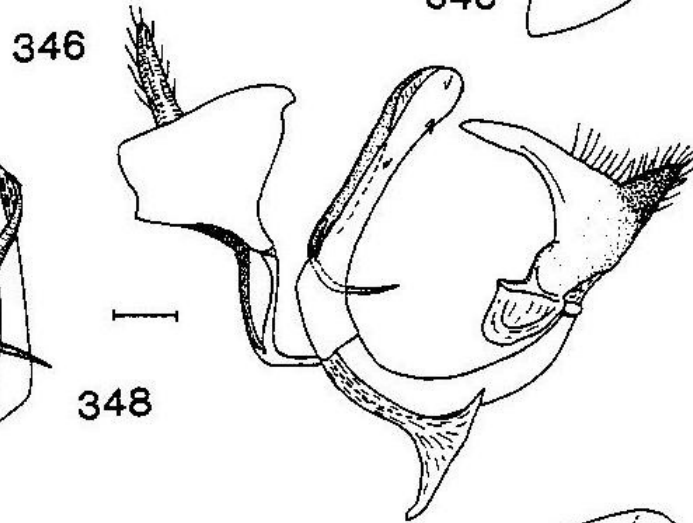
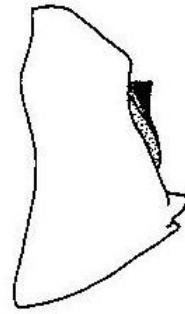
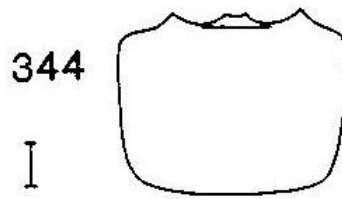
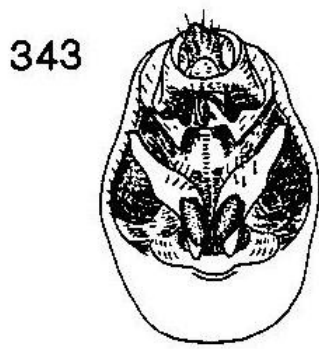
Vertex about as long in middle than broad at base, apically rounding into frons, lateral margins concave; basal compartments in middle about half as long as vertex, medially separated from each other by very weak carina, area shallowly concave; apical cell inclined to frons; carinae of frons, genae and clypeus fine, sharp. Frons about 1.8 times as high as its maximum width, broadest at level of ocelli; lateral margins slightly convex at ocelli, then straight to frontoclypeal suture, slightly converging; median carina prominent, forked at level of ocelli. Post- and anteclypeus together little shorter than frons (0.9 : 1); apical margin of postclypeus about as broad as frons at frontoclypeal suture, carinae prominent; frons and clypeus slightly convex in profile. Rostrum attaining hindtrochanters. Antennal segments subcylindrical. 2nd segment apically slightly widened, about 1.8 times longer than 1st; number and arrangement of sensory fields on pedicel: 16/7. Head narrower than pronotum (0.9 : 1).

Pronotum in middle line shorter than vertex (0.8 : 1), hindmargin shallowly concave; lateral carinae straight, diverging caudad, not reaching the hindmargin of the pronotum. Mesonotum as broad as pronotum, medially 3.3 times longer than pronotum; lateral carinae almost parallel to each other; dorsal area between the lateral carinae plain, posterior portion before the tip slightly concave. Tegmina hyaline, about 3.5 times longer than broad; veins with indistinct granulation; outer subapical cell slightly longer than inner, nodal line shortly distad of half the length of tegmen. Posttibial spur foliate, inner margin with 35-37 minute teeth. Postbasitarsus 1.6 times longer than 2nd and 3rd posttarsal segment together, apically 7 spines (2 + 5); 2nd posttarsal segment with 4 spines in row.

Male drumming organ: apodemes of the 2nd abdominal sternite reduced to shallow shells.

Fig. 343-348, *Thriambus vegetatus* (Melichar). — 343, genital capsule, ventrocaudal. — 344, genital segment, ventral. — 345, genital segment, left lateral. — 346, male genitalia, left lateral. — 347, aedeagus, dorsal. — 348, aedeagus, right lateral.

Fig. 349-356, *Thymobares longispinus* (Muir). — 349, genital capsule, ventrocaudal. — 350, genital segment, ventral. — 351, genital segment, left lateral. — 352, 353, 354, median process of the ventrocaudal margin of the genital segment, different specimens of the same population. — 355, male genitalia, left lateral. — 356, aedeagus, dorsocaudal.



Male genitalia : genital segment ventrally little more than double as long as on dorsal side ; laterocaudal margins broadly rounding into the diaphragm ; ventrocaudal angles on each side projected into an acuminate process. Dorsal margin of diaphragm deeply u-shaped, centrally a very narrow bridge between dorsal margin and opening for the parameres. Anal segment short, ring-like, ventrocaudally closed by chitin-bridge ; laterodorsal angles of the ventral margin on each side drawn out into a spinose, caudad directed process. Parameres long, slender, almost parallel to each other, distally slightly converging. Aedeagus slightly curved ventrad, compressed, without dorsobasad turned flag-like distal part ; phallosome subapically on the dorsal side ; in apical third on the left side a single spinose process ; dorsal margins shortly basad of the phallosome differentiated into a short lateroventrad inclined velum. Connective short, compress, dorsally broadly fused with the ventral side of the basal aedeagus-chamber. Suspensorium y-shaped, dorsal arms of the y leading to the ventrolateral angles of the anal segment very short.

Type-species : *Thymodelphax acutus*, n. sp.

Remarks : Despite the lack of a dorsobasad directed, recurrent distal part of the aedeagus the new genus *Thymodelphax* belongs to the group of taxa around *Cemus*, *Thriambus*, *Perkinsiella*, as it does possess secondarily reduced apodemes of the male drumming organ and a y-shaped suspensorium. In the bodily proportions it resembles most the genus *Thriambus*, but differs in the much smaller size and in the configuration of the male genitalia. In the length and position of the parameres it resembles some *Nycheuma*-species (e. g. *N. sectator* Fennah, 1963, from Cameroon) and the Australian genus *Thymalops* Fennah, 1965 ; however, significant differences in other genital and in bodily characters seem to exclude any closer relationships between these taxa. *Thymodelphax* n. gen. is distinguished by the following set of characters which are considered constitutive : lateroventral angles of the caudal margin of the genital segment acutely produced ; diaphragm with a very narrow bridge between the openings for the aedeagus and the parameres ; dorsal margin of the aedeagus basad of the subapical phallosome on both sides expanded into a short velum-like process ; anal segment with a pair of distally pointed processes arising from the laterodorsal angle, processes bent caudad.

*Thymodelphax acutus*, n. sp.

(fig. 357-364)

Holotype male macropterous, Côte d'Ivoire, Tai forest, II, 15/16-II-1979 ; G. Couturier leg., MNHN.

Body-shape and proportions as in genus description.

Coloration : vertex, frons, genae, clypeus, antennae, legs and thorax uniformly stramineous ; carinae of pronotum, lateral carinae of mesonotum accompanied by a pale yellowish longitudinal band, tip of mesoscutellum whitish-yellow ; abdomen and genital segment brown ; tegmina hyaline, a pale brown suffusion at the fusion of the nodal line with the outer margin ; veins in basal half pale yellowish, in distal half brownish ; hindwings hyaline, veins brown.

Male genitalia : genital segment (fig. 358-360) : the acute lateroventral processes about half as long as the ventral side, directed dorsocaudad ; ventrocaudal margin deeply u-shaped, medially at bottom a very short tooth. Anal segment (fig. 361 & 363) paired processes relatively short and stout, with their broad bases far apart from each other, pointing dorsocaudad. Parameres (fig. 358 & 361) reaching till middle of the anal segment dorsad, in lateral view sinuate forming an inverse S ; base ventrally dilated, rounded, with minute granulation ; distal third sickle-shaped ; tips pointed, slightly converging. Aedeagus (fig. 361 & 362) moderately long, slightly curved ventrad, apically rounded ; shortly basad of the phallosome ventrally on the left side a short spinose process which is slightly curved caudad ; dorsal margin basad of the phallosome on the left side produced into a short pointed velum which is slightly inclined ventrad ; on the right side another velum which is slightly bent to the right, its dorsal margin minutely serrate.

Length (incl. tegmen) : 2.9 mm.

Distribution : Côte d'Ivoire.

Genus *Toya* Distant

*Toya* Distant, 1906, *Fauna Br. India*, 3 : 472. — Type-species (by original designation) : *Toya attenuata* Distant, 1906, *ibid.* : 472, Ceylon.

*Toya bridwelli* (Muir, 1920)

(fig. 365-371)

*Delphacodes bridwelli* Muir, 1920, *Bull. ent. Res.*, 10 : 140, Nigeria.

*Calligypona* sp. : Linnavuori, 1962, *Annls zool. fenn.* « *Varanion* », 24 (33) : 27, fig. 19 j-l, Israel.



Tai : 1 ♂, I, 1 ♂, II, 12/13-X-1978 ; 1 ♂, Gouméré, 19-IX-1973 ; 1 ♂, Lamto, 8/9-X-1973 ;  
*R. Linnavuori leg.* ; LV.

Distribution : Nigeria (MUIR, 1920 ; MEDLER, 1980) ; Senegal (FENNAH, 1958a) ;  
 Sudan : Equatoria (LINNAVUORI, 1973) ; Côte d'Ivoire.

*Toya ceresensis* (Muir, 1929)  
 (fig. 372-378)

*Delphacodes ceresensis* Muir, 1929, *Ann. Mag. nat. Hist.*, (10) 4 : 216-217, South Africa : Cape Province.

Tai : 1 ♂, II, 17-VII-1978 ; 1 ♂, II, 14/15-IX-1978 ; 1 ♂, II, 12/13-X-1978 ; 1 ♂, II, 11/12-  
 XII-1978 ; *G. Couturier leg.* ; MNHN, ORSTOM, MA.

Distribution : South Africa : Cape Province, Pondoland (MUIR, 1929) ; Capeverde Is.  
 (LINDBERG, 1958) ; Sudan : Bahr el Ghazal, Blue Nile, Equatoria, Northern Province (LINNA-  
 VUORI, 1973) ; Nigeria (MEDLER, 1980) ; SW-Arabia (sec LINNAVUORI, 1973) ; Côte d'Ivoire.

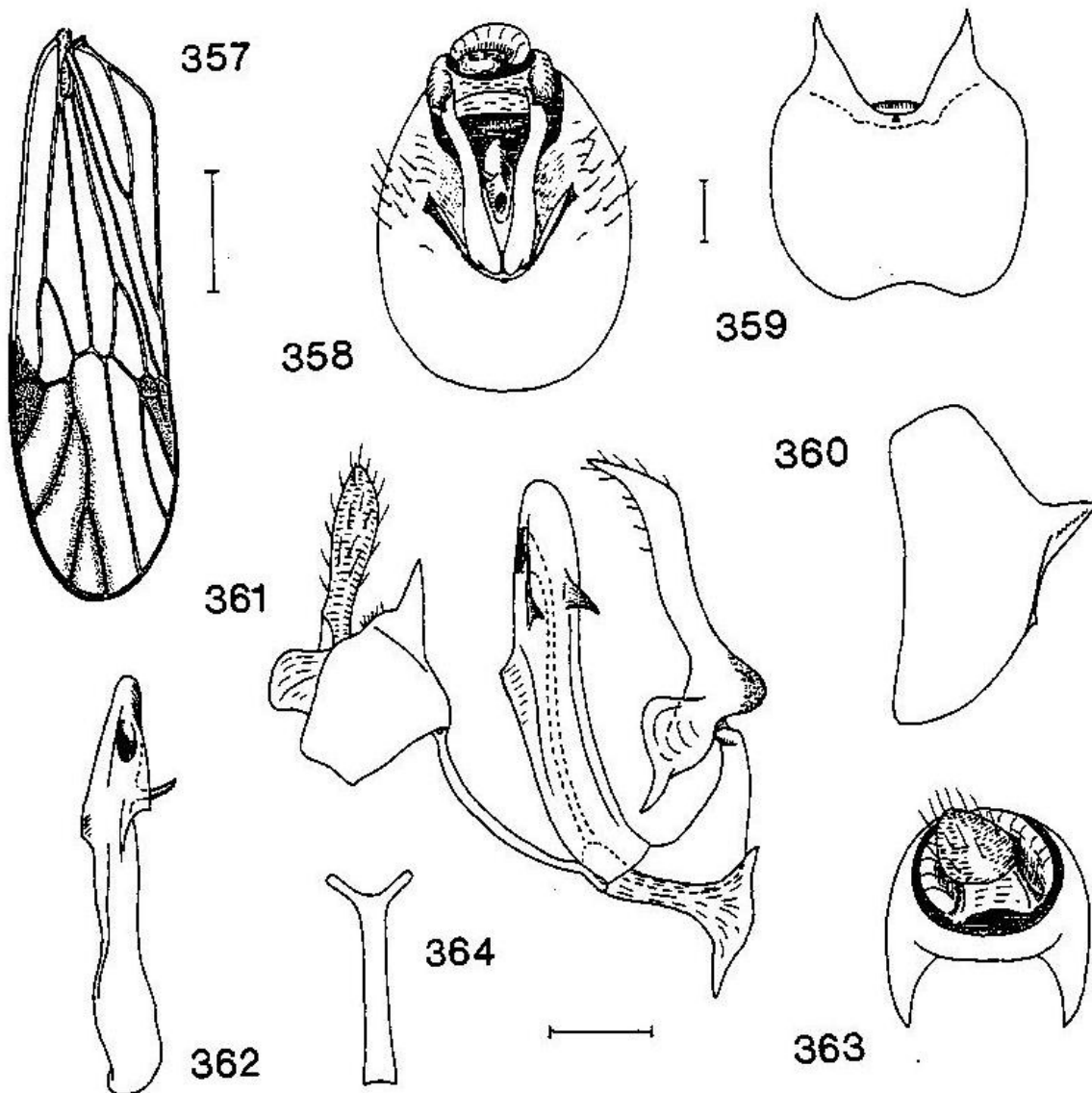


Fig. 357-364. *Thymodelphax acutus* n. sp., holotype. — 357, tegmen. — 358, genital capsule, ventrocaudal. — 359, genital segment, ventral. — 360, genital segment, left lateral. — 361, male genitalia, left lateral. — 362, aedeagus, dorsal. — 363, anal segment, caudal. — 364, suspensorium.

*Toya hessei* (Muir, 1929)

(fig. 379-383)

*Delphacodes hessei* Muir, 1929, *Ann. Mag. nat. Hist.*, (10) 4 : 214, South Africa : Cape Province.Tai : 2 ♂, II, 12/13-X-1978 ; 1 ♂, 1 ♀, I, 3 ♂, 2 ♀, II, 23/24-XI-1978 ; 1 ♂, I, 8/9-I-1979 ; *G. Couturier leg.* : MNHN, ORSTOM, MA. — 1 ♂, Gouméré, 19-IX-1973 ; 11 ♂, Man, 14/21-X-1973 ; *R. Linnavuori leg.* ; LV.

Distribution : South Africa : Cape Province, Pondoland (MUIR, 1929) ; Guinea (FENNAH, 1958a) ; Côte d'Ivoire.

*Toya propinqua* (Fieber, 1866)*Delphax propinqua* Fieber, 1866, *Verh. zool.-bot. Ges. Wien*, 16 : 525, type-locality indet. : Italy?, Austria?, Spain?*Delphax hamatula* Kirschbaum, 1868, *Cicad. Wiesbaden* : 38, Germany.*Liburnia terminalis* Van Duzee, 1907, *Bull. Buffalo Soc. nat. Sci.*, 8 : 49, Jamaica.*Liburnia tuckeri* Van Duzee, 1912, *Bull. Buffalo Soc. nat. Sci.*, 10 : 506, Florida.*Delphacodes subfusca* Muir, 1919, *Canad. Ent.*, 51 : 38, British Guiana.*Delphax cataniae* Matsumura, 1910, *J. Coll. Sci. imp. Univ. Tokyo* 27 : 35, Italy : Sicily.Tai : 1 ♂, 1 ♀, II, 17-VII-1978 ; 1 ♂, 1 ♀, II, 12/13-X-1978 ; 1 ♀, I, 1 ♂, 2 ♀, II, 9/10-XI-1978 ; 1 ♀, I, 1 ♂, 5 ♀, II, 11/12-XII-1978 ; 1 ♂, I, 8/9-I-1979 ; 1 ♂, I, 4 ♂, 1 ♀, II, 9/10-VII-1979 ; 2 ♂, 1 ♀, I, 19/20-VII-1979 ; 1 ♂, I, 18-VIII-1979 ; *G. Couturier leg.* : MNHN, ORSTOM, MA, BMNH. — 2 ♂, Adiopodoumé, 29-IX/7-X-1973 ; 2 ♂, Foro Foro, 25/28-IX-1973 ; 1 ♂, Gouméré, 19-IX-1973 ; 1 ♂, Man, 14/21-X-1973 ; all : *R. Linnavuori leg.* ; LV.

Distribution : Cosmopolitan : records from the Southern Palearctic, Orientalis, Australia : West Pacific, Nearctic, Neotropis. In Africa widely distributed : South Africa : Cape Province, Basutoland, Transvaal (FENNAH, 1958b) ; Zimbabwe (FENNAH, 1958b) ; Capverde Is. (LINDBERG, 1958) ; Senegal, Niger (FENNAH, 1958a) ; Nigeria (MEDLER, 1980) ; Sudan : Bahr el Ghazal, Blue Nile, Eutoria, Kassala, Northern Province, Upper Nile (LINNAVUORI, 1973) ; Egypt (HORVATH, 1910) ; Cameroon (VAN STALLE, 1984) ; Côte d'Ivoire.

*Toya thomasseti* (Muir, 1925)

(fig. 384-389)

*Delphacodes thomasseti* Muir, 1925, *Trans. R. ent. Soc. Lond.*, 1924 : 466, Indian Ocean : Rodriguez I.*Opiconsiva modesta* Distant, 1917, *Trans. Linn. Soc. London, Zool.*, 17 : 303, Seychelles Is., nom. preoccupied.*Delphacodes distanti* Metcalf, 1943, *Gen. Catalogue Hemiptera. IV. Fulgoroidea. 3. Araeopidae (Delphacidae)* : 431, given as nom. nov. for *O. modesta* Distant.Tai : 1 ♂, II, 17-VII-1978 ; 2 ♂, 1 ♀, II, 12/13-X-1978 ; 1 ♂, I, 2 ♂, 2 ♀, II, 9/10-XI-1978 ; 1 ♂, II, 23/24-XI-1978 ; *G. Couturier leg.* ; MNHN, ORSTOM, MA.

Distribution : Indian Ocean : Rodriguez I. (MUIR, 1925) ; Mauritius (FENNAH, 1964) ; Seychelles Is. (DISTANT, 1917) ; Atlantic Ocean : St. Helena (FENNAH, 1976) ; Ghana (FENNAH, 1964) ; Sudan : Eutoria (FENNAH, 1969 ; LINNAVUORI, 1973) ; Nigeria (MEDLER, 1980) ; Côte d'Ivoire.

*Toya tuberculosa* (Distant, 1916)

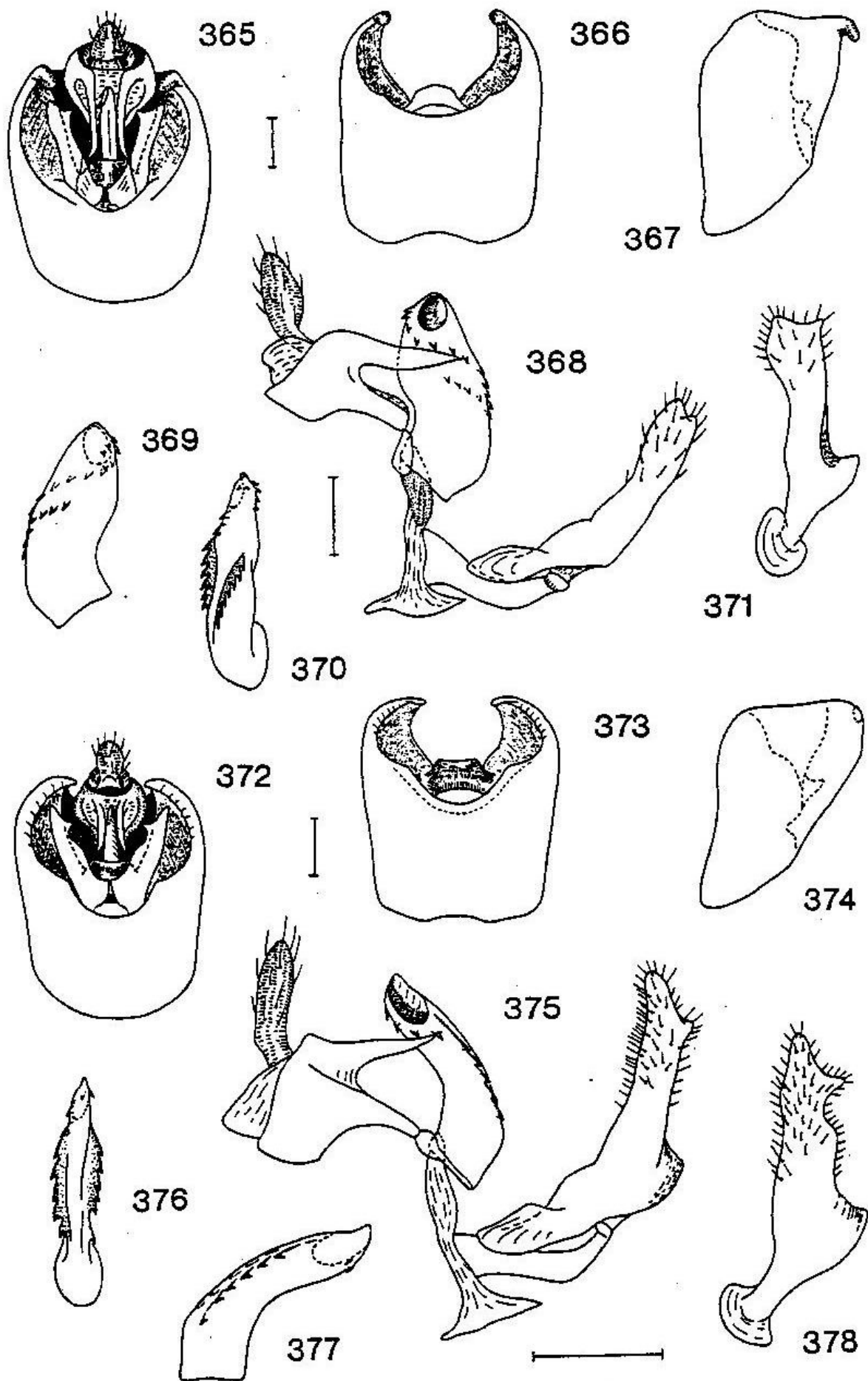
(fig. 390-396)

*Liburnia tuberculosa* Distant, 1916, *Fauna Br. India*, 6 : 145, Ceylon.*Delphacodes terryi* Muir, 1917, *Proc. Hawaii. ent. Soc.*, 3 : 334, Java.*Liburnia varia* Hesse, 1925, *Ann. S. Afr. Mus.* 23 : 171, South Africa : Natal.*Toya hispijimensis* Asche, 1980, *Marburger ent. Publ.* 1 (4) : 2-5, Spain. *NEW SYNONYMY.*


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Fig. 365-371, *Toya bridwelli* (Muir). — 365, genital capsule, ventrocaudal. — 366, genital segment, ventral. — 367, genital segment, left lateral. — 368, male genitalia, left lateral. — 369, aedeagus, right lateral. — 370, aedeagus, ventral. — 371, left paramere.

Fig. 372-378, *Toya ceresensis* (Muir). — 372, genital capsule, ventrocaudal. — 373, genital segment, ventral. — 374, genital segment, left lateral. — 375, male genitalia, left lateral. — 376, aedeagus, ventral. — 377, aedeagus, right lateral. — 378, left paramere.



1 ♂, Man, 14/21-X-1973; 1 ♂, Mt. Niangbo, 8/9-X-1973; *R. Linnavuori leg.*; LV.

Distribution: Widely distributed from the Oriental Region over Africa and the southern part of the Mediterranean Region to the South Atlantic; in Africa recorded from: South Africa: Pondoland (MUIR, 1929), Natal (HESSE, 1925), Cape Province, Orange Free State (MUIR, 1929), Basutoland (FENNAH, 1958b); Sudan: Northern Province, Blue Nile, Bahr el Ghazal (LINNAVUORI, 1973); Nigeria (MEDLER, 1980); Côte d'Ivoire.

Genus *Toyalana*, n. gen.

Small, slender brownish delphacids with contrasting whitish pronotum and hyaline tegmina, externally resembling *Falcotoya* species.

Vertex in middle line slightly longer than at base (1.1 : 1), broadly rounding into frons; lateral margins concave, slightly diverging to frons; basal compartments as long as apical cell, area shallowly concave, carinae feeble; apical cell slightly inclined to frons, carinae at apex almost extinct. Frons twice as high as its maximum width, broadest at middle of genae, lateral margins shallowly concave, median carina weak, area of frons convex; frons about 1.25 times longer than post- and anteclypeus together. Postclypeus at postclypeal suture slightly wider than frons, median carina weak, lateral carinae prominent. Rostrum rather short, not attaining hind coxae. Antennal segments cylindrical, 2nd joint about 2.4 times longer than 1st; number and arrangement of sensory fields:

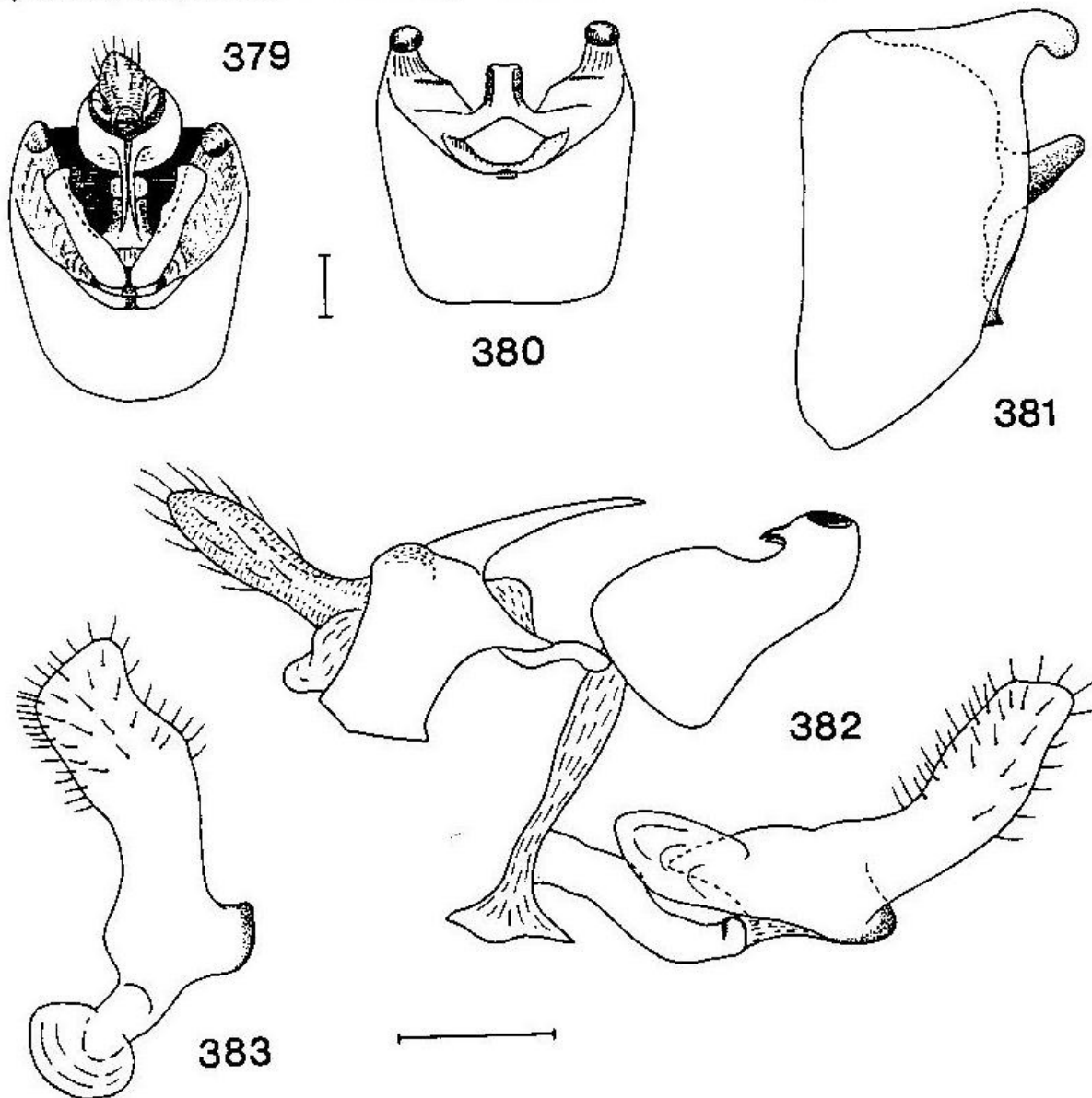


Fig. 379-383, *Toya hessei* (Muir). — 379, genital capsule, ventrocaudal. — 380, genital segment, ventral. — 381, genital segment, left lateral. — 382, male genitalia, left lateral. — 383, left paramere.

16/7. Head slightly narrower than the pronotum (0.95 : 1), pronotum in middle line shorter than vertex (0.8 : 1), posterior margin shallowly concave, lateral carinae slightly curved away behind the eyes, not reaching the hindmargin of the pronotum. Mesonotum medially about 2.8 times longer than pronotum, carinae very weak, lateral carinae slightly diverging caudad. Tegmina hyaline, veins with minute granulation; Sc + R and Cu<sub>1</sub> branching at the same level, i.e. shortly basad of the fusion of the common stem of the anal veins with the inner margin; inner subapical cell slightly longer than the outer. Posttibial spur foliate, about 20 minute teeth on inner margin. Postbasitarsus about 1.4 times longer than the 2nd and 3rd posttarsal joint together, apically 7 (2 + 5) spines; 2nd hindtarsus apically 4 spines in row.

Male drumming organ: paired apodemes of the 2nd abdominal sternite long, spinose, erected dorsad.

Male genitalia: genital segment in lateral view trapezoid, in caudal view almost circular; ventrally longer than dorsally (about 2.5 : 1); laterodorsal angles slightly produced, laterocaudal margins rounding into the diaphragm, ventral margin medially excavate. Diaphragm covering about the ventral half of the caudal area, dorsal margin medially produced to a semiconical process which is dorsally concave. Anal segment short, ring-like, ventrodistal margin produced ventrad; lateroventral base on each side produced into a spinose process which shortly distad of its base is bent caudad. Parameres diverging, broad at base, then narrowing to a short middle part with concave margins, apically widening and truncate, tip pointing laterodorsad, inner edge mediodorsad.

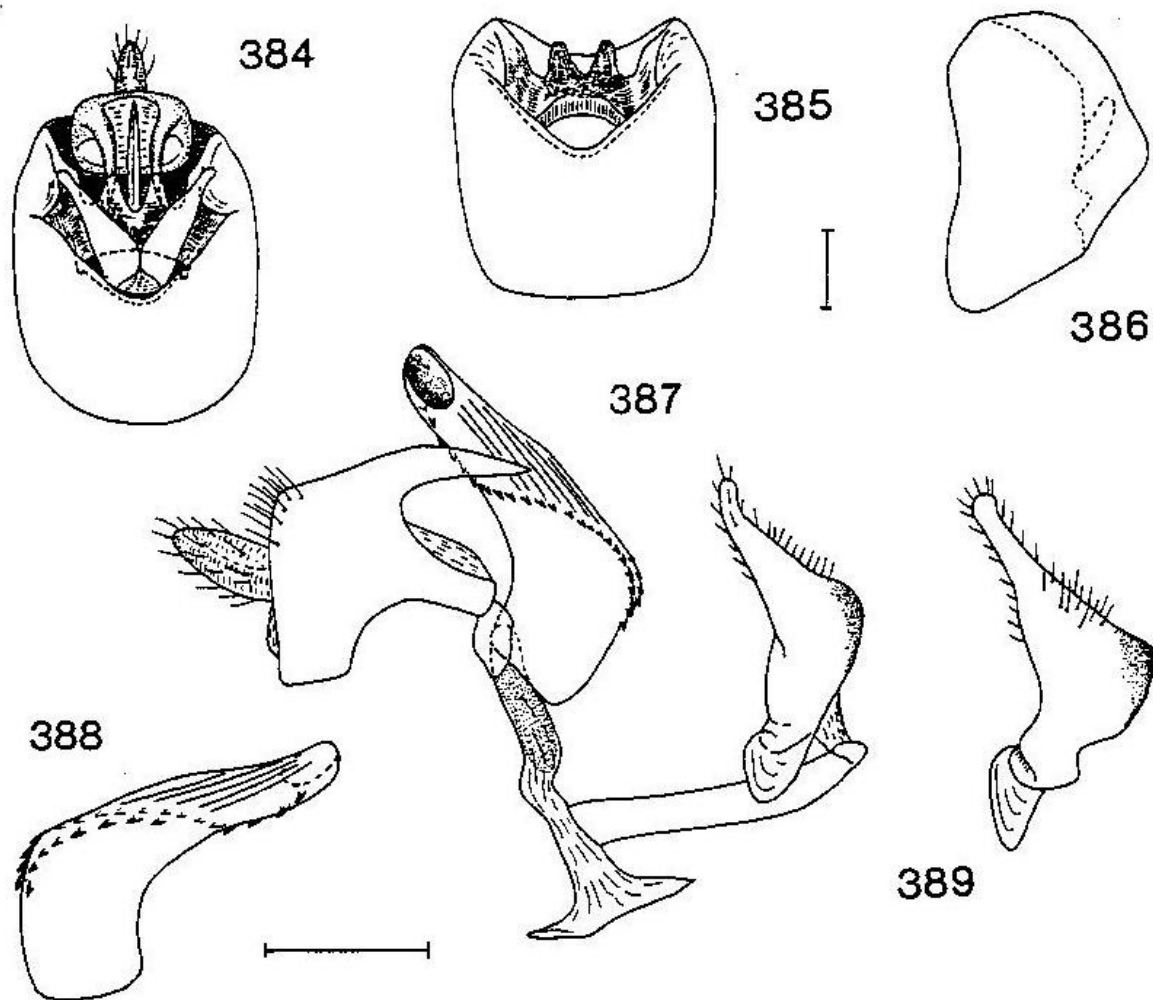


Fig. 384-389, *Toya tomasseti* (Muir). — 384, genital capsule, ventrocaudal. — 385, genital segment, ventral. — 386, genital segment, left lateral. — 387, male genitalia, left lateral. — 388, aedeagus, right lateral. — 389, left paramere.

Aedeagus tubular, slender, curved dorsad; phallosoma subapically on the ventral side; base dorsally expanded to a flat lobe-like projection, which is connected with the short, plate-shaped suspensorium; shortly supra basal lobe on dorsal side arising a spinose process. Connective slightly curved cephalad.

Type-species: *Toyalana spinosa*, n. sp.

Remarks: In external characters (body-size, whitish pronotum) *Toyalana* n. gen. resembles the genus *Falcotoya* Fennah, but differs by its broadly rounded vertex, the weak carination of the frons and by the configuration of the male genitalia. In the shape of the parameres it is rather similar to *Aneuidellana*-species and to *Toya demophoon* Fennah, but is separated from these taxa by the different body-size, proportions and bodily colour patterns as well as by other genital structures; the similar parameres are considered convergently evolved. The new genus *Toyalana* is characterised by following constitutive characters: anal segment ventrodorsally strongly produced, the angles forming flat lobes; paired processes of the anal segment arising from the ventrolateral base, shortly distad of base abruptly bent caudad; aedeagus at its dorsal base with a flat, lobe-like projection, distad of it arising a caudad directed spinose process. *Toyalana* n. gen. belongs to the large group of derived Delphacini. For the moment closer relationship to any taxon within this group cannot be assessed.

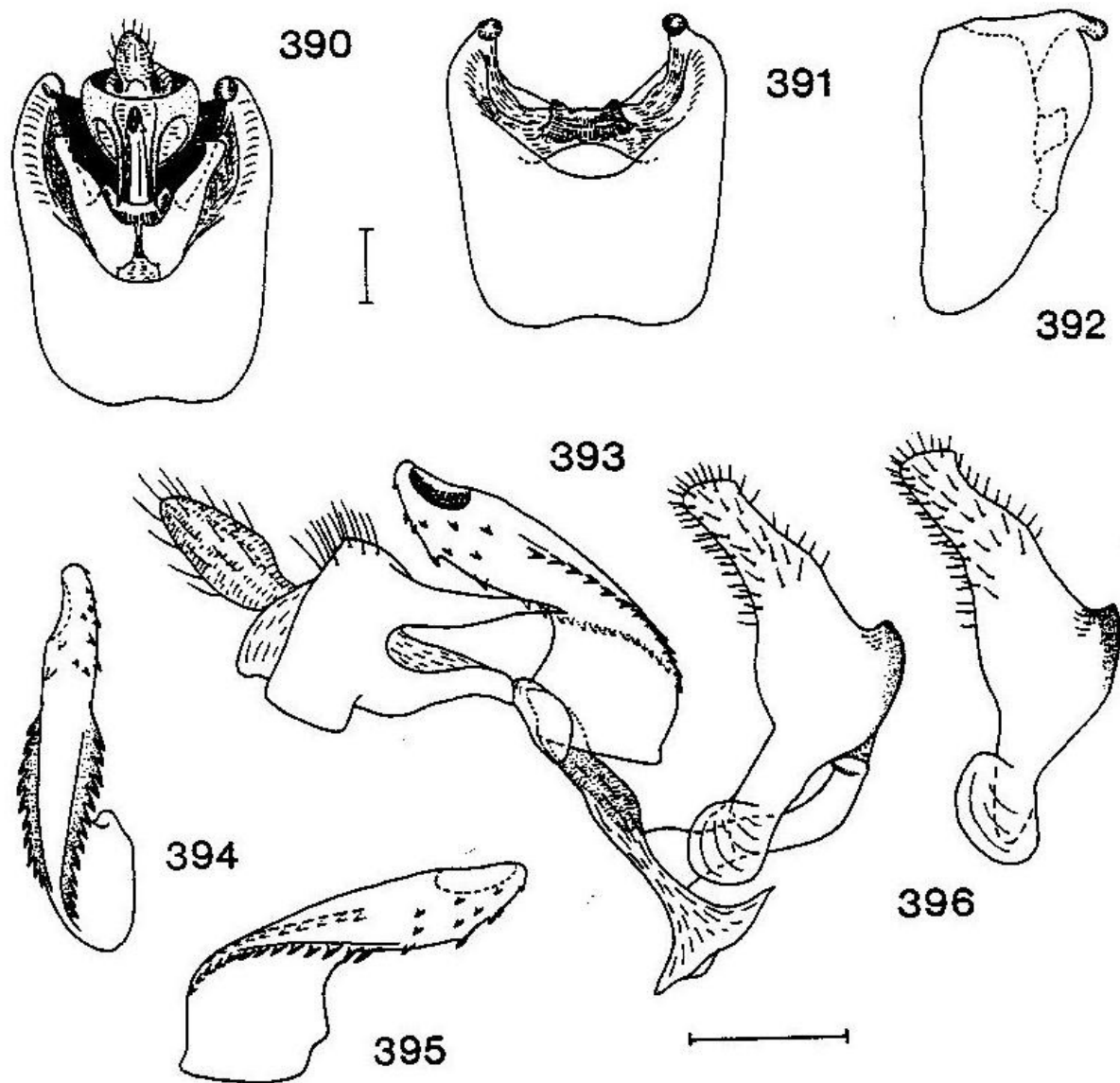


Fig. 390-396, *Toya tuberculosa* (Distant). — 390, genital capsule, left lateral. — 391, genital segment, ventral. — 392, genital segment, left lateral. — 393, male genitalia, left lateral. — 394, aedeagus, ventral. — 395, aedeagus, right lateral. — 396, left paramere.

*Toyalana spinosa*, n. sp.

(fig. 397-402)

**Holotype mâle** macropterous, Côte d'Ivoire, Adiopodoumé, 1964, AUW.

External features and proportions as in genus description. Coloration: head incl. rostrum and antennae tawny, legs stramineous, pronotum anteriorly brown, at posterior margin whitish; mesonotum excl. tip and abdomen incl. genital capsule uniformly dark-brown, tip of mesonotum yellowish-brown. Tegmina hyaline, veins pale yellowish; angle between common stalk of anal veins and inner margin brown; hindwings hyaline, veins pale yellow.

Male genitalia: genital segment (fig. 397-399): medioventral excavation of the caudal margin broad quartercircularly, flanked on each side by a short conical projection; median projection of the dorsal margin of the diaphragm semicone-shaped, distinctly exceeding the lateral margins of the genital segment. Anal segment (fig. 400-401): laterodistal angles lobe-like protruded; basal spinose processes in a right angle abruptly bent dorsocaudad, almost parallel to the ventral side of the anal segment, tips of processes slightly pointing dorsolateral. Parameres (fig. 402): widened base about half the total length, then narrowing to a short stem, distally dilated and laterad projected into a rounded tip, apex truncate, inner edge blunt. Aedeagus (fig. 400): dorsobasal spinose process slender, about 1/7 the length of the shaft, pointing caudad, almost parallel to the shaft.

Length (incl. tegmen): male: 2.7 mm.

Distribution: Côte d'Ivoire.

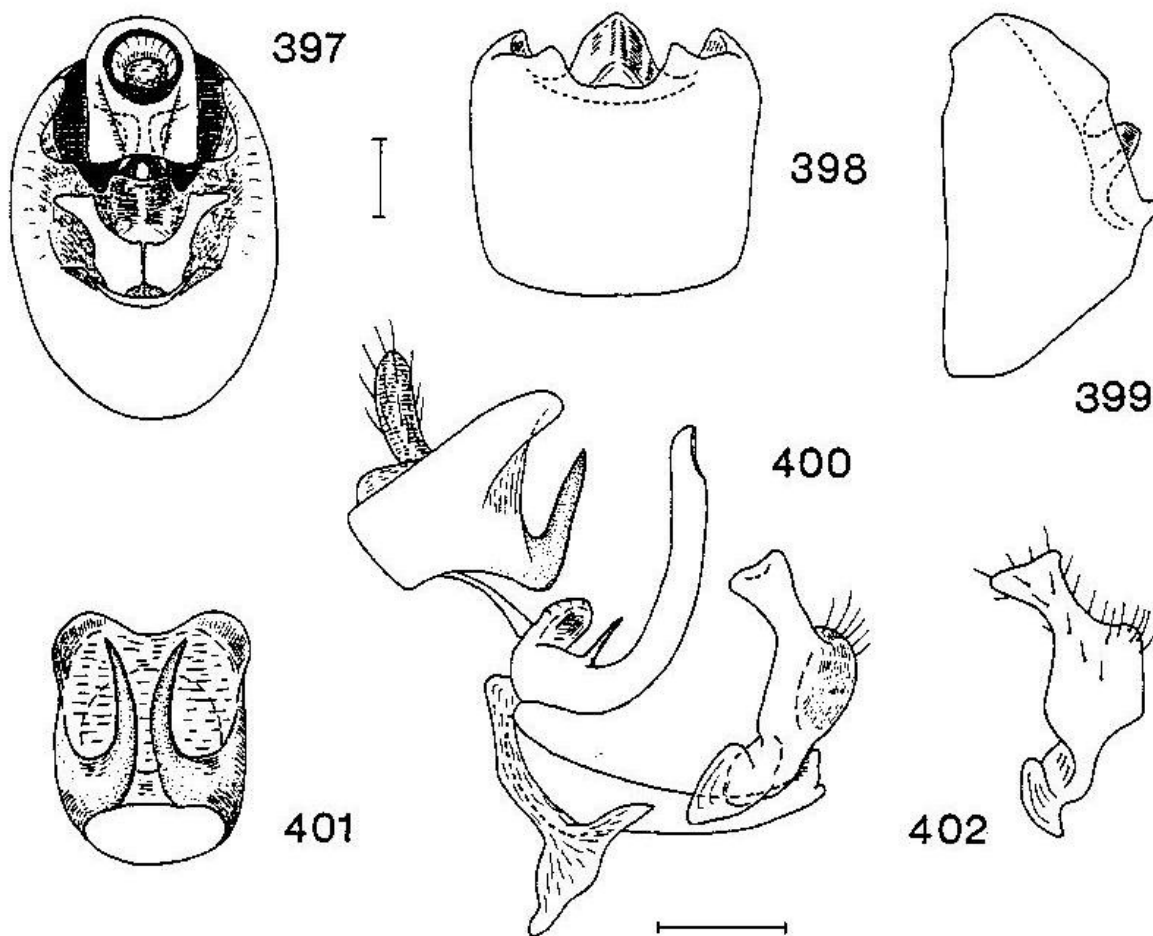


Fig. 397-402, *Toyalana spinosa* n. sp., holotype. — 397, genital capsule, ventrocaudal. — 398, genital segment, ventral. — 399, genital segment, left, lateral. — 400, male genitalia, left lateral. — 401, anal segment, ventral. — 402, left paramere.

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