

PARC NATIONAL DE LA GARAMBA. — MISSION H. DE SAEGER

en collaboration avec

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Fascicule 32 (3)

BOMBYLIIDAE (*)
(DIPTERA BRACHYCERA)

BY

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This collection of *Bombyliidae* comprises 63 specimens, representing six subfamilies, ten genera and twelve species, of which five are new to science and four others represented by damaged specimens which cannot be properly described.

The composition of this small collection is of interest in view of the situation of the Park, in which two bio-geographical provinces, those of the Guinean and Sudanese/East African types converge (DE SAEGER, 1954). Three species have strong West African affinities, two of them, species of *Systropus*, with species inhabiting the West African forested areas. One species of *Geron* represents the first record of the genus from this part of Africa and is most probably related to West African forms. On the other hand, four species are more clearly of East African affinity; one, a species of *Anthrax*, being a characteristic member of the East African Bombyliid fauna.

The types of the new species described are, unless otherwise stated, in the « Institut des Parcs Nationaux du Congo et du Ruanda-Urundi »; similarly, all specimens unless otherwise indicated, were collected by Mission H. DE SAEGER; full details of localities are contained in DE SAEGER (1956). All localities between [] are outside the Park boundaries.

(*) Manuscript deposited on January 30, 1961.

BOMBYLIINAE

1. — **Bombylius discoideus** FABRICIUS.

Thirty specimens of this widely distributed and common species. Included are 21 ♀♀ of which 10 are of the grey form and the remainder of varying degrees of yellowness. The 9 ♂♂ all have conspicuous orange hairs along the boundary of the white anal tuft.

♀, Akam, savane arborescente, sur les feuilles des arbres, 3.V.1950; ♂, vallée de l'Aka, savane herbeuse, 7.VI.1950; [♂, camp du Bagbele, savane herbeuse, 7.IX.1950]; ♀, cellule biologique, II/fd/15, sur fleurs d'herbacées ripicoles diverses, 24.V.1951; ♂, riv. Dedegwa, 21.V.1952; [Nagero, 6 ♀♀, 1-23.IV.1954; 2 ♂♂, 5 ♀♀, 3-29.V.1954; 3 ♂♂, 3 ♀♀, 1-30.VI.1954; 4 ♀♀, 12-27.VIII.1954; ♂♀. 2-29.IX.1954, all coll. C. NEBAY].

2. — **Bombylius flammeus** n. sp.

A striking species closely allied to *flagrans* BEZZI, from which *flammeus* differs as follows :

♀ : Head : hairs on occiput light yellowish-orange above, shading through yellowish-white near middle of eye to white on underside of head; hairs of frons and face gleaming white, some in middle of frons with a yellowish flush; a few bristles behind ocellar tubercle yellow, majority on tubercle black, frontal bristles yellow. Thorax : hairs along upper mesopleurae and upper pro-pleurae yellowish-orange, distinctly paler than notal hairs, pleurae (except black pectus) otherwise with greyish-white hair; metapleural tuft deep black, plumula pale yellowish-orange; bristles predominantly black but many of the short pre-alars orange, some along hind margin of mesopleurae yellowish. Abdomen : hair on basal two-thirds of a more distinctly fiery orange colour than thorax; anterior angles of I black haired; white hairs at tip of abdomen with deep black bases, those on VI and VII virtually black with white tips. Legs with no significant differences from *flagrans*. Wings : blackish at base but also with a faint but distinct yellowish infuscation in costal cell and a yellowish-brown infuscation more or less as a cross-band from middle of marginal cell, across basal three-quarters of first submarginal cell and most of first posterior cell, apical half of discal cell and fading out at bases of second and third posterior cells; centres of discal and first posterior cells clearer than their margins; veins brownish to black; alula distinctly blackish infuscate with black fringe; squamae black, fringe black, some hairs in middle of fringe sometimes dingy white.

Length of body : 11,5-12,0 mm; of wing : 16,6-17,2 mm.

Holotype ♀ : [Uganda; West Nile district, Larope-Dufile road, 30.X.1959; J. BOWDEN]. In my collection.

Paratype ♀ : [Napokomweli (rivière), Ndiwili, 18.X.1950].

Distinguished by the bright, fiery orange abdomen, *flammeus* is a northern representative of *flagrans* and a member of the *discoideus* group.

3. — *Systoechus* sp.

A badly denuded and damaged ♂ appears to belong to the *nigribarbus*-complex, which includes several East- and West African species. A brief description of this specimen is appended.

Body : black, scutellum reddish; first and second antennal segments black (third missing); fore femora and tibiae yellow, hind femora yellow (rest of legs missing). Pubescence apparently sericeous-white above, pale straw-yellowish with sericeous-white gleams on pleurae; head, including mystax, black haired, face rather blunt, eyes separated by considerably less than width of front ocellus for about length of ocellar tubercle. Wings yellowish at base.

♂, cellule biologique, I/b/3, galerie forestière, 8.II.1950.

This may be the species listed as *S. melampogon* BEZZI by CURRAN (1927 : 36), which is, however, a West African forest species that would not be expected to occur at Garamba.

GERONINAE

4. — *Geron lepidus* n. sp.

A solitary ♀ is referable to this genus, thus constituting the first authentic record of *Geron* from the eastern part of tropical Africa.

♀. Body : black, hind margin of metapleural plate and reflexed edges of abdominal tergites reddish, hind margins of tergites more reddish-brown discally. Head (rather greasy); occiput clothed with long yellowish hair and dense white scales behind eyes; frons twice width of ocellar tubercle, nearly three times width at antennae, dull black, markedly transversely depressed above antennae, clothed on sides with long white hair; face black, genae reddish-yellow, sides of face near antennae with dense white scales; antennae black, first segment $2\frac{1}{2}$ times length of second, hairs on first two segments white; proboscis black, 3,3 mm long. Thorax with predominantly sericeous-white hair, that on humeral calli and at wing bases more pale yellowish; fine scales pale brassy-yellow on disc, those on pleurae white. Abdomen with hairs white, those rather densely across hind margin of 1 somewhat gleaming yellowish; fine scales gleaming pale brassy-yellow-white, the broader and flattened scaling below gleaming

white, dense on I and II and arranged as bands across hind margins of remaining segments; venter with white hair and dense gleaming white scales. Legs : coxae and trochanters brownish-black, fore femora black with yellowish-brown apices, other femora entirely yellow; fore tibiae blackish-brown below and at apices, broadly yellowish above in basal three-quarters, other tibiae yellow; tarsi blackish, first segments of mid and hind tarsi yellowish-brown; caxae and femora with white hairs and fairly dense white scales, tibiae with some white scales which are less dense than those of femora. Wings slightly milky, veins pale yellowish; basal comb yellow with white scales; squame sub-opaque white with white fringe; halteres with yellowish knob.

Length of body : 6,4 mm; of wing : 7,1 mm.

Holotype ♀ : vallée de l'Aka, savane arborescente, 20.III.1950.

This species runs to *hybridus* MG. in the key provided by BEZZI (1924). HESSE (1938) has commented on the mixture of species recorded as *hybridus*, and *lepidus* is, according to the key and descriptions of HESSE, nearest to *peringueyi* HESSE, to which it is related by the short first antennal segment. It differs, however, in having more extensively reddish abdomen, less dense pubescence on tibiae and more yellowish pubescence on occiput. From the two West African species of *Geron phallophorus* BEZZI and *priapeus* BEZZI, it differs in possessing white, not black, hairs on the antennae, a white haired frons and presence of relatively dense pubescence on the legs.

SYSTROPINAE

5. — *Systropus rufidulus* n. sp.

A single ♂ is referable to a new species extremely close to *rugosus* BEZZI, the relation being so close that *rufidulus* might almost be considered as a subspecies of *rugosus*. This discovery is of some zoo-geographical interest since it relates a rather aberrant West African species to a form from an eastern locality astride a possible east to west distribution route, in agreement with a theory I have propounded elsewhere in dealing with Ghana *Bombyliidae*.

♂ : Very close to *rugosus*, differing as follows. Head : eyes more distinctly separated by a narrow matt blackish stripe, ocellar tubercle more reddish-black; inner buccal cavity brownish-black, not yellowish-brown. Thorax : humeral calli, a large spot behind these, a large spot at suture at wing base, post-alar calli, propleurae and prospiracular area bright yellow; pubescence much less dense on pleurae, that on pro-, meso- and pteropleurae gleaming sericeous-yellow, that on sternopleurae gleaming white but with sericeous-yellow reflections; scutellar callosities yellow.

Abdomen with 4 segmented stalk, pattern similar to *rugosus*, blackish above and reddish below but V black above, the reddish areas duller, less clear; pubescence sparser, less rich yellowish-red at apex. Legs with femoral callus somewhat broader, darker yellowish, fore tibiae much less conspicuously white dusted. Wings as in *rugosus*.

Length of body : 14,8 mm; of abdomen : 10,4 mm; of proboscis : 2,8 mm; of wing : 8,0 mm.

Holotype ♂ : [savane boisée abords du camp de Bagbele, 9.XI.1950].

6. — *Systropus rex* CURRAN.

(Fig. 1-3.)

This species was described by CURRAN (1927 : 42, fig. 2) from Garamba, in the female sex. Curran's female was in fact a male, as is evident from his figure of the « lower genital plate ».

The present collection contains ten specimens, six of them reared, and enables the following additions to be made to Curran's description together with a comparison with *S. bicuspis* BEZZI.

♂ ♀ : Very similar to *bicuspis*. Eyes in both sexes very narrowly separated, upper half of frons in ♂ brownish, lower part yellowish, in ♀ frons black to very near antennal tubercle. Thorax distinctly punctate and rugose laterally; teguliform lobe reddish-black medially in ♂, almost entirely black in ♀, post-alar calli obscurely reddish in ♂, black in ♀, notopleural stripe frequently reddish, more so in ♀; scutellum with basal red spots indistinct in both sexes, callosities almost black in ♂ with reddish-brown base, in ♀ bright yellow; suture between sterno- and hypopleurae extensively reddish in both sexes, the red area rounded and spot like on hypopleurae; metasternal pubescence relatively sparse with numerous distinctly pale hairs. Abdomen much as in *bicuspis*; a black ventro-lateral streak on either side of III, anterior collar of IV yellow, pubescence of yellow parts of II and III very sparse, yellow; genitalia of ♀ as in *bicuspis*, cerci dark brownish-black, golden haired at apices. Legs mainly as described by Curran; callus of fore femora almost half length of femora, hind femora frequently predominantly yellow; first four tibiae mainly pale yellowish-white, brownish on upper surface, pale pubescence sparse. Wings fuscous to more generally yellowish, usually paler in ♂ but in this sex more distinctly yellowish at base and in costal cell; veins brownish, more blackish towards wing apex; R_4 sometimes with a stump vein at base, middle cross vein well beyond middle of discal cell, apical cross vein of this cell broadly S-shaped; halteres with blackish-yellow (♂) or blackish (♀) stems and ivory knobs. Hypopygium as in figures 1-3; telomeres of a shallow U-shape, aedeagus well developed, aedeagal process strongly curved, accessory processes with strongly sclerotised apices.

Length of body : 16,0-18,0 mm; of wing : 11,0-12,5 mm.

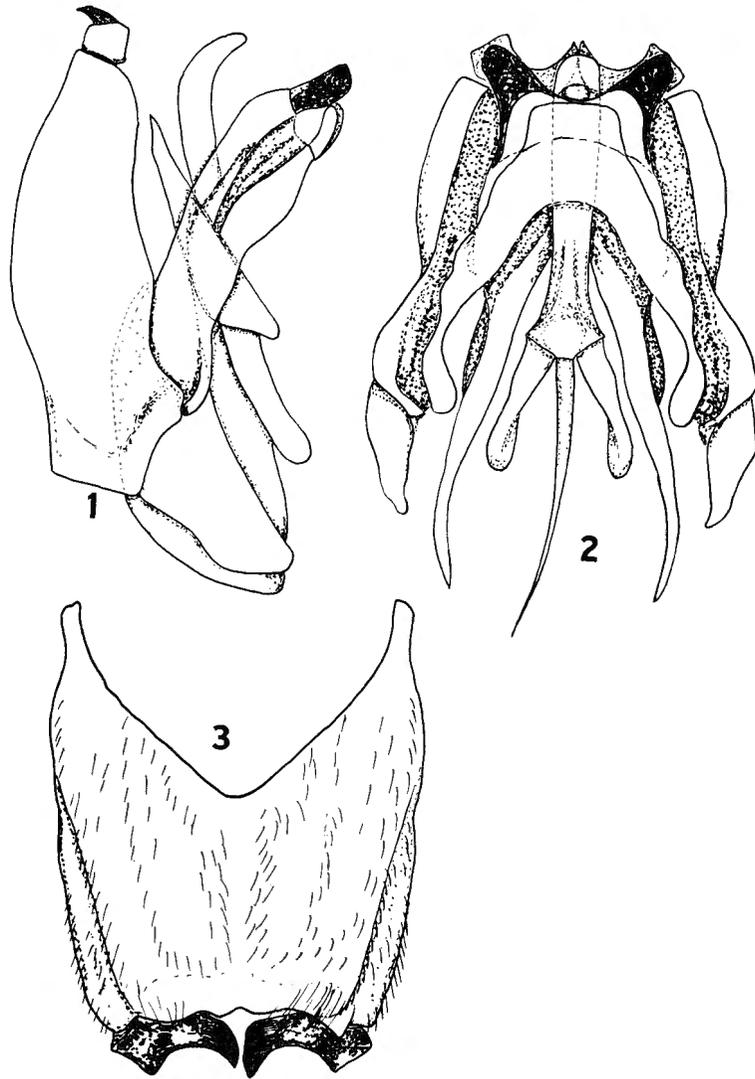


FIG. 1-3. — *Systropus rex* CURRAN.

1 : ♂, hypopygium, lateral view. — 2 : ♂, hypopygium, ventral view. — 3 : last tergite.

♂, 5 ♀♀, cellule biologique, II/gd/4, 17.VI-3.VIII.1951, ex Lepidopteran No. E 1830;
 ♂ ♀, cellule biologique, II/gc/8, 27.VII.1951; cellule biologique, II/gd/4, ♀, 30.VIII.1951;
 ♂, 27.X.1951.

The data given regarding the rearing are of some interest (DE SAEGER, 1956, pp. 474-475, Obs. No. 116). The host is not identified, but is probably a Limacodid, a species of either *Parasa* or *Coenobasis*. Reared at the

same time was a Mutillid (coll. Nos. E1532 and E1830), and it is to be noted that *S. bicuspis* is recorded as having been bred from the cocoon of *Stenomutilla beroë* Pering. The Mutillid bred from the Garamba host has not been identified (VAN STRAELEN, *in litt.*). I have seen a series of *S. rex* in the British Museum (Natural History), bred in Tanganyika from *Parasa vivida* WALKER and *Coenobasis amoena* FLDR., and several of the host cocoons also reveal what appear to be Mutillid pupae. There are thus three records of association of *S. bicuspis* and *S. rex* with Limacodids and Mutillids, which suggests that these species may be hyper-parasites of *Mutillidae*. Hyperparasitism is not unknown among *Bombyliidae*, but has never been recorded among the *Systropinae*, which are normally primary parasites of *Limacodidae*. *S. bicuspis* and *rex* (and also *trigonalis* BEZZI and probably *tessmanni* ENDERLEIN) form an aberrant but closely related and highly characteristic group of species which may well merit at least sub-generic status, and it would be of great interest if more information could be obtained on their biology.

TOXOPHORINAE

7. — *Toxophora* sp.

A badly denuded ♂, minus the right wing, is near *trivittata* BEZZI. Yellowish antennal scale tuft present, but antennae apparently less densely scaled than *trivittata*; traces of three yellowish abdominal stripes; wings strongly brownish infusate from costa to M_1 , across apical half of discal cell and faintly into second posterior cell, apex of wing clear but infuscation extending almost to wing margin in marginal and submarginal cells, middle cross vein at about two-fifths of discal cell, lower vein of latter strongly curved but not angular; hypopygium of *maculipennis-trivittata* type with a row of strong teeth at apices of basimeres.

Riv. Nambili, 23.VIII.1950.

CURRAN has recorded *T. trivittata* from Faradje, in the vicinity of the National Garamba Park.

ANTHRACINAE

8. — *Chionamoeba* sp.

Two almost entirely denuded females are referable to this genus and appear to be close to if not identical with the West African *Ch. choreutes* BOWDEN (*in press*).

Cellule biologique, II/fd/4, 16.VIII.1951.

9. — *Anthrax nigerrima* BEZZI.

A single specimen is referable to this widespread East African species, and constitutes the most westerly record of it.

BEZZI (1924 : 165, 129) erected a subspecies *ocellata* for specimens with an isolated hyaline spot at the base of the marginal cell; this form cannot rank as more than a variety, there being a gradation between normal *nigerrima* and *ocellata*. I have a pair taken *in copula* [UGANDA : N. Bugisu, Bugitimwa, circa 1.750 metres, 13.X.1959, coll. W. R. INGRAM] of which the male is *ocellata* and the female *nigerrima*. BEZZI also referred to this species as a montane species; it in fact occurs at altitudes varying from just over 700 metres in the Garamba Park to nearly 2.200 metres in the Aberdare Mountains, Kenya.

♀, riv. Nambili, 4.II.1950.

EXOPROSOPINAE

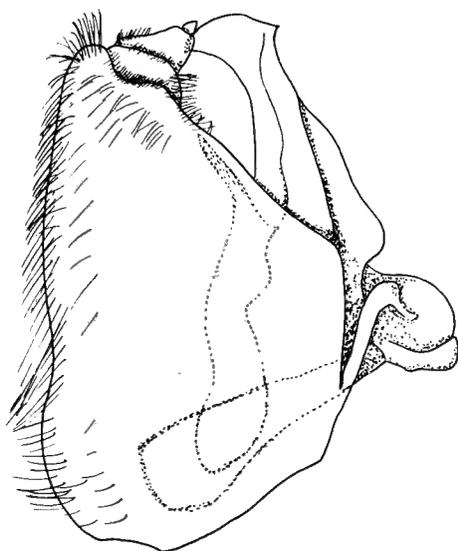
10. — *Villa delicata* n. sp.

(Fig. 4.)

A series of eight specimens represents a new species of the *paniscooides* BEZZI series.

♂ ♀ : Body black; post-alar calli obscure ferruginous, pleurae dull brownish, abdomen sometimes rusty-black at base and sides, sometimes more distinctly reddish on sides or I and II in ♀, seventh tergite yellowish-red. Head with frons at vertex as wide as ocellar tubercle in ♂, almost $2\frac{1}{2}$ times this width in ♀; frons black haired, with yellow scales, more conspicuously so near antennae; face black haired in ♂, yellowish in ♀, with scales varying from dull blackish with yellowish reflections to more generally yellowish in ♂, in ♀ facial scales more yellowish near antennae and whitish on lower face and genae; occiput with sparse white hairs, scales at eye indentation white; antennae blackish-brown, first segment longer than second and base of third combined, style much longer, sometimes almost $1\frac{1}{2}$ times length of rest of antenna, first segment with strong and long black hairs below and above, fringe like, second with short black hair, third with silvery pollen on bulb. Thorax; fine erect hairs on disc black; longer hairs in collar and along notopleurae white; humeral tuft, upper mesopleural tuft and plumula white; rest of pleurae with a range of colour from matt black hair through an increasing amount of ochraceous-brown tipping to hairs through generally more yellowish-brown vestiture to entirely yellowish-white pleurae in ♀; adpressed scales of disc black; post-alar bristles black; scutellum with fine white hairs around

margin and with black scales. Abdomen : fine hairs predominantly black, those across hind margin and in lateral tuft of I, across anterior margin of II and in a dense anterior lateral tuft on II, white; scales predominantly black, with narrow bands of white scales across anterior margins of II to VII, that across III more yellowish discally, II and IV with lateral tufts of narrow, elongate white scales, VII also with white lateral scales tuft; prominent black scale tufts laterally on III (which just encroaches on posterior angle of II) and at posterior angles of IV, V and VI; venter



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FIG. 4. — *Villa delicata* n. sp., ♂, hypopygium, lateral view.

with sparse, long white hair, I predominantly white scaled, remainder black scaled with posterior bands of white scales. Legs yellowish-brown to blackish, femora always distinctly yellowish-brown to brown, tibiae more yellowish in ♀, apical tarsal segments dark brown to black; femora with fine and long dark hair beneath and with sparse scales, brownish to black in ♂, dull yellowish in ♀; hind tibiae with an antero-dorsal fringe-like row of stout spicules with often dense scales, some of these being elongate when intermixed with spicules fringe; claws black. Wings hyaline, iridescent, with a basal colouring which is yellowish-black in ♂, yellowish in ♀, that in costal cell not reaching false cross vein; in ♂ veins yellowish-brown, darker at wing margin, Sc more yellow, in ♀ veins generally more yellowish, R₁ conspicuously so; basal comb and patagium with dense scales, silvery in ♂, yellow in ♀; alula hyaline with

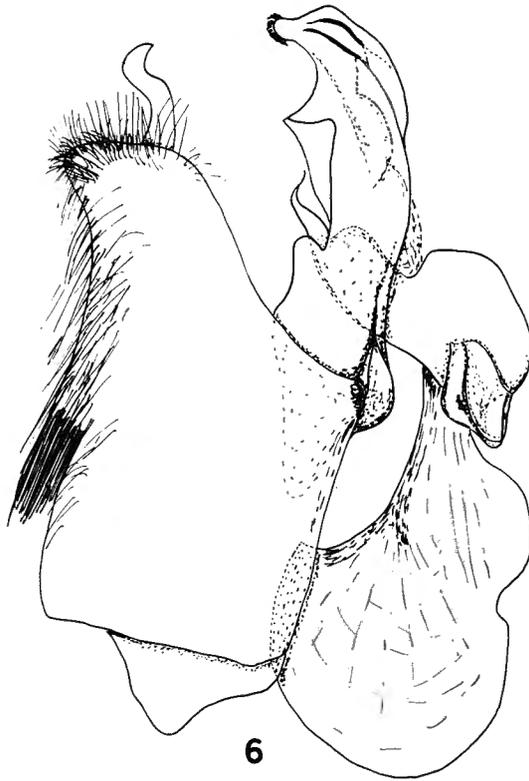
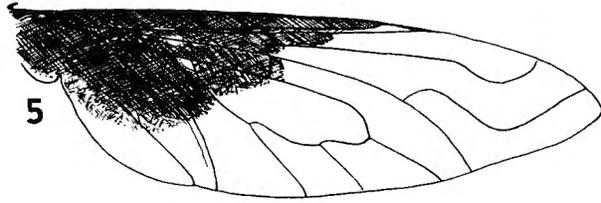


FIG. 5-6. — *Thyridanthrax recursus* n. sp.
5: ♀, wing. — 6: ♂, hypopygium, lateral view.

black edge and white fringe, squamae slightly fuscous, black edged and with a white fringe in ♂, more yellowish sub-opaque and pale edged in ♀; halteres pale yellow. Hypopygium as in fig. 4.

Length of body : 7,6-9,1 mm; f wing : 7,6-8,9 mm.

Holotype ♂ : cellule biologique II/gd/10, 10.IV.1952, sur le sol au soleil, dans une partie découverte légèrement humide.

Allotype ♀ : cellule biologique II, rive droite de la Garamba, 4.I.1951.

Paratypes : ♂, cellule biologique II/fc/18, anse sablonneuse de la Garamba, 28.III.1951; 5 ♂♂, same data as type.

V. delicata is close to *paniscoides* BEZZI, but differs from that species in the colour of the pleurae, colour of legs and in the somewhat different abdominal pattern with less conspicuous lateral scale tufts.

11. — *Thyridanthrax recursus* n. sp.

(Fig. 5-6.)

A rather badly denuded series of six specimens belongs to a new species near *Th. abruptus* LOEW, differing in wing pattern and male genitalia.

♂♀ : Body black. Head with frons in ♂ about 1½ times width of ocellar tubercle, about twice tubercle width in ♀; frons and face black haired, some scattered yellowish gleaming scales near antennae and on face, denser on genae; occiput predominantly white haired, some black hairs near vertex, with white scales at eye indentation which extend slightly above and below but do not reach occipital cleft; antennae with first segment twice as long as second, third evenly conical, distinctly longer than first and second combined; apex of second segment reddish, otherwise antennae black, first two segments with short black hair. Thorax with fine hair on disc black; collar and edges of notum with pale yellow hair, notopleural stripe white, conspicuous; pleurae predominantly black haired, upper part of mesopleural tuft yellowish, even white near notopleural stripe, some distinctly yellowish to fulvous bristly hairs on pteropleurae, metapleural tuft mainly yellow, black below, plumula yellowish; some predominantly black scaled; thoracic and scutellar bristles black. Abdomen mainly black haired, lateral tuft of I yellowish, some white hairs at anterior angles of II; scaly vestiture consisting of black, white and yellowish to ochraceous scales; II with yellowish antero-lateral scale patches, continuous with similar small patches on I and extending dorsally as a narrow anterior band widely interrupted discally, this segment predominantly black scaled, those postero-laterally long, lanceolate and tufted; III with a white anterior band, a yellow median band and a narrow black posterior band, with a white scale tuft at anterior angles but at extreme

edge with a small black scale tuft underlying anterior white tuft; IV and V predominantly black scaled, with black lateral tufts and a narrow anterior yellowish to ochraceous band overlying black scales; VI and VII white scaled, more yellowish to distinctly ochraceous discally, VI with a lateral white scale tuft overlying a black scale tuft, even VII with some lanceolate black scales at anterior angles beneath white scale tuft; venter with black scales, but with a lateral row of more yellowish gleaming scales. Legs dark blackish-brown to black, tibiae paler brownish; fore tarsi shining black; scales black, those on hind femora especially gleaming. Wings exhibiting sexual dimorphism usual in the *abruptus* group; in ♂ glassy hyaline, iridescent, base brownish-black, costal cell between Sc and R₁ brownish-black to end of Sc, extreme base of second basal cell infuscate, this infuscation running narrowly along the vein between first and second basal cells; ♀ with blackish infuscation patterned as shown in figure 5; squame infuscate with yellowish fringe; halteres with black stem and contrastingly pale yellowish knob. Hypopygium as in figure 6, with long whip-tailed aedeagus, aedeagal process with a small bunch of small spines at apex but without lateral teeth below.

Length : 6,6-9,0 mm, of wing : 7,3-9,4 mm.

Holotype ♀ : riv. Makpe, 5.XI.1951.

Allotype ♂ : same date as holotype.

Paratypes : ♂, Km 55, piste du Parc, 26.X.1951; ♀, cellule biologique, II/gd/4, 27.X.1951; ♀, same data as holotype.

There is, in addition, an almost completely denuded ♂, piste du Parc, Km 52, 16.X.1951, which also appears to belong here.

12. — *Exoprosopa* sp.

Two females appear to represent a new species near *punctifrons* BEZZI, from Nigeria, but are too badly denuded to describe properly.

Characterised by the bright orange-red mesopleural tuft and white plumula; wings with a yellow basal and anterior infuscation and outer part of membrane smoky brownish.

♀, Akam, 21.IV.1950; ♀, Inimvua, 20.V.1952.

This appears to be an early rains species which should also occur in North-west Uganda.

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