

PARC NATIONAL DE L'UPEMBA. — MISSION G. F. DE WITTE

en collaboration avec

W. ADAM, A. JANSSENS, L. VAN MEEL et R. VERHEYEN (1946-1949)

Fascicule 68 (2)

EPHEMEROPTERA

PAR

GEORGES DEMOULIN (Bruxelles)

La mission G. F. DE WITTE semble n'avoir pu accorder que peu d'attention aux Éphéméroptères du Parc National de l'Upemba. Ceux qu'elle a récoltés ont été capturés au filet fauchoir pour la plupart, et préparés à sec. De ce fait, il ne peut être question ici de tenter un inventaire de la faune éphémérienne de cette partie du Congo. Bien plus, l'identification spécifique ne peut en être entreprise qu'avec beaucoup de difficultés, et celle du genre sera elle-même parfois douteuse. Quelques exemplaires cependant, heureusement placés en alcool dès leur capture, ont montré tout l'intérêt qu'il y aurait à mener sur place une étude détaillée des Éphémères du Parc National de l'Upemba.

Je remercie vivement M. V. VAN STRAELEN, Président de l'Institut des Parcs Nationaux du Congo, qui a bien voulu me soumettre ces Insectes pour étude.

LISTE DES LOCALITÉS OÙ DES RÉCOLTES ONT ÉTÉ EFFECTUÉES.

- Bwalo, affl. g. Muye et s.-affl. dr. Lufira, 1.750 m.
- Kabulumba, chaîne de montagnes entre Mabwe et la Lufira, 22 km à l'Est de Mabwe, 987 m.
- Kabwekanono, mare près de la tête de source de la Lufwa, affl. dr. Lufira, sur la rive g. Lusinga, 1.815 m.
- Kamitungulu, affl. g. Lusinga et s.-affl. dr. Lufwa, 1.760 m.
- Kaswabilenga, rive dr. Lufira, 680 m.
- Katongo, affl. g. Mubale et s.-affl. g. Munte, 1.750 m.
- Kenia, affl. dr. Lusinga et s.-affl. dr. Lufwa, 1.585 m.

Kilwezi, affl. dr. Lufira, 700, 1.000, 1.400 m.

Lukawe, affl. dr. Lufira, 700 m.

Lukoka, affl. g. Lufira, 750 m.

Lupiala, affl. dr. Lufira, 700, 850, 1.200 m.

Lupiala (piste de la —), 900, 1.200 m.

Mabwe, rive E. du lac Upemba, 585 m.

Nganza (ou Ganza), salines près de la riv. Kamandula, affl. dr. Lukoka et
s.-affl. g. Lufira, 860 m.

Pelenge (gorges de la —), 1.250, 1.600 m.

PARTIE SYSTÉMATIQUE

Fam. POLYMITARCYIDAE

POVILLA NAVAS, 1911.

Povilla adusta NAVAS, 1911.

Mabwe, rive E. du lac Upemba, 585 m, 15.VIII.1947, 4 ♂♂ imagos (à sec, N° 678 A);
riv. Kamitungulu, affl. g. Lusinga, 1.700 m, 4-7.III.1947, 1 larve (alcool, N° 4 A).

Fam. BAËTIDAE

De nombreux exemplaires de cette famille ont été capturés à sec; malheureusement, il s'agit presque toujours de spécimens fortement abîmés, très fragmentaires, dont même l'appartenance générique ne peut être précisée. Tout au plus peut-on signaler que chez certains les espaces internervuraires des ailes présentent des nervules marginales simples, tandis que d'autres les montrent groupées par paires. Dans quelques cas cependant, il a été possible d'être (relativement) plus affirmatif.

BAËTIS LEACH, 1815.

Baëtis sp.

Nganza, riv. Lukoka, 860 m, 1.VII.1949, 1 larve (en alcool, N° 2735 A); id. 8.VI.1949,
1 larvule (en alcool, N° 2668 A).

CENTROPTILOIDES LESTAGE, 1918.

Centroptiloides bifasciata (ESBEN-PETERSEN, 1913).

Kaswabilenga, riv. dr. Lufira, 700 m, 18-23.IX.1947, 1 ♀ subimago (à sec, N° 678 A).

L'aile antérieure présente des marbrures brun noirâtre qui ne rappellent en rien les dessins décrits chez les imagos. L'identité spécifique, bien qu'incertaine, semble néanmoins vraisemblable.

CLOËON LEACH, 1815.**Gloëon** sp.

Il n'est pas certain que les exemplaires cités appartiennent tous à la même espèce; leur état de conservation ne permet pas d'être plus précis.

Bwalo, petite mare temporaire sur le plateau vers la Mbuye-Bala, 1.750 m, 60 larves et larvules (en alcool, N° 718 C, pH 5, temp. : 20° C); Katongo, étang à Nénuphars, 15.IV.1948, 1 larve (en alcool, N° 735 C, pH 5-5,5, temp. : 20° C); riv. Kabwekanono, 1.815 m, 12.I.1948, 1 larve (en alcool, N° 1199 A); Mabwe, 585 m, 18.I.1949, 17 larves et 2 subimagos (en alcool, N° 2229 A, station VAN MEEL, N° 10, filet à plancton).

Fam. OLIGONEURIIDAE

ELASSONEURIA EATON, 1871.**Elassoneuria trimeniana** (McLACHLAN, 1868).

Gorges de la Pelenge, 1.150 m, 20-21.VI.1947, 11 larves (en alcool, N° 528 A); Kilwezi, la Lufira, 11.VIII.1948, 9 larves (en alcool, N° 1825 A); Kabulumba, 987 m, 28.I.1949, 2 larves (en alcool, N° 2271 A).

Fam. HEPTAGENIIDAE

AFRONURUS LESTAGE, 1924.**Afronurus collarti** (NAVAS, 1930).

Riv. Lupiala, affl. dr. Lufira, 700 m, 1 ♂ subimago (à sec, N° 809 A); Kaswabilenga, rive dr. Lufira, 700 m, 8.XI.1947, 1 ♂ imago (à sec, N° 970 A).

Afronurus sp.

Riv. Katongo, affl. Mubale, 1.750 m, 12.IV.1948, 2 larves (en alcool, N° 1521 A); Kilwezi, la Lufira, 750 m, 11.VIII.1948, 2 larvules (en alcool, N° 1.825 A); Lukoka, embouchure, 750 m, 14.VII.1949, 1 larve (en alcool, N° 2780 A).

Fam. LEPTOPHLEBIIDAE

ADENOPHLEBIA EATON, 1881.**Adenophlebia infuscata** NAVAS, 1936.

Riv. Kenia, 1.700 m, 29.III.1947, 1 ♂ très décoloré (en alcool, N° 186 A).

EUTHRAULUS BARNARD, 1932.**Euthraulus** sp.

Riv. Kamitungulu, affl. Lusinga, 1.700 m, 11.IV.1947, 4 jeunes larves (en alcool, N° 233 A); riv. Lupiala, affl. rive dr. Lufira, 700 m, 6-9.X.1947, 1 ♀ imago (à sec, N° 809 A); Kaswabilenga, rive dr. Lufira, 700 m, 17 et 21.X.1947, 4 ♀ ♀ imagos (à sec, N°s 845 A et 878 A); Lukawe, affl. rive dr. Lufira, 700 m, 30.IX.1947, 1 ♀ (à sec, N° 792 A); Kilwezi, la Lufira, 750 m, 11.VIII.1948, 1 larvule (en alcool, N° 1825 A); Nganza, la Lukoka, 860 m, 8.VI.1949, 4 larves (en alcool, N° 2668 A); id., 1.VII.1949, 3 larves (en alcool, N° 2735 A).

Fam. **TRICORYTHIDAE**Subfam. **TRICORYTHINAE****TRICORYTHUS** EATON, 1868.**Tricorythus maculatus** KIMMINS, 1948.

Lukawe, affl. rive dr. Lufira, 700 m, 6-9.X.1947, 1 ♂ imago (à sec, N° 814 A); Kaswabilenga, rive dr. Lufira, 700 m, 8.XI.1947, 1 ♂ imago (à sec, N° 970 A).

Subfam. **EPHEMERYTINAE****EPHEMERYTHUS** GILLIES, 1960, sbg. **Tricomerella** sbg. nov.

Chez les *Ephemerythus* s. str., les larves sont trapues, les mandibules présentent des canines différenciées, les maxilles ont des dents rassemblées en un apex triangulaire. Dans le sous-genre *Tricomerella* sbg. nov., les larves ont le corps plus allongé, plus « éphémérellidien »; les canines des mandibules, surtout les externes (supérieures), forment un bloc émoussé, tandis que celles des maxilles sont nettement séparées.

Ephemerythus s. str. comprend actuellement 3 espèces (*kiboensis* GILLIES, *niger* GILLIES et *pictus* GILLIES), toutes trois du Tanganyika, décrites en 1960 sur des adultes. En outre, GILLIES (loc. cit.) rapporte à ce genre une larve décrite en 1955 par KIMMINS comme « *Ephemereleidae* genus uncertain », du Nyasaland, mais sans la rapporter à une espèce connue. Il signale également la présence de larves du même type dans le fleuve Congo (Brazzaville), au Cameroun (Yaounde) et au Libéria. Les formes du Tanganyika se rencontrent à une altitude de 3.000 à 4.000 pieds.

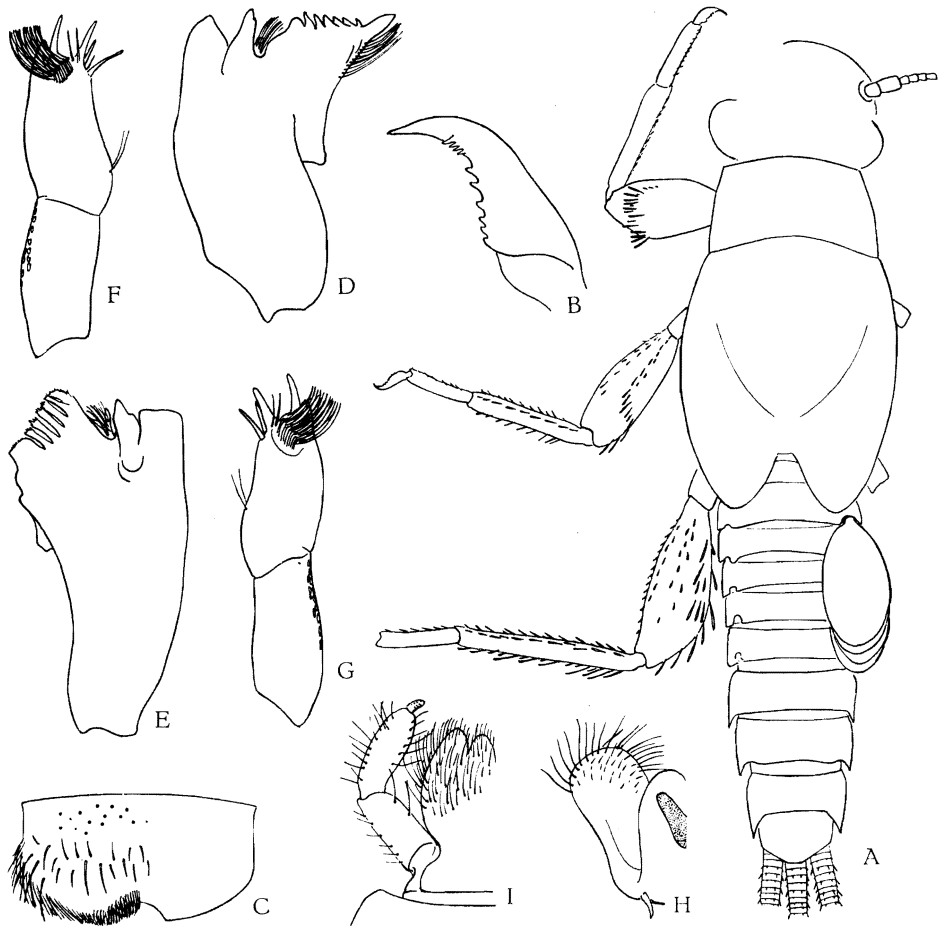


FIG. 1. — *Ephemerythus (Tricomerella) straeleni* n. sp., larve mature, holotype ♀.
 A : Vue générale dorsale (tête éclatée, cerques brisés) ($\times 21,5$); B : Ongle de la patte I ($\times 185$); C-I : Pièces buccales ($\times 95$).

***Ephemerythus (Tricomerella) straeleni* n. sp.**

Larve (fig. 1). — Corps allongé. Tête mal connue. Pronotum plus étroit en avant qu'en arrière, moins large que le mésonotum; ptérothèques I probablement moins fusionnées en arrière que chez les *Ephemerythus* s. str. Abdomen allongé, urites I-VI courts, VII-X s'allongeant progressivement; paratergites étroits, étirés en pointe sur les segments VII-IX, nuls sur X. Trois cerques avec de courtes épines à l'arrière de chaque article (tronqués).

Labium nettement plus large que long; bord antérieur arrondi, nettement échancré en demi-cercle au milieu. Mandibules robustes; la droite avec les canines supérieures fusionnées en un bloc tronqué, carré, les internes également fusionnées, mais laissant deviner qu'il y en a deux; la gauche à canines supérieures également fusionnées, mais en un bloc conique, les internes (il y en a deux) unies en une dent conique allongée. Maxilles rappelant celles des *Ephemerellina* (*Ephemerellidae*) d'Afrique du Sud, avec quatre canines distinctes et deux à trois épines apicales; pas de palpe. Labium un peu plus allongé que celui des *Ephemerythus* s. str., un peu moins court; palpe à deux articles basilaires, et un tout petit apical.

Pattes portant des soies spatulées, celles des fémurs I formant une série transverse antéapicale.

Cinq paires de trachéobranchies suboperculaires, sur les urites II-VI, celles de VI courtes et cachées sous les précédentes.

Coloration générale apparemment brun olivâtre.

Subimago ♀. — Une larve mature laisse deviner la subimago qu'elle renferme. Aspect tricorythidien classique. Trois cerques. Coloration générale brunâtre clair, la tête un peu plus foncée. Il n'est pas impossible que l'extrémité de l'abdomen porte une maculation foncée.

Il a été possible d'extraire, et d'étaler suffisamment, les ailes contenues dans les ptérothèques. Elles sont d'un gris brunâtre clair, étroitement ciliées. On ne peut presque rien dire de la nervation, sinon qu'elle est normalement tricorythidienne. Il n'est pas certain qu'il y ait des nervules marginales. Les ailes II ont un calus costal allongé en éperon triangulaire.

Matériel. — Gorges de la Pelenge, 1.150 m, 20-21.VI.1947, 1 larve ♀ holotype, avec subimago partiellement libéré (en préparations microscopiques, N° 528 A); Nganza, Lukoka, 860 m, 8.VI.1949, 1 jeune larve paratype (en alcool, N° 2668 A).

Subfam. DICERCOMYZINAE

DICERCOMYZON DEMOULIN, 1954.

Ce genre a été créé en 1954, pour une espèce du Parc National de l'Upemba reprise ci-dessous. Depuis, deux autres espèces ont été décrites par KIMMINS (1957): *costale* et *marginatum*; elles sont connues du Tanganyika, du Nyasaland, de la Côte d'Or et d'Afrique du Sud.

Diceromyzon costale KIMMINS, 1957.

Diceromyzon sp., KIMMINS, 1955, Ann. Mag. Nat. Hist., (12), VIII, p. 876.
Diceromyzon costale KIMMINS, 1957, Bull. Brit. Mus., (N. H.), Ent., VI, 5, p. 130. — VENTER, 1961, Hydrobiologia, XVIII, p. 327.

Je renvoie à KIMMINS (loc. cit.) pour la description et l'iconographie des divers stades. L'espèce, décrite à l'état larvaire du Nyasaland, a été retrouvée au Tanganyika, en Côte d'Or et en Afrique du Sud (Olifants River). Sa répartition réelle est probablement fort large.

Diceromyzon marginatum KIMMINS, 1957.

Diceromyzon marginatum KIMMINS, 1957, Bull. Brit. Mus., (N. H.), Ent., VI, 5, p. 132.

On trouvera dans KIMMINS (loc. cit.) la description des divers stades. L'espèce est connue du Tanganyika et de la Côte d'Or.

Diceromyzon ? sjöstedti (ULMER, 1909).

Caenis (?) *sjöstedti* ULMER, 1909, Zool. Kilimandjaro-Meru Exp., II, 14, 2, p. 53.
Tricorythus sjöstedti ULMER, 1916, Arch. Naturg., LXXXI, A, 7, (1915), p. 14. — LESTAGE, 1918, Rev. Zool. Afr., VI, 1, p. 97.
Diceromyzon ? sjöstedti DEMOULIN, 1954, Bull. Inst. roy. Sci. nat. Belg., XXX, 6, p. 2. — DEMOULIN, 1954, Bull. Ann. Soc. Ent. Belg., XC, p. 274. — KIMMINS, 1957, Bull. Brit. Mus., (N. H.), Ent., VI, 5, p. 129.

L'attribution de cette espèce au genre *Diceromyzon* reste toujours douteuse, étant basée uniquement sur le fait qu'il semble bien ne pas y avoir de paracercue chez l'adulte de cet authentique Tricorythide.

Diceromyzon verrierae n. sp.

Diceromyzon sp., VERRIER, 1958, Mémoires I.F.A.N., LIII, p. 119.

L'iconographie de cette larve, telle que l'a donnée VERRIER, est évidemment fort réduite. Mais il est un caractère propre à cette espèce, qui permettra de la reconnaître immédiatement. Je veux parler des saillies médianes qui soulèvent et prolongent le bord postérieur des urites III-IX.

Je désigne comme holotype et paratype les deux larves prises au mont Nimba, dans le marigot Zié, en IX.

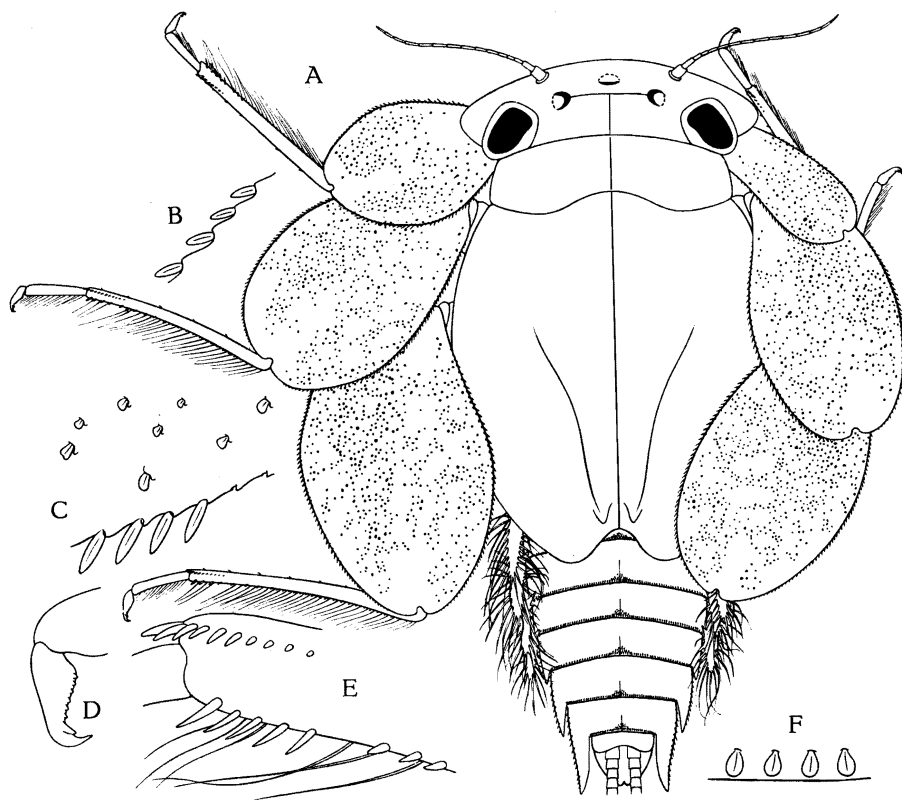


FIG. 2. — *Diceromyzon femorale* DEMOULIN, larve mature, paratype ♀.

A : Vue générale dorsale (cerques brisés) ($\times 17$); B : Phanères du bord antérieur du fémur I ($\times 140$); C : Phanères de la face dorsale et du bord postérieur du fémur II ($\times 140$); D : Ongle (patte III) ($\times 140$); E : Phanères de l'extrémité du tibia III ($\times 140$); F : Phanères du bord postérieur des urotergites ($\times 140$).

***Diceromyzon femorale* DEMOULIN, 1954.**

Diceromyzon femorale DEMOULIN, 1954, Bull. Inst. roy. Sci. nat. Belg., XXX, 6, p. 2. — DEMOULIN, 1954, Bull. Ann. Soc. Ent. Belg., XC, p. 274. — KIMMINS, 1957, Bull. Brit. Mus., (N. H.), Ent. VI, 5, p. 129.

L'espèce a été décrite brièvement en 1954, sur cinq larves dont une a partiellement livré un subimago ♀. L'essentiel a été dit à l'époque, et l'on trouvera ici seulement un complément iconographique qui permettra la comparaison avec les larves des espèces voisines (fig. 2-6). Notons cependant

que, conformément à ce qu'en a dit et figuré KIMMINS (loc. cit., 1954), la ventouse ventrale du thorax est en quelque sorte double, constituée d'une partie promésothoracique et d'une partie métathoracique, formant un ensemble apparemment unique au point de vue fonctionnel.

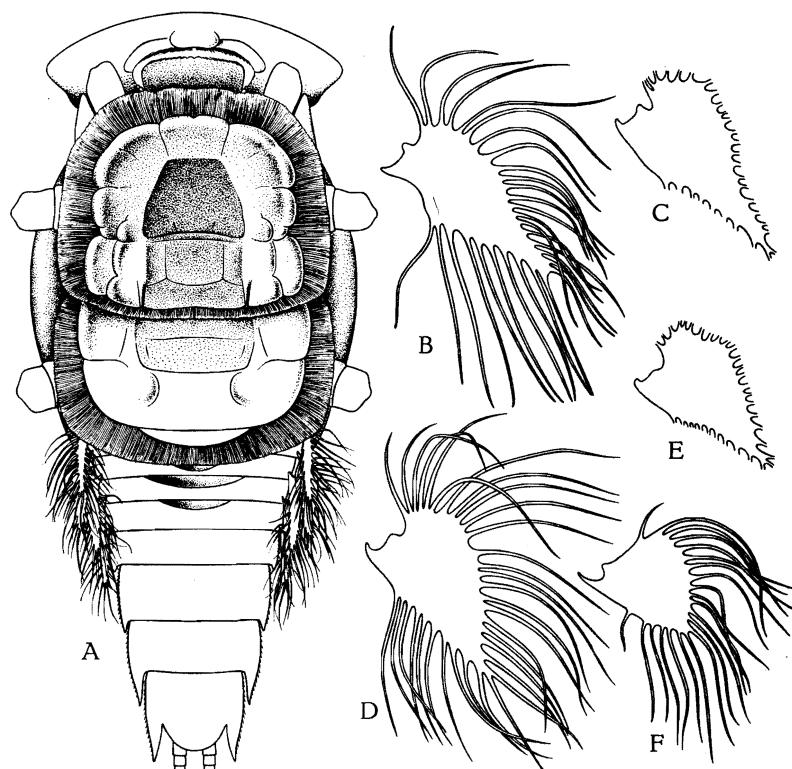


FIG. 3. — *Diceromyzon femorale* DEMOULIN, larve mature ♀.

A : Vue générale ventrale, montrant les ventouses sternothoraciques (pattes et cerques non figurés) ($\times 17$); B, C, D, E, F : Trachéobranchies II-VI (les caecums non figurés pour III et V) ($\times 54$).

CLÉ PROVISOIRE DES LARVES DE *DICERCOMYZON*.

1. Tergites des urites III-IX portant au milieu du bord postérieur une saillie triangulaire **verrieriae** n. sp.
- Tergites des urites III-IX dépourvus de saillies 2

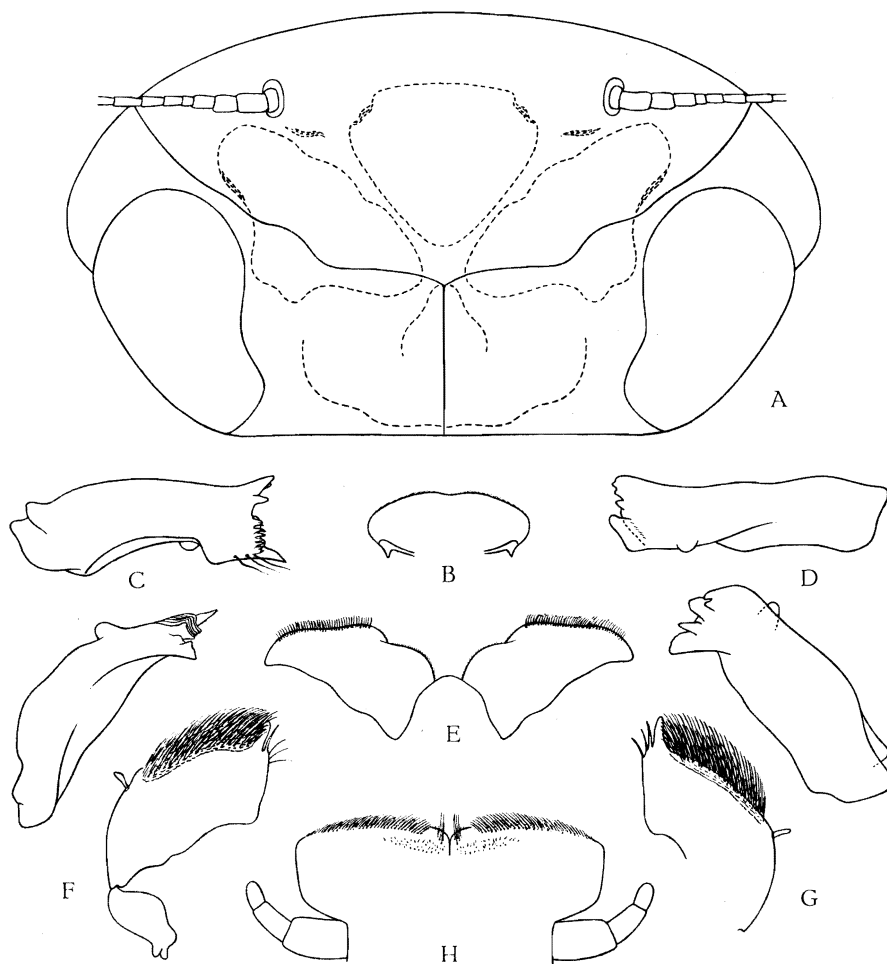


FIG. 4. — *Diceromyzon femorale* DEMOULIN,
larve mature, paratype ♀, tête et pièces buccales (×50).

A : Capsule céphalique, vue dorsale, montrant par transparence la silhouette du tentorium; B : Labre (face dorsale); C : Mandibule droite (deux aspects); D : Mandibule gauche (deux aspects); E : Hypopharynx (face ventrale); F : Maxille droite (face ventrale); G : Maxille gauche (face ventrale); H : Labium (face ventrale).

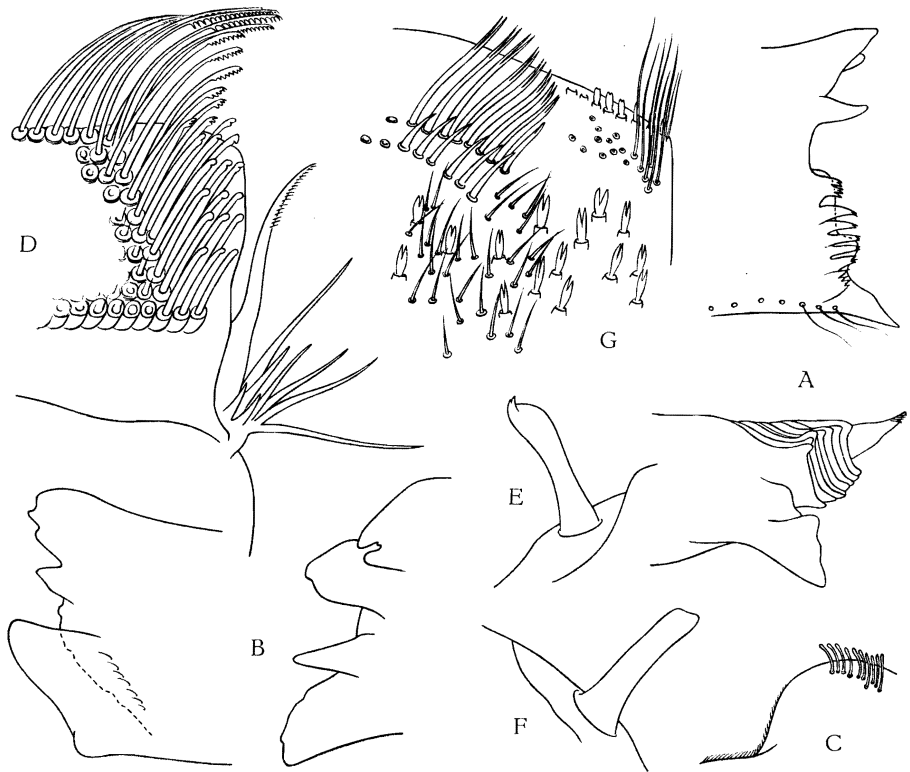


FIG. 5. — *Diceromyzon femorale* DEMOULIN, larve mature, paratype ♀, détails et phanères des pièces buccales (face ventrale) ($\times 175$).
 A : Mandibule droite, apex (deux aspects); B : Mandibule gauche, apex (deux aspects);
 C : Lobe gauche de l'Hypopharynx, portion du bord antérieur; D : Maxille droite, apex;
 E : palpe maxillaire droit; F : Palpe maxillaire gauche; G : Glosse et paraglosse labiales droites fusionnées, angle antéromédian.

2. Les calus qui se trouvent à l'extrémité postérieure du pli qui sépare le mésonotum des ptérothèques I sont courts, obtus, se terminant bien en deçà du bord postéro-interne des ptérothèques. Bords latéraux du labium presque parallèles vers l'avant, formant un S anguleux avant l'attache des palpes **femorale DEMOULIN.**

— Les calus du mésonotum atteignent au moins le bord postéro-interne des ptérothèques 3

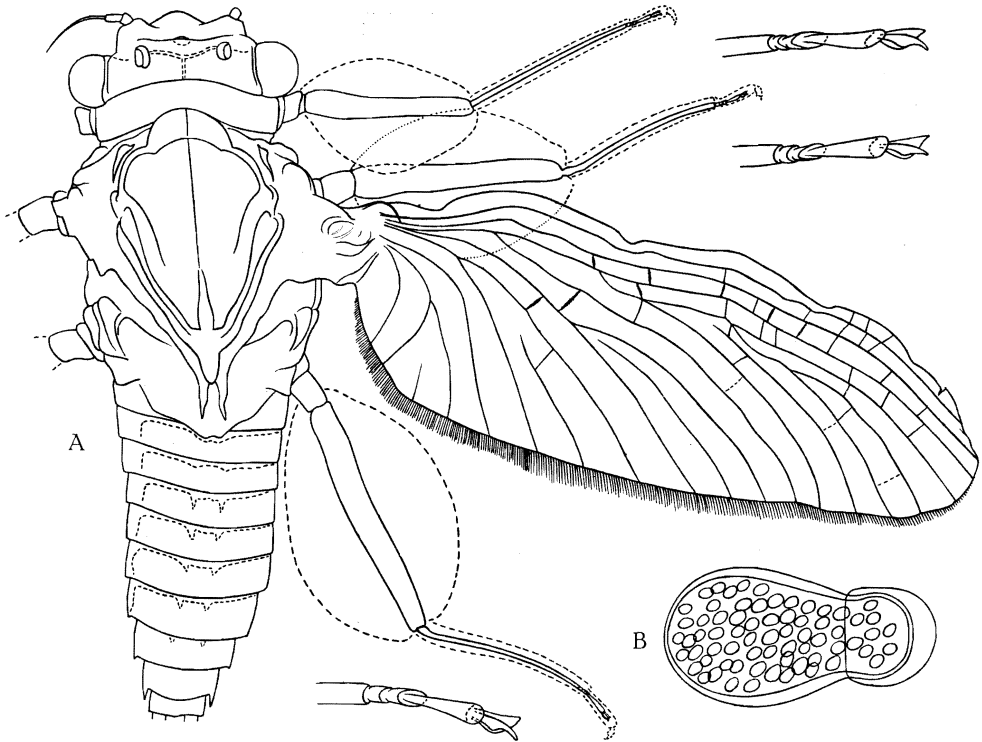


FIG. 6. — *Diceromyzom femorale* DEMOULIN, subimago ♀ holotype.

A : Vue dorsale (aile et pattes gauches et cerques non figurés ($\times 16$) (détail des tarsi, $\times 60$ env.); B : Œuf ($\times 180$).

N.B. — Ce subimago a été extrait d'une larve prête à éclore; l'aile est encore froissée, les cerques brisés, et les pattes restent engagées dans la cuticule larvaire. L'œuf figuré a été extrait de l'abdomen de cet adulte.

3. Calus du mésonotum bien développés, longuement triangulaires, dépassant le bord postéro-interne des ptérothèques. Labium à bords latéraux non parallèles, régulièrement convexes (pas en S) ... **costale** KIMMINS.
- Calus du mésonotum moins développés, constitués d'un soulèvement du pli qui sépare le mésonotum des ptérothèques. Labium à bords latéraux non parallèles, incurvés en S **marginatum** KIMMINS.

Fam. CAENIDAE

CAENIS STEPHENS, 1835.**Caenis** sp.

Le matériel recueilli ne contient que des femelles, sexe déjà malaisé à déterminer spécifiquement dans des conditions normales. En outre, ici, tous les exemplaires sont abondamment couverts d'écailles de Lépidoptères qui en rendent l'examen impossible.

Riv. Lukawe, affl. rive dr. Lufira, 700 m, 30.IX.1947, 4 ♀♀ imagos (à sec, N° 792 A); id., 6-9.X.1947, 68 ♀♀ imagos (à sec, N° 815 A); id., 22.X.1947, 3 ♀♀ imagos (à sec, N° 884 A); riv. Lupiala, affl. rive dr. Lufira, 700 m, 6-9.X.1947, 16 ♀♀ imagos (à sec, N° 809 A); piste Lupiala, 900-1.200 m, 23.X.1947, 100 ♀♀ imagos (à sec, N° 880 A); Kaswabilenga, 700 m, 16-24.X.1947, 16 ♀♀ imagos (à sec, N° 840 A); id., 16.X.1947, 13 ♀♀ imagos (à sec, N° 842 A); id., 17.X.1947, 17 ♀♀ imagos (à sec, N° 845 A); id., 22-26.X.1947, 11 ♀♀ imagos (à sec, N° 856 A); id., 21.X.1947, 8 ♀♀ imagos (à sec, N° 878 A); id., 3-4.XI.1947, 26 ♀♀ imagos (à sec, N°s 912 A, 916 A, 936 A); id., 4.XI.1947, 5 ♀♀ imagos (à sec, N° 921 A); id., 3-8.XI.1947, 107 ♀♀ imagos (à sec, N° 929 A).

INSTITUT ROYAL DES SCIENCES NATURELLES DE BELGIQUE.

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W. ADAM, A. JANSSENS, L. VAN MEEL et R. VERHEYEN (1946-1949)

Fascicule 68 (3)

Genus MELIGETHES STEPHENS
(COLEOPTERA NITIDULIDAE)

BY

ALAN M. EASTON (Great Bookham, England)

INTRODUCTION

Nineteen species of *Meligethes* comprise the total of 712 examples of the genus collected during the Exploration of the « Parc National de l'Upemba » by the Mission G. F. DE WITTE, 1946-1949.

Prior to the present study three species only had been described from the Congo, viz. *atomus* GROUVELLE (1904) from the Usambaras, *curtulus* GROUVELLE (1914) and *rufulus* GROUVELLE (1914) from Congo da Lemba. None of these is represented in the present collection.

Fifteen species prove to be new to science and are described below, whereas four have been previously recorded from adjacent parts of East Africa. *M. voeltzkowi* GROUVELLE was known from Pemba Island and Uganda, *mimetes* GROUVELLE as the unique type from Tanganyika, *lividus* EASTON from Abyssinia and Kenya, whilst *hargreavesi* EASTON occurred in Uganda.

A key has been incorporated which, it is hoped, may prove of some value in the identification of future material from the same geographical source. Such a key, based as it is on so small a percentage of the total species in the genus, is of necessity but a very imperfect guide to their true taxonomy. It should be used in conjunction with previously published keys dealing with the species occurring in Abyssinia and East Africa (EASTON, 1959, 1960). In this way a wider picture is obtained, and some little progress achieved towards the ultimate need for a key to the Ethiopian species as a whole.

In their larval stage the species of *Meligethes* feed on the pollen of various flowers, showing a high degree of host-specificity. Unfortunately nothing is known of the host-plants of the species occurring in the « Parc National de l'Upemba ».

LIST OF LOCALITIES CITED IN THE TEXT.

(All the localities between [] are outside the Park's boundaries.)

- Buye-Bala, affl. g. de la Muye et s.-affl. dr. de la Lufira (alt. 1.750 m).
 [Dipidi, affl. dr. de la Lufwa et s.-affl. dr. de la Lufira (alt. 1.700 m).]
 Kabwe, sur la rive dr. de la Muye, affl. dr. de la Lufira (alt. 1.320 m).
 Kabwekanono, mare près de la tête de source de la Lufwa, affl. dr. de la Lufira, sur la rive g. de la Lusinga (alt. 1.815 m).
 Kafwe (Grande), affl. dr. de la Lufwa et s.-affl. dr. de la Lufira (alt. 1.780-1.830 m).
 Kalumengongo, affl. dr. du Lualaba (alt. 1.780-1.830 m).
 Kamitungulu, affl. g. de la Lusinga et s.-affl. dr. de la Lufwa (alt. 1.760 m).
 Kanonga, affl. dr. de la Fungwe (alt. 700 m).
 Karibwe, affl. Lusinga et s.-affl. dr. de la Lufwa (alt. 1.700 m).
 [Kenia, affl. dr. de la Lusinga et s.-affl. dr. de la Lufwa (alt. 1.700 m).]
 Kilolomatambo, affl. de la Lusinga et s.-affl. dr. de la Lufwa (alt. 1.750 m).
 Lubanga, affl. dr. de la Senze et s.-affl. dr. de la Lufira (près rive Kaziba) (alt. 1.750 m).
 Lubanga, tête de source, près de Buye-Bala (alt. 1.750 m).
 [Lufwa, affl. dr. de la Lufira, tête de source, près Lusinga (alt. 1.700 m).]
 Lusinga, riv. Kamitungulu (voir Kamitungulu) (alt. 1.760 m).
 Mabwe, rive E. du lac Upemba (alt. 585 m).
 Mubale, région confl. Mubale-Munte (alt. 1.480 m).
 Mukana, marais près de Lusinga (alt. 1.810 m).
 Munoi, bifurcation de la riv. Lupiala, affl. dr. de la Lufira (alt. 890 m).
 Pelenge, gorges (alt. 1.150 m).

KEY TO THE MELIGETHES OF « PARC NATIONAL DE L'UPEMBA ».

1. Outer edge of front tibiae (figs. 1-6) finely crenulate at least to basal third, then with a group of more or less long, sharp, downwardly directed teeth gradually increasing in size to the penultimate; oval, somewhat strongly convex 2
- Outer edge of front tibiae not of this pattern; if nearly so, form more parallel-sided 7
2. Tarsal claws with a well-marked tooth at base; reddish-brown, with head black; with distinct, long, yellowish pubescence; length 2,4 mm **nigriceps** n. sp.
- Tarsal claws simple; unicolorous, or nearly so 3

3. Upper surface between punctures smooth; pronotal punctures separated by one diameter or less; with distinct close pubescence. Elytral punctures showing a trace of transrugosity; length 2,3 mm **desolatus** n. sp.
- Upper surface between punctures distinctly reticulate, at least in part; pronotal punctures separated by two diameters or more 4
4. Elytral punctures without any trace of transrugosity; pubescence extremely short; subapical group on outer edge of front tibia including one much larger tooth; length 2,0-2,3 mm **nobilis** n. sp.
- Elytral punctures, especially near base, more or less distinctly transrugose; length 1,6-2,1 mm 5
5. Length 1,6 mm; brown, with very short scanty inconspicuous pubescence; subapical group on outer edge of front tibiae comprising two short broad teeth **undosus** n. sp.
- Length 2,0-2,1 mm; black, shining; subapical group consisting of four larger teeth 6
6. Pubescence of normal length; surface sculpture of pronotum consisting of close, more or less transverse aciculation; surface of elytra between punctures almost smooth; legs dark reddish-brown.
F e m a l e : ovipositor unicolorous with normal styli
candidus n. sp.
- Pubescence very short, almost glabrous; surface sculpture of pronotum a definite fine-meshed reticulation; surface of elytra reticulate; legs black.
F e m a l e : ovipositor with apex piceous, styli long .. **suffuscus** n. sp.
7. General form more robust, broader, more or less rounded at sides; inner edge of intermediate and hind tibiae more or less distinctly bordered; average size larger; outer edge of front tibiae always with a more prominent tooth, often very small, near basal third 8
- General form less robust, more elongate, subparallel, feebly rounded at sides; inner edge of intermediate and hind tibiae not or scarcely bordered; average size smaller 16
8. Antennal club exceptionally small, elongate, very narrow; antennae and legs reddish; with short inconspicuous pubescence; humeral stria distinctly impressed; length 2,2-2,7 mm **microclavatus** n. sp.
- Without the above characters combined 9
9. Deep black, shining, with inconspicuous pubescence; scutellum impunctate or very nearly so; pronotum less than twice as wide as long, broadest before base; humeral stria somewhat distinct; outer

- edge of front tibiae with a more prominent tooth near basal third, separated by a series of crenulations, or of small subequal teeth, from a subapical group of larger teeth of which the first and penultimate are more prominent than those between.
- Male : tegmen of aedeagus (figs. 28 and 30) with a very shallow or small apical excision 10 (the *voeltzkowi* species-group).
- Without this combination of characters 12
10. Glabrous or nearly so; elytral punctures slightly shallower and surface between them more distinctly reticulate; length 1,9-2,8 mm.
- Male : tegmen of aedeagus rounded at apex with minute U-shaped excision; with a shining curved ridge close to apex of last sternite.
- Female : ovipositor with « central point » at apical third; transverse suture widely V-shaped *voeltzkowi* GROUVELLE.
- With fine pubescence; elytral punctures slightly deeper and surface between them obscurely or less distinctly reticulate; last sternite of male simple 11
11. Length 1,9-2,4 mm; teeth on outer edge of front tibiae larger.
- Male : aedeagus (figs. 28 and 29) more elongate, tegmen more narrowed to apex.
- Female : ovipositor (fig. 44) with transverse suture not quite straight **mimus** n. sp.
- Length 1,9-2,1 mm; teeth on outer edge of front tibiae smaller.
- Male : aedeagus (figs. 30 and 31) shorter and broader.
- Female : ovipositor with transverse suture straight *mimetes* GROUVELLE.
12. Pronotum widest at extreme base, sides convergent and almost straight to middle; antennae and legs black or nearly so. Form rather short oval; length 2,3 mm **basicollis** n. sp.
- Without these characters combined 13
13. Form rather short oval; pronotum widest close or very close to base; antennae and legs, except front tibiae, blackish; length 1,75-2,3 mm *hargreavesi* EASTON.
- Form more elongate; pronotum widest further from base 14
14. With inconspicuous pubescence; legs black; slightly less rounded at sides, more elongate; length 2,2-2,7 mm. Humeral stria somewhat distinct.
- Male : tegmen of aedeagus (fig. 32) rather narrowed to apex, with U-shaped excision and narrow lateral lobes.
- Female : ovipositor (fig. 46) with apex feebly piceous, pointed; with short styli close to apex **upembanus** n. sp.

- With normally conspicuous or longer pubescence; legs reddish; slightly more rounded at sides 15
15. Teeth on outer edge of front tibiae smaller; pubescence normally conspicuous; length 3,9 mm.
 Male : unknown.
 Female : ovipositor (fig. 47) smaller, with apex deeply piceous, bluntly pointed **congoensis** n. sp.
- Teeth on outer edge of front tibiae larger and sharper; pubescence longer and more conspicuous; length 2,1-2,8 mm.
 Male : tegmen of aedeagus (fig. 34) somewhat narrowed to apex, with small excision and wide lateral lobes.
 Female : ovipositor (fig. 48) larger, unicolorous, more sharply pointed **desperatus** n. sp.
16. Outer edge of front tibiae without any trace of a more prominent tooth near basal third, crenulate at least as far as middle, with a subapical group of larger teeth, of which the intermediate are more prominent than those before and after, their apices obtusely pointed, rounded or truncate, so giving the edge of the tibiae an almost evenly rounded contour; length 1,5-1,8 mm; subparallel.
 Male : last abdominal sternite with wide shallow excision at apex bounded by sharp angles.
 Female : ovipositor without a corona, somewhat obtusely pointed ...
lividus EASTON.
- Outer edge of front tibiae not of this pattern, or if nearly so, size larger.
 Male : without excision at apex of last sternite.
 Female : ovipositor, if without a corona, more sharply pointed ... 17
17. Ovipositor without a corona. Front tibiae with a trace of a more prominent tooth at basal third; length 1,8-2,0 mm **tutimanus** n. sp.
- Ovipositor with a well-developed corona 18
18. Elongate, subparallel, with normal pubescence; outer edge of front tibiae with a small more prominent tooth at basal third; length 2,2 mm **cinctus** n. sp.
- Distinctly rounded at sides; with longer, conspicuous, yellowish pubescence; outer edge of front tibiae without a more prominent tooth at basal third, with, in the apical half, a group of long sharp teeth of which those in the middle are longer than those before and after; length 1,9 mm **regalis** n. sp.

DESCRIPTIONS OF AND NOTES ON THE SPECIES

Meligethes nigriceps n. sp.

(Figs. 1, 18, 19.)

Male. — Length, 2,4; breadth, 1,5 mm. Oval, castaneous, with head black; shining, with long fine conspicuous yellow pubescence.

Head with punctures slightly smaller than eye facets separated by one diameter, surface between them smooth; front margin of clypeus almost straight.

Pronotum twice as wide as long, broadest at base; sides convergent, almost straight to middle; base widely sinuate on either side of scutellum, punctures equal in size to eye facets separated by one and a half diameters, surface between them smooth.

Scutellum closely punctate.

Elytra as long as wide, broadest at basal fourth; shoulders not strongly raised, without a humeral stria; punctures slightly rugose, slightly larger than eye facets, separated by one and a half to two diameters, surface between them smooth.

Ventral surface with prosternal process one and two thirds times as wide as antennal club, punctures absent from a smooth shining area close to its rounded apex. Metasternum with punctures at sides nearly twice as large as eye facets separated by half to one diameter, finer and more diffuse centrally, surface between them smooth; with a triangular impression posteriorly to anterior third. Caudal marginal line of hind coxal cavity not deviating; last sternite with a low rounded eminence on either side of midline at hind third.

Legs: front tibiae (fig. 1) moderately broad, outer edge crenulate almost to middle, then with a group of about five broad sharp teeth gradually enlarging to the penultimate, front tarsus three quarters as wide as antennal club. Intermediate and hind tibiae rather broad, their inner edges finely bordered, outer with pegs equal in length to width of third antennal segment; all claws with well marked tooth at base.

Aedeagus: tegmen (fig. 18) with V-shaped apical excision between short widely rounded lateral lobes, median lobe (fig. 19) bluntly pointed at apex, its base shortly broadened.

Female. — Unknown.

Type ♂. — P.N.U. : Lusinga, alt. 1.760 m, 12.IV.1947 (G. F. DE WITTE), in « Institut des Parcs Nationaux du Congo ».

Paratype ♂. — P.N.U. : Lusinga, 1.760 m, 7.IV.1947. Total examples : 2.

Comparative notes. — Very closely related to *M. edwardsi* EASTON. Its head is much darker, its elytra more shining with punctures less close, and the surface between them non-reticulate.

Meligethes desolatus n. sp.

(Figs. 2, 20, 21.)

Male. — Length, 2,3; breadth, 1,35 mm. Elongate oval, not strongly convex, brownish-black, shining, with fine yellowish pubescence.

Head with deep punctures slightly larger than eye facets separated by less than half a diameter, surface between them smooth; front margin of clypeus almost straight with side angles rounded; antennae pitchy yellow.

Pronotum nearly twice as wide as long, widest at base; sides convergent and almost straight to anterior third, narrowly bordered; base weakly convex and weakly sinuate on either side of scutellum; punctures absent from a narrow zone along each end of base, equal in size to eye facets, separated by half to one diameter, surface between them smooth.

Scutellum closely and finely punctate.

Elytra as long as wide, weakly rounded at sides, broadest at basal fourth; shoulders feebly raised; punctures exhibiting close to base a faint trace of transrugosity, equal in size to eye facets, separated by one diameter, surface between them smooth.

Ventral surface reddish-black, moderately pubescent. Prosternal process one and a half times as wide as antennal club, with rounded apex; punctures almost as large as eye facets, separated by half to one diameter, absent near apex, surface between them smooth. Mesosternum with hind edge slightly convex, surface reticulate except at hind angles, where there are a few minute punctures. Metasternum with deep punctures equal in size to eye facets, separated by half to one diameter, surface between them smooth; with a shallow median longitudinal furrow from anterior fourth broadening posteriorly. The caudal marginal line of the hind coxal cavity follows closely its posterior edge and turns back just before reaching its outer end. At apex of last sternite is a very small, smooth, unpunctured, shining, glabrous triangular area with its apex forward.

Legs pitchy reddish-yellow, moderately broadened. Front tibiae (fig. 2) finely crenulate to distal third, then with a subapical group of larger somewhat pointed downwardly directed teeth gradually increasing in size to the penultimate; subtarsal plate broad; front tarsi three-quarters as wide as antennal club; intermediate and hind tibiae broader than front, with inner edge convex and finely bordered; claws simple.

Aedeagus rather short. Tegmen (fig. 20) with shallow V-shaped apical excision between short widely rounded lateral lobes; median lobe (fig. 21) narrowed from distal third, with apex widely rounded and narrowly produced medially.

Female. — Not known. Undoubtedly the metasternum and last ventral segment of abdomen would lack the secondary sexual characters present in the male; front tarsi probably narrower.

Type ♂. — P.N.U.: Riv. Lusinga, alt. 1.760 m, 7.IV.1947 (G. F. DE WITTE). A unique specimen in the « Institut des Parcs Nationaux du Congo ».

Comparative notes. — This species shares many of the characters typifying the *difficilis* species-group, amongst which it bears some resemblance to *morosus* ERICHSON.

Meligethes nobilis n. sp.

(Figs. 3, 22, 23, 40.)

Male. — Length, 2.0; breadth, 1.3 mm. Oval, moderately strongly convex, as viewed from side the head, pronotum and elytra forming a continuous curve; black with reddish translucency at edges, somewhat dull, with very inconspicuous pubescence, shorter than the punctures.

Head with punctures equal in size to eye facets separated by one to one and a half diameters, surface between them distinctly reticulate; front margin of clypeus widely sinuate in middle with side angles narrowly rounded.

Pronotum one and two-thirds times as wide as long, widest at base, sides convergent and straight to middle then strongly rounded, narrowly bordered; base strongly sinuate on either side of scutellum and obliquely subtruncate towards hind angles; with shallow punctures almost finer than eye facets separated by three or four diameters, absent along each end of base, surface between them with distinct close-meshed reticulation.

Scutellum with punctures scarcely finer, separated by two diameters.

Elytra almost as long as wide, broadest at basal fourth, distinctly narrowed towards apex; shoulders weakly raised; with punctures deeper and twice as large as those of pronotum, separated by two to two and a half diameters, surface between them similar to that of pronotum.

Ventral surface black. Prosternal process strongly broadened, twice as wide as antennal club. Metasternum with large shallow punctures separated by one and a half diameters, surface between them almost smooth; in its posterior half a median longitudinal impression, on either side of which at posterior fourth is a low tubercle, these separated by a distance slightly more than the width of antennal club; caudal marginal line of hind coxal cavity running close to its hind edge; at apex of last sternite its

rolled hind edge passes forward on to its surface to the posterior third, the broadly triangular area behind it smooth and shining.

Legs pitchy reddish-brown. Front tibiae (fig. 3) with outer edges finely crenulate to apical third, then with a group of three downwardly directed teeth of which the middle is much the largest and longest, the first two sharp, the last blunt, subtarsal plate broad; intermediate and hind tibiae strongly dilated with inner edge finely bordered; tarsal claws simple.

Aedeagus (figs. 22 and 23) short and broad; tegmen broadened to apex with short rounded lateral lobes and widely V-shaped apical excision; median lobe narrowed from apical third to its obtusely pointed apex.

F e m a l e . — Front tarsi two-thirds as wide as antennal club; metasternum and last ventral segment of abdomen simple. Ovipositor (fig. 40) entirely reddish-yellow, bluntly pointed with extreme apex membranous; styli of medium length reaching just beyond apex; coxites with outer subdivisions moderately broad; « central point » at third fifth from base, with a long fine ventral spicule; transverse suture almost straight.

Type ♂. — P.N.U.: Mukana, alt. 1.810 m, 15-19.I.1948 (G. F. DE WITTE), with left fore tibiae and both front tarsi missing. In « Institut des Parcs Nationaux du Congo ».

Paratypes. — P.N.U.: rég. confl. Mubale-Munte, alt. 1.480 m, 13-18.V.1947, 1 ♂; Kalumengongo, affl. dr. Lualaba, alt. 1.780 m, 21.I.1948, 1 ♀; Grande Kafwe, affl. dr. Lufwa, affl. dr. Lufira, alt. 1.780 m, 5.III.1948, 1 ♀. Number of examples: 4.

V a r i a t i o n s . — Length, 2,0-2,3 mm. Specimens with shallower reticulation have a more shining aspect; the width of the tibiae appears slightly variable.

Comparative notes. — Possibly a member of the *gloriosus* species-group, though having a rather different male secondary sexual character at the apex of the last sternite. In colour and general form *nobilis* is reminiscent of *verdcourti* EASTON, but it lacks any transrugosity of the elytra, and is at once distinguished by the fewer large teeth on the outer edge of its front tibiae.

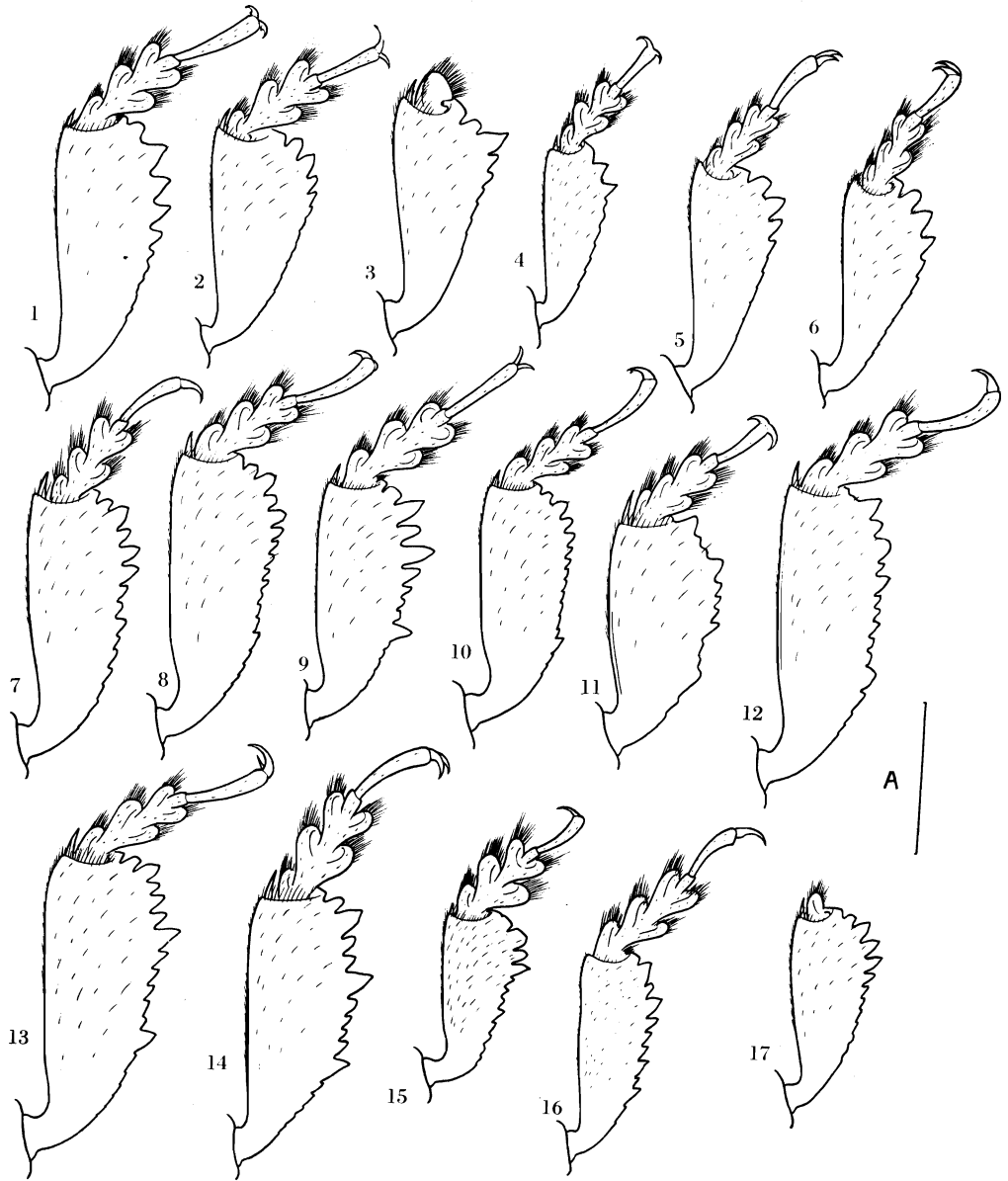
Meligethes undosus n. sp.

(Figs. 4, 24, 25.)

Male. — Length, 1,6; breadth, 1,0 mm. Oval, moderately strongly convex, dark chestnut brown, shining, with very short scanty inconspicuous pubescence.

Head with shallow punctures slightly smaller than eye facets, separated by two diameters, surface between them distinctly reticulate; clypeus sinuate in middle with side angles widely rounded.

Pronotum not quite twice as wide as long, widest at base, sides narrowly bordered, gently rounded and convergent anteriorly, base moderately convex



FIGS. 1-17. — Right front tibia.

1. *Meligethes nigriceps* n. sp. — 2. *M. desolatus* n. sp. — 3. *M. nobilis* n. sp. —
 4. *M. undosus* n. sp. — 5. *M. candidus* n. sp. — 6. *M. suffuscus* n. sp. — 7. *M. micro-*
clavatus n. sp. — 8. *M. voeltzkowi* GROUVELLE. — 9. *M. mimus* n. sp. — 10. *M. mimetes*
 GROUVELLE. — 11. *M. basicollis* n. sp. — 12. *M. upembensis* n. sp. — 13. *M. congoensis*
 n. sp. — 14. *M. desperatus* n. sp. — 15. *M. tutimanus* n. sp. — 16. *M. cinctus* n. sp. —
 17. *M. regalis* n. sp.

Scale A = 0,25 mm.

and strongly sinuate on either side of scutellum; punctures absent from a narrow strip along each end of base, shallow, as fine as those of head, separated by two to two and a half diameters, surface between them with very distinct close-meshed reticulation.

Scutellum with angular reticulation, impunctate.

Elytra as long as wide, its punctures towards base distinctly obliquely transrugose, shallow, nearly twice as large as those of pronotum, separated by two to two and a half diameters, surface with distinct reticulation tending to radiate from punctures.

Ventral surface concolorous with dorsum. Prosternal process broad, with shallow punctures equal in size to eye facets separated by two diameters, surface between them smooth. Metasternum with punctures as prosternum, surface very shallowly reticulate, almost smooth; with a shallow indistinct median longitudinal impression. The caudal marginal line of the hind coxal cavity follows closely its posterior edge and turns back at its outer third. Last sternite with an almost indiscernible very narrow low ridge very close and parallel to its hind edge at apex.

Legs: reddish-brown, not strongly broadened. Front tibiae (fig. 4) with outer edge finely crenulate to apical third, then with two large sharp downwardly directed teeth before the broad subtarsal plate; front tarsi slightly narrower than antennal club; claws simple.

Aedeagus with tegmen (fig. 24) having a wide shallow apical excision, the short lateral lobes slightly inturned and deeply pigmented on their inner aspect; median lobe (fig. 25) narrowed from apical third and bluntly pointed.

Female. — Not known.

Type ♂. — P.N.U.: Kanonga (affl. dr. Fungwe), alt. 700 m, 17-22.II.1949 (G. F. DE WITTE), in the « Institut des Parcs Nationaux du Congo ». Unique.

Comparative notes. — Extremely similar, and probably closely related to both *spissus* GROUVELLE and *atomus* GROUVELLE but smaller than the former and larger than the latter. Its aedeagus is quite distinct from that of either of these species.

Meligethes candidus n. sp.

(Figs. 5, 41.)

Female. — Length, 2,1; breadth, 1,25 mm. Oval, moderately convex, black, shining, with fine silvery pubescence.

Head with punctures equal in size to eye facets, separated by one diameter, surface between them smooth; clypeus widely shallowly emarginate with side angles rounded.

Pronotum nearly twice as wide as long, widest at base, sides convergent and feebly rounded to anterior fourth; base moderately sinuate on either side

of scutellum; punctures absent from a shining strip along each end of base, slightly smaller than eye facets separated by two diameters, surface between them shallowly, mostly transversely reticulate.

Scutellum minutely closely punctate.

Elytra as long as wide, widest at basal fourth; their punctures, equal in size to those of pronotum separated by two to two and a half diameters, showing rather indistinct transrugosity, surface between with a faint trace of aciculation radiating from them.

Ventral surface black. Prosternal process one and two-thirds times as wide as antennal club. Metasternum with shallow punctures slightly smaller than eye facets, separated by two and a half diameters, surface between them almost smooth. Caudal marginal line of hind coxal cavity follows closely its posterior edge.

Legs dark pitchy brown. Front tibiae (fig. 5) moderately broadened, outer edge finely crenulate to distal third, then with a subapical group of four downwardly directed rather blunt teeth, of which the third and fourth are largest, subtarsal plate moderately broad; intermediate and hind tibiae moderately broadened, their inner edge distinctly bordered; front tarsi two-thirds as wide as antennal club; claws simple.

Ovipositor (fig. 41) unicolorous reddish-yellow, elongate, sharply pointed; styli moderately long at a distance from apex slightly in excess of their length; coxites with outer subdivisions rather long and broad; «central point» almost central, without a ventral spicule; transverse suture straight.

Male. — Unknown.

Type ♀. — P.N.U.: Lusinga, alt. 1.760 m, 16.IV.1947 (G. F. DE WITTE) in the «Institut des Parcs Nationaux du Congo». One example.

Comparative note. — Probably closely related to the members of the *gloriosus* species-group, amongst which it most resembles *leucasi* EASTON. Examination of the male would materially assist in elucidating its taxonomy.

Meligethes suffuscus n. sp.

(Figs. 6, 42.)

Female. — Length, 2,1; breadth, 1,2 mm. Oval, moderately strongly convex, black, shining, with very inconspicuous pubescence much shorter than the punctures.

Head with punctures equal in size to eye facets, separated by one to one and a half diameters, surface between them with distinct close-meshed reticulation; clypeus deeply narrowly sinuate in middle with sides widely rounded; antennal club of normal size.

Pronotum almost twice as wide as long, widest at extreme base, sides strongly convergent, straight to anterior third; base rather strongly sinuate

on either side of scutellum; punctures absent from a narrow strip along each end of base, finer than eye facets, separated by two and a half to three diameters, surface between them with distinct close-meshed reticulation.

Scutellum with minute close punctures.

Elytra as long as wide, with punctures as large as eye facets, separated by two to two and a half diameters, exhibiting slight transrugosity towards base, surface between them with distinct close-meshed reticulation tending to radiate from punctures.

Ventral surface black. Prosternal process much broadened posteriorly, nearly twice as wide as antennal club. Metasternum with shallow punctures slightly smaller than eye facets, separated by two and a half diameters, surface between them almost smooth. The caudal marginal line of the hind coxal cavity follows closely its posterior edge and turns back at outer third.

Legs black, front tibiae lighter. Front tibiae (fig. 6) with outer edge crenulate to middle, then with a subapical group of four short pointed downwardly directed teeth, and a narrow subtarsal plate; intermediate and hind tibiae moderately broadened, their inner edge narrowly bordered; front tarsi half as wide as antennal club; claws simple.

Ovipositor (fig. 42) with parallel subapical region deeply piceous; inner subdivisions of coxites with very long styli inserted terminally on their membranous apices; outer subdivisions short and broad; « central point » just proximal to centre; transverse suture widely V-shaped.

Male. — Not known.

Type ♀. — P.N.U.: riv. Lufwa, alt. 1.700 m, 16.I.1948 (G. F. DE WITTE), in the « Institut des Parcs Nationaux du Congo ». A unique example.

Comparative note. — The ovipositor is very similar to that of *pentasi* EASTON and of *varus* EASTON, but in general external appearance *suffuscus* is amply distinct from both.

Meligethes microclavatus n. sp.

(Figs. 7, 26, 27, 43.)

Male. — Length, 2,6; breadth, 1,55 mm. Elongate oval, black, shining, moderately convex, with rather short inconspicuous pubescence.

Head with eyes exceptionally large and having large facets, punctures equal in size to eye facets separated by half to one diameter, surface between them distinctly transreticulate; front margin of clypeus widely shallowly emarginate, with side angles sharp; club of antenna exceptionally small and narrow, one and a half times as wide and one and a quarter times as long as first antennal segment.

Pronotum one and two-thirds times as wide as long, widest at base, sides gradually convergent to middle, narrowly bordered; base gently convex and strongly sinuate on either side of scutellum; punctures deep, equal in size to eye facets separated by one and a half diameters, surface between them distinctly closely reticulate.

Scutellum strongly reticulate with a few minute punctures at sides.

Elytra wider than long, rounded at sides, broadest at second fifth, shoulders weakly raised with a well-marked humeral stria external to each; punctures twice as large as eye facets, each ill-defined at its posterior edge, separated by less than one diameter, surface between them reticulate.

Ventral surface black. Prosternal process rather broad, nearly three times as wide as antennal club, with apex flatly rounded, its punctures smaller than eye facets separated by half a diameter, surface almost smooth. Mesosternum with hind edge straight. Metasternum with punctures equal in size to eye facets separated by one diameter, surface obsoletely reticulate; without secondary sexual character. The caudal marginal line of the hind coxal cavity follows closely its posterior edge, turning back just before its outer end. Last sternite with its hind edge curving forward medially as a rather granulate raised crescentic ridge behind which the sloping surface is somewhat shining.

Legs dark pitchy reddish. Front tibiae (fig. 7) with outer edge finely denticulate from basal fourth, close to which is one more prominent tooth, and with a subapical group of larger teeth separated by one smaller from the narrow subtarsal plate; front tarsi almost as wide as antennal club; intermediate and hind tibiae with inner edge narrowly bordered; claws simple.

Aedeagus somewhat elongate. Tegmen (fig. 26) with apex broadly rounded, excision small narrow U-shaped; median lobe (fig. 27) sinuately contracted from distal third, with apex obtusely pointed.

Female. — Front tarsi two-thirds as wide as antennal club; last ventral segment of abdomen simple. Ovipositor (fig. 43) unicolorous reddish-yellow, sharply pointed, with slightly long styli at a distance from apex equal to their length; outer subdivisions of coxites long and narrow; « central point » slightly approximated to base, with a long ventral spicule; transverse suture straight.

Type ♂. — P.N.U. : Munoi, bif. Lupiala, affl. dr. Lufira, alt. 890 m, 28.V-15.VI.1948 (G. F. DE WITTE), in the « Institut des Parcs Nationaux du Congo ».

Paratypes. — P.N.U. : Karibwe, affl. Lusinga, alt. 1.700 m, 8-10.III.1947, 1 ex.; Lusinga, alt. 1.760 m, 12.III.1947, 1 ♀, 1.IV.1947, 1 ♀, and 12.IV.1947, 1 ♂; riv. Dipidi, alt. 1.700 m, 22.IV.1947, 1 ♂; Mukana, alt. 1.810 m, 6.III.1948, 1 ♂; Kabwekanono, alt. 1.815 m, 8.III.1948, 2 ex. Number of examples : 9.

Variations. — Length 2,2-2,7 mm. The teeth on the outer edge of the front tibiae are very variable though broadly adhering to the pattern described.

Comparative note. — Well characterised by its small antennal clubs, its large eyes, and the long well-impressed humeral stria on each elytron, *M. microclavatus* appears to occupy a rather isolated place amongst its congeners.

Meligethes voeltzkowi GROUVELLE.

(Fig. 8.)

M. voeltzkowi GROUVELLE, 1913, in VOELTZKOW, *Reise in Ostafrika*, **3** : 413. EASTON, 1960, *Trans. R. ent. Soc. Lond.*, **112** : 307.

Previously known from Pemba Island, and Uganda.

Additional material. — P.N.U. : Grande Kafwe, affl. dr. Lufwa, affl. dr. Lufira, alt. 1.780 m, 5.III.1948, 10 ex.; Kabwekanono, alt. 1.815 m, 6.III.1948, 4 ex., and 8.III.1948, 4 ex.; Mukana, alt. 1.810 m, 6.III.1948, 1 ♂, 15.III.1948, 1 ♀, and 18.III.1948, 1 ex.; riv. Lufwa, affl. dr. Lufira, alt. 1.700 m, 16.III.1948, 3 ex.; Munoi, bif. Lupiala, affl. dr. Lufira, alt. 890 m, 28.V-15.VI.1948, 1 ♂. Number of examples : 25.

The members of the *voeltzkowi* species-group, comprising this and the two following species, are characterised by a combination of the following features : entirely deep black colour without conspicuous pubescence, elytra with a well-marked humeral stria, pronotum robust, scutellum almost impunctate, outer edge of front tibiae with a more prominent tooth near basal third and a subapical group of larger teeth of which the first and penultimate are more prominent than those between, inner edge of intermediate and hind tibiae distinctly bordered. The apical excision of the tegmen of the aedeagus is much reduced, in *voeltzkowi* (EASTON, 1960 : 298, fig. 82) to a minute U-shaped notch, in *mimus* (fig. 28) and *mimetes* (fig. 30) to a narrow sinuation and shallow emargination respectively. The ovipositors of the three species are very similar, having small almost terminal styli, and the «central point» at or close to the apical third.

Voeltzkowi differs from its fellows in the group by being more nearly glabrous; whilst, in the male, there is a shining crescentic ridge, concave backwards, close to the apex of the last ventral segment of the abdomen. Its front tibiae (fig. 8) bear small teeth comparable to those of *mimetes*.

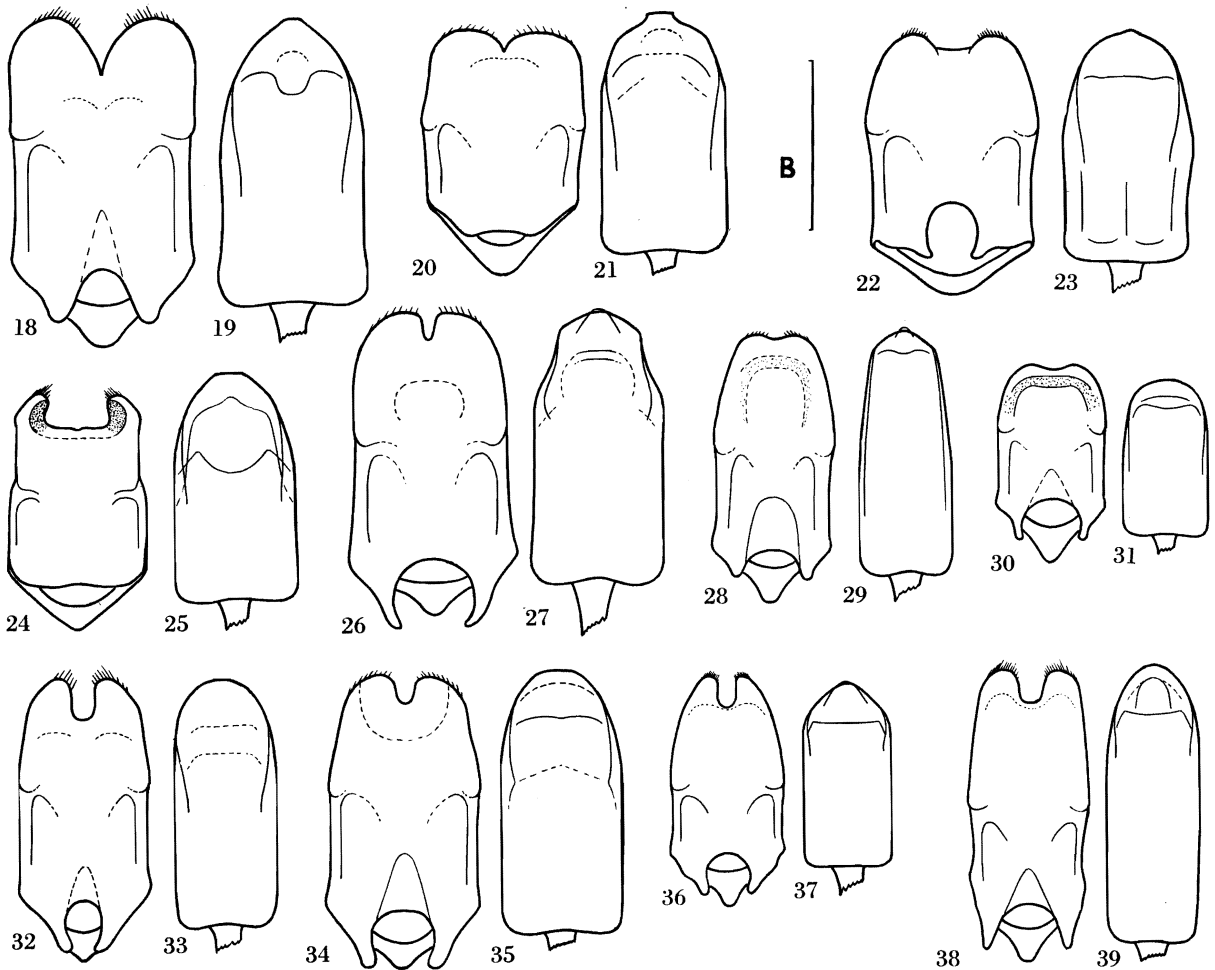
Meligethes mimus n. sp.

(Figs. 9, 28, 29, 44.)

Male. — Length, 2,3; breadth, 1,4 mm. Long oval, only moderately convex, entirely black, including appendages; shining, with short fine inconspicuous pubescence.

Head with punctures slightly larger than eye facets, separated by half a diameter, surface between them distinctly reticulate; front margin of clypeus widely emarginate with side angles narrowly rounded.

Pronotum one and a half times as wide as long, broadest at basal fourth, as wide as elytra; sides gradually rounded, not explanate; base



FIGS. 18-39. — Aedeagi.

18. *Meligethes nigriceps* n. sp., tegmen, dorsal view. — 19. The same, median lobe. — 20. *M. desolatus* n. sp., tegmen. — 21. The same, median lobe. — 22. *M. nobilis* n. sp., tegmen. — 23. The same, median lobe. — 24. *M. undosus* n. sp., tegmen. — 25. The same, median lobe. — 26. *M. microclavatus* n. sp., tegmen. — 27. The same, median lobe. — 28. *M. mimus* n. sp., tegmen. — 29. The same, median lobe. — 30. *M. mimetes* GROUVELLE, tegmen. — 31. The same, median lobe. — 32. *M. upembanus* n. sp., tegmen. — 33. The same, median lobe. — 34. *M. desperatus* n. sp., tegmen. — 35. The same, median lobe. — 36. *M. tutimanus* n. sp., tegmen. — 37. The same, median lobe. — 38. *M. cinctus* n. sp., tegmen. — 39. The same, median lobe.

Scale B = 0,25 mm.

shallowly sinuate on either side of scutellum; punctures almost as fine as eye facets, separated by two and a half diameters, surface between them distinctly, mostly transversely reticulate.

Scutellum almost impunctate.

Elytra shorter than wide, broadest at basal third, distinctly narrowed towards apex; shoulders distinct, with well-marked humeral striae; punctures slightly rugose, twice as large as those of pronotum, separated by one to one and a half diameters, surface between them more or less distinctly reticulate with a fine mesh.

Ventral surface black. Prosternal process twice as wide as antennal club, apex subtruncate, punctures absent close to apex. Mesosternum with hind edge straight. Metasternum with punctures twice as large as eye facets, separated by one diameter, surface smooth; with a shallow median longitudinal impression in posterior half. Caudal marginal line of hind coxal cavity deviating onto first sternite for a quarter of its width, rejoining, and turning back at outer fourth. Last sternite simple.

Legs: front tibiae (fig. 9) moderately broadened, outer edge with a large prominent tooth at basal third, succeeded by four smaller gradually enlarging to the subapical group of three much larger teeth, of which the intermediate is shorter than those before and after; front tarsi as wide as antennal club; intermediate and hind tibiae with inner edge narrowly bordered; claws simple.

Aedeagus (figs. 28 and 29) narrow, elongate. Tegmen gradually contracted from shoulders, apical excision reduced to a narrow situation; median lobe obtusely pointed.

Female. — Pronotum generally narrower and less rounded at sides; front tarsi two thirds as wide as antennal club; metasternum simple. Ovipositor (fig. 44) poorly sclerotised, yellowish with apex feebly piceous; bluntly pointed, its short styli inserted almost terminally; coxites with outer subdivisions short; « central point » almost at third fifth; transverse suture almost straight.

Type ♂. — P.N.U.: Mukana, alt. 1.810 m, 15.III.1948 (G. F. DE WITTE), in « Institut des Parcs Nationaux du Congo ».

Paratypes. — P.N.U.: Lusinga, riv. Lufwa, 1.VI.1945, 1 ♂; Mukana, 21.VI.1945, 1 ex.; Lusinga, alt. 1.760 m, 12-18.III.1947, 1 ex., 26.III.1947, 1 ♀; Mukana, 1.IV.1947, 2 ex.; Gorges de la Pelenge, alt. 1.150 m, 10-14.VI.1947, 1 ex.; Grande Kafwe, affl. dr. Lufwa, affl. dr. Lufira, alt. 1.780 m, 5.III.1948, 9 ex.; Kabwekanono, alt. 1.815 m, 6.III.1948, 2 ♀, and 8.III.1948, 1 ex.; Mukana, alt. 1.810 m, 6.III.1948, 1 ex., and 15.III.1948, 1 ex.; riv. Lufwa, affl. dr. Lufira, alt. 1.700 m, 16.III.1948, 3 ex.; Munoi, bif. Lupiala, affl. dr. Lufira, alt. 890 m, 28.V-15.VI.1948, 2 ex.; Lusinga, alt. 1.760 m, 23.IV.1949, 3 ex. Number of examples: 30.

Variations. — Length 1,9-2,4 mm. In some specimens the surface reticulation of the elytra is poorly marked.

Comparative notes. — Very closely related and similar to *M. mimetes* GROUVELLE, and occurring often in the same localities. Readily distinguished, however, by its larger size, by the much longer and larger teeth on the outer edge of its front tibiae, and by its much longer and narrower aedeagus. The ovipositors are extremely similar, that of *mimus* having the transverse suture not quite straight.

Meligethes mimetes GROUVELLE.

(Figs. 10, 30, 31.)

M. mimetes GROUVELLE, 1909, in SJÖSTEDT, *Wissenschaftliche Ergebnisse der schwedischen zoologischen Expedition nach dem Kilimandjaro, dem Meru, u.s.w.*, 1905-1906, 1 : 313. EASTON, 1960, *Trans. R. ent. Soc. Lond.*, 112 : 308.

Previously known only as the unique female type from TANGANYIKA : Meru.

Homotypes. — P.N.U. : Mukana, 21.VI.1945, 1 ♀, and 1.IV.1947, 1 ♂; Mukana, alt. 1.810 m, 15-19.I.1948, 1 ♀; Kabwekanono, alt. 1.815 m, 6.III.1948, 1 ♂, and 8.III.1948, 2 ♂; Mbuye Bala (1.750 m), 1-7.IV.1948, 1 ♂.

Additional specimens. — P.N.U. : Mukana, 20.VI.1945, 1 ex., and 21.VI.1945, 2 ♀; Lusinga, alt. 1.760 m, 13.III.1947, 1 ex., 7.IV.1947, 1 ex., and 23.IV.1949, 1 ex.; Mukana, alt. 1.810 m, 6.III.1948, 3 ex., and 22-23.IV.1949, 1 ex.; Kabwekanono, alt. 1.815 m, 6.III.1948, 1 ex., and 8.III.1948, 1 ex.; Grande Kafwe, affl. dr. Lufwa, affl. dr. Lufira, alt. 1.780 m, 5.III.1948, 3 ex. Total number of examples : 22.

Entirely deep black, with inconspicuous pubescence; humeral stria distinct; scutellum almost impunctate; intermediate and hind tibiae with inner edge finely bordered.

Female : the type specimen was immature; the ovipositor (EASTON, 1960 : 314, fig. 121) in older specimens shows a faint piceous pigmentation at its apex.

Male : all tibiae slightly broader, front tarsus three quarters as wide as antennal club; pronotum slightly broader, more rounded at sides; metasternum triangularly flattened posteriorly, with a narrow median longitudinal zone free of punctures; last sternite simple. Aedeagus (figs. 30 and 31) small and short; tegmen with apical excision reduced to a situation, median lobe with apex flatly rounded.

Closely related to *voeltzkowi* GROUVELLE and *mimus* n. sp., and with them forming the *voeltzkowi* species-group.

Meligethes basicollis n. sp.

(Figs. 11, 45.)

Female. — Length, 2,3; breadth, 1,55 mm. Oval, rather strongly rounded at sides, deep black, shining, rather strongly convex, with distinct fine pubescence.

Head with punctures equal in size to eye facets separated by less than one diameter, surface between them reticulate; front margin of clypeus widely shallowly emarginate with side angles sharp; antennal club with apex slightly obliquely subtruncate.

Pronotum not quite twice as wide as long, widest at extreme base, here as wide as base of elytra; sides convergent and almost straight to anterior third, narrowly bordered; base weakly convex and strongly sinuate on either side of scutellum; punctures one and a half times as large as eye facets, separated by one diameter, surface between them transreticulate.

Scutellum with distinct close punctures, surface transreticulate.

Elytra shorter than wide, with sides rounded, widest at second fifth; shoulders feebly raised without a humeral stria; punctures quite twice as large as eye facets, each shallowed posteriorly, separated by one diameter, surface between them showing a faint trace of reticulation.

Ventral surface black. Prosternal process broad, nearly twice as wide as antennal club, with apex flatly rounded, its punctures as large as eye facets separated by half a diameter, but more diffuse toward apex, surface smooth. Mesosternum with hind edge feebly convex. Metasternum with punctures twice as large as eye facets, each shallower posteriorly, separated by half to one diameter, surface between them smooth. The caudal marginal line of the hind coxal cavity follows closely its posterior edge and turns back immediately before reaching its outer end.

Legs somewhat broadened, black, front tibiae reddish-black. Front tibiae (fig. 11) with outer edge irregularly denticulate, including one more prominent tooth near basal third, and others about middle and apical third; front tarsi half as wide as antennal club; intermediate and hind tibiae broader, inner edges of all narrowly bordered; claws simple.

Ovipositor (fig. 45) elongate, bluntly pointed, unicolorous reddish-yellow, with rather short styli inserted at a distance from apex slightly less than their length; outer subdivisions of coxites long and narrow; vulva elongate; « central point » centrally placed, without a ventral spicule; transverse suture straight. Spermatheca almost spherical.

Male. — Not known.

Type ♀. — P.N.U.: Mukana, alt. 1.810 m, 15-19.I.1948 (G. F. DE WITTE) in the « Institut des Parcs Nationaux du Congo ».

Paratypes. — P.N.U.: Lusinga, alt. 1.760 m, 13.III.1947, 1 ♀; Mukana, alt. 1.810 m, 6.III.1948, 1 ♀. Number of examples: 3.

Comparative note. — Showing some similarity to *M. profugus* EASTON, but the latter is more shining, less rounded at the sides, with its pronotum less distinctly widest at base, and the punctures of its scutellum are limited to a peripheral row.

Meligethes hargreavesi EASTON.

M. hargreavesi EASTON, 1960, *Trans. R. ent. Soc. Lond.*, **112** : 302.

M. hintoni EASTON, 1960, *Trans. R. ent. Soc. Lond.*, **112** : 303, **syn. nov.**

M. hintoni was based on a fresher specimen with pubescence and lateral lobes of tegmen unworn. Previously known from UGANDA and KENYA.

Additional material. — P.N.U. : Mukana, alt. 1.810 m, 29.V.1945, 1 ex., 30.V.1945, 2 ex.; riv. Kagoma (affl. Lusinga), 12.VII.1946, 1 ex.; Karibwe, affl. Lusinga, alt. 1.700 m, 8-10.III.1947, 1 ex.; Lusinga, alt. 1.760 m, 12.III.1947, 1 ex., 12-18.III.1947, 1 ex., 13.III.1947, 1 ex., 15.III.1947, 2 ex., 31.III.1947, 1 ex., and 16.IV.1947, 3 ex.; riv. Kamitungulu, affl. g. Lusinga, alt. 1.700 m, 3.IV.1947, 1 ex., and 16.IV.1947, 1 ex.; Kalumengongo (tête source), affl. dr. Lualaba, alt. 1.780 m, 21.I.1948, 1 ex.; Grande Kafwe, affl. dr. Lufwa, affl. dr. Lufira, alt. 1.780 m, 5.III.1948, 3 ex.; Mukana, alt. 1.810 m, 15-19.I.1948, 1 ex.; 6.III.1948, 2 ex., 15.III.1948, 3 ex., 18-19.III.1948, 2 ex.; Buye-Bala, affl. g. Muye, affl. dr. Lufira, alt. 1.750 m, 25-31.III.1948, 1 ex.; Buye-Bala, alt. 1.750 m, 1-7.IV.1948, 5 ex.; Lubanga, affl. dr. Senze, affl. dr. Lufira, alt. 1.750 m, 5.IV.1948, 22 ex.; Kabwe s/Muye, affl. dr. Lufira, alt. 1.320 m, 6-12.V.1948, 1 ex.; Lusinga, alt. 1.760 m, 27.IV-2.V.1949, 1 ex. Number of examples : 58.

Meligethes upembanus n. sp.

(Figs. 12, 32, 33, 46.)

Male. — Length, 2,3; breadth, 1,45 mm. Elongate, subparallel, not very convex, entirely black, shining, with fine inconspicuous silky pubescence.

Head with punctures slightly smaller than eye facets, separated by half a diameter; front margin of clypeus widely shallowly emarginate with side angles narrowly rounded.

Pronotum one and three-quarters times as wide as long, broadest at basal third, slightly narrower than elytra; sides narrowly explanate and bordered, gently rounded; base feebly sinuate on either side of scutellum; punctures equal in size to eye facets, separated by one diameter, surface between them transversely reticulate.

Scutellum with multiple close minute punctures.

Elytra slightly shorter than wide, broadest at basal third; shoulders weakly raised, humeral striae indistinct; punctures one and a half times as large as eye facets, separated by one to one and a half diameters, surface between them distinctly reticulate.

Ventral surface black. Prosternal process one and a half times as wide as antennal club, with apex subtruncate, punctures absent close to apex.

Mesosternum with hind edge straight. Metasternum with punctures almost twice as large as eye facets, separated by one diameter, surface between them smooth; somewhat flattened posteriorly. Caudal marginal line of hind coxal cavity deviates feebly from its posterior edge and rejoins it almost at outer end. Last sternite at its apex with a shining curved ridge, concave backwards, its length three-quarters the width of antennal club.

Legs all with inner edge very narrowly bordered. Front tibiae (fig. 12) with outer edge showing a distinct prominent tooth at basal third, separated by a series of crenulations from a subapical group of larger teeth of which the first and last are larger than those between; front tarsi two-thirds as wide as antennal club; claws simple.

Aedeagus (figs. 32 and 33): tegmen with small U-shaped excision between obliquely rounded lateral lobes; median lobe with apex rounded.

F e m a l e . — Pronotum usually slightly narrower, sides less rounded, and more convergent anteriorly; front tarsi half as wide as antennal club; last sternite simple. Ovipositor (fig. 46) pointed, with apex feebly piceous, its short styli at a distance from apex equal to their length; coxites with outer subdivisions rather long and narrow; « central point » just beyond centre; transverse suture straight.

T y p e ♂ . — P.N.U.: Kabwekanono, alt. 1.815 m, 8.III.1948 (G. F. DE WITTE), in « Institut des Parcs Nationaux du Congo ».

P a r a t y p e s . — P.N.U.: Mukana, alt. 1.810 m, 14.IV.1947, 1 ♂, 6.III.1948, 1 ♂, 2 ♀, and 18.III.1948, 2 ♀; Lufwa, affl. dr. Lufira, alt. 1.700 m, 16.I.1948, 1 ♂; Kalumengongo, alt. 1.780 m, 21.I.1948, 1 ♀. Number of specimens: 9.

V a r i a t i o n s . — Length 2,2-2,7 mm. The teeth on the outer edge of the front tibiae are very variable, but conform to the general pattern described; the scutellum in one male is entirely impunctate; humeral striae more or less evident in different specimens.

C o m p a r a t i v e n o t e . — Somewhat resembling the members of the *voeltzkowi* species group, but less convex, with the pronotum narrowly explanate at its sides, and characteristically with the scutellum closely punctate.

Meligethes congoensis n. sp.

(Figs. 13, 47.)

F e m a l e . — Length, 3,9; breadth, 1,75 mm. Elongate oval, moderately convex, black, somewhat dull, with fine yellowish pubescence.

Head with punctures equal in size to eye facets separated by half a diameter, surface between them transreticulate; clypeus widely deeply emarginate with side angles sharp.

Pronotum not quite twice as wide as long, widest at basal fourth, sides gently rounded; base weakly sinuate on either side of scutellum; punctures slightly larger than eye facets separated by one diameter or less, surface between them finely cross-reticulate.

Scutellum with shallow fine close punctures.

Elytra not quite as long as wide, widest at second fifth; with coarse punctures twice as large as those of pronotum separated by half a diameter or less, surface between them very obscurely transreticulate.

Ventral surface black. Prosternal process much broadened with apex subtruncate, twice as wide as antennal club, with punctures slightly smaller than eye facets separated by one to one and a half diameters, surface between them smooth. Mesosternum with hind edge straight. Metasternum with punctures slightly larger than eye facets, separated by one to one and a half diameters, surface smooth. Caudal marginal line of hind coxal cavity follows closely its posterior edge and turns back very close to its outer end.

Legs pitchy red. Front tibiae (fig. 13) with outer edge bearing a prominent tooth at basal third followed by a series of denticules to distal third, then a subapical group of larger teeth of which the first and penultimate are more prominent than those between; intermediate and hind tibiae not strongly dilated, with inner edge bordered; front tarsi slightly more than half as wide as antennal club; claws simple.

Ovipositor (fig. 47) elongate, reddish, with apex deeply piceous; apex bluntly pointed with short styli very close to, and projecting slightly beyond it; without a corona; coxites with outer subdivisions elongate; « central point » at fourth seventh from base; transverse suture straight; inner edge of valvifers rather widely sclerotised.

Male. — Not known.

Type ♀. — P.N.U. : riv. Kilolomatambo, affl. Lusinga, 17.VII.1945 (G. F. DE WITTE) in the « Institut des Parcs Nationaux du Congo ».

Paratype ♀. — P.N.U. : Lusinga, alt. 1.760 m, 27-30.IV.1949 (G. F. DE WITTE) in the author's collection. Total examples : 2.

Variation. — There is considerable variation in the teeth on the outer edge of the four front tibiae examined, but keeping more or less within the broad limits described above.

Comparative notes. — Extremely similar to *aethiopicus* GROUVELLE; indeed the only certain morphological difference noted is the more obtuse apex to its ovipositor. Examination of a longer series, including males, is highly desirable and might well result in proof of their common identity.

Meligethes desperatus n. sp.

(Figs. 14, 34, 35, 48.)

Male. — Length, 2,5; breadth 1,45 mm. Elongate, subparallel, moderately convex, black with antennae and legs reddish, somewhat shining, with rather conspicuous yellow pubescence.

Head with punctures equal in size to eye facets, separated by half a diameter; front margin of clypeus widely emarginate with side angles sharp.

Pronotum one and three quarters times as wide as long, broadest at basal fourth, feebly narrowed posteriorly, more so anteriorly, sides narrowly bordered not explanate; base weakly sinuate on either side of scutellum; punctures deep, slightly larger than eye facets, separated by one diameter, surface between them smooth.

Scutellum almost impunctate.

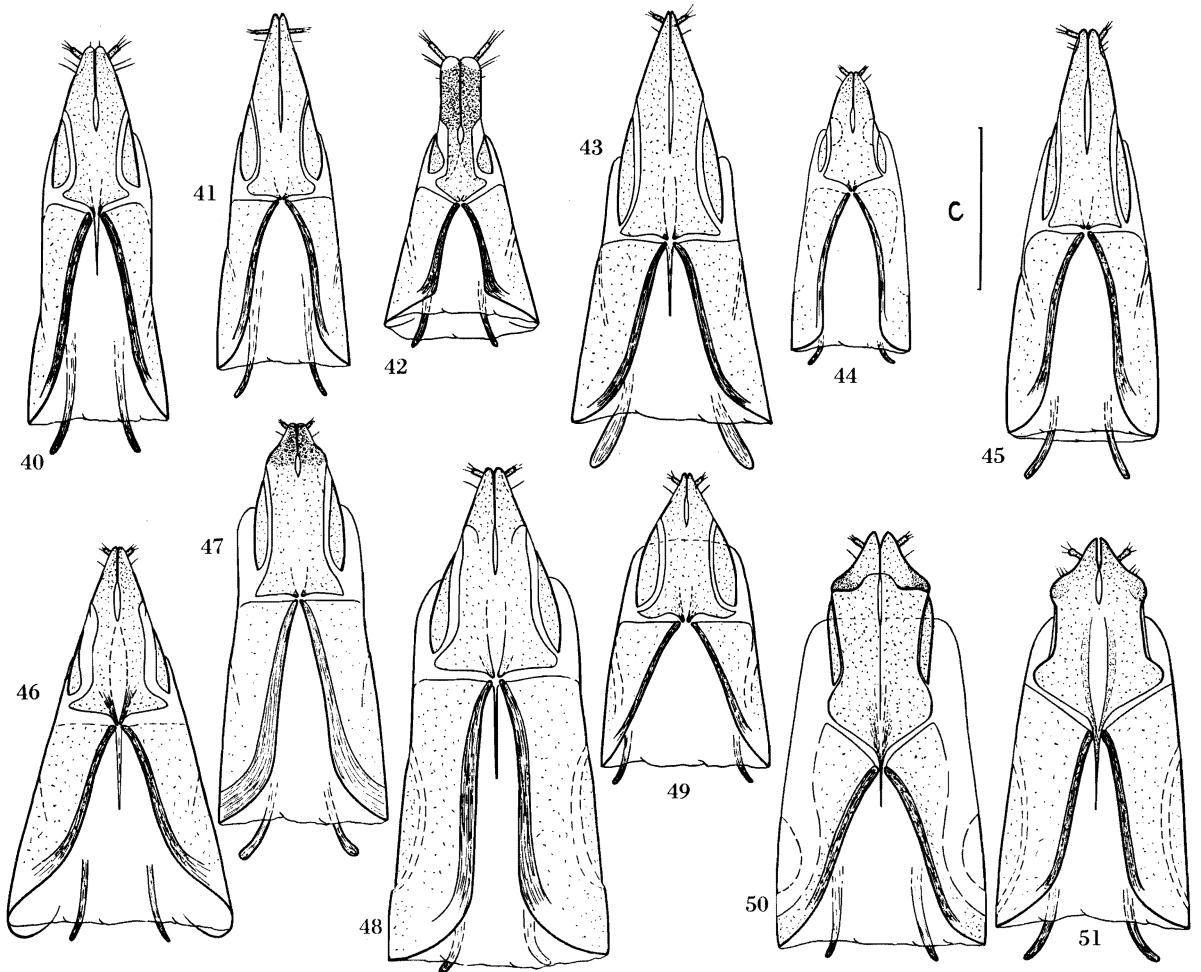
Elytra as long as wide, broadest at second fifth, scarcely wider than pronotum; shoulders weakly raised, humeral striae scarcely evident; punctures deep, twice as large as eye facets, separated by half a diameter; surface between them smooth.

Ventral surface black, with conspicuous pale pubescence. Prosternal process twice as wide as antennal club, with apex flatly rounded; punctures deep, one and a half times as large as eye facets separated by half a diameter; surface smooth. Mesosternum with hind edge straight. Metasternum with deep punctures nearly twice as large as eye facets, separated by half to one diameter, surface between them smooth; triangularly flattened in posterior two-thirds. Caudal marginal line of hind coxal cavity not deviating and turning back just before its outer end. Last sternite at apex with a shining curved ridge, concave posteriorly, its length equal to width of antennal club.

Legs reddish with outer edges pitchy. Front tibiae (fig. 14) with outer edge having a large sharp tooth at basal fourth, followed by a series of short sharp teeth, then a subapical group of much larger sharp teeth of which the first and penultimate are largest; front tarsi very nearly as wide as antennal club; inner edge of intermediate and hind tibiae very narrowly bordered; claws simple.

Aedeagus (figs. 34 and 35): tegmen with a very small U-shaped apical excision between slightly obliquely rounded lateral lobes; median lobe with apex rounded.

Female. — General form usually much more rounded at sides with pronotum widest nearer base; front tarsi three quarters as wide as antennal club; metasternum and last ventral segment of abdomen simple. Ovipositor (fig. 48) large and well sclerotised, pointed; with rather short



FIGS. 40-51. — Ventral view of ovipositors.

40. *Meligethes nobilis* n. sp. — 41. *M. candidus* n. sp. — 42. *M. suffuscus* n. sp. —
 43. *M. microclavatus* n. sp. — 44. *M. mimus* n. sp. — 45. *M. basicollis* n. sp. — 46. *M.*
upembanus n. sp. — 47. *M. congoensis* n. sp. — 48. *M. desperatus* n. sp. — 49. *M. tuti-*
manus n. sp. — 50. *M. cinctus* n. sp. — 51. *M. regalis* n. sp.

Scale C = 0,25 mm.

styli at a distance from apex less than their length; coxites with outer subdivisions long and rather broad; « central point » at third seventh from apex; transverse suture straight.

Type ♂. — P.N.U.: Kabwekanono, tête de source, Lufwa, alt. 1.815 m, 25.IV.1949 (G. F. DE WITTE) in the « Institut des Parcs Nationaux du Congo ».

Paratypes. — P.N.U.: Kamitungulu, affl. Lusinga, alt. 1.700 m, 4-7.III.1947, 1 ex.; Lusinga, alt. 1.760 m, 18.III.1947, 1 ex., 7.IV.1947, 1 ex., and 16.IV.1947, 2 ex.; Mabwe (lac Upemba), alt. 585 m, 4-8.IX.1947, 3 ex.; Mukana, alt. 1.810 m, 18.III.1948, 1 ex.; Mbuye-Bala, alt. 1.750 m, 1-7.IV.1948, 4 ex.; Lubanga, affl. dr. Senze, affl. dr. Lufira, alt. 1.750 m, 5.IV.1948, 4 ex.; Lusinga, alt. 1.760 m, 22.IV.1949, 3 ex., and 2.V.1949, 1 ex.; Mukana, alt. 1.810 m, 22-23.IV.1949, 1 ex. Total number of examples: 23.

Variations. — Length 2,1-2,8 mm. The sexual dimorphism already described is a feature of note in this species.

Comparative notes. — Well characterised by the deep coarse punctures of its upper surface, its long yellowish though fine pubescence, and the large sharp teeth on the outer edge of its front tibiae.

Meligethes lividus EASTON.

M. lividus EASTON, 1959, *Trans. R. ent. Soc. Lond.*, **111**: 384.

Previously known from Abyssinia and Kenya.

Additional material. — P.N.U.: Lusinga, alt. 1.760 m, 18.III.1947, 1 ♀, and 22.IV.1949, 1 ♀.

These two examples are slightly larger than average specimens of *lividus*, with their elytral punctures slightly less close. It would be desirable to examine a larger series including males.

Meligethus tutimanus n. sp.

(Figs. 15, 36, 37, 49.)

Male. — Length, 1,85; breadth, 1,0 mm. Elongate, slightly rounded as sides, moderately convex, black, somewhat shining, with fine, not very conspicuous pubescence.

Head with deep punctures slightly larger than eye facets separated by less than one diameter; front margin of clypeus widely emarginate with side angles sharp.

Pronotum one and two-thirds times as wide as long, broadest at basal fourth, feebly narrowed posteriorly, more so anteriorly, sides narrowly bordered; base feebly convex and weakly sinuate on either side of scutellum; punctures one and a half times as large as eye facets separated by one to one and a half diameters, surface between them shallowly microscopically reticulate.

Scutellum minutely closely punctate.

Elytra as long as wide, slightly wider than pronotum, sides gently rounded, shoulders weakly raised; punctures twice as large as eye facets separated by one and a half diameters, surface between them slightly rugose, non-reticulate.

Ventral surface black. Prosternal process one and a half times as wide as antennal club, with apex rounded; punctures slightly smaller than eye facets separated by one diameter. Mesosternum with hind edge straight. Metasternum with punctures equal in size to eye facets separated by one diameter, surface between them smooth; without secondary sexual character. Caudal marginal line of hind coxal cavity follows closely its posterior edge and turns back shortly before reaching its outer end. Last sternite without sexual character.

Legs reddish-black. Front tibiae (fig. 15) rather strongly broadened to apex, outer edge minutely denticulate from base, with a very small more prominent tooth just beyond basal third, and in apical third a group of somewhat abruptly larger teeth, the first sharp, the others blunter; front tarsi one and a quarter times as wide as antennal club; claws simple.

Aedeagus (figs. 36 and 37) rather short; tegmen narrowed from shoulders, with short narrow U-shaped apical excision between somewhat narrow short rounded lateral lobes; median lobe parallel-sided to apical fifth, bluntly pointed.

F e m a l e . — Slightly more rounded at sides; front tarsi one and a third times as wide as antennal club. Ovipositor (fig. 49) reddish-yellow, somewhat sharply pointed, without a corona; its short styli at a distance from the apex equal to their length; transverse suture straight but with the base of each inner subdivision of the coxites markedly sinuate; « central point » central, without a ventral spicule.

Type ♂. — P.N.U. : Kalumengongo, alt. 1.780 m, 21.I.1948 (G. F. DE WITTE) in the « Institut des Parcs Nationaux du Congo ».

Paratypes. — P.N.U. : Kenia, alt. 1.700 m, 28.III.1947, 1 ♀; Lusinga, alt. 1.760 m, 12.IV.1947, 1 ♂; riv. Dipidi, alt. 1.700 m, 22.IV.1947, 1 ♂; Mbuye-Bala, alt. 1.750 m, 1-7.IV.1948, 1 ♀. Number of examples : 5.

Variations. — Length, 1,8-2,0 mm. As with most species of the genus the teeth on the outer edge of the front tibiae are somewhat variable.

Biology. — Taken I, III, IV at altitudes between 1.700 and 1.780 m.

Comparative notes. — In the form of the front tibiae and much dilated front tarsi reminiscent of *M. latimanus* EASTON, but shorter and more rounded at sides. Its ovipositor lacking any trace of a corona, the new species is not to be included in the *latimanus* species-group.

Meligethes cinctus n. sp.

(Figs. 16, 38, 39, 50.)

Male. — Length, 2,1; breadth, 1,05 mm. Elongate, subparallel, black, shining, pubescence not very conspicuous.

Head with punctures equal in size to eye facets separated by less than one diameter; front margin of clypeus widely rather deeply emarginate with side angles sharp.

Pronotum one and a half times as wide as long, its sides subparallel to anterior third, narrowly bordered; base almost straight; punctures slightly larger than eye facets separated by one to one and a half diameters, surface between them with a very faint trace of reticulation.

Scutellum minutely, closely punctate.

Elytra one and a quarter times as long as wide, broadest at second fifth, slightly wider than pronotum, sides gently rounded, shoulders weakly raised; punctures twice as large as eye facets, separated by one to one and a half diameters, surface between them smooth.

Ventral surface black. Prosternal process one and a half times as wide as antennal club, with apex flatly rounded; punctures deep, equal in size to eye facets separated by half a diameter. Mesosternum with hind edge straight. Metasternum with punctures equal in size to eye facets separated by two to two and a half diameters, surface between them smooth; without secondary sexual character. The caudal marginal line of the hind coxal cavity follows closely its posterior edge. Last sternite with its hind edge narrowly raised medially into a minute shining tubercle.

Legs black, not strongly broadened. Front tibiae (fig. 16) with outer edge bearing irregular sharp teeth from basal fourth, close to which one is more outstanding, and with a subapical group of larger sharp teeth; front tarsi four fifths as wide as antennal club; intermediate and hind tibiae with inner edge very narrowly bordered; claws simple.

Aedeagus elongate. Tegmen (fig. 38) scarcely narrowed from shoulders, with a short U-shaped apical excision between slightly obliquely rounded lateral lobes; median lobe (fig. 39) with apex rounded.

Female. — Tarsi as in male; last ventral segment of abdomen simple. Ovipositor (fig. 50) entirely reddish-yellow, with a well-marked corona beyond which the sides of the coxites are strongly convergent and sinuate; with short styli at a distance from apex equal to one and a half times their length; coxites subparallel, well sclerotised, in marked contrast to the pale much wider proctigers, their outer subdivisions long and narrow; transverse suture V-shaped; « central point » at three-sevenths from base, with a fine ventral spicule.

Type ♂. — P.N.U. : Mukana, alt. 1.810 m, 15.III.1948 (G. F. DE WITTE) in the « Institut des Parcs Nationaux du Congo ».

Paratypes. — P.N.U. : Kenia, alt. 1.700 m, 28.III.1947, 6 ex.; Lusinga, alt. 1.760 m, 31.III.1947, 4 ex., 1.IV.1947, 34 ex., 7.IV.1947, 6 ex., 10.IV.1947, 1 ex., 12.IV.1947, 2 ex., 16.IV.1947, 3 ex., 9-18.IV.1949, 8 ex., 22.IV.1949, 2 ex., 23.IV.1949, 2 ex., 2.V.1949, 2 ex., and 18.VI.1949, 1 ex.; Mukana, alt. 1.810 m, 1.IV.1947, 41 ex., 15-19.I.1948, 12 ex., 6.III.1948, 16 ex., 15.III.1948, 57 ex., 18.III.1948, 25 ex., 22.IV.1949, 9 ex., and 22-23.IV.1949, 47 ex.; Kamitungulu, affl. g. Lusinga, alt. 1.700 m, 3.IV.1947, 1 ex., and 16.IV.1947, 1 ex.; riv. Dipidi, alt. 1.700 m, 22.IV.1947, 1 ex.; Mabwe (lac Upemba), alt. 585 m, 4-8.IX.1947, 3 ex., and 17-20.XII.1948, 11 ex.; riv. Lufwa, affl. dr. Lufira, alt. 1.700 m, 16.I.1948, 3 ex., and 16.III.1948, 46 ex.; Kalumengongo (tête de source), affl. dr. Lualaba, alt. 1.780 m, 21.I.1948, 2 ex.; Grande Kafwe, affl. dr. Lufwa, alt. 1.780 m, 5.III.1948, 122 ex.; Kabwekanono (tête de source), Lufwa, alt. 1.815 m, 6.III.1948, 17 ex., 8.III.1948, 9 ex., and 25.IV.1948, 7 ex.; Mbuye-Bala, alt. 1.750 m, 25-31.III.1948, 1 ex., and 1-7.IV.1948, 2 ex.; Lubanga, affl. dr. Senze, affl. dr. Lufira, alt. 1.750 m, 5.IV.1948, 4 ex.; Kabwe s/Muyu, affl. dr. Lufira, alt. 1.320 m, 6-12.V.1948, 1 ex.; Munoi, bif. Lupiala, affl. dr. Lufira, alt. 890 m, 28.V-15.VI.1948, 3 ex. Number of examples : 513.

Variations. — Length 1,8-2,3 mm. The teeth on the outer edge of the front tibiae are very variable, the more prominent one at the basal third is sometimes absent on one side, very rarely on both, there may be another near the middle, and the apical group may comprise from two to four teeth. The elytral punctures vary much in size, when coarser appearing closer, so that the general aspect is less shining.

Biology. — Collected IX, XII, I, III, IV, V, VI at altitudes from 585-1.815 m; most abundant in March and April.

Comparative notes. — Related to *M. subcaerulescens* GROUVELLE, *paraproctatus* EASTON, and, most closely, to *coronatus* EASTON. From all these it may be distinguished by the sharper teeth on the outer edge of its front tibiae including one more prominent at the basal third, and by the different male genitalia. *M. coronatus* EASTON has its upper surface less finely punctate and its ovipositor, like that of *subcaerulescens*, is shorter. The new species has an ovipositor very similar to that of *paraproctatus*, but with normally narrow paraprocts.

Meligethes regalis n. sp.

(Figs. 17, 51.)

Female. — Length, 1,9; breadth, 1,1 mm. Oval, not strongly convex, black, shining, with conspicuous long fine yellowish pubescence.

Head with punctures slightly larger than eye facets, separated by half a diameter, surface between them almost smooth; front margin of clypeus widely emarginate with side angles sharp.

Pronotum one and three quarter times as wide as long, widest at basal fourth, feebly narrowed posteriorly, gradually more strongly so anteriorly, sides very narrowly bordered, base feebly convex and weakly sinuate on either side of scutellum; punctures twice as large as eye facets, separated by one and a half diameters, surface between them obscurely transreticulate.

Scutellum minutely punctate.

Elytra as long as wide, distinctly wider than pronotum, sides gently rounded, shoulders moderately raised; punctures equal in size to those of pronotum separated by one to one and a half diameters, surface between them somewhat rugose and more distinctly transreticulate.

Ventral surface black. Prosternal process nearly twice as wide as antennal club, with apex subtruncate; with deep punctures equal in size to eye facets separated by one and a half diameters, surface between them smooth. Mesosternum with hind edge straight. Metasternum with punctures rather larger than the eye facets separated by half to one diameter, surface between them smooth. Caudal marginal line of hind coxal cavity not deviating onto first sternite.

Legs dark reddish-black. Front tibiae (fig. 17) moderately dilated, outer edge finely, slightly irregularly denticulate to middle, with subapical group of six sharp teeth, of which the intermediate are longer and narrower, their apices forming an evenly rounded contour; intermediate tarsi three quarters as wide as antennal club; claws simple.

Ovipositor (fig. 51) large, entirely reddish-yellow, with a well-developed corona between which and the apex the outer edges of the coxites are strongly sinuate and convergent; styli somewhat clavate, at a distance from apex equal to one and a half times their length; coxites broader at base than at corona, their outer subdivisions reduced to a membranous fold; «central point» centrally placed, with a long narrow ventral spicule; transverse suture V-shaped.

Male. — Not known.

Type ♀. — P.N.U. : Mukana, alt. 1.810 m, 6.III.1948 (G. F. DE WITTE) in «Institut des Parcs Nationaux du Congo». Both front tarsi, and the left front and intermediate legs are missing; unique.

Comparative note. — Having an ovipositor very similar to those of *coronatus* EASTON and of *cinctus* n. sp., but at once distinguished from these species by its shorter rounder form, its shining aspect and long conspicuous pubescence, as well as by its entirely different front tibiae.

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