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NEW DOLICHOPIDÆ FROM LIBERIA AND THE BELGIAN CONGO

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In his revision of the Dolichopidæ of Africa, published in 1923, Becker lists one hundred and fifty-seven species, a large number of which are Palæarctic in distribution. Since that time eighty species have been described from the Æthiopian region and a few from Egypt. These, together with the eight species herein described, bring the total species known to occur in Africa to slightly more than two hundred and fifty.

During a year's sojourn in Africa in 1926–27, Dr. Joseph Bequaert made rather extensive collections of Diptera in Liberia, Uganda, and the Belgian Congo. The new species described in the present paper form part of this collection and through the generosity of the collector the types are deposited in The American Museum of Natural History.

Sciapus lenga, new species

Shining green, legs yellow; wings hyaline, in the male faintly clouded on the apical half in front. In the male the fourth vein is produced backwards at the usual place of the angulation in the shape of U; in the female the venation is normal. Length. 3 to 4 mm.

Male.—Head green; face and front yellowish white pollinose, the front in some views appearing almost bare, violaceous in the middle; upper section of the face violaceous, wider than long; occiput with yellowish pollen, sparsely yellow pilose below. Face narrower than either eye from frontal view, very slightly narrowing below, the front slightly widening to the vertex. Palpi.black, long and porrect, black-haired above, fringed on either side with abundant, long yellow pile; proboscis yellowish. Antennæ black or brown, the first segment obscurely reddish below; third segment brown, rounded apically; arista short.

Mesonotum from anterior view appearing dull brown, from dorsal view bright green on the posterior two-thirds; notopleura white pollinose. Pleura mostly brownish, the posterior half white pollinose, the anterior half with brown pollen and some green reflection. Five dorsocentrals; two pairs of very weak acrosticals.

Legs yellowish, the tarsi brown, becoming yellow basally; middle and posterior coxe brown at least on the outer surface. Coxe with yellow hair, the anterior pair with three weak bristles apically. Legs black-haired, the femora with rather inconspicuous yellow hair below; no bristles except some inconspicuous yellow ones on the posterior tibiæ. Tarsi long and slender, the posterior pair with the apical two seg-

ments broadened, the fourth triangular, the fifth broader than long and transversely concave above; fifth segment of anterior four tarsi conspicuously broadened.

Wings hyaline with indications of a brownish cloud in front on the apical third or more. (The specimen appears to be somewhat teneral and there may normally be a brown cloud.) The fourth vein is curved backwards U-shaped well beyond the posterior cross-vein and joins the third vein just before the apex of the wing; posterior cross-vein not oblique, bowed outwards. Squamæ luteous, with black border and fringe. Halteres yellow.

Abdomen shining green, the venter yellowish; hair black, bristles fairly weak, sides and venter pale-haired. Genitalia brown, small, the posterior lamellæ small, broad, suddenly narrowed at their apical third.

Female.—The female is unusual in that the front is much less concave than in the male and would be placed in the genus *Leptorhethum* Aldrich. Face narrower, not half as wide as eye; palpi much smaller but with similar arrangement of the black hair and pale pile; mesonotum mostly violaceous and more extensively brown pollinose. Coxe wholly yellow; tarsi yellow with the apical two segments black, the apical segment of each pair broadened as in the front legs of the male. Wings hyaline, with normal venation, the fourth vein with an appendage at the bend, the apical cell open. Abdomen grayish pollinose laterally.

Types.—Holotype, male, Lengatown, Liberia, August 15, 1926; allotype, female, Du River, Camp No. 3, Liberia, (J. Bequaert).

This species is most nearly related to *flabellifer* Becker but the anterior coxæ are not black on the basal half and the posterior lamellæ of the male are not long and thread-like.

It seems strange that there should be the difference in the shape of the front of the male and female and it may be that they represent different species. The enlargement of the apical tarsal segment in the female is a very unusual character and it is largely on this account that the two sexes are placed together. The difference in wing venation is to be expected; in the female the color of the pollen, palpi, etc., is quite in keeping with the male and it is difficult to believe that two genera are represented.

The genus *Leptorhethum* Aldrich is represented in Africa by one species described by Becker. This is a yellowish species known only from a single female. Is this a case similar to the present, where the two sexes show different head characters?

Chrysosoma du, new species

Related to collarti Curran but distinguished by several characters. In callarti the arista bears the longest hairs on the thin section preceding the very long, flattened lamella: in du the longest hairs are on the much shorter lamella. The first segment of the anterior tarsus of collarti is broad on its whole length although tapering apically and ciliate posteroventrally: in du this segment is narrow on almost its apical half and not ciliate on its basal half. Of the three African species with lamellate arista

this is the only one with yellowish squamal cilia although it is possible that this character is apparent because the specimen is not fully mature. If this is the case it will trace to *collarti* Curran in my key (1927, Rev. Zool. Afr., XV, p. 242); in the section with pale squamal cilia it is distinguished from all others by the lamellate arista. Length, about 8 mm.

Male.—Head green, cinereous pollinose, the front bare and shining. Occipital cilia limited to upper half of the head, black; occipital pile whitish. Proboscis and palpi reddish yellow, the latter yellow-haired and with one black bristle. Antennæ yellow, the arista blackish, not separated from the third segment; the lamella is narrow, about three times as long as the basal two antennal segments, moderately long ciliate on both sides, the cilia on the apical fourth shorter, finer and more abundant, the longer cilia extending along the rounded portion of the arista for a distance greater than the length of the lamella, although on one side they are discontinued considerably before than on the other and they decrease in length towards the base of the arista.

Mesonotum bright green, the humeri and lateral margins narrowly yellowish; a median vitta violaceous; between the inner end of the humeri and the suture a dull brownish stripe; hypopleura yellowish; metasternum brown; propleural hair yellowish.

Legs yellow, the middle coxe with a large brown spot on the outer side; posterior four tarsi brownish, becoming pale basally, the apical segment of the anterior tarsi also brown. Coxe and under surface of the femora yellow-haired, the anterior coxe with a row of five stout, yellow bristles on the outer edge in front and with a row of short, black bristles on the inner edge; on the anterior four femora the hair forms a sparsely ciliate row below. Middle femora on the apical fourth with a row of five bristles on lower anterior surface and three or four shorter ones behind, the posterior femora with about five anteroventral bristles apically, only the apical one of which is strong. Anterior tibiæ with four bristles, one small one on either side of the upper surface near the base, a small posteroventral one a little before the middle and a large, fine one at the apical third; in addition there is the usual preapical dorsal bristle and a longer, curved posterior one; at the apex beneath are two spinous bristles, the posterior one thick and blunt at the apex, the anterior one slender and curved backward so as to pass across the apex of the thickened basal section of the tarsus. Posterior tibiæ with a row of six short anteroventral and posterodorsal bristles and two anterodorsals. Basal segment of the anterior tarsi broad on basal half and flattened below. the apical half conave beneath and bearing abundant short, fine pile; second segment gently concave above, on the lower edge with dense white pubescence; third segment a little more than half as long as the second, fourth a little shorter than the second, the fifth short. Middle tarsi simple, apical two segments of posterior tarsi noticeably broadened.

Wings cinereous hyaline: they do not appear to be fully developed. Probably in mature specimens they are clouded in front and along the veins. Posterior cross-vein oblique, moderately curved. Squamæ yellow, with brown border and brownish-vellow cilia, the cilia perhaps mostly black in some specimens. Halteres yellow.

Abdomen green, the segments with broad opaque black fasciæ basally, the sides very broadly whitish pollinose on the green portions; each segment with long marginal bristles. Genitalia brownish, of the general type of *collarti* but the outer lamellæ

longer, less hairy and deep black. Abdominal hair black, yellowish on the first segment and sides of the second.

HOLOTYPE.—Male, Du River, Camp No. 3, Liberia, (J. Bequaert).

Chrysosoma liberia, new species

Wings brown with two pale spots near the middle; antennæ reddish. Most nearly related to *albilimbatus* Bigot, to which it traces in my key, but at once distinguished by the green front. Length, 8 mm.

Male.—Head green, somewhat dull brassy, the occiput and sides of the face thinly yellowish pollinose; middle of front and lower section of face with slight bluish reflection. Occipital pile yellowish. Palpi brown, with yellow hair and two or three black bristles. Antennæ reddish, the upper edge of the third segment and the arista black.

Thorax green, the mesonotum brassy, a large rectangular spot covering each humerus and extending narrowly blackward along the line of the dorsocentral bristles and the inner edge of the notopleura opaque brownish black; posterior half, sides irregularly and the scutellum dorsally, violaceous; pleura moderately cinereous white pollinose. Propleural pile whitish.

Legs reddish; coxæ blackish, yellow-haired, the front pair with three or four black bristles apically, the middle pair with black hair and bristles along the outer edge and apically. Trochanters and very narrow bases of the posterior four femora brown; the posterior femora obscurely brown at the apex; posterior tibiæ yellowish brown. the anterior four broadly brown apically; tarsi wholly blackish. Anterior tibiæ with two strong anterodorsal bristles and two very weak posterior ones, their tarsi simple, the basal segment much longer than the remaining ones combined. Middle tibiæ with a row of ten long, slender posterodorsal bristles, six anterior bristles and two ventral ones; basal segment of the middle tarsi with a row of seven long, slender posterodorsal bristles and six short, subappressed anterior ones, the remaining segments simple; posterior tibiæ with a row of about eight dorsal, four anterior and five posteroventral, short bristles, their tarsi simple.

Wings brown, with the posterior border rather grayish; a narrow yellowish-tinged triangle extends backward from the costa immediately beyond the end of the first vein to the anterior third of the discal cell and immediately beyond the posterior section of the large cross-vein is a grayish-white spot. Bend of fourth vein with a long, strong appendage, posterior cross-vein strongly S-shaped. Squamæ and halteres brown, the former black ciliate.

Abdomen green, the apices of the segments narrowly black, the sides rather dull, the apical segment wholly dark; each segment with an apical row of bristles; hair yellowish on sides of first segment and on bases of basal two sternites. Genitalia blackish, similar to albilimbatus Bigot but without the median angulation to the outer lamellæ and with more abundant hair apically.

HOLOTYPE.—Male, Du River, Camp No. 3, Liberia, (J. Bequaert).

KALOCHETA Becker

This genus is most nearly related to *Chrysosoma* Guérin but is distinguished by the peculiar development of the arista in both sexes. The arista appears to form a fourth segment of the antennæ, being

broad and strap-like for half its length or more, the apical section forming a slender style.

The genus Kalocheta was established by Becker in 1919 (Mitt. Zool. Mus. Berlin, XII, p. 41) for a new species from Cameroon. I have seen several specimens from the Belgian Congo. Owing to the small amount of collecting in the region it is not possible to form any definite conclusions regarding the extent of the distribution of the species. Dr. Bequaert has secured an excellent series of an undescribed species in Liberia. The two species may be readily separated as follows.

- a. Hair-like part of arista not half as long as strap-like portion; median brown band of wing with the concavity on the outer edge.......passiva Becker.

Kalocheta liberia, new species.

Wings brown and yellow with the posterior border grayish. Length, 6 to 7 mm. Male.—Front violaceous, its sides, face and occiput green, the face thinly whitish pollinose; occiput with cinereous pollen. Occipital pile moderately abundant, yellow, a few black hairs on either side of the front. Palpi and proboscis reddish, the former with black hair. Antennæ red, the apical half of the third segment and the arista black. The strap-like part of the arista is twice as long as the length of the head, the whole arista four times as long as length of head.

Thorax green, the lateral margins of the mesonotum broadly violaceous, the posterior border, the hypopleura and scutellum, sometimes violaceous. A broad cupreous or bronze vitta extends along each acrostical row. Propleural hair black. Scutellum with two bristles.

Legs yellowish, tarsi brown, the first segment of the middle pair becoming yellow basally. Anterior coxæ yellow, with yellow hair and two black apical bristles; posterior four coxæ blackish, cinereous pollinose, black-haired. Anterior four femora with sparse, fine bristles on basal two-thirds of either lower edge, the basal bristles longest; posterior femora with three or four fine bristles on basal half of anteroventral surface. Anterior tibiæ with two short dorsal bristles; middle tibiæ with two posteroventral bristles, three anterior bristles and one anterodorsal bristle, the latter situated near the base of the tibiæ and a row of seven dorsal bristles, the basal three of which are successively shorter; posterior tibiæ with about seven short dorsal and ventral bristles on basal three-fourths and three posterior bristles. Anterior and posterior tarsi simple; middle tarsi with a row of six long, slender dorsal bristles on the basal segment.

Wings brown, the posterior border cinereous, a broad stripe in front, interrupted by a brown spot at its apical fifth and the discal cell mostly hyaline; auxilliary cell brown except for a large, almost hyaline spot at its middle; another almost hyaline spot just beyond the posterior third of the discal cell. Squamæ brownish, with black cilia. Knob of halteres yellowish.

Abdomen green, the basal segments sometimes largely violaceous dorsally; apices of segments broadly dull black. Genitalia blackish.

Female.—Differs sexually; the middle tibiæ bear five or six dorsal bristles which are much shorter and stouter than in the male, the first segment of the middle tarsi lacks dorsal bristles and the bristles on the posterior tibiæ are a little stouter and longer.

Types.—Ten males and five females, Camp No. 3, Du River, Liberia, collected by Dr. J. Bequaert. The holotype male and allotype female are in The American Museum of Natural History. Paratypes in the Musée du Congo Belge and collection of Dr. Bequaert.

PARACLIUS Bigot

There are at least three species of *Paraclius* occurring in West Africa but up to the present time the only described forms are from South Africa. The following key will separate the species.

- 2. Posterior tibiæ with narrow black apex, the posterior tarsi wholly black.

afra Curran.

Paraclius bequaerti, new species

Front green, face white, legs yellow, posterior tarsi wholly black. Length, 6 mm. Female.—Face white, narrow, gently narrowing to the lower edge; front green, in some lights white pollinose on lower half, orbital cilia black on upper half, white on lower half; palpi and proboscis reddish, with black hairs. Antennæ reddish, the third segment, except its narrow base, and the arista, blackish, the arista long pubescent.

Thorax black and green; in front with an interrupted band of white pollen which covers the notopleura laterally and is best seen from posterior view; beneath the pollen the color is bright green and the posterior half of the mesonotum is of the same color. In front of the anterior green band the color is subopaque black and there is a similar broad band of black immediately behind; in front of the scutellum is a narrow, black triangle and the scutellum itself is opaque blackish except on its narrow free border. Pleura rather thinly white pollinose. Hair and bristles of thorax black.

Anterior coxe yellow; all the coxe thinly white pollinose and bearing black hair. Legs yellow; posterior femora with an apical black spot above; posterior tarsi wholly black, the middle pair black from the apical fourth of the basal segment, the anterior tarsi yellow but appearing brown on account of the black hair; posterior four femora with one preapical bristle and an anteroventral row of black bristles; tibiæ with the usual stout bristles, their dorsal surfaces whitish yellow.

Wings strongly tinged with brown. Halteres and squamæ yellow, the latter black ciliate.

Abdomen opaque black, the second to fifth segments each with a broad, moderately interrupted fascia of bright green which does not reach the lateral margins, the outer half of each transverse spot densely white pollinose, the inner half appearing

thickly pollinose in most views. First segment with a transverse, green spot on either side, which also appears pollinose in some views. Venter shining black. Hair wholly black.

Types.—Eight females from Bakratown, Liberia, October, 1926, and one female from Saub Koko, Liberia, September, 1926, all collected by Dr. J. Bequaert. Holotype, from Bakratown, in American Museum of Natural History. Paratypes in collections of Musée du Congo Belge and Dr. Bequaert.

TACHYTRECHUS Walker

Of the eleven species of *Tachytrechus* recorded from Africa five are confined to the Palæarctic region. One species, *pteropodus* Schiner, originally described from South America and recorded by Becker from South Africa should probably be removed from the list of African Dolichopidæ. The following key separates the African species known to me.

| 1. | Legs extensively reddish or yellowish |
|----|---|
| | Legs wholly blackimperator Curran. |
| 2. | Femora reddish yellow, at most the narrow bases black |

Tachytrechus liberia, new species

Readily distinguished from all the African species but *salinarius* Becker by the reddish yellow third antennal segment. The mostly yellowish basal segment of the posterior tarsi, non-vittate mesonotum and ochreous face readily separate it from *salinarius*. Length, 5.25 to 5.75 mm.

Male.—Face ochreous or golden yellow; front green, in some lights white pollinose. Occipital cilia fine, the upper ones black, lower ones yellow. Palpi black, black-haired. Antennæ reddish yellow above, whitish yellow on lower half; third segment small, suborbicular, brown on upper third; arista brown.

Thorax green; mesonotum and scutellum grayish brown or grayish yellow pollinose, more densely so along the middle line, the broad sides and an equally broad vitta along the upper border of the pleura brownish black, subopaque. Scutellum with a pair of strong bristles and pair of short, hair-like ones. Propleura with a few black hairs or bristles. Pleura cinereous pollinose.

Legs reddish yellow; posterior four coxæ brown on outer surface, white pollinose; anterior coxæ with some inconspicuous black hairs on inner part of anterior surface, otherwise almost bare except for the usual row of apical bristles. Posterior

femora somewhat brown at apex except below; apex of posterior tibiæ brown, of the middle pair obscurely so; tarsi blackish from the apical third or fourth of the basal segment. Legs quite simple in structure; middle femora with two small bristles on anterior surface apically, the posterior femora with three anterodorsal bristles on the apical half.

Wings brown in front becoming gray behind, the posterior cross-vein slightly clouded. Squamæ and their cilia black. Knob of halteres reddish brown.

Abdomen dark green, the sides broadly bronzed, the apices of the segments broadly blackish; each segment bears on either side a large white pollinose spot, those on the second and third segments triangular, small, on the first segment quite small. Genitalia large, the lamellæ of moderate size, brown, sub-triangular with broadly rounded corners, the hair fine and black, yellowish basally, the marginal fringe not strongly developed.

Female.—Differs only sexually. The median vitta of the mesonotum may be a little more brown.

Types.—Five specimens of each sex from Moala, Liberia, October 31, 1926 and one female, Bakratown, Liberia, October, 1926, (J. Bequaert). Holotype male and allotype female, from Moala, in American Museum of Natural History. Paratypes in collections of Musée du Congo Belge and Dr. Bequaert.

SYMPYCNUS Loew

Thirteen species of *Sympycnus* are recorded from Africa, three of them from the Palæarctic region. The known males of the species occurring in the Ethiopian region are separable as follows.

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|----|---|
| 1. | Apical one and one-half segments of the front tarsus white, silvery pilose. |
| | nectarophagus Curran. |
| | Anterior tarsus without white apical segments |
| 2. | Basal segment of front tarsus produced as a long finger-like lobe which is three- |
| | fourths as long as the second tarsal segment |
| | Basal segment of anterior tarsus not lobed |
| 3. | Fourth segment of posterior tarsus at least one-fourth longer than the third4. |
| | Fourth segment of posterior tarsus shorter than third or of equal length and never modified |
| 4. | Basal three segments of posterior tarsi broadened and densely short-haired. |
| | caffer Loew. |
| | Basal two segments of posterior tarsi simple |
| 5. | Third and fourth segments of posterior tarsi oval, incrassate. globulipes1 Becker. |
| | Third and fourth segments only a little enlarged, not oval6. |
| 6. | Third segment of posterior tarsus with thorn-like apical spine on posterior |
| | surface; pleura green in ground colorcongensis, n. sp. |
| | Third segment of posterior tarsus ciliate like the fourth; pleura brown with |
| | gray pollen |
| 7. | Abdomen with yellow spots or bands or almost wholly yellowish8. |
| | Abdomen black, sometimes yellowish brown basally9. |
| 8. | Pleura blackplacidus Curran |
| | 70 11 |

¹See footnote on page 9

| 9. | Posterior tarsi simple |
|-----|---|
| | Third and fourth segments of posterior tarsi slightly enlarged and ciliate pos- |
| | teriorly with short, fine, bristle-like hairsetosipes ¹ Speiser. |
| 10. | Genitalia of male small, hidden; large corss-vein situated before the middle of |
| | the wingsimplex Curran. |
| | Genitalia rather large; large cross-vein situated well beyond the middle of the |
| | wing niger Curran. |

Sympycnus congensis, new species

Related to caffer Loew but the basal two segments of the posterior tarsi are simple and the second segment is almost three times as long as the third; in caffer the second segment is less than twice as long as the third. The insect is larger, more slender and has relatively longer legs than caffer. Length, 3.75 mm.

Male.—Eyes contiguous for about half the length of the face; face and front cinereous yellow pollinose, the front with brownish tinge. Occiput gray pollinose; occipital cilia black on upper half; hair yellow. Mouth-parts brown. Antennæ blackish; third segment triangular.

Thorax green; mesonotum and scutellum cinereous brown pollinose; pleura with cinereous pollen; fine hairs above the front coxæ and on the propleura whitish.

Legs yellow; posterior four coxæ brown, the anterior pair with yellow hair; posterior femora brownish above except basally, the posterior tibiæ becoming yellowish brown apically, their tarsi blackish brown; anterior four tarsi black from the apical fifth of the basal segment. Anterior legs simple; middle tibiæ with four anterodorsal, three posterodorsal, and one anteroventral bristle; posterior tibiæ with five posterodorsal, three anterodorsal and a row of five or six fine, not very conspicuous ventral bristles, the posterior femora with two preapical bristles, one situated anterodorsally the other anteroventrally. Basal two segments of posterior tarsi long, of about equal length, the third and fourth somewhat swollen, the fourth ciliate posterodorsally with short bristle-like hairs and highly polished posteriorly, the third with a strong, gently curved posterodorsal bristle at the apex and more conspicuous pile than the basal segments; fourth segment twice as long as the third.

Wings brownish. Halteres and squamæ yellow, the latter with brown border and yellow cilia.

Abdomen bronze-black, each segment with a large, thinly pale pollinose green triangle on either side. Genitalia shining brown, the outer lamellæ small, subtriangular, brownish yellow.

Holotype.—Male, Butshuru, Eastern Congo, September, 1914, (J. Bequaert).

This species agrees well with the description of setosipes Speiser except in a few details. The length of setosipes is 2.25 mm., the pleura are black and the third tarsal segment is said to be ciliate like the fourth on the inner (posterior) surface. Speiser could hardly have overlooked the bristle on the third segment and this segment is not ciliate in con-

¹These species are included from description only. Speiser does not mention the lengths of the tarsal segments. The male of aristalis Curran is not known; it seems probable that this species and niger Curran belong to another genus.

gensis. Moreover, the great difference in size clearly indicates the distinctness of the species in this genus, even when allowance is made for omissions of details.

Sympycnus du, new species

A yellowish species with metallic green reflections on the mesonotum and diffuse brownish abdominal incisures. Length, 4.5 mm.

Male.—Face linear, white; front metallic violaceous with the sides very narrowly white pollinose. Occiput blackish green, grayish pollinose; occipital cilia black, the hair yellowish. Proboscis brownish red; palpi brownish with yellow border and obscure pale hairs. Antennæ black, the third segment rather reddish, evidently short but apparently not perfect in the specimen; arista brown.

Thorax rusty reddish yellow, the mesonotum on the posterior three-fourths with metallic green reflections except laterally; on either side immediately behind the notopleura an oval, opaque black spot. Scutellum, with the exception of the sides, violaceous.

Legs simple, yellowish, the apical segment of the tarsi brown; anterior pulvilli large. Anterior and posterior femora with one preapical bristle posteriorly, the middle pair with two, the posterior four femora each with a single preapical in front; middle and hind tibiæ with three dorsal bristles; the posterior pair also with a row of erect, short bristle-like hairs dorsally and with four to six fine ventral bristles. Basal segment of posterior tarsus much shorter than the following segment.

Wings lightly cinereous. Large cross-vein beyond middle of wing. Squamæ yellow with brown border and fringe. Halteres missing.

Abdominal incisures brownish, the second segment also with a sub-basal transverse brownish fascia, the basal and apical incisures not at all brown. Hair black, Genitalia small, yellow. The abdomen is shining rusty yellowish, pale below.

HOLOTYPE.—Male, Camp No. 3, Du River, Liberia, (J. Bequsert), in American Museum of Natural History.