Some records of Odonata collected in Tropical Africa

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The following notes and descriptions are concerned with various collections of Odonata submitted in recent years to the National Museum, Umtata, by collectors in tropical Africa. Of all the species mentioned in the text, the largest number is a new megapodagruid from East Africa, collected by Mr. M. T. Gillett and submitted for identification by Dr. P. Garbit. The author is particularly indebted to these entomologists who have presented material to this Museum. Finally, Col. T. H. E. Jackson, of Kenya, whose assistant Mr. K. W. Waniaki has sent many specimens from Eastern Nigeria and the Congo Republic (the former French Cameroun). The Egyptian specimens are partly from Mr. B. W. Tarry, who collected a few dragonflies in Northern Nigeria, and partly from the forests near Ikom, East of Cameroun, Eastern Nigeria, an area visited by the author in 1934 (Pinder, 1936). The Usambara localities are Keta and Mamboi Forests, Usambara District; Kibali Forest, Maboua District; Mokwa and Sembu Forests, Songwe District. Notably, the Chama (Machakos), Forest Reserve, and Kamulu (Kalonji), 2800 ft., collections are from Maj. F. L. Johnson. Thirdly, material from Mr. C. G. E. Hertz, collected in forest near Lusamati, Cobono. Smaller collections are from an expedition to the former Belgian Congo, undertaken by Mr. A. K. Piozas and a National Museum assistant, Mr. H. Ngwili. A few of the specimens sent by Dr. P. Garbit have been donated to the Museum.

In his paper, the former French Cameroun, now Republic of the Congo, and the former Belgian Congo, now Democratic Republic of the Congo, will be referred to as Congo, the other Republic Congo (former Belgian Congo), being referred to as Congo. The locality (lack, mentioned above, is close to the border of South (former British Cameroun), which itself lies to the North of Cameroun Republic (former French Cameroun).

The collections on the whole are poor in males and exemplars, rich in the more notable or conspicuous species. In fact, the only notable species which will be mentioned is a species taken by Mr. Tarry in Nigeria. Only one notable species is from these collections will be discussed here.

Family LESTIDAE

*Leptis taryi* sp. nov. (figs. 21a-b)

Holotype (male): Tsho Diello, Kibali, Mersan, Kamalum; neotype: same data; paratypes: Kibali, Mersan, Kamalum

and heads above dark ferruginous-brown, back of occiput brownish-orange. Thorax greenish-ochreous, the prothorax with a pair of black median streaks; pleuron yellowish-white ventrally, the thorax marked like immature *plinguata*, dark band on median carina; slender, metallic green antehumeral, incomplete, ventrally; a feathery similar but on mesepimeron, a short streak on upper end of first terminal seta; a brownish suffusion and separate metallic dots on second saddle. These thoracic markings vary in the paratypes and it does not seem desirable to figure the pattern here. The thorax has a very thin while pruinosity on sides and central surface.

Bases of legs, femora and tibiae ochreous; with black lines on inner surfaces of femora and tibiae; tarsi black. Venation and *plinguata* dark brown, the latter framed with paler edging except on its posterior border. *Plinguata* shorter than in *plinguata*, forewing with 11-12 veins; at end of petiole in all wings. Abdomen ochreous, with broad dorsal, metallic green-brown band, confined at both ends of each segment; on 9-10 the band is absent, these segments being ochreous, with median black dorsal line and more or less continuous dorsolateral lines. Superior appendage (figs. 21a and b) shaped as in *plinguata* (fig. 21a), but the teeth on the inner shell are more developed and the subterminal tooth is distinctly less robust. Inferior appendage, abdomen (without appendages) 31 mm, hindwing 22 mm, *plinguata* 1.5 mm. In the two paratypes, abdomen 31 and 33 mm, hindwing 21.5 and 22.5 mm.

Remarks: Named after Mr. D. H. Tarry, who collected these males at Mankwana (N. Columba Zone), N. Nigeria, 10 and 15.V.1948, "on grass at stream pool in open woodland." Holo- and neotype in National Museum, Umtata; one paratype in British Museum (Nat. Hist.), London. Slightly smaller than *plinguata*, without, apparently, the dense pruinosity of adults of that species and with the superior appendage, especially the subterminal teeth, less robust. It is possible that it represents a Northern Nigerian race of that widespread species.

Family MEGAPODAGRIIDAE

This family is well represented in the Malagasy subregion and there is one genus in the Seychelles (M. lettia). Habitos, on the African mainland, the only known species has been *Neuroechis trinervis* Selys, a very local forest insect in the South Cameroun; and the common and very distinctive *Coryphogaster grandis* Morton, of the East African coastal forests, an insect widely diverse from other megapodagniridae. This latter species has been found to the South West of Mombasa, in the West and North of Tanga, in forests to the East of Moshi and on the Pago Hills, in the West of Dar-es-Salaam; all these localities being in Tanganyika and Kenya. Mr. R. R. Stokens, of the Natal Museum, believes he has seen a species of *Coryphogaster* Morton in the forest near the mouth of the Zambesi, but this report is so far unconfirmed. The following remarkable, hended megapodagnirid, adds one more to the continental Ethiopian fauna.
Genus AMANIPODAGRION gen. nov.

A moderate-sized megapodagrion, with a superficial resemblance to a banded sydemulc. Body blackish, with sparse yellow marking. Labium broader than long, its median lobe deeply but narrowly cleft. Femoral and tibial spurs long and slender; claw-hook well developed, robust, almost as long as the apical portion of the mandible. Abdomen longish; anal appendages of male robust, the superior forcipate, armed with subbasal teeth; accessory genitalia as in figure A:2. Nodus at slightly more than one quarter wing-length from base; pterostigma robust, elongate, reaching three to three and a half cells, braced; arculus at second of the two Ap; 20-22 Ps; R4+5 arising proximally in subnodus H2 at this point or slightly distal; Ac about midway between the anterior and nodus, quadrilateral, elongate, reaching origin of H1, almost rectangular, with its anterior edge only a little shorter than the posterior; and vein leaving margin far distal to Ac and distal to start of quadrilateral. Ventral black, veins very straight, with only short, terminal intercalary setae, encompassing few cells; between H2 and R2, H2 and H1, H2 and R1+2. Wings quire evenly curved. Wings of mature male banded with brown.

In its reduction of supplementary wing sectors it resembles the otherwise very different Ceryphiognathus Morton. In this common, conversely, the wings are petiolate only to about the level of the Ac, and the quadrilateral has its lower distal angle acute. Tettamimia Kirby generally also shows reduced intercalaries, but the subapical wing margins are missing; the pterostigma is more rhomboidal; the are is in a more distal position; the quadrilateral has an acute lower angle; H2 and R2+3 are more distally. Unlike Neuroneotus Selys, there are only two Ap and one Ac. The almost rectangular quadrilateral is also found in Protosteptes Forster, but here it is shorter. H2 arises well beyond subnodus and the pterostigma is shorter. The discoidal cell is very like Allosteptes Selys, but here it is even longer than the new genus, reaching almost to the subnodus. And in that genus the plumage is shorter than the wings and the supplementary sectors are well developed. Neuroneotus Selys, again, has the acute-angled quadrilateral, among other differences.

Type species: Amanipodagriion gilliesi spec. nov., figs. 1-2.

Remarks: The same "Amanipodagriion" is selected for the type locality, Amani, in the East Usambarra Mountains. "Amani" means "peace", a desirable commodity in some parts of this continent.

Amanipodagriion gilliesi spec. nov., figs. 1-2.

Holotype (body slightly damaged by pestilence in dry season) collected in the eastern-central region of the Usambarra Mountains; "Amani" means "peace", a desirable commodity in some parts of this continent.

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to second lateral nature; a short yellow humeral streak, tapering ventrally, and a trace of a narrow, suffused yellowish antehumeral; a yellow stripe below first nature, tapering dorso-laterally; lower sides and ventral surface pale yellow. Basal segments of legs yellowish; femora and tibiae greyish, with long, slender black spines; tarsi ferruginous. Wings hyaline from base to acratus, the root smoky-yellowish, with a broad reddish-brown transverse band, diffuse at edges, situated slightly nearer nodus than to apex. Ventral and pterostigma black, ventral features as in the generic review. Abdomen and anal appendages black, with white-yellow lateral markings; a patch on segment 11; basomedial patchec, more or less triangular on segments 2-9; 10 all black. Superior forcipate, very robust and spiny, slightly longer than segment 10; with subnodal tooth. The ends of the superior are flattened ventrally, inferior curved, tapering to small apical teeth; shorter than superior. Abdomen about 30 mm, hindwing 33 mm, pterostigma 2 mm.

Remarks: Named after Dr M. T. Gillies, who collected two males at Amani, May 1950. Holotype in National Museum, Bulawayo; the paratype (unfortunately headless) will be sent to the British Museum (Nat. Hist.), London.

Ceryphiognathus gilliesi Morton, 1921.

Etymology: M. T. Gillies, who collected two males at Amani, May 1950. Holotype in National Museum, Bulawayo; the paratype (unfortunately headless) will be sent to the British Museum (Nat. Hist.), London.

Mr. R. H. Carassou has informed the author that he observed this species "laying in a tuft of full water, high up in a tree, in the Jhuno forest", near Muli, Kenya coast, December 1966. The present author was unsuccessful in observing this species when visiting the East African coastal forest, although it was suggested that, like the tropical American pseudosimulids, Ceryphiognathus would feed in pools of water in cup-shaped ferns or banana sheaths, and not in the forest streams. Carassou's record is also well north of the northern limit known for the species (Shikini and Malei Hills, Mombasa). The examples stated to have been seen by Stuckenberg (see above) were in Palm reservoir a short distance inland from the mouth of the Zambesi river in Mozambique. If this should prove to be the same species this is far south of its known southern range (Dar-es-Salam and Mombasa).

Family PROTONEURIDAE

Elatonemus praestans (Selys, 1886)

Disparaneura praestans Selys, 1886. Mem. cent. Acad. R. Belg. 38: 166; Sierra Leone.

Collected in Mandi Forest, M. CStaff. A fairly widespread species in swampy West African forests.
9 - PARATYPE: In one example the white pruinose has not developed (but it is not terminal), so that the thoracic stripe is all yellow. Anal vein variable in length but much more stable than in male; normally as in the allotype. Variable in size: abdomen 30-32 mm, hindwing 19-20 mm.

REMARKS: Four males and a larger series of females, from Belowa Forest, M. Congo, August 1960 (B.K. Watuli). The species differs from P. rufilata (Stély) and P. ruficauda Fraser in lacking antehumeral stripes in the male (except for the blue-pruinose patch); the female has only very short antehumerals, unlike these other species. Moreover, the two pairs of stylets on the proboscis are replaced here by a single broad lobe. This insect is called kloofia because of the unstable anal veins. In some examples it might almost unite the Phyllonema Gouwley condition, but even then it is curved down distally, instead of being almost straight. In the blue pruinose of the holotype thorax it is reminiscent of E. pentatoma (Stély), which, however, is a genuine Phyllonema in its anal vein development. The large teeth on the male superior appendages, although not truly ventral in position, is also like the condition found in some Phyllonema species. By the ventral instability it would appear that this species is in a transition stage from Phyllonema monstrosity, the male bearing fewer that genus; but the prohemeric lobes suggest some other development and it might require another genus. The oriental Phyllonema Fraser has, in the female, a prohemeric development slightly nearer that found in the present species. Holo, allotype, two tergus of and six 2 paratypes in the National Museum, Rohoysa; a pair of paratypes will be deposited in the British Museum (Nat. Hist.), London, and another pair in the Ceylonese Museum, Nairobi.

Family CORAGRIDAE

Enallagma ramoserii Pinhey, 1955, fig. 22 a-c

Oov. Pap. Ceylon Mus. 4: 26, fig. 4.


Two males, one of them tergus, were submitted by Tarry, who collected them on the edge of a lake at Kibale, N. Nigeria, 14 IV 1968. Tarry has drawn the present author's attention to the fact that this insect is the same as that described as Enallagma nigroclusum by Schmidt (1949). This is not the species described by Stély as nigroclusum, which is an East and South African species of larger dimensions and with the superior appendages shorter and more obtuse. In the abdominal markings in this illustration (i.e., of E. ramoserii) Schmidt shows a large basal, conical patch on segment 9 (a Senegal specimen). This is also seen in varieties of Phyllonema nigroclusum specimens (fig. 22a), although normally the basal marking on this segment is reduced in
a small triangle (fig. 22b). A Uganda example is shown here, as well as the markings on the more mature Nigerian male (showing much reduction of the black) and the 18th segment of the terminal Nigerian specimen (fig. 22h), where the black saddle is reduced to transverse basal and distal lines. In the mature specimen the postpedipal is blue-green like the rest of the face. The juvenile example, however, has a black postpedipal, as in the Uganda specimen. In fact, it is evident that this is a variable species.

Anal appendages (fig. 22f), however, are typical in the Nigerian specimens. As indicated in the diagram here the superior appendage, viewed in side view, is well chitinized and black and has a black central tooth; the apex of the main appendage is slightly hooked. On the inner surface (fig. 22g), between main stem and tooth there is a softer area, while in terminal condition, blunted in adult. The inferior appendage slopes obliquely upwards to an incurved chitinous point.

Examples of this species with the heavier black markings on segments 3 to 10 are very similar in this respect to the normal form of E. nigeriaram Selys.

Eaudilaguna longifilae Fraser, 1947

Proc. R. ent. Soc. Lond. (B) 16: 146; II; Uganda.

Achanda, Kibiga, Congo (Flowers). This record extends the range of this species from Uganda to the Southern Congo.

? Eaudilaguna camerunensis Karsch, 1909

Ent. Voch. 25: 652; Cameroon.

Pala-Azam, Ghana: not a true Eaudilaguna.

Anegaram ? humuli Fraser, 1955

Proc. ent. Soc. Lond. 22: 283; Congo.

A small female of the genus Anegaram, the size of Anegaram Kimmisch, but with the black on the thorax very reduced may be a small specimen of humuli. It was captured in Elomubi Forest, M. Congo.

Pseudilaguna monilifera Karsch, 1936

Abb. reed. natur. Geol. 43: 66; 1.; Congo.

A little-known West African species. Elomubi Forest, M. Congo.

Pseudilaguna fuscicrus Fraser, 1917

Trans. ent. Soc. Lond. 98: 27; 1; Ivory Coast; idem. 1949. Explor. Part. no. Albert Miss. du W. 61; 8; 8; and F. Congo.

Fraser (1919) records the female without describing it. A specimen in
Chlorocera cancellata (Stål, 1870)


Born, Nigeria. Locally common in West Africa; especially in East Nigeria and in the Ituri Forest of the Congo.

C. curtis (Hagen, 1853)

Libellula curtis Hagen, 1853, in Stål, loc. cit. 20: Annota, 35: Giornali.

Locally common in parts of tropical Africa. Lastourville, Gabon.

C. cyaniris (Stål, 1873)


Chlorocera picta spec. nov., fig. 14-15

♂ Holotype (male): A very small species. Labrum yellow, black anteriorly; labrum black; epistome in front purple; above black; with trace of pale spot (which would be more conspicuous in juveniles). Head above black, with broad orange U which almost reaches lateral ocelli; orange triangular posterior spots. Prothorax black, with orange anterior and medial marks; small pale median and lateral spots; synthorax black above and almost to first lateral suture, with fish-back antennomeres developed but slender; sides yellowish with broad black band on second lateral suture. Coxae, distal ends of femora and the tarsi black, the legs otherwise bright yellow; an unusual feature, recalling the coloured, but expanded tibiae of the genus Phalacrocypha Frons. Wings hyaline but with bases amber; as far as known; pterostigma black and very small. Discoidal cell with one cross-vein. Hg bilaterally proximally to pterostigma; and unusual feature in Chlorocera Frons, rather like the condition in Colocypha Frons, but here with Ac basal to pterostigma. This bifurcation is probably of only minor significance since it occurs in the next smallest African species, Chlorocera septem (Sipterell); but in that species this fork is beyond the middle of the pterostigma. Abdomen rather slender, black above, marked with pale areas as in the figure; These on segments 1-7 orange-red, on 8-10 bluish (most probably sky-blue in life). Appendages black, the inferior rather longer than in most Chlorocera. Abdomen 14.5 mm, hindwing 15 mm, pterostigma 1.2 mm.

Paratypes very similar.

♀ Holotype (female): Head marking very like male, the epistome also purple in front, but usually with a large pale spot and a pair of such spots on the fossae. Thorax as in male, the antennomeres slightly broader. Legs black; femora yellowish at base, particularly on inner side; tibiae dull yellowish, brownish in flexur surfaces; tarsi black. Wings hyaline, greenish-fuscous at base and along costal area (in older examples the rest of the wing is fuscous). Pterostigma grey-brown with pale yellow central dot. Abdomen black with dull greenish-yellow markings arranged as in the figure; laterally on segments 2-7 with yellow mid-lateral streak and sublateral spot. Abdomen 13 mm, hindwing 17 mm, pterostigma 1.2 mm.

Paratypes similar. Wings more smoky in some specimens.

Remarks: Two males and a longer series of females, from Ennua Forest, Makom, M. Congo, August 1960 (H. K. Wauters). This colourfully marked species (with obvious choice of name) is the smallest of the family so far recorded in Africa. The next smallest is C. septem (Sipterell), a much duller insect in colour, not so slender and differing in other respects. Apart from its very small size, this new species is distinctive in the bicolorous abdomen, reddish on most segments, blue on the terminal ones. In this respect it resembles the slender curtis (Hagen), which, however, is scarlet and blue and has much reduced black markings; and the concolorovilorum group, in which the basal segments are greenish and brownish, the terminal ones purple; and in that group the mesepisternum are pale and thus lack fish-back antennomeres. Another obvious feature in the new insect is the bright yellow colour of the legs and the conspicuous black knees; in this respect it differs from all true Chlorocera species and since the tibiae are not expanded it cannot be relegated to Phalacrocypha. Because of its bilaterally coloured inferior appendages and the vivid legs it might be considered necessary later to erect a subgenus for this species; but it hardly deserves higher rank.

Plecky: Odonata from Tropical Africa
Holotype and one of paratypes, males and ten females, are in the National Museum, Kandy, Ceylon; one pair of paratypes is in the British Museum (Nat. Hist.), London, and another pair is in the Zoological Museum, Nairobi.

C. dispar ovulosa Fraser, 1917, p. 18.


One male, probably of this form or rare, in the Shambuli Forest, Makum, M.; Congo, August 1960 (leg. Watoli). The rounded spot on segment 2 of the abdomen is not completely divided by the black median line as in typical ovulosa, and there are indications of lateral extensions to the spot which are fading out. It may be a slightly younger specimen, and in all probability it is a development of C. d. pyrrhocephala Fraser, 1917.

C. dispar ovulosa Fraser, 1917.


One male, Mount Hoyo, Ituri Forest, Congo, March 1959, collected by R. Catesson and presented to the National Museum, Bulawayo.

Chlorocrasia sp. ovulosa Fraser. 1956.


Unlike true ovulosa the head markings are greenish, not orange; but colour-changes both in life and after death are misleading in this group. The thoracic "Y-shaped" mark is very broad. Abdominal red, with two black distal dots on 2, 3. A large insect, hindwing 21 mm. Keta Forest, M.; Congo.

C. gourala (Karsch, 1899).


An elegant little dark species, related to dispar (Bemaraha, Madagascar; Sende Forest, M.; Congo. It is common in the South Cameroons.

C. lunata (Karsch, 1893) = "conspicua" = "lunata".


Vuyu, Togolând; Benin, Nigeria. It is one of the commonest species in south Central Africa.

C. rubida (Hagen, 1864).


Locally common in equatorial Africa. Benin, F.; Nigeria; Lusumville, Galon.

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Pickering: Okangetsu from Tropical Africa

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17. Chlorocrasia picta sp. nov., a-b. A, head and body markings; 10th segment and anal appendages; c, abdomen of female.


19. Proactinopyga incerta sp. nov., a-b. A, anal appendages, from left and from above; c-d. type 2; base of left and right forewings, respectively; e, v, hindedge of prothorax.

20. Trichia fornasini sp. nov., A, A, accessory genitalia, from right.
S. glabrum Selys, 1873.

Bulletin Acad. Belg. (2) 34: 611; Gabon.

The commonest species of Sphaea in the former French Equatorial African region. Keta and Mambili Forests, M. Congo; Lastoursville, Gabon.

Family COMPHIDAE

Ictinogomphus femoralis (Rambur, 1842)

Ictinus femoralis Rambur, 1842; Neopretia: 172.

A few years ago, Dr P. Corbet submitted a consignment of Odonata containing three very general specimens (two males, one female) of an Ictinogomphus collected in a mercury vapour light trap at Kigoma, on the north-east shores of Lake Tanganyika, 16-17.VIII.1956. Although distinctly smaller than I. femoralis (Rambur), to which they were closely related, it did not seem advisable to describe them as a new rare or species, since their markings were faint and none of the body features (genitalia, etc.) somewhat crumpled. Since that time two other species have been described; the large and dark I. fraseri Kinomia, 1958, and the small and paler I. dundulis Pinhey, 1953, the latter only known in the female. On request, Mr A. E. Gardner, now holding Corbet's material, kindly resubmitted the Kigoma specimens for further study.

It is evident, however, that in markings, nyal appendages, flaps on segment R, cerci and vulvar scales it is very close indeed to I. femoralis (Rambur), or to the variety of that species, I. pagana (Selys). Accessory genitalia of the male are too crumpled for close comparison without dissection and manipulation. The only obvious difference is in size:

Kigoma species: ♂ and ♀: abdomen 42 mm, hindwing 41-12 mm, pterostigma 5.5-5.5 mm.

I. femoralis: ♂ and ♀: abdomen 50-55 mm, hindwing 45-15 mm, pterostigma 5.5-6.0 mm.

I. regialberti (Schouteden, 1934) and I. fraseri Kinomia are very large and much darker species. I. dundulis Pinhey is so small as the Kigoma insect but differs markedly in the shape of the distal cell of the forewing, the body markings and the great reduction of the flaps on segment R of female.

In view of more mature individuals it is therefore only safe to suggest that the Kigoma specimens are a dwarf form or race of femoralis. Gardner has kindly intimated that one of the males may be retained in the National Museum. No varietal name is required at this stage for these insects.
Ictinoglyphus fraseri Kimmins, 1956


One male from Victoria Falls, Zambesi, April 1955. The abdomen is incomplete, but the thoracic markings and necessary genitalia agree with fraseri.

Diamantomyia trivolaer (Heuvelin, 1905)

Aedea trivolaer Heuvelin, 1905. Insectes trouvés en Afrique et en Amérique ... 67, pl. 3.

Mambili and Ketta Forests, M. Congo. The author has also taken this at Douala, Cameroun.

D. ? trivolaer Siéys, 1909


One male, Ikoro, East Nigeria. In its appendages and dark thorax, this specimen agrees with trivolaer but the antennal stripe, as in trivolaer, is confluent with the mesothoracic collar. It may be a variety or race of trivolaer (Heuvelin).

D. multilineata Fraser, 1909


A little known specimen: Prünü-Annam, Ghana.

D. selzy Schmidt, 1914


Ketta and Mambili Forests, M. Congo. Closely allied to multilinatata Fraser and multivolaer Pinhey.

D. multivolaer Pinhey, 1901

A survey of the dragonflies of Eastern Africa 113

Described from the Congo-Uganda border. One male near Lusunsville, Gabon.

Geophila bispinosa Fraser, 1919


Ketta Forest, M. Congo.

G. micra Pinhey, 1906

loc. cit.: 84.

Described from Northern Uganda, a short series was collected at the Kasuma Falls, Victoria Nile, Uganda (Geber).
**Phyllogomphus angustus** Togolo, 1954

Bull. Acad. Belg., (2) 21: 43, Congo

One male of this West African species from Vuno, Togoland.

**Neurogomphus** *Bryson, 1955*


A large female from Sembé Forest, M. Congo, probably belongs to this species.

**Family Aeshnidae**

*Helicolenioidea* Bryson, 1928


*Sembé Forest, M. Congo.* This extends the range of this Ugandan species.

**H. litoralis** Karsh. 1933


*H. litoralis* sembe sp. nov., fig. 2a

From the data available at present the only significant difference is the larger size of the last two females. But it may be mentioned that a female described by Canet (1956) from Uganada is distinctly broader than one described by the present author (19594) from the Victoria Falls.

<table>
<thead>
<tr>
<th>Example</th>
<th>Number of Ax in Forewing</th>
<th>Abdomen in mm.</th>
<th>Hindwing in mm.</th>
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<td>32</td>
<td>21</td>
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<tr>
<td>Type angustus ♀, Sierra Leone</td>
<td>14</td>
<td>20</td>
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<td>N. Rhodesia ♀ &amp; Vinct, Falls</td>
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<td>Montunguza, Elisabetta, Gabon</td>
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<td>20–30</td>
<td>19–22</td>
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<td>S. Salisbury, S. Rhodesia</td>
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<td>S. Jungle, Uganda</td>
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<td>S. Victoria Falls</td>
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<td>22–23.5</td>
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<td>S. Borana, Equ. Africa</td>
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<td>34</td>
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**Neurogomphus ictinus** Schenck, 1954


A scarce species in a little known area from tropical Africa. A male from Mkenza Forest, M. Congo.
shorter, 6 mm, with longer pedicel, apical point more prominent. Holotype in National Museum, Bulawayo.

Ansothracea africana (Heer, 1895)

Ansothracea aferica Brandt, 1895, Insulae racovitae in Africa et in America ...

Bom. Nigeria; Sende Forest, M. Congo; Stanleyville, Congo (Plancius).

A large species, widespread in tropical Africa.

A. cylindrica (Karsch, 1891)


Bom. Nigeria; Maso, South Cameroun; Mekom Ma Forest, M. Congo. Also a fairly widespread species.

A. bullata (Karsch, 1891)


Kotts and Mekom Ma Forest, M. Congo. One of the commonest species of the genus in Africa. It seems probable that Fren's subspecies elongata (1857) from the Congo, with its very long appendages, is a distinct species.

A. ? fucata (Fercer, 1896)


One male, Mekom Ma Forest, M. Congo, may be this species. It is near victoriana Pinhey (1906) from Uganda, but the appendages are more robust and the inferiors longer than in that species.

A. nigricans Gamble, 1906

Ent. man., Box. 92: 194, H. L. Northern Nigeria.

This Nigerian species is closely allied to the following one. One female was submitted from Ibadan, Nigeria (H. J. Sutton fig. 1).

A. seraphinae Pinhey, 1906

A survey of the diapriids of Eastern Africa: 100; Uganda.

A series of males submitted by W. Wallack from Kotts and Mandali Forest, M. Congo, are slightly larger than Uganda specimens, but within the range for that species.

Palaean: Odontia from Tropical Africa

Family GHIDULIIDAE

Neopalaean alister (Selys, 1831)

C.R. Soc. ent. Belg. 16: 17, l: Old Calhoun.

A large male and a female from Kotts Forest, M. Congo, November 1899, may represent a distinct race of this delicate species, because of the extensive数目 areas on the wings: in male almost to nodus in forewing, up to nodus in hindwing; in female to nodus in forewing, nearly to posterior in hindwing, thus leaving only a small hyaline apical patch on this wing.

Genus MACROMIA Hamburgh, 1812

Some notes are submitted here on structural details of males of some species. In other species, either these details are considered in another paper under preparation on Central African species, or only the female has been available.

M. acutangulata (Martin, 1906), fig. 6


Leisorhina, Gabon. In the male of this dark species segment 3 has a strongly protruding central lobe; 9 is raised above in basal half; 10 has a stout spine and central spine. Appendages black, basally as in M. pirica (Selys group, but posterior lobe slightly incurved on free margin.

M. acutipennis F., 1951, fig. 9


Bom. Nigeria; Kotts, Mandali and Mekom Ma Forests, M. Congo. Segment 3 slightly shorter; 10 with rounded base and two small spines. Appendages black. West African examples are normally larger than the typical Uganda form, but one Mekom male is an exception. Uganda a2 = 20 mm, abdomen (without appendages) 36-38 mm, hindwing 32-34 mm. Bom. abdomen a0 = 30 mm, v. 12 mm. hindwing 35, v. 39 mm. Kotts and Mekom a2 = 12 mm, abdomen 37 mm. Small Mekom a0 = abdomen 33 mm, hindwing 34 mm. Mekom 9, abdomen 45 mm, hindwing 10 mm.

M. bicarinata Kotts, 1906, fig. 11

B. manueli, Ver. Nat.lis., 39: 320; Sambesi.

on mesepimeron, metepimeron and metepimeron, respectively. Abdomen very black, with reduced yellow markings. Segment II scarcely expanded; 10 with cylindrical tympanum bearing two spines. Hamules like pieta (Selys), but the hook more robust. Phasmidium and venum black; hindwing 11.5 mm.

M. congolensis Fraser, 1958
This is figured in another paper under preparation. Keto Forest, M. Congo.

M. insigne (Selys, 1878), fig. 10
Ibom, Nigeria; Melokon, Keto, Mandell and Somali Forests. M. Congo. Exclusively common in West Africa. An enormous black species, related to M. africana Selys but lacking the gold (hilarian) band. Segment II not expanded; 10 with robust cone and single vertical spine. Appendages black; hamule very large and robust, with broader hook. Female terminalia very similar to Selys.

M. continuus (Selys, 1878)
Physyalacronius continuus Selys, 1878, Ent. mon. Mag. 16: 163; W. Africa.
A solitary female from Lautonville, Gabon, with strong, deep brown basal markings on the wings is probably this species.

M. fuscata Martin, 1906, fig. 6
Coll. Zool. Selga 17: 75; Cameroon.
Keto, Melokon and Somali Forests. M. Congo. Segment II not swollen; 10 with robust cone and vertical spine. Appendages black; hamule penile; the hook inclined and angled.

M. kochi (Greensberg, 1911), fig. 1
Physyalacronius kochi Greensberg, 1911, Ent. Rund. 28: 103; Lake Victoria.
So far only known from Uganda. Very close to M. pieta Selys and probably only a melanistic form of that species, which normally inhabits open bush country. Segment II with slight prostration; 10 with small cone, and a spine pointing posterior. Appendages yellow, but the inferior black ventrally: hamule as in pieta (Selys).

M. ? spechtii Fraser, 1951, fig. 8
Males from Lomandji and Keto Forests. M. Congo, agree fairly well with

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this species but lack the basal swelling on the superior appendage. Thorax with three prominent yellow lateral stripes. Forens and vertex metallic blue-black. Abdomen mostly black. Segment II a little swollen laterally and posteriorly; 10 with robust cone and vertical spine, the cone with a small posterior hair-tail. Appendages black; hamule very robust, with an exceptionally long, incurved hook, closely applied to the hamular base (i.e., the "claw-like hook" of Fraser's speci)

M. contorta Martin, 1906
A tropical African species which the present author has taken in Katanga. Ibom. Nigeria. To be figured in another paper.

M. paludicola Fraser, 1906, fig. 3
Only known from East Africa. Segment II with strongly protruding fold; 9 above with slight tumour; 10 without a true cone, but with a very elongate, anteriorly procumbent setose horn, half yellow and half black, terminating in a single spine. Superior appendage black, with row of small ventral knobs; inferior yellow: hamule of pieta group.

M. schuberti Fraser, 1958, fig. 5
From the Congo, but not in the collections under consideration here. Segment II as in pieta (Selys); 10 black but with the spine vertical. Appendages yellow, apicin with ventral tooth; hamule with hook no longer than pieta but more curved.

Family LIBELLULIDAR
In these West African collections material of this family was more extensive than of other families. A few of the more interesting species will be discussed here.

Genus TETRATHESIS Brues, 1908
Fraser (1911) gave a key to African members of this genus and described a new species, T. bijida, from Uganda. T. godfreyi Longo, 1921, was omitted from this key, and there is a more recently described species, demicordatum Fraser, 1951. Of the African members of the genus, eumenemus Sjostedt, 1895, and bijida Fraser have the superior appendages of the male.
about three times as long as segment 10. It is these last species with which the present remarks are concerned.

In conversation with the present author in 1928 Mr J. Goeben expressed some doubt about Fraser's identification of Sjöstedt's occurrence, considering that this species has strongly bilid oval appendages. Sjöstedt's description does not clarify this matter (1899). Converting the anal appendage he says: "Aulnden schwach, oval, von etwas gerader mit stark divergierenden Spitzen, die Oezeren von der Seite geschert gleich breit, nach hinten etwas länger als das 8. Segment, die Unteren etwa 1/5 kürzer..." Unfortunately the type in the Stockholm Museum lacks its abdomen. His (1899, 33, fig. 17) does not describe the shape of the apex of the inferior appendage, but from the drawing, which may be assumed to be accurate although it was from a specimen in Martin's collection and not from the type, it would appear that the apical notch is a shallow one. This cannot be accepted as conclusive, but these species are very close in other respects and the present author accepts Fraser's interpretation.

In material of this genus collected by the author in West Africa there is a distinctive third member of these species with elongate superior, which is described below as *Togo*; since the appendage has a deep, U-shaped furrow (fig. 15), in *hijada* (fig. 14) there is a U-shaped notch, not as deep; and in *coronariorum* (fig. 15) there is only a shallow depression.

Some of the localities for these three species are: *T. coronariorum*: Cameroon, Eastern Nigeria: Akossom, near Bonny; German: Prah-Anam, a native; Bouba; Kamerun; Togo; Gaboon; French: Prah-Anam; A. Douarini, 1881; Northern Congo and Middle Congo; Bandi, Bin, and Fosso; Cameroun; Makojoa; Woon; Prah-Anam, Forest and Kohoun; South Benina (Corseti), *T. togoe*: Cameroon; Bouba.

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*Protantheceus salvi sp. nov., fig. 15*

*Holotype* (males): Very like *T. hijada* Fraser and *T. coronariorum* Sjöstedt. Labium bright orange; posterior lobe and inner margins of lateral lobes black; labrum black; epistome, pronotum, and outer lateral angles of frons pale greenish-yellow; eyes of frons and vertex deep metallic blue. Thoracic markings normal; mid-dorsal stripe yellow, lateral bands green, becoming yellow ventrally. Venation and pterostigma black; forking with 8 AS, 7 PS; only the most vestige of basal notal. Abdomen normal marked. Superior appendage (fig. 15) at least three times as long as 10, their spines more and divergent, as in the other close relatives. Inferior appendage with a very deep, U-shaped incision. A slightly larger insect than *coronariorum*. Abdomen 1.75 mm, hindwing 25 mm, pterostigma 2 mm.

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*Allotype* (male): Very similar to male. Abdomen smaller. Vulvar scale typical. Abdomen 18 mm, hindwing 26 mm, pterostigma 2 mm.

**Remarks:** Holo- and allotype taken in forest a few miles east of Bonny, Cameroon, March 1928; in collection of National Museum, Buea-Boo.

***Pinkery:** Odontota from Tropical Africa***

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*Allorhizocera kingi* Karsch, 1890

Prahl-Anam, Ghana: Ketta, Sende, Mambili and Makum Forests, M. Congo.

*H. praehiliphi* Karsch, 1891

*Ent. Nac.: 12: 85; Camerouns. Ketta and Eoombe Forests; and from other territores.

*Microcononopus coronariorum* Karsch, 1890

Prahl-Anam, 12: 85; Camerouns.


*Asalothrips africanus* Fraser, 1955, 12


*Lang-arsini, Ketta and Makum Forest, M. Congo. A little known and local species.*

*Hydronothrips cornutus* (Karsch, 1891)


One of the commonest troglaphiles in collections from West Africa. Prahl-Anam, Ghana: Yeo, Togo, Togoland; Ketta and Makum Forests.

*H. coronariorum* (Kirby, 1899)


Rather less common than *H. cornutus* (Karsch), Prahl-Anam, Ghana: Bum, Nigeria: Ketta Forest, M. Congo; Stanbeyville, Congo; Lastoursville, Gabon. An example from Eoombe Forest is very deeply fringed all over the wings, almost like *H. trilobata* Schouteden, but the fringes are distinctive.

*H. defera* (Karsch, 1891)

*Thermonothrips defera* Karsch, 1891, loc. cit.: 17: 63, 63; Steen Lause.

Nearly as common as *H. cornutus* (Karsch). Bum, Nigeria: Ketta, Mambili and Makum Forests, M. Congo; Lastoursville, Gabon.

*H. versuta* (Karsch, 1891)

*Thermonothrips versuta* Karsch, 1891, loc. cit.: 17: 62; Camerouns.

Ketta, Mambili and Makum Forests, M. Congo. Common in West Africa and the present author has taken it in Northern Rhodesia.
Phalaenopsis, Camen. Stanleyville, Congo; Lastoursville, Gabon; Eouni Forest, M. Congo.

Ophrys stauntoni Longfield, 1896

Although described from an island (Kalib) near the Victoria Falls this species does not appear to be common in Rhodesia. It is a widespread tropical African species and the Zambesi is probably the southern limit of its range. Phalaenopsis, Camen.

O. aestrodu (Kirby, 1899)

Local in the larger forests of tropical Africa. Kita Forest, M. Congo.

O. africana (Selys, 1837)

Polyopilona iterta (Drury, 1773)
Libelliidae: Drury, 1773, Illustrations of Natural History ... Insects, etc. 2: 32. forma graffii Martin, 1912, Peent, spec. Nat. 42: 92; French Guiana.

One male of forma graffii, amongst typical examples, from Mambili Forest, M. Congo; others from Lastoursville, Gabon.

Achthosithonia sentulikii sp.nov., figs. 16 a-b
q.: Holotype (male): Labium broadly black in centre, yellow on lateral lobes, edged finely with black; labrum black; epistoma, genae and lower edge of frons pale grey-green; rest of frons and vertex dark metallic blue; back of neck pale black; lower posterior margin abouy the eye: yellow. Thorax black; narrow, fusiform, grey-green antecostal, mesepimeron with greenish stripes; metepisternum with trinicate narrow stripe; metepimeron mainly greenish. Legs all black; claw-bank very short. Ventricle and pterostigma blackish-brown; wings faintly with small amber basal patches; membrane blackish. Discoidal cell of forewing a broad right-angled triangle with coatal edge more than half the proximal edge; all triangles and hypertriangles free; subtriangle in forewing crenated. Forewing with 10-11 A, the last complete; discoidal field of two rows, expanding before nodes; anal loop long but blunt. G-

cured. Abdomen and appendages black, abdomen swollen at base, the remaining segments slender; a pale greenish lateral patch on segment 1; a post-dorsal lateral patch and a subdorsal stripe on segment 2; a laterolateral yellowish-green patch on segment 3. Abdomen (without appendages) 25 mm, hindwing 25 mm, pterostigma 2.5 mm.

Remarks: Named after Mr B. K. Watvedi, who collected one male in Mambili Forest, M. Congo, June 1900. It is nearest to A. boulengeri Fraser, 1954, of the named species of Achthosithonia with its dark blue frons and amay wings, as well as the slender body. It differs in having narrower antemerals on the thorax and the sides are mainly black, with pale stripes instead of the reverse in Boulengeri. Harnelle robust. The broad triangle of the forewing is presumably an indication that this is a primitive member of the genus. In other respects it agrees with the usual condition of the group whose generic status is somewhat controversial. Holotype in National Museum, Bukavu.

Theraphosidae equatoriae Kirby, 1899

The typical form, with a black subcostal streak of variable length on the forewing, is represented in these collections from Kabamba (Katanga) and Stanleyville, in the Congo, collected by Ploven and Mphsta. Amongst these is also the unannounced form mentioned by Hils (1910) from Katanga, lacking the streak altogether from Nia Nia, Katanga and Kabemba. One other male had traces of the streak, thus indicating that it is no more a rarity occurring in that region. It is quite distinct from T. iquitoriae (Martin) also lacking the streak. The present author has taken the latter out far from the type locality on the East African coasts. It is a different species from equatoriae. The form pieta Sjöstedt, 1899, from Cameroon, a variety of equatoriae with a very long subcostal streak, as well as other black lines on the forewing, and a shorter subcostal streak on the hindwing, seem to be much less common. Examples in these collections are from Ikom, Nigeria and Lastoursville, Gabon.

Chilocrotonia furcata Kirby, 1899

Males taken by the author in Cameroon and Nigeria, and more particularly the Gabon examples out by Piaget, tend to have narrow brown wing apex, unlike those of Uganda and East Africa, in which the apex are hyaline. Lastoursville, Gabon; Eouni Forest, M. Congo.

Porphyrophora dana Fraser, 1954

One male, Eouni Forest, M. Congo. The present author has also taken specimens in Katanga and Northern Rhodesia.
Trithemis famosa spec. nov., fig. 20

♂ Holotype (male): Labium yellow, with the median lobe and a broad inner margin to the lateral lobes black; labrum black; face and rest of face ochreous, with narrow black margins in each part; frontal groove shallow; clypeus and a broad basal band covering half the dorso of the frons black with hirsute-glossy reflections; scutal triangle brown. Syntarsus black in just below humeral suture, with a broken yellow antedunum stripe consisting of an elongate ventral triangle and a small dorsal spot. Sides of thorax yellow, with the mesal black, triangular, horizontal stripe and black edging to segments. Legs black, brown on coxae and trochanters. Wings light fuscous, without amber basal marking; tinged with pale-bronze in costal zone from before nodus to apex and with a large apical patch of the same colour. Hindwing also tinted posteriorly, but less strongly than on costa and apex. Forewing with 12; AS, the last incomplete. T. E; pleuro-stigma ferruginous, between black veins. Abdomen triquetrally, tapering, not constricited at segment 3; black with double row of yellow lateral streaks except on segments 9-10, with only the more dorsal streaks; centrally also with yellow streaks. Abdomen as long as hindwing. Anal appendages brown. Hook of harpe moderate. Abdomen (without appendages) 22 mm. Hindwing 29 mm. Pleuro-stigma 3 mm.

Remarks: Two males, Escombi Forest, Mekong, August 1960 (R. K. Watuliki). By body markings and triquetrally abdomen this is near prunius Karsch and ellensbecki Foerster, but it differs in lacking pronotum and in having fuscous wings (hence the name) and brown apices. In its absence of blue on the body and in the presence of fuscous on the wings, it is like the paler winged anoma Philby, in which the abdomen is more slender and the anterior limita more elongate.


Trithemis prunius Karsch, 1891

Ent. Nacht. 24: 362 (non nov.); klem 1899, Nat. 25: 106; Tweet.

This dark blue species, so easily mistaken in the field for ellensbeckii Foerster (etzl Longfield) until the necessary appendages are examined, seems to be widespread but uncommon. In the collections under review, only from Lambertville, Gabon.

T. irtipennis Fraser, 1953


This striking species has been submitted from Sembali, Mekong and Manduli Forests, W. Congo, and Lambertville, Gabon.
Zygomyx falax (Schouteden, 1914)


One female, Radishiri, Congo, collected by Pliner.

_Z. pretiosa_ (Katrich, 1891)


Known, Nigeria, collected by Watatilki. Only females are known of this magnificent amber-winged insect.

_Z. pretiosa_ Fraser, 1957. Plate 1, figs. 1-2


Some females of this insect were collected in Mambilla and Etomblu Forests, M. Congo by Watatilki (plate 1). Four of the females were probably immature. The olivaceous brown transverse band across the middle of the wings is incomplete on the forewing and much narrower on the hindwing than in Fraser’s illustration. These specimens were captured in the months of June to August, 1960. Another female (fig. 2), probably the same species, is obviously much older since the wing veins are deep brown in the area of the fascia and the cells are paler; a condition frequently seen in aging species which have wing markings. But in this female, however, the olivaceous band has given place to a complete reddish-brown area covering the whole of each wing from base to nodus; the exterior limit of this area irregular but showing a tendency to be straight nearly perpendicular (in the nodus), instead of falling back obliquely. In the posterior costal region of the forewing there is a slender streak as far as the prenotum (as in the less mature examples); and the base of the hindwing shows the deep brown triangular patch (as in the other), although this is nearly obscured by the wide brown fascia. This female was captured in September, 1960. It may ultimately prove to be another species on the other hand it may be the final stage of the female _pretiosa_. Males of a _Zygomyx_ species which are probably this species were taken by Mr Watatilki in the Keta Forest. They appear to be the same as _Z. predigana_ Fraser, 1958. If this surmise is correct then _predigana_ is the unknown male of _pretiosa_.

_Z. eugenei_ Pliner, 1961


A female, seen by the author, flying with _eugenei_ males near Mantsi, South Cameroons, appeared on the wing to have as much amber on the wings as _pretiosa_ (Katrich). The area was close to the Koina locality where Mr Watatilki collected females of the latter, Keta Forest, M. Congo: Lastomville, Gabon.
South African Horsellies of the tribe Pangonini (Diptera: Tabanidae)

by

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(Submitted through B. R. Stuckenberg, Natal Museum, Pietersburg)

The classification of Macquart (1851: 435) divides the subfamily Pangonini into three tribes: Pangonini, Sciiniini and Philidiniini. In a survey of the Tabanidae of the Ethiopian Region (Olbroyd, 1957: 31) I concluded that all the known Pangonini of this Region belonged to the tribe Philidiniini, with the exception of two specimens of uncertain generic position. One of these, a female-horsell with hairy eyes, had been taken in the Cape Province, and was discussed and figured, but not given a name (ibid., p. 365).

Me and Mrs. H. R. Stuckenberg have recently sent to me a male and a female of another hairy-eyed species, which they found sheltering in rock crevices in the Western Cape Province. Though specifically distinct from the earlier specimens, they are clearly closely related, and dissection of the male shows the genital styles to be clearly bipinnate, in the manner that Macquart considers to be characteristic of the tribe Pangonini.

In discussing the earlier specimen I commented on its resemblance to the Australian Exostephus Macquarti, subgenus Parasynaxis Ferguson, and this comparison is strengthened by the evidence of the two new specimens. They share with Parasynaxis the hairy eyes, more densely so in the male, the ancestral structure, and the shape of the eighth sternite of the female; whereas the closed first posterior cell of the wing, the trace of a linear frontal furrow, and the longer pronotum of the new species are more like the Neotropical genus Exostephus Roeweri (Macquart, 1905: 501, fig. 20).

I have previously speculated (Olbroyd, 1957: 52), whether primitive groups of Pangonini might not have originated in South America, and spread into Africa as well as Australia by a southern route. From Macquart's account as well as my own observation, it seems that Exostephus is a complex of closely allied, primitive species, perhaps an active centre of evolution. Macquart has emphasized the link between Neotropical Exostephus and Australian Austostephus Macquar and Exostephus (including Parasynaxis).

It seems logical to consider the two African species under discussion as belonging to a new genus, standing in much the same relationship to Exostephus as do the two Australian genera mentioned above.