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A REVISION OF THE CHLOROCYPHIDÆ.
ADDENDA WITH KEY TO THE PLATYCYPHA AND CHLOROCYPHA AND DESCRIPTIONS OF NEW SPECIES.

by Frederick Charles Fraser (Bournemouth).

My « Revision of the Chlorocyphidæ » which appeared in Bulletin, Tome XXV, N°6 of the Institut royal des Sciences naturelles de Belgique, 1949, had only just been published when I received from Mr Elliot Pinhey of the Coryndon Museum, Nairobi, a new species of *Platycypha*, the description of a second one and specimens of both sexes of *Platycypha auripes* (Förster), a species which had not been found since the time it was first described. Further more, I received from Dr Erich Schmidt of Bonn, a dossier of notes and beautifully executed figures of a number of types which he had personally examined and which he generously gave me permission to make use of. Lastly Dr Elli Franz, at my request, sent me a coloured figure of the type of *Libellago aphrodite* Le Roi, which was in the Senckenberg Museum, and in addition, sent me full figures of the head-markings of a number of other specimens which were in the same collection, together with a copy of the notes made on them by the late Dr F. Ris. To all these three scientists I extend my acknowledgments and grateful thanks, for it is now evident that I am in a position to complete the revision of the species included in the two genera *Chlorocypha* Fraser and *Platycypha* Fraser, and to clear up the obscurity of those

species which I had included under « *incertæ sedis* » in the above mentioned work. The latter genus now contains five species of which the females of three are known, so that it is now possible to add to the definition of the genus, characters belonging to both sexes. From the new facts acquired, it is seen that the two species *aphrodite* Le Roi and *croceus* Longfield are quite distinct, agreeing only in the blue colour of the abdomen. From the figures of *Libellago gracilis* Karsch, type, supplied by Dr Schmidt, it is clear that this species must be valued as a species or subspecies rather than as a synonym of *L. dispar* Palisot de Beauvois.

Genus Platycypha Fraser.

Key to Species of the males.

1. Middle and hind tibiæ broadly dilated, scarlet-red on the extensor surfaces, chalky white on the flexor ... ... 2.
   Middle and hind tibiæ moderately dilated, bright ochreous on both surfaces ... ... *P. auripes* (Förster).

2. Ground colour of the abdomen blue or bluish green... 3.
   Ground colour of the abdomen blood-red with some restricted black markings on the basal segments ... ... *Platycypha* sp. Pinhey.

3. Black markings on segments 3-6 restricted to the apical border, those on segment 2 at base and apex of dorsum, absent or but poorly defined laterally. Ground colour green or bluish-green throughout. *P. pinheyi* sp. nov.
   Black markings on segments 3-6 V-shaped, bordering the sides and apical borders ... ... 4.

4. Blue spots on dorsum of segment 2 entirely enclosed with black, the latter bordered outwardly with ferruginous : black bordering of blue dorsal spots on segments 3-5 converging apically, the blue spots pointed apically (Fig. 3, F)... ... ... *P. caligata* (Selys).
   Blue spots on dorsum of segment 2 not bordered with black outwardly or but partially so and with no ferruginous externally : black bordering of blue dorsal spots on segments 3-5 almost parallel, the blue spots truncate apically (Fig. 3, E) *P. lacustris* (Förster).

Definition of genus *Platycypha* : Large or moderately large species differing from those of *Chlorocypha* in that the males possess broadly or moderately broadly dilated tibiæ coloured bright ochreous or scarlet-red : in addition to the broad dorsal pale markings on abdominal segments 2 to 4 or 7, both sexes possess a pair of dorso-apical, small triangular pale spots. Genotype *Platycypha caligata* (Selys). Distribution solely ethiopian.

Platycypha auripes (Förster). (Fig. 1, *1-5.*)

Libellago auripes Förster, 1906, Jahresber. Mannheim, 71/72 : 58.

As I had suspected from the pale colouring of the tibiæ of the male, this species has the tibiæ distinctly keeled and dilated laterally although Dr Förster failed to notice this fact. Mr Pinhey has sent me three males and a single female, all from Nyeri, Kenya, 19. VI. 49 and, of the males, he had added the following note : « In life, abdominal segments 1-4 green dorsally, 5-10 sky-blue. » The dried specimens before me show the basal four segments to be of a dull golden yellow colour with the dorsal dark marking on segment 2 closely similar to that of *P. lacustris* (Förster), whilst the same markings on segments 3 and 4 are restricted to the apical border of segments and enclose a small geminate triangular spot of a brighter golden yellow. The blue colouring of the apical segments is only decided in one male, it is obscured more or less by post-mortem changes in the two others. The tibiæ are a bright golden yellow and the femora are also marked with this dorsally (extensor surface). Although the tibiæ are much less appreciably dilated than the other four known species of the genus, its relation in this genus is proved by the close resemblance of the abdominal markings to those of *pinheyi* which latter has the tibiæ as dilated as in *caligata*. *Auripes* and *pinheyi* by the peculiar nature of their abdominal markings stand rather apart from *caligata* and *lacustris*.

The ratio of the length to breadth of the tibiæ of four species of *Platycypha* which I have examined is as follows :

Species	Length	Breadth
C. lacustris (Förster)	74	15 mm.
C. caligata (Selys)	57	11 mm.
C. pinheyi n. sp.	60	7.5 mm.
C. auripes (Förster)	78	5 mm.

A revised description of *auripes* follows together with the description of the hitherto unknown female.

Male : Abdomen 22 mm. Hindwing 26 mm.

Head : labium yellow at base, black at apical border : labrum greenish yellow encircled with black which sends in a medial prolongation from the base : epistome black with its sides anteriorly and a variable rounded or triangular spot above dull yellow : the bases of mandibles and genæ up to roots of antennæ bright chrome yellow : frons black with a large pair of anterior quadrate spots and a smaller pair of transversely oval ones posterior to them. Vertex and occiput black with a pair of postocular oval yellow spots and a forked-shaped spot whose prongs embrace the ocellar space from behind. Prothorax black, the posterior lobe broadly yellow as well as a large triangular subdorsal spot on each side of middle lobe and two middorsal geminate spots. Thorax black marked with greenish yellow as follows : the middorsal carina finely but this expanding in the mesothoracic triangle : antehumeral and humeral stripes broadly confluent anteriorly to form the conventional « fish-hook » shaped spot. A narrow posthumeral stripe which may be confluent above with the lateral yellow : a short black stripe on the upper half of the 1st lateral suture and a narrow black stripe over the whole length of the 2nd lateral suture. Legs bright ochreous, femora marked with black on the flexor surface (the anterior one almost entirely black), tarsi and claws black as well as the spines. Expansion of tibiæ most marked as a membranous keel on the outer sides of the middle and hind limbs. Abdomen (in life) with segments 1-4 greenish yellow, 5-10 cærulean blue marked with black as follows : segment 1 with a large dorsal quadrate black spot extending from base to apex, segment 2 with a basal transverse stripe with sinuous border connected by a narrow middorsal black line to an apical transverse thicker stripe which also has a sinuous border and encloses an apical geminate bright yellow spot made up of two tiny triangles (in some specimens the basal and apical black tend to become united subdorsally by an obscure cloudy streak) : segments 3 and 4 with the middorsal carina finely black and an apical marking similar to that on segment 2 ; segment 5 with a pair of subdorsal black spots at apex confluent with a black apical ring ; remaining segments unmarked. Anal appendages black, of the conventional

shape. Wings palely tinted with yellow at bases to as far as the discoidal cells which latter are traversed by a single crossvein. Pterostigma black.

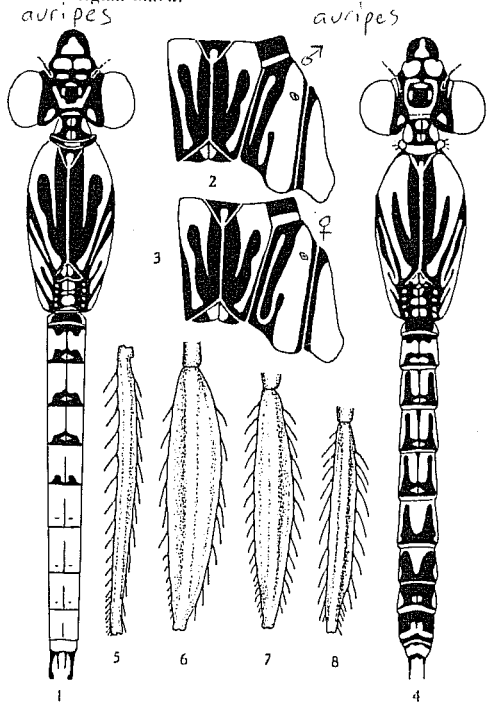

Fig. 1. — 1. *Chlorocypha auripes* (FÖRSTER), male. 2. — Diagram of thoracic markings of same species. 3. — The same of the female. 4. — *Chlorocypha auripes* (FÖRSTER), female. 5-8. Hind tibiæ drawn to the same scale of : 5. — *C. auripes*. 6. — *C. lacustris* (FÖRSTER). 7. — *C. caligata* (SELYS) and 8. — *C. pinheyi* sp. nov.

Female : Abdomen 18 mm. Hindwing 26 mm.

Head : labrum greenish yellow with only the base and middle narrowly black; epistome dull yellow anteriorly with its upper and mid portion infuscated, black superiorly marked with a sharply defined triangular yellow spot with its base resting on the frons : the latter, vertex and occiput black marked as in the male but the limbs of the fork-shaped spot confluent anteriorly with the posterior pair of oval frontal spots so as to almost enclose the black ocellar space. Prothorax and thorax marked with bright greenish-yellow as in the male but the posthumeral narrow stripe confluent above with the yellow of the sides. Abdomen with the dorsal spot on segment 1 falling short of the apical border, segment 2 exactly similar to the male, segments 3-5 similar to the male but the outer ends of the apical black border prolonged as thick stripes which almost reach the bases of segments and together form thick U-shaped dorsal markings : segments 6 and 7 with similar markings but thicker and shorter and the apical geminate spot absent : segment 8 black with a small round yellow apico-dorsal spot and the sides broadly : segment 9 similar but the apical spot confluent with the intersegmental yellow apically. Segment 10 yellow save for a narrow black basal line. Anal appendages black. Wings similar to the male : pterostigma black with its centre obscurely dark ochreous. Legs black, femora and tibiæ with a yellow stripe along the extensor surface. The type came from Ngwelo, Usambara, Congo Belge : another male bears data : Naurugu River, Kenya, 8000', ix. 40, coll. G. Van Sommeren. Mr Pinhey's specimens are from Nyeri, Kenya, 19-VI-49.

Platycypha pinheyi sp. nov. (Fig. 2, *1* and *2*; fig. 1, *8*.)

Male only known. Abdomen 17 mm (without appendages), Hindwing 18-20 mm.

Head : labium ochreous, black at apical border : labrum and epistome black, the latter bordered on each side with ochreous; frons black, the anterior pair of spots absent, the smaller oval posterior pair present and of moderate size (In a strong light, there appears to be obscure signs of anterior spots, so these may have faded from postmortem changes ?). The epistome anterior to frons broadly greenish yellow; vertex and occiput black marked with large comma-shaped postocular yellow spots and vestiges of a fork-shaped spot on each side of the ocellar space, but these separated from the yellow border of the occiput

posteriorly. Prothorax black marked with an anterior collar, a small geminate spot on anterior part of middorsum and a large triangular spot on each side greenish yellow; the posterior

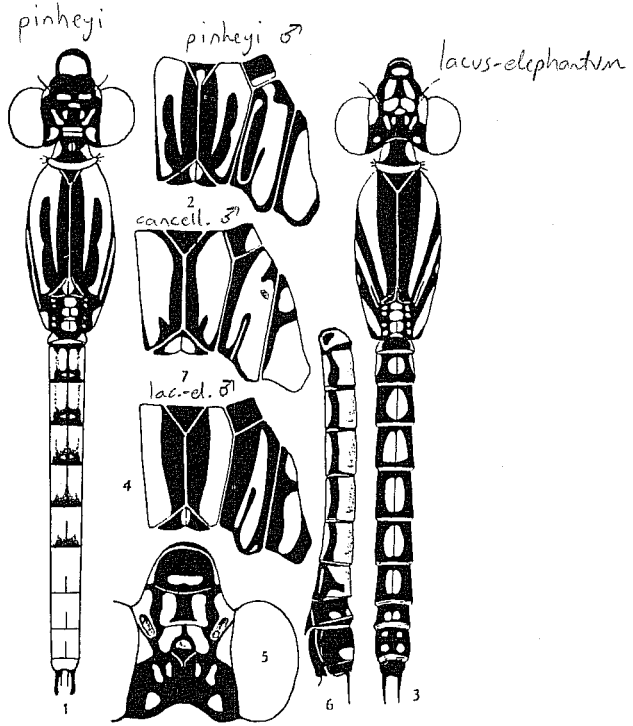

Fig. 2. — 1. *Chlorocypha pinheyi* sp. nov., male. 2. — Diagram of the thoracic markings of same species. 3. — *Chlorocypha lacus elephantum* (Karsch), female. 4. — Diagram of thoracic markings of same species. 5. — Head of same species. 6. — Abdomen of a subadult female of same species, viewed from the left side. 7. — *Chlorocypha cancellata* (Selys), male, showing variation in the thoracic markings.

lobe entirely yellow. Thorax black marked with citron yellow as follows : the middorsal carina finely, a small round spot on the alar sinus, rather broad humeral and antehumeral stripes broadly confluent anteriorly to form the conventional fishhook shaped spots on each side of dorsum, the barb of the hook facing inwards; a narrow posthumeral stripe, broad below, interrupted at its middle but confluent narrowly above with the yellow of the sides of thorax. A narrow black stripe on the superior half of the 1st lateral suture and a broader one over the postero-lateral suture. Legs : femora black, tibiæ bright scarlet red, dilated but to only about two thirds those of *caligata*, chalky white on the flexor surface as in this latter species, spines, tarsi and claws black. Wings hyaline, palely tinted with yellow at bases to as far out as the discoidal cells : pterostigma black or dark brown, 1.8-2.0 mm. Abdomen with ground colour greenish marked with black as follows : segment 1 with a basal black spot on dorsum not extending to apical border, segment 2 with a dorsal marking similar to that found in *caligata* but the lateral black enclosing the dorsal spots broken or poorly defined so that it is entirely similar to some specimens of *auripes;* the small geminate triangular apical spots present but smaller than in *caligata*, segment 3 with a similar apical marking but the black at base absent and the lateral black arms much reduced or obscure, segments 4 and 5 similar to 3 but the lateral black stripes represented only by a small point on each side of the apical black, remaining segments with only black apical rings and with the geminate spot absent. (Remainder of abdomen absent.) The specimen before me has the ground colour of the abdomen ochreous or even slightly ferruginous basally but Mr PINHEY informs me that two other males he has in the Coryndon Museum have the colour distinctly greenish. It is possible that in full adults, the apical segments may be blue as in the case of *auripes*, to which this species appears to be closely related.

Three males from Mwamgongo, Tanganyika Territory, XI-43, Meneghetti. All three specimens are in a poor condition, one only more or less perfect, so that the description has been compiled from a study of all three. Type in the Coryndon Museum, Nairobi, Kenya.

Platycypha sp. nov. PINHEY.

This new species stands rather apart from the rest of the genus in that the abdomen has the ground-colour entirely blood red and with very restricted black markings confined to the basal segments. The tibiæ however are similar to those of *C. caligata*. As Mr PINHEY's description of this new species is already in the press and should be published in the near future, I forbear to name it : there should however be no difficulty in recognizing it even from these scanty details. Known only from a single male in the Transvaal Museum, Pretoria.

Genus Chlorocypha FRASER.

KEY TO SPECIES OF GENUS *Chlorocypha*, MALES.

1. Adults with humeral and antehumeral stripes separated below ... ... 2.
   Adults with humeral and antehumeral stripes more or less confluent below ... ... 3.
   Adults with the antehumeral and humeral stripes absent; ground-colour of abdomen scarlet red; segment 2 black with a small middorsal isolated red spot ... ... *dispar* (PALISOT DE BEAUVOIS).

2. Ground-colour of abdomen scarlet red throughout; head and body markings greenish yellow; segment 2 with a dorsal cross-shaped or cordate red spot isolated from the apical lateral spots ... ... *rubida* (HAGEN).
   Ground-colour of abdominal segments 1-4 cobalt blue, 5-10 scarlet red; segment 2 with similar but broader spot, blue in colour; body markings cobalt blue ... ... *glauca* (SELYS).

3. Ground-colour of abdomen sky-blue throughout ... ... 4.
   Ground-colour of abdomen partly blue, partly red; segments 1-6 red, 7-10 blue 5
   Ground-colour of abdomen scarlet red throughout or red in end segments, green basally ... ... 6.

4. Antehumeral stripe confluent with humeral stripe for its entire length; epistome and frons broadly pale (blue); a complete calliper-shaped spot on occiput and vertex with its arms embracing the ocellar space: segment 2 of abdomen with 2 apical black spots ... ... *aphrodite* (Le Roi).
Antehumeral stripe confluent with humeral stripe only below, the humeral longer than the antehumeral; epistome and frons black; calliper marking on vertex interrupted medially; segment 2 entirely black on dorsum... ... ... *croceus* Longfield.

5. Dorsum of segments 1-6 with a cancellated pattern in black, enclosing paired oval red spots. Humeral stripe usually confluent with antehumeral for its entire length or if not then only its extreme lower end present ... ... *cancellata* (Selys).
Dorsum of segments 3-6 unmarked; segment 2 with its base narrowly black and a pair of small isolated black apical spots ... ... *curta* (Selys).

6. Ground-colour of abdominal segments 1-5 or 6 green; segment 2 with a small middorsal green spot; segments 3-9 with broad black dorsal U-shaped markings ... ... *neptunus* (Sjöstedt).
Ground-colour of abdomen of all segments scarlet red ... ... 7.

7. Antehumeral stripes longer than humeral, the latter deficient above ... ... 8.
Antehumeral stripes shorter than humeral, the former deficient above ... ... 9.

8. Segment 2 with a medial red spot shaped like an acorn encircled narrowly with black; an irregular yellow stripe traversing vertex form eye to eye ... ... *molindica* Fraser.
Segment 2 with the base only black; no transverse stripe on vertex; humeral and antehumeral stripes sometimes meeting above and below ... ... *tenuis* Longfield.
Segment 2 entirely black on dorsum; segment 3 with an elongated triangular red spot on dorsum; segment 4 framed in black; abdomen slender ... ... *gracilis* (Karsch).

9. Segment 2 with a longitudinally oval middorsal red spot bordered irregularly with black; 3rd segment and the next with a pair of apical black spots; calliper-shaped spot on occiput and vertex absent ... ... *luminosa* (Karsch).
Segment 2 with a large irregularly shaped red spot on dorsum extending to base, sides and apical border of segment and often confluent with small apico-dorsal red spots ... ... 10.

10. Calliper-shaped spot on occiput complete, its arms extending forwards to embrace the ocellar space; frons with a large blue or bluish green spot made up of the confluence of two large and two small spots ... ... *victoriæ* (Förster).
Calliper-shaped spot on occiput absent ... ... 11.

11. Dorsum of head black with only a small elongate spot on each side of the ocellar space and small round postocular spots; dorsal spot on segment 2 isolated from apical spots ... ... *selysi* (Karsch).
Dorsum of head pale blue or bluish green (sometimes yellow due to postmortem changes) from level of lateral ocelli forwards to whole of epistome above and in front; dorsal spot on segment 2 confluent with the apico-lateral spots... ... ... *straeleni* Fraser.
Dorsum of head similar to the last species but the epistome both above and in front black; a small isolated spot on each side of ocellar space; dorsal spot on segment 2 cordate shaped and isolated from the apico-lateral spots ... ... *cyanifrons* (Selys).

Chlorocypha trifaria (KARSCH). (Fig. 3, A-D.)

Libellago trifaria KARSCH, 1899, Ent. Nachr., 25 : 378.

DR SCHMIDT has now supplied me with good figures of the type of this doubtful species and has stated his opinion that it may perhaps be the female of *C. cyanifrons* (SELYS). I am inclined to agree with this although the very general condition of the specimen makes its determination very doubtful. The incompletely developed condition of the dorsal markings of the thorax makes it certain that the full adult would be a very much darker insect with very restricted greenish yellow markings. The identity of this insect can never be cleared up with anything approaching certainty and the expression of an opinion is more or less guess work.

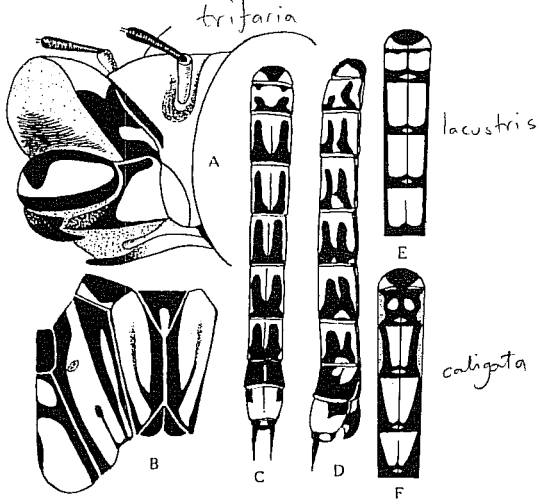

Fig. 3. — 1. *Chlorocypha (Libellago) trifaria* (KARSCH) : A. Front of head to show extent of pale markings, B. Markings of thorax, diagrammatic, C. Abdomen, dorsal aspect, D. The same seen from the right side, E. Basal abdominal segments of *Platycypha lacustris* (FÖRSTER) contrasted with F. The same of *Platycypha caligata* (SELYS).

Chlorocypha aphrodite (LE ROI). (Fig. 4, 1 and 2.)

Libellago aphrodite LE ROI, 1915, Zentr. Afrika Exp. : 331.

The remarks that I made on this species in my Revision hold good. I have before me now a coloured figure of the type made by DR ELLI FRANZ and I note that the whole of the superior surface of the epistome and frons are without dark markings, the posterior pair of frontal spots being however rather small. The other pale markings are a pair of small round spots at the centre of the ocellar space, small postocular spots and a forked marking on the occiput the arms of which extend forward on to the vertex to embrace the ocellar space on each side. The antehumeral and humeral stripes are confluent throughout their whole length forming a single broad band much as in *cancellata* in the subadult state (figure 3, 4). In a more adult stage, with increasing melanism and a greater development of black markings, this resemblance would be heightened no doubt so that I am inclined to think that the two species are fairly closely related.

The species is distinguished from *crocea* LONGFIELD, the only other species with the abdomen all blue, by the much greater development of the black markings in the former, *crocea* having the whole of the epistome, anterior surface of frons and the dorsum of segment 2 black.

Chlorocypha croceus LONGFIELD. (Fig. 4, 3-7.)

The distinction of this species from *aphrodite* which I had considered as a possibility, is now established beyond doubt : it is indeed a very distinct species related perhaps most closely to *curta* SELYS. Miss LONGFIELD informs me that the name is derived from the amber yellow colouring of the wings and not from the greenish-yellow markings of the body as I had thought : the name is therefore more appropriate than appeared from my remarks. In comparing the species with *aphrodite*, I find that I have ascribed the species to MARTIN but it should, of course be, LE ROI.

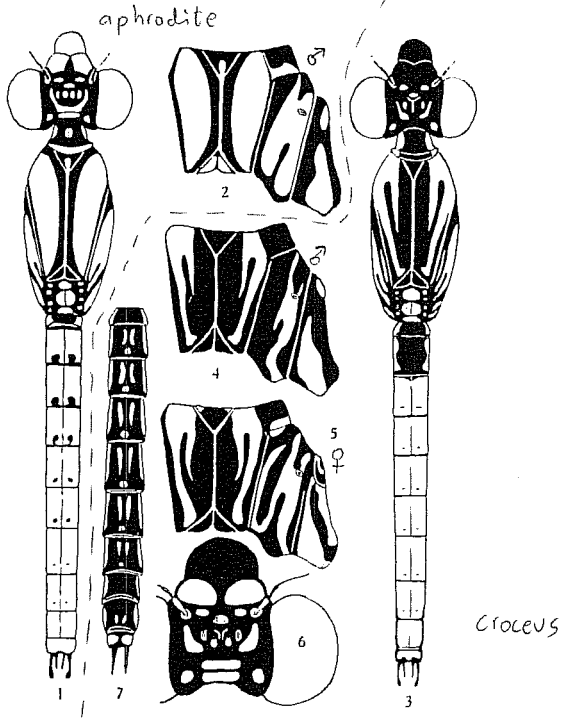

Fig. 4. — 1. *Chlorocypha aphrodite* (Le Roi), male. 2. — Diagram of the thoracic markings of same species. 3. — *Chlorocypha croceus* Longfield, male. 4. — Diagram of thoracic markings of same species, male. 5. — Ditto of female. 6. — Head of same species, female. 7. — Abdomen of female of same species.

Libellago alata Martin, MS name only.

I have examined the females in the British Museum labeled as *alata* in Martin's handwriting. The species has never been described but in Martin's paper on the Odonata of Sikasso

(La Feuille des Jeunes Natur., 42 [V], [1912]) mention is made of a species named *lanceolata*, without description, which is probably intended for *alata* ? I have determined the British Museum females as *Chlorocypha tenuis* Longfield.

Chlorocypha lacus elephantum (Karsch). (Fig. 2, *3-6.*)

Libellago lacus elephantum Karsch, 1899, Ent. Nachr., 25 : 165.

From the figures of the type which Dr Schmidt has supplied me with, it is evident that this is a good species and that the male still remains to be discovered. It is unique in some features, thus no other species shows such a broken character of the head markings; the humeral and antehumeral stripes are broadly and evenly confluent throughout and yet in spite of this restriction of the black markings of the thorax, those of the abdomen are so extensive as to almost blot out the ground-colour, in which respect, it is only equalled or exceeded by females of *neptunus* (Sjöstedt) and *croceus* Longfield. The great size of the species however prevents any confusion with these two diminutive insects. The vestigial nature of the calliperlike marking on the vertex suggests that it is quite absent in the male, which would bring the species into the *rubida-straeleni* group.

Chlorocypha gracilis (Karsch). (Fig. 5, *1-3.*)

Libellago gracilis Karsch, 1899, Ent. Nachr., 25 : 163.

This species has hotherto been regarded as synonymous with *dispar* (Palisot de Beauvois) but from the figures and notes given me by Dr Schmidt, it would seem to be a distinct species. Dr Schmidt places it as a subspecies of *dispar* but the fact that the dorsal thoracic markings are reversed (as in *tenuis*, etc.) appears to me an insuperable obstacle in regarding it as such. The blood-red spot on the dorsum of segment 2 found in *dispar* is quite absent in this species and the black markings extend on to the 4th segment as well as the 3rd. Some specimens of *dispar* have well marked lateral black on segment 3 but never on 4. The female also differs in a number of characters, viz, the reversed dorsal thoracic markings (as in the male), more restricted markings on the head but more extensive ones on segments 7 to 9 of the abdomen.

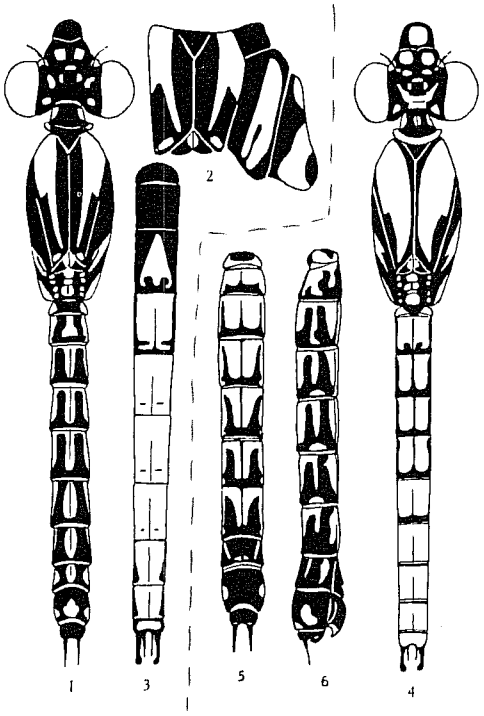

Fig. 5. — 1. *Chlorocypha gracilis* (KARSCH), female from the allotype. 2. — Diagram of the thoracic markings of same. 3. — Abdomen of the male type of *C. gracilis*. 4. — *Chlorocypha hintzi* (= *cancellata* SELYS), from the male type. 5 and 6. — The same species, female, abdomen seen from the dorsum and right side.

Note on the genotype of *Cyrano* NEEDHAM (Fam.: *CHLOROCYPHIDÆ*).

Some abiguity appears to exist about the true genotype for NEEDHAM's genus *Cyrano*, which the author gave as *Rhinocypha unicolor* SELYS. The name however is a *nom. nud.* as no

description other than the meagre details furnished by HAGEN to SELYS had appeared. These were that the species was a female of large size for which he gave the measurements of the abdomen and hindwing. Such a meagre description, if it can be called such, would fit a number of species belonging to the same family and it would be quite useless to recognise it by. SELYS had never seen the type of *unicolor* and when he did finally receive examples from the Philippines, he described them as a new species under the name of *Libellago asiatica*. It is quite evident therefore that the description given by HAGEN was insufficient to permit an experienced savant such as the Baron de SELYS was, to determine his new material as *unicolor*. *L. asiatica* is therefore the only valid name for HAGEN's type and thus becomes the true genotype for *Cyrano* NEEDHAM. It is of interest to note that by an evident lapsus calami SELYS gave the measurements of the hindwing of *asiatica* as 18-19 mm; they should of course have been 28-29 mm. This error completely deceived NEEDHAM and he thus failed to connect *unicolor* (of which he had 1700 specimens before him) with *asiatica*. He wrote: « We have no specimens of this small species. » If he had read the Selysian description of *asiatica* carefully, he would have seen the following: « Elle se distingue des autres *Libellagos* par sa grande taille. » The synonymy of *asiatica* and *unicolor* follows:

Rhinocypha unicolor HAGEN (nom. nud.), 1869, Bull. Acad. Belg. (2), 27 : 665.

Libellago asiatica SELYS, 1879, Bull. Acad. Belg. (2), 47 : 384.

Libellago asiatica SELYS, 1882, Ann. Soc. Espan. Hist. Nat., 11 : 20. — Id., 1891, ibid., 20 : 216.

Rhinocypha unicolor NEEDHAM (as *Cyrano unicolor*), 1939, Philip. J. Sci., 70 : 250.

Libellago asiatica NEEDHAM, 1939, ibid., 70 : 255.

BRITISH MUSEUM (NATURAL HISTORY)
DEPARTMENT OF ENTOMOLOGY.

APPENDIX.

Shortly after this paper had been sent to the press I received from Mr E. Pinhey, entomologist to the Coryndon Museum, Nairobi, a new and sixth species of *Platycypha*, which he had discovered during a short visit to Tanganyika territory. He sent me a detailed description of this beautiful species along with specimens, one of which I am depositing in the Institut royal des Sciences naturelles de Belgique.

The species belongs to the *auripes* group and differs from *pinheyi* by the tibiæ bright chrome yellow instead of crimson and the abdomen brick-red : from *auripes* it is easily distinguished by the shorter and much greater dilatation of the tibiæ as well as by the different colour of the abdomen.

PLATYCYPHA GREENWAYI, A NEW SPECIES OF PLATYCYPHA FROM TANGANYIKA,

by Elliot Pinhey (Nairobi, Kenya).

Male (Adult holotype). (Fig. 6, A, C, D, F.)

Labium, labrum, genæ and jaws glossy black; maxillæ dull yellow; epistome anteriorly metallic violet. Head above velvety black as well as the antennæ and short hairs, marked sparingly with greenish yellow : a circular spot on upper surface of epistome, an irregular area on vertex and occipital plate shaped like a rabbit's head viewed posteriorly with the ears extending forwards along the outer borders of the ocellar space : lastly a small postocular spot on each side of the occiput. Eyes bronze. Prothorax velvety black with greenish yellow markings : a band alongside of the anterior and posterior lobes, a small anterior spot in middorsum followed by a paired spot : a dorso-lateral stripe and a stripe along the ventro-lateral border. Mesepisterna velvety black with narrow greenish yellow stripes : a very narrow line on the upper three-quarters of the middorsal carina : a narrow irregular humeral stripe knobbed at its upper limit, sometimes interrupted at its two-thirds and confluent with a shorter oblique antehumeral stripe. Antealar sinuses black with a small yellow triangular spot on each side of its

median suture. Mesepimera black with a yellow stripe in its upper half running upwards anterior to the first lateral suture. Mesinfraepisternum black with a yellow line along the posterior edge. Metepisternum greenish yellow with a black bar on its

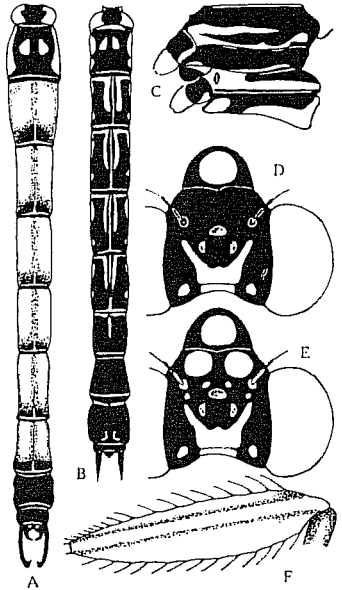

Fig. 6. — A. Abdomen of male of *Platycypha greenwayi* n. sp., dorsal view. B. The same of the female. C. Synthorax of male seen from the left side. D. Head of male seen from the dorsum. E. The same of the female. F. A mesothoracic tibia of male, extensor side. (del. E. Pinhey).

upper half along the first lateral suture. Metinfraepisternum yellow with a large black anterior patch and traces of two smaller ones posterior to this. Metepimeron black with a broad yellow right-angled bar along upper three-fourths of its posterior margin and turned up below wing-base. Ventrum of synthorax

greenish yellow with black bars linked more or less in the shape of a hexagon, joined anteriorly by short stalks to the metepimera and posteriorly ending at base of abdomen; this hexagon divided into two small anterior and one large posterior spaces by black lines. Interalar spaces black with small yellow spots, the antero-median spot shaped like an inverted heart. Coxæ black and yellow; tibiæ bright chrome yellow on extensor surface, white on flexor, all much dilated, especially the second and third pairs : femora and tarsi black. Wings pale amber from base almost to nodus, apices bordered with brown; pterostigma blackish, venation black. discoidal cells each with one cross-vein. Abdomen with segments 1 and 2 black with a large lateral yellow area on each side and 2 with a pair of conical middorsal spots pointing basally : 3-8 orange red infuscated apically and with black bases and median carinæ; 3 edged with yellow at base, 8 with black lateral carina; 9,10 and anal appendages entirely black, the latter very similar to those of *C. caligata* but the inferiors rather more slender.

Paratypes : Adult males essentially similar with slight diffrences in extent of pale markings to head and thorax.

Living colours of mature males : Pale markings of body greenish-yellow; tibiæ similar but abdomen more of a brick-red.

Female (Adult allotype). (Fig. 6, B, E.)

Base of mandibles and genae yellow, the end segments of jaw and tips of labium blackish; labrum black with a large yellow spot in each side; epistome metallic violet anteriorly. Head black above with yellow or yellowish markings : a median and a pair of small postero-lateral spots on upper surface of epistome; a pair of large spots followed behind by a pair of small spots on frons : the « rabbit-head » shaped spot on vertex and occiput as in the male but with a dot anterior to the tip of each ear »; a postocular spot on each side of occiput; antennæ black with the basal joint yellow. Thorax black with a greenish metallic sheen marked with yellow as in the male. Legs blackish. A thin whitish pruinosity over the ventrum and lower side of thorax and abdomen, and on the legs. Wings tinted rather evenly with greenish, more pronounced on the hindwing : pterostigma dark brown with whitish spot beyond the centre; venation black; discoidal cells with a single cross-vein. Abdomen black with greenish steely sheen and with sparse greenish-

yellow markings : segment 1 with large pyriform lateral spot directed over the postero-dorsum; 2 with a lateral band almost interrupted at two-thirds from anterior end and a pair of middorsal triangular spots; 3-10 with transverse basal ring interrupted by the middorsal carina, from this ring a narrow line runs apically for about two-thirds the length of segment, whilst laterally another line runs apically for only the basal half (very short on segments 6-7) ; a small postero-lateral spot on 3-5, a trace on 6; 8 with only a lateral spot on apical margin; 9-10, appendages and ovipositor (vulvar scales) unmarked except for a faint trace on the apical annulus of 9.

Paratype adult females differ only from the allotype by the extent of yellow markings : the dorsal spots on epistome and frons are more greyish than the other markings. On the abdomen there may be an apico-lateral spot on 6 and 7, a pair of apico-lateral spots on 8 and another larger more distinct pair on segment 10.

Male	Holotype	Abd. 22 mm, Hw. 23 mm, Pt. 1.5 mm.
	Paratypes	22-22.5 mm, Hw. 23-23.5 mm, Pt. 1.5mm.
Female	Allotype	20.5 mm, Hw. 26.5 mm, Pt. 2.3 mm.
	Paratypes	19-20.5 mm, Hw. 25-27 mm, Pt. 2-2.3 mm.

The holotype and allotype were taken *in copula*, a rather rare occurence in this family. A long series of males and shorter one of females were taken by the author in forests on the Eastern Usambara Mountains, North-east Tanganyika, March 1950 at altitudes of 3000 to nearly 4000'. Most were found near Amani Biological Station, a few at Kwamkora and others lower down on the Sigi river. Generally they prefer fast flowing streams, flitting about in the small patches of sunshine which penetrate here and there. They settle on rocks or foliage. One male was taken near the Sigi river by a member of Mr T. H. E. Jackson's Staff. The opportunity to collect this species together with a large number of other interesting species was largely due to the kindness of Mr P. J. Greenway at whose house I stayed and after whom the new species is named. The holotype, allo-

type, 5 paratype males and a paratype female will be presented to the British Museum, a paratype male to the Selysian collection in the Institut royal des Sciences naturelles, Bruxelles, and a male to the collection of the Division of Entomology, Salisbury, Southern Rhodesia the remainder will be deposited in the Coryndon Museum, Nairobi.