13. NEUROPTERA.

2. Planipennia et Panorpata

by

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With 5 text-figures.

The interesting order of the Planipennia, as well as that of the Panorpata, is collected by Prof. Dr. SJÖSTEDT with special interest, so that an important supplement, especially in the smaller species, can be given to Prof. H. J. KOLBE's work in STUHLMANN's "Deutsch Ost-Afrika". The number of 25 named species (100 specimens), 10 of which are new to science, is considerable, and with great satisfaction I may certify that more attention is paid by travellers and collectors to these hitherto so neglected insects. Though the confusion in these orders is still large, I only give here the full synonymy of the species so far as it is known and the descriptions of the new species. The genera are left unchanged, though many of them ought to be divided and splitted up. I will, however, reserve these changements for my monographic revisions of the families in the "Catalogue de la collection du Baron de Selys Longchamps".

The species marked with an * are not mentioned in KOLBE's publication and are new to German East-Africa.

1. Planipennia.

Ascalaphidae.

Schizophthalminae.

Genus: **Dicolpus** GERSTÆCKER (1884).

GERSTÆCKER, Mitt. naturw. Ver. Neu-Vorpomm. und Rügen, 16, p. 7 (1884).

This genus, hitherto only known from Western Africa, is represented by two more primitive new species.

* **Dicolpus primitivus,** n. sp.

♂, ♀. — Body blackish brown, mouthparts, labrum and a lateral longitudinal line on each side of the breast yellow. Antennae brown with paler annulations. Club round, black. Front black, with long blackish brown villosity, which becomes greyish between the antennae and on the occiput. Thorax with black villosity on the dorsum, greyish on the breast. Legs slender and short, dark brown, feet black. Spurs red, as long as the first joint of the tarsus.

Wings smoky hyaline, rather elongate and narrow, the long undeep incision of the hindborder of the forewing is absent. Nervature rather open, black. Pterostigma yellow, of equal size in both wings, with 4—5 black crossveins. Apical area with two rows of cells. Humerus of the forewings dark brown. Anal angle obtuse. Abdomen deep black-brown, the ventral side only yellowish at the basal segments. In the ♂ it is somewhat longer than the forewings, with spine-like, black, erected hairs on the basal half; the appendices superiores are short, black, with black hairs, divergent, not forming a forceps. The genital valve is short and broad, nearly triangular. In the ♀ the abdomen is thicker and shorter than the hindwings.

Body ♂ 45 mm., ♀ 30 mm., forewing ♂ 33 mm., ♀ 33 mm., hindwing ♂ 28 mm., ♀ 29 mm.
Abd. ♂ 35 » , ♀ 20 » , gr. br. ♂ 8½ » , ♀ 10 » , gr. br. ♂ 8 » , ♀ 9 »
App. ♂ 1½ mm.

Ant. ♂ 25 mm. Cost. forew. 26.
» ♀ 24 » » hindw. 17.

Four males from *Kilimandjaro,* Kibonoto, 1000—1200 m., lower region of culture, 18 April, 12 April and Kibonoto, 1300—1900 m., 26 April, and one from the region of culture bearing the label "under bananas". All these specimens are collected by Prof. SJÖSTEDT.

The female, from Usambara and purchased from ROLLE, is in the Leyden Museum.

* **Dicolpus orientalis,** n. sp.

♀. — Nearly related to *primitivus* but differing from it by the following characters:

Wings darker smoky brown, the nervature somewhat denser. Hindborder of forewing with an undeep long incision. Pterostigma a little longer, from orange to pale brown, with 4—5 crossveins.

The body paler coloured, umberbrown, the hindborders of the abdominal segments black.

Legs with black feet, brown tibiae and yellow femora. A yellow to whitish fascia on the breast under the wings. Villosity of the head paler and shorter.

Body ♀ 28 mm., forew. ♀ 30 mm., hindw. 26 mm. Ant. 22 mm. Cost. forew. 23.
Abd. ♀ 19 » , gr. br. ♀ 9½ » , gr. br. 9 mm. » hindw. 18.

Three females from Mombo in *Usambara,* June 1906. The male is unknown.

Mantispidae.

Genus: **Mantispa** ILLIGER (1798).

ILLIGER, Käfer Preussens, p. 499 (1798).

Mantispa pusilla (PALLAS).

Mantis pusilla PALLAS, Spicileg. fasc. 9, p. 17, t. 1, f. 9 (1774). — One female, *Kilimandjaro,* Kibonoto, cultivated zone, 9 April 1906. The species is originally described from South Africa and the specimen in question is not distinct from such from the Cape colony.

Myrmeleonidae.

Genus: **Palpares** RAMBUR (1842).

RAMBUR, Hist. nat. Ins. Névropt. p. 365 (1842).

This genus contains the largest Myrmeleonidae and has its greatest number of species in Africa. Only one species from the low land is in this collection.

Palpares tristis HAGEN.

HAGEN, Monatsber. Akad. Wissensch. Berlin, 1853, p. 482 (1853); PETERS' Reise nach Mossambique, 1862, p. 98, taf. VI, fig. 3 (1862). — KOLBE, Deutsch Ost-Afrika, IV, Neuroptera, p. 8 (1897).

This common species is represented by two ♀ from Mombo, *Usambara,* collected in June 1906. One of them is interesting by having a dark brown spot at the origin of the radialsector and an about twice larger spot of the same colour between the median and the subapical band. The first of these spots is often indicated, but the second I never saw before, though I examined large series of this species from many localities.

Genus: **Cymothales** GERSTÆCKER (1893).

GERSTÆCKER, Mitt. naturw. Ver. Neu-Vorpomm. und Rügen, 25, p. 127 (1893). — KOLBE, l. c. p. 16 (1897).

Cymothales speciosus KOLBE.

KOLBE, l. c. p. 17 (1897). — Three ♀ of this magnificent species. They have the following indications:

Kilimandjaro, Kibonoto, cultivated zone, 1300—1900 m. 17 Dec. 1905.
» » » » » » 4 May 1906.
» » » » » » 2 » »

Genus: **Myrmeleon** LINNÉ (1767).

LINNÉ, Syst. Nat. Ed. XIII, p. 913 (1767). — This genus especially wants a radical revision. I place in it all those species, that agree with the typical *formicarius* L. and

formicaleo L. in the long and acute wings, short club-shaped antennae and straight tibialspurs, which are not longer than the metatarsus.

* Myrmeleon obscurus Rambur.

Rambur, Hist. nat. Ins. Névr., p. 403 (1842). — v. d. Weele, Bull. scient. France et Belgique, XLI, p. 275, pl. IX, fig. 13 (1907). — *Myrmeleon inconspicuus* Hagen, nec Rambur, in Peters' Reise nach Mossambique, p. 104 (1862).

This species is also described under several names by Walker and it seems to be distributed throughout the islands and the continent of Africa. An incomplete specimen (the antennae are broken off) is indicated: Mombo, *Usambara,* 1905.

Myrmeleon quinquemaculatus Hagen.

Hagen, Peters' Reise nach Mossambique, p. 103, tab. 5, fig. 5 (1862). — *Myrmeleon polyzones* Gerstaecker, Mitt. Neu-Vorpomm. Rügen, XVI, p. 21 (1884). — *M. rapax* Kolbe, l. c. p. 20 (1897); v. d. Weele, l. c. p. 273 (1907).

This common species has the same distribution as the foregoing. There are four females indicated: *Kilimandjaro,* Kibonoto, 1300—1900 m., 26 April, 27 April, 9 May and 11 May 1906. In this species the males are much rarer than the females.

* Myrmeleon sjöstedti, n. sp.

Fig. 1. — Remembring by the lanceolate wings and black, plumbeous body somewhat the species of *Creagris,* but the abdomen of the ♂ is shorter than the hindwing and the postcosta is united with the ramus obliquus.

Head black, mouthparts and labrum orange-yellow. The face with a shining black patch between the bases of the antennae. Vertex black with a yellow arched line at each side. Antennae short, black, clubbed, the basal joints with yellow annulations. Prosternum yellow, pronotum plumbeous in the middle, margined and spotted with yellow in a characteristic way (Fig. 1). Meso- and metanotum black, with yellow hind- and side-borders. Breast blackish with a grey exudation. Legs short and slender, yellow, with spare black spines, tibiae at the innerside and apical half of the femora brown. Tarsi yellow, with narrow black annulations and black claws.

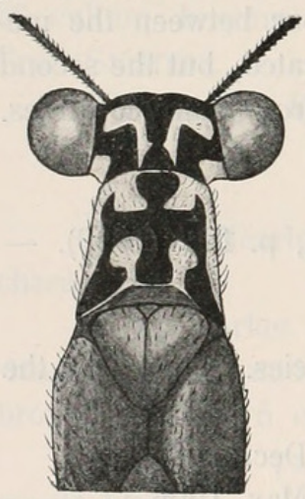

Fig. 1. *Myrmeleon sjöstedti.* Head and thorax. Upper side.

Abdomen black, the gonopoda yellow. The ♂ with a narrow tongue-shaped genitalvalve and short unciform appendices superiores.

Wings lanceolate, nearly equal in length and shape, with acute, somewhat curved tips and moderately dense brownish-yellow nervature. The radius is always black. Pelotte of the ♂ redbrown.

Body ♂ 27, ♀ 27 mm., forew. ♂ 27, ♀ 31 mm., hindw. ♂ 25, ♀ 28 mm. Ant. ♂ 5 mm. Abd. ♂ 20, ♀ 20 » , gr. br. ♂ 6, ♀ 7 » , gr. br. ♂ 5, ♀ 6 » . » ♀ 5 »

Five specimens, one ♂ and four ♀, from *Meru* low lands, 22 Nov., 27 Nov. and 2 Dec.

Genus: **Formicaleo** LEACH (1805).

LEACH, Edinburgh Encycl. IX, p. 138 (1815). — This genus contains many discordant forms.

* **Formicaleo lethalis** (WALKER).

WALKER, Cat. Brit. Mus. Neur., p. 374 n° 129 (1853). — *Formicaleo leucospilos* HAGEN, Peters' Reise nach Mossambique, p. 101, t. V, f. 4 (1862).

This species, common in Africa and with the same distribution as *Myrmeleon obscurus* and *quinquemaculatus,* is represented by a series of 5 specimens (2 ♂, 3 ♀), all from Mombo, *Usambara,* June 1906.

KOLBE had not seen it from German East-Africa but presumed its occurrence.

* **Formicaleo aegyptiacus** (RAMBUR).

RAMBUR, Hist. Névropt. p. 393 (1842); V. D. WEELE, l. c. p. 271 (1907). — One female of this aberrant species, labelled: *Meru* low lands, Ngare na nyuki, June 1906.

* **Formicaleo sjöstedti,** n. sp.

Fig. 2. — This new species has rather the appearance of a *Myrmeleon,* as its antennae are relatively short and clubbed, the wings narrow and lanceolate. The length of the tibialspurs however is about that of the two basal tarsal joints and the metatarsus is shorter than the ultimate tarsal joint, so that it must be arranged provisionally in *Formicaleo* as an aberrant species.

Somewhat smaller than *Myrmeleon obscurus* RAMB. Colour of the body blackish. Head black, underside, mouthparts, labrum and annulations of the antennae narrowly, yellow. Vertex black, with a narrow, indistinct, yellowish transverse line, beginning at the sides but not reaching the middle of it. Occiput black, with two short parallel yellowish streaks in the middle, which are more distinct than those of the vertex. Antennae black, not so long as head and thorax together, with a broad club.

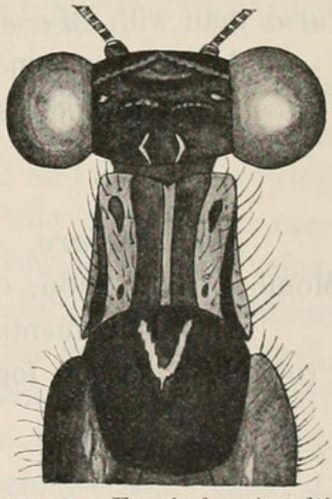

Fig. 2. *Formicaleo sjöstedti.* Head and thorax. Upper side.

Eyes greyish black. Pronotum blackish grey, with 5 narrow yellowish lines, viz.: one median, two lateral ones and the sides narrowly yellow (Fig. 2). Prosternum yellowish. Meso- and metathorax black. The mesonotum with two parallel, longitudinal yellow lines at the hindborder.

Legs yellowish brown, short and slender, sparely with long black bristles. The tips of femora, tibiae and tarsi narrowly annulated with black. Femora at the outer side with a blackish streak, that forms a broad annulus in the median pair, whereas in the forelegs it occupies the whole femora except the base, which remains yellowish. The anterior tibiae are also much darker than the other. Spurs of hindlegs brown, reaching about to the middle of the third joint.

Abdomen black, with very spare, short, erected, whitish hairs. The tips of the segments are very narrowly yellowish. Also the appendices superiores and the border of the genitalvalve of the male.

Wings hyaline, equal in form, narrow, lanceolate, with the acute tips a little curved. The nervature yellow, blackbrown punctated and the crossveins all narrowly bordered with brown in the forewings, and the apical border of the hindwings densely spotted with brown. Pterostigma yellowish white, very small, only visible on a dark hindground, the proximal part of it with a brown spot.

Length of body 25 mm., forewings 21—22 mm., hindwings 21—22 mm. Ant. 4 mm.
» » abdomen 20 mm., gr. br. 5—6 mm., gr. br. 4—4½ mm.

Two specimens, one ♂, the pelotte of which is not developed, and one incomplete specimen, which has the distal half of the abdomen broken off, both from *Meru* low lands, Ngare na nyuki, January 1906.

Genus: **Myrmecaelurus** A. Costa (1855).

A. Costa, Fauna del Regno di Napoli, Myrmel., p. 10 (1855).

Myrmecaelurus tristis (Walker).

Walker, Cat. Brit. Mus. Neur., p. 373. — This well-known african species, mentioned by Prof. Kolbe, l. c. p. 18, in the genus *Myrmeleon,* has also a very large distribution. Its generic position is still uncertain, but it has more relation with *Myrmecaelurus* than with *Myrmeleon.*

A series of nine specimens from the following localities:

Meru low lands, 22 November 1905, one ♀.
» » » 1 December 1905, three ♂.
» » » 1 January 1906, one ♀.

Kilimandjaro, Kibonoto, cultivated zone, 3 May 1906, one ♀. — *Usambara,* Mombo, June 1906, one ♂ and two ♀.

The last mentioned specimens are relatively a little smaller than the others. Probably a season form?

Myrmecaelurus variegatus (Klug).

Klug, Symb. Phys., tab. 35, fig. 4, ♂ (1834). — *Myrmeleon mysteriosus* Gerstaecker, Mitt. naturw. Ver. Neu-Vorpomm. und Rügen, 25, p. 141, ♀ (1893). — Kolbe, l. c. p. 19, taf. fig. 8 (1897).

I regard this species, with Kolbe, as a representant of a new genus, but its relation is nearer to *Myrmecaelurus* than to *Myrmeleon.* Klug's type is a male and that of Gerstaecker a female, but they belong surely to the same species that occurs in Arabia, Eastern Africa and the adjacent Islands, Madagascar etc.

In this collection is a somewhat immature ♀ labelled: *Meru* low lands, 1 Dec. 1905.

Genus: **Creagris** HAGEN (1860).

HAGEN, Stett. Ent. Zeit. XXI, p. 364 (1860); l. c. XXVII, p. 372 (1866).

Creagris nubifer KOLBE.

KOLBE, l. c. p. 25 (1897). — One ♂, with the black streak in the apex of the hindwings very indistinct, is indicated: *Meru* low lands, 25 November 1905.

Hemerobiidae.

Genus: **Micromus** RAMBUR (1842).

RAMBUR, Hist. Névr. p. 416 (1842). — HAGEN, Stett. Ent. Zeit. XXVII, p. 376 (1866). — Proc. Bost. Soc. XXIII, p. 276 (1888). — This genus, which occurs in all parts of the world, was known from Mossambique by one species only: *M. timidus* HAGEN, Peters' Reise nach Mossambique, II, p. 91, t. 5, fig. 2 (1862). I have before me two other species.

* **Micromus africanus,** n. sp.

Body luteous. Antennae luteous with dark articulations. Palpi brown. Front and vertex with two oval brown spots. Pronotum with a broad brown streak along each side. Meso- and metanotum luteous, with dark borders. Abdomen brown, with luteous tip. Legs luteous with narrow darkbrown annulations and the tibiae with a dark ring beyond the middle. Posterior tibiae fusiform.

Wings moderately long and broad, the tips acutely angulated. Nervature pale yellow to whitish, with the following darkbrown or gray markings: In both wings a brown oblique streak at the tip; it is the unique marking in the hindwing and in the forewing it is darker and often consisting of two parallel streaks, the basal one of which is connected with the oblique marking that follows the apical or outer row of gradate veins. There are at the frontborder some dark points, which are more distinct in the region of the pterostigma; these points seem to have some relation with an incomplete streak, which follows the inner row of gradate veins; it is however often absent or very indistinctly indicated. There is a black, very distinct point at the crossvein that connects both cubiti and it often increases to a large spot. At the hindborder there are many clouded, triangular, greyish spots and that distalwards from the black point is often very distinct and connected with it.

Body 6 mm., forew. 9 mm., hindw. 7 mm. Ant. 6 mm.
Abd. 4 » , gr. br. 3 » , gr. br. 3 »

Two females collected by Prof. SJÖSTEDT: *Kilimandjaro,* Kibonoto, cultivated zone, 1300—1900 m., Sept. and 7 Sept., and one female from British East-Africa, Kikuyu Escarpment, purchased from ROSENBERG in 1903, coll. V. D. WEELE, acq. 1907 in the Leyden Museum.

* **Micromus sjöstedti,** n. sp.

Somewhat smaller than *africanus* and very different from it by the following characters: Antennae pale yellow, body more yellow coloured, the dark markings smaller and less conspicuous. Legs nearly white, without dark markings. Wings hyaline, nervature yellow, spotted with fine brown points in the forewings. The hindborder of both wings narrowly margined with brown, in the hindwings much narrower than in the forewings. In the latter is a narrow oblique band, connecting the hindborder beyond its junction with the postcosta with the middle of the frontborder and following this till the pterostigma. It does not follow the inner row of gradate veins, but passes them at the apical and basal sides. There are no other markings in the wings excepted some very inconspicuous, small, grey points in the apical half.

Body 5 mm., forew. 8 mm., hindw. 6 mm. Ant. 6 mm.
Abd. 3 » , gr. br. 3 » , gr. br. 3 »

One female of this conspicuous species, that I name after its collector, is labelled: *Kilimandjaro,* Kibonoto, 1300—1900 m., cultivated zone, Sept.

Genus: **Hemerobius** Linné (1740).

Linné, Systema Nat. Ed. II, p. 68, 156 (1740).

This genus, so well known by the many representants in Europe, was, with the exception of the Canary Islands, not known from Africa. There are two species before me, both represented by one ♀, which are so closely allied with european species, that I cannot separate them with any certainty from them and I judge it impossible to describe them before the ♂ is known.

One female, somewhat smaller but not distinct in other points from the well-known european *H. nervosus* F., is labelled: *Kilimandjaro,* Kibonoto, 1300—1900 m., cultivated zone, Aug.

The other specimen is somewhat darker coloured but not otherwise distinct from the widely spread *H. humili* L. It is identical with the specimen mentioned from the Comores (Bull. scientif. France et Belg.) and is indicated from: *Kilimandjaro,* Kibonoto, 1300—1900 m., cultivated zone, 7 Sept.

Chrysopidae.

Genus: **Ancylopteryx** Brauer (1864).

Brauer, Abh. Wien. zool.-bot. Ges. XIV, p. 899 (1864). — This characteristic genus, somewhat remembring the *Hemerobiidæ* in the form of the wings etc., occurs in Africa and South Asia and is a typical tropic one; probably it is very primitive.

It is represented by the following species:

* **Ancylopteryx venusta** (Hagen).

Hagen, in Peters' Reise nach Mossambique, p. 90, tab. V, fig. 2 (nec fig. 1) (1862). — Five specimens of this variable species are from the *Kilimandjaro,* cultivated zone,

Aug.; Kibonoto low lands, 2 Jan. and 18 April, and 2 from Kibonoto, 1300—1900 m., cultivated zone, in a bananas farm, Aug. They are somewhat larger than the type-specimen, and the number and form of the dark spots is very variable like in the asiatic species. Characteristic is the black spot on the mesonotum, which spot in some specimens is divided into two ones.

Genus: **Chrysopa** Leach (1815).

Leach, Edinb. Encycl. IX, p. 138 (1815).

The african species of this widely spread genus, which longtimes needs a division into more genera, are very unsufficiently studied. I am acquainted with five species: *chloris* Schneider from the Cape, *brevicollis* Rambur from Isle de France, *congrua* Walker from West-Africa, *antica* Walker from Sierra Leone and *sansibarica* Kolbe from Sansibar. Three of these are represented in German East-Africa with the following new species.

* Chrysopa chloris Schneider.

Schneider, Monogr. Chrysop. p. 95 n° 20, tab. 26 (1850). — This species, originally described from the Cape is, like many species of that country, spread over East-Africa. There is a series of 17 specimens, all from the *Kilimandjaro,* Kibonoto, 1300—1900 m. (Kulturzone-Mischwald), Aug., Oct. and Jan., and from the rainforest, 2000 m., Sept. The specimens collected in the lastquoted month are a little smaller.

* Chrysopa congrua Walker.

Walker, Cat. Brit. Mus. Neur., p. 238 n° 2 (1853). — *Chr. concolor* Walker, ibidem, p. 239 n° 6 (1853).

This species, closely related to *vulgaris* Schneid., is spread throughout Africa. There are two specimens from *Kilimandjaro:* Kibonoto, cultivated zone, 1300—1900 m., Aug.

Chrysopa sansibarica Kolbe.

Kolbe in Stuhlmann, Deutsch Ost-Afrika, IV, Neuropt., p. 35 (1897). — One specimen, somewhat smaller than Kolbe's type, 18 mm. wing-expanse, from lower *Meru,* Ngare na nyuki, Jan.

Chrysopa sjöstedti, n. sp.

Colour of body yellowish red. Sides of the labrum, tips of labial palpi and side-borders of the pronotum brown. Meso- and metanotum with a brown spot at the sides. Abdomen unicolorous yellowish red. Antennae as long as or slightly longer than the forewings in the ♂, shorter in the ♀, yellowish and brown towards the tip. The two basal joints with a lateral black stripe and point.

Legs yellowish, the feet somewhat darker, brown, the claws scarcely dilated at the base.

Wings rather broad, with obtuse tips, hyaline, the membrane with bluish reflection. Nervature yellow in both wings. In the forewing the first row of gradate veins is broadly margined with fuscous, the second row is only slightly indicated by fuscous suffusion and the forks of the outer margin are also distinctly indicated by fuscous.

Body 9½ mm., forew. 12½—15½ mm., hindw. 11—13 mm. Ant. ♂ 16½ mm.
Abd. 5½ mm., gr. br. 5—6 mm., gr. br. 3½—4½ mm. » ♀ 14 mm.

One male and four females from *Kilimandjaro,* Kibonoto, 1300—1900 m., cultivated zone, 20 Sept.; lower Kibonoto, 2 Jan.; *Kilimandjaro*-Steppe and *Meru,* rainforest, 3000 m., Jan.

In a very immature female the dark colorations of body and basal joints of antennae are absent.

*** Chrysopa kibonotoënsis,** n. sp.

Of about the same size as *sjöstedti,* pale yellow, labial palpi nearly black, with pale annulations. Antennae yellow, with brown pubescence, nearly as long as the forewings, the two basal joints marked as in *sjöstedti.* Pronotum with dark sides. Meso- and metanotum yellow. Abdomen yellow, the two basal sternits plumbeous. Side- and hindborders of the tergits sepiabrown.

Legs pale yellow, the feet somewhat darker.

Wings somewhat more elongate than in *sjöstedti,* tips somewhat more acute. Nervature whitish; in the forewings are the costalveins, most of the crossveins, radialsector and cubitus anterior black in the middle and spotted with black. The inner row of gradate veins is margined with fuscous and in both wings there is a fuscous point before the pterostigma. Membrane with a green reflection.

Body 10 mm., forew. 15½ mm., hindw. 14 mm. Ant. 14 mm.
Abd. 6 mm., gr. br. 5½ mm., gr. br. 4 mm.

Two males, indicated: *Kilimandjaro,* Kibonoto, 1300—1900 m., cultivated zone, 20 Sept. and 29 April.

*** Chrysopa tenella** Schneider.

Schneider, Monogr. Chrysop. p. 94, tab. 25 (1851). — One specimen from lower *Meru,* Ngare na nyuki, 24 Nov., is so very similar to european specimens, that I cannot separate these insects. By the large geographical distribution of some species (*vulgaris* Schneid. etc.) and the very similar biology, it is very well possible that this species also has a larger distribution than hitherto was known.

*** Chrysopa vulgaris** Schneider.

Schneider, Monogr. Chrysop. p. 68, tab. 8 (1851). — This species, so very widely spread, is known from Egypt, and there is a series of four specimens from *Kilimandjaro,* Kibonoto, 1300—1900 m., cultivated zone, rainforest, 2000 m., August—October. Some of them have some dark suffused veins, but I saw similar european specimens in the collection of the Leyden Museum.

Chrysopa spec.

One specimen, of which the tips of the antennae are broken off, from *Kilimandjaro,* Kibonoto, cultivated zone, April, is closely related to *Chr. sogdianica* Mac Lachl.

from Turkestan, in Fedtschenko's Reise in Turkestan, Neur. p. 20 (1875). It is however too much damaged for description.

2. Panorpata.

This order is only known from Africa by its remarkable *Tipula*-like genus *Bittacus*.

Genus: **Bittacus** Latreille (1802).

Latreille, Hist. Nat. Crust. Ins. III, p. 295 (1802). — Three species are represented, all new to German East-Africa; two of them are new to science.

* Bittacus testaceus Klug.

Klug, Abh. Berl. Akad. Wissensch. 1836, p. 18 (1836).

Fig. 3. — I bring a series of 9 specimens, with some hesitation to the species described by Klug. The type wants redescription, as the original description is very short, not mentioning the form of the male genitalia, and some characters do not agree with it: so the black antennae, smokey brown colour of the wings, the black hindfeet and dark brown feet of the other legs. The black tips of femora of my specimens seem to indicate that they may belong to another species.

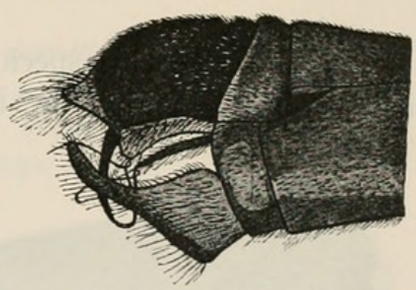

Fig. 3. *Bittacus testaceus*. Genitalia of the ♂, lateral view.

For the genitalia of the ♂ compare Fig. 3.

The app. sup. are broad at the base, gradually narrowed towards the apex, with the tips curved downwards. The genital valve is very large, as long as the app. sup., nearly quadrate when seen from the underside. The profile shows the upper border with an obtuse lobe. The app. inf. are cylindrical and short. The penis is broad at the base, gradually diminishing towards the tip; its apex is curved between the app. sup. and it ends in two flagella.

Kilimandjaro: There are one ♂ and three ♀ from Kibonoto, 1300—1900 m., 22, 25 and 29 April; one ♂ and one ♀ from the same locality, 1000—1200 m., 21 March and 23 April, and one ♂ and 2 ♀ from Kibonoto, cultivated zone, March, 3 and 7 April. "Was sometimes caught in the tent" (Sjöstedt).

* Bittacus montanus, n. sp.

Fig. 4, ♂. — Closely related to the foregoing species and very similar to it, but different in the following characters:

Smaller, wings somewhat broader and the apex more rounded. The yellow pterostigma is not rectangular and equally narrow, but the radius that runs along the distal side of it, is curved so that it is broader behind the middle and has an irregular quadrangular form. The cells of the apical area are shorter and nearly quadrate.

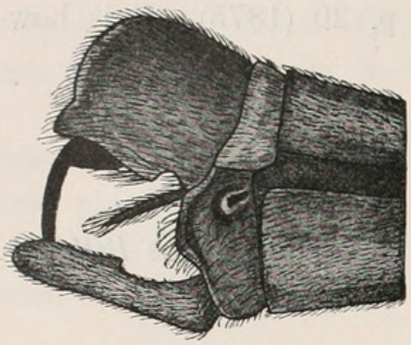

Fig. 4. *Bittacus montanus.* Genitalia of the ♂, lateral view.

Body testaceous, head with a black spot between the two anterior ocelli. Legs testaceous, the tips of femora and tibiae black. Tibial spurs equal in length, in *testaceus* is the innerspur somewhat shorter. Tarsi brown. Hindfemora a little thickened.

Genitalia of the ♂ quite different from those of *testaceus* (Fig. 4). App. sup. as broad at the tip as at the base, with an obtuse, proximally directed dent in the middle. Genitalvalve rounded behind at the under and lateral sides. The penis is directed upwards under a right angle, its tip is simple and curved between the app. sup.

Body 20 mm., forew. 22 mm., hindw. 20 mm. Ant. 11 mm.

Abd. 15 mm., gr. br. 5 mm., gr. br. 4½ mm.

One ♂ of this inconspicuous species is from the *Kilimandjaro,* Kibonoto, cultivated zone, March.

* **Bittacus sjöstedti,** n. sp.

Fig. 5. — This species, nearly of the same size and form as *montanus,* is readily distinguished from it by the dark nervature of the wings, which is fuscous, and the crossveins, which are all broadly margined with fuscous. The pterostigma is shorter and nearly semicircular, brown. The tips are angulated as in *testaceus.* There is a round smoky spot at the furcation of the media in both wings. Body brown, the head black, antennae rufous, abdomen with narrow black annulations at the segments. Legs rufous brown with black annulations at femora and tibiae. Tarsi dark brown. Inner tibial spurs about 1 mm. shorter than the outer. Hindfemora thickened in both sexes. Genitalia of the ♂ (Fig. 5) characterised by the short and broad, nearly hastiform app. sup. The app. inf. are slender and short, the genitalvalve is quadrangular when seen from the under- and lateral side. The penis is of about the same form as in *montanus,* but the tip is somewhat more strongly curved.

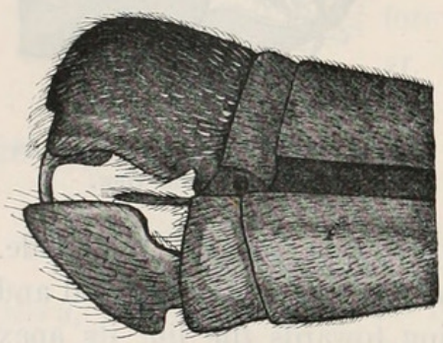

Fig. 5. *Bittacus sjöstedti.* Genitalia of the ♂, lateral view.

Body 20 mm., forew. 20—22 mm., hindw. 17—19 mm. Ant. 12 mm.

Abd. 15 mm., gr. br. 4½ mm., gr. br. 4 mm.

Four specimens, one ♂ and three ♀, all from *Kilimandjaro,* 18 Sept.; Kibonoto, 1000—1300 m., 27 April, 1300—1900 m. 29 April, 2000 m., rainforest, 5 January.

Leyden, July 1908.

List of Neuroptera Planipennia and Panorpata hitherto recorded from the Kilimandjaro-Meru district.

Planipennia.

Ascalaphidæ.

1. *Dicolpus primitivus* Weele, n. sp.

Mantispidæ.

2. *Mantispa pusilla* (Pallas).

Myrmeleonidæ.

3. *Cymothales speciosus* Kolbe.
4. *Myrmeleon quinquemaculatus* Hagen.
5. » *sjöstedti* Weele, n. sp.
6. *Formicaleo ægyptiacus* (Rambur).
7. *Formicaleo sjöstedti* Weele, n. sp.
8. *Myrmecaelurus tristis* (Walker).
9. » ? *variegatus* (Klug).
10. *Creagris nubifer* Kolbe.

Hemerobiidæ.

11. *Micromus africanus* Weele, n. sp.
12. » *sjöstedti* Weele, n. sp.
13. (*Hemerobius nervosus* F.).
14. (» *humili* L.).

Chrysopidæ.

15. *Ancylopteryx venusta* (Hagen).
16. *Chrysopa chloris* Schneider.
17. » *congrua* Walker.
18. » *sansibarica* Kolbe.
19. *Chrysopa sjöstedti* Weele, n. sp.
20. » *kibonotoënsis* Weele, n. sp.
21. » *tenella* Schneider.
22. » *vulgaris* Schneider.

Panorpata.

23. *Bittacus testaceus* Klug.
24. » *montanus* Weele, n. sp.
25. *Bittacus sjöstedti* Weele, n. sp.