

15.—*South African Neuroptera*. I.—By P. ESBEN-PETERSEN, Silkeborg, Denmark.

THE following descriptions and notes are based on material belonging to the South African Museum, Cape Town, and I take herewith the liberty to express to the Director, Dr. L. Péringuey, my best thanks for his kind permission to work out the material belonging to that institution.

Unfortunately descriptions and notes concerning the Neuropterous fauna of South Africa are scattered in a large number of periodicals and treatises, but I hope to succeed in giving complete lists of the fauna.

Many of the species described from South Africa are certainly synonymous with species described previously. Unfortunately I have also made mistakes, but when such mistakes too often take place I think it is mostly due to the fact that many species are described on one specimen only differing from the typical form.

In the *Chrysopidae* it is quite inadmissible to describe a new species on a single specimen, unless the specimen possesses characters so distinct as to enable one to separate the species from already known ones. Brownish, reddish or greyish markings on head, thorax and abdomen of the *Chrysopidae* are not at all characters to rely upon. Such markings are often produced by the drying of the insect. Likewise the colour of the nervures in the wings is very often dependent on the more or less complete maturity of the insect. The number of cross-veins in the graduated series is also, as a rule, a very poor and unreliable character.

OSMYLIDAE.

GEN. RHIPIDOSMYLUS.

RHIPIDOSMYLUS INTERLINEATUS.

Osmylus interlineatus, MacLachlan, Ent. Monthly Mag. vol. vi, p. 199, 1869 (Natal?).

Rhipidosmylus interlineatus, Krüger, Stett. entom. Zeit. p. 25, 1913; *ibid.* p. 74, 1914.

One fine specimen (♀) of this interesting species from M'fongosi, Zululand, May, 1891 (W. E. Jones leg.). The specimen agrees very

well with the description given by MacLachlan except with regard to the five pairs of dark streaks on the *Sc* and *R* in the hindwing; these streaks are very inconspicuous. The fuscous, rounded and raised spot on the hind margin of the forewing very distinct. It seems to be a very scarce insect. Another ♀ example from Durban, Natal (G. Leigh).

HEMEROBIIIDAE.

GEN. HEMEROBIUS, Lin.

HEMEROBIVS ERRANS.

Navas, Voyage Alluaud et Jeannel en Afrique Orientale, Insectes Névroptères, p. 31, 1914 (Brit. East Afr.).

One specimen, Cape Town; two specimens, Smithfield, Orange Free State (Kannemeyer leg.); one specimen (without label).

The specimens agree very well with the description given by Navas.

GEN. MICROMUS, Ramb.

MICROMUS TIMIDUS.

Hagen, Peters Reise nach Mossambique, Insecten, p. 91, taf. v, fig. 1, 1862 (Mozambique).

One specimen, Cape Town; one specimen, Stellenbosch, 1887 (Dr. L. Péringuey leg.).

MICROMUS CAPENSIS, n. sp. (Fig. 1.)

Head yellowish to brownish yellow. Vertex with four large irregular brown spots. Palpi brownish yellow. Antennae brownish yellow. Thorax brownish yellow with large irregular brownish spots laterally. Abdomen brownish yellow with irregular dark markings. Legs yellowish; front and intermediate tibiae with a brownish spot a little above the middle externally and another brown spot near tip externally; tip of tarsi pale brown. Wings with obtuse apex. Pterostigma brownish yellow in the forewing, somewhat darker in the hindwing. Longitudinal veins yellowish with short inconspicuous dark streaks. Costal area in the forewing rather narrow; the first 6-8 cross-veins simple and unforked; the rest forked. A row of small brown spots along *C*. Four radial sectors; their origin blackish. Four cross-veins in inner gradate series and eight in outer series; one or two in the inner series sometimes blackish, and three or four in the outer series nearest tip of the wing, also blackish and narrowly

shaded with brownish; these shaded cross-veins form together with a dark spot at the apical end of the pterostigma a short, dark, irregular, abrupt streak. On the hind margin of the forewing small dark streaks. The membrane hyaline with inconspicuous greyish-brown shadows, but at the hind angle there is sometimes present a quite blackish-brown oblong spot, with all the veins enclosed in it blackish. This conspicuous spot is often broken up in smaller spots or is sometimes quite absent. The second cross-vein between *M* and *Cu* blackish and dark-shaded. From this dark spot a faintly brownish oblique streak is sometimes produced, following the three basal cross-veins in the inner gradate series and ending at the basal end of the pterostigma. Hindwing hyaline; all the veins yellowish except three

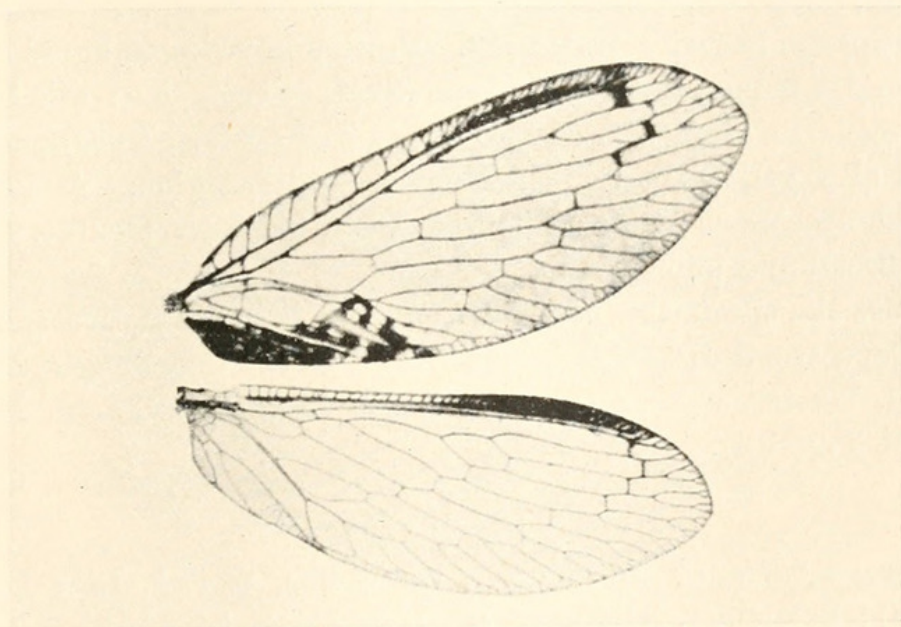


FIG. 1.—Fore- and hindwing of *Micromus capensis*.

or four of the cross-veins in the outer gradate series; these cross-veins together with a streak at their junction with the longitudinal veins blackish brown.

Length of forewing 7.5–8.5 mm.; of hindwing 6–7 mm.

Two specimens, M'fongosi, Zululand, April, 1911 (W. E. Jones leg.); one specimen, Cape Col., S.W. Distr.; one specimen, Cape Town, March, 1891; one specimen, Cape Town, April, 1885 (Dr. L. Péringuey leg.); one specimen, Cape Town; one specimen, 1887 (Dr. L. Péringuey leg.).

CHRYSOPIDAE.

With regard to the terms here used concerning the nervation in the wings of the *Chrysopidae* I refer to my work, "Results of Dr. E.

Mjöberg's Swedish Scientific Expeditions to Australia, 1910-1913: Neuroptera and Mecoptera," Arkiv för Zoologi, Bd. xi, 1918, Stockholm.

GEN. NOTHOCHRYSA, MacLachl.

NOTHOCHRYSA NEURODES.

Rambur, Hist. natur. Ins. Névroptères, p. 428, 1842 (Cape).

Nothochrysa finoti, Navas, Memorias Real Academia, Barcelona, p. 405, 1908 (Natal).

Four specimens, Kentani, Transkei, Cape, 1899 (Rev. Kolbe leg.); one specimen, Umzinkulu, Natal (Miss Stracham leg.); one specimen, Hex River, Cape (L. Péringuey leg.); one specimen, Transvaal; one specimen, Ceres, Cape, December, 1912 (Lightfoot leg.).

This species is easily recognised. Prothorax twice as broad as long, front angles truncate, a broad black streak at each side; this blackish streak encloses often one or two pale small spots. Meso- and meta-thorax also yellowish with blackish lateral margins. Abdomen in matured specimens orange-coloured with blackish pleurae. Wings rather broad and unmarked.

Besides the specimens here mentioned I have seen two specimens from Cape Good Hope, December, 1817, in the Copenhagen Museum (ex Coll. Westermann), and one specimen in the Stockholm Museum (ex Coll. Paykull).

NOTHOCHRYSA VARIEGATA.

Chrysopa variegata Burmeister, Handbuch, p. 981, 1839 (Comoro Islands); Schneider, Symbolae, etc. p. 147, tab. 54, 1851.

Chrysopa mozambica, Walker, Trans. Ent. Soc. Lond. p. 199, 1860 (Mozambique).

Chrysopa rufostigma, MacLachlan, Journ. Linn. Soc. Lond. p. 253, 1868 (Natal).

Nothochrysa sordidata, Navas, Memorias Real Academia, Barcelona, p. 404, 1908 (Madagascar).

Nothochrysa impar, Navas, Broteria, Serie Zoologia, p. 99, 1912 (Afr. merid.).

Nothochrysa maculata, Esben-Petersen, Entom. Mitteil., Berlin, p. 270, 1912 (Bonnefoi, Transvaal).

Nothochrysa zonata, Navas, Ann. Soc. scient. Brux. p. 324, 1914 (Abyssinia).

One specimen, Salisbury, S. Rhodesia (G. A. K. Marshall); one specimen, Burghersdorp, Cape, 1881 (Dr. Kannemeyer leg.).

Schneider has seen Burmeister's type-specimen and has redescribed

and figured it in his *Symbolae*, etc. In *Ent. Monthly Mag.* p. 26, vol. vi, 1869, MacLachlan states that *mozambica* and *rufostigma* stand in synonymy with *variegata*.

In my own collection I possess two specimens from Eritrea (Gunnar Kristensen leg.), one specimen from Transvaal (cotype of *maculata*), and one specimen from Lorenzo Marques. My two specimens from Eritrea agree in every respect with the description of *zonata*. I have also seen one specimen in the Stockholm Museum from Caffraria (J. Wahlberg leg.).

The species is liable to vary. Frons and vertex shining, smooth and sparsely punctate. The broad, yellowish prothorax has as a rule an irregular, purple-coloured spot towards each angle. The forewings have sometimes small brownish black spots in the basal and hind part. Pterostigma long and reddish, but very often much paler (I think this is due to the lesser degree of maturity). The wings are long and slender and with rather acute tip. In the forewing 21–25 costal cross-veins; 12–15 cross-veins between *R* and *Rs*; 6–7 cross-veins between *Rs* and *Psm*; 6–7 cross-veins between *Psm* and *Pscu*, and 12–14 branches from *Pscu* to the hind margin, the 1–3 apical ones forked.

The species is closely allied to *N. aequalis*, Walker, from India.

NOTHOCHRYSA PÉRINGUEYI, n. sp. (Fig. 2.)

Face yellowish red. Vertex and thorax red. Palpi reddish. Frons and vertex rugose and coarsely punctate. Antennae brownish black; the two basal joints yellowish red. Prothorax more than twice as broad as long, with rounded front angles, and with a deep curved transverse furrow one-third from base. The border of the hind margin narrowly yellow, and on the front part of the disc two triangular more or less distinct yellowish spots. Mesothorax red, with two yellowish spots near the front margin and sometimes with a yellowish transversely placed spot above the base of each wing. Metathorax red. Abdomen reddish above with yellowish spots apically, paler ventrally. Legs yellowish; femora with a broad dark band in the middle; claws brown, rather broad basally. Wings with somewhat acute tip. Longitudinal veins yellowish. Base of *Sc*, of *Cu*, of *Rs* and of 1A in the forewing often darker. In the forewing all the cross-veins except a few ones in the apical part of the costal area blackish. The longitudinal veins with a black spot at the junction with the cross-veins. The following cross-veins are strongly blackish and narrowly shaded: cross-vein between the stem of *M* and the furcation of *Cu*, cross-vein between *M*₂

and Cu_1 , apical cross-vein between Cu_1 and Cu_2 , cross-vein between 2A and 3A. The apical part of 2A and 3A is also blackish. At the hind margin of the wing between the apex of 1A and the tip of first branch from $Pscu$ a blackish spot. In the hindwing all the cross-veins except a few ones in the basal part of the costal area and sometimes also a few ones in the outer gradate series yellowish. At the junction of the cross-veins with the longitudinal veins often a minute blackish spot. Pterostigma long, greyish yellow. In the forewing 19–24 costal cross-veins; 12–18 cross-veins between R and Rs ; 5–6 cross-veins between Rs and Psm ; 5–6 cross-veins between Psm and $Pscu$; 10–12 branches from $Pscu$ to the hind margin, 1 or 2 of the apical ones forked. In the hindwing 19–20 cross-veins in the costal area; 12–15 cross-veins between R and Rs ; 4–5 cross-veins between Rs and Psm ; 7–8 cross-

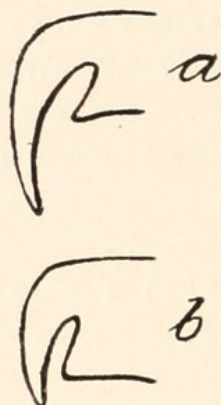


FIG. 2.—Claw of foretarsus. *a. Nothochrysa variegata.*
b. Nothochrysa péringueyi.

veins between Psm and $Pscu$; 11–12 branches from $Pscu$ to the hind margin, the 2–3 apical ones forked. Series of gradate cross-veins in the forewing $\frac{6-10}{9-13}$, in the hindwing $\frac{5-8}{7-10}$.

Length of forewing 19–21 mm., of hindwing 17–19 mm.

One specimen, Dunbrody (J. O'Neil); one specimen, Springbokfontein, 1873; one specimen, Calvinia Dist., 1892—all three localities in the Cape Province.

The species has much likeness to *variegata*, but the rugose frons and vertex, the markings of the prothorax, the difference in the nervature of the wings and the shape of claws separate it easily from that species.

I name the species after Dr. L. Péringuey, who has done so much in investigating the insect fauna of South Africa.

One species is still known from South Africa, viz. *Nothochrysa gigantea*, MacLachlan, Journ. Linn. Soc. Lond., p. 252, 1867 (Natal). I do not know the species; but its prothorax is scarcely as long as

broad, pale olivaceous grey, the anterior angles slightly reddish, and it has two short black lines on each side.

I suppose that *gigantea* is more closely allied to *neurodes* than to the two other species.

GEN. ANKYLOPTERYX.

ANKYLOPTERYX VENUSTA.

Chrysopa venusta, Hagen, Peters Reise nach Mossambique, Insecta, p. 90, 1862 (Mozambique).

One specimen, Durban, Natal (T. Innes), and one specimen, Durban, April, 1915 (Bell Marley leg.). The last-mentioned specimen is somewhat immature.

ANKYLOPTERYX POLYSTICTA.

Navas, Broteria, Serie Zoologica, p. 48, fig. 6, 1910 (Zambèze).

One specimen, Barberton, Transvaal (Miss Edwards leg.).

GEN. CHRYSOPA, Leach.

CHRYSOPA VULGARIS.

Schneider, Symbolae, etc., p. 68, pl. vi, 1851.

Of this species a somewhat large number was sent me.

Seven specimens, Kimberley, Cape, 1912 (Bro. Power leg.); five specimens, Smithfield, Orange Free State (Kannemeyer leg.), three specimens, Clanwilliam, Cape; two specimens, Salisbury, S. Rhodesia; one specimen, Dunbrody, Cape; one specimen, Maseru, Basutoland; nine specimens, George, Cape; one specimen, Durban, Natal; one specimen, Bushmanland, Cape (Lightfoot leg.); one specimen, Prieska, Cape (Purcell leg.); ten specimens without locality.

The South African specimens differ in some points from the European ones. The reddish or brownish-red streak on each cheek and on each side of the clypeus are often wanting, and when they are present they are not so distinct. The veins and the body are not so closely haired. The European specimens form a rather homogeneous unity, and they vary only in a small degree. Some specimens are more or less reddish suffused on the face, some others possess faintly brown lateral margins on the prothorax, or possess a dark indication on the costal cross-veins at their junction with *Sc*; but in the African specimens we meet with two rather different forms—the usual broad-winged European form with the rounded apex of the wings, and the narrow-winged form with the rather acute tip of the wings and as a rule with more lanceolate basal median cell in the forewing. Navas has described

this narrow-winged African form under the names *bequaerti* (Revue Zoologique Africaine, p. 409, 1912) from Belgian Congo, and *pudica* (Ann. Soc. scient. Brux., p. 82, 1914) from Transvaal. In my collection are twenty-four specimens (♂) of the narrow-winged form from Abyssinia and one ♂ from Madagascar, and amongst the materials here dealt with several specimens (♂) are also present. At present I am not able to arrive at any definite conclusion, whether we have to do with a distinct species or only a geographical form.

I have prepared for the microscope preparations of the appendages of the male of both forms, but it seems to me that the differences, if any, are very small. Probably a close examination of the female (which is not present amongst the narrow-winged specimens before me) may decide the question.

There is another African species, *Chrysopa congrua*, Walker (Cat. Neur. Ins. Brit. Mus., p. 238, 1853—West Africa, Congo, Central Sahara), belonging to the group in which the first cross-vein from *Rs* in the forewing joins *M* outside the basal median cell; but this species is easily distinguished by its dark brown antennae.

CHRYSOPA JEANNELI.

Navas, Voyage de Ch. Alluaud et R. Jeannel en Afrique Orientale, Insectes Névroptères, p. 36, 1914 (Brit. East Africa).

Chrysopa andresi, Navas, Memorias Real Academia, Barcelona, p. 394, 1915 (Egypt).

Two specimens, Cape Town (L. Péringuey leg.); one specimen, Smithfield, Orange Free State (Kannemeyer leg.); one specimen, Klerksdorp, Transvaal (E. G. Alston leg.).

The four specimens differ in some degree, but it is easy to see that they all belong to the same species. Face more or less suffused with reddish or pale reddish brown. A black spot on each gena. Palpi dark brown to blackish. No spot between the antennae. Vertex raised, reddish brown; along the front border of the elevation a blackish \wedge -formed streak in the two specimens. Antennae pale brown and dark banded; second joint almost totally black. Prothorax reddish brown (with irregular blackish markings), broader than long, and with truncate front angles. Meso- and metathorax with broad pale greyish longitudinal median band and a broad blackish lateral streak. Abdomen reddish brown with pale pleurae. The body dark brown haired. Legs greyish yellow; intermediate and hind femora with a broad brown band before the apex; tip of tibiae brown. Longitudinal veins mostly pale in the basal half part of the wings; but the basal

fourth part of *Sc* in the forewing strongly blackish, and all the other longitudinal veins with a long dark brown streak at the junction with the cross-veins. All the cross-veins and the most of the longitudinal veins in the apical half part dark brown. Pterostigma pale greyish brown, somewhat darker at its basal end. The hexagonal cell in the forewing, touching the hind margin and lying just at the tip of *Cu*₂, often totally brownish suffused; sometimes there are present only a brownish spot at the tip of *Cu*₂ and a smaller one, where the second cross-vein between *Cu*₁ and *Cu*₂ touches *C*₁. In one specimen there are also traces of small spots where the first branch from *Cu*₂, tip of 1A, 2A and 3A join the hind border. In the forewing 17–18 cross-veins in the costal area; 9 cross-veins in the radial area; 4 cross-veins between *Rs* and *Psm*; 6 cross-veins between *Psm* and *Pscu*. The basal median cell lanceolate, and the first cross-vein from *Rs* joins *M*₁ within the cell. In the hindwing 14–16 cross-veins in the costal area; 8–9 cross-veins in the radial area; 3 cross-veins between *Rs* and *Psm*. Gradate veins in the forewing $\frac{2-4}{4-6}$, in the hindwing $\frac{2-3}{3-5}$. Veins scarcely blackish haired.

Length of forewing 10.5 mm; of hindwing 8–9 mm.

The species is easily separated from all other African species known to me by the blackish basal part of *Sc* and by the brownish spot or spots at the hind margin of the forewing.

CHRYSOPA CHLORIS.

Schneider, Symbolae, etc., p. 95, pl. 26, 1851.

One specimen, Stellenbosh, 1888, Cape (L. Péringuey leg.); two specimens, M'fongosi, Zululand, October, 1911 (W. E. Jones leg.); one specimen, Carnarvon, Cape, 1896 (E. G. Alston); one specimen, Potchefstroom, Transvaal (T. Ayres leg.); one specimen, Smithfield, Orange Free State (Kannemeyer leg.).

I refer these six specimens to the species of Schneider, although only one specimen exactly agrees with the description. The four specimens have a bloody streak on each gena, on each side of the clypeus, on the vertex close to the margin of the eyes and along the exterior side of the basal antennal joint. These four specimens seem to be somewhat immature. The sixth species is a rather old one, and the head seems to be immaculate. With regard to the shape and to the nervature of the wings they agree in every respect with the species of Schneider.

Chrysopa sansibarica, Kolbe, Neuropteren Deutsch Ost Afrika, p. 35,

1897 (Sansibar), *Chrysopa inopina*, Navas, Ann. Soc. scient. Brux., p. 83, 1914 (Natal), *Chrysopa marchionissa*, Navas, Memorie Pontif. Accad. Romana, p. 29, 1915 (Lorenzo Marquesa) are closely allied to *C. chloris* and probably the same, but I do not know them.

CHRYSOPA KANNEMEYERI, n. sp.

Head, thorax and abdomen yellowish green. A distinct black spot on each gena just below the antennae; another oblong black spot between the antennae. Palpi blackish brown with paler annulations at the joints. Antennae hardly as long as the forewing, pale brown, darker towards the tip; basal joint stout and yellowish green. Prothorax somewhat broader than long, with rounded front angles and with short blackish brown hairs towards and along the lateral margins. Legs yellowish green; tarsi faintly brownish; claws brown, only slightly widened basally and with a weak tooth internally. Wings with rounded tip. Pterostigma green, rather conspicuous. All the nervures greenish and blackish-haired. The cross-veins in the middle part of the costal area in the forewing seem to be faintly brownish in the three specimens present. In the forewing 20 costal cross-veins; 10–12 cross-veins between *R* and *Rs*; 5 cross-veins between *Rs* and *Psm*; the first of those join *M*₁ within the basal median cell; 6 cross-veins between *Psm* and *Pscu*. From *Pscu* 9 or 10 branches to the hind margin, the 2 or 3 apical ones forked. In the hindwing 16–18 cross-veins in the costal area; 9 cross-veins between *R* and *Rs*; 4 cross-veins between *Rs* and *Psm*; 6 cross-veins between *Psm* and *Pscu*; 9 branches from *Pscu* to the hind margin, the 2 or 3 apical ones forked. Series of gradate veins in the forewing $\frac{5-7}{6-8}$, in the hindwing $\frac{5-6}{6-8}$.

Length of forewing 12 mm.; that of hindwing 10 mm.

Four specimens from Smithfield, Orange Free State (Kannemeyer leg.).

I take the liberty to name the species after the collector.

CHRYSOPA VENOSELLA, n. sp. (Fig. 3.)

Head yellowish. A broad transverse brownish red \wedge -shaped band below the antennae; a blackish streak on each gena and at each side of the clypeus. Vertex with a cordiform brownish red elevation, the front border of which is deeply blood-coloured; the disc of the elevation in front with a yellowish median longitudinal streak. Vertex at each side with a bloody narrow streak between the elevation and the eyes. Palpi brownish. Antennae as long as the forewing, dark brown

with pale annulations at the joints. Basal joint brownish red above, yellowish below. Prothorax broader than long, front angles rounded, disc yellowish with irregular brownish red markings and dark hairs. Meso- and metathorax with blackish brown spots. Abdomen reddish brown dorsally, yellowish ventrally. Legs yellowish; femora with a reddish brown streak near their apex dorsally; tibiae with a reddish brown band near base and another close to their apex; tarsi pale brownish; claws brown and slightly widened basally. Wings broad and with rounded apex. A brown spot close to the base of *C* in both pairs of the wings. Nervature yellowish. Pterostigma yellowish green and rather conspicuous. The longitudinal veins with brownish black streaks at the junction with the cross-veins. *Rs* blackish at its origin.

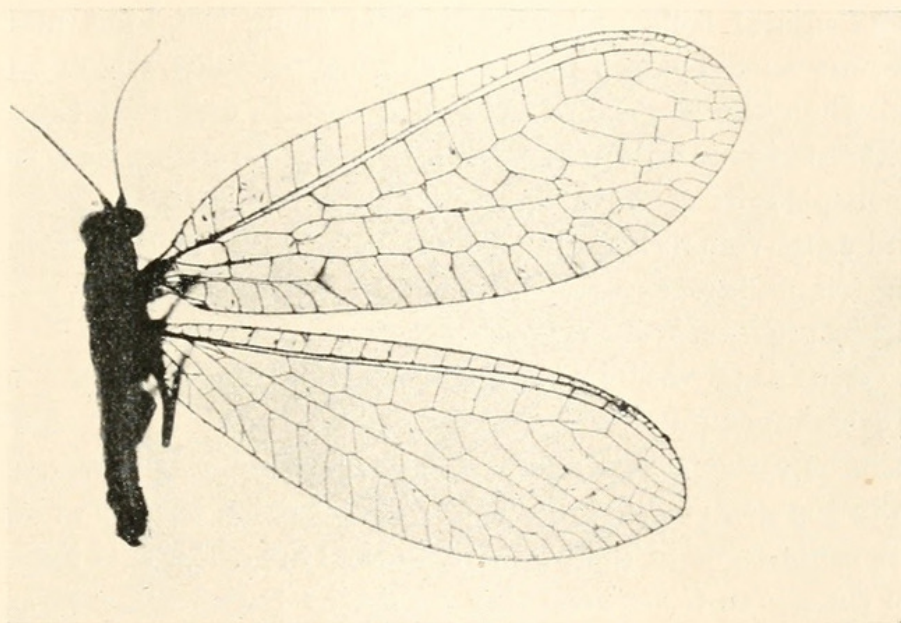


FIG. 3.—Fore- and hindwing of *Chrysopa venosella*.

All the cross-veins and all the veins along the hind and apical margin brownish black at their ends. In the forewing the cross-veins and the marginal veins are mostly blackish brown, and only a narrow band in their middle part is yellowish. The following cross-veins in the forewing are totally blackish: the three basal cross-veins between *Rs* and *Psm*; the cross-vein from the furcation of *M* to *Cu*; the two cross-veins between *Cu*₁ and *Cu*₂ (the apical one is also strongly brownish shaded at its lower end), and all the cross-veins in the gradate series; in the inner series they are also narrowly brownish shaded. In the forewing 18–21 costal cross-veins; 9 cross-veins between *R* and *Rs*; 3 cross-veins between *Rs* and *Psm*; the basal cross-vein joins *M* within the basal median cell; 6 cross-veins between *Psm* and *Pscu*; 10 branches from *Pscu* to the hind margin (the two apical ones are forked). In the

hindwing 17-18 costal cross-veins; 8-9 cross-veins between *R* and *Rs*; 3 cross-veins between *Rs* and *Psm*; 6 cross-veins between *Psm* and *Pscu*; 9 branches from *Pscu* to the hind margin of the wings; the two apical ones forked. Series of gradate veins in the forewing $\frac{4-5}{5}$, in the hindwing $\frac{2-4}{5}$.

Length of forewing 12-13 mm., that of hindwing 10-11 mm.

Two specimens from Johannesburg, Transvaal, January, 1912 (H. Feltham leg.).

It is a very interesting species, which is nearly allied to the European species *venosa*, Rbr.

GLENOCHRYSA, n. g.

Most of discal cells and several cells along the hind margin of the forewing with hyaline metallic shining pustules, which are easily observed when the wings are held in a certain direction against the light. Pterostigmatical area, especially in the forewing, as a rule with rather conspicuous cross-veins. Wings marked with spots. Several veins and cross-veins strongly shaded. The basal median cell in the forewing triangular.

Genotype: *Glenochrysa typica*.

This genus is a very interesting one with regard to the metallic shining eye-shaped pustules in the cells of the forewing; in this respect its position is rather exceptional. The nervature of the wings is the same as in the genus *Chrysopa*, with the exception that the new genus possesses cross-veins in the pterostigmatical area. In this respect it is allied to the genus *Cintameva* Navas (Revue Russe d'Entom., p. 214, 1914). The strongly-marked wings also give a peculiar appearance to the genus.

GLENOCHRYSA TYPICA, n. sp. (Fig. 4.)

Face dark brown or blackish with a transverse pale band. Vertex greenish with a semilunar elevation, the disc of which bears traces of a longitudinal median dark streak posteriorly. Palpi blackish. Antennae as long as the forewing, yellowish, becoming a little darker towards apex; basal joint with a broad black longitudinal streak exteriorly and interiorly; second joint blackish. Prothorax broader than long and with truncate front angles. Pro- and mesothorax greenish with irregular blackish markings. Metathorax blackish. Abdomen greenish with blackish markings above, paler ventrally (colours of abdomen probably changed in drying). Legs yellowish white; front and intermediate tibiae with a blackish spot near base exteriorly and a blackish band

about in the middle. Wings rather broad, somewhat pointed at apex (especially in the hindwings). Pterostigma yellowish brown in the forewing, somewhat darker and more conspicuous in the hindwing. The nervures greenish. The basal costal cross-vein in the forewing blackish and narrowly brownish shaded; 2nd to 4th or 5th costal cross-vein blackish at both ends; 5th to 8th or 6th to 10th totally blackish and broadly brownish shaded (the shadows form a longitudinal band); the rest of costal cross-veins in the forewing mostly totally blackish brown. Three branches at the tip of the wing strongly blackish and with a narrow brownish shade; the branches of the next eight forks alternately pale brown and shaded with pale brown. Origin of *Rs* blackish and surrounded by a large brownish black spot just

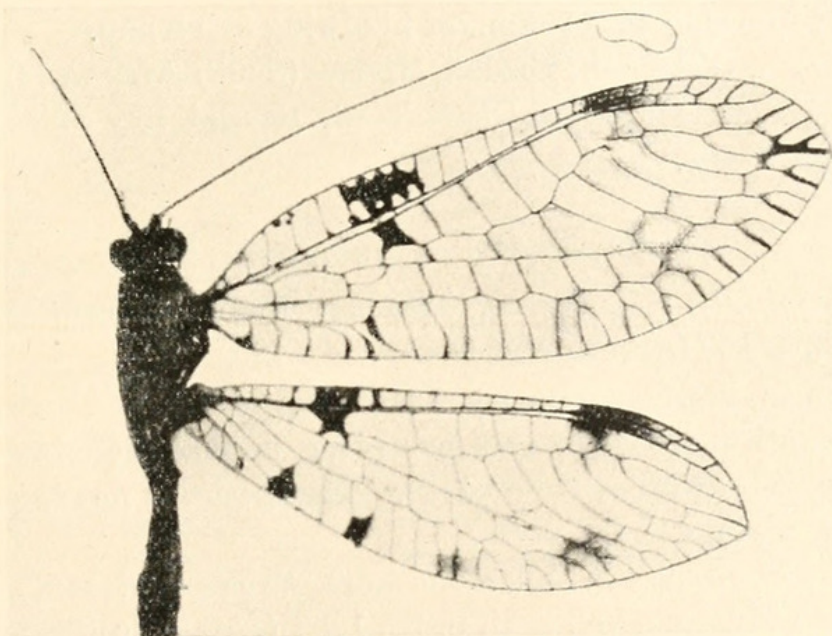


FIG. 4.—Fore- and hindwing of *Glenochrysa typica*.

below the brownish streak in the costal area. First and second cross-veins from *Rs* to *M* blackish. The two cross-veins between *Cu*₁ and *Cu*₂ blackish, and the second also broadly shaded with brownish. The tip of *Cu*₂, 1*A*, 2*A* and 3*A* blackish and brownish-shaded. All the other cross-veins in the forewing greenish, and in the apical half part of the wing they are also broadly shaded with yellowish brown. In the hindwing the basal costal cross-vein is green; the other cross-veins coloured like those in the forewing. At the tip of the wing three or four branches blackish. All the cross-veins except two or three near the base of the wing are greenish. Below *R* two spots; the first touches the spot in the costal area and is very distinct and conspicuous; the second touches the pterostigma and is more suffused. Along the hind margin four spots, the first at the apex of *Cu*₁ and *Cu*₂; the second spot

between the second and the third branch from *Pscu*; the third between sixth to eighth branch from *Pscu*; and the fourth spot, which does not touch the hind margin, is laying opposite to the pterostigma. In the forewing 23–25 costal cross-veins; 8 cross-veins between *R* and *Rs*; 4 cross-veins between *Rs* and *Psm*, the first of which joins *M*₁ within the basal median cell; 6 cross-veins between *Psm* and *Pscu*; 10 branches from *Pscu* to the hind margin, the two or three apical ones forked. In the hindwing 14–17 costal cross-veins from base of the wing to the pterostigma; 8 cross-veins between *R* and *Rs*; 4 cross-veins between *Rs* and *Psm*; 6 cross-veins between *Psm* and *Pscu*; 8 or 9 branches from *Pscu* to the hind margin, the apical ones forked. Series of gradate cross-veins in the forewing $\frac{3}{5}$, in the hindwing $\frac{1-2}{4-5}$.

Length of forewing 10–11 mm., of hindwing 9–9.5 mm.

One specimen, Olekemeji, Ibadan, Nigeria (South African Museum), and one specimen, Dubangui-Chara-Tead, Bangui (my collection, *ex* Coll. le Moul, Paris).

GLENOCHRYSA PRINCIPISSA.

Cintameva principissa, Navas, Memorie Pontif. Accad. Romana, p. 27, fig. 22, 1915 (Lorenzo Marquesa).

One specimen, Durban, January, 1915 (Marleiy leg.).

Of this beautiful species Navas has given a good description and very good figures of the head and wings. The species is not so strongly marked on the wings as *G. typica*.

Besides these two species, I know one more, *Chrysopa splendida*, Weele, Notes Leyden Museum, vol. xxxi, p. 72, 1909 (Insulinde), which shall be placed in the new genus. The last-named species is also described by Navas (Broteria, Serie Zoologica, p. 103, fig. 4, 1912) under the name *Chrysopa faceta*. His specimen is from Nicobar.

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