NEUROPTERA OF NORTHERN SOUTH AMERICA

PART III

by

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CHRYSOPIDAE

The Chrysopidae (Notochrysidae) of South America are very numerous in species, and some are very common and widespread. Many were described by Longinos Navas and were it not for the kindness of Professor R. C. Smith of Kansas State College I would not have attempted to tabulate them. On his trip to European Museums Professor Smith kindly made notes on those types he found and has generously given me a copy of these notes and they help materially in many species.

SYNOPSIS OF GENERA

1. Third cubital cell not divided; costal area very broad; no regular series of gradate veinlets, five or six branches of radius beyond subcosta; radials often connected by cross-veins.... Apochrysinae.

Third cubital cell divided in some way; costal area much narrowed at stigmal area; rarely more than three branches to radius beyond subcosta; cross-veins in middle area of wing mostly in two or three series .................................. Chrysopinae 2

2. Antennae on basal half, at least with the joints plainly broader than long; thorax very broad; in hind wings branches of anal vein often forked ......................... Nadiva.

Joints of antennae, except a few near base, are fully as long as broad, usually much longer; in hind wings the branches of anal vein not forked ........................................... 3

3. Medius of fore wing slopes down to its marginal fork, scarcely, if at all, bent; no dark spot at base of stigma; antennae rarely very long ...................................................... 4
The medius a little before marginal fork usually curves up a little to run into the outer series of gradates, if it does not it is bent at that place and usually with a dark spot at base of stigma; antennae often very long; divisory vein often oblique and straight ................................................................. 6

4. Divisory vein ends on the end of third cubital cell and about parallel to both medius and cubitus. ...................... *Chrysopodes*.

Divisory vein ends on the medius and before end of cell, and is often curved .................................................. 5

5. Inner series of gradates absent in either hind or both pairs of wings; radius usually has three or more branches to margin beyond end of subcosta; small species, with few cells, and the cubital area broad .................................................. *Eremochrysa*.

Inner series present with at least one veinlet in both wings. *Chrysopa*.

6. Divisory vein parallel to each side of the third cubital cell; a series of cross-veins connecting some of the radials... *Cacarulla*.

Divisory vein oblique, no series of cross-veins connecting radials... 7

7. A cross-vein before radial sector, usually but five cubital cross-veins beyond the divisory cell ....................... *Berkmansus*.

No cross-vein before radial sector; usually six or more cubitals beyond divisory cell .................................... 8

8. With a more or less complete third gradate series between the other two; divisory vein ending on the end of third cubital cell... *Neula*.

No intermediate gradate series ........................................ 9

9. Some costal cross-veins above origin of radial sector strongly sinuous; divisory cell more or less of a V; costal area wider than radial; costal stigmal area four times as broad as the subcostal stigmal area ........................................... *Vieira*.

No such sinuous costals, costal stigmal area usually less broad... 10

10. Radial sector more strongly curved so that the widest part of the radial area is nearer to the medius than to the radius; costal area usually rather narrow and not as broad as radial area; divisory vein usually ends on the medius plainly before end of cell .................................................. *Nodita*.

Radial sector less curved so that at the widest part of the radial area it is as near or nearer to radius than to medius; costal area usually broader than the radial area; divisory vein usually ends on the end of the cell ............................................. 11

11. Stigma with a large black spot extending back to the radial sector; costal stigmal area usually twice as broad as the subcostal stigmal area ............................................. *Gonzaga*.

Stigmal mark much smaller; costal stigmal area rarely twice as broad as the subcostal stigmal area ................. *Leucochrysa*. 

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APOCHRYSINAE

In the Apochrysinae there is but one species so far known from Northern South America; two other species are known from the Amazon region, and three from Central America; all are rare and but few specimens in collection.

*Loyola croesus* Gerst.

One from Caripito, Venezuela 12 July, P. Anduze (Cornell).

In fore wing six bullae behind the radial sector, yellowish, with black or brown on upper edge of four of them, and all with the veins partly dark; beyond the third is a small one about half way to hind margin.

The costal area is very broad, many of the cells are four to five times as long as broad; between subcosta and radium the usual cross-vein toward base, but from about middle of wing there are other cross-veins, about sixteen before the stigma, and others beyond. Stigma a small dark spot above subcosta. Radial sector arises from near base of wing, and mostly two series of cells in radial area. Between radial sector and medius is a dense network of small cells; the medius and cubitus follow each other closely until last bulla, bending up to follow the outer border of wing; the numerous branches of cubitus form very long cells, those near outer border are forked; between medius and cubitus there are about 35 to 40 cross-veins.

The cubitus has a fork from near base, which ends in three veinlets, extending out about as far as in a normal Chrysopa; it is connected by a very short cross-vein to the first anal which ends simple, and this has a longer cross-vein to the second anal, also simple, the last cross-vein is continued about four times as far to connect with the third anal near tip. In hind wings are two small brown spots over two or three cross-veins. The radials are in one series; except near base the subcosta and radius are almost or quite touching out to stigma; the medius is connected to radial sector near base and appears to rise as a fork from cubitus; as in
fore wing the medius and cubitus run parallel nearly out to tip, but they are somewhat further apart than in fore wing. About 30 cubital cross veins; three short anal veins; the first forked near base and connected twice to cubitus and twice to second anal, the third anal touching second and with two branches below.

The face is very short, and the mouthparts small; antennae very slender, the joints longer than broad; thorax much as in other Chrysopids.

**CHRYSOPINAE**

In the Chrysopinae the most primitive genus is Nadiva; the venation often irregular, and unlike in opposite wings. Several related forms occur in other parts of South America. They are readily recognized by the very short joints of the antennae.

**NADIVA Navas**

* Nadiva valida Erichs.
  
  Described from British Guiana; one from Wonotobo Falls, Courantyne River, British Guiana (N. A. Weber).

* Nadiva egena Navas.
  
  Kartabo, British Guiana, 4 May.

* Nadiva balboana Bks.
  
  Akuriman (E. Bolívar), Venezuela, Oct. (Anduze); occurs also in Panama.

The three species can be separated as follows:

1. Palpi partly black; basal joint of antennae with a reddish stripe above; radial sector, gradates, and many cross veins black... *egena*.
   
   Palpi pale .......................................................... 2

2. Gradates pale greenish as is almost the entire venation... *balboana*.
   
   Gradates black, inner row extended basally......... *valida*.
CHRYSOPA LEACH

1. Antennae beyond second joint plainly black or brown for some distance .................................. 2
   Antennae pale, at most with some dark dots toward base.................. 7
2. Palpi marked with black; rarely more than eight radial cross-
   veins .................................................. 3
   Palpi pale ........................................... 4
3. Dark line below eye and down on clypeus two dark spots on vertex,
   dark line each side on pronotum; in male the base of divisory 
   cell and bases of radial sector and cubitus swollen........ bolivari.
   No dark mark below eye, no dark on vertex, red stripe each side 
   on pronotum; no thickened veins in male.............. pullata.
4. The inner gradates diverge from outer and extend toward stigma; 
   basal joint of antenna unmarked.................. caucana.
   The gradates in parallel series and near each other............... 5
5. The basal antennal joint with a dark or reddish spot or stripe 
   above .............................................. silvana.
   The basal antennal joint unmarked................................ 6
6. Pronotum unmarked .................................. everes.
   Pronotum with red border ................................ claevi.
7. Some of the cross-veins or gradates bordered with brown or yellow-
   is .................................................... 8
   Cross-veins and gradates not bordered................................ 12
8. Both series of gradates black and bordered with dark; pronotum 
   with red each side .................................. 9
   Gradates not dark, or not bordered with dark........................ 10
9. Rows of gradates parallel and near each other, palpi lined with dark,
   no veins bordered with yellowish; wings rather slender. cymantis.
   Rows of gradates not parallel and widely separated; palpi pale, some 
   cross-veins bordered with yellowish; wings rather broad. parishi.
10. Palpi pale; no mark on basal antennal joint; third cubital cell 
    shorter than usual, and with but one branch to hind margin; veins 
    in both wings bordered ......................... albipalpis.
    Palpi partly dark .................................. 11
11. Basal antennal joint with a reddish line; inner gradates irregular;
    costal area scarcely broader than postcubital area.... nigripalpis.
    No line on basal antennal joint; costal area toward base much broad-
    er than postcubital area ................................ 31
12. More than six cubital cross-veins beyond the divisory cell, at least 
    in one wing ........................................ 13
    But six cubital cross-veins beyond divisory cell................. 14
13. Inner gradates extend basally, marginal forks dark, outer gradates 
    about as near inner row as to the margin................. laeva.
    Inner gradates not so far basally, marginal forks pale, outer gradates 
    plainly nearer to margin than to inner series........ poujadei.
14. A dull grayish mark in fork of anal vein below third cubital cell; four reddish spots at corners of the pronotum........... angulata.
Not as above ............................................................... 15
15. Four large reddish spots on pronotum, not close to margins........ 16
If there is reddish on pronotum it is near the side margin........ 17
16. A dark dot between antennae, no red line each side on vertex but a reddish spot behind .................. scalaris.
No dot between antennae, a red line each side on vertex close to eye; palpi lined with dark................. uribe.
17. Divisory vein ends before cross-vein above; no reddish on pronotum. 18
Divisory vein ends at or beyond cross-vein above...................... 19
18. Gradates and some cross-veins dark, palpi with dark........... azoralis.
Gradates and cross-veins wholly pale ................. lanata.
19. No dark or reddish spot below eyes on cheeks, inner gradates often fewer, sometimes but three .................. 20
A dark or reddish spot or line below eyes, inner gradates usually five or more ............................. 21
20. Palpi pale ............................................................... 21
Palpi dark in part .......................................................... 23
21. No stripe on basal antennal joint, pronotum sometimes with reddish border; inner gradates often reduced to two or three. reducta.
One or two stripes on basal antennal joint above .......................... 22
22. Two stripes on basal antennal joint; pronotum with stripe on side; gradates parallel .......................... arioles.
But one stripe on basal antennal joint; inner gradates five or six, outer eight or nine .................. iona.
23. No line on basal antennal joint nor red stripe on pronotum; usually two branches from third cubital cell to margin; gradates nearly parallel .......................... 30
A line on basal antennal joint or else a red stripe on pronotum; often but one branch from third cubital cell to margin and two from fourth ................................................. 24
24. Basal joint of antennae longer, with a reddish stripe or mark; on side of pronotum, often with stripe reaching to hind margin.. albatala.
Basal joint of antennae shorter, without stripe, but a stripe on side of pronotum, reaching only half way to hind margin.... breviata.
25. Face with an oblique line or a crescent each side below antenna.... 26
Face without such mark ................................................................ 27
26. A bar across lower face; veins wholly green....................... rufolinea.
Black spot under each eye; costals and radials wholly dark; other cross-veins more or less dark .................. hesperina.
27. Vertex with a dark stripe each side near middle; a brown spot on basal antennal joint above .......... nesotala.
No such marks on vertex .......................................................... 28
28. Two black submedian spots on front part of pronotum, dots behind these and on vertex; second joint of antennae dark.... conspersa.
No such spots on pronotum, palpi partly black ................. 29
Gradates not bordered with dark; pronotum margined with reddish ........................................... gasterica.

30. Costal area toward base scarcely broader than post cubital area........ alobana.
Costal area toward base almost twice as broad, as postcubital area... concinna.

31. No red on sides of pronotum, nor line under eyes........ concinna.
A red border on sides of pronotum, a red line under each eye connected across clypeus .................. circumfusa.

Chrysopa conspersa Navas.

Described from “Colombia” (no definite locality). It should be easily recognized by the spots on pronotum.

Chrysopa gasterica Navas.

Described from Muro, Colombia, June and Coachi, Colombia. I have not seen it.

Chrysopa claveri Navas.

Colombia, Caldas 4,400 ft., May (Fassl); Barranquilla, 23 July (G. Salt).

Chrysopa everes Bks.

Trinidad; Nariva swamp, 5 Dec. (Weber).
Venezuela; San Esteban (E. Carabobo), 7 Dec. (Anduze).
Surinam; Paramaribo, 3 March, 13 Dec. (Geijskes).
French Guiana; Nouveau Chantier, March (Le Moult).
Roches de Kourow, July (Le Moult). C. petersenii and C. petersenia of Navas are synonyms.

Chrysopa bolivari Bks.

Colombia; St. Antonio, 2,000 m. Jan. (Fassl).

Chrysopa caucana Bks.

Colombia; Inmbo, Cauca, 1,000 m. Jan. (Fassl).

Chrysopa pullata sp. nov.

Head pale yellowish, unmarked, no dark under eyes, no dark on vertex; palpi plainly partly black; antennae with dark line above on basal joint, beyond black; pronotum with
a red stripe each side, mesonotum with a dark (or reddish) spot each side over the suture behind anterior lobe; abdomen brown above no black spot; legs and pleura pale; fore wings with nearly all cross-veins brown or black, origin of radial sector and base of divisor cell dark; hind wings, with outer gradates dark and other cross-veins dark at ends. Pronotum fully as broad as long in middle, sides parallel until near front, then suddenly narrowing.

Wings moderately slender, tips almost pointed, with few cross-veins and large cells, hair on veins rather sparse and short; stigmas pale, indistinct. In fore wings the radial area is much broader than the costal area, and a little broader than the postcubital, which is no wider than the cubital; fourteen or fifteen costal cross-veins, eight radials, five intermedias, four other branches of radial sector, two or three inner and four outer gradates, in nearly parallel rows; divisor cell small and slender, ending just beyond the cross-vein above, six cubitals beyond divisor, third cubital cell nearly twice as wide at tip as at base. In hind wing seven radials, one or two inner and three outer gradates, five cubitals. Length of fore wing 8.5 to 9.5 mm., width 2.8 to 3 mm. From San Esteban (E. Carabobo), Venezuela, 1 Dec., 1 Jan. (Anduze). Type M.C.Z. No 26.208; paratype with Mr. Anduze. Venation very similar to that of C. bolivari, but the divisor cell is hardly half as wide, and there is not thickened veins toward base in the male; the color of palpi and antennae the same as C. bolivari, but it lacks the dark streak under eyes, no marks on vertex, and reddish instead of blackish on pronotum.

Chrysopa silvana Navas.

Colombia; Cali, May (Fassl).
Trinidad; St. Augustine, 3 May (Weber).
British Guiana; Bartica, Dec. (Parish); Tumatumari, Potaro Riv., 25 June.
Surinam; Paramaribo, 2 April, Moengo, Boven Cottica, 16 May (Cornell).
Chrysopa cymantis sp. nov.

Head pale yellowish, dark spot below eye, palpi partly black, antennae wholly pale, no spot on vertex by eyes, pronotum reddish on each side near margin, rest of thorax and the abdomen unmarked, except a paler median stripe; legs pale; fore wings with the most of the cross-veins wholly dark, the gradates black and plainly a little bordered; in hind wings some costals and the gradates dark.

Pronotum broader behind than long, somewhat narrowed in front; hind tibiae moderately swollen. Wings rather slender, the tips nearly acute; in fore wings the costal area is fully as broad as the radial area and equal to the post cubital, the latter plainly much broader than the cubital; eleven or twelve radials; six cubitals beyond the divisory cell, latter ends beyond cross-vein; second cubital cell nearly as long as third, much narrowed above at tip; about six gradates in each row, rows nearly parallel, but the first of inner row is rather out of line, inner row much nearer to outer than to radial sector, inner row arises near the penultimate cubital cross-vein; hairs on veins moderately short.

In hind wing about eight or nine radials; two or three inner gradates, three to five outer, rows far apart, the inner much nearer to radial sector, and arises near penultimate cubital cross-vein.

Length of fore wing 11.5 mm., width 3.8 mm.

From Paramaribo, Surinam (K. Mayo); Paramaribo, Combé, 26 April; type in Acad. Nat. Sci., Phila., paratypes in M.C.Z. and Geijskes collection.

This species is similar in many ways to C. hesperina Bks., but is smaller, with a more slender fore wing, and at once separated by the lack of the red line each side on face near eye and antenna, which is characteristic of C. hesperina, and by the slightly bordered gradates.

Chrysopa circumfusa Burm.

Surinam: Paramaribo, Cultuurtuin, 10 Jan. (Geijskes).
Ch. burmeister Navas is very similar or identical with circumfusa.

Chrysopa concinna sp. nov.

In general similar to circumfusa.

Head pale green, cheeks reddish, last joint of palpi black; antennae pale; a faint reddish mark on vertex by side of eye; no red on sides of pronotum. Wings with green venation, unmarked with dark, but the inner gradates are broadly bordered with yellowish. Antennae very short, about one-half length of wings, pronotum longer than in circumfusa, longer than broad behind, the groove is across middle, surface with long erect hairs.

In the fore wings of the male the radial sector and cubitus are thick as in circumfusa, and all veins very hairy; the inner gradates bend the branches of radial sector half-way to next branch. Costal area toward base extremely broad, about twice as broad as post-cubital area; several or nearly all of the branches of cubitus unite at base; five intermediates, five branches of radial sector beyond; four inner gradates, well separated and nearer to radial sector than to outer row; six or seven outer gradates, much nearer margin than to inner gradates; six cubitals beyond divisory cell, latter small, slender, ending a little beyond fork above.

Length of fore wings. 10 mm.

From Akuriman, (E. Bolivar), Venezuela, October (Anduze).

Bogota, Colombia (Dohrn) Hagen coll. Type M.C.Z. No 26.635.

Chrysopa albipalpis Bks.

Colombia; St. Antonio, Feb. 1.700 m. (Fassl); Carmen, Nov., 1.600 m. (Fassl); La Cumbre, 6.600 ft. (Fassl).

Chrysopa nigripalpis Bks.

Colombia; St. Antonio, 1.880 ft., Febr. (Fassl).
Chrysopa parishii Bks.

Venezuela; San Esteban, (E. Carabobo), 21 Nov. (Anduze).
Surinam; Moengo, Boven Cottica, 14 May (Cornell).
British Guiana; Bartica, Dec. (Parish).

Chrysopa lanata Bks.

Venezuela; Akuriman, 24 Oct. (Anduze).
Also Mt. Roraima, Brazil*, 7 Nov., 5,200 ft. (Am. M.N.Hist.)

Chrysopa azoralis Bks.

Colombia; La Cumbre 6,600 ft. (Fassl).

Chrysopa angulata Navas.

A male from the northern range of Venezuela, 23 September, (R. Lichy).

This agrees with the Navas description, having the dark spot, almost black, in forking of anal vein. It differs in some points, partly due to preservation, age, or time under cyanide. The head is not suffused with red, but is greenish; there is a red stripe above on the basal joint of antennae (not showing when antennae directed back); there is a small, but distinct black spot or bulla on the basal branch of last anal vein, and also a black spot on each lateral lobe of mesonotum (these may be sexual); and the inner gradates are almost parallel to the outer row; the origin of radial sector is black; there are four red spots on pronotum, hind pair larger as Navas states; there are five inner gradates, eight outer ones in fore wing, three inner, seven outer in hind wing.

Chrysopa breviata Bks.

Colombia; Rio Frio, Magdalena, 11 March (Darlington);
Sevilla, 6 Nov., (G. Salt).

Venezuela; San Esteban, (E. Carabobo), 25 Dec. (Anduze).

* Nota del Editor: Posiblemente se trate de la parte de Venezuela en cuyo territotio está casi todo el Roraima y donde se han efectuado casi todas las colecciones en ese sector, principalmente porque es más accesible.
Chrysopa hesperina Bks.

Colombia; Caldas, 4.400 mt., May (Fassl); Cali, 500 m., May, (Fassl).

Venezuela; San Esteban (E. Carabobo), 25 Dec., 10 Febr. (Anduze); El Valle, D. F., 13 Febr. (Berthier).

British Guiana, Kartabo, 24 April (Beebe).

C. laufferi Navas appears to be a synonym of this, but possibly different.

Chrysopa laeva Navas.

Colombia; Monte del Eden, Ibagué, 3.000 m. Dec. (Fassl); Quindini Pass, Volcancito, 3.000 m. Nov. (Fassl).

Chrysopa poujadei Navas.

Colombia; Pacho, Ost Cordillera, 2.200 m. (Fassl); Quindini Pass, Bognia, Sept 2.000 m. (Fassl).

Chrysopa scalaris Navas.

Trinidad; North Range, 1.200 ft. 6 April (Weber).

Chrysopa uribei Navas.

Colombia; Medellín, 24 April, (U.S.N.M.); Villavicencio 450 m. (Fassl).

Venezuela; San Esteban (E. Carabobo), 20 Nov. (Anduze); Los Canales de Naiguatá, 24 Sept. (Berthier).

British Guiana; Kartabo, 20 June (Beebe); MacKenzie, Demerara River, 24 June (Cornell).

Chrysopa iona sp. nov.

Head pale, unmarked, except vertex may be a little darker behind in middle, no mark under eyes; palpi pale; antennae pale, basal joint with a narrow red stripe above, at lip widening into a short band, second joint with dark dot above; pronotum with a narrow reddish stripe each side, near, but not reaching, the margin; thorax, legs and abdomen pale,
unmarked; fore wings with venation largely green, but the radials are dark in the middle, and the gradates dark, sometimes some cubitals dark in middle, and marginal forkings a little dark.

Vertex shows a transverse groove near and parallel to hind margin; pronotum a little broader behind than long in middle, sides parallel till near front then narrowing. In male the hind tibiae have only short hair above.

In fore wings the radial area is broader than the costal, and about as broad as the post-cubital, cubital area about as wide as the costal; twelve to thirteen radials, five intermediates, five or six inner gradates, eight or nine outer ones, in parallel rows, and inner about twice as near to outer row as to the radial sector; third cubital cell rather short, two branches to hind margin, divisory vein ends a little beyond the cross-vein above, six cubitals beyond divisory vein; hairs on veins moderately long and quite numerous.

In hind wings three or four inner and eight or nine outer gradates, also near and in parallel rows; the anal area fairly long.

Length of fore wing 14 mm., width 4.5 mm.

From Paramaribo, Surinam, 7 Dec. (at light), Marienboxk, Surinam, 9 May, both by Geijskes, and Bartica, British Guiana, December (Parish Coll.); also from Tumatumari, Potaro River, British Guiana, 28 June (Cornell). Type M.C.Z. No 26.212, and in Geijskes collection.

*Chrysopa alobana* sp. nov.

Body pale yellowish, a more or less distinct dark spot each side on clypeus, otherwise unmarked; legs and antennae pale, last joints of palpi dark. Fore wings with gradates, costals in part, radials in middle, origin of radial sector, and a few basal veins dark; stigma yellowish; hind wings with gradates and costals partly dark.
Antennae not as long as fore wings; vertex is mostly a triangular elevation; pronotum a little longer than broad, sides parallel.

In fore wings the costal area at broadest about as broad as costal. Six cubital cross-veins beyond the divisory cell, latter more than twice as long as broad, ending a little beyond the cross-vein above; third cubital cell scarcely longer than second; ten or eleven radial cross-veins; about five inner and seven outer gradates, in nearly parallel rows, inner about one-half way between radial sector and outer row; hairs on veins moderately long. In hind wings four inner and five outer gradates, parallel.

Length of fore wing 11.5 mm., width 4.2 mm.

From Barrancas, Orinoco River, Venezuela, 13 to 16 Feb. (Weber coll.) and Botanic Gardens, Paramaribo, Surinam, 22 June (Geijskes coll.), Type M.C.Z. № 26.211.

*Chrysopa albatala* Bks.

Venezuela; San Esteban (E. Carabobo), 10 Feb. (Anduze); El Castillo; 27 Feb. (Anduze).

British Guiana; Bartica, Dec. (Parish); Kartabo 21 July (Beebe); Upper Rupununi Riv. Feb. March (Ogilvie); Tumatumari, 13 Aug.

Surinam; Paramaribo, Dec. to March (Geijskes); Moengo, 10 April (Geijskes); Moengo, Boven Cottica, 21 May; Zanderij; Boven Para, 20, 25 April (Cornell).

*Ch. limitati* Navas was described from “Nuevo Friburgo, Brasil”, another specimen from Berbice, British Guiana. Prof. Smith’s notes refer to the British Guiana specimen, and these indicate that it may be the same as *albatala*, both described in 1913. The type from Southern Brazil may be different.

*Chrysopa rufolinea* Bks.

Colombia; Cali 1.000 m. (Fassl).
Chrysopa adriotes new name.

Ch. binaria Navas 1928 nec 1923.

Described from Central America, I have seen a specimen from Trinidad.

Chrysopa reducta sp. nov.

Pale greenish, face without marks on cheeks or elsewhere; palpi pale, unmarked, antennae brownish, except pale basal joint; pronotum with a reddish lateral streak near the edge; rest of thorax unmarked, also abdomen and legs; venation mostly green, the gradates dark, some of the radials and costals dark in middle; in hind wings the gradates less distinctly dark.

Pronotum broader behind than long, slightly narrowed in front, sides straight; hind tibiae only slightly swollen.

In fore wing the costal area at broadest not as wide as radial area, latter a little broader than post-cubital area, which is plainly broader than the cubital area, but the latter is as broad as the costal area. Divisory cell ends beyond the cross-vein; six cubital cross-veins beyond the divisory; the second cubital cell about as long as the third, both narrowed above and below at the separating cross-vein; twelve radial cross-veins; costal stigmal area not as broad as the subcostal, latter with about four cross-veins; gradate rows near each other, parallel, the inner almost twice as near outer as to the radial sector, only two or three inner gradates, about seven outer, inner row arises about halfway between last and next to last cubital cross-vein; branches of radial sector scarcely bent at inner gradates; hair on veins of moderate length. In hind wing the gradates are similar in position and number to those in fore wing, ten radials.

Length of fore wing 11.5 to 13 mm., width 4 to 4.4 mm.

Chrysopa nesotala sp. nov.

Pale yellowish, face with a brown streak under each eye reaching down on side of clypeus; palpi mostly black; antennae pale, basal joint with a brown spot above near tip; vertex with two short brown streaks curved toward each other; pronotum with a broad, dull red stripe each side. Fore wings with many cross-veins brown, costals partly, radials in middle, several basal and branches of anal vein, and the gradates wholly, last cubital, and origin of radial sector, brown; stigma dull yellowish.

Antennae shorter than fore wings, pronotum much broader than long, sides parallel.

In fore wings five inner and six outer gradates, in parallel series, inner nearer outer than to radial sector; six cubital cross-veins beyond divisory cell, latter more than twice as long as wide, ending beyond the cross-vein above; third cubital cell no longer than second; ten or eleven radial cross-veins.

Costal area at widest not equal to radial area, nor to post-cubital area, latter a little broader than cubital area; hair on veins of moderate length; in hind wings four inner, five outer gradates, parallel.

Length of fore wings 13 mm., width 4.5 mm.

One from Rio Ognacatal, Western Cordillera, Colombia, 2.000 meters (Fassl coll.). Type M.C.Z. N° 26.210. There is a named specimen in the Paris Museum, but I cannot find that it is published.

CHRYSOPODES NAVAS

1. Basal joint of antennae largely dark above, and two dark streaks near middle of vertex; inner and outer gradates about parallel... 2
   Basal joint of antennae mostly pale above; no dark streaks on vertex; inner row diverges from outer row of gradates and extends up toward radial sector .............................................................................................. 3

2. Face with a triangular dark mark in the middle; antennae pale beyond second joint; front tibia unmarked.. species from Bolivia.
   Face without dark mark in middle; antennae dark beyond second joint; front tibia with a black streak on base..................
   ................................................................................................................. species from Brazil.
3. Costal cross-veins before middle plainly oblique; some gradates faintly margined; traces of third row of gradates.... *pulchella.*

Costal cross-veins on basal part scarcely oblique; marginal forks not dark; no indication of a third row of gradates.... *inornata.*

_Cr. geayi_ Navas (Nothochrysa) would go according to wings in number three; the wings are heavily marked; the head was absent, or was not described. It was from Venezuela.

**Chrysopodes inornata** Bks.

Surinam; Paramaribo, Botanic Garden, 15 Feb. (Geijskes). Colombia; Imntas, Rio Dagna, 400 m. August (Fassl); described in Allochrysa.

**Chrysopodes pulchella** Bks.

Surinam; Paramaribo, Charlesburg, 19 April (Geijskes). Type is from Para, Brazil.

**NODITA Navas.**

The table for species is in three parts, those with the hind margin of hind wings brown, all are large species; second, those without hind border of hind wings brown, one section those with the fore wings at least 15 milimeters long, and those with the fore wings shorter; a few species are tabulated in each section.

**A — Species with hind wings margined behind with brown.**

1. Large red mark on face under each antenna, sometimes connected; red spot each side on pronotum; radial sector in both wing dark in part; gradates in both wings pale; very large, more than ten cubitals beyond divisory; fully twelve inner gradates... *marginalis.*

No large red spot under each antenna; fewer inner gradates, and cubitals ..................................................... 2

2. Gradates in hind wing dark ........................................ 3
   Gradates in hind wing pale ..................................... 4

3. Outer side of divisory cell nearly twice as long as basal; no marks on vertex; pronotum with a reddish spot each side, not a stripe...

............................................................... *neuralis.*

Outer side of divisory cell little if any longer than basal; two red lines on vertex; pronotum with reddish stripe each side, four spots on front lobes of mesonotum ............... *amazonica.*
4. Fore wings with gradates pale, no mark on cheeks, none on pronotum, nor mesonotum; radial sector partly dark in both wings...
Fore wings with at least some gradates dark; red mark on cheeks...
5. Anterior mesonotal lobes with rounded dark spots, and on lateral lobes of meso- and metanotum is a small spot or dark line (not always visible); reddish or brownish marks on joints of antennae beyond second for some distance. maronicta.
No marks on mesonotal lobes; no dark on antennal joints beyond second... clepsydra.

B — Species with hind wings not margined with brown on the hind border.

a — Species with fore wings 15 millimeters or more long:

1. Palpi pale .......................................................... 2
   Palpi partly dark ............................................. 6

2. Fore wings with base of radial sector, various gradates and cubitals, black and bordered with black; a dark spot at tip of hind wing; veins in hind wing, except base of radial sector, wholly pale...
   No such bordered veins in fore wing .................................................... gloriosa.

3. A dark band across face just below antennae and an angulate mark behind antennae; lateral lobes of mesonotum often with a dark spot ........................................ nigrovaria.
   No band across face; radial sector often dark in part........................ 4

4. A large red transverse spot each side on the pronotum, nearly connected in middle; gradates and many cross-veins black... clysteria.
   No such transverse marks on pronotum ..................................................... 5

5. Basal joint of antenna unmarked, beyond the antenna is black gradually passing to brown .................. panamana.
   Basal joint of antenna with a reddish stripe, beyond some joints have a brown dot but rest wholly pale........... montanola.

6. Near posterior third of pronotum there is a black dot or dash each side; an angulate line behind antennae; radial sector often without dark stretch in fore wings; first cubital cross-vein beyond the divisory cell oblique; base of radial sector not bordered...
   No such dark marks on pronotum .......................................................... lancala.

7. Base of radial sector bordered with dark; most cross-veins dark, tip of hind wings almost dark; radial sector in hind wings dark near middle; basal joint of antennae reddish above... cruentata.
   Base of radial sector dark, but not bordered, tip of hind wings not dark; basal joint of antennae at most with stripe........... 8

8. Meso- and metanotum with black or dark red stripe on each side extending forward onto the pronotum; stigma yellowish, dark at base; hind wings slender, and very acute at tip......... enterpe.
   No such marks on thorax; body pale, pronotum with some red on sides; stigma not yellowish; hind wings not so slender... caucella.
b — Species with fore wings not 15 mm. long:

1. Fore wings with a large brown spot over stigma and behind encloses two or three hyaline spots; also large spot on stigma of hind wings; meso- and metanotum nearly black; hind wing without apical dark spot .................. *palliceps.*

No such large brown spot in fore wings ........................... 2

2. Palpi plainly black in part; tip of hind wing usually dark, usually a dark band across lower part of face, seven cubital cross-veins beyond the divisory cell .......................... 3

Palpi pale ............................................. 7

3. Vertex (at least in male) much elevated above eyes, with a median point .................................. *surinamensis.*

Vertex not elevated noticeable above eyes ........................... 7

4. Pronotum with an elongate black mark on each side, not extending on anterior part; second and two or three more joints of antennae black above .......................... *championi.*

Pronotum with a reddish stripe along each side ...................... 5

5. Radials (except last few) and intermediates pale; costals dark on outer part only; in hind wing the branches of cubitus near its end are heavily marked with black, a few antennal joints beyond second with a dark mark .......................... *postica.*

Radials and costals almost wholly dark, intermediates partly dark, no large median area of pale veins; in hind wing no dark marks behind last cubital cross-vein .................................. 6

6. Divisory cell plainly much longer on outer side than on basal; some cubitals and gradates plainly bordered with dark; abdomen with two dark spots above .......................... *heriocles.*

Divisory cell usually with outer side but little longer than basal; no cubitals nor gradates bordered; abdomen with two rows of red spots above .......................... *cruentata.*

7. A dark band across face; six cubital cross-veins beyond divisory cell (if a seventh it is very small) .................. 8

No dark band across face just below antennae, may be a spot under each antenna, base of radial sector often not bordered by black spot .......................... 10

8. A distinct brown spot at tip of hind wing; dark band across lower part of face .................................. *cornesta.*

The dark band across face just beneath antennae; tip of hind wing only faintly dark on ends of the veins .......................... 9

9. Tip of hind wing not dark; tip of anal vein and adjoining branch from third cubital cell in fore wing distinctly dark, almost bordered, pronotum with marginal line .......................... *aleura.*

Tip of hind wing with the veins dark, but hardly a spot; tip of anal vein and adjoining branch from third cubital cell of fore wing not noticeably dark; some outer gradates and base of radial sector bordered with black; pronotum with a short black line each side .................................. *lenora.*

10. With six cubital cross-veins beyond divisory cells radial sector of fore wing dark near middle .......................... *minima.*

With seven cubital cross-veins beyond divisory cell; radial sector of fore wing not dark .......................... 11

11. A dark spot under base of each antenna close to eye; basal joint of antennae with a dark stripe on outer side ............ *submacula.*

No dark spots under antennae; basal antennal joint almost wholly dark above; abdomen with two large black spots above... *cortesi.*
**Nodita neuralis** Bks.

Colombia; Bogota (Dorhn); Cali Valley, 27 April; San Antonio, January, 5,000 ft. (Fassl).

Venezuela; Mt. Duida, 22 December, 15 January (Amer. Mus. Nat. Hist.)

**Nodita palliceps** McLachl.

British Guiana; 5 April (Cornell).

**Nodita gloriosa** Bks.

Colombia; Tolima, November, 5,000 ft. (Fassl).

**Nodita amazonica** Nav.

British Guiana; Bartica (Parish).

**Nodita clepsydra** Bks.

Colombia; Caldas, May, 4,900 ft. (Fassl); Inmbo, Cauca, January, 3,000 ft. (Fassl).

**Nodita marginalis** Bks.

Colombia; Bogota (Dohrn). Type from Bolivia.

**Nodita maronica** Nav.

British Guiana; Kartabo, 18 July; Bartica, December (Parish); Tumatumari, July (Amer. Mus. Nat. Hist.)

Surinam; Paramaribo, 12 December; Charlesburg, 6 April, 21 August, (Geijskes); Paramaribo (K. Mayo) (Acad. Nat. Sci., Phila.)

Venezuela; San Silvestre (E. Barinas), January; San Esteban (E. Carabobo), 18 November, 15 December (Anduze).

**Nodita eubule** sp. nov.

Face unmarked; palpi pale; antennae pale, basal joint shows faintly a dark mark at tip above; pronotum pale, no distinct marks, also meso- and metanotum; abdomen brown above, paler below. Fore wings with few cross-veins wholly
dark, but costals dark on outer ends, some of the first few radials and some cubitals and intermediates dark in the middle; radial sector slightly dark at middle, marginal forkings slightly dark, gradates wholly pale.

In hind wings the radial sector plainly dark in middle, but branches not darkened, a few costals partly dark, otherwise venation pale except that the marginal forks are brown with a brown shade along the brown marginal vein.

Pronotum longer than broad, tapering forward. Fore wings with sixteen radials, eight or nine cubitals beyond the divisory cell, latter triangular, outer side scarcely longer than inner; nine inner and eight outer gradates in nearly parallel series, but rather far apart; costal area not nearly as broad as radial, latter broader than post-cubital, the cubital area tapering to less than one-third the width of the post-cubital. In hind wings twelve radials, six or seven gradates in each series, and nearly parallel, inner much nearer to radial sector.

Length of fore wing 17 mm., width 7 mm.

From Rio Frio, Magdalena, Colombia, 7 March (Darlington).

Type M.C.Z. № 26.213.

_Nodita lancala_ sp. nov.

Body yellowish; a brown spot under each eye, usually a small dark mark in middle just below the antennae; palpi marked with black, an angulate brown line above antennae; latter pale, basal joint with two red marks, one toward inner side is short, other above toward outer side is long; pronotum with reddish streak by side margin, and above behind middle is a black dot each side; a reddish or brown line usually present on each side of anterior lobe of mesonotum, a more or less distinct dark spot on each lateral lobe, and less distinct dark marks on metanotum; abdomen with some black marks above near middle. Fore wings with the gradates wholly, and many cross-veins at one or both ends dark, marginal forks also dark, and a dark spot over origin of radial
sector; in fore wing the radial sector is rarely darkened before stigma, although the branches there are very plainly dark each side; stigma with a brown spot at base.

In hind wings the radial sector is dark for a short distance before stigma, a few branches somewhat dart at base, gradates dark, but few, if any other cross-veins dark; stigma with dark at base. Pronotum a little longer than broad, narrowed in front; fore wings moderately broad, costal area hardly as broad as post cubital area; five to seven inner, and six to eight outer gradates, in nearly parallel series, and not very close to each other, seven or eight cubitals beyond divisory, the first usually very oblique; divisory veinlet ending well beyond the cross-vein above; postcubital area about one-half broader than the cubital area; hairs on veins moderately long, toward apex about width of a cell. In hind wings 5 to 7 inner, 6 to 8 outer gradates.

Length of fore wing 16 to 18 mm., width 6.5 to 8 mm.

From Rio Frio, Magdalena, Colombia, 22 July (Salt coll.); Caldas, Colombia, 4,400 ft., May (Fassl coll.); Paramaribo, Surinam 30, 31 Jan., 2 Febr. (Geijskes coll.), and also from Paramaribo (K. Mayo coll. Acad. Nat. Sci., Phila.)

One from Obydos, Brazil, 25 Au. (Parish coll.) appears to be the same, but is faded.


*Nodita lancala* var. *plenota* var. nov.

This differs from the normal form in having the spots across front of mesonothm greatly enlarged and dark brown; on the face there is a median transverse dark bar just below the antennae, and the lateral lobes of metanotum are also dark. The second and third joints of antennae are marked with reddish. There is more black on the cross-veins of the wing than in the typical form.

Specimens from Paramaribo, Surinam, 20 January and 1 April (Geijskes coll.) Type M.C.Z. 26.214.
Nodita montanola Bks.

Colombia: Tolima, 5,000 ft., December (Fassl).

Nodita panamana Bks.

Surinam: Charlesburg, 9 April (Geijskes).

Colombia: Rio Frio, Magdalena, 14 April (Salt).

Nodita euterpe sp. nov.

A dark reddish spot under each eye, a dot between bases of antennae, vertex with a median dark spot above the antennae, and a red-brown line each side. Palpi mostly dark; antennae pale, basal joint with a reddish line above. Pronotum with a broad dark stripe each side, continued back over the outer sides of meso- and metanotum as a broad nearly black stripe on each side above bases of wings; abdomen mostly dark above, much paler beneath; legs pale, unmarked. Fore wings with the gradates wholly black; costals on outer half, most of radials, cubitals, marginal forks, and branches of cubital and anal veins partly or nearly wholly dark; base of radial sector and stem of the divisory cell black.

In hind wings gradates wholly dark, the last cubital cross-vein, forings of marginal forks, outer ends of most of the branches of cubital vein to margin plainly brown; stigma in both pairs yellow, dark at base.

Fore wings rather broad, rounded at tip; thirteen radials, seven inner and eight or nine outer gradates in slightly divergent series; seven cubitals beyond the divisory cell, latter with outer side one-and-a-half times as long as basal side, first cubital beyond only slightly oblique; radial area a little broader than costal area, also broader than post-cubital area which is much broader than cubital area.

Hind wings slender, tip sharply acute; ten radials, about six in each row of gradates, in nearly parallel series.

Length of fore wing 16 mm.

From Paramaribo, Surinam, (K. Mayo); Type in the Acad. Nat. Sciences of Philadelphia.
Nodita caucella Bks.

Colombia: Inmbo, Cauca, January, February, 3,000 ft. (Fassl); San Antonio, January, 6,500 ft. (Fassl); Tolima, October, 5,000 ft.; Alto de las Cruces, January, 6,000 ft. (Fassl.)

Venezuela: Mt. Duida, 22 December (Amer. Mus. Nat. Hist.)

Nodita nigrovaria Walker.

Colombia: Minero, Muzo 1,500 ft. (Fassl).

Nodita clystera Bks.

Colombia: San Antonio, 5,500 ft. February (Fassl).

Nodita aleura sp. nov.

Face with a dark band beneath antennae; vertex with two large reddish spots; palpi pale; basal joint of antennae reddish brown above, second joint dark above, beyond all pale; pronotum with indistinct reddish mark each side; meso- and metanotum largely dark above; abdomen with two large dark spots above.

Wings without large dark spots above except one at base of the yellowish stigma; in fore wings base of radial sector, the gradates, outer radials and some cubitals dark, none bordered, other cross-veins pale or dark in part, but the end of the first anal vein and the adjoining branch from the third cubital cell are plainly black and almost bordered, and also the same veins in the hind wing; the gradates dark, other veins mostly pale, no dark mark at tip.

The fore wings hardly acute at tip; the costal area toward base is broader than in postica and allied species; five to six inner, seven outer gradates; six cubital cross-veins beyond divisor cell; two branches to margin from third cubital cell; tho the cubital area is broader than usual, the postcubital area is one-half broader. In hind wing five inner, six outer gradates; cubital and post cubital areas also broad.
Pronotum broader than long tapering toward front.
Length of fore wing 14 mm.

*Nodita championi* Navas.

Venezuela: San Esteban (E. Carabobo), 8 December (Anduze). Occurs also in Panama.

*Nodita minima* Bks.

Colombia: Caldas, 4,400 ft. May (Fassl).

*Nodita postica* Navas.

Surinam: Maroroijne, Pedrosoengoe Valley, 30 June; Toemach-Hoemak Mts., 600 m., 20 July (Geijskes).

French Guiana: Mana River, May (Le Moult).

*Nodita cortezi* Navas.

Venezuela: San Esteban (E. Carabobo), 15, 29 December (Anduze).

Trinidad: St. Augustine, July (Weber).

*Nodita surinamansis* sp. nov.

Pale yellowish, face almost white, a black mark at lower end of each eye, continued obliquely downward across lower part of clypeus to form an angular band; palpi black, antennae pale, basal joint with red brown stripe above, and a dot on second joint; pronotum pale, a reddish stripe each side with an inner projection at middle; mesonotum with a brown spot each side on anterior lobe, and a dot over base of wing; abdomen with a dark brown spot toward tip.

Wings clear. stigma yellowish, a dark spot at base, gradates, cubitals, branches of cubitus to margin, and a few veins near base dark; last cubital cross-vein and first outer gradate somewhat bordered with dark; costal cross-veins hardly dark. In hind wings the venation mostly pale, but the last one or two cubitals and the first one or two outer gradates dark, tip of wing with a dark spot.
Head of male with the vertex elevated in a cone, in front of which are two faint dark spots; pronotum longer than broad behind; hind tibia of male with a few long hairs behind.

Wings rather slender, hind ones acute at tip; in fore wings the costal area is about as broad as the radial area, and a little broader than the postcubital area; cubital area about two-thirds as wide as the post-cubital; about eleven radial cross-veins, six intermediates, five in each gradate row, the rows diverging, and the branches of radial sector disjointed by the inner gradates; seven cubitals beyond the divisory veinlet, latter ends well beyond the cross-vein above; third cubital cell nearly twice as long as broad at tip and with but one branch to the hind margin.

In the hind wings three or four gradates in each row, the rows not quite parallel, six cubitals, anal area very narrow.

Length of fore wing 11 mm., width 3.5 mm.


Related to N. radios a but the vertex of male different from any Chrysopid seen by me.

Nodita cornesta sp. nov.

Belonging to the group of postica and lenora; the band on face at upper edge of clypeus; basal joint of antennae with reddish mark above, second joint also reddish, others beyond pale; palpi pale; pronotum with a short black streak each side near anterior end much as in N. lenora; lateral lobes of mesonotum and base of fore wings dark; abdomen with two black spots above.

Fore wings with venation mostly pale; a large black spot over origin of radial sector, extending on first intermediate; the lower stem of divisory cell, the cubitals, and first gradate in each series black and bordered with black; yellowish stigma with large black spot at base; outer gradates black, inner not so dark, costals and some postcubitals dark on outer end dark, marginal forks dark.
In hind wings a spot over base of radial sector, one at base of yellowish stigma, and a definite brown spot at tip of wing, the last cubital cross-vein and the outer gradates black, some costals partly black.

Wings rather slender, and strongly acute at tip; in fore wing six cubitals beyond the divisorv cell; five inner and six or seven outer gradates, in nearly parallel series; postcubital area almost twice as broad as cubital area. In hind wings four inner and four or five outer gradates.

Length of fore wing 11 to 12 mm.


Differs from postica in pale palpi; less marked wing, different marks on pronotum, and fewer cubital cross-veins; from lenora in less marked wing, lower position of band on face, and the definite black spot at apex of hind wing.

Nodita submacula Bks.

Colombia: Rio Frio, Magdalena, 20 May (Salt).
Surinam: Paramaribo, Charleston 7, 12 April (Geijskes).

Nodita cruentata Schneider.

Surinam: Botanic Garden, Paramaribo, 1 May, 15 August, (Geijskes).

French Guiana: St. Jean du Marony, February (Le Moult).
Venezuela: San Esteban (E. Carabobo), 14 December (Anduze).

Nodita lenora sp. nov.

In general similar to N. postica, stigma same, but the dark band across face is just beneath the antennae; basal joint of antennae partly or wholly dark above, second joint also dark, others beyond pale; pronotum has a short black streak
on each margin near the anterior end; lateral lobes of mesonotum sometimes almost black, and anterior lobes usually show a reddish line across their bases.

Wings not so heavily marked as in *N. postica*, a smaller spot on base of radial sector; the cubitals, some post cubitals, and the gradates are dark and more or less bordered, other cross-veins dark in parte, at least at ends.

Hind wings with marginal vein and others ending close to tip of wing are brown, but no brown in membrane; the gradates mostly dark, other cross-veins pale or mostly so. Pronotum in most specimens slender, but with anterior part shrunken it is broader than long.

In fore wings six cubital (rarely a small seventh- beyond divisor cell; five inner, six outer gradates, rather widely separated; the post-cubital area one-half broader than cubital area; usually but one branch from third cubital cell to margin. In hind wings three or four inner, four or five outer gradates.

Length of fore wing 13 mm.

From Botanic Gardens, Paramaribo, Surinam, March, April, June (Geijskes); San Esteban (E. Carabobo), Venezuela, 15 December (Anduze); also Para, Brazil, 7 July (Parish). Type M.C.Z. № 26.217.

*Nodita heriocles* sp. nov.

In general near to *N. postica*; palpi black, a dark band across lower face, dark on basal joint of antennae, also on second joint, but joints beyond without spots; side stripe on pronotum the same. Wings much the same, but the larger spots of *postica* are lacking, veins more narrowly bordered, no large spot on base of radial sector, and in hind wings none near end of cubitus. It differs in having the costals wholly dark, the radials and intermediates almost wholly dark, thus lacking the large pale area in middle of wing seen in *postica*. 
Gradates five inner, six outer, in nearly parallel series; seven cubital cross-veins beyond divisory cell; but one branch from third cubital cell to margin.

In hind wing the costals, except near stigma, are dark, the radial and intermediates, except those near base, are dark at the ends, and this dark extends on the radial sector, so sometimes the sector is wholly dark for a short distance; gradates dark, three or four inner, five or six outer; tip dark as in postica.

Abdomen with two large black spots above.

Length of fore wing 10 to 13 mm.

From Bartica, British Guiana (Parish), Botanic Gardens and Charlesburg, Paramaribo, Surinam, in May and August (Geijskes), and Kwakoegron, Surinam, 11 June (Cornell). Type M.C.Z. No 26.219.

**Vieira Navas.**

*Vieira leschenaulti* Navas.

Surinam, Paramaribo, Charlesburg, 12 Feb. (Geijskes).

Paramaribo, Cultuurtuin, 26 Jan. (Geijskes).

**Berkmansus Navas.**

*Berkmansus elegans* Guerin.

Surinam: Paramaribo, Charlesburg, 23 Aug. (Geijskes).

Not uncommon in Brazil.

**Cacarulla Navas.**

*Cacarulla maculipennis* Bks.

Tolima Canon, 1,700 m. October (Fassl). Also known from Perú and Bolivia.
LEUCOCYRSA MCLACHLAN

1. The inner gradates so far basally that but two or three intermediates are left uncrossed; twelve to fifteen cubitals beyond the divisory cell .................. *colombia*. The inner gradates not so far basal, at least four intermediates uncrossed .................................................. 2

2. Antennae with several joints beyond the second dark brown or black; in fore wing there is a brown shade or umbra behind the outer gradates, and another in hind wing at broadest part over forking of post-cubital area .................. *magnifica*. Antennae not marked with dark beyond second joint............. 3

3. The cell behind the third cubital, and often part of the third cubital, distinctly grayish brown ....................... *clara*. No such mark .......................................................... 4

4. Second joint of antennae at least partly dark, radial sector not dark in middle ....................................... 5

Second joint of antennae not dark .................................. 6

5. Reddish to red brown spots below base of antennae; pronotum long and slender ................................. *varia*. No red below base of antennae; an angulate red line above base of antennae, no median red marks on vertex; pronotum shorter than in *N. varia* ..................................... *pretiosa*. 7

6. Radial sector dark toward stigma, and branches each side dark at base ........................................... *bolivari*. Radial sector not dark ............................................. 7

7. Labrum black, and black Y-mark between antennae..... *nigrilabris*. Labrum pale; no black mark between antennae, radial cross-veins dark in middle ..................... *corderilla*. 8

The three following species are recorded from the area.

*L. claveria* Navas 1927, is a synonym of *L. colombia*.

*L. phaeocephala* Navas 1929, according to description, does not differ from *L. varia*.

*L. vegana* Navas 1917, said to be much like *L. varia*, I think is *varia*; *L. varia* varies in amount of black at base of fore wings.

*Leucochrysa bolivari* sp. nov.

Face pale, a reddish mark on each cheek; palpi pale; antennae pale, no marks on first nor second joints.
Pronotum with a large elongate reddish spot each side, lobes of mesonotum with a smaller reddish spot; abdomen pale, rather darker on base above.

Fore wings with the middle of radial sector and base of branches therefrom black; base of radial sector, stem of divisory cell, some costals on outer ends, and some cubitals in middle more or less dark; marginal forks faintly brownish, otherwise venation pale; in hind wings the middle of radial sector and branches from it are black as in fore wings, marginal forks scarcely brownish, remainder of venation pale.

In fore wing seventeen radials, seven or eight cubital, nine inner and six outer gradates, the rows rather far apart and not parallel, the inner row extending basally a little; radial area broader than costal area and at least as broad as the post-cubital area, the latter at base but little broader than cubital at base, but at tip fully four times as broad as cubital at tip, divisory cell with base only slightly oblique; in hind wings fifteen radials, about eight gradates in each series, the inner row diverging and rather remote from outer row; eight cubitals; tip of hind wing acute. Pronotum little broader than long.

Length of fore wing 17 mm., width 7 mm.

From Inntas, Rio Dagna, West Colombia, May, 8.000 ft., (Fassl). Type M.C.Z. No 26.220.

Leucochrysa varia Schneider.


Surinam (coll. Thorey in M.C.Z.)

A type from “Bresil” in Hagen collection.

Leucochrysa pretiosa Bks.

Colombia: Inmbo, Cauca, January, 3.000 ft.; Soromoco. 800 m.; Minaro, Muzo, 500 m.; Villavicencio, 450 m., January, all by Fassl.
Venezuela: San Esteban (E. Carabobo), 9 to 27 December (Anduze); Rio Chacaito (Est. Miranda), 12 September; Caipe (Est. Barinas), January (Anduze).

*Leucochrysa clara* McLachlan.

Colombia: Río Negro (Fassl).

*Leucochrysa colombia* Bks.

Colombia: Sta. Margarita, July, 7,000 ft.; Pacho, 6,000 ft.; Canon del Monte, Tolima, October, 5,000 ft.; St. Antonio, November, 5,500 ft., Inmtas, Rio Dagna, 1,200 ft.; Rio Ognacatel, West Cordillera, 5,500 ft. (all by Fassl).

*Leucochrysa cordillera* Bks.

Colombia, Inmtas, August, 1,200 ft. (Fassl).

*Leucochrysa magnifica* Bks.

French Guiana - Godebert - Maroni (Le Moult).
British Guiana - Kartabo (Wheeler).
Venezuela, Northern Range (R. Lichy).

*Leucochrysa nigrilabris* Bks.

Colombia, San Antonio, December, 3,000 ft.

GONZAGA NAVAS

1. Hind wing with a rather large dark spot near middle of hind wings. Fore wings with only a small dark spot near stigma, but a large dark spot beyond middle of radial sector, and behind it a broad curved stripe starting from last cubital cross-vein and curving upward; several other smaller dark spots; about six cubital cross-veins beyond divisory cell ........................ calliptera.

   No large dark spot in disc of hind wings; about eight to ten cubital cross-veins beyond divisory cell; a large spot in fore wings over stigma and extending backward to radial sector...................... 2

2. An elongate mark at end of cubital cross-veins and extending out and upward toward wing-tip; pronotum and mesonotum black; about seven to eight cubital cross-veins................. nigriceps.

   The elongate mark at end of cubital cross-veins does not extend far out; pronotum pale; about nine to eleven cubital cross-veins, near end two or three are usually close together........ torquata.
The *Hemerobus irideus* Oliv. is, quite probably, a Gonzaga or *Nodita palliceps*; it was described from Surinam.

**Gonzaga calliptera** sp. nov.

Head yellowish, face with a broad dark band form eye to eye; palpi pale; a dark spot between each antenna and eye, and slightly above; front of vertex with a little brown; antennae much longer than wings, basal and second joint dark above, rest of antennae pale. Pronotum pale, unmarked; mesonotum dark, almost black, but scutellum pale; metanotum slightly darkened in middle; abdomen with last four segments dark above; legs wholly pale.

Wings with venation pale, excepting the brown spots; fore wings with numerous brown marks, to wit; one over base of radial sector; an elongate brown spot before and one beyond the stigma; behind the radial sector, shortly before the stigma is a very large somewhat rectangular brown spot covering radial sector, three branches from it and three of the inner gradates; there is a minute spot on end of divisory cell, another in forking of anal vein, one on the second cubital beyond the divisory cell, one on a marginal fork, two or three coss-veins beyond the last and then an upcurving band, at first following outer gradates but then curving more toward stigma; the last inner gradate also bordered with brown; the last two gradates of outer series have a brown spot extending to outer margin and covering most of two branches.

In hind wings there is a brown mark on the next to last inner gradate and extending above, but not reaching radial sector; the stigma yellowish.

Extreme base of fore wing dark, extending out over the first costal cross-vein.

The fore wings are moderately broad; the radial sector is more sinuous than in *G. nigriceps* due to the narrowing near stigma; eleven radials before stigma, two beyond; the divisory cell as in *G. nigriceps*; six cubitals beyond divisory
cell; eight inner and eight outer gradates, the latter continuing the curve of the medius; the radial area a trifle broader than costal area, the post-cubital fully as broad as the costal; the hind wings are more pointed at tip; five gradates in each series.

Length of fore wing 14 mm.

From Gt. Falls, British Guiana, 6 March (Cornell); and a paratype from Parintino, Amazon, Brazil, 18 October (Parish coll.) Paratype M.C.Z. No 26.222.

**Gonzaga nigriceps** McLachl.

Venezuela - Paraitepuy (E. Bolívar), Dec. (Anduze).
British Guiana - 28 March (Cornell).
Surinam.

**Gonzaga torquata** Nav.

Venezuela - San Esteban (E. Carabobo), 2 July (Anduze).

**Nuela Navas.**

**Neula mesana** Navas.

Described from Colombia; I have not seen it; possibly a *Leucochrysa* with two or three gradates misplaced.

**RESUMEN**

Los Chrysopidae de la América del Sur comprenden un gran número de especies, algunas de las cuales son muy comunes y de amplia distribución. Debido a la bondad del Prof. R. C. Smith de Kansas State College, quien tomó datos de los tipos en las colecciones europeas, es que el autor emprendió la ardua tarea de tabulación. Este estudio incluye a todas las especies venezolanas, conocidas hasta la fecha y la descripción de varias especies nuevas.
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Notes:

File: